

Robert Lyndon Welke

Company

Managing Director, Tallemenco Pty Ltd

- Operations Office: Windsor Gardens, South Australia

Qualifications

- Certified Irrigation Agronomist (2011)
- Certified Irrigation Auditor, Landscape (2007)
- Associate Diploma, Mechanical Engineering (1983)
- Fitter and Toolmaker, Indentured Trades Person, (1971)

Professional Memberships

- American Society of Irrigation Consultants, Full Professional Member (2011)
- Irrigation Australia Ltd (IAL) (2006)

Career Summary

Rob has been involved in water reticulation for almost all of his working life. From 1968, he worked for SA Water for 25 years where he gained extensive water hydraulics experience involving pump selection and energy efficiency testing (pumps up to 5,000 kW), flowmeter research and development and pipeline energy efficiency (friction) testing on SA's major water distribution pipelines up to 1600mm diameter. He also designed minor pumping stations and supervised an SA Water Regional Drafting Office (Berri) for 5 years involving the disciplines of Water Supply, Irrigation, Drainage and River Murray Works.

After a brief stint in Cairns in 1993 working on Asset Management Plans for Cairns City Council's water assets, Rob spent 6 years with Hydrotech Aust Pty Ltd, in SA where he conducted detail design and manufacture of OEM packaged multiple pump systems for golf, turf, horticulture and agriculture for clients throughout Australia and SE Asia/Pacific, including many site commissionings.

From October 2000, Rob worked for 3 years for the Adelaide Office of Hydro-Plan, Australia's largest irrigation consultant. Here, he designed and commissioned irrigation systems, pipelines and multiple pump systems mostly for horticulture. He project managed and audited numerous large scale irrigation systems up to \$1.3m for Commercial and Local Government interests.

Rob established his Company, Tallemenco Pty Ltd, in Queensland in 2003. Since then, and under the umbrella of this company, Rob has designed and specified irrigation and recycled water treatment plants and pumping stations, plus prepared Recycled Water Management Plans (RWMP's) and Water Efficiency Management Plans (WEMP's). He has conducted bore drawdown tests and conducted energy efficiency and irrigation audits on turf, horticultural and aqua-cultural irrigation systems throughout Australia.

In 2005, Rob established the **P.I.P.E.S.** auditing service (ie, **P**umping and **I**rrigation **P**ipeline **E**fficiency **S**ervice) which uses multiple data loggers to analyse and optimise the more complex irrigation pumping operations to improve energy efficiency.

Since 2010, Rob has been presenting his "**Advanced Pumping & Hydraulics**" Online Training Course, which he has used to train irrigation personnel nationally in pumping and hydraulic energy efficiency.

Tallemenco relocated to Adelaide, South Australia in 2012, from where Rob has continued to serve interstate clients. He has project managed major pumping plant replacement for Willunga Basin Water Co (SA), designed 20 packaged sewage pump stations for Australian Water Authorities, designed a 1,000 l/s pump station for a Victorian abalone farm and conducted pumping energy efficiency audits across Australia, yielding over \$330,000 in achievable annual pumping electricity savings for clients during 2012/15.

In 2015, Rob commenced presenting his "**Advanced Pump Station Design**" online training course for irrigation personnel.

Experiences:

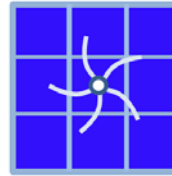
- Trained Australian & NZ irrigation personnel in irrigation energy efficiency issues. www.talle.biz/trainingonline01.php
- Wrote new training course for irrigation personnel in pump station design issues. www.talle.biz/modulesonline02.php
- Project management of complete irrigation pump stations (up to \$400,000 (1995)), pipelines (up to \$900,000 (2002)), conceptual and detail design, manufacture and commissioning of irrigation pump stations (predominantly variable speed up to 500 kW), site installation and commissioning both nationally and overseas. www.talle.biz/manage.html
- Project managed \$600,000 pump stations upgrades to Willunga Basin Water Co (SA) during 2013.
- Pumping Station and irrigation system energy efficiency audits. Identified over \$330,000 in annual pumping electricity savings during 2012/13. Conducted extensive data logging applications to pumping station and pipeline pressures, tank levels and flow metering. www.talle.biz/eeaudit.html
- "Expert Witness" for clients pursuing professional advice on pumping and flowmetering issues. www.talle.biz/pumptest.html
- Over 1200 Energy efficiency tests on pumps up to 5,000 kW, with economic analyses. www.talle.biz/pumptest.html
- Since 2003, designed and specified over 30 irrigation pumping stations, design and project managed 6 recycled water pumping stations (up to 150KW) and treatment plants for Class B to Class A irrigation systems. www.talle.biz/design.html
- Designed drip irrigation systems for horticulture, principally vineyards.
- Pump internal corrosion monitoring with various surface treatments. www.talle.biz/corrosion.html
- Water Flowmeter research and development to establish flowmeter accuracy parameters. www.talle.biz/metering.html
- Pipeline friction testing to determine nature of friction losses in major pipeline systems up to 1600mm diameter. Rehabilitation of aged pipeline systems following friction testing. www.talle.biz/friction.html
- Cost estimating for water mains extensions up to 600 diameter and minor capital works up to \$500k.
- Survey and drafting, including pipeline route and level surveys, River (Murray) navigation channel surveys.
- Turkeys nest dam design, designed vacuum priming systems for pumping. <http://www.talle.biz/design.html>
- Preparation of Pumping Station Operations and Maintenance Manuals and training personnel in pumping station operations.
- Designed new pipeline systems up to 300mm using EPANet hydraulics software. <http://www.talle.biz/design.html>
- Liaised with Federal, State and Local Government Departments regarding water issues.
- Refer to www.talle.biz/links.html for professional referees.

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"Pumping and Hydraulics' Solutions for Irrigation and Water Supply"



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Energy Efficiency
for Irrigation

