





Overview

UGL is a highly experienced and respected engineering contractor in the Australian water industry, having successfully delivered numerous significant water and wastewater treatment plant upgrades within the last 30 years across all capital cities and throughout regional Australia.

One of the key advantages that UGL can bring to any water project is its in-house water specialist engineering, control, instrumentation and SCADA capability. Through use of this significant in-house resource, within proven management systems, UGL offers its clients the most cost effective and technically sound solutions.

UGL is able to deliver a complete range of services in the field of control, instrumentation and SCADA including:

- 24/7 service maintenance and support
- CHAZOP facilitation and report
- Control system training and staff development
- Database design and configuration
- DCS, PLC and RTU design, configuration and programming
- Detailed functional specification
- Factory acceptance testing, site acceptance testing, commissioning, process proving and plant optimisation
- Graphical SCADA and HMI screen design and configuration
- Instrumentation specification, selection, installation and commissioning
- Quality Assurance System certified to ISO 9001
- System architecture and communications system design and configuration
- System definition and design

Approach

UGL delivers creative outcomes for its clients through substantial in-house engineering resources, a long-term established skills base and contemporary management practices. UGL's core values embrace our clients, suppliers and sub-contractors in partnership to achieve project results, innovation and sustainable performance enhancement.

UGL resources are geared to making available a total range of services to clients from concept design, through detailed specification, development, installation and commissioning; to documentation, maintenance and on-going support. These services are flexibly packaged in combinations to meet the client's requirements.

UGL engineers have the control, instrumentation and SCADA experience to understand and recognise the importance of the systematic development of the control system in strict compliance with a detailed system functional specification.

UGL maintains vendor independence to ensure that the most appropriate hardware and software mix can be selected to meet the client's requirements. UGL also sustains the ability and systems to allow effective use of carefully selected sub-contractors for specific control, instrumentation and SCADA activities as appropriate.

Experience

UGL has developed a specialist controls and instrumentation department of 20 engineers devoted exclusively to the municipal water and municipal wastewater industry in Australia. The team's intimate understanding of municipal water and municipal wastewater process control is a key differentiator from our peers.

The team has self-performed the system integration works for numerous large water infrastructure projects nationally and has worked closely with many prestigious clients including Melbourne Water, Sydney Water, Gold Coast Water and Cairns Water and Waste; to efficiently and effectively satisfy their automation needs.



Experience

Eastern Tertiary Alliance

CLIENT: MELBOURNE WATER
PROJECT DURATION: NOVEMBER 2010 - FEBRUARY 2013



The Eastern Treatment Plant is one of Melbourne's main sewage treatment plants, servicing an equivalent population of 1.5 million people from the southern and eastern suburbs. UGL are partners in the Eastern Tertiary Alliance to upgrade the plant to an Advanced Tertiary Treatment Plant.

UGL's control system and instrumentation department was competitively chosen to perform the system integration works for this extensive alliance. The plant's standard Siemens PCS7 software blocks have been developed by UGL.

A tight project schedule meant that both design and construction progressed on multiple fronts simultaneously. This required a large design team and careful management of the interfaces between the many disciplines. The interaction between these disciplines was aided by the co-location approach, which allowed for the free flow of information, not only within the design team but also to the delivery, commissioning, operations and maintenance teams.

In 2014 UGL was recognised for their achievements and won the category for Best Fieldbus Implementation of the Year for the Eastern Tertiary Alliance Project, Melbourne. This category recognises companies that have carried out a successful fieldbus implementation and demonstrated good project management, engineering innovation and technical abilities.

Cairns Cleaner Seas Alliance

CLIENT: CAIRNS WATER AND WASTE
PROJECT DURATION: DECEMBER 2007 - DECEMBER 2010



Alliance for the works associated with the increase in capacity and significant improvement of treatment standards to four of the largest wastewater treatment plants serving the Cairns region i.e. Marlin Coast, Northern, Southern and Edmonton WWTP's, significantly easing impacts of the outfall to the Great Barrier Reef.

Following the development of detailed functional specifications and network architecture design; UGL designed, developed, tested and commissioned the extensive Allen Bradley/Citect SCADA control system for the four plants while maintaining continuous operation of the brownfield sites. The software standards developed across the four plants for this project are to be used as the basis for all future Cairns Water and Waste SCADA and PLC upgrades.

In 2010, UGL's system integration work for the Cairns Cleaner Seas Alliance won both the Engineers Australia Engineering Excellence award for Control System and Communication, Sydney Division and the National PACE Zenith award for Water and Wastewater.

North Head PARR (Performance and Reliability/Renewals) Alliance

CLIENT: SYDNEY WATER
PROJECT DURATION: APRIL 2007 - NOVEMBER 2010



The North Head PARR project was an alliance for the design and construction of works associated with the Performance and Reliability/Renewals (PARR) and improvements projects at North Head STP, Sydney Water's second largest ocean outfall plant.

As a pre-nominated system integrator for Sydney Water, UGL was responsible for functional design specifications, programming, testing and commissioning of the Siemens S7 PLCs and SCX6 SCADA, developed to the rigorous Sydney Water software standards using the Prodef case tool. During the upgrades, five Allen Bradley PLC's were replaced with Siemens S7 PLC's while maintaining constant operation of this critical facility. The team achieved the KPI for 100% PLC availability during commissioning, acceptance and proving periods.

In 2010, UGL's system integration team's work on North Head PARR received a Highly Commended award in the National PACE Zenith award for Water and Wastewater.

SA Country Water Improvement Program

CLIENT: SA WATER
PROJECT DURATION: MAY 2007 - APRIL 2008



UGL successfully completed the works to build nine water treatment plants along the Murray River spread over a distance exceeding 300kms in rural South Australia. The plants were built to improve the drinking water quality due to worsening drought conditions in South Australia.

UGL's control system and instrumentation department developed the control system functional design specifications for the nine plants and programming style guides for the GE Fanuc/iFIX systems. These were used by a subcontractor as the basis for programming the control system software. UGL's control system team managed this subcontract and were responsible for commissioning and optimising the nine systems. A tenth water treatment plant was subsequently designed and constructed by UGL at Woolpunda. All ten Riverland Water Treatment Plants were programmed and commissioned by UGL.

The project also included five years of operations and maintenance of all ten plants by UGL and its control system integration team.

Experience

Western Sydney Replacement Flows Project

CLIENT: SYDNEY WATER
PROJECT DURATION: JUNE 2008 - NOVEMBER 2010



The Western Sydney Replacement Flows Project involved the design, build and operation of a 50 ML/d advanced water treatment plant at St Marys STP for the treatment of tertiary treated effluent from Quakers Hill, Penrith and St Marys STPs and associated pipelines and pump stations. This was one of the largest water recycling projects in Australia, and is currently in operation.

UGL's control system team was responsible for the functional design development and all works associated with the Yokogawa DCS design, programming, testing and commissioning for the AWTP. The team worked closely with a broad range of key stakeholders to ensure the needs of all parties were met.

Pimpama WaterCycle Alliance

CLIENT: GOLD COAST WATER
PROJECT DURATION: JUNE 2007 - DECEMBER 2008



Alliance for the construction of a new 17MLD STP, and a new 12MLD recycled water plant (with 9MLD installed membrane capacity). The project also includes 2 years of operational support and optimisation.

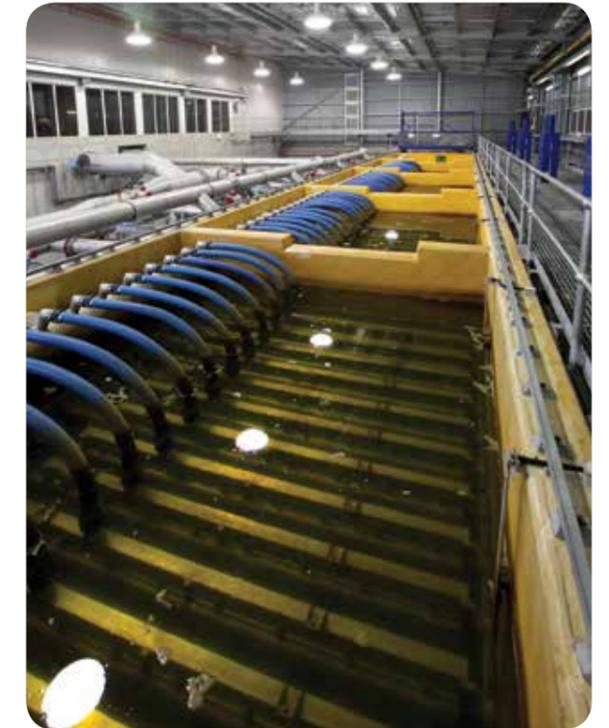
UGL's control system team was responsible for the programming, delivery and commissioning of the Siemens PCS7 control system for Pimpama STP and RWTP.

Other recent projects

BONDI RIAMP
RELIABILITY AND MODERNISATION PROGRAM
SYDNEY WATER



BOOTAWA WFP
DESIGN AND CONSTRUCT
MID COAST WATER



MILDURA WATER TREATMENT PLANT
LOWER MURRAY WATER



BONEO STP & RWTP UPGRADE
SOUTH EAST WATER



Other recent projects

NEPEAN WATER TREATMENT PLANT UPGRADE
SYDNEY WATER



TAMWORTH WESTDALE WWTP UPGRADE
TAMWORTH REGIONAL COUNCIL



NORTH HEAD STP
CENTRAL ODOUR CONTROL FACILITY
SYDNEY WATER



Awards & Publications

2014 "WINNER" NATIONAL PACE ZENITH AWARD

Best Fieldbus Implementation
Eastern Tertiary Alliance

2013 "HIGHLY COMMENDED" NATIONAL PACE ZENITH AWARD

Water and Wastewater Division
Nepean Water Treatment Plant upgrade

2012 "WINNER" ENGINEERING EXCELLENCE AWARD, SYDNEY DIVISION

Control System and Communication Category
North-South Bypass Tunnel

2011 "HIGHLY COMMENDED" ENGINEERING EXCELLENCE AWARD, VICTORIAN DIVISION

Smart Systems Category
Bootawa Water Treatment Plant

2011 "FINALIST" ENGINEERING EXCELLENCE AWARD, SYDNEY DIVISION

Control System and Communication Category
St Marys Water Recycling Project

2010 "WINNER" ENGINEERING EXCELLENCE AWARD, SYDNEY DIVISION

Control System and Communication Category
Cairns Cleaner Seas Alliance

2010 "WINNER" ENGINEERING EXCELLENCE AWARD, SYDNEY DIVISION

Environment and Heritage Category
Bondi RIAMP Alliance

2010 "FINALIST" ENGINEERING EXCELLENCE AWARD, SYDNEY DIVISION

Control System and Communication Category
North Head PARR Alliance

2010 "WINNER" NATIONAL PACE ZENITH AWARD

Water and Wastewater Division
Cairns Cleaner Seas Alliance

2010 "HIGHLY COMMENDED" NATIONAL PACE ZENITH AWARD

Water and Wastewater Division
North Head PARR Alliance

2009 "HIGHLY COMMENDED" NATIONAL PACE AWARD

Water and Wastewater Division
Pimpama WaterCycle Alliance

2009 INTERNATIONAL WATER ASSOCIATION, INSTRUMENTATION AND CONTROL CONFERENCE

Key technical tour: Marlin Coast WWTP
Cairns Cleaner Seas Alliance

For further information

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