

Mariolina Tosti

Mob.UK +44 (0)7455 860562. Mob.IT +39 3333526495.
email mariolina.tosti@gmail.com. British and Italian citizenship.

Director of SILVENERGY LTD (Registered address Stafford ST17 4AW). Registered Italian sole-trader Engineer (P.IVA)

Summary

An Engineering Project Manager with a solid technical background. Multi-sector professional experience in food & beverage, semiconductor, PV cells, pharmaceutical, municipal water. Experience in design lead and co-ordination of capital projects, scanning environment for innovative solutions, managing risks and budgets, delivering efficiency. Process engineering background in water treatment and reuse: industrial desalination i.e. UPW, WFI, PW, steam make-up, potable water production, industrial and potable water reuse, activated sludge process; process utilities i.e. clean dry compressed air, chemicals, gases. Professional, effective, concentrated on results and motivating team leader. Resilient, keen on building a sense of trust from clients or end users and a productive sense of pace within the team. Effortless communicator. Multi-national European experience gained across the UK, Germany and Italy.

Employment

2019-current **ENGINEERING PROJECT MANAGER** for **PRINCES** (*Food and Drinks Manufacturer, UK*)

Project Manager on food & drinks manufacturing factories

Main responsibilities: Design and project management of schemes for new manufacturing lines. Project Lead of water engineering projects on water / wastewater treatment plants having varying drivers: environmental compliance, OPEX saving, water saving, water reuse, sustainability and carbon reduction. Execution of process engineering studies with data analysis, flow and mass balance, mathematical modeling. Assessing of performance, efficiency and need for optimization. Suppliers' engagement, solutions development and preparation of capital expenditure requests. Tender evaluation; guide, monitor and control suppliers; monitor project risks and budget; lead until successful acceptance tests and commissioning. Promote water saving solutions across the factories and expand the options for water reuse by identifying the fit-for-purpose water quality specification, the log removal requirements on indicator microorganisms and the most appropriate solutions, engaging with suppliers, organizing trials / analysis campaign as necessary, understanding the chemical and microbiological hazards and managing the water quality risks.

Water treatment processes: aerobic activated sludge, anaerobic treatment, tertiary treatment, softening, multi-media filtration, chlorine disinfection, UV disinfection, membrane plants (MBR, reverse osmosis, ultrafiltration).

Main projects: PIA sauces production relocation, PIA effluent treatment plant improvements, PIA flume water saving, Long Sutton sludge treatment, Long Sutton anaerobic digestion, Long Sutton aerobic plant replacement, Long Sutton water reuse study, Bradford water saving trials.

2017-2019 **PRINCIPAL PROCESS ENGINEER** for **STANTEC** (*Global Design Firm, UK*)

Lead Process Engineer on potable water production schemes

Main responsibilities: lead the process design: plan the scheme execution, oversee all process calculations and deliverables including water quality risk assessments, commissioning plans, sampling schedule, process control philosophy, P&IDs. Provide inputs and requirements to other disciplines including hydraulic, mechanical, instrument & control, HAZOP. Provide general consultancy on water quality risks, asset performance / condition.

Water treatment processes: rapid gravity filtration, slow sand filtration, DAF, membranes (Ultrafiltration / Microfiltration), chlorine disinfection, UV disinfection, cartridge filtration, ozone.

Main projects: DWI TRANSFORMATION PROGRAMME (Thames Water): Cryptosporidium treatment effectiveness audit on 38 water treatment sites. YORKSHIRE WATER DROUGHT PLAN: feasibility of a new desalination plant. SOUTHERN WATER PR19: review of an Indirect Potable Reuse scheme. BURHAM RGFs (Southern Water). M&E refurbishment of obsolete declining rate Rapid Gravity Filters. TWYFORD RTW and Crypto control (Southern Water). New Run To Waste facilities to reinjection borehole including new cartridge filters and new temporary UV plant. IVER Ozone (Affinity Water). Audit of Ozone assets condition. RUN-TO-WASTE (Southern Water). Run To Waste on 15 groundwater sites, including temporary cartridge filters. DURLEIGH Reconstruction (Wessex Water). Reconstruction scheme for a surface water treatment works, process design support.

2015 – 2017 **SENIOR PROCESS ENGINEER** for **ATKINS** (*Global Design Firm, UK*)

Project Design Lead for municipal water / wastewater treatment schemes.

Main responsibilities: technical lead and coordination of a team of designers. Originate or check process calculations, study reports, specifications and drawings (process-related). Schedule activities and resources, write

and pro-actively manage the design program. Agree and monitor the production of deliverables. Lead the identification, elimination, mitigation of the H&S risks. Proactively identify cost saving and sustainable solutions. Identify, communicate and control key risks to project delivery. Execute post-project reviews.

Water treatment processes: activated sludge, rapid gravity filtration, ozone, chlorine disinfection, DAF.

Main projects: PR19 (Thames Water). New real-time metaldehyde monitoring stations, improved turbidity monitoring, ozone asset replacement, improved disinfection contact time. MOGDEN STW, Biogas and FFT Compliance (Thames Water). New sludge thickening system on a 2 million PE works. BLUNSDON STW (Thames Water). New oxidation plant. CRAYFORD WTW (Thames Water). Additional contact tank and new liquid hypochlorine disinfection systems. DEPTFORD WTW (Thames Water). New chlorine dosing system and softening plant. FARMOOR WTW (Thames Water). Rapid Gravity Filters and DAF refurbishment.

2013 – 2015 **PROJECT LEADER** for **MOTT MACDONALD** (*Global Design Firm, UK*)

Project Design Lead of municipal wastewater treatment schemes for Severn Trent Water.

Main responsibilities: Project design responsibility and coordination of a team of designers. Optioneering and feasibility engineering: root cause analysis, delivery risks assessment, risk & value analysis. TOTEX and total carbon comparison. Contribute to P&ID's and GA drawings. Write technical specifications, risks & contingencies plans.

Water treatment processes: aerobic activated sludge.

Main projects: NEWPORT STW. Growth scheme, compare treat or pump away. COALPORT STW. Capital maintenance on ageing assets. COVEN HEATH SWT. Capital maintenance on a trickling filters works. MARKET DRAYTON STW. Triple oxidation ditch refurbishment Scheme shortlisted at the West Midlands Institute of Civil Engineers 2015 Awards under the category "Sustainability". MARKET DRAYTON STW. Inlet Works refurbishment.

2001 – 2013 **PROCESS SYSTEMS ENGINEER** for **M+W GROUP** (*EPC for high-tech facilities, Italy*)

Project Engineer of industrial desalination, wastewater treatment and process systems within EPC projects serving the semiconductor, the PV manufacturing and the pharmaceutical industry.

Main responsibilities: Process design and project engineering of industrial clean water, wastewater treatment and process systems (chemicals, gases, clean dry compressed air) within EPC projects for new industrial manufacturing facilities. Execute design, produce tender packages specifications and drawings, liaise with subcontractors, supervise construction and commissioning. Two years spent in Stuttgart (Germany) as Graduate UPW Engineer.

Water treatment: reverse osmosis, ion exchange, ultrafiltration, electro deionization, softening, UV disinfection, multimedia filtration, degasification, chemical conditioning of mechanical circuits.

Main projects: SEMICONDUCTOR / PV CELLS: 3SUN, Catania, Italy: EPC scheme and O&M of a new PV Cells manufacturing factory with Combined Heat and Power plant. Potabilization, industrial desalination, chemical/physical WWT (fluoride removal, neutralization), activated sludge WWT, condensate treatment, chemical conditioning for mechanical circuits. SOLSONICA, Rieti, Italy: EPC scheme. New PV cells manufacturing. Deionized water plant, industrial wastewater treatment plant (neutralization, fluoride removal), process chemicals. SORGENIA, Milano, Italy: Feasibility design. New PV cells manufacturing. Deionized water plant, industrial wastewater treatment plant (neutralization, fluoride removal). BP SOLAR, Madrid, Spain: Feasibility design. Revamping of a PV cells manufacturing. Industrial wastewater treatment plant (neutralization, fluoride removal), Special Gases. LPE, Catania, Italy: EPC scheme. New semiconductor facility. Deionized water plant, potable water production, wastewater treatment plant. ST MICROELECTRONICS, Catania, Italy: EPC scheme. Combined Heat and Power Plant (Cogeneration) for a Semiconductor Fab. Deionized water plant, compressed dry air plant, chemical dosing system. PHARMACEUTICAL: WYETH LEDERLE, Catania, new process line. Clean utilities upgrade. ABBOTT, Latina. New process line. Clean utilities upgrade. CHIRON Vaccines, Siena, Italy. New utilities plants.

Education

Biopharmaceutical Manufacturing Processes, ISPE International Society for Pharmaceutical Engineering, 2020

Management skills, SDA Bocconi School of Management, 2007

Water and Environmental Policy, IHE Delft Institute for Water Education, 2005

MEng Environmental Engineering, La Sapienza University, Rome, Italy, 2001

Chartership: Chartership achieved with CIWEM (Chartered institution of Water and Environment Management), UK Engineering Council, Italian *Ordine degli Ingegneri*.

Languages: Italian and English proficient, Spanish basic

IT: MS Project, RTW software (water chemistry), Reverse Osmosis / Ion Exchange design software.