Curriculum Vitae – Thermal Chemistry Limited

David Addison – BSc(Chem), MSc(Materials)
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Thermal Chemistry Limited (TCL) is a specialist chemistry and chemical engineering consulting company providing independent chemistry, materials, environmental and hazard & risk management related services to the thermal, geothermal power and co-generation industries in New Zealand and internationally.

David Addison, Principal of TCL, has internationally-recognised expertise in the delivery of optimization and improvement programs for cycle chemistry. David has also authored multiple papers in this regard and been a keynote presenter at multiple international cycle chemistry and corrosion conferences. Articles and papers have been published by both Power Plant Chemistry Journal (Europe) and Combined Cycle Journal (USA). David is also involved in the development of international cycle chemistry guidelines for industry (International Association for the Properties of Water and Steam and the Electrical Power Research Institute).

David has extensive experience in industrial, power chemistry and water treatment, and has carried out many site assessment and inspections programs at industrial facilities both in New Zealand and internationally. David also has significant expertise in the technical specification of water treatment plants and cycle chemistry programs for new conventional, combined cycle, co-generation, geothermal and open cycle power plants. This expertise includes design review, project management and commissioning of new projects (including chemical cleaning). David has worked in the power industry since 1997 being involved in the chemistry aspects of conventional coal and gas fired units, combined cycle, open cycle gas turbines, cogeneration and geothermal power plants.

Key Clients:
Rio Tinto (Aus), Queensland Alumina Limited (Aus), HRST (USA), Energy Australia (Aus), Hydro Tasmania (Aus), Fonterra (NZ), Contact Energy (NZ), Genesis Energy (NZ), United Group Limited (NZ & Aus), AETV (Aus), Geodynamics (Aus), PB Power (NZ), Aurecon (NZ), Mckay Sugar Limited (Aus), Combined Cycle Journal (USA), Power and Water Corporation (Aus), NewGen (Aus), Aurecon (NZ), Electrical Power Research Institute (USA), Xcell Energy (USA), NSW Sugar (Aus), Swan (Switzerland), Samsung Engineering (Korea), AES (Philippines), Avestronics (Philippines), TeamEnergy (Philippines), AGL (Australia), Malakoff (Malaysia), Power Generating and Engineering Services Company (Egypt)

Key Skills:
Cycle chemistry reviews and audits, process improvement studies, troubleshooting and investigations of cycle chemistry issues, project specification development, project design review, development and delivery of customized cycle chemistry training programs, commissioning support, and physical plant inspections.

Key Technical Memberships:

- International Association for the Properties of Water and Steam (IAPWS) – Representative for New Zealand, Member of the International Power Plant Chemistry Technical Group
- New Zealand Institute of Chemistry – Member
- New Zealand Geothermal Association – Associate Member

Key Publications:

- *The Critical Importance of Accurate Steam Sampling and Analysis;* D Addison, B Dooley; Presented at the 2015 11th EPRI International Cycle Chemistry Conference, St Louis, MO, USA; July 2015

- *Technical Guidance Document: Corrosion Product Sampling and Analysis for Fossil and Combined Cycle Plants;* Co-ordinating editor and key author D Addison; IAPWS, 2014

- *Comprehensive Cycle Chemistry Guidelines for Combined Cycle/Heat Recovery Steam Generators (HRSGs);* Principal Investigator/Author (1 of 3) D Addison; EPRI, 3002001381, December 2013

- *Cycle Chemistry Challenges with Enhanced Geothermal Systems (EGS) Surface Power Plants;* D Addison; Presented at the 2013 16th International Conference for the Properties of Water and Steam (ICPWS16), Greenwich, UK

- *Chemistry and Mechanical Field Assessment Actions for Effective Flow Accelerated Corrosion Minimisation in Heat Recovery Steam Generators;* D. Addison, L. Stanley (HRST); Presented at the 2013 Fossil FAC International Conference, Washington DC, USA

- *Biological Control of Cooling Water in Geothermal Power Generation;* I. Richardson (Mighty River Power), D. Addison, S. Addison (Mighty River Power); Presented at the 2012 New Zealand Geothermal Workshop, Auckland, New Zealand

- *The Role of the Chemist/Chemical Engineer for the Trouble Free Operation of Thermal Plants with Heat Recovery Steam Generators;* D. Addison, J Weir; Presented at the 2012 API Power Chemistry Conference in NSW, Australia, May 2012

- *The Experiences of the New Zealand Fossil Power Industry with the Challenges of FAC – Issues and Solutions;* D Addison; Presented at the 2010 Fossil FAC International Conference, Washington DC, USA

- *Condensate Polishing and Combined Cycle Gas Turbines – Technical and Financial Justification and Appropriate Technology Selection;* D. Addison, L Lloyd (Veolia Water); Presented at the 2009 EPRI 9th International Conference on Thermal Power Station Cycle Chemistry in Boston, USA, July 2009

- *The Unique Application of a Separate Bed Condensate Polishing System (TRIPOL®) in a 400 MW Combined Cycle Gas Turbine Power Plant – The Huntly Power Station Experience;* D. Addison, L Lloyd (Veolia Water); Presented at the 2008 Ion Exchange Technology (IEX) Conference in Cambridge, United Kingdom, June 2008

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- *The Easy Way is always the Wrong Way - HRSG Commissioning and the Epic Struggle for Good Chemistry;* D. Addison; Presented at the 2008 API Power Station Chemistry Conference in Twin Waters, Sunshine Coast, Queensland, Australia, May 2008

- *Improving Chemical Planning Aspects of New Generation Plant – Huntly e3p Project Experience;* D. Addison; Presented at the ESAA Power Station Chemistry Conference, Sydney Australia, March 2006

- *Oxygenated Treatment on 2-Shifting Plants; The Huntly Power Station, New Zealand, Experience;* D. Addison; Presented at the 7th EPRI International Conference on Thermal Power Station Cycle Chemistry, Houston, Texas, USA June 2003

- *Oxygenated Treatment at Huntly Power Station Unit 2: Preliminary Results from Steady State & 2-Shifting Operation;* D. Addison; Presented at the ESAA Power Station Chemistry Conference, Rockhampton Australia 22 May 2002

- *Cycle Chemistry History and Issues at Huntly Power Station, New Zealand*; K. Hopkins (Genesis Energy), D. Addison; EPRI 6th International Conference on Cycle Chemistry In Fossil Plants, June 27-29 2000, Columbus Ohio, USA

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