

PBA NEWS

PBA News Issue #18 June 2021

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PBA has built a reputation for successfully supplying high voltage services and solutions focused on the asset management of high voltage equipment. Since 2009, our hands-on specialist service has been progressively blended with a growing consultancy service based on our learnings around the asset management of transformers, circuit breakers, and SF6 stewardship. We have now taken our next evolutionary step by founding PBA Consulting Ltd which will focus on supplying high voltage engineering consultancy services and will complement the high voltage specialist services offered by PBA.

Our consultancy services in HV asset management have been augmented to now include system planning studies, including

connection studies for hydro, thermal, solar, or wind generators, and HVDC Links. We advise on electricity market systems, and investigate major incidents. PBA's contracting services and consulting services are able to leverage off each other to offer a mix of high voltage specialist knowledge that is rare in the power industry.

PBA Consulting also taps into the skills and experience of the wider PBA group and affiliated engineering resources. This allows us to bring in subject matter experts as required.

PBA Consulting's Vision is to be a trusted advisor to our customers with a thorough understanding of our customer interests providing independent and objective advice based on our specialist experience in the high voltage power industry.



**ENGINEERING,
TECHNOLOGY &
INNOVATION**

- IN A LOW CARBON ENVIRONMENT

EEA2021
30 JUNE - 01 JULY
WELLINGTON

eea Electricity Engineers
Association

**PBA will be exhibiting at the EEA Conference Wellington
Stands 94 & 95 :: June 29th to July 1st 2021**

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Maraetai 220 kV Circuit Breaker Replacement

PBA Ltd has recently been involved in the delivery of the Maraetai No.1 220kV Circuit Breaker replacement project for Mercury NZ Ltd. PBA's Project Manager Scott Montagu recognised this was a challenging, yet satisfying project working in harsh weather conditions and on a site with multiple physical constraints (including being within the vicinity of live 220kV equipment).

The result of this project has been the removal of several old

Circuit Breaker foundations from years gone past creating a safer, level, and unobstructed maintenance platform, allowing EWP and vehicle access to service the new ABB LTB245 Circuit Breakers. The project was completed over 18 months from tender award through to completion.

The PBA team found it a pleasure to work with Mercury NZ and our team of Subcontractors.



Increasing PV Generation

As part of PBA's ongoing commitment to sustainability this year's plan to double the existing Photo Voltaic (PV) generation capability at our Wellington & Christchurch sites is off to a good start with the delivery of an additional 30 kW of PV panels for installation on PBA group buildings. PBA's initial installation of PV Generation was completed over 4 years ago and has operated faultlessly. Across the group PBA sites have provided in excess of 100 MWh of PV generation which has reinforced the environmental and financial benefits of investing Green technology.



PBA Achieves Prequal Certification

At PBA we recognise the importance of doing the work to get the work. In this case the work was investing in the renewal of our PREQUAL certification.

Being PREQUAL certified gives our customers the assurance that we have been independently assessed and have demonstrated that we can be trusted to work safely to get the job done.



High voltage excellence

pbanz.com

Consulting and Advisory Services



System Planning Studies

- PBA Consulting's system planning capability ranges from studies on small MV distribution networks up to EHV transmission grids
- Our system planning studies are broadly divided into network planning, and generator connection studies, including hydro, thermal, solar, or wind generators
- We believe that the integration of Distributed Energy Resources will present the next major challenge to the power system



HVDC

We can support HVDC systems through their entire lifecycle:

- Transmission Planning Studies
- Integration into the AC system
- Specification Development
- Tender Evaluation
- Factory Acceptance Testing
- Commissioning
- Fault Finding
- Mid-Life Refurbishment



Electricity Market Systems

- Market systems vs. Power System Reality
- The power system is the most complex machine devised by man
- Electricity Market design is often politically driven and often fails to recognize the operational reality of complex power systems
- PBA Consulting can guide the development of electricity markets to better represent the operation of the power system, and help our clients understand the vagaries of market outcomes.



Incident Investigation

- Forensic Analysis
- Incident Reporting
- Root Cause Analysis
- ICAM Investigations
- 5 Whys Analysis
- Testing and fault finding



Transformer Asset Management

- Development of technical specifications
- Technical assistance in tender evaluations
- Design reviews
- Drawing approvals
- Factory inspections
- Test witnessing
- Technical support with installation, life cycle management and commissioning
- Transformer refurbishment process design including low frequency dryout



Circuit Breaker and SF6 Asset Management

- Development of technical specifications
- Technical assistance in tender evaluations
- Design reviews,
- Drawing approvals
- Factory inspections
- Test witnessing
- Technical support with installation, life cycle management and commissioning
- SF6 Asset management and emissions reporting

Key capabilities include:

Experts in simulation packages:

- PSS/E
- PowerFactory
- PSCAD
- EMTP-RV

Experts in system studies:

- Load flow
- Short circuit
- Dynamics
- Power quality
- Insulation coordination

PBA Welcomes

New People:



Ranil De Silva

PBA welcomes the arrival of Dr Ranil de Silva who recently joined the PBA Consulting team as a Technical Director.

Ranil has a global reputation for tackling difficult technical issues in the electricity industry and is recognised for his deep understanding and collegial approach that has allowed him to lead

technical teams through complex analyses in system studies, insulation coordination, HVDC projects, electricity market systems, and incident investigations. We look forward to his guidance and mentoring which is sought after by clients seeking trusted advice on their most challenging problems.



Rodrigo Oliveira

Rodrigo joins the Christchurch based team as a technical specialist. Rodrigo brings over 15 years of experience in secondary systems, specializing in testing and commissioning substations based on IEC 61850 protocols. He is enthusiastic about

learning from the wealth of experience that PBA has to offer and looking to expand his knowledge of primary testing. Outside of work Rodrigo enjoys cooking, fishing, and spending time with his family.



Bhup Gharti Magar

As a recent Bachelor of Electrical Engineering graduate Bhup has joined the PBA Wellington team. With a strong background in power electronics he is focused on HVDC, SCADA and Secondary systems

support to clients. Outside of work Bhup keeps active in a range of sports and enjoys travel and sight-seeing.

Community Support

When Tajan Domingo our Wellington based Business Services Manager came across an appeal by the TAKOHA Project for surplus laptops to support the development of young writers, he saw an opportunity for PBA to aid in this worthy cause. The Takoha Project was started with the aim of helping foster kids in NZ. For PBA the opportunity for obsolete business laptops to be repurposed as teaching aids was a win/win for both parties.

