

MB Century **Updates November 2015**

WE DO ENERGY



MECHANICAL SITE

The Mechanical Site team has had an extremely busy year with major turbine overhauls being successfully completed at the Rotokawa and Mokai power stations and outage works completed at Mokai, Nga Awa Purua and Ngatamariki.

This year has also seen a continued growth in work completed for Contact Energy, with the Mechanical team completing turbine overhauls at the Wairakei and Poihipi stations, a generator inspection and turbine casing realignments at Te Mihi station.

The Miraka Clean Steam Plant outage was also completed mid year, overlapping both the Poihipi and Mokai outages, putting pressure on staff levels and working hours.

A big thanks to all those involved in these projects for their efforts.

The hydro side has also been steady with a number of projects being performed for Mighty River Power and Genesis Energy. Hydro work is looking to ramp up next year with a potential Class 4 outage being completed in the first quarter of 2016 and multiple refurbishments on the Waikato River.

Offshore work has also increased with a number of staff involved in the Philippines Maris Project and supply of supervision via Toshiba for a turbine overhaul in Australia.

BIG BEN

The team on Big Ben have been very busy this year with several notable achievements. Of the 4 new wells drilled since the beginning of the year, one of these was drilled in just 22 days to a depth of 4790m. This is a new record for the rig, but also a new record for Todd Energy drilling. Big Ben also drilled the longest well (5558m) with the largest horizontal deviation (2800m) to date – another record for the team to be proud of.

Big Ben is currently drilling the second well of a two-well abandonment and side-track campaign at Mangahewa C site. This has been a complex process of multi zone isolation of an existing well followed by drilling a side track well to the new target zone. After completing the first abandonment and sidetrack, Big Ben was walked 100m to the next well without the need to rig down the main structure. Thanks to the innovative planning from the team, this rig move was completed in just under 9 days despite early delays.

THE MARIS OPTIMISATION PROJECT

2015 has seen the Maris Optimisation Project in the Philippines deliver all of the new gates and will conclude with the installation and commissioning of the two 40T gantry cranes. Due for completion in early 2016, this project has proven to be a steep learning curve for MB Century and has placed us well to prepare for future overseas projects.

RESERVOIR CHEMISTRY & LABORATORY

2015 has continued to provide strong demand for our Reservoir Chemistry team. A reservoir tracer sampling contract for Kawerau provided many challenges for staff and equipment. The team have also adapted to the change in sampling requirements at stations and in steam-fields. Increased service offerings are being investigated for 2016.

For the Laboratory team, it has been another challenging and rewarding year. 2015 started with plenty of activity; preparations for our IANZ audits in April, and providing laboratory assistance (additional to contract requirements) to Taupo District Council for Giardia and Cryptosporidium testing.

Our highlights for the past 12 months include continuation of IANZ accreditation to ISO170025, an extension of our scope to include 5 more test methods, an ecological impact survey as part of the Turangi wastewater treatment and disposal scheme, and completion of validation and verification work for new equipment. It is expected that the laboratory will gain accreditation for a new range of testing before Christmas.

QUALITY

Multiple external audits have been completed over the last year and without fail all the auditors commented on how far MB Century has come in both performance and behaviours of employees and their knowledge and use of the processes and procedures we have in place. If we can improve on this year's performance, it would be to encourage people that have expertise in particular areas being more readily available to assist with investigations. Next year we hope to be able to put in place more automation around reporting and communication of incidents. There are a number of software programs out there; it is just a matter of finding the one that best suits our business.

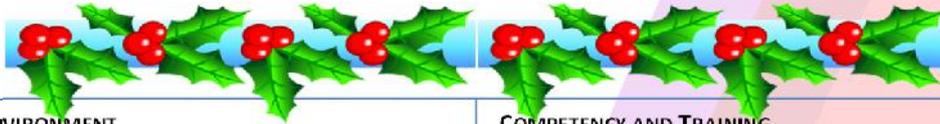
GEOTHERMAL DEVELOPMENT

The Geothermal Development team has completed numerous minor designs in addition to the MK23 pipeline design, which the Fabrication department are now constructing. On the horizon there are two overseas steamfield design opportunities in Indonesia and Philippines which would provide a busy start to 2016. Our venture into providing design services to the hydropower industry is tracking steadily with the delivery of a series of platforms and sump room modifications completed to date. Other projects on the horizon include the redesign of screen cleaners and improved penstock access platforms

SAFE

THINK | WORK | HOME





HEALTH, SAFETY & ENVIRONMENT

Total Recordable Frequency Rate heading upwards, however since July these statistics have shown a steady decline and we are consistently achieving good results. The increase at the beginning of the year was due in some part to the decline in hours during that period.

The internal audits being carried out by the HS&E department show a marked increase in compliance and resolution of issues across the board. It is very rarely these days that any of the audits contain corrective actions against departments.

Our environmental performance during 2015 has continued on a positive note, with several environmental SFI's being submitted. This year also saw the Zero To Ground initiative, which has been well received across the business, as well as with our clients – once again MB Century were ahead of the curve with this initiative and there has been interest to replicate from a couple of Taupo businesses. We have also maintained our Enviro-Mark Diamond status.

The initiative of using iPads for auditing purposes continues to good effect. External auditors were impressed with the use of iPads for what previously was a very labour intensive and paper bound process.

RESERVOIR ENGINEERING

The Reservoir Engineering Wireline Team has had another steady year, considering the decline of the geothermal industry.

Alex Diaz joined the team in January. He is from Mexico and has recently completed his Masters in Energy at Auckland University. His skills in mechatronics have contributed greatly to the new multi-finger calliper tool in conjunction with a new version of our surface electronics systems. This has been a big R & D project led by Evan Erstich and Richard Williams with the prototype HTCC MF tool being completed this year.

Demonstrations of our tools have also been conducted internationally following on from the World Geothermal conference held in Melbourne Australia.

The team have also been involved in the replacement of anti scalant tubing at Ngawha this year, with associated GD's, PTS & HTCC being successfully completed. A once in ten year project, the RE, Design, Fabrication and Drilling sections have all worked together strongly to complete this project.

POWER SYSTEMS TESTING & COMMISSIONING SERVICES

As part of MB Century's continued growth, we have created a new department within Mechanical Services, *Power Systems Testing & Commissioning Services*. This new department offers HV electrical testing, installation, commissioning and diagnostic capabilities to the international energy industry. This is a new venture for MB Century and provides the opportunity to offer a more complete service to clients. We look forward to reporting on this new department's growth in the next year.

COMPETENCY AND TRAINING

It is 2 years since MB Century implemented the Competency Assurance program and system within the business.

Our goals for this initiative were:

1. Tangible reduction in employee related risk for MB Century;
 2. Alignment with the Safe Work Method Statement (SWMS) based procedure system;
 3. Implementation of software to provide a one-stop shop for all training activity (internal and external) and competency records, and
 4. Comprehensive real-time reporting.
- MB Century has achieved all four goals.

To date, this initiative has required:

1. In excess of 10,000 work hours
2. Training of 28 assessors
3. Preparation of 330 assessment documents (this figure is expected to exceed 500 as the system is expanded beyond the client services areas)
4. Completion of >3700 individual assessments.

A recent audit by one of our largest Energy clients delivered the following feedback: "we are way ahead of them in Competency" and "can we come and talk to you more about it."

FABRICATION

2015 has been a very busy year for the Fabrication department, including the successful project of replacement of PVC cooling water pipework with stainless steel at both the Tokaanu and Rangipo power stations. There were six units in total comprising of 522m of pipe ranging from 150mm to 15mm, further challenging as no two units were the same.

Also recently completed was the 300 meter pipeline project tying in the MK23 wellhead to the main production pipeline from MK3 at the Mokai power station. MB Century Fabrication department held the main contract for this project and was responsible for project management, quality assurance, health and safety, mechanical fitting and all sub contractors on site.

FROM MARCEL

2015 has been a consistent and rewarding year. Our diversity of services ensures we remain the leading one-stop shop for energy services. A year of changes and challenges.

Thank you to all MB Century staff and our contractors. Your continued positive work ethic, cooperation and communication is appreciated. I wish you and your families a safe and enjoyable festive season.

OUR VALUES:

RESPONSIVE

We're always responsive, right down to the small stuff.

SAFE (WITH US)

We have the best Health & Safety protocols and culture in the local industry and quite possibly the world.

AHEAD OF THE CURVE

There are always new and better ways to do things.

SMART PEOPLE

Our standards are high, we hire smart proactive people who buy into our 'no excuses' culture, because while we're big, we don't carry excess baggage.