



WE DO ENERGY

POWER STATION OVERHAULS & MAINTENANCE



MB Century has extensive experience in all aspects of maintenance and construction of thermal and hydropower generation stations.

We pride ourselves on our efficient, effective and accurate maintenance procedures, which are certified to ISO 9001.

Services

MB Century has a dedicated team of experienced tradesmen, engineers and professional project managers to carry out maintenance on hydro and thermal generating plant including:

- > Full inspection and overhaul of steam and hydro turbines
- > Modification and overhaul of hydro turbine-generator units
- > Modification and refurbishment of sluice gates, head gates and auxiliary equipment
- > Fabrication of replacement and new pipework within hydro power stations
- > Offsite modification and refurbishment of hydro plant components including head-covers, valves, coolers, wicket

gates, linkages, etc.

- > On and offsite sandblasting and painting services.

MB Century can also offer an extensive range of subcontract services ranging from concrete drilling and grouting to precision laser alignment and insitu machining of turbine components. These services can be planned and coordinated by one of MB Century's professional project managers; reducing the project risk on the client and ensuring a smooth running project.

Equipment

MB Century has a full range of equipment available to carry out hydro and thermal maintenance work including:

- > Precision digital level
- > Precision measuring equipment
- > Hydraulic equipment
- > Lifting equipment suitable for large power plant components

Experience

MB Century's experience in hydro maintenance spans all of New Zealand and includes major machine overhauls, runner and generator replacements, realignments and repairs to gates.

Major Overhauls

Major overhauls to reduce operating costs and increase efficiency through refurbishment and minor upgrades such as:

- > Greaseless bush conversions on wicket gates, servos, operating rings etc
- > Shaft seal upgrades (axial type & material changes)
- > Wicket gate repairs and replacements (stainless weld overlay, crack repairs and journal replacements)
- > Turbine runner weld repairs on seals and blade cavitation
- > Rotating component balancing and assembled machine balancing to International Standards
- > Rotor pole refurbishments
- > Servomotor bypass leakage testing and refurbishment.

Runner/Generator Upgrades

Runner replacements at Ohakuri, Tokaanu, Aviemore and Piripaua. Tasks included:

- > Installation of shaft, headcover and draft tube air admission
- > Working alongside OEM TAs for critical project phases
- > Coupling with fitted bolts and friction shims
- > Welding stay vane extensions in place
- > Machining and installation of stainless wear surfaces on critical turbine components
- > Working with the client on break out design and installation work.

Projects Completed to Date

- > Ohakuri G1-G4 Re Running & Major Overhaul
- > Piripaua G4 & G5 Rotor Removal & Stator Inspection
- > Tekapo B Unit 3 Rotor Removal & Stator Inspection
- > Kaitawa G6 & G7 Rotor Removal & Stator Clean

- > Rangipo G5 Generator Refurbishment
- > Rangipo G6 Major Overhaul
- > Aratiatia G1 Major Overhaul
- > Aratiatia G2 Overhaul
- > Whakamaru Major Overhaul
- > Kaitawa G7 Realignment
- > Kaitawa G6 & G7 Lube Oil System Upgrade
- > Kaitawa G6 & G7 Penstock Relief Valve Refurbishment
- > Kaitawa G6 & G7 Major Overhaul
- > Eildon Australia Relief Valve Refurbishment (supervision only)
- > Mangaio Mini Hydro Installation
- > Tokaanu G2, G3 & G4 Major Overhauls
- > Matahina Rotor Removal & Alignment Checks
- > Maraetai G8 Major Overhaul
- > Maraetai G2 Alignment & Refurbishment
- > Manapouri Major Overhauls L/O
- > Rangipo G5 & G6 Major Overhauls
- > Aratiatia G1 & G3 Major Overhauls
- > Ohakuri G4 Alignment & Refurbishment
- > Ohakuri G1 Major Overhaul L/O
- > Waipapa G1 Alignment & Refurbishment
- > Waipapa G2 & G3 Major Overhauls L/O
- > Aviemore G2 & G3 Re Running & Major Overhauls L/O
- > Arapuni G6 Major Overhaul
- > Tokaanu G1-G4 Outages 1998
- > Tokaanu G1, G2, G3 & G4 Upgrade, Re Running & Major Overhauls
- > Piripaua G5 Stator Upgrade & Re Running & Major Overhaul
- > Waikaremoana Annual Outages 1998 – 2008

Head-works and auxiliary equipment refurbishment

- > Tokaanu G1-4 Radial Gate Refurbishment
- > Tokaanu G1 Main Inlet Valve Overhaul
- > Rangipo Screen cleaner upgrade
- > Wairehu Drum Screen 3 & 4 Refurbishment
- > Matahina Spillway Gates 1, 2, 3 Seismic Upgrade
- > Matahina Diversion Gate Seismic Upgrade
- > Maraetai 1 Headgate Refurbishment.
- > Ohakuri G4 Headgate Refurbishment.
- > Aratiatia G1, G2 & G3 Headgate Refurbishments
- > Aratiatia Spillway Trunion Bearing Replacements
- > Aratiatia Screencleaner Refurbishment
- > Ohakuri # 1 & # 2 Spillway gates refurbishment
- > Ohakuri Diversion Gate refurbishment
- > Atiamuri G1, G2 & G4 Headgate Refurbishments
- > Atiamuri High level Spillway Gate Refurbishment
- > Atiamuri Low Level Spillway Gate and Tunnel Refurbishment
- > Whakamaru G1, G2, G3 & G4 Headgate Refurbishments
- > Whakamaru Diversion Gate Upgrade & Refurbishment
- > Whakamaru Diversion Gate Cylinder & Hydraulic System Upgrade
- > Whakamaru Screencleaner Refurbishment
- > Whakamaru Headgate Stoplog Refurbishment
- > Maraetai 1 G3 Headgate Refurbishment

