

Hydro-Electricity Generation, Irrigation & Water Storage

The case histories tabulated below represent a cross section of projects undertaken by Altex Coatings over a period of some 20 years. The list does not encompass all work of this type undertaken by Altex however it does reflect the fully audited projects in many facets of fresh water immersion, principally with major hydro-electric power generators such as Electricity Corporation of New Zealand (ECNZ).

(It should be noted that ECNZ, a state owned enterprise, has since been split into four competing generating companies; Contact Energy, Mighty River Power Ltd, Genesis Power Ltd and Meridian Energy Ltd. A number of projects listed below were carried out on (then) ECNZ stations but now may be owned by (and listed as assets of) the new state owned enterprise companies).

The success of the Altex **proprietary coatings and systems** is evidenced by the repeat projects (see listings) carried out from year to year on many sites. Suited equally to new work as to maintenance, the Altex custom designed systems take full advantage of the individual characteristics of our existing range of Altex and ICI-Devoe epoxy coatings to maximise life expectancy at minimum practical cost.

Location	Year	Location	Year
Hamilton City Council Ruahihi Reservoir	1979	Tauranga Joint Generation Committee Ruahihi Power Station Int/Ext Penstocks	1980
Wairarapa Catchment Board Radical Flood Gates	1980	Dunedin City Council Branch River Water Pipeline	1980
Ranfurly, Central Otago, Sth Island Hydro Penstock Lining	1980	Taupo Borough Council Hinemaia A Power Station Replace Penstock lining	1982
Poverty Bay Electric Power Waihi Hydro Electric Scheme Penstock Linings	1982	Tauranga Joint Generation Committee Ruahihi Power Station Int/Ext Canal Replacement Penstock	1982
Rotorua District Council Kaituna River Control Gates	1983	Tauranga Joint Generation Committee Lloyd Mandeno Power Station Repair failing C.T.E lining	1983
Taupo Borough Council Hinemaia B Power Station Int/Ext new penstock	1984	Nelson City Council Maitai Water Supply Scheme Int/Ext Pipelines & Intake Structure	1984
ECNZ Waikaremoana Power Scheme Kaitawa Power Station Re-line G6 Penstock	1985	Bay of Plenty Electricity Aniwhenua Power Station Repair failed CTE Scroll Case	1985
Waihi Hydro Electric Scheme, Wairoa Int. Penstocks and Gates	1986	Rotorua Area Electricity Authority Whaero Power Scheme Int/Ext Penstocks	1986
Waitomo Electric Power Board Waiwera Falls Power Station Scroll Case Linings	1987	ECNZ Southern Hydro Group Roxburgh Power Station Repaint Headgates	1988 1989 1990
ECNZ Waitaki Hydro Group Tekapo A Power Station Repaint Stop Logs	1989	ECNZ South Waikato Hydro Group Ohakuri Power Station Repaint Ext Penstocks	1989
Watercare Services, Auckland Int/Ext Water Pipelines	1989	ECNZ Waikaremoana Power Scheme Tuai Power Station Reline G1 & G2 Scroll Cases	1989
King Country Electric Power Board Kuratau Power Station Int/Ext Penstocks	1990	ECNZ Waikaremoana Power Scheme Kaitawa Power Station Repaint ext. G6 & G7 Penstocks	1991
ECNZ South Waikato Hydro Group Maraetai Power Station Repaint head gates	1991 1992 1993	Head Gates & Stop-Logs; Full Sets ECNZ Whakamaru, Aratiatia, Ohakuri, Maraetai A, Waipapa, Arapuni, Karapiro	1991 through 1993
Mangatawhiri Irrigation Scheme Int/Ext Pipelines	1991	ECNZ Waikaremoana Power Scheme Kaitawa Power Station Repaint ext. G6 & G7 Penstocks	1992
ECNZ South Waikato Hydro Group Ohakuri Power Station Reline Auxiliary Penstock	1992	ECNZ North Waikato Hydro Group Arapuni Power Station Reline Penstock G8	1992
ECNZ Tokaanu Hydro Group Mangahao Power Station Ext Penstock Maintenance	1992	New Plymouth Energy, Taranaki Mangorei Power Station Int/Ext Penstocks	1992
ECNZ Waikaremoana Power Scheme Tuai Power Station G2 Penstock, C.T.E repairs	1993	ECNZ North Waikato Hydro Group Arapuni Power Station Reline Penstock G1	1993

ECNZ Southern Hydro Group Cobb Power Station Repaint Ext Penstocks	1992 1993	ECNZ Waikaremoana Power Scheme Tuai Power Station Lake Tuai Tip Gates	1993
ECNZ South Waikato Hydro Group Aratiatia Power Station Surge Chamber Gantry Crane	1993	ECNZ North Waikato Hydro Group Arapuni Power Station New South End Stop Logs	1993
ECNZ North Waikato Hydro Group Karapiro Power Station New Diversion Tunnel Project Line Tunnel; coat all gates etc.	1993	ECNZ Tokaanu Hydro Group Tongaririo Power Scheme 1. Ext Wanganui Pipe Bridge 2. Rotating Screens 3. Poutu Intake Gates & Gantry	1993
Kaimai Hydro Power, Tauranga Ruahihi Power Station Repaint Forebay Stop Logs	1993	ECNZ South Waikato Hydro Group Maraetai Power Station Int/Ext Auxiliary Penstock	1994
ECNZ Tokaanu Hydro Group Tokaanu Power Station Reline G5 Scroll Case	1994	ECNZ North Waikato Hydro Group Karapiro Power Station Repaint G1 Wicket Gates	1994
ECNZ South Waikato Hydro Group Aratiatia Power Station Surge Chamber Gantry Crane	1994	Kaimai Hydro Power, Tauranga K5 Outfall Generation Project Int/Ext Penstock, Draught Tube	1994
Christchurch City Council Heathcote River Flood Gates	1994	ECNZ Waikaremoana Power Scheme Tuai Power Station G1 Penstock, C.T.E repairs	1994
ECNZ Waikaremoana Power Scheme Piripaua Power Station New Head Gate	1994	ECNZ North Waikato Hydro Group Karapiro & Arapuni Power Station Full maintenance of heat exchanger end caps and assemblies	1994 1995
ECNZ South Waikato Hydro Group Maraetai I Power Station Recoat Diversion Tunnel Head Gate	1995	ECNZ South Waikato Hydro Group Maraetai II Power Station Recoat Draught Tube Stop Logs	1995
ECNZ North Waikato Hydro Group Arapuni Power Station Interior Lining of Penstock G7	1995	Richmond Ltd - Export Meat Works Oringi Plant, Hawkes Bay Int/Ext New Potable Water Tank	1995
ECNZ North Waikato Hydro Group Arapuni Power Station Re-line G5 Penstock	1995	ECNZ South Waikato Hydro Group Whakamaru Power Station Total repaint diversion tunnel head gate	1996
ECNZ South Waikato Hydro Group Aratiatia Power Station Refurbish Sluice Gates 1 & 2	1996	ECNZ North Waikato Hydro Group Karapiro Power Station Refurbish lining for Kaplan Turbine Scroll Casing	1996
ECNZ North Waikato Hydro Group Karapiro Power Station Refurbish No.3 Head Gate	1996	ECNZ Waikaremoana Power Scheme Kaitawa Power Station Reline G7 Penstock Tunnel & Scroll Case	1996
ECNZ Roxburgh Power Station Repaint No.2 Sluice Gate (upstream face)	1996	ECNZ South Waikato Hydro Group Aratiatia Power Station Refurbish No.1 & 3 Scrolls	1996 1997
ECNZ South Waikato Hydro Group Aratiatia Power Station G3 Scroll Case Repairs	1997	ECNZ South Waikato Hydro Group Aratiatia Power Station Head Gate (permanent immersion)	1998
Mighty River Power Ltd Karapiro Power Station Sluice Gates, 4 off	1998 1999	Mighty River Power Ltd Waipapa Power Station Head Gates, 3 off (9 sections)	1999
Mighty River Power Ltd Atiamuri Power Station Sluice Gates	1999	Mighty River Power Ltd Waipapa Power Station G3 Kaplan Turbine Cover & Scroll	1999
Meridian Energy Ltd Aviemore Power Station G4 Turbine Wicket Gates (20 off)	1999	Mighty River Power Ltd Karapiro Power Station G1 & G2 Head Gates	1999
Mighty River Power Ltd Ohakuri Power Station G4 Penstock Lining	2000	Mighty River Power Ltd Arapuni Power Station G5 & G6 wicket gates, draft tubes & scrolls	2000
Mighty River Power Ltd Ohakuri Power Station G2 Penstock Lining	2001	Contact Energy Ltd Roxburgh Power Station G8 Wicket Gate Set	2002
Mighty River Power Ltd Ohakuri Power Station Aux. Penstock Lining	2003	Mighty River Power Ltd Ohakuri Power Station G3 Penstock Lining	2003

Genesis Power Waikaremoana Power Scheme Piripaua Power Station G4 & 5 Scroll Casings Lining	2003	Mighty River Power Ltd Ohakuri Power Station G1 Penstock Lining	2003
Australia Somerset Dam - Sluice Gates	2004	Australia Quambone - Pipeline	2005
Mighty River Power Whakamaru Power Station G4 Penstock Lining	2004	Mighty River Power Atiamuri Power Station G4 Scroll Case Lining	2005
Australia Wivenhoe - Bulkhead Gates	2005	Australia Tareelaro Moree - Weir Gates	2006
Mighty River Power Whakamaru Power Station G1 Penstock Lining	2005	Australia Booloroo - Weir Gates	2007
Australia Coomabah - Treatment Plant	2007	Australia Membrane - Biological Water Tank	2010
Mercury NZ Mokai Geothermal Power Station New Silencer Flash Tank. Interior & Exterior.	2011	Mighty River Power Arapuni Power Station G8 Stator	2011
Australia Byron Bay - Wet Wells	2011	Australia Barellan - Reservoir	2012
Australia Jemalong - Weir Gates	2012	Australia Bunbury Port - Authority	2012
Mighty River Power Ngatamariki Geothermal Power Station New Exterior stairs and supports	2012	Mighty River Power Ngatamariki Geothermal Power Station New structural steel	2012
Mercury NZ Atiamuri Hydro Power Station G8 Head gate embedded steel slot	2013	Australia Berrigan Sewer Lift Well	2013
Australia Blowering Dam - Jet Flow Valve	2013	Australia Bourke Shire Council - Wet Well	2013
Australia Mt Crosby - Sedimentation Basin Bridge Structures	2013	Australia Effluent Discharge Channel	2014
Australia Parkes - Sewer Lift Well	2014	Australia Temora Shire Council – Lift Well	2014
Australia Wingecarribee Shire Council - Channel	2014	Australia Little Nerang Dam - Drum Gates	2015
Mercury NZ Karapiro Hydro Power Station Spillway gate 1 and embedded steel slot	2017	Mercury NZ Atiamuri Hydro Power Station Lower Spillway gate embedded steel slot	2017
Mercury NZ Karapiro Hydro Power Station G1 Headgate embedded steel slot	2017	Mercury NZ Karapiro Hydro Power Station Spillway gate 4	2017
Australia Somerset Dam - sluice gates	2017	Australia Warren - weir gates	2017
Mercury NZ Whakamaru Hydro Power Station G2 Draft tube	2017	Mercury NZ Aratiatia Hydro Power Station G2 Lower penstock, scroll case, stay vanes, wicket gate, draft tube.	2017
Australia Mudgeeraba WTP - Digester Walkway	2017		
Mercury NZ Ohakuri Hydro Power Station Diversion gate platform steelwork	2017	Mercury NZ Ohakuri Hydro Power Station Upper diversion gate	2018
Meridian Energy Ltd Ohau A Power Station Drainage Pump	2018	Meridian Energy Ohau A, B, C Power Station Penstocks Exterior	2018
Meridian Energy Aviemore A, B, C Power Station Penstocks Exterior	2018	Meridian Energy Manapori Power Station Cooling pipes	2018
Mercury NZ Waipapa Hydro Power Station Head gate slots 1, 2, 3.	2018	Mercury NZ Waipapa Hydro Power Station Head gate rams x 4.	2018
Mercury NZ Maraetai Hydro Power Station Spillway gate slot 1	2018	Mercury NZ Karapiro Hydro Power Station G1 Headgate slot angle bars	2018

Mercury NZ Maraetai Hydro Power Station Spillway gate slot 2	2018	Mercury NZ Maraetai Hydro Power Station New Primming bus	2018
Mercury NZ Whakamaru Hydro Power Station G1 Penstock refurbishment	2018	Mercury NZ Aratiatia Hydro Power Station G1 scroll case, stay vanes, draft tube.	2019
Mercury NZ Aratiatia Hydro Power Station G5 scroll case, stay vanes, draft tube.	2019	Mercury NZ Waipapa Hydro Power Station Head gate rams x 3.	2019
Mercury NZ Aratiatia Hydro Power Station G1 scroll case, turbine pit	2019	Mercury NZ Arapuni Power Station G2 Penstock	2019
Mercury NZ Karapiro Hydro Power Station Diversion Tunnel ,sump, Invert, gate,canopy, slot and ventilation slot	2019	Mercury NZ Aratiatia Hydro Power Station G3 scroll case, turbine pit, outer rings, bottom cover and draft tube	2019
Mercury NZ Whakamaru Hydro Power Station G4 Gate slot, upper/ lower penstock, turbine pit, gate slot shields, turbine inner rings, scroll case and draft tube	2019	Australia Biological Reactor	2019
Genesis Energy Piripaua Hydro Power Station Turbine overhaul	2020	Genesis Energy Piripaua Hydro Power Station Penstock exterior	2020
Meridian Energy Ltd Ohau A, B, C Power Station Station Roofs	2020	Meridian Energy Ltd Aviemore Power Station Station Roofs	2020
Mercury NZ Maraetai Hydro Power Station G3 Scroll case and draft tube	2020	Mercury NZ Waipapa Hydro Power Station G1 Lifting cylinders x 3	2020
Mighty River Power Ltd Ohakuri Power Station G4 Scroll case and stay vanes	2020	Mighty River Power Arapuni Power Station G5 Scroll case, stay vanes and draft tube	2020
Mercury NZ Atiamuri Hydro Power Station G4 scroll case and lower penstock	2020	Mercury NZ Waipapa Hydro Power Station G3 Turbine blade chamber doors	2021
Trustpower Waipori Hydro Power Station Penstock exteriors	2021	Genesis Energy Mangaio Hydro Power Station Turbine maintenance	2021