



Waitaki Dam Spillway and Powerhouse

# Damwatch Engineering Newsletter, September 2016

## Welcome to Damwatch News

We are pleased to bring you this update of our staff and interesting projects that we have been helping our clients with in the last few months. However, some of the projects we have worked on are sensitive and we are unable to include in our newsletter at this time.

Highlights of this newsletter include:

- Dam Emergency Preparedness Planning in Vietnam
- Waitaki Dam Uplift Drainage Project
- Using small diameter Borehole Cameras during drainage response testing
- Damwatch Dam Safety Training
- Staff Update – new faces and returns

## Trung Son Hydropower Project Emergency Preparedness Plan

In early June Damwatch's Rick Scott and Ian Davison travelled to Vietnam to assist with the finalisation of the Emergency Preparedness Plan and inundation mapping for the Trung Son Hydropower Project. The RCC dam construction is nearing completion with plans to begin filling later this year. The dam designer Power Engineering Construction Co (PECC4) were our hosts. It was a nice surprise to find that some of the senior representatives of the Trung Son Hydropower Company had worked on earlier projects in Vietnam with Ian.

Trung Son Dam is a roller compacted concrete dam with a crest length of 513 m and height of 84.5 m constructed on the Ma River and will provide flood control and power generation. The powerplant will have a generating capacity of 260MW. The project is being funded by the World Bank.



Trung Son Dam under construction looking upstream.

## Waitaki Dam Uplift Drainage

Waitaki Dam, constructed between 1929 and 1934, is Meridian Energy's oldest hydro power station. The grand old facility has been undergoing a substantial mid-life upgrade, including improving its seismic performance.



Malcolm working inside narrow galleries at Waitaki

Upgrading the foundation drainage in the dam galleries is now complete. Drilling contractor March Construction has drilled 58 new drainholes and Damwatch has installed 37 vibrating wire piezometers and one hand read piezometer inside the narrow galleries.

Damwatchers Danny Bardsley, Andrew Balme and Katarína Šebánová have been taking it in turns to supervise the drilling contractors. Malcolm Dow and Alan Sutherland from Damwatch were subcontracted to the Contractor (March Construction) for the piezometer installations.

The conditions in the galleries were challenging due to the cramped, dark and damp conditions and our team worked closely with Meridian and the contractors to ensure the dam was safe during the upgrade works. With the site works now complete, and demobilisation underway, the goldrush is over for the local motels and cafes!



Brian

### Damwatch Engineering Staff Update

You may notice some changes in your contacts email signatures – with the growth of Damwatch we've had a structure change. We're pleased to announce that six staff have stepped in to team leadership roles.



Damon

**Engineering Group:** Steve McInerney leads the Engineering Group with the help of his Team Leaders:

Brian Benson is a Principal Geotechnical Engineer and leader of the Geotechnical Team.

Damon Simmons is a Principal Projects Engineer and leader of the Civil and Structures Team.

Ian Davison is a Principal Dam Engineer and leader of the Water Resources Team.

Tony is the Principal leading the Instrumentation and Investigations Team. Steve McInerney is currently on leave, Tony is Acting Engineering Manager in his absence.



Ian

**Dam Safety Group:** Rebecca Knott leads the Dam Safety Group with the help of her team leaders:

Dan Forster is a Senior Dam Safety Engineer and Team Leader within the Dam Safety Group.

Erin Poirot is a Dam Safety Analyst and Team Leader within the Dam Safety Group.



Tony

### Welcome to Grant Webby

Grant joined our Engineering team in July with a background in physical and computational hydraulic modelling.

Grant was a Technical Principal in Hydraulic and River Engineering responsible for investigations related to the safety management of dams, canals and reservoir systems, flood hazard investigations in large river systems and investigations related to bridge scour and sediment management. Grant is well known to many of our New Zealand clients.



Dan

### Welcome back to Ian Davison

We're delighted to welcome Ian back to Damwatch. Ian and his wife Ruth have spent 12 months travelling through Northern India, Nepal, Myanmar, UK, Turkey, Sichuan, Yunnan, Laos, Vietnam and Thailand. During this time they managed to carry out some voluntary work including assisting with the construction of a couple of school buildings, in earthquake damaged Nepal, made from earth bags. Whilst in Ladakh in India, Ian also found himself involved with master planning a university and city in this mountain desert area.



Erin

### Jonathan Harris

Sadly Jonathan Harris and his family decided to return to their homeland, the USA. Jonathan left Damwatch at the end of August. We wish Jonathan and his family well for their return home.



Grant

### Using Borehole Cameras during Response Testing – Poutu Dam, Genesis Energy Limited

Damwatch was recently involved in carrying out response testing for a portfolio wide review of dams owned by Genesis Energy. Response testing of standpipe piezometers and observation wells involves measuring water inflow or outflow against time, to determine whether the response characteristics are consistent with the instruments monitoring purpose. At Poutu Dam two observation wells were found to be affected due to a blockage and/or foreign objects within the wells.

Damwatch deployed its recently developed, portable borehole camera, to identify the obstructions. Not only did the camera identify the obstructions (timber, pieces of rock and a plastic bag) it was also used to help Genesis personnel remove the objects with the clever application of a steel wire. The effective depth of one well was extended by nearly 7m and this well now provides reliable monitoring data for the first time since 1974.



If you have any general enquiries about any of your projects or services we offer please contact Grant Dennehy on +64 4 381 1300 or [Grant.Dennehy@damwatch.co.nz](mailto:Grant.Dennehy@damwatch.co.nz).

**Thank you for your on-going support this year.**

**Kind regards,**

**Peter Amos**

**Managing Director.**

### **Dam Safety Training**

In August we ran a Dam Safety Course for Irrigators in Ashburton and later this month we have our 2 day Dam Safety Course. Registrations have closed, if you've missed out this time and want to keep informed as to when the next is, email [Laressa.Robson@damwatch.co.nz](mailto:Laressa.Robson@damwatch.co.nz) to get on the mailing list.

We also run customised courses on client's sites. Courses are completely tailored to your needs, and can range from a couple of hours to multiple days. If this is something you're interested in contact Dan on +64 4 381 1360 or

[Dan.Forster@damwatch.co.nz](mailto:Dan.Forster@damwatch.co.nz).



**DAMWATCH**  
ENGINEERING BEYOND THE SURFACE