



## Miscellaneous



### Reference Details:

**Client** Hydro Tasmania,  
Hobart, Australia +++  
**General Contractor**  
Hazell Bros. Civil  
Contracting Pty. Ltd.,  
Hobart, Australia +++  
**Subcontractor** Mulligan  
Drilling Pty. Ltd.  
Rockridge, Australia  
+++ **Engineering** Hydro  
Tasmania, Hobart,  
Australia +++  
**Consultant**  
**Engineering** Hydro  
Tasmania, Hobart,  
Australia

**DSI Services** Supply of  
30 t of 36 mm and 40  
mm epoxy-coated  
DYWIDAG Post-  
Tensioning Threadbars®  
and accessory for  
permanent passive rock  
bolts; Supply of 10 x 8-  
0.6" DYWIDAG  
Permanent Strand  
Anchors; Rental of  
tensioning equipment  
and field supervision  
during installation and  
stressing.



## DYWIDAG Anchors prove to be best solution for dam upgrades

### Forth River Dams upgrades, Tasmania, Australia

Hydro Tasmania is the power supply authority for Tasmania which generates power mostly from its 27 hydroelectric stations. Revised estimates of extreme rainfalls indicated that the spillway capacity of the three dams on the Forth River scheme (Cethana, Devils Gate & Paloona Dams) no longer complied with current practise. For this reason, it was decided to increase the spillway capacity to sustain a flood probability of 1:100,000 years. Following extensive study, the most cost effective and practical solutions were to raise the dam crests and to increase the height of the spillway chute walls.

### Cethana and Paloona Dams

The spillway chute walls were raised by constructing internal L-shaped concrete walls. The bases of the new walls were anchored into bedrock with four hundred 36 and 40 mm diameter epoxy-coated passive DYWIDAG Threadbar® Anchors with galvanized anchor heads cast in the new concrete. At Paloona Dam, the continuously threaded anchors made it possible for the engineers to specify different bond lengths due to varied bedrock quality throughout the site.

### Devils Gate Dam

The left abutment was strengthened by installing 10 monitorable and restressable 8-0.6" DYWIDAG Permanent Strand Anchors. To minimize cost, the strands were greased and sheathed and assembled with internal grout tubes and spacers in the shop prior to delivery to site in coils. On site, the corrugated sheathing was first installed and water-tested followed by insertion of bundled strands and grouting of the entire length.

For all three dams, DSI Australia rented tensioning equipment and provided site supervision and employee training during anchor installation and stressing. The upgrading works were successfully completed in May 2003.

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