

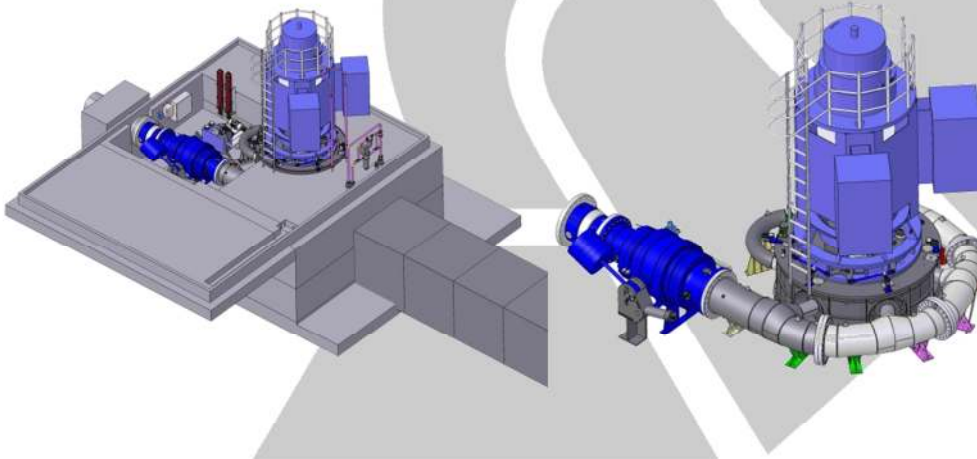
## AMETHYST POWER STATION

HydroWorks was involved in the design and manufacture of the 8 MW hydro station at Amethyst. This station was commissioned in July 2013 and has a number of "firsts" in New Zealand and Australia:

1. First 6 jet vertical Pelton turbine
2. First large Pelton turbine that uses deflector governing to maintain grid stability



## HYDROWORKS DESIGN CAPABILITY



## GRID SUPPORT

The electricity grid south of Hokitika on the scenic west coast of NZ is vulnerable to local feeder trips. There are several small hydro stations south of Hokitika, but these are unable to maintain grid stability in the event of a feeder tripping out.

Amethyst has been designed to accept up to 7 MW of local load in a black start condition, and reject up to 7 MW of load whilst transitioning stably to local control and islanded operation. Trials have shown this concept to work well. Spears are used only to economise on water, with turbine speed being controlled by the deflectors.

