

## Knoydart Hydro Dam Pipe Replacement

<b>Client:</b>	Knoydart Renewables Ltd
<b>Form of Contract:</b>	ECC Option A
<b>Duration:</b>	Jul 2015 to Aug 2015
<b>NRS Role:</b>	Main Civil Engineering Contractor and Principal Contractor



### Main Description

This project involved the installation of a new scour pipe, suitable control valve refurbishment of the existing intake structure to enable dewatering using stoplogs and remedying of leaks.

The Scope of works included:

- Install, maintain and remove environmental protective measures.
- Dewater the reservoir and install, maintain and remove a water management system to keep the area of works water free for the duration of the project.
- Carry out trial holes to the upstream side of the dam and provide access for inspection.
- Excavate existing ground as necessary to construct proposed works (including rock at the proposed stop log structure base slab).
- Install reinforced concrete facing walls to the upstream face of the existing dam structure.
- Remove the existing stop log/ screen structure including a concrete base slab and concrete columns on the upstream face of the dam structure.
- Construct a new reinforced concrete base slab and install a new steel stop log I screen structure to the upstream face of the dam, including the steel trash screens and timber stop logs.
- Install new 400mm ON scour pipe (ductile iron) through existing 500 0.0 scour pipe within the dam structure, grout seal and install new gate valve on the downstream end of pipe.
- Install new 400mm ON hydro pipe (ductile iron) through dam structure adjacent to the existing hydro pipe.



- Install new breather pipe (ductile iron) on the downstream side of dam structure.
- Install new 400mm ON hydro pipe (ductile iron) with gate valve, hatch box and reducer (including concrete support plinths).
- Install new air valve, breather pipe and manhole structure.
- Install new 350mm ON hydro pipe (ductile iron) and connect into existing HOPE pipe (including concrete support plinths).

The project site was located on the remote Knoydart peninsula and the dam itself had no track access which made the logistics of this pipe replacement project particularly challenging. All materials and equipment arrived by barge and were flown to the site.

An accommodation block was also flown to site and constructed to house workers on site.

