

SCHEME

Aqueduct System, Glendoe, near Loch Ness

CLIENT

Scottish and Southern Energy

WEHOLITE SOLUTION

9,500km with a 50/50 split of 2m and 1.8m WEHOLITE pipe

Plastic Solutions Provider Selected For Innovative Hydro Power Project



A pioneering hydro-power scheme has chosen leading water management solutions provider, ASSET International Ltd (ASSET), to provide the water transportation pipes at their pro-environment energy production project at Glendoe, near Loch Ness.

The scheme, which is owned and operated by Scottish and Southern Energy (SSE) working with Hochtief Construction AG as the main contractor and subcontractor Highlands Quality Contractor (HQC), is the largest civil engineering project in Scotland and is using the high density polyethylene (HDPE) pipe manufactured by ASSET, in their aqueduct system for transporting vast amounts of surface water to a reservoir in the Glendoe hills.

The WEHOLITE pipe will help transport the water from an area of over 75km², at what is the first large-scale conventional hydro electric station to be built in

Scotland for almost 50 years. The station is already generating enough electricity to power every home in a city the size of Glasgow.

The water is collected in a reservoir above the power station, where annual rainfall is approximately 2000mm. As the WEHOLITE pipe is high density polyethylene, it is the ideal choice for an area such as Glendoe where temperatures can reach 25 degrees below zero, it doesn't become brittle as it adjusts to extreme temperatures.

WEHOLITE pipes are also much lighter than concrete and ductile iron pipes, meaning they can be transported up the mountain easily and quickly.

Dennis Kearney, director of HQC, said: "Given the demanding conditions we had to work with, WEHOLITE pipe was the best product for the job.

THE ESSENTIAL HDPE WATER MANAGEMENT SOLUTION

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We have 9,500km of the pipe running in hills 2,500m high, it was imperative that we selected a lightweight and durable pipe".

ASSET also managed to redesign transport costs for the project by helping to reduce the pipeline to include a 50/50 split between 2m and 1.8m pipes, so the loads could be nested and transported together.

Julius Wallace, Glendoe site manager for Hochtief Construction AG, said: "ASSET provided many cost-reducing benefits; as the HDPE pipe comes in longer lengths than alternative products, we saved time and money during the joining process.

"The HDPE pipe is more flexible, with standing larger grading envelopes for bedding and backfilling material and is less brittle for transportation and installation than the fibre-glass GRP pipe traditionally used for projects like this. We haven't needed to cover costs for specialist bedding material as we were able to use self-compacting rock that can be processed on site."

The power station began creating power in December 2008 and work is now ongoing to reconstruct the surrounding landscape.

Neil Sandilands, project manager at Scottish and Southern Energy said: "Because the pipes are

lightweight they've been easily transported up the steep inclines and then easily manoeuvred into place on the mountain-side. We also reduced our health and safety worries thanks to the speed and ease with which the pipes can be handled.

"The fact that ASSET managed to save our costs while also reducing carbon emissions means they were the right choice for such an eco-friendly scheme".

Landscaping and final reinstatement will be complete in June 2009, meaning the pipes and other equipment will not be visible from any buildings or roadsides.

Simon Thomas, managing director at ASSET, said: "We are delighted that WEHOLITE has featured so prominently in such an innovative and eco-friendly project like Glendoe. As a company we have a strict environmental policy and relish the opportunity to be involved in sustainable schemes. Our efforts to reduce loads and the fact that WEHOLITE is manufactured in the UK means it's a much more carbon friendly choice than other traditional products."

"As WEHOLITE allows for swift installation, an additional cost benefit is the significant time savings, especially when compared with other traditional materials".



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