

More Green Energy in Sri Lanka with HOBAS®

Year of construction

2011 - 2013

Construction time

18 months

Total length of pipe

1460 m

Diameter

DN 700 - 1100

Pressure class

PN 1 - 12.5

Stiffness class

SN 5000 and 10000

Head

95 m

Capacity

1.2 MW

Installation method

Open Trench

Client

Wellawaya Hydro Power (Pvt) Ltd

Designer

Munex (Pvt) Ltd

Construction company

Dolphin Marine Lanka (Pvt) Ltd

Advantages

Environmentally sound solution, easy handling thanks to light weight, long service life

The vibrant small hydro power industry in Sri Lanka saw a further green accomplishment in the south of the country approximately 2 km from Dehilanda in Wellawaya at the river Kuda Oya. With a capacity of 1.2 MW and approximately 5.7 GWh output per year, which will be fed into the national grid of Sri Lanka Water, the hydropower plant will supply for about 6000 households. The owner, the private company Wellawaya Hydro Power Pvt Ltd, opted for a sustainable and environmentally sane penstock solution with HOBAS CC-GRP Pipes.

Environmental considerations played a crucial role in the decision making process for the best suitable pipe material. "Since the plant is situated in the jungle, we wanted to make sure to best possibly protect flora and fauna. We decided to bury the penstock because it would have otherwise crossed and divided animal trails," says Roshan Prabatha Wickramasinghe, Director of Wellawaya Hydro Power Pvt Ltd. Thanks to the possibility to optimally adapt the line to the terrain, only a 3 meter wide section had to be cleared for trenching. The tested and approved method of angular deflection accommodated in the couplings as well as angular cut pipe ends reduced the number of necessary bends.

The construction of the 1460-m-long GRP pipeline leading to the turbine at a head of 95 meter commenced in 2011. HOBAS delivered pipes designed for different pressure classes ranging from PN 1 to PN 12.5. While gravity pipes were utilized for flatter parts of the route, pressure pipes were installed in especially steep sections, where the comparably light pipe material benefited pipe transportation and handling considerably. Some parts are in fact so steep that a mechanically operated winch had to be employed to pull the pipes to the trench. "This would have proved very difficult if not impossible with other pipe materials which are by far heavier," adds Wickramasinghe.

After 18 months construction time the pressure test was conducted and successfully passed so that the plant could be put into service. Shrubs and trees were quickly replanted along the backfilled trenches so that soon there will be no trace of construction works and nature can take its usual course. Not only is the operator content with the result but also the villagers: Apart from electricity, locals received the opportunity to be trained and to operate the hydro-power plant.

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