



BEFORE

Approaching the end of their lifespan and as a consequence, becoming increasingly more unreliable, a number of cast iron penstocks required replacing by Northumbrian Water. IBS was contracted to design, supply and install a number of stainless steel replacement penstocks to restore reliability.



AFTER

IBS was presented with a challenging project, which involved replacing a number of aging cast iron penstock units, which had become unreliable, with new stainless-steel units. The project complexity demanded a collaborative multi-solution approach.

Specifically, access to the working area for both surveys and installation was difficult, it being a confined space with difficult isolation conditions and

required IBS and the contractors to liaise closely to ensure that all access requirements were safely met and sound project management practices ensured the work was programmed to allow any isolation requirements.

Due to the nature of the project there were also multiple contractors involved, which demanded close collaboration between client,

contractor, sub-contractors, and IBS. This approach allowed for a more robust programming and planning strategy which minimised the impact each individual activity had on the work of others. This proactive approach established a safer, more efficient working environment and was adopted by all parties for seamless project delivery.

Sector:
Utilities

Location:
Northumbria

Client:
Northumbrian Water

Product/s:
32-off Stainless Steel Penstock

Size:
**450mm x 450mm –
600mm x 600mm**

There were also a number of logistic challenges, due to the phased nature of the project, which IBS addressed by matching its installation activities with phased deliveries and where this was not possible, due to contractual delivery dates, IBS was able to ensure safe storage of all items on site with support, again from the main contractor and client.



ready to accept the new penstocks was completed in a timely and efficient manner.

Project Success

Some 32 wall mounted penstocks, measuring 450x450mm – 600x600mm were installed, and as part of a wider project, ensured the continued efficient operation of the treatment works. The replacement of the old penstocks for new modern equivalents not only created a more robust treatment asset, but also delivered an increase in the assets' overall life span, whilst also reducing maintenance requirements and saving on Opex costs.

Some of the existing civil structures were in poor condition following removal of the redundant penstocks, but the collaborative approach

underpinning the entire project reduced the impact this had on the overall programme of works. Any remedial work required to ensure the sealing faces were