

### Archie's New Bearing

At an Open Day back in September 2015, we opened the sluice gate to demonstrate the screw turning. Something was clearly wrong – the screw turned a little and there was a horrible grinding noise. An expert inspection revealed that Archie's bottom bearing had failed. Unfortunately, this coincided with the autumn and winter rains, making it unsafe to work in the river until the water level dropped. During the winter of 2015/16 extensive discussions between the project engineers led to the development of a set of detailed plans regarding how best to install the new bearing. The first step involved the design and construction of a new guide trough to hold the new stop logs, which was necessary to enable the tailrace to be "dewatered" to allow access to the bearing. The months of careful planning paid off and as soon as the river dropped sufficiently and it was safe to go into the river the removal and installation of the new bearing was carried out by a combination of specialist contractors and our (very experienced) volunteers.



What metal looks like after 8 years in the river

Work began at the end of May. Before the "real" work could commence, a huge amount of mixed silt had to be removed,

ranging from vegetable matter through sand and gravel up to boulders and stone blocks. Just seeing the stop boards in place and the area at the bottom of the screw free of silt in readiness for the engineering work gave everyone a major boost.



The crew at work



Archie's shiny new innards

In mid-June, we were finally able to replace the bottom bearing and install a new grease line to lubricate it. We also took the opportunity to change the gearbox oil, service the generator bearings, and replace a few bits and pieces that had come adrift over the years. As ever with these things, the conditions were appalling – rainy and cold, with knee-deep mud and river muck. A typical English summer, in other words!

By the end of June all the work was completed and everything was working well, much to everyone's relief.

And the little dog laughed to see such fun ....



## Shovelling Muck Again...

The river gods had not finished making our lives difficult though: the storms in November blocked the inlet yet again. The usual Monday morning check had left Archie spinning happily, but following some very localised heavy rains over the next 24 hours huge amounts of stone were deposited in front of the intake, completely blocking it. The scale of the problem became evident as the water levels finally went down. Silt had completely covered the inlet to Archie and the fish pass, as well as leaving a lot of debris elsewhere on the site. As our trusty band of volunteers once again rolled up their sleeves and inspected the mess it was clear that there were some very large stones mixed in with the usual bits of tree, etc, so it was felt that it would be quicker and safer to have the debris removed mechanically. This was quickly arranged and Archie was back in action only two days later.



Too much water in the river!

Debris on the fish pass steps



## WE'VE PAID OFF THE "MORTGAGE"!!!

We are insured against mechanical failure and loss of income so when our claim was paid for the bearing failure the board meeting in December voted unanimously to pay off our loan from the Co-operative bank. Richard Body, the financial director, said "It has been our aim to pay our loan off for several years and this is a major landmark in our history". We are now "mortgage free" a couple of years ahead of schedule while still preserving our healthy reserve, which is excellent news. The Board can now begin to look forward and consider how best to use the profits made from generating clean, green electricity to benefit our local community and plan for the project's long-term future.

## International Interest

Archie is world famous! The International Energy Agency sent a small delegation to the UK on a fact finding mission and one of the places they chose to visit was a small town in Derbyshire. Two representatives from Japan, one from Canada and one from New Zealand came to New Mills to gather information on good practice in small hydro schemes, asking us lots of questions about how the project was set up, our finances, community involvement and our long term expectations. Eventually, all the information will be published as a guide to help interested parties hoping to set up projects like ours in communities around the world.

## And finally, the 2017 AGM

A date for your diary - this year's AGM is Saturday 22<sup>nd</sup> April. 10:30 for a 11:00 start at the Revival Church, High Street, New Mills.

If you have any comments/queries/suggestions for improvements, you can email the newsletter editors THNM Director Mary Cohen at [mary@torrshydro.org](mailto:mary@torrshydro.org), Company Secretary Richard Body at [secretary@torrshydro.org](mailto:secretary@torrshydro.org), and Jan Szechi at [jan@torrshydro.org](mailto:jan@torrshydro.org). You can also send a letter to us at 90 Market St., New Mills, High Peak SK22 4AA.