



torrshydro
NEW MILLS



Annual Report 2011



Introduction

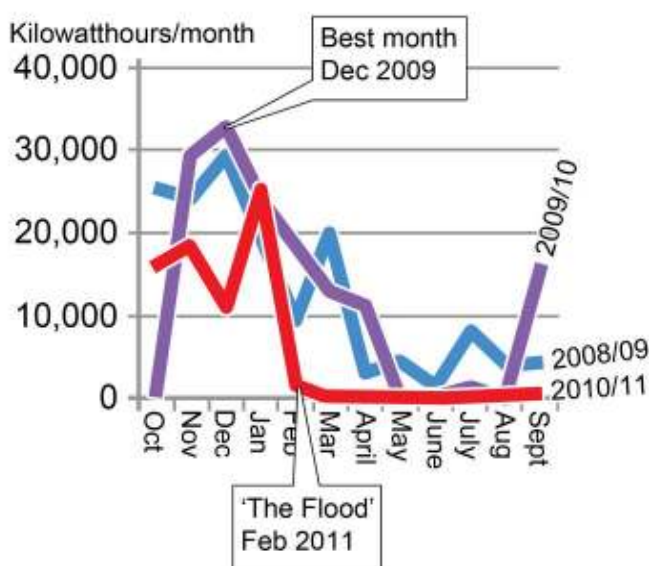
This has been an interesting and challenging year for Torrs Hydro. Those who attended our AGM in Feb 2011 may recall 'The Flood' which, a few days earlier had deposited many tons of silt (including huge boulders) across Archie's intake. We lost several months of operation, but largely due to the heroic efforts of our amazing volunteer workforce we are now once again supplying clean green power to our local Coop supermarket.

Power generation

The year was very dry, even drier than the previous year, with another particularly cold, dry winter. As the chart shows and predictably, the winter months provide most of the power, but the most productive months change each year. When the thaw came in January, our power output reached near normal levels for the time of the year, but of course this all came to a crashing halt with 'The Flood' on 5th Feb. Our insurance pay out for the repairs to the flood damage, as well as our resultant loss of income was hugely welcomed, and proved vital for our survival. We were able to generate just 73,513 kWh this financial year, and received an insurance payment for 67,127 kWh (less £1000 excess), an estimate of the power we would have generated in the period from February to the end of July. Apart from the damage from the flood event, the reliability of the scheme has been very good.

Month	2008/09	2009/10	2010/11
Oct	25,356	219	15,935
Nov	24,232	29,407	18,278
Dec	29,513	32,673	10,931
Jan	19,512	23,869	25,445
Feb	9,185	18,876	1,687
Mar	20,330	12,909	0
Apr	3,091	11,133	0
May	4,436	0	0
Jun	1,389	0	0
Jul	8,362	1,273	247
Aug	3,938	370	368
Sept	4,324	16,030	622
Yearly Total	153,668	146,759	73,513

Electricity generation 2008 - 2011



Financial Report

Financially it has been a very difficult year. The very dry weather seriously affected our income leading to us posting a loss of £3,761. Donations received for our visits and talks were also half what they were last year. It isn't that groups are no longer visiting; they simply have less to offer as a donation. Rent is now payable at £600 per annum by the terms on the lease to New Mills Town Council. On a positive note, our rates bill has now been reduced to zero for the next couple of years and we have reduced our insurance payments by paying them annually. Copies of the official 2010/11 Financial Report are available on request from secretary@torrshydro.org and at the AGM. We continue to operate using volunteers, who have saved us many thousands of pounds; our thanks go out to them all.

Plant operations

The plant continues to be checked daily and maintained by a group of committed volunteers. Following the long 'drought' through 2010, when the rain did eventually provide us with enough river flow to generate electricity in the autumn we had to contend with the washing down of the summer's fly tipping as well as the usual leaf problems. We kept as much debris as possible from going to the landfill; a trolley was returned to its supplier and tyres have become "growing towers" on local allotments.

The flood in February was a serious blow but also an opportunity to devote valuable volunteer time to making some useful changes in and around the site and carry out some maintenance. The gearbox had developed a small oil leak from the bearing on the output shaft; the bearing was replaced and an oil change completed by LSP. An analysis of the oil taken from the gearbox showed no wear problems but from now we will be monitoring this via 6 monthly oil samples. We also removed the hydraulic pump that controls the sluice gate for a routine check, which resulted in the replacement of the pump head and much improved performance. The sluice gate was significantly strengthened, with the addition of approximately 300kg of steel. The safety/capacity margins designed into the hydraulic system have averted the need for any additional modifications to the system.

Following protracted negotiations with the Environment Agency the river clearing was effected in early June and the silt reintroduced into the river downstream at Rock Mill. Dave Mann of Mann Power Consulting replaced the 'bumpers' on the top screw blade edges that had been worn off by stones passing down the screw. The bumpers minimize the harm to fish that might be caught in the intake stream. He was also able to help with some control issues following the refurbishment of the sluice gate and continues to help us out with technical problems when needed. During the extended down time a fish pass camera was installed by Ron Shaw, 'Fish and Elvers Counters', in partnership with the Environment Agency. It has suffered some teething problems but should be able to monitor fish migration next winter. The computer used to log plant data failed in July; Sean provided a replacement that was then installed and set up by Richard.

The Flood, Feb 2011



Debris on the cage while the river continues to rage



The 'Beach', rubble deposited by the rivers blocks the intake

In February 2011 Torrs Hydro suffered the worst storm we have seen since we began operations. The resulting deluge from the rivers Sett and Goyt caused the sluice gate to buckle under the sheer weight of the water, and then deposited over 60 tons of rocks, sand and shale at the intake, completely blocking both the hydro and fish pass. More material accumulated below the weir, partially obstructing the outlet. It was later estimated that the flow over the weir reached a peak of around 70 m³/sec on the night of 5th February and it remained very high for several days, dumping large pieces of debris on top of the cage protecting Archie.

Plant progress

The heavy rain and flood that had such a devastating effect on the Hydro plant is unlikely to be the only such event that we have to 'weather'. We are now in the process of planning for a more immediate response in the event of similar problems in the future. Permission is required from the Environment Agency for any work in the river and this depends on the time of year, fish migration pattern and other conditions. We are working with the EA's North West Regional Office to draw up contingency plans covering different circumstances. We were able to commission a survey of the weir structure as part of the insurance claim and are now aware of the ongoing maintenance that we should pursue each summer.

The financial situation has also prompted us to make firmer plans to upgrade the plant in order to generate more electricity from the available water. To that end a group of volunteers who are experts in the field have been investigating the range of options open to us, visiting other hydro sites and requesting estimates. We continue to explore the other changes we would have to make to the plant and its operation before we can go ahead. Overall, a difficult year but one that we have learnt a great deal from.

Archie and the wider community.

Archie continues to generate not just electricity but lots of attention. Anyone who is doing the daily checks and readings will know that if the engine house door is open then a passing visitor will appear and ask a question. The open days put on throughout the year have welcomed visitors from far and wide. A group from Belper came to the open day held as part of New Mills Festival and spent a long time talking to directors as they are keen to get their own scheme going.

Groups visiting by appointment have included

- a party from Belgium linked to the Co-op College,
- Buxton U3A,
- a variety of local school groups
- Community groups from Cornwall, Scotland and Wales

There are clearly two sides to our story: the renewable energy side and the community ownership side. It is this combination that makes us what we are.

The Directors again took the opportunity to talk to visitors to the One World Festival in July with lots of interest being shown. Guest speaker requests continue to pour in, this year including to the Friends of the Peak District.

During the New Mills Festival in September, Archie was used as part of the "Woolly Wander" and had his railings wrapped, knotted and woven using recycled textiles. Art students from New Mills School Business and Enterprise College worked with local artist Amanda Whewell to 'wrap the railings' down at Torrs Hydro. This all attracted more visitors to the Torrs and of course to look at Archie. The interpretation boards and engine house notices keep people informed.

Our highest profile visitor was Greg Barker, the minister for climate change.

Ministerial visit

On 28th October 2010, Torrs Hydro hosted a visit from Greg Barker MP from the Department for Energy and Climate Change (DECC). He used the visit to announce that former mills and water turbines that are brought back to life will now be eligible for financial support under the feed-in tariff (FIT) scheme. He said “I’m calling on communities across the UK to harness the power of their rivers and streams to generate electricity and money. The community of New Mills in the Peak District are already doing this.”



Richard explains a point to a clearly fascinated Minister



Greg Barker with the Directors in the Town Hall

The visit started with a visit to our customer – the Co-operative supermarket on Church Road. The dignitaries from DECC met representatives from the Environment Agency (including the regional director Toby Wilson), Torrs Hydro directors and volunteers, representatives from the Co-op group (including Chris Shearlock, the Sustainable Development Manager) and New Mills Town Council, before going to the town hall for the formal announcement. Chris Shearlock commented that all the supermarkets are now looking at food miles and the carbon footprint of each product they sell and how to reduce it. The directors of Torrs Hydro also took the opportunity to pass on the feedback they are getting from other potential hydro schemes where, because installers have to be accredited for a scheme to receive the FIT (feed in tariff) payments, new designs never leave the drawing board.

After the briefing the group went down to tour the site. During the visit, John Sweeney from the Environment Agency noted that there has been a dramatic increase in applications for licenses for hydro schemes in the last 2 years. We can be proud to be part of the reason for that. The national, regional and local press coverage also showed New Mills in an excellent light: Granada TV sent a crew to cover the event, but although they did of course interview Greg Barker, Richard Body was particularly pleased when the broadcast report had more of him in it!

The day was not yet over for us though: an hour after the ministerial party left a coach arrived carrying a group from Cornwall Neighbourhoods For Change intent on seeing how Archie works and how our volunteering is structured.

For the DECC account of Greg’s visit, see

http://www.decc.gov.uk/en/content/cms/news/pn10_113/pn10_113.aspx

Volunteer Experience: Company Secretary by Jan Szechi

In retrospect, I didn't exactly choose the best year to volunteer to take over from Richard Body as the Torrs Hydro company secretary. Less than a week before last year's AGM, when I was officially appointed to the position, we suffered the disastrous flood that put Archie out of action for the best part of 6 months. This was followed by a very dry summer, so little to no power was generated for the remainder of the 2010/11 financial year. Torrs Hydro's *annus horribilis* indeed.

This year has been a steep learning curve for me. Although I have been a shareholder from the beginning, seeing the everyday nuts and bolts of what is involved in administering Torrs Hydro has given me a whole new perspective on what we do. For example, I did not appreciate quite how many visitors we have advised as they conduct feasibility studies and work to raise the finance for their own hydro schemes, or how many student theses have relied on data from Archie, both technical and financial. All this continued unabated even as we scrambled to get the permissions we needed and organized the clearance of the "beach" blocking Archie's intake so effectively. Fortunately the insurance came up trumps (and I will never again complain about high premiums!), but even so we missed practically the whole spring generating season and our finances were in a perilous state. Going over the paperwork, I realized that our rates bill had soared in April 2010 due to a rating revaluation so decided that my most useful contribution would be to appeal this and hopefully reduce our rates substantially.

Ratings valuations are carried out by a national body, the Valuation Office Agency (VOA), who have 12 officers responsible for valuing power generators, 4 of whom specialize in renewables. Their hydro specialist came to visit Archie in the late spring; I was amused to find he was required to don a pair of steel-capped boots for an industrial site visit – I was wearing muddy trainers! He talked me through the process, which involved filling out an 8 page application and providing a great deal of supporting information, most of which I had to dig out of the Torrs Hydro archives (a shelf in Richard's basement). Definitely worth the effort though: our rating valuation was lowered from £5,700 to £2,500. The icing on the cake came when I contacted High Peak Rating office in Buxton, who not only implemented the change very promptly indeed but also recommended that I apply for Small Business rate relief due to our low rateable value. This is automatic, while the alternative, charity exemption, is discretionary. Very good advice: we subsequently received a refund of £1,727, backdated to April 2011, and no rates will be payable until Sept 2012 due to the Small Business 100% rebate currently available. This whole experience has been a shining example of the dedication and expertise of many public sector staff: both the people I worked with were incredibly helpful and efficient – my hat's off to them.

Torrs Hydro New Mills Ltd is a Community Benefit Society
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