

DRS 2009/10: WWU reduction of the environmental impact of Gas Distribution

Environmental considerations at the heart of WWU actions

We are delighted to share with you just two out of many projects undertaken during 2009/10 that demonstrate Wales and West Utilities commitment to protect and improve the geography and communities in which we operate. We have utilized world leading solutions to minimise environmental impacts and disruption to our local communities.

We have also led industry discussions to improve leakage reporting, implement a consistent leakage model across all networks and simplify the processes with shippers.

<u>'A first for Wales & West Utilities – a first for Wales' - Former gas production at Aberaman, South Wales</u>

A land remediation project – which has re-used and recycled an incredible 99% of waste materials – has been completed by us on the site of a former gas production works in Aberaman, South Wales.

The innovative project was one of the first of its kind to be undertaken in Wales, and in addition to the recycling, has avoided large carbon emissions from the 500-plus lorry loads of waste to landfill that would have been required and the use of virgin aggregate backfill. The reduction in vehicle activity also got the 'thumbs up' from local people and businesses.

Background

The Aberaman gas works was built in 1865 and produced gas from coal for about 90 years before being decommissioned in 1955. There were originally five gas holders on the site and three of them were below ground in an area where Wales & West Utilities now has an operational Pressure Reduction Station (PRS).

Remediation work was required on the land following an investigation, which found large quantities of contaminated materials in the bases of the three holders. This had the potential for liquid material to migrate across the site below ground and enter the River Aman which forms one of the site boundaries and the River Cynon some 150m away.

Traditional methods of dealing with this type of contamination generally involve digging out and removing the contamination but WWU rejected this solution for a number of reasons, not least because of the major disruption it would cause to local people and businesses and the fact that there was live gas and high voltage electricity cables crossing the site.

WWU would have had to transport more than 500 lorry loads of material to Middlesbrough - one of the few approved landfill sites for materials of this type - and then imports similar volumes of clean stone to complete the work. Solutions with this type of environmental impact go against WWU's environmental policy and the



company's commitment to minimise the impact and disruption to those affected by its actions.

The Solution

An on-site solution was the preferred option and work began on the project which took fourteen weeks to complete.

The solution involved the high vacuum extraction of liquids from the holder bases, which were then treated on site to remove solids, oil, tar and associated chemicals. The remaining materials were then excavated in 'slices' and mixed with a binding material and controlled quantities of chemical slurry that encouraged the mixed materials to harden and set – locking in any remaining contamination and preventing future risk. The process then moves on to the next 'slice' and repeats until the whole area has been remediated.

Although this process is frequently used in America and on the Continent, it has only been used occasionally in the UK and this is one of the first times it has been used in Wales.

The project proved so successful that 17 representatives from local authorities and regulators where invited to a public briefing to promote the technique and demonstrate its effectiveness for future solutions. Feedback from the briefing was extremely positive and demonstrated the benefits of building relationships and engagement with external regulators.

Wales & West Utilities was delighted with the project's outcome, not just because it was a first for both WWU and for Wales but because it actively demonstrated the company's commitment to the protection and enhancement of the environment and the prevention of pollution. It also supported our objectives of reducing the amount of material sent to landfill and the use of virgin materials for reinstatement.

Landslip causes big repair battle in Clydach, South Wales

Wales & West Utilities' engineers faced a considerable challenge when a landslip in Clydach, South Wales, caused serious problems for the gas network.

Repairs to a VHP gas main, damaged as a result of long term land erosion, took more than six weeks to complete, on farmland at a favourite 'ramblers' route.

The gas escape was in an almost inaccessible location at the foot of a riverbank and the team had to deal with atrocious weather conditions which made access even more difficult. There were many obstacles and liaison with numerous agencies was essential. A road also had to be constructed to reach the scene of the escape for all the heavy equipment that was needed, including three JCBs and four cranes.

The environmental impact of the incident was also of key concern for WWU and representatives from the Environment Agency were in constant touch to satisfy themselves that the business was handling the situation correctly.



With more than 850 tons of stone and gravel used for the road access and the removal of over 100 trees around the affected site, attention was clearly focused on the reinstatement works and how they were managed. Just months after the ill-fated incident, the whole area has now been transformed.

Local ramblers are delighted with a new walkway, which has been enhanced by an impressive new slate wall, trees have been replanted and undergrowth has reclaimed the once disturbed land. One local rambler was happy to comment on the change:

"It's amazing. I remember what it looked like before this work and I must say that this is a huge improvement. You can see that whoever did this has gone to a lot of trouble to make sure that it blends in with the landscape".

Wales & West Utilities did its utmost to accommodate the concerns of the Environment Agency, the local authority and wildlife enthusiasts. The Environment Agency was also very complimentary about the work that had been carried out to ensure that local people were not inconvenienced or disappointed at the outcome.

<u>WWU leads industry to improvement Leakage Model and Leakage processes</u> with Shippers

The regulation team at Wales & West Utilities took the lead and co-ordinated industry sessions to implement a common leakage model across the industry as well as redefining the Uniform Network Code requirements with Shippers. After months of hard work, workshops and Ofgem visits we now have a common leakage model across all networks with an improved basis of leakage reporting.

In addition to the Leakage model we also led discussions to base leakage reporting on actual network system pressures and asset data that improved the leakage reporting process. WWU also took the lead and implemented several Uniform Network modifications to simplify the process with Shippers.

We are delighted that we have been at the forefront of improving and simplifying the leakage process for Gas Distribution.

<u>Summary</u>

Environmental impact is at the heart of WWU decision making and we are very proud of our local and national efforts to ensure we minimise the environmental impacts of Gas Distribution. Where we can, we actively look to work with local communities, and interest groups to improve and enhance the environment within which we operate.

We attach a few photos of 'before and after' of the two schemes detailed above and look forward to sharing our future successes with you.





Aberaman remediation project



Work underway at the Clydach site after landslip



New Ramblers walkway at Clydach