

Nenthead Mine Water Treatment Scheme

Nenthead Village Hall

Wednesday 18th May 2022

The meeting started at 6.00pm

NB These notes are not word for word but cover the issues raised as recorded by Wilson Sherriff.

SW introduced himself as an independent facilitator and explained that this two-hour meeting would be an opportunity to ask questions about the Nenthead Mine water treatment scheme. Some questions had been sent in advance, but it was expected that most would be asked that evening. It might be that the Coal Authority / Environment Agency team would have to take some of these away to gain additional information before giving an accurate response.

Notes would be taken, and they would be approved by Jackie on behalf of residents.

The Coal Authority / Environment Agency asked permission for photographs to be taken and a resident asked permission for the event to be audio recorded for the benefit of those unable to attend. There were no objections raised.

SW introduced Jan Brand [JB] and Nick Cox [NC] from the Coal Authority, and Hugh Potter [HP] from the Environment Agency.

Alastair Robertson from Alston Parish Council, Nenthead Ward asked to say a few words.

- A question has been asked on social media about whether the Parish Council has shown its support yet and there have been some comments. The facts are that the Parish Council support the people of Nenthead and have signed the petition. If you want to know what's happening, talk to a councillor. Alston Parish Council support the residents of Nenthead in their opposition to this proposal.

HP introduced himself as the lead for the Environment Agency on the Water and Abandoned Metal Mines programme [WAMM] across the country. He gave apologies from Andy Edwards from the Environment Agency who was not able to attend the meeting.

The meeting was shown a flyover of the scheme and HP outlined the proposal:

- The River Nent is the second most metal polluted river in England with only half the expected quantity of fish. A key source of the pollution is metals.
- The team wanted to build a treatment solution to remove the metals, which would improve 60 km of river down to the Tyne estuary.
- Different options were being considered in order to capture water at the adits and pump it to treatment ponds that would be built just above the Handsome Mea reservoir. The pumps would be situated in a small building in the carpark.
- The treatment ponds would contain straw, limestone and woodchip and other natural materials. Bacterial activity would create sulphides. A byproduct of this process would be small amounts of hydrogen sulphide, which would have an odour if released to air. This would be mitigated by adding hydrogen peroxide before it entered the atmosphere, removing the odour.
- The treated water would then go back into the River Nent.

HP noted that many of those at the meeting had attended meetings in October 2021 and before the pandemic. Since October, some of the decisions had been refined:

- The ponds would be situated further South and where the treated water comes out of the ponds would be 150m further away from the nearest house.
- Surveys and ecological studies had been carried out and more were planned for this year.
- Looking at where we can limit erosion of metal contaminated mine wastes which also contribute some pollution.

The planning application would not be put in until early 2023 and if it was successful, it was hoped that the project would be built in 2024.

Jackie explained that a presentation would be given to the meeting on behalf of the residents, after which some key questions from the members of the community would be asked before opening questions up to the floor.

Jackie asked for any declaration of interest.

There were none.

A statement was read out] (a copy of this was provided) and raised the following points:

- FOI requests had indicated that ongoing work at Higgs Bank had cost £8.5m while the government website still showed the costs as being £6.5m.
- At a time when low funding was impacting on public services, this scheme would be of no benefit to Nenthead and would only damage its unique way of life.
- There had not been a full environmental impact survey and nothing on the pumping station.
- Nenthead was in an area of outstanding natural beauty.
- There was likely to be a noise impact.
- The team had showed a lack of local knowledge over the six-year period that they had been working on the scheme and had presented a host of different design options.
- Leaflets were available with a number of questions, and they would be put to the team before opening up questions to the floor.
- Residents wanted to fight for the future of their village and local resources.
- Further questions would be sent after the meeting.

Q. How did you decide on the location? According to the criteria, this is the least preferred and has a protected status.

HP started by saying that information about this could be found on the website. He explained that the original criteria excluded Sites of Special Scientific Interest (SSSIs) and monuments. In 2017-18, a number of sites were identified, and the team came to the community to agree the criteria. A list was made, and it was expanded after the discussion. A shortlist of three sites was created and this came to a meeting for feedback. After considering feedback and costs, it was decided that none of the three locations were viable, so the project was paused. The original scoring excluded sites in the scheduled monument. When the team came back for review, it was suggested that the project be put on the mine site.

Q. Who said that? The site is completely lacking. A preferred location would mean where water doesn't have to be pumped uphill. That site has six SSSIs and endangered species. The site needs to be big enough and easily accessible by road as it will have HGVs constantly accessing it, especially when clearing the lagoons.

A. I respectfully disagree. It was ranked with a scoring system. No site is ideal. After discussions with stakeholders, this was the preferred site. It does fit the criteria. I'm not sure you're right about the SSSIs. The mine site contains an SSSI, and the pumps and treatment ponds are outside that area. We

are clearly taking account of the archaeological impact. Ultimately, the decision lies with the Council.

Q. If you are not sure about the SSSIs, can you check?

A. It is a fact that there are not six SSSIs

Q. Are we able to get sight of the criteria and scoring system?

A. It is all set out on the website.

Q. Does that include how you scored the site?

A. It will be on the website.

Q. I am concerned about the impact on wildlife. We are still recovering from work done 20 years ago. We have birds, fish, red squirrels. The effect here has been losing the sand martins in the village. This place is a little precious gem.

JB responded that ecological surveys had taken place and would be repeated. She was challenged on the timing of the surveys given that wildlife in the area was at least one month behind the rest of the country. JB explained that this had been taken into consideration and pointed out the survey schedule on the display boards.

Q. I would like to question the criteria. At the last meeting I heard that the only criterion was that somebody put it on a Post-it Note. That's what makes me sceptical. In any scientific action research project, that is not the correct way to do it.

- I would like it noted that the person answering this question stood up and laughed at the question which was unprofessional.

A. [HP] I apologise for laughing – it was a nervous reaction. Post-it Notes is not the way that the site was chosen. We have set out how the site was selected on the website. I completely understand that there are some of you who do not agree with that sentiment.

- That is not what you said at the October meeting. You said it was on a Post-it Note. Secondly, scoring is not impartially done. Scoring is produced to make the site fit.

- We had criteria. Assuming the change you made was to remove the SSSIs, we scored this site and it scored 21 out of 55. You can't say that it is preferred. It scored very, very low and didn't satisfy any of the criteria.

Q. Can we have an independent assessment of the ecological and environmental impact?

JB responded that the survey was funded by the Coal Authority but carried out by an independent ecologist rather than an internal ecologist. Residents asked whether it would be possible for them to commission an ecologist themselves and JB agreed that they could.

Q. Were similar surveys carried out on Bankside for the sand martins?

A. [HP] Yes.

- That was a total failure. It doesn't give us any confidence in future work. Your track record shows that the surveys are not good.

A. I don't deny that it was disappointing when the sand martins didn't return. We propose discussions with the council...

- That's not the point. The survey said it would not impact the sand martins and it was proved wrong. It's too late after the event.

A. The advice at the time was to provide alternative provision for the birds. I am disappointed too...please don't judge us on that example. The survey was too early, but we will be able to compare data from 2019 with this year's survey. The planning authority has their own ecologist.

- Nenthead isn't an area for experimentation. There's stuff in the river but you should wait to see how successful it is at Nent Hags.

NC responded that the team were confident in the technology and that there were a series of projects that needed to be taken through the project pipeline. There would be the opportunity on the completion of Nent Haggs to take learnings back to the Nenthead design.

In reference to the statement at the start of the meeting about costing for the Nent Haggs projects, NC explained that the FOI information included all monitoring costs since 2011 and that the construction contract cost to the end of March 2022 was £4.9m.

Q. Do you expect this plant to cost the same or more?

A. *We don't have a detailed costing as we are finalising the design. We have listened to you and moved the design site. Nent Haggs was more expensive because of the distance of the pumping.*

NC went on to explain that some additional costs at Nent Haggs could be attributed to safe working practices during Covid. Workers had to use individual vehicles and there were double the number of welfare huts. Covid also affected funding so work had to be phased and progress was slower

Q. What about the effect of regular temperature and blanket cloud cover trapping noxious gasses? And in the environmental impact report, you failed to include three properties that could be impacted.

A. *[JB] I accept that. It was an omission and I have all the correct details now. The Environmental Impact report was completed by AECOM.*

Q. How did that happen? You published it on your website. Does this mean that the whole environmental impact assessment will be redone?

A. *It would probably be redone anyway as there were concerns about the meteorological survey at Warcop being too far away. When we set up the temporary local weather station, we will be able cross reference.*

- If you're not picking up that those toxic gases are coming to us, it will affect the whole village. This is really important. I know you say you will get rid of the smell, but you still have toxic gases. Wind doesn't know boundaries.

A. *The process of adding hydrogen peroxide neutralises the hydrogen sulphide smell but also the health hazard. It is no longer in the atmosphere. That has been modelled for Nenthead village. The wording needs to be improved and I am committed to changing the wording.*

- That model is invalid! Warcop is eighteen miles away.

Q. Where the data comes from the other side of the North Pennines, you have drawn a line – an exclusion zone. When you get new data, will you draw a new line? The impact assessment failed to include four properties close to the site and Hill Top cottages is a collection of nine properties.

A. *In the report on the website, it explained that there are contours of where it would get to, which is a standard model. Some names of properties were missed off, but specific properties were marked as indicator properties. It doesn't mean that other properties were not included. There is no hydrogen sulphide with hydrogen peroxide.*

Q. You defined the area, there is now data, are you going to change the area? It's really close to a lot of houses now.

A. *New data will be put into the model. If it comes out very different, we will remodel. That is the purpose of modelling – to work out if something is appropriate.*

Q. I would like to know what's the benefit to Nenthead? We've all seen the destruction of the river, chaos on the roads, medical staff unable to get to work, road blocks...it has been abysmal. With all your promises, you have failed in everything you've done.

A. *A day like today is a good example of the problem. We've had a dry winter and the Nent is at low flow with algae cover... we believe that if we treat the water at source it will improve the outcome for*

fish, water flies and grazing of metal tolerant algae.

- That's your prediction but I've seen lots of people fish here. I've seen herons, kingfishers, I did see plants before you destroyed them and didn't replant them! You don't employ Nent people...the whole thing is of no benefit at all to the people of Nent.

- I have a note to say that wildlife is disappearing from Hags Bank. Squirrels, tawny owls...they're all gone. Zinc that was taken from the soil is now having to be put back.

Resident suggested that this indicated that the river was cleaning itself.

HP responded that metal tolerant species had developed since the Victorian era due to mining and river pollution. During that time, the river was essentially dead but since then pollutants had declined. The water quality had remained unchanged since the 1970s.

Q. They were told that they would have a nature reserve, but it won't happen. It's OK for you to do surveys but you're still taking out wildlife. How will you stop it from happening at Nent?

It was agreed that some of the wildlife left the area during Nent Hags construction activities but there were proposals to replant the field and to try to encourage more diverse species to the site. Experts from the Woodland Trust would advise on the best planting to use. More details could be found on the display boards.

Q. Why not wait and see what happens? You said we don't have time because the budget will run out. We can't be an experimental area.

A. We are confident that the Hags mine water scheme will work. If, when we're operating, we find that to be different, we will have the opportunity to do something different. If the materials in the pond are not effective enough, we can change that. The basic infrastructure of a pipeline taking water to the treatment ponds would always be needed even if the material in the ponds changed.

Q. Is Force Crag one of these projects? It has had a lot of problems.

A. It is the same treatment process and there have been some problems with water going through the system, but the metal removal works well.

Q. In the winter and autumn we are bathed in cloud. We have our own microclimate. You draw lines and consider wind dispersal etc, but this is different...People walk here every day. The air is pure, and people come here for the purity of the air. You say it's not experimental, but we are the guineapigs. Dr Jarvis's research at Newcastle University shows that systems can be rolled out without the need for these processes. Your system is not low cost or low impact, and it is not fitting the EA's own net zero carbon obligations. There are systems that don't involve open lagoons.

If you want to do this – do it somewhere else!

A. [HP] This is not a cheap option, but it is the lowest cost for removing metals from water. There are other more expensive options involving adding chemicals, but we don't believe that's the best use of funds.

- I represent a local employer with six employees...we have a café and community centre. We were seriously impacted by the road closure. We asked for compensation but were refused. The impact could go further. If there are reports on social media about bad smells, that could put us out of business. We have cafes, holiday lets, the bike shop, coast to coast cycling...all of this could be destroyed if we have a reputation for odours – they'll be gone. You create traffic problems, so cyclists are not safe – they'll be gone. I've not heard of any assessment of well-being or social and economic impact.

A. [JB] We are obliged to consider how the national county and local level impacts of the proposals., -

But you have not done that. You closed the road for five days. You have corporate social responsibility.

A. We are not able to provide compensation as there is no provision for this under the legislation we work to. We try to minimise the impact of any scheme during design, build and operation'. - ***If you have responsibility for inflicting damage, you should have some insurance. How will you guarantee against negative impacts such as house prices?***

A. Our commitment is to do everything we can to minimise road closures. It wasn't our preference, and it wasn't a decision we could make but we are now looking to make it as short as possible.

- Over the last twenty years, nature has been improving and the environment is repairing itself.

A. I think on the surface, vegetation has improved, but the water coming out of the adit is still causing the same levels of pollution. - ***We have red squirrels, birds, protected species, bats water voles. Red squirrels will definitely be affected by the pumping station.***

Q. Nent Hags won't be commissioned until the end of next year. Put the measurements on the website. Shake it down, see if it works and publish the results on the internet. It's not that we don't trust you but...we don't trust you. Why spend £8m on the project when it is not proven?

NC responded that Force Crag has been operating for eight years, consistently removing metals. Odour abatement was not in place because there were no residents nearby. The CA operated 75 schemes, some of which used hydrogen peroxide for oxidation and odour treatment.

Q. It sounds like moving that 20 litres per second (?) of water uphill is more power wasted. Who pays for it?

HP replied that whole life costs of the projects would be considered, including operation, construction and carbon. Innovations like micro hydro could be incorporated to recover some energy. He added that gravity-fed systems are preferable but are not always possible.

Q. You said that the system is the only one in use for extracting metals. What about electrolysis? It doesn't use chemicals, but it is successful. It requires energy but when you offset the amount of construction...and it's not experimental. It has been in use for a long time.

A. There are lots of ways to remove metals and they each have a different cost as they use different chemicals and energy to drive the process. We looked at all the different techniques for removing metals and electrolysis is extremely expensive. The cost is so great...

- The cost to us it great!

- At Cardiff University [a solution has been found] that is very effective, using washing soda. It's very cheap. I can't see how this is going to be low cost. I can see how Force Crag was cheap but here, the proposal is very expensive and very complex. It's ridiculous to try and do it in this place. For example, if you substitute hydrogen peroxide with washing soda — I know it's not as simple as that — but if you treat the water with a chemical, you don't need the ponds, and because you haven't got the ponds, you've got a more flexible footprint, you put it downstream, and you don't need the pumps.

HP said he was aware of the research in Wales. He thought that the term 'low cost' had not been used by the team - this was strongly disputed by residents. HP said there were lots of different ways to remove metals. They had looked at all different available technologies and excluded expensive options, including electrolysis based. These were very expensive to build and would also require staffing and processing. When challenged about the fact that chemical treatment was part of this proposal to remove odours, he responded that it was a small quantity at a maximum of 40 litres per day.

- I think there are a variety of views about the need to do anything to the water. I accept that something does need to be done. It pleases me to see some acknowledgment [of our concerns] and some movement so thank you for listening to our views. But I am anxious. People have repeatedly said they want to see one of the other sites working. We have witnessed loss of wildlife, including the sand martins. If we lose that and we get 'oh, that's a shame', it is too late. Also, it might be necessary to alter this site if there is a consensus about the noise, level of smell etc. We don't know how the site down the road will work. If it doesn't work and we end up with more noise, loss of wildlife, poor air quality etc and the best we can hope for is 'that's a shame'... we've got no confidence. It frightens me. I love this place, this community – it's not good enough. I don't believe you when you say you're going to bring it back. It isn't enough of an assurance. I need more. I can't put faith in partnerships working.

A. [JB] Thank you for saying that – it is important for us to hear that. I've driven here lots of times and it's a stunning AONB. I've seen the red squirrels and they are lovely. I hope we can express our views better. You are not guineapigs – it will work. We need to do a better job to reassure you. I am sorry we haven't done more to communicate with you.

- If you wipe out the indigenous squirrel population, they're gone.

Q. We have had a five-day power cut. What happens in winter when we have storms and no power?

The CA responded that these were electric centrifugal pumps and if one pump failed the other would kick in. In the event of a power cut, the pumps would stop working and gravity does its thing to take the water back down to the river. There would be no overflow of the ponds and any emergency stop would be turned back on by staff.

Q. What happens with the build-up of hydrogen sulphide that's covered by ice for weeks?

The EA replied that research had shown that solid ice cover did not occur. **This was challenged by the residents.** The EA repeated that even if the surface freezes, water still flows through the Handsome Mea reservoir and it would be the same with the treatment ponds. There would be an auto switch-off mechanism if the system failed, and it would not be turned back on until it was safe to do so.

When asked about noise, HP explained that the council would not approve the proposal if the noise levels were too high. Although there may be noise during the construction period, the pumps would be housed inside a structure. He reiterated that if the scheme produced odour, it would be stopped.

- The pipe is next to my house. It's directly behind where I live.

A. It will be an electric pump, not diesel, and it will be in a stone building. The noise level will be about 60 decibels.

Q. How are you going to ensure health & safety at the site? It will be open to the public so there will be visitor access as well as residential. How are you going to prevent theft? It's on a public footpath.

JB explained that she was in conversation with officers from Natural England and that they were looking at some aesthetically appropriate fencing. It was pointed out that fencing would not be appropriate and that stone walls would have to be used.

Q. How can you protect the site from vandalism?

A. It will be a windowless stone barn with a silent alarm.

Q. Where will your point of call be?

A. There will be 24-hour call number. I don't know the nearest operating site.

Q. For this area, in an emergency – this is a chemical plant – if it's broken into, where is our point of call?

A. I will have to come back to you with that.

Q. I have been coming to these meetings for years. There has been a lot of 'we'll communicate'. At what point will you be convinced that you won't persuade us? There is so much opposition.

A. I hear what you're saying. The reason we're doing this project is that the government is very keen to do a clean up and when we look at the overall benefits...and I accept that the benefits here to Nenthead are environmental not economic

Q. That's not my question. It's not about stopping cleaning rivers, it's the choice of site.

The panel said that they had no further comments on site selection.

Q. Centrifugal pumps need an amount of water to operate. If there is not enough water, the pumps will stop. Over half a mile there will be a lot of friction. It will have to be a huge pump to be able to do that. Have you measured whether the system will, take the load?

A. We will come back to you about that.

Q. How long did you get data from Warcop for and how long have you had data from Nenthead? And how will an alarm sound without power?

A. If the system gets nil return, it will shut off.

Q. Has the system been operated in -13 degrees?

A. We have operated these in remote Scotland. There is no issue.

Q. Where can we find evidence that this exact model has been tried and tested with a local community that hasn't been impacted?

A. I can provide that.

Q. How long will the track next to the carpark be closed? I need it to access my property.

A. [JB] I will communicate with you directly.

JB went on to explain that there was an abandoned main down the track and that they would investigate reusing the pipe in situ, which would minimise disruption.

Q. You've got the option of switching the pumps off, so everything returns to normal. But we've got delicate wildlife here. What happens when it goes into reverse?

Q. What are your criteria for success?

HP explained that the river would be monitored regularly for metals and for fish and river flies. The expectation was that it would significantly improve water quality by 20-45% in a year. The expected pollution would be reduced from 150 times to 20 to 30 times higher than is good for river ecology. The amount of metal captured would be monitored and the impact down the river. It was expected that the River Tyne at Hexham would no longer be polluted although it would not be possible to get the River Nent to completely unpolluted status. There were monthly updates on the website about this.

Q. Regarding the pipeline under the track – I also need access daily. When I do something that will create a problem, I look at alternatives. The track runs alongside buildings without any foundations. Why not put the pipes in the riverbed?

A. I'm hoping to be able to sleeve the pipe, so it follows the existing route. I don't know whether we looked at a sub-surface pipe in the river. We have not looked at that, but we will.

- It seems like there are lots of things you've not looked at.

Q. I run the community shop and I don't want to lose employees. Seeing the mess with the vans down the road, where do you envisage putting your vans?

The area identified for the works compound was thought to be inside the quarry access road. It was noted that the compound size at Nent Hags was unusually large due to Covid restrictions.

Q. Can I assume that you won't use the back road? It's not suitable for HGVs and I'm sick of lorries passing my house. The other day there were dozens in a convoy. The road won't sustain them.

The team acknowledged that there had been problems and apologised. For future works, they would be obliged to create a management plan for traffic and would stick to an agreed route.

Q How will you remove all the toxic waste? It will still have to come through the village?

HP responded that material will be removed at least every twenty years and that it would be a relatively small amount.

Q. There seems to be a lot of urgency and you are not waiting for results down the road. Are you on a timescale for this?

The team explained that all government departments had a three-year settlement, and that funding was available for this year and the next two financial years.

Q. What is the size of the existing pipe for the pump?

A. I think the existing one is 12". Ours is 225mm so it's compatible.

Q. How much water will it be holding?

A. 20 litres per second but it will vary according to what comes out of the adit.

Q. What size are the pumps?

A. I don't know. We will get back to you.

- As you can tell, the mental wellbeing of the whole village has been affected for three or four years. We go home every night worrying. The goalposts change. We live like this 24-7. The mental wellbeing of the village has been so affected. We have fought for three years to get you to do a minuted meeting. We tried to get a Zoom meeting. We need answers. We can't live like this for much longer.

A. [Holly] It's important that I hear this from you. We take all of it on board. We want to communicate with you. We did offer a Zoom meeting several times...

- [Jackie] We tried to organise a Zoom meeting and we wanted to host and record it for the wider community, but we were refused. The meeting proposed by the Coal Authority was a closed, private meeting between the Coal Authority and the council. This is our community, and the communication has been dire. For three or four years, we have been constantly asking for FOIs. There has to be a two-way dialogue.

A. [JB] Going forward, we want to offer that. The proposed scheme is not a done deal. We want to come back and talk to you when the design is ready. There are some elements that are not finalised.

- So it's experimental? Just accept the word experimental! You said to us that you've got 70 of these around the country.

A. It's about the design specifics.

- We did ask for experts to come to this meeting and that has not happened.

NC responded that questions were requested prior to the meeting as the project had a very large external consultant base and it wasn't possible to have 20 – 30 people attending. During the last three years, the Covid policy meant no face-to-face meetings. Zoom meetings had been offered (this would be checked) and there was feedback that internet access was an issue. If the community wanted to hold more meetings, the team were happy to do that.

- I would like it noted that opposition is from the whole village and not just some villagers.

Picking up the earlier question, NC added that there was a commitment to engagement. He stated that the project was not an experiment but rather at the design stage and that was part of the reason that not all of the detail was available. A Citizen Space website had been set up to improve communications. There was an intention to publish documents online for transparency going forward. NC said that all FOI requests received had been provided with a response. The CA had received no complaints of non-compliance. They were aware that in one case, an individual made a request for information, was provided details of how to download this information but to date has not accessed the information provided.

- [NC] Regarding your statement that this is the whole village, I know everybody here is singing from the same hymn sheet, but we had one person earlier today drop in who was supportive and at the last session we had 30 individuals dropping in, a number of whom were supportive. We need to engage with everybody in the community.

Q. At what point do you accept that the majority of villagers don't want it?

A. I accept that everyone here is against the plan.

- Hold a referendum – then you'll know.

SW drew the meeting to a close by noting that there had clearly been unsatisfactory communications in the past but there was a clear commitment to improve that, which was encouraging.

He thanked everyone for participating.

Meeting ended at 8.10pm