Community engagement session, Nenthead 18th March 2024

Good evening and welcome to another session in which we are going to take a look at proposals for cleaning up polluted mine water. My name is Simon Wilson, I'm an independent facilitator. I don't work for either the Environment Agency or the Coal Authority, but I have been involved in these consultation sessions for a while. We are recording this meeting and it's really helpful if we could capture everything that is being said.

What we're going to do is to hear an update from Jan from the Coal Authority. You will then have the opportunity to ask any questions that you want, make any points that you want. I'm always very keen in these meetings to make sure that everybody gets the opportunity to have their say, so I will be watching out for hands up. I'll try to take them in the right order, if I miss you, apologies, but I will catch up as soon as I can.

It's important that you are able to say what you want to say, and I would also say that people have been pretty good in the previous meetings at doing that in a reasonably courteous way. Please make your point, absolutely make your point but it's good if you could do that in a courteous way, recognising that we're all trying to have a conversation here.

About half-way through we wanted to have a particular look at the principles for construction. There is a document, there are copies of it on the table. We'd like you to take a look at that during the session, we'll give a minute for that. But obviously we also want to cover as much territory as we can.

Before we go any further, I just wanted to make sure that we introduce you to the members of the Coal Authority and Environment Agency team who are here this evening. What I'm going to do is cunningly go round so that I finish with Jan and then Jan is going to open up.

So, we have Sarah over here.
- Hi, I'm Sarah Darling from the Environment Agency engagement team.
- I'm Josh, I work for the Coal Authority as a stakeholder engagement officer.
- I'm Margil, I also work for the Coal Authority, I'm the stakeholder engagement manager.
- You're here as an observer Caroline I think, is that right?
- Yes, I'm just here to learn. I'm also from the Environment Agency.
- I'm Andy Edwards, I'm the Environment Agency Northeast lead for the metal mines project.
- Hi, I'm Nick Cox I'm the programme manager for the Coal Authority.
- Hugh Potter from the Environment Agency, I'm the national lead for the water and abandoned metal mines programme.
- Thanks very much indeed. As I say, what I want to do first of all is just to hand over to Jan to give a bit of an update, if you can listen to what Jan has to say, and then I'll open up an opportunity to ask questions and make points. Over to you, Jan.

Jan - Good evening, I'm Jan Brand, I'm the Coal Authority project manager for Nenthead. I'd really like to say, thanks for coming on a Monday evening to this engagement event. It's fabulous to see so many faces.

Most of you I hope will be familiar with the proposals. The purpose is to clean up the metal mine pollution from the two point source pollution from the adits at Caplecleugh and Rampgill. In addition to that, the proposals do include diffuse mitigation on site, which I'll go over. The design itself hasn't moved on particularly much since I was here last. We've done a lot of work building on the proposals and if you'll forgive me, I'll just go through the list and tell you what we've been working on. But just to remind you, the proposals are to build, essentially two and half treatment ponds on the hillside above Handsome Mea reservoir.

There will be associated buildings with that, but they will be small buildings in keeping with the local landscape and they won't look out of place compared with some of the existing buildings dotted around the mine site. One of the advantages of the proposal to have the treatment facility on the mine site, is that it's in the same general geographical location as the pollution source, so we intend to treat the water in the same place that the pollution is occurring to deal with the industrial legacy of pollution from historic mining on the same mine site.

In addition to the ponds above Handsome Mea, there is a requirement to have a pumping station. The pumping station is to capture the water before it enters the River Nent and I think that's a key point. It's taking the water before it enters the watercourse and taking it up to the treatment site, where it will be cleaned using natural materials. The materials that we want to put in the pond are limestone, bark and straw, and that material creates an environment where the heavy metals are taken out of the water, principally zinc and cadmium.

I know beauty is very much in the eye of the beholder and everybody's personal taste is different but there isn't anything ugly or unsightly about the proposals. They are quite subtle in the landscape. It is envisaged that they will be similar looking buildings. And the ponds themselves – they won't be concrete sided edges; they will be quite subtle in the landscape.

So, the work that we've been working on since we last met, we've refined the pumping station proposals and there are some pictures on the centre board, giving an artist's impression of the pumping station. We've rotated it a touch since you were last here so it's less visible for the residents at Overwater. We've taken advantage of the existing trees so there's less of that building visible from the other side of the river.

The nearest houses from the pumping station are about 90 meters away.
- The nearest are those houses there.
- Forgive me, I meant permanently occupied.
- They will be when they're sold
- They are permanent. People live in there 24-7.
- Okay. Thank you.

One of the other things following some feedback was to include some wildflower provision at the carpark so there's been some soft landscaping proposals which have been included in more recent drawings. We've shared some updated drawings for the footbridge. We recognise that the existing footbridge from the carpark over to the Hush needs upgrading so there is a proposal to provide a new footbridge there.

At the request of feedback, we've proposed less activity outside Caplecleugh adit. The existing leaky pipe that you see that spans the river, it's our intention to sleeve that – we think that's possible. So rather than create a new bridge crossing, to re-use that pipeline, which is a heritage feature. We've spoken about that, and we think that is going to be possible to bring the water from Caplecleugh over to underneath the carpark using that existing pipe.

We have been looking at pumping options. We are aware that the community had concerns about potential noise and vibration from the pumping station unit. So, we've looked at designing a quiet submersible bore-hole pump which is the kind that's standard in the water industry for example.

Moving upwards from the village towards the hillside, we've been looking at the check weir, which is part of our endeavours to reduce the metal load within the river. The idea of a check weir is that the solids will settle out and we can remove those and take them away from the water environment. And we've also concluded where we would return the clean water from the treatment ponds, where they would be returned to the river.
The proposals are to treat about 20 litres of water per second, which is a fair amount of water. It's a fairly even split between Caplecleugh and Rampghill, nine or ten litres per second. They would be pumped up to the top, treated by the filter and then returned back to the river.

On the pond site itself, which are about 400m- 450m from the nearest property – it's at least 450m from the nearest property – we've undertaken a new peat survey. That was both a probe survey and actual taking core samples of materials from the site there. We've also been looking at potential areas for compound and storage areas because we heard that the community were concerned about which site areas might be suitable for compounds, laydown, that kind of thing.

And we've also prepared some principles of construction, which are the documents – I hope everybody's at least got sight of them. They're the kind of things we'd like to discuss with the community as a start off, of what we think we could do to reassure the community during the construction and operation phase.

More generally, we've undertaken, or I think it's in the next couple of weeks we will be revisiting the noise survey and undertaking a vibration survey. A couple of weeks ago the ecologists were back to look at black grouse and we've had some static traffic surveys in the village, I think some of you have spoken to me about that.

Again, we're looking at the aquatics within the river, looking at the temperature and what's existing in the river at the moment. And we've taken a new set of photographs. They're the photographs similar to some of these (*Jan indicates the visualisation images on the display boards), which are a few years out of date now, but they're the base photographs where people will be able to see artists impressions of what the facility will look like, both now, immediately after construction and then after a period of maturity.

We've spoken with the local squirrel group, and we've made an approach to the council to start discussions about the inclusion of red squirrel road signs because we understood that that was an issue the village wanted us to raise.

I hope in that, you recognise some of the comments that we've had from the community. Some of those activities were as a direct result of the comments, feedback, and discussion we've had with yourselves. Thank you for coming out on a Monday night. In the past we were asked to hold it on a weekend but actually there's more of you on a Monday night than came to see us Saturday so we're really grateful for that.

Finally, Nent Haggs, which is the site that has been commissioned down the road. When that is commissioned and operational, we'd love to give you a tour.

- When is that going to be operational?
Nick - The commissioning process started in December and the intention is that we would place the media in April and then obviously there will be a period of flowing the water through the media. Once that process is complete then we will put out an invite.

- **Can I just add to that? Because you're going to have to go to the council to get planning permission for the Nent Haggs, which is currently doesn't have planning permission, are you going to go for the non-material amendment and then change it? Are you going to do that before that or after that?**

Jan - I can answer that one. The non-material amendment for those people who don't know what that is, that is when you regularise matters that have changed. So, the contractor might have built something that is slightly different from the approved drawings and certainly there are things like site signage, there are quite a few issues -there's a table of things that are going to go to the planners for approval under a non-material amendment, that's what the gentleman is talking about.

- And do we know if you are going to go before that's approved or after that's approved?
Jan - The non-material amendment will be submitted in the next few days.

Simon- Thank you. I can see a couple of hands already. Just a quick reminder, I did mention this earlier on. What we do is we record these meetings with your permission and then what I've done in the past is we just provide a word for word transcript which we then agree with representatives of the community and the Environment Agency and Coal Authority team so we've got an agreed record of what was said.

Your colleague from the Coal Authority, you said beauty is in the eye of the beholder and I totally agree. I would say the smell of hydrogen sulphide is not beautiful to anyone. Therefore, what assurances can you give me and the community, expressed as a percentage of zero being no impact and one hundred being high impact that we will not be able to smell hydrogen sulphide through this treatment?
Jan - The metals have to come out because of the presence of sulphide so sulphide will be generated in the ponds. That has to happen, that's a function of the way that the treatment works.

- I get that.
Jan - And if the sulphide remains at the end of the process, there are instruments that detect that and we dose…in fact a step before that, we dose hydrogen peroxide to convert the sulphide so it's no longer an odour problem. And in addition to that baseline which the normal dose will remove any sulphides, we've got two different types of instruments, that will confirm that that's the case. So, if there's any sulphide that sneaks through, that will cause an increase in the dosing of the peroxide.
So, the operational assurance is that at the boundary of the works there won't be a smell. Is that fair to say?
Hugh - Yes, and on the Nent Haggs planning permission, there was a condition on it put by the then Cumbria County Council, now Westmorland and Furness Council, which puts an explicit limit on the number of odour units as they call it. And it's up to the council what limit they will put on, but our intention is that with the design of the scheme is that there won't be an odour nuisance outside the site boundary.
Simon - I'm going to let you come back, then I've got the gentleman behind, then I've got Brian so if you'd like to come back on that, having heard the answer.

- What I'm hearing is that you can't guarantee there won't be a release of hydrogen sulphide. There could be a mechanical failure or a process failure. And the limit on the amount of hydrogen sulphide that can be released will be determined not by us and our noses, but by the council who are miles away.
Hugh - I've perhaps been not clear. When the council put the planning condition on for Nent Haggs, they said that we have to carry out monitoring, or the Coal Authority has to carry out monitoring to demonstrate that there is no odour nuisance in line with the planning condition at various points on the site. That's there, certainly at the Haggs scheme and we expect to do the same for the Nenthead scheme if we get permission for it. We would have continuous monitoring of Hydrogen Sulphide in air as well as monitoring of various conditions in the water. And that would allow us to, as Jan said, there is an automatic feedback loop if hydrogen sulphide is measured at a point at which it could start to come out into the atmosphere and cause a potential odour, the system would automatically add more hydrogen peroxide to eliminate that risk. We genuinely do not believe that it will smell, because that's how the system is designed. And if there is a point when we do find there is a small…if an odour is detected, at one of those points, adding more hydrogen peroxide doesn't solve it, then the system is then designed to bypass the treatment ponds because that would stop water coming out at the bottom of the treatment ponds so there is no longer the generation of hydrogen sulphide at the dissolve phase and there is no longer opportunity for it to come out in a gas form. Until we are able to come up to the site and physically work out what's not working as we expected.

- Just to go back to the planning, have the council signed off on the replacement thing, the procedure for replacing the stuff?
Jan - Do you mean after several years of operation? No, is the simple answer.
Hugh - In a sense it's not been signed off but it's because once the material has been put in place and it's operating over a period of time, there's another planning condition for Nent Haggs, and again we'd expect a similar planning for Nenthead if it's granted. We can't remove it until we have the method for removal approved by the council.

- Which is what I was asking about.
Hugh - Yes, so that's not been approved because it's not expected to happen for some years into the future.
- So, you're just assuming that you're going to be able to do it?
Hugh - Yes, we have experience from the Force Crag site over in the Lake District where there isn't a similar condition but we can do it in a safe way that doesn't cause odours and so we have no reason to think that it's going to be a problem. In my view, it's a formality. We will have to go through that step with the council before we can remove it, but we don't believe there's any reason why we would have an agreed position.

- Going back to this smell problem that you say isn't going to occur. You've got sensors all around. How are the sensors going to be working if there is a power cut? What's going to stop the smell being generated from them ponds if there's a power cut and the sensors are not working and you're not putting any hydrogen peroxide in there? You're going to get smell build up. You aren't going to tell me that if it suddenly stops working there won't be a smell because I won't believe you. What's going to happen then?
Jan - In the event of a wholesale power-cut, the pumps at the bottom wouldn't work so the water wouldn't actually be pumped up so the whole operation would be in stasis until power is restored.
- And does that mean no smell?
Jan - Yes. It's only the water coming out of bottom of the treatment ponds with entrained sulphide, it being exposed to the atmosphere that generates the smell. So, if there's no movement, all the water stays where it is until the power is restored. We would get a power loss alarm from the site, and we would know that the site had stopped because, although the alarms work on power, the power on alarm would fail and then we would know it wasn't working, if that makes sense. That's a standard alarm telemetry system.

- We FOI-ed all the details of how all those systems work from the Coal Authority so if you want a copy of that I can give you a copy, so you can see how it works.

Simon - Thank you very much indeed, that's very helpful. Yes please.
- You mentioned earlier about the ponds being at a distance. Which is the nearest residence to the ponds?
Jan - The nearest residence to the ponds is Mill Cottage by a whisker, then it's Hill Top Cottages, and then it's Granary.
- I think you might want to come a bit closer. Have you actually measured them? Have you got the data that you've measured it?
Jan - Not on me but I can make that available.
- Yes, can you make it available please and the actual date that that data was taken and by whom please.
- Okay.
Simon - So that's an action that the data will be provided by you. Thank you very much.

- You say you're dosing on the outlet. In some treatment plants where they've used a similar process, they've covered the water surface. Now, up on the top on the fell there, there's a lot of wind, an enormous amount of wind and surface disruption. And you're saying that it's sufficient to deal with the hydrogen sulphide at outlet. How sure can you

be of that particular fact – and that you're not going to get the smell release from the surface of the water itself?
Hugh - Because the way that the system works is that the mine water comes in at the top pond, it passes down. In the of top the pond there's no sulphide in it, it's just sulphate. It's full of oxygen and it passes down through the treatment layer, that is when the oxygen is stripped out of the mine water. As you get lower down through the treatment layer you begin to get generation of sulphide. But the water is passing down through that layer and the water is driven out through the bottom of the treatment ponds in a base or drainage layer and then it comes out in pipes. As it comes out of the bottom of the pond, that is where we add the hydrogen peroxide so before it can get into the atmosphere. And so, with the monitoring we have done at the Force Crag site, it's similar but it has a no odour dosing control system, we have not measured any hydrogen sulphide coming out of the top of the ponds under any conditions and so there is no reason why we would get hydrogen sulphide coming out of the top of the ponds. Because the water is travelling down through the ponds and out through the base.
- I don't think you have permission for Haggs yet anyway so…
Hugh - I'm talking about Force Crag.
- What's the release process from Force Crag then? Why do you get the smell?
- As the treated mine water comes out of the bottom of the ponds there, the way that system is designed is completely different to Nent Haggs and to what we're proposing for Nenthead in that it is immediately cascaded out of the pipes that come out of the bottom of the ponds into a chamber, so it is mixed in there, it is deliberately oxygenated at that point and that is where the release of hydrogen sulphide comes and that is why we do get occasional odours there. Because it's not designed - because of the location that it's in – it's not required to have any kind of odour control system because it does not cause an odour nuisance. For Force Crag, it releases hydrogen sulphide at that point because we're not keeping it isolated from the atmosphere. For the Haggs scheme and what's proposed at Nenthead, there isn't that release to atmosphere until after we've added the hydrogen peroxide to convert all of the dissolved hydrogen sulphide back into a non-smelling state.
- You're saying there's no gaseous release from the anaerobic producing organisms in the water?
Hugh - There hasn't been, that we've been able to identify at the Force Crag site. It has only come out through the emission points at the effluent chambers.

- Going back to your alarm system, and your warning systems. You say that if you've got a fault on the process, how are you going to transfer…how is that signal going to be received? Because when we have a power cut here, we lose the telephone systems. And then with the conversion to a digital telephone system that would need to be powered at base rather than at the exchange, so are you going to use a hardwire system or will it be wireless? And what's the response time for someone arriving on site?
Simon - I think it's: how does it work and what's the response time?
Jan - The system, the telemetry system will work when it's powered. And you're absolutely right, when power is lost, comms is lost, but the site will stop pumping and we will know that it has stopped pumping because the signal that says 'power on' will be lost, which in itself will generate an alarm saying that we've lost power here. That's the same arrangement that will be available at Nent Haggs. That system now is being commissioned and it is being tested to see whether things like the data from the flow meter, we can see that when we are

not on site, we can see that there is power on the site, we can see that the flow that is leaving the site is pretty much the same as what's arriving. All the factors you would want to give you confidence that the site is working. We're not proposing that the site will be continually manned. Post commissioning and when everything's running normally, we would anticipate our operators go once a week, once every couple of weeks. If there is an incident, depending on what alarm has come through then we would call an operator who would attend. The operators are based in the North. I don't know whether you guys know where they're from? They're from the North-East…I don't know whether we have a published response time.
Simon - Could you just check on that perhaps? And if you've got a response time it would be useful to know that. Yes please.

- So, going back to the odour situation, are you saying there's a zero percent chance there will be an odour? Or are you saying there's a fifty percent chance? I want to go back to what that percentage is.
Hugh - I can't give you a percentage right now and I think I would never say there's a zero percent chance, you can never say there's a zero percent chance of anything happening pretty much, but as part of the revisiting or rerunning of the odour modelling assessments, we can draw out the answer to your question there. The reason we are rerunning it is because we originally ran it when the ponds were a slightly different configuration, so we are re-running it. We are going to re-run it this year once we, with the new pond locations. I think it would be better to give an answer through that, if that's okay?
Jan - One of the things that I know would really help everybody is, when it has been commissioned and is operating, for you to walk round with us - when Nent Haggs is operating. Because then you will see first-hand that it isn't an eye-sore, that it doesn't make a noise, that it doesn't smell. I know at the moment we are giving future answers, but I hope that, certainly within this year we'll be able to invite you round and show you what we want to build.

- Just going back to Hugh's point. You're saying that the water comes in through the top, goes through the filter beds and then comes out the bottom. So, if the power goes off and that's no water going in at the top, are the ponds going to empty? From what you're saying, you're giving the impression that they're going to empty, and that stuff is going to come through without being treated by any of that smell stuff.
Hugh - That's a fair question. The answer is no – they won't empty because the level of the water in the ponds is fixed by the outlet pipe. If no more water is coming in, which is what would be the case if the pumps are switched off, then the water would drain to that outlet point, so there would be a small drainage of water for a very short period of time and that would settle at that point and the water would just sit there controlled by the outlet pipe. And if we wanted to drain the ponds down more, we could lower that outlet pipe level and the water level drops in the ponds.
Andy - In Haggs at the moment the water is flowing through those ponds but the outlet pipe that Hugh is talking about that controls the water level is dropped to its lowest level. The water is just flowing straight out, there is no water sitting in the base of those ponds. If you raise that outlet pipe, that will then control the level of the water in the ponds.

- As you're perhaps well aware, around here we get a hell of a lot of rain, and we get a lot of wind. We can get these power cuts at any time. We get a hell of a lot of rain. I've seen the reservoirs fill up as quick as anything with the rain. So, we're going to get all that rain going into them ponds. The waters still got to come out of the rear end of it because the level is going to be above it because it's getting added to it all the time. So, you're going to tell me there isn't going to be smell if there's a power cut, when the rain is coming down as it does here? There still could be smell come out of it, yes?
Hugh - No, there won't be a smell coming out of it because there won't be water coming through the system, so it won't be generating…
Andy - Are you suggesting the additional surface water in a rainfall event would push additional water through the system?
- Yes.
Andy - The amount of water would…any surface flow that comes from the upside of the fell and if it was uncontrolled flow across site. There will be surface water drains around the site to manage that flow of water. So, the only water that you're talking about is the water that falls directly onto the pond which is minimal.
Simon - So, basically the water won't get into the pond…
Andy - Minimal relative to the amount of water that's in the pond.

- I just wanted to reiterate what we've said before which is why are you not waiting to see if the Haggs system works properly, successfully, without smell, before you start.
Jan - In effect we are because we're still working upon the design we're still wanting to talk to the community, and we won't put a spade in the ground until we know Nent Haggs works.
- We need that in writing then.

- I was just going to say, what will you do if there's an awful lot of snow which then freezes on the pond? And what will you do about the melt water that will probably overflow the pond and into the reservoir and down the valley? We get a lot of melt water. It can be frozen and snowy for a long time. We never know when it's going to happen, but we get a lot when it does. What will happen to all that melt water coming from the ponds?
Jan - The ponds themselves that are part of the treatment proposal are designed to be completely discrete from Handsome Mea. They're not online in as much as they don't receive any surface water. Like Andy said, there's a drainage system so any rainfall that falls…
- We're talking about feet of snow and ice.
Jan - But equally, if it falls as snow above and melts it would still go round the ponds. There would only be the snow or rain that falls directly onto the pond surface and you're right, over time that would melt but it wouldn't be the whole fellside's worth of snow- melt. It would be the snow that actually falls of the surface.
Simon - Did you want to add to that Hugh?
Hugh - There have been a couple of questions here about the amount of rainfall onto the pond surface itself and snowfall equally. I think it's fair to say – I'm going to make a commitment on behalf of us – we can do a calculation as to what that would be relative to the amount of mine water that's designed to pump into the system based on historical records of known snowfall and rainfall events. It's a relatively simple calculation as to how much water that would be in addition, and I think that would perhaps reassure you that the system's going to be able to cope with that.
- It depends on which decade you're going to use though doesn't it?

Hugh - We can look back at a long record.
- No, the systems are changing at the moment.
- Absolutely.

- With the construction of these ponds, it's my understanding that you will have to be constructing them into the bedrock. Bearing in mind these ponds will be built on the edge of a SSSI area known for its geological formation, what assurances can you give to the community that any work that you carry out will never have a negative impact on that geological formation.
Jan - I can answer that. The location of the SSSI, which I think is the Smallcleugh SSSI, that's a designation for its geological worth. Our proposals skirt the SSSI just as far as the quarry access track, so while the construction of any site is underway, there could be an impact only where the access track is. I can share better maps with you if you want. But there really isn't a lot of interaction at all anticipated with the construction site, certainly not the operation. And I could remind you as well that the quarry is accessed daily by some fairly heavy wagons that go on that track and they do the same overlapping of the SSSI that you're referring to. So, we don't expect any impact, but we will still talk to Natural England about the SSSI, we would have to talk to the stakeholders regarding our proposals.
Andy - Will the ponds be constructed into the bedrock or on top of the bedrock?
Jan - Yes, that's a very good point.
Simon - So, what is the answer?
Jan - The design of the ponds is not to excavate. We don't want to excavate two big basins. The ponds will be created more of an embankment, similar to Handsome Mea reservoir that's there. It would be bringing in engineered material and creating two…we call it freeform so it's not a big concrete tank. It's similar in construction technique to Haggs down the road.

- Is there any way to quantify the volume of water that's to be treated compared to the amount of contaminated untreated water that's going to enter the enter Tyne at Alston? I suspect that most of the water will enter the Tyne untreated regardless of all the treatment plants that have been installed.
Andy - I'll try to wrap my head around what exactly you are asking.
Simon - What proportion of water is going to be treated? What proportion of the water going into the Tyne is going to be treated. Is that right?
Andy - The adits themselves between them…there is four and a half to five tonnes of zinc per year that's put into the river from Rampghill and Caplecleugh. There's a greater tonnage…the amount of metal as a load that passes down the river fluctuates throughout the year. Through summer months, those two adits themselves contribute somewhere around forty percent of the metal load that reaches the South Tyne at Alston. In wetter weather, that percentage might drop to five to seven percent because you're then getting the diffuse inputs and the remobilisation from the riverbed. So, it fluctuates from between seven and up to forty, forty-five percent.
Hugh - In terms of the severity of the pollution and the actual metal concentration in the river, the highest metal concentration when the environmental harm to aquatic wildlife is most bad, happens under low river flow conditions which is when the two mine water levels that Andy is talking about, Caplecleugh and Rampghill are providing most of the water that's in the river as it passes through the village. And under the lower flow conditions, we will be

treating all of that water. We will be taking all the water that comes out of the adits, treating it and putting it back into the river at about the same point with far less metal in it. Under the higher flow conditions when it's much wetter and there more flow out of the adits, we won't be treating all the water then but under those conditions, the concentrations of metals in the river are much, much lower anyway so the environmental harm is less bad for aquatic wildlife.

- What I was meaning really, I suppose was the Nent Force level is about 250 feet below where we're sitting now. There are a lot of mine workings between here and down below that are all draining into the Nent Force level, which is blocked in several places but is still nevertheless percolating all the way underground, avoiding all the treatment plants to discharge into the Nent at Alston.

Andy – We monitor the Nent Force level and there is a flow monitor down there which is monitoring every fifteen minutes and that's with a logger. We have been taking samples from there once a month over the last four years, slightly longer. When you look at the data that we've got compared to the river, the water quality that comes from the Nent Force level today, as we speak, is very, very similar to the river water quality. So, either there's connections between the Nent Force level and the river through bedrock or…that's what it is so it doesn't change the water quality of the river a great deal at that point. As we put these treatment schemes in, that dynamic may change. It's whether the water from the Nent Force level is draining from the mines and by the time it gets to the Nent Force waterfall, happens to be a similar water quality to the river because the river is currently taking from other point sources or is there connectivity between the river and the Nent Force level that effectively at the bottom means the same thing. As we build these treatment schemes, we remove metals from the river, we would expect to see the river water quality change. If the Nent Force level matches that change in water quality, then the assumption then would be that there's a connection between the Nent Force level and the river and essentially, we would be treating both of them. If the Nent Force level remains the same while the river improves, that then becomes something that we…depending on the severity of that change, something that we may need to look at, at that point in time.

- Two-part question. First of all, do you have a definitive commitment from the landowner to go ahead? And secondly if that were to be withheld, where would you be with this project?

Jan - The answer is, we are still in discussions with the landowner. It is our intention to enter into a long-term lease.

- So, that's no. You haven't got a definitive commitment…

Jan - No, no we haven't and the answer to the second part would be: the need to treat the polluted water would still exist, the legislation still obliges us to look at treating the water so we would look at other local alternatives.

- A general question about the metals in the mine water. All the documentation we've had has said it's got zinc, cadmium, and lead in it, right? And clearly, they're the greatest pollutants in there, right? When you do the river – I forget the exact term - water management magic table thing that tells you how many pollutants are in it, there's loads of other things like arsenic, and other metals in there like iron and stuff like that, but in the entirety of Nent Haggs and currently now, only these three metals are mentioned. The

other ones must exist somewhere, or probably exist somewhere. Why are they never mentioned?

Andy - They do exist, there's a range. When we do an analysis of the water it looks at manganese, iron…if iron was a problem in the river, it would be orange, you'd be able to see it. The EQS for iron is over a thousand micrograms per litre. The water quality for the River Nent doesn't reach that level. You've got to have magnitudes of concentration of, as I say iron pollution. The other results in terms of other metals – arsenics, mercuries, all of those – as the results pass through the lab, if there are any that are elevated and too high, they're flagged for me to do a further investigation to understand why. But they're not flagged. It's only the three metals mentioned.

- I'm not talking about the actual treatment process. Because we know all of those things are in there. It would be like a smorgasbord of things in there, but obviously that then goes into the mine water treatment plant and is processed in some way by the mine water treatment plant. In terms of any environmental threats, these things are just never mentioned. The only things mentioned are the zinc, the lead, and the cadmium. The other things must exist. Some mercury compounds are starting to exist, and arsenic compounds start to exist, people start to get a little bit worried. The problem is, in all the environmental documentation that comes with the previous one, it's not even mentioned. There's not even a mention of what is in the water.

Andy - They're not currently an issue for the river water quality in the River Nent or the South Tyne. Whatever contaminant, whatever other metals are in the mine or any of the mine waters, any of the run-off, whatever they are, they are not highlighted as any cause for concern in the river at the moment. And so, anything that goes through the treatment scheme, whether it removes them or not, there's no change to that.

- That's not my point. There is a chemical process happening to things that we don't know what they are. That's my question. So, my question is, what are the environmental impacts of the chemical reactions happening to things that we don't know about, but we know exist, and why is it not in the environment impact assessments and things like that?

Simon - So, for instance, if you've iron and arsenic and so on in the ponds, what's the impact of the chemical process?

Hugh - As at right now, all the analysis that we've done in the Nent and the South Tyne, the upper reaches of the South Tyne, the only metals that have caused…that exceed the environmental quality standard, so are pollution are lead, zinc, and cadmium. In terms of within the treatment system itself, obviously we haven't built the Nenthead one so we can't answer that question but in terms of…there is tiny, tiny amounts of arsenic, it's often below detection in the Nent Haggs discharge. I'll have to check back and see what it is in the Nenthead one. There's no mercury. It's not naturally in the rocks around here.

- I have a good understanding that we have these three things in all the environmental stuff, but we have loads of other things in there. It seems odd that everything else is just pushed aside and not mentioned.

Hugh - The answer to that is, at the beginning of these projects, what we do – and this is years and years ago – we measure for every possible substance that there might be, and we do that for a period of time until we work out actually what are the things we have to focus on. There are additional costs for our labs to measure things like arsenic, mercury and things like that so we don't want to put the extra costs on them if we know that there's nothing

there of environmental significance so we narrow it down to the things we need to focus on but the analysis has shown…

- We know there's not much in the water, but they haven't been thought of in terms of the process in terms of the ponds

Andy - I think we've both missed the point. I think I've got what you're getting at now. Does the sulphate reduction impact on anything other than zinc and cadmium? Is that right?

Simon- Is that the question?

- Yes.

Hugh - Potentially, it depends on the particular substance we're talking about. By generating the sulphide, that would bind up with some other substances but also there are other reactions that happen. If there is some iron in the mine water that goes into the treatment system, some of that gets removed in the treatment system itself. But actually, we find that because the same process that generates the sulphide and binds up the lead, cadmium and zinc will also release a little bit of iron. So, the Force Crag system that has some iron in it, we sometimes get iron coming out, it's released out of the system but at the same time there is a different reaction that you're getting on the top surfaces there which is irons removed as an iron oxide. At the Force Crag system because there is some iron there, it actually also removes some very small amount of arsenic that's in that mine water as well because as the iron precipitates out as an iron oxide, it attaches itself – arsenic gets attached to that. So, it's a complex system and we are focussing on the…

- What I'm saying is, I was asking the question because we have a lot of water, a little bit of cadmium and a very small amount of something else a bit mercury or arsenic or whatever, once you've had ten years of the reactions taking place, there could be kilograms of that in there.

Hugh - Yes. And so, when it comes to the time of needing to remove that material, we would need to do a much wider screen of chemical assessment to work out what is the most appropriate way of disposing of that material, and that would include a much wider range

- Am I correct in saying that apart from Nent Haggs, you've never built this model? Because it's not like Force Crag, it's completely new isn't it. You've obviously built it at Nent Haggs, but you've not built it anywhere else in the country. So, can you answer me why you're building it so close to an active residential community? Because you've never answered that. We've gone through seven years of asking these fantastic questions but when it boils down to it, why are you building this so close to an active residential important community? That's what I want to know. And you haven't got an answer. Please can you just tell us why the criteria fit that being so close to us as an active residential important community. Please.

Andy - I would like to pick up on a few points. You say it's totally new, it's totally different…

- I didn't say that. I said have you built this particular model anywhere else in the country apart from Nent Haggs? That's what I asked. You said no.

Simon - Can we perhaps just focus on the issue of the location. Because I think the question is why build it here.

- Why? So close?

Andy - I would still like to pick up on that. The exact specification in terms of the treatment material and the odour dosing, no. But the treatment material that's going in there is the same chemical process that is used at Force Crag, which means, the treatment technology,

the sulphur removing bacteria, that is the same element. That's the bit the does the metal removal. That's the bit that is the same. There are different element around it, the makeup of material that creates the conditions for the sulphate to reduce, that material is different. And the odour dosing, yes that's not elsewhere, but the concept and the basics are the same. If I can come to the location: on the website – and it's been there for at least a year, if not longer now, there is the site selection document which runs through exactly how we came to choose that site exactly where it is and…

- You've adapted to fit.

- You've changed the criteria.

Andy - It has been a process, to end up where we are now it has been a process. There have been criteria that have changed along the way. We started off with a set of criteria that we wanted to work to and that included not wanting to build within the schedule monument and not use that element. We looked for areas of land that fit those criteria. We found three. We did some further work on those sites to understand whether they were practically feasible. One of them was being up on the hillside this way, which would have meant trying to run pipeline up this cobbled street outside, which I'm sure you can agree is not technical…

- That's where the water runs under my garden under those cobbles.

Andy - The feasibility and the practicality of doing that mean that it wasn't a viable site. We went through the same process for the other two locations, and we could not build a treatment scheme there. So, we had to come back to the criteria, and we said at that point…and it's all written as we've changed those criteria – it's online it's available to have a look after the meeting…

- I've seen it loads of times.

Andy - There's always been a cost element to it. It's got to be buildable; it's got to be cost beneficial, and you've got to be able to get the water there. So, when you put those criteria…you're limited, in a valley like this, when you need to get water to a place, treated and then get it back to the river, that limits the size of area that you're looking in.

We started with a two-kilometre radius, looked at the sites within that and we changed that criteria to include the scheduled monument, which is where that site has come in. A further two or three sites were identified at that point, and again, we have chosen that one based on the previous existing criteria, and we've chosen it because it was the furthest practical site away from residential properties…

- But it's not though…

Andy - Of the other sites that we looked at, there were no other sites that were identified that were practical, that were further away from residential properties and that's why that site is there. We chose the furthest one away from properties that we could because that's what you told us when we started the consultation in 2016.

- Picking up on a slight point that you said about the distance of the piping ,okay, so you're going to be piping it uphill obviously, but when you did Nents Hagg, you piped miles along so why could you not pipe further uphill, further up the fell away from…you're very close…you're saying it's nowhere near residential, it's actually very close to residential. There's twenty-nine residents – there is.

Andy - I didn't say it was nowhere near, I said it was furthest away.

- It's not furthest away.

Simon- Okay, just finish your point.

- It's not the furthest away. It is not the furthest away. Furthest away is actually another mile up into the fells which you could theoretically do with longer piping…
- You've chosen a location…
Simon - So, if I may, I'd just like to make sure we don't have too many voices going on. There's a specific question here as I understand it and you can tell me if I've got this right – at Nent Haggs you've got longer piping so why was it not feasible here?
Andy - The difference between Nenthead to Haggs is, Haggs it travelling down the valley and we're pumping…because of the distance, the reason it needs pumps is…in an ideal world it would be fed by gravity and we wouldn't need a pump and that was one of the different criteria but when you start looking you realise you need to be able to do that. But Haggs needs a pump for the distance of the pipeline helping the water along. The pumps at Nenthead are fighting gravity so it's going to need different pumps at Nenthead than it does at Haggs. The pumping costs increase, and this is why we can't take it further up to the top of the fell, is because the cost. There has always been a cost element. At the end of the day, it's government money and it does have to represent value for money
- But we're the losers.

- **Talking construction, how long will it take to construct and how much disruption will there be to the community, large vehicles coming through and that sort of stuff. I see your statement of principles, which I've gone through but yeah, how long?**
Simon - Can I just comment on the statement of principles, I have a feeling that we may not get a lot of time to talk about it this evening because there's quite a lot of questions. But if you could take a look, if you have comments to make, please just write them and leave them on the table or of course make your comments in this meeting now. So, how long is it going to take?
Jan - Now we've got to what essentially a design freeze where a lot of the elements have been agreed. We've worked with our design engineers, and we've got an outline design, we can then go and talk to contractors. I can't stand here and give you an answer about how long it would take until we speak to contractors who then come to site, walk over. There are some challenges up here. This is not a site that they can quote a price or a duration without visiting the site and I'm not a contract manager. When we have spoken to the contractors and when it's gone through an appraisal we will absolutely come back and talk to you about programming, start times. One of the things that I think is on the construction principles is, we've been advised by the community and people who have come to talk to me during the drop in sessions, that they would prefer not to have their access for dog walking and rambling interfered with at both locations, both at the mine site entry and up at the quarry access. That's something that would be taken into the phasing of the construction programme.
- Also, there's sounds and smells. Obviously, we talked about the odour from the actual treatment. But obviously there are going to be construction vehicles coming through. What mitigations have you made for that? Are you going to build any new routes? What's your process?
Jan - We do not anticipate building any more highways. We would access the site with the existing road network. The majority of the site activity for the ponds would be accessed off the A689. That is actually one of the advantages of locating the ponds up there, that the activity is remaining on that parcel of land and vehicles are not having to go across the main

road and through the village during the course of the day. Because we haven't engaged with a contractor, yet I can't give you some of the specifics but if there are any feedback or individual areas of concern, please note them down because this is the time to tell us because we can incorporate some requirements into our conversations with the contractor.

- I just have a quick point on that. It was finished in 2019 originally, the one at Nent Haggs, right, and it has been going on ever since? So, the answer in terms of construction time frames, expect about a five-year window. That's not a negative, it just keeps being pushed back and extended. It was all going to be constructed in about nine months, was it originally? How many years is it now?
Nick - Haggs was originally going to be constructed over two years and you're right, it's taken longer than any of us expected. We've been here and we've discussed the reasons previously. Obviously covid hit and also, we had Brexit which meant that the government funding for the programme was reduced so we had to phase it over a number of years. One of the things that has happened since that time is that the metal mine targets are now part of the Environment Act and that provides a legal driver if you like for the programme and consistent funding. So, I'm not going to stand here and make a commitment, as Jan said, we need to engage with the contractors. The idea of obviously giving you opportunity to share with us is so that we can look at that. Some members of the community that have been here before have actually requested a two-year phasing to come in, do some work then go away over a period of time then come back and do this... so again, this is about just trying to…

- If you look at the plans that were put out for Nent Haggs right, it comes out of Nent Haggs adit, it goes on the road, about a meter away from the plant station. It then goes into the field over there where we have things that are in the different place to where they should be, heights are different, and some things have been added which didn't even have planning permission. We then go along the pipe through the field to where it goes across the bridge but all of that is different to plan and that's going to be part of your non-material amendment because you admitted that you didn't build that to specification that the council wished you to build it to. It then goes up on a long journey where there are three different versions of the planning permission in terms of where the pipeline goes on the road, and one…what your build documents says is different to the planning permissions. It then goes down to the plant, where you've built the plant differently to what is in the plan. How can we in any way get anything to do with construction, anything to do with planning, if what you build isn't what you say you're going to build? I've been on site when one of the guys was down there and he invited me in and showed me the construction drawings that they were constructing that site for, which was different to the drawings that you have planning permission for. Why did the Coal Authority ask your contractor to go and build something they didn't have planning permission for?
Jan - It's actually quite common practice to submit a version of a drawing that isn't identical to what is actually built after the event. When you build a construction, when you do a building of any sort, you have drawings that are known as 'as built' drawings and they are what was built by the contractor and you're right, that can vary – sometimes only a minor adjustment but it could be due to ground conditions encountered. It could actually be because during the evolution of the build, there is a better way of doing something. So, it is actually quite common practice after the event…

- I understand that but what happens if they don't give you the planning permission…and I know…you've got no right to have that planning permission, or you've built something that is different to planning and you're hoping that people down there are going to say yes. So, the question is, why would you spend possibly tens of hundreds of thousands of pounds of something that wasn't the same as what you have planning permission for. Especially when its public money?
Jan - And what I'm saying is that it is quite common for the as built drawings, especially in complicated builds to not match the drawings that were submitted for planning. And it is normal practice to regularise these things after the event.
Simon - If there was an objection from the planning authority, presumably you'd have to change it?
Jan - It's not my project – I'm just saying on the hoof that we would probably apply for planning permission for what was built and supply the justification for that.

- As you know, when you went through the process, there was an area where you built outside of the planning permission zone where you put the pipeline in, which took months, and months, and months, seemed to take months to get it sorted out. I'm just curious how…we want to see a drawing, and then look at the drawing and when we come to go and see, we get something…it doesn't have to be exactly the same but take for example there's a wetland that has appeared. Which no one has ever been asked for. There's things in different places and things are quite fundamentally changed often, without anyone ever being asked.
Hugh - I think all I can say is that the learnings from how the Haggs construction project has gone are something that we as a programme are learning from and we would do our very, very best to ensure that learning is applied through all these projects, to minimise any changes. And one of the things we can do that we have already done with this project is to do a little bit more design and investigation work before the planning application is submitted and so that we have less opportunity for this to require to be changed once we have actually started construction.

- Jan, this is not normal practice to do as built. I sit on the planning committee, and this is not normal practice. I'd like to think that you've had pre-planning advice for what you propose up here…I did see the Nent stuff going through when I was a County Councillor and I'm dismayed to think that what you've built is not what you had planning permission for. It's in the public interest. What happens if you build things that don't have planning permission for, is normal people – little people have to take it back down again. The implications of not getting any going through as you're changing things is absolutely, really dangerous. So, bear that in mind – have you had pre-planning advice for the site that you're proposing?
Jan - For Nenthead? Yes, we are speaking to the planners, we've spoken to them, we've had site visits with them, and we are talking to them on an ongoing basis.
- And who are you talking to?
Jan - The planning officer is Edward Page.
- **So, it's Ed Page again?**
Jan - Yes.

- But you don't know if in actual fact if he's going to be working with Westmorland and Furness or whether he's going to Cumberland. That's going to be decided this week. So, you might have a change of planning officer, so you'll have to start all over again.
Jan - Yes.
- That's one of the things you'll need to be factoring in. It will go to the strategic planning board; it won't go to the local planning board. However, that pre-planning advice, it would be useful if you could share it with the community as to what they're actually saying to you, so we all know what you actually are being told and how you will go about putting the planning application in. And before you talk to the contractors, the fact that you've got that pre-planning advice and what they're saying to you, are you adhering to it? How many more tick lists do we need so that we know what's happening?
Jan - Yes, certainly.
- I'm not so sure about the material considerations, I think I'd get that planning application in pretty quickly.
Jan - Some of the things for reference, for example there was a balancing tank, which is a tank a little bit like your expansion tank that you might have in the roof of your property to accommodate extra flows coming in and one of the design changes that was made after we started construction was to change the pumping regime from fixed pumps to variable speed pumps. That is a subtle change, but the pumps pump whatever water comes out of the adit so if the flow fluctuates over the day, the activity of the pump matches that flow of the day, so the balancing chamber that was to accommodate this flux isn't required any more so that was taken out of the design because physically it's not needed. That doesn't change the aesthetics of what we're building, it was an underground tank and you've actually got one less metal chamber. So, you're absolutely right, it was a departure from what was agreed, and we will regularise that in accordance with planning policy.
-It's a very important point. It was a primary mitigation against environmental issues. That's what that tank was for. In your document it was a primary mitigation. It was there to cover a lot of different things. It was at the top of the risk hierarchy. That was why there was so much of an issue with that. Not because it can't be replaced, was because of its location at the top.
Jan - And the importance of it – this is quite a lot of detail but the importance of it was to make sure that all the polluting water coming out of the Haggs adit was taken to the treatment scheme. Without the balancing tank, there could be a situation where some of that water wasn't taken. The variable speed drive now means that all that water can be taken. The risk to the environment was not treating that water. There isn't anything else bad that might happen now that we've taken that tank out of the design.

- To do with planning: You're proposing these schemes but as yet you've not got planning permission as to how to take anything out? So, what are we going to be left with, as the community in ten, twenty years' time, the children that we've got at the schools here, how on earth are you going to planning and do all this stuff, but we don't know how we're going to deal with it down the road? But the community will still be here. You'll have all gone, you'll all be retired, you'll all be away, and I'll be dead probably, but the community is still left with that problem. And I can't understand how you can go in for planning when you don't know the solution to the problem you may be creating.
Hugh - There's two aspects I'm going to try and answer there. With Haggs scheme, we'll use that as an example, obviously being build…almost to start operating, with the environment

department Defra, they make a commitment that once we have started constructing a scheme, they made provision in their annual accounts for the liability to deal with any mine water treatment scheme for the next hundred years. That is written into their accounts that go to parliament every year. It's the amount of money that is predicted to be, that the accountants say is going to be required to carry on operating that scheme for the lifetime of that scheme. So, the money is there from Defra to make sure that…

- And is that an act of parliament? …

Hugh - It's put into Defra's accounts that go before parliament every year. It's…

- So, it can be just as easily taken out.

Hugh - Every year it gets updated and all I can say is that is the commitment that the ministers make is that they will put the money aside for it. It's taken on as Defra's liability on behalf of government. The other aspect is, we do know how we will take the material out in terms of digging it up on a principal level, in that we will take the pond offline, we would dig the material up, we would take it offsite, and we would take it to an appropriate disposal facility. It's the detail of exactly how we would do that the planning condition requires us to submit a more detailed plan that what we have currently put in place. And we have no reason to think there's going to be difficulties with doing that.

Simon - Okay, thank you.

- Going back to the proximity of the site to the residential areas. You're going to be storing an incredibly volatile chemical there, hydrogen peroxide, which is also a massive irritant to the lungs. If there was an incident, how quickly do you think the emergency services are going to be able to respond to a major incident, and I'm talking ambulance, fire brigade and police, bearing in mind how remote we are, and bearing in mind the time of year when we could actually be cut off. How do you envisage, what are your plans on how this is going to be dealt with by the emergency services?

Jan - The amount of chemical that we're storing would be no more than two IBCs that would be in propitiatory containers, chemical tanks.

Simon - What are IBCs?

Jan - IBCs are a thousand litres. The containment within the building by law, it has to be within a bund that has the same volume plus so if there was a failure of the chemical tank, it would be encapsulated by a bund. That's standard, that is the safety standard that we would adhere to.

- I would like to come back on that.

Jan - Yes.

- We all know that it's a small amount of hydrogen peroxide that basically blew the Russian submarine Kursk out of the water with all hands lost back in 1997 and even for the Russians to turn round and say this chemical is too volatile for us to use in our military, that's the Russians saying that and yet those containers are a thousand litres each aren't they? So that's two thousand litres. That is infinitely more than that submarine had on board. So, if that goes up, you're going to have a very large hole where it used to be. And half our houses will probably go up with it and then you're going to have a toxic cloud drifting down the valley because you will…where you're putting it is in a V, the bottom V of the valley and that goes straight down, down towards Nent Hall and all the associated houses along with it. You'll be left with a much bigger environmental disaster than if you just walked away now and left all the metals in the water.

Nick - On that one, I guess we had an FOI recently around hydrogen peroxide and processes for how we manage it. Obviously, we operate eighty mine water treatment schemes and I think we use hydrogen peroxide on at least seven or eight of those treatment schemes, so we have a standard procedure in terms of how we manage and store hydrogen peroxide, so I'll just take an action to share that more widely on the web.
- Can I just put my hands up and say I did that FOI. I don't, it's been well engineered in terms of those things. I think there are lots of things where we've got to give people credit for what they've done, right. And in terms of chemical store, I think we don't have anything we need to worry about.
- Obviously we still need the…
Simon - I think the offer there was to share that information more widely.
Nick - I'll take an action to do that.

Simon - Thank you. Yes please.
- What was in place for the mental wellbeing of this community, bearing in mind we've gone through seven years of complete worry about this project. What's being put in place for our community's wellbeing? And for the future wellbeing of the community…there's nothing… I can't…I've got nothing from you about our mental wellbeing. And it is actually part of the planning that you have to have something in place. There's no talk of anything like that. And I know you do the job…sorry… but we've been asking these questions for the past seven years and we're no further on knowing anything to be fair.
Jan - I think that certainly as a team we've made an effort to be more accessible both physically, I know your faces, you know our faces. And one of the things about mental health and understanding is to get answers. And while you may say you aren't any further forward, we come here and we answer questions and we commit to providing some answers and I hope that in my little intro, you saw that some of your questions and concerns have been answered. But I would also say that we are trying to give you confidence by having a tour round the site when it's ready in the autumn, you won't then fear what it will look like, you won't fear the odour of it. Some of the language that I hear being used is quite frightening within the community and the kind of response to that is we're not proposing to build an eyesore, it isn't a monstrosity, they are two and a half ponds on the hillside. And we want to give you the facts about the site and how it will be built. Some of the things we do not know yet, but the things we do know, we want to share with you. We know there is concern about car parking and will we take up car parking to prevent people accessing the shop and we're aware of the commercial interests in the village. That's all part of our commitment to talk to you because you're going to be worried if you don't know what we're doing and we're really trying to help you understand what we're doing and why.
- I do completely appreciate what you're saying but you've said two and half ponds, but this is two and half ponds with two thousand litres of hydrogen peroxide sitting there like a ticking time bomb. [Inaudible?] there's no fear of it blowing up. If it was just two and a half ponds with no peroxide, no smell, you wouldn't see us here. We're not saying that we don't want the rivers clean, but we want a better environment for future generations to live in this village. And you actually saying two and half ponds is nothing, but two and half ponds with two thousand litres of a highly flammable chemical is more frightening… and hopefully I can speak for most of the people here, but you will never understand. If

somebody was going to build that next to your house, how would you feel? Would you say 'oh that's fine. It's going to be two and half ponds. It's not.

- How often do you change those tubs? How long does a thousand litres last?
Jan - Okay, so the design is such that we would expect a chemical delivery about three or four times a year. The design is such that we wouldn't run it right down to the bottom in case there was inclement weather and delivery issues, so there would be a level indicator inside the chemical tank that said, you need to think about re-ordering and it would arrive. But in response to the proximity to chemicals, anybody that lives near a swimming pool is close to chlorine being stored. There are two petrol stations in Alston. You don't get much more flammable liquid within the community, so we as society, we do live near where chemicals are stored and they are stored safely, which is why thank goodness we don't end up with incidents on submarines. Chemicals are by definition, even agricultural chemicals will be stored safely in and around this area.

- You did some work over at Garrigill recently, you built some walls by the river. First flood, they were demolished. One – how much money did you waste on that? and two – why should we have any confidence in you? That was a disaster, absolute disaster.
- Do you want to comment on that at all? Does anyone know about that? No?
Hugh - I would disagree that it was a disaster. I would also disagree that it was just a little bit of water. That was the single largest rainfall event that had been measured at that rain gauge just above Garrigill in the last twenty years so it was an extreme event. The other thing is, there absolutely was some damage to what we had completed a fair few weeks beforehand. However, the damage in the sections of the river where we hadn't put new walling in was much worse. There was a lot more damage further up the river. One of the sections that we had not done work…our work, there were a couple of sections that did deteriorate as a result which we have gone back in and have fixed and effectively what happened is that the intensity of the rainfall scoured out a lot of the gravels from further upstream, brought it down and dropped it into the channel which is why it hopped over the wall and out of the walled section we had done. We've gone back and repaired that. And it was incredibly frustrating for us that that happened. It was an exceptional rainfall event.
- It's an exceptional area.
- That's what we're talking about. Weather events…
Hugh - It was an exceptional rainfall event in the context of this area being exceptional.

- Just going back to Jackie's point about the mental and physical wellbeing. We're sick to death of hearing about the proposed water treatment works etc. Now, Nenthead as you know have a lot of community run businesses. So, the impact of this and the possible years of work of this happening and the disruption, business are going to get nothing back and I think they'll be extremely worried about the impact it has on them. Not only that but if we are going down the route, and we've talked about the smells and things like that, but the impact it would have on people wanting to sell their properties and obviously buying properties and things like that. There is no incentive for the people of Nenthead to have these water treatment works. And I'm all for cleaning the river Nent up but there is no incentive for the people of Nenthead. At all. There's nothing for us.

- We're going through horrendous constrictions in government spending. What's going to happen to us and Nent Haggs if the systems get up and running and then some future government says well it's probably within guidelines now, let's just leave it and they go and shut you down? What do you do with the sites and what is contained within the sites? Is there provision?

Nick - What happens in the future, we can't sit here and give you any certainty on that…

- But you're telling us what you're going to do with our future.

Nick - All I can say to cover this off is that each year, the government makes a provision. So for our coal mine schemes, that sits under DESNZ and for the metal mine schemes that sits under Defra. If you go to their accounts, as Hugh says, they make a provision for a hundred years for each of those treatment schemes. Yes, I agree, we're going through uncertain times, new governments come and go but what I can say is that since '94 when the Coal Authority as an organisation was set up for that, those provisions have remained in place. And we've had changes in government, we've different things, uncertainties but those provisions have always been there, and those funds have always been in place to maintain those existing assets. There have been times when we've had to wait for the money to build new assets but for the ongoing operation and maintenance of the schemes, that's always been there.

- I feel that the priorities of the Coal Authority are going to…

Andy - I would add to what Nick said as well. We can come back and we touched on it earlier in terms of acts of parliament. The Environment Act that was passed in 2021 has the target to reduce metal pollution by half by 2038. That is there sat in the Environment Act. And that then provides the driver, the impetus for government to continue with the funding for these schemes. They might turn around and go, we need to scrap the target for whatever reason but the funding for the continuation of the schemes, that's there in government legislation.

Hugh - The reason that the Act was put in place, or the targets were put in place - they're linked into to pollution levels and are a requirement or commitment from government from the last several years to clean up the environment and get it into a better place. Now, both parties, both main parties – Conservative and Labour are committed to supporting that cleaning up the water environment. And the standards against which we assess pollution in the Environment Agency are set out in full and the experience has been over the last thirty years are that those standards have only ever been tightened rather than loosened. So, there's no expectation that there will be a softening of those targets based on our experience to date.

- Rebecca Pow has said that the scheme won't go ahead without third party funding. That that is a commitment. I've got a letter from the MP to that effect. It depends upon contributions, presumably from this part of the country. So, it won't go ahead. So, my question is, will your plans still be submitted without any funding guarantee from third parties and how much is the Coal Authority contributing from its own funding towards this scheme?

Hugh - To answer the first part of that, I'm not sure that the information you have there is correct…

- **It's signed from her, it's a letter from her.**

Hugh - All I can say is…

Simon - Sorry, just to be clear, Rebecca Pow is the minister responsible in DEFRA.

- And has set the target, yes.

Hugh – Parliament set the targets. I'm happy to see the letter if you'd like to show it to me but there is no obligation…Defra provide us in the Environment Agency and Coal Authority with the guiding principles of how to deliver the programme that we're talking about, the water in abandoned metal mines programme. They encourage us to find alternative contributions other than from Defra, but there is no obligation for us to find contributions from others than Defra to build any particular scheme.
- Well I've got it in writing, in black and white, through our MP.
Nick - Do you want me to pick up on the second part of that which was how much was the Coal Authority…
- Yes, how much are you oiling the wheels to get this scheme through.
Nick - From the Coal Authority's perspective, there is no contribution. We are simply a delivery partner along with the Environment Agency to deliver on Defra's programme.
That's very helpful, thank you.

Simon - Yes please –
- **Weather, right. You put two weather stations up,, and one supposedly disappeared, right, and you've been taking weather data from both sites at some point, is that correct?**
Jan - The weather station didn't disappear I think that was a bit of a rumour.
- I'm asking this for somebody else. The question is, if those things exist, how do we get that data?
Jan - The data is being recorded via telemetry at the moment. We are still logging and recording. I think we can share the weather data, it's not a secret.
- Yes, because when we had the last one, we had this weird situation where you used separate sites, there were two sites depending on…so one site used to rain somewhere over that way and the Warcop which was the wind. It always seemed a bit strange that the distance of the two places was about forty miles and you use this one for wind and this one for rain, it always seemed a little bit odd.
- This is Nenthead, it rains every day.
- That is true. The question was, about these weather stations, something must be going on because the data mustn't be too good on the weather here so I'm curious…
Jan - Okay, that's a really good point. To clarify this gentleman's point, the data that informed some of the desk work and the modelling work was based upon met office data from the Warcop station, which is thirty kilometres away – it's a distance away, and we had feedback probably from this floor saying that that weather station is too far away, we'd like a weather station to record local data, so that's what you've got.
- **That was my question because it seems odd, there must be something going wrong, because why would it rain twenty miles that way and then twenty miles that way it's windy?**
Jan - One of the activities that we've been able to do is to compare the Warcop data with the data we've collected here. For example, if it's blowing a hooley at Warcop and its blowing in a southerly direction, what is it doing here? And one of the quite reassuring findings is that the patterns that we're experience at Warcop are replicated by the weather station at the mine site.
- And there's one at Nent Haggs as well isn't there? Or there was going to be one there.
Jan - I don't think it's in yet but I could be corrected.

- About this statement of principles, it's very inadequate. The ecology, wildlife and recreation is simply put down to 'well, you'll be able to walk a little bit through there and we'll put up a sign for the red squirrels'. It's so inadequate.
Simon - What would you like to see?
- Well, there's an awful lot more than red squirrels that are endangered in this area. You know, a few signs are not going to make any difference to the rare plants, rare birds, that are unique and endangered species up here. To have those two points under ecology, wildlife and recreation is just totally inadequate. As is the light, you know the compound and construction area site lighting, we will…you know this is an area of dark skies. And it's one of the reasons people like it here actually. And you're saying 'oh we'll limit a bit of light, we'll just use a little bit of light'. That is actually polluting the dark skies. It's all just really inadequate.

Simon - Thank you. Yes please.
- With the site lighting, presumably, it's going to be lit twenty-four hours a day? So it's going to be lit all the time for obvious safety reasons.
Jan - I think that's something that we would discuss with the contractor.
- Well, yeah it's nothing to do with the community.
Simon - On the contrary, if you let us know here your thoughts, that then goes into those conversations.
Jan - If I could respond to the point, those are summaries within the planning application. There will be whole chapters dedicated to the ecology, to the mitigation. That is by no means our effort. There will be an enormous amount of supporting data from independent experts. We were out here a week last Wednesday doing more survey work, the survey work is ongoing, we've got quite a library of ecology, we've spoken to a lot of specialist groups. So that is not the sum total of our committment.
Simon - Just coming back to the lighting point, just to check the point that you're making. To minimise the lighting at night because people like dark skies.
- Yes you want to minimise it but obviously you don't want to minimise it too much because of safety because obviously if you had some kids or something could go over there then you want it to be lit but on the other hand you don't want it to be lit all the time because you have beautiful skies here, that's why a lot of us live here.
- We've got a lake that's not lit at night and doesn't need to be lit at night. So why do you need a site lit at night?
Hugh - The Force Crag site, which was obviously a built site is also in a very dark area and that has no lighting at all. But I think that you're perhaps talking about during construction and things like that so that's something that, we will look at it. I think we hear the message very clearly from people and we have to look and see what we can do to minimise as much as possible.

Simon - So, much more on ecology, the issues around lighting. Yes, please Jackie.
- You keep referring back to Force Crag – nobody lives there. You know, nobody lives in the vicinity so please can you stop referring to Force Crag because we are talking about here where people live.
Hugh - Okay.
- And I appreciate that Force Crag works or whatever, but we live here, and nobody lives at Force Crag. Thank you.

Simon - Any further points? Yes please.

- When you did the community engagement for the current one you built at Nent Haggs, the two houses that are opposite were not defined as being members of the local community. It came to the point where we realised that when all of the community engagement was done, at no point did the Coal Authority or the Environment Agency actually know who the local community was. And they ultimately admitted to that in the end. So, my question to you is, as of today can I ask you to show me the document that shows you know who the local community is? The stakeholder document that says who is the local community. Who are the stakeholders? If you have the document, you have the document available today. Right, it will be made multiple times before and it will be edited multiple times. Does it exist and would it be possible if I asked today to see it?

Andy - It exists as a mailing list, forgive us I don't remember the distances using the radius of the parameters we use to create it but yes, a document exists but it's names and addresses so to share it…

- It's not just names and addresses, it's local councillors it's interested parties, yes.

Andy - It would be…names and addresses can't be but I don't see any reason why the area that was covered… when we first started we did a mailout and it went to the whole CA9 postcode for the first handful, maybe four – five, that sort of number of newsletters when consultation process first started for both Haggs and Nenthead because they were both joined together at that point in 2016 and Haggs has progressed further than this one at this point in time.

- In 2016, that occurred after the first meeting that you ever had, you'd already made decisions…anyway let's not argue about it. At this point if I asked you for the document that you know who to talk to, can you tell me?

Andy - This is where I'm answering, there is a mailing list that exists for a defined area, but it does go back… all of this goes back to 2016 and we provided mailouts to the whole of the CA9 post so that we could make sure that we captured anybody who was interested. We asked for people to sign up to the newsletters via the mailing list, which meant that those that aren't interested aren't being bombarded with information. Those that are interested can be involved. And we do still occasionally mail out to a wider audience than the mailing list. That does go back to 2016. Haggs progressed through planning application. This, for site selection reasons, finding somewhere to build it, caused it to stall as well as the progress with Haggs, that's where the funding went, and this paused a while and then we came back in 2019 with that site.

- I don't think…if you touch anything that's anything to do with 2019, you're on dodgy ground. Because the things that happened before you have put documents in planning to say that the only people you contacted before the final consultation were people in Nenthead and Garrigill, nobody else for the Nenthead Haggs project. So, I don't think anything from before 2019 is going to help you in any way at all. Because you've even got a letter from the Coal Authority basically saying they didn't bother checking who the local community was and they would bear it in mind for the future. So I think that anything before 2019 should probably be best avoided.

Simon - Okay, so you have a current list. The issue about sharing it however is to do with the GDPR…

- They have not got a list. I'm an elected member of this community alongside Councillor Hanley. We have not been invited to this meeting. I have come because my community made sure I knew. And as a unity council with a planning function, you can't get yourselves sorted out to actually see who the proper stakeholders are. That to me is a shambles.
Simon - So, this is the stakeholders beyond the residents.
- Take on board everything that everybody has to say because loads of people will have moved house, new people will have come in, businesses have folded, businesses have started – you know, start again before you put a planning application in so that you've got the right people, you're speaking to the right people and then we…
Hugh - What we can do is we can take as an action that we will…
- Update the list.
Hugh - Find out what is the list that we have now and then we've been to ask to update that list. I think that's a completely reasonable request. But we will obviously do the checks in terms of GDPR.
- You've already sent me data on addresses. We don't need to know names, that's not a problem but addresses are available.

- You're still talking like you're going to go ahead regardless of what anyone says. And I've said it to you every time I've come to the meetings, the people of Nenthead don't want this so why won't you listen? You're going to go ahead regardless. Like I say, you move your pumping station slightly, you do this, you do that, but we don't want it so you're going to go ahead aren't you unless we can stop you getting that land.

Simon - Okay Jan, do you want to come back on the previous point?
Jan - I just wanted to offer the councillor an apology. We ought to have invited you and I'm sorry we didn't.
Simon - And so that will be rectified. And did you want to comment on that final point?
Jan - I appreciate the sentiment. I think that was more a comment than a question.
Andy - I'll pick up on it but we're here...at no point and we've been quite clear through the process but…and this is an honest comment – it's not a question of do you want it or do you not. It's a how can we work with you to make sure that…because I think we've covered it already, but it is set in an act of parliament etc that water quality needs to improve. To improve that water quality we need to address those mine water discharges over there. We have to address it here for reasons already identified. So, the government, whether it's us four or somebody else through whatever delivery partner it may be, there is that legislation in place to say that those improvements need to be made, okay? And so it comes back to - you want a yes or no. We will be pressing ahead. We clearly hear you say you don't want it. That is loud and clear every single time, right? From everybody here but we're not here asking yes or no. We're asking how we can make little changes to make it as good as it can be given the current situation…
- Move it further away.
Andy - We've covered that…
- Okay…
Andy - We have covered why we can't move it…we've answered those questions why we can't move it away. The answer comes down to money, which I appreciate doesn't sit well with you but we're sitting here giving you the answers to those questions.

- Thank you very much for actually admitting that. Because that's the first time that you have actually said that. That you're going to do it regardless and you have actually just said that, and I appreciate that.

- Just going back to why we can't move it further away. Why can you not follow the course of the river so you're not actually pumping uphill but you're moving...where the adits are, why could you not put the piping under the river bank, follow the line of the river and then all you've got to do is pump it up a hill further up the fell. So where's the difference in the money for that?

Simon - Okay, what I'm going to do if it's okay is to take a final point from the back and then I'm going to ask for last comments, just so we can close on time.

- Thank you. In summary, due to an act of legislation, we get this whether we like it or not. There's nothing we can say or do, it's going to happen.

Simon - Two points: One is Jackie's point about is it not possible to go up the hill and then the second was that comment. Andy, do you want to come back on the first point?
Andy - When you say follow the course of the river, do you mean up the valley or down the valley?
- You're going to be going up the valley anyway aren't you? Because that's where you're going to put the ponds.
Andy - Yes.
- Why can you not follow the course of the…the river isn't going uphill actually for that valley because you walk along the flat. Why could you not follow the course of that and then pump it up higher over the fells so it would be further away from the village? That's the issue. You've got to get that. That's one of the major issues.
Simon - Okay, can we just answer that?
Andy - It's practicality and cost. Laying a pipeline along the course of a river that is very dynamic in Nenthead, there's then risk of the pipe getting washed out, damaged. It would then become the practicalities of the chambers required for any change of direction and you would still be limited as to how far up the valley you could go. It's all well and good taking the water further up the valley but there has to be a spot at that point where the treatment process could happen.
- Okay.

- I was just going to make the point that we haven't put in the planning application yet so when we say obviously that's our intention, the gentleman before who made the point about , that's it, it's going to happen – there's a process that we have to follow.
- Can I ask a question with that? Has it been scoped?
Jan - There was a scoping opinion done in 2019 and there will be a new scoping opinion.

Simon - I think we need to begin to draw things to a close because we are hitting our two hour time. Thank you very much indeed for as always very robust opinions, questions and thoughts. There are several actions to take away I think for the teams. Jan, do you want to say a word about next steps, just before we close?

Jan - Yes, I think a number of us have been individually scribbling actions down. The whole meeting has been audio recorded. That will be written up and shared with the community. In addition to the transcript being released, we will say which questions have been lodged and will give a timeframe for those. The transcript will be uploaded in time to the website. We are here, somebody from the team is here pretty much every month to talk to the community. If there are any questions that come about from tonight or you speak to your neighbours or you think of anything that we didn't clarify well enough, send us an email. It's nent@coal.gov.uk. Because of the way we work, it can take us a few days to reply so bear with us – you won't get a response the same day unfortunately, because it goes to an inbox that then gets redirected tothe appropriate officer. And I think basically thank you very much for coming.

Simon - And any further points that you've got on the principles, please can you jot them down.

- Can I just ask, are the display boards going to be put on? You usually do afterwards for people who couldn't turn up.

Jan - Yes.

- One final thing, if we're going to have the boards, you said that we're going to have some of the public consultation from 2017 onwards right, and that's all disappeared from the website. So, if you are going to do some of it moving forward, it might be effective if it's on the websites.

Simon - Is that something that can be looked into?

- **I've got copies on me, but it just seems silly to not let people see.**

Simon - Thank you very much indeed, good to see you all, have a very good rest of the evening.