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DCO Examination Process for: Glyn Rhonwy Pumped Storage EN010072
Interested Party Ref: 10031956

Acronyms:

- DCSS - the applicant's water and effluent Discharge Consent Supporting Statement
- ES/NTS – the applicant's Environmental Statement/ Non-Technical Summary
- NRW - Natural Resources Wales
- SAC - Special Area of Conservation
- SPG – supplementary planning guidance
- SPH - Snowdonia Pumped Hydro
- SSSI - Site of Special Scientific Interest

12th April 2016

Dear Mr Cowperthwaite

I write on behalf of Cymdeithas Eryri the Snowdonia Society, the charity which since 1967 has worked to protect, enhance, and celebrate Snowdonia.

As indicated when registering as an interested party, we present comments on the following areas:

1. Landscape and visual impacts of the development in its entirety
2. Sensitivity of upland landscape close to National Park boundary
3. Impacts on public access and enjoyment including Common Land exchange
4. Impacts on ecology of freshwater, including designated sites and their qualifying features

There are further areas of potential concern but your attention will have been adequately drawn to those by other submissions – an obvious example being the question of unexploded ordnance of various types, a subject on which we have no expertise.

We recognise that your work is at the heart of a complex web of parallel or mutually-influencing processes. Alongside the DCO determination process there is the determination of consents for Water/Effluent Discharge, the potential deregistration of Common Land and the associated development consents for the electrical connection to the National Grid.

It can be difficult to tease out the relevant responsibilities, remits, and purposes of the bodies which deal with these issues. For clarity, we draw attention to a question which affects the Glyn Rhonwy case.

The determination of consents for Water/Effluent Discharge falls to Natural Resources Wales. If there is evidence of potential risk to the natural environment, in particular to designated conservation sites and their qualifying features, the assumption in planning processes tends to be that protection of these features is central to NRW's deliberations.

Such an assumption, however, does not take into account the different purposes and different statutory basis of NRW's separate functions as regulator and as statutory consultee:
"*in exercising its pollution control functions, NRW is not required to further nature conservation, nor to take account of ecological change; instead it must have regard to the 'desirability of nature conservation and of conserving and enhancing natural beauty and amenity' "*(Lewis, 2015)[1].

The freshwater ecosystem including rare plants and rare fish in Llyn Padarn and Llyn Peris have suffered decades of damage from the combined effects of warmer water and effluent inputs. That damage has been compounded by ineffective regulation.

Whilst recognising the uncertainty over many of the impacts of the proposed scheme, we conclude that there is an over-riding need to apply a sufficient precautionary approach to the protection of nationally/internationally designated sites for nature conservation and landscape conservation.

For these reasons Cymdeithas Eryri the Snowdonia Society objects to the proposed scheme.

[1] Lewis, K. 2015. *The framework for environmental regulation in Wales: Natural Resources Wales speaks with 'One Voice' – Has the statutory voice for nature been silenced?* Environmental Law Review 2015, Vol. 17(3) 189–206

Landscape and visual impacts of the development in its entirety

The landscape and visual impacts of the proposed development need to be considered in the light of Gwynedd Council planning policy and supplementary planning guidance and in terms of the designated purposes of the nearby Snowdonia National Park.

Gwynedd Council has not yet published a SPG consultation draft on Landscape Sensitivity and Capacity. Gwynedd has recently worked with two authorities (Anglesey and Snowdonia) to develop new guidance and those other authorities have now published consultation drafts - link here to the Snowdonia consultation draft. The 'capacity' element of these draft SPGs focus on specific types of developments not relevant to Glyn Rhonwy, but the detailed landscape sensitivity assessment which underpins the work is likely to be useful in your work, if only to provide context.

The means of electrical connection of the proposed development to the national grid is our most pressing concern.

Section 3.2.5 of the ES/NTS states:
'*SPH expects this connection to be provided underground and this is the current offer being discussed with SP Manweb'*

Whilst we acknowledge the regulatory gap which lies between your work and 'associated development' matters we trust you will recognise a rather serious problem which this raises.

There are order-of-magnitude differences between the long-term landscape and visual impacts of underground *versus* overground connection solutions. These resolve around the sensitivity of views into and out of the National Park, the iconic framing of the Snowdon massif, Llanberis Pass and Llynnau Padarn/Peris.

Chapter 17 of the ES/NTS considers cumulative impacts but does so on the basis of an assumption that the electrical connection will be underground. The applicant's assessment of in-combination impacts of the grid connection and the proposed development is therefore inadequate.

In our view the cumulative impacts of the development in combination with an overground electrical connection with pylons would have significant adverse landscape and visual impacts, including impacts on the designated purposes of Snowdonia National Park.

The Snowdonia Society has for years pressed for the undergrounding of high-voltage lines and other visually intrusive infrastructure in Snowdonia. Recent experience with the National Grid's £500million Visual Impact Provision work has taught us that undoing past mistakes can be eye-wateringly and therefore prohibitively expensive. There is uncertainty as to whether the single short section (Dwyryd estuary) candidate for undergrounding in Snowdonia will now proceed. Technical issues have seen cost estimates spiralling up to figures of tens of £millions per kilometre.

We conclude that there is a clear public interest, now and for the future, in the avoidance of similar problems for the future.

We ask that you consider the in-combination impact scenarios for the development and the grid connection, the developer's failure to assess them or respond to questions[2], and their implications for designated landscapes of local, national, and international importance.

Sensitivity of the upland landscape close to a National Park boundary

The impact of this development on landscapes that are recognised in the developers own submission as being 'outstanding' or having 'high' landscape value may have been underestimated in the developer's Environmental Statement. This is both a general and specific concern; a specific example comes from the ES Chapter 6.0 Landscape Effects 6.1.11 '*due to more accurate mapping and modelling, the slate mounds are slightly bigger than those assessed in the 2012 assessment*'. A small example, but one which highlights a discernible trend in the evolving description of the project: claimed benefits have become progressively more dilute (for example, the number of jobs which will be created) whilst acknowledged issues and challenges have grown as flesh is put on the bones of the project. We believe it reasonable to extrapolate both of those tendencies when considering the project's real impacts.

The actual landscape and visual impacts will in our view be considerable and will detract from a cultural, historic and natural landscape of national significance. The Snowdonia Society is concerned by the potential landscape and visual impacts of the development, particularly when viewed from Moel Eilio and Snowdonia National Park.

Impacts on public access and enjoyment including Common Land exchange

The Snowdonia Society has consulted with the Open Spaces Society on the issue of Common Land exchange. We recognise the separate procedure for this process but recommend that you pay careful attention to the submissions from OSS, who have far greater experience and expertise than ourselves in this field.

The Common Land which the applicant proposes to apply to deregister is a mosaic of open grassland and heathland (best described as 'moorland' in character) which provides a high quality experience of open views and semi-natural habitats.

The land which the applicant proposes in 'exchange' is a recently clear-felled plantation of non-native conifers (including some species of high invasivity) which is in part sited on old

[2] Our response to SPH's public consultation dated 10th March 2015 raised these issues in very clear terms – see Appendix A at the end of this letter. We have had no response from SPH.

slate waste heaps. This land is of significantly lower value for the types of recreational experience currently enjoyed on the popular and accessible Common Land.

Both temporary and permanent closure of Open Access land and heavily used Public Rights of Way are causes for concern in a key upland location close to Llanberis and on the edge of the National Park. As a town, the economy of Llanberis is almost entirely based on outdoor activities and active outdoor tourism.

The developer's submissions understate the historical and cultural importance of access to these specific quarries for recreation. The old slate quarries at Glyn Rhonwy are thought to be the location where rock-climbing on slate first began - an extremely popular genre of rock-climbing with its own culture and history.

Impacts on ecology of freshwater, including designated sites and their qualifying features

We note the following extracts from the submission to this process by NRW.

NRW: '*The requirement for an Environmental Permit is governed by distinct and separate legislation, namely the Environmental Permitting Regulations 2010. Such applications are determined by NRW's permitting function, which is distinct and separate to NRW's advisory role by virtue of its interest in the Development Consent Order application. Notwithstanding this internal separation of function within NRW, we will endeavour to provide the Examination with an update as to progress of any permit applications, however it should be noted that we will not be in a position to comment in detail on the substance or merits of any particular application.'*

This is an important caveat from NRW and we draw your attention to the important point regarding NRW's function and purposes in exercising its regulatory responsibilities, as opposed to its role as conservation consultee - see p.2 of our submission.

NRW: *'NRW had some concerns over the sampling regime and data contained within the Water Framework Directive Compliance Assessment report, Appendix 9.1 of the Environmental Statement. However, following further discussions with the applicant, these concerns have been alleviated.'*

What were NRW's concerns? How were they alleviated?

The Snowdonia Society understands (from discussion with NRW officials at the Water Discharge permitting information session held at Electric Mountain on 22nd March 2016) that some of those concerns relate to the applicant's failure to secure samples from at depth in at least one of the two main reservoir pits. Given that the water sampling plan was missing from the Water Discharge applications to NRW, we remain in the dark as to what has actually been sampled. This is a cause of grave concern, as the water sampling data

which the applicant has presented shows **average** levels of phosphorus, iron and copper at several times the guideline thresholds for protected sites (SAC, SSSI).

We strongly urge you to seek to get to the bottom of the question: do we know what is at the bottom of Q1 and Q6?

NRW: '*An Environmental Permit for the initial filling of the development by abstraction from Llyn Padarn has already been granted, although the applicant have indicated to us that they may wish to vary that Permit (abstraction licence) to increase the rate of abstraction*'

May we ask that you consider such variations as a contributor to the uncertainty of the proposed project's environmental outcomes and therefore of the risks it may pose to internationally designated freshwater sites?

NRW: '*We are satisfied that the Environmental Statement has adequately assessed the ecological matters of the development*.'

Both the adequacy and the results of water sampling in Q1 and Q6 need to be clarified, scrutinised and verified beyond doubt, given the sensitivity and the poor ecological status and condition of the internationally designated freshwater SSSI/SAC receptors of the contents of these two pits.

Our detailed response to the NRW Water/Effluent Discharge applications is provided as Appendix B. It draws attention to deficiencies in the applicant's data and interpretation of data. Of particular concern is the failure to address some discharge scenarios with potential for serious ecological impacts. During both construction-phase dewatering and the operational stage, discharge events may result from tests, planned release, emergency release, accidental release, chronic or acute equipment failure, chronic or acute structural failure, or malicious action.

We recognise that the Water Discharge Consent process runs parallel to the DCO process. We do ask that you make sure that the conservation issues do not fall between those two stools, given the remit of NRW's regulatory function. Here are some examples of our specific concerns.

- The DCSS reports high levels of phosphorus from test samples in Q1 and Q6, with, for example, total phosphate levels on average 65.5ug/l , compared with the 10ug/l 'good ecological status' target for Llyn Padarn. Phosphorus and its oxidation is clearly identified by Environment Agency Wales' report 'Llyn Padarn Investigations 2010' as a key direct cause of elevated biological oxygen demand and therefore of the long history of damage to Llyn Padarn and deterioration in the conservation status of Llyn Padarn's designated features.
- There is no information on the materials and methods for lining of the head and tail ponds. Water chemistry will be of critical importance during discharge, whether those discharge events are tests, planned, emergency, accidental or malicious. The choice of lining materials will determine the extent and nature of chemical interaction with the water in the so-called 'closed system'. The quality and

characteristics of the water in the system will be altered, in the form of pH changes and potential for concentration of the products of chemical reactions between the water, any contaminants and the materials in the lining and other surface components in the system.

- We can find no evidence of proper consideration of the potential impacts of temperature spikes on the receiving water bodies and designated features, caused by inflow of warmer water during operational discharge. The DCSS should refer to such impacts and should address the range of possible scenarios, including what would happen during periods of extended intense rainfall such as that recently experienced. EAW's 'Llyn Padarn Investigations 2010' report highlights the likely role of releases of warmer water from an existing pumped storage operation in reducing habitat availability and spawning success of Arctic Charr.
- Planned discharges of water from the so-called 'closed system' will generally be in response to rainfall as direct input or run-off input to the head- and tail-ponds. The DCSS 3.3.5 states 'average annual rainfall is around 1850mm'. However in order to assess the impacts of planned discharges you will need to assess likely worst-case scenarios. What was the actual rainfall at the site in 2015? For information, the total annual rainfall measurements at nearby ECN weather stations in 2015 were 4541mm (Snowdon) and 6185mm (Crib Goch).
- Dewatering of Q1 to Nant y Betws *'2.3.6 Ongoing monitoring of the water quality in relation to sediment and turbidity will be carried out throughout the operation of pumped discharge to the local watercourse. Pumping can be ceased at any time if there is thought to be a risk of causing a pollution incident. Further testing of the water quality may be implemented if deemed necessary.'* This level of detail is entirely inadequate for discharging of sediments and possible contaminants into a SAC catchment:
- no methodology for the monitoring
- no indication of which chemicals will be tested for
- no indication of acceptable limits
- no justification for the selection of methodology and limits
- no mechanism linking the monitoring regime directly to operations management and to contractors on site
- '*Pumping **can** be ceased if there is thought to be a risk of causing a pollution incident*'? Surely this should provide detail on the mechanism for identifying and notifying such risks and state 'pumping will cease immediately and will not recommence until all risks have been eliminated'. The application is seriously flawed in not detailing how the 'self-monitoring' regime will work in practice.
- Section 2.5 on Environmental Risk Assessment for Dewatering contains a number of statements which give serious cause for concern. These concerns include both the reliability of the information provided and the composition of the water quality, sediments and contaminants in Q1 and Q6, and therefore the risks they pose.
- DCSS section 2.5.1 states that the water sampling plan for Q6 is provided in Appendix B. It is not present.
- Reference to 'surface waters' in 2.5.3 does not make clear what was found at depth. Without the sampling plan we cannot see that adequate testing was actually carried out.

- Section 2.5.5 reveals levels of copper in Q6 which average 6.5 times the Water Framework Directive standards and levels of iron at 20 times the environmental standard. The suggestion in 2.5.5, without any justification, that the highest figure for iron could be ignored demonstrates a less than rigorous approach to science.
- *'Total phosphate concentrations exhibited a relatively wide range with an average of 31 ug/l, above the target value of 10 µg/l set for oligotrophic waters under the Habitats Directive quality guidance (JNCC 2015).'* What was the highest reading? It would be useful to know how potent a source of phosphate it is proposed to dump into an SAC which suffers, and has historically suffered, the impacts of a heavy phosphorus load.
- Section 2.5.7 on Q1: '*However, total phosphate levels were on average 65.5 ug/l, which is above the 10 ug/l Good Ecological Status target for Llyn Padarn.'*

Given these statements it is extraordinary that this section of the DCSS report concludes, without justification or explanation of the obvious logical disconnect:
' 2.5.9 *Therefore it is proposed that the discharge of the existing water within Q1 and Q6 will not cause any adverse significant effects to the receiving water bodies.'*

APPENDIX A: Snowdonia Society response to SPH public consultation.

To: Snowdonia Pumped Hydro
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10th March 2015

Glyn Rhonwy Pumped Storage Consultation
Response from Cymdeithas Eryri the Snowdonia Society

I write on behalf of Cymdeithas Eryri the Snowdonia Society to give our response to the consultation on the Snowdonia Pumped Hydro (SPH) proposed pumped storage hydro scheme at Glyn Rhonwy. The Snowdonia Society is a member-based charity which since 1967 has worked to protect, enhance and celebrate Snowdonia and its National Park.

The following points deal with the connection of the proposed new development to the electricity distribution network and are of specific concern to us. The landscape of northern Snowdonia, views of the Glyderau and the Snowdon massif from the north, and the position of Llanberis and Llyn Padarn at the gateway to Snowdonia National Park – these are all features of immense value at local, regional, national, and international levels.

We would appreciate a clear response to the following points.

Para 4.13.8 of the Draft Environmental Statement Vol 1 Non-Technical Summary states:

"As the electrical connection will be underground, it is unlikely that there will be any significant adverse effects on the surrounding landscape."

However, on page 5 of the Consultation Overview Report it is stated that:

"The development will be connected to the electricity distribution network via a new electrical connection. This will be exported from an onsite substation to an offsite substation near Pentir. The consenting of the electrical connection is the responsibility of the District Network Operator, SP Manweb. SPH expects the connection to be provided underground."

…and in correspondence (Sarah Nixon, Project Developer, Snowdonia Pumped Hydro, by email dated 19th February 2015) that:

"With respect to the grid connection, unfortunately I am unable to confirm how the power station will be connected to the electricity grid system. The grid connection does not form part of our planning application. In Wales the grid connection is considered to be 'Associated Development' under the Planning Act 2008 and the responsibility of designing and consenting the connection lies with the District Network Operator (SP Manweb). Snowdonia Pumped Hydro expects this connection to be provided underground and this is the current offer being discussed with SP Manweb."

Clearly a great deal of work has gone into developing and designing the proposal for the Glyn Rhonwy site, and yet this fundamental matter remains entirely opaque. This is a cause of grave concern.

We would therefore appreciate responses to the following points:

i. Given the conflicting statements in your consultation documents and correspondence, can you state **whether SPH has made any assessment of the likely landscape impacts of grid connection options other than undergrounding?**

ii. If the answer to point ***i.*** is 'Yes', will those impact assessments be made available to the local community, and if so when?

iii. If the answer to point ***i.*** is 'No', can you explain why not?

iv. Does SPH consider it acceptable (as opposed to procedural) to wash its hands of the question of how the grid connection is to be made? We ask this in the light of the fact that this aspect of the development will have by far the greatest impact on the landscape and on the world-famous iconic views into the National Park and towards Snowdon itself?

v. Will SPH make available to the local community evidence which demonstrates that an underground connection is **the** only offer which has been discussed with SP Manweb?

vi. Will SPH provide to the local community a non-technical explanation of how the decision to progress a specific connection method will be made, including how cost considerations will influence the decision?

vii. Will SPH undertake to inform the local community immediately and fully if at any stage the discussion with SP Manweb includes any option other than undergrounding of the connection?

viii. If, after exhausting other options, an overground connection with new pylons becomes the most likely option, will SPH undertake to abandon its application for a Development Consent Order, in the interest of protecting some of the most important landscapes and views which Wales possesses and upon which much of the local economy depends?

Yours,

John Harold
Director, Cymdeithas Eryri the Snowdonia Society

APPENDIX B: RESPONSE TO WATER DISCHARGE CONSENT APPLICATIONS

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Wales Permitting Service
Natural Resources Wales
Ty Cambria
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5th April 2016

Application numbers: EPR/YB3690HU & EPR/YB3190HR
- Operation of spillway (at Q1 & Q6) & Relief valve (at Q1 & Q6)
- Dewatering of existing quarry lagoons (at Q1 & Q6)
Glyn Rhonwy Slate Quarries, Cefn Du, Llanberis, Gwynedd, LL55 4TY
NGR discharge points & receiving environments:
- SH 55110 59660 to Nant y Betws, Afon Gwyrfai Special Area of Conservation
- SH 57290 61190 to Llyn Padarn Special Area of Conservation
Effluent types: Rainfall, site run off and trade effluent

Note: in our submission we refer to the applicant's Discharge Consent Supporting Statement as 'DCSS'.

Dear Natural Resources Wales Permitting Team,

Cymdeithas Eryri the Snowdonia Society is the charity which works to protect, enhance, and celebrate Snowdonia. Established in 1967 as a member-based organisation, our practical and campaign work is dedicated to safeguarding the special qualities and features of Snowdonia.

Cymdeithas Eryri the Snowdonia Society objects to each of the above applications and requests that you reject them on the basis of risk of damage to SSSI/SAC features and condition in Llyn Padarn and in Afon Gwyrfai. These risks, relating to both dewatering and operation, are outlined below.

Some of our concerns result directly from the fundamentals of the application:

- seeking to discharge water/effluents known to contain excessive levels of phosphorus, copper, iron and silt into the SACs during initial dewatering, without convincing evidence that safeguards will provide entirely reliable and effective

protection to the SAC features, some of which are known to be in unfavourable condition and status

- potential contamination of water/effluents by the unknown contents of unexploded ordnance, with the resulting difficulty of selecting appropriate tests to identify and monitor such contaminants
- seeking permission to discharge water/effluents during operation without convincing evidence that we can predict the quantities, the temperature, the chemical qualities, contaminants or pH of that water and therefore its impacts on the SAC features .

We recognise that some safeguards are proposed, but question whether they can be sufficient given the hammering that the SAC features of Llyn Padarn - including the rare torgoch (arctic charr) - have suffered for many years as a result of industrial discharges and inadequate regulation thereof.

We recognise that a considerable quantity of work of a professional standard has gone into the development of this project. There are, however, serious problems with how some of that work is presented and with the validity of some conclusions drawn from it in the DCSS.

These problems, concerning quality and reliability of application and supporting materials, form the basis for the remainder of our concerns.

1. **Concerns resulting from information supplied in the applications.**

The applicant supplies evidence that the water/effluent which would be discharged into Llyn Padarn and Afon Gwyrfai during the initial dewatering potentially poses serious threats to the conservation features of those SACs.

Example

The DCSS reports high levels of phosphorus from test samples in Q1 and Q6, with, for example, total phosphate levels on average 65.5ug/l , compared with the 10ug/l 'good ecological status' target for Llyn Padarn. Phosphorus and its oxidation is clearly identified by Environment Agency Wales' report 'Llyn Padarn Investigations 2010' as a key direct cause of elevated biological oxygen demand and therefore of the long history of damage to Llyn Padarn and deterioration in the conservation status of Llyn Padarn's designated features.

2. **Missing Information**

There are gaps in the information supplied which will have a material effect on your ability to make a sound and safe determination of the applications.

Example

There is no information on the materials and methods for lining of the head and tail ponds. Water chemistry will be of critical importance during discharge, **whether those discharge events are tests, planned, emergency, accidental or malicious**. The choice of lining materials will determine the extent and nature of chemical interaction with the water in the so-called 'closed system'. The quality and characteristics of the water in the system will be altered, in the form of pH changes and potential for concentration of the products of

chemical reactions between the water, any contaminants and the materials in the lining and other surface components in the system.

Example
We can find no evidence of proper consideration of the potential impacts of temperature spikes on the receiving water bodies and designated features, caused by inflow of warmer water during operational discharge. The DCSS should refer to such impacts and should address the range of possible scenarios, including what would happen during periods of extended intense rainfall such as that recently experienced. EAW's 'Llyn Padarn Investigations 2010' report highlights the likely role of releases of warmer water from an existing pumped storage operation in reducing habitat availability and spawning success of Arctic Charr.

3. Inadequate and misrepresented information

Some of the information supplied is inadequate. However, for those who value the delicate and threatened natural resources of Llyn Padarn and Afon Gwyrfai, of greatest concern is the misrepresentation of data in the DCSS through the presentation of conclusions which cannot be justified on the evidence provided and the dismissal of data which are inconvenient. There are several examples of such practices in the DCSS. In such circumstances you will require a high level of confidence that you can guarantee the safety of our SSSIs and SACs and the wildlife which depends on your protection.

Example
Planned discharges of water from the so-called 'closed system' will generally be in response to rainfall as direct input or run-off input to the head- and tail-ponds. The DCSS 3.3.5 states 'average annual rainfall is around 1850mm'. However in order to assess the impacts of planned discharges you will need to assess likely worst-case scenarios. What was the actual rainfall at the site in 2015? For information, the total annual rainfall measurements at nearby ECN weather stations in 2015 were 4541mm (Snowdon) and 6185mm (Crib Goch).

Example
Dewatering of Q1 to Nant y Betws
'2.3.6 Ongoing monitoring of the water quality in relation to sediment and turbidity will be carried out throughout the operation of pumped discharge to the local watercourse. Pumping can be ceased at any time if there is thought to be a risk of causing a pollution incident. Further testing of the water quality may be implemented if deemed necessary.'
This level of detail is entirely inadequate for discharging of sediments and possible contaminants into a SAC catchment:

- no methodology for the monitoring
- no indication of which chemicals will be tested for
- no indication of acceptable limits
- no justification for the selection of methodology and limits
- no mechanism linking the monitoring regime directly to operations management and to contractors on site

'*Pumping **can** be ceased if there is thought to be a risk of causing a pollution incident*'?
Surely this should provide detail on the mechanism for identifying and notifying such risks and state 'pumping will cease immediately and will not recommence until all risks have been

eliminated'. The application is seriously flawed in not detailing how the 'self-monitoring' regime will work in practice.

Example
Section 2.5 on Environmental Risk Assessment for Dewatering contains a number of statements which give serious cause for concern. These concerns include both the reliability of the information provided and the composition of the water quality, sediments and contaminants in Q1 and Q6, and therefore the risks they pose.

- DCSS section 2.5.1 states that the water sampling plan for Q6 is provided in Appendix B. It is not present.
- Reference to 'surface waters' in 2.5.3 does not make clear what was found at depth. Without the sampling plan we cannot see that adequate testing was actually carried out.
- Section 2.5.5 reveals levels of copper in Q6 which average 6.5 times the Water Framework Directive standards and levels of iron at 20 times the environmental standard. The suggestion in 2.5.5, without any justification, that the highest figure for iron could be ignored demonstrates a less than rigorous approach to science.
- *'Total phosphate concentrations exhibited a relatively wide range with an average of 31 ug/l, above the target value of 10 µg/l set for oligotrophic waters under the Habitats Directive quality guidance (JNCC 2015).'* What was the highest reading? It would be useful to know how potent a source of phosphate it is proposed to dump into an SAC which suffers, and has historically suffered, the impacts of a heavy phosphorus load.
- Section 2.5.7 on Q1: '*However, total phosphate levels were on average 65.5 ug/l, which is above the 10 ug/l Good Ecological Status target for Llyn Padarn.'*

Given these statements (and numerous others which we could highlight) **it is extraordinary that this section of the report concludes, without justification** or explanation of the obvious logical disconnect:
' 2.5.9 *Therefore it is proposed that the discharge of the existing water within Q1 and Q6 will not cause any adverse significant effects to the receiving water bodies.'*

4. Environmental Management System

At the information session held at Electric Mountain on 22nd March, NRW officers confirmed that the approach taken by yourselves as regulator will be based on 'self-monitoring' by the developer.

Is there evidence that legal responsibilities for the protection of Llyn Padarn SAC can be effectively carried out under a 'self-monitoring' regime? The history of the site suggests otherwise, given the history of impacts from discharges by industrial operations which include operations of a similar nature to that which is the focus of these applications.

Much of the substance in assessing these effluent/water discharge permits will come down to degrees of confidence in how discharges in the construction operation phases are

planned, managed, operated, monitored and reported by the operator, and in how effectively those measures are regulated by yourselves.

During both dewatering and operational phases, **discharge events may result from tests, planned release, emergency release, accidental release, chronic or acute equipment failure, chronic or acute structural failure, or malicious action. This suggests that an effective environmental management system must be established, approved and tested well in advance of any operations commencing.**

DCSS points 3.4.8, 3.4.9, and 3.4.10 describe arrangements for the EMS, first stating that *'The type of environmental management system (EMS) that will be implemented is to be determined at a later date by the scheme operator*' then stating that '*Snowdonia Pumped Hydro do commit to having an environmental policy and management system in place, but this is subject to confirmation at a later date as to which specific EMS the scheme will implement*' and finally stating that '*the electricity generation company operating the developed scheme will establish an appropriate system'*.

However, in answer to Question 3d in the Part B2 of environmental permit application forms - '*Does your management system meet the conditions set out in our guidance?*', the applicant has replied '*Yes*' and has ticked the box which indicates that they have their own management system in place. The applicant then refers to DCSS paragraph 3.5., which is in fact not an EMS but an 'Environmental risk assessment for operational discharges'.

Did the applicant tick the box saying that they have an Environmental Management System by mistake? For Llyn Padarn and Afon Gwyrfai, one mistake may be one mistake too many.

Please refuse these applications – is there any other way of ensuring you meet your international obligations for the protected flora and fauna of Afon Gwyrfai and Llyn Padarn? Llyn Padarn in particular has suffered enough already from industrial misuse and inadequate regulation.

Yours

[redacted]

John Harold

Cyfarwyddwr, Cymdeithas Eryri