

Glyn Rhonwy Pumped Storage Development Consent Order

Deadline 2 – Schedule of Other Required Consents & Strategies



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Authors	AECOM	
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Abbreviations & Glossary

Applicant	Snowdonia Pumped Hydro
CDM	Construction (Design and Management) Regulations 2015
CEMP	Construction Environmental Management Plan
CoCP	Code of Construction Practice
DCO	Development Consent Order
DMP	Dust Management Plan
EA	Environment Agency
ECoW	Environmental Clerk of Works
ES	Environmental Statement
FWQ	First Written Questions
GAPS	Gwynedd Archaeological Planning Service
GLA	Greater London Authority
HASP	Health and Safety Plan
HMP	Habitat Management Plan
IAQM	Institute of Air Quality Management
INNS	Invasive Non-Native Species
m ³	metres cubed
MAP2	Management of Archaeological Projects
MMP	Materials Management Plan
MWe	Mega Watts Electrical – measure of energy, one million watts
NRW	Natural Resources Wales (formally EAW and CCW)
Order Limits	The site boundary denoted by a red line
PC	Principal Contractor
PM ₁₀	Extremely small particulates or particulate matter (in the order of ~10 micrometres or less)
Q1	Headpond
Q6	Tailpond
SAC	Special Area of Conservation
SSSI	Site of Special Scientific Interest
TPO	Tree Preservation Order
UXO	Unexploded Ordnance
WCA	Wildlife & Countryside Act 1981
WMP	Waste Management Plan

Revision	Date	Amends	Revised By:	Approved By:
1 – First Written Questions	April 2016	FWQ Appendix 2.24 and 2.25	DM	CA

1 INTRODUCTION

1.1 INTRODUCTION

- 1.1.1 Snowdonia Pumped Hydro (“the Applicant”) is submitting an application for a Development Consent Order (“DCO”) for a pumped storage facility known as Glyn Rhonwy Pumped Storage. The generating capacity of the Development exceeds 50 megawatts (MWe) and it is therefore designated as a Nationally Significant Infrastructure Project (“NSIP”) under the Planning Act 2008.
- 1.1.2 This document has been prepared for the DCO application to comply with the requirements of Regulation 5(2)(q) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 and in accordance with the Department for Communities and Local Government guidance ‘Planning Act 2008: Application Form Guidance’ and the Planning Inspectorate Advice Note 6 on Preparation and Submission of Application Documents.
- 1.1.3 This document sets out the minimum standards to be adopted when constructing the Development; it forms part of a suite of application documents and should be read alongside them.
- 1.1.4 The objective of this Schedule of Other Required Plans and Strategies is to provide initial information on how potential construction stage environmental impacts are to be minimised. The document provides minimum requirements rather than construction detail, as the Principal Contractor (PC) has not yet been instructed. Once a PC is in place the plans and strategies set out herein will be finalised and submitted to Gwynedd Council (in consultation with Natural Resources Wales (NRW)) for their approval. The need for this approval is secured under Requirement 7 of Part 2 in Schedule 1 of the DCO.

- 1.1.5 Some of these plans and strategies will remain live documents throughout the construction phase and will be regularly reviewed to take into account additional environmental information encountered during the construction phases; however at all times the minimum standards identified in the Schedule or the relevant plan or strategy will be complied with.
- 1.1.6 All personnel and sub-contractors working on the Development will perform their duties in accordance with the requirements of the Schedule and its associated plans and strategies. The Environmental Manager / Environmental Clerk of Works (ECoW) will report regularly to the Project Manager on the status and effectiveness of its implementation.
- 1.1.7 The Schedule includes the following topic-specific environmental management plans:

Table 16.2 Table of Topic-Specific Management Plans	
Management Plan	Status
Air Quality Baseline Monitoring Plan	To be finalised as per DCO Requirement 7 by the PC
Materials Management Plan	To be finalised as per DCO Requirement 7 by the PC
Ordnance Management Strategy	To be finalised as per DCO Requirement 7 by the PC
Archaeological Compensation and Enhancement Strategy	To be finalised as per DCO Requirement 7 by the PC
Land Discovery Strategy	To be finalised as per DCO Requirement 7 by the PC
Health and Safety Plan	To be finalised as per DCO Requirement 7 by the PC
Biosecurity Plan	To be finalised as per DCO Requirement 7 by the PC

- 1.1.8 These plans will be finalised by the PC and agreed with Gwynedd Council through the submission of the final plan or strategy for approval, as per Requirement 7.

- 1.1.9 As part of the planning permission for the approved scheme (Planning Reference: C12/1451/15/LL) a number of conditions were set by Gwynedd Council including the requirement for a Construction Environmental Management Plan (CEMP). This has developed into the Code of Construction Practice (CoCP) which accompanied the DCO application, and also this Schedule

2 TOPIC SPECIFIC MANAGEMENT PLANS AND STRATEGIES

2.1 AIR QUALITY BASELINE MONITORING PLAN

2.1.1 Gwynedd Council recommended that monitoring should be proposed in the ES, to determine baseline conditions prior to the construction phase of the Development commencing. Additional monitoring would then be undertaken during the construction phase to ensure that effects do not breach acceptable thresholds. It was agreed that whilst the techniques would be subject to local conditions, such as availability of electricity and landowner agreement, a combination of passive and automatic NO₂ and PM₁₀ monitoring should be used.

2.1.2 Therefore, the specific methods will require further liaison with Gwynedd Council as part of the approval of the air quality baseline monitoring plan, due to constraints relating to site security, safe access and reliable power supplies. For example, whilst it is provisionally recommended that one or two automatic dust monitors should be operated, in accordance with the best-practice IAQM and GLA guidance, this will require access to a secure electrical supply, which may not be feasible. Therefore, passive monitoring, such as 'frisbee' or 'sticky pad' deposition gauges may be used to measure dust, and passive diffusion tubes used to measure NO₂, as these techniques do not require an electrical supply, but will require good access and potential additional security measures.

2.1.3 The air quality baseline monitoring will detail:

- the agreed locations of the monitoring, including details of more substantial monitoring in higher risk receptors to ensure the mitigation controls are effective as outlined in Table 1;
- the type and make of monitoring equipment and methods to be used;
- the frequency and duration of monitoring;
- reporting procedures; and

- the complaints procedure.

2.1.4 These matters are listed in Requirement 14 which sets out what must be included in the plan.

Table 1- Site Monitoring Protocols		
Low Risk Sites	Medium Risk	High Risk
<p>Take into account the impact of air quality and dust on occupational exposure standards to minimise worker exposure and breaches of air quality objectives that may occur outside the site boundary, such as by visual assessment.</p> <p>Keep an accurate log of complaints from the public, and the measures taken to address any complaints, where they were required.</p>	<p>As Low Risk sites.</p> <p>Determine the prevailing wind direction across the site using data from a nearby weather station measuring air quality across the site according to the direction of the prevailing wind.</p> <p>Operate a minimum of two automatic particulate monitors to measure PM₁₀ levels.</p>	<p>As Medium Risk sites.</p> <p>Determine prevailing wind direction, as for medium risk sites, or by setting up a weather station on site to measure local wind direction and speed</p> <p>Carry out a visual inspection of site activities, dust controls and site conditions and record in a daily dust log.</p> <p>Identify a responsible trained person on-site for dust monitoring who can access real-time PM₁₀ data from automatic monitors.</p> <p>Agree a procedure to notify the local authority, so that immediate and appropriate measures can be put in place to rectify any problem. Alert mechanisms could include email, texts or alarm systems.</p>

2.1.5 The Air Quality Baseline Monitoring Plan must be approved by Gwynedd Council prior to the commencement of development under Requirement 17.

2.2 MATERIALS MANAGEMENT PLAN

2.2.1 The preparation of a detailed Material Management Plan (MMP) is to be finalised and approved prior to construction commencing as per Requirement 7.

2.2.2 Approximately 810,000m³ of excess material will be generated from the Development, some of which will be transported to the new excess spoil mounds at Q1 from Q6. A conveyor connection in the penstock will facilitate this movement of material between the quarries and is not anticipated to have any additional effects.

- 2.2.3 All excavated material will be graded with only suitable material utilised in the construction of the dam, with less suitable material used for landscaping purposes or incorporated into the existing spoil mounds.
- 2.2.4 The spoil mounds located to the south west of Q1 will be designed to minimise any visual impact and have been designed to encourage natural re-colonisation of vegetation, where practical. Slate waste will also be re-used on site wherever reasonably practicable to create access tracks
- 2.2.5 Slate crushing will be required on site and therefore suitable mitigation measures will be implemented to prevent runoff, such as settlement lagoons.
- 2.2.6 The re-use of slate waste has already been successfully undertaken during the extension of the upper storage reservoir, Marchlyn Mawr, at Dinorwig hydroelectric power station. During these works the embankment level was raised by 1.3m using locally derived slate waste. This construction method will help to ensure that waste will not need to be disposed of at an alternative location and demonstrates adherence to the waste hierarchy.
- 2.2.7 Subject to geotechnical testing, all excavated materials will be re-used on site wherever reasonably practicable and any contaminated material requiring remediation will be treated onsite where it is reasonably practicable to do so. However, if it is not possible to reuse or remediate material onsite, a licensed off-site waste disposal facility will be used and waste will be disposed of in accordance with the Waste Management Plan (WMP).
- 2.2.8 The waste wood and foliage material resulting from the removal of trees will be managed in-line with the Waste Hierarchy as detailed within the Waste Framework Directive, thus helping to minimise potential environmental issues pertaining to this process.
- 2.2.9 Wherever feasible, the generation of tree and foliage waste will be prevented and these features will be retained in-situ, especially as the Development site is subject to a Tree Preservation Order (TPO) which includes groups and woodland areas as well as individual trees.

- 2.2.10 However, the retention of trees and foliage will not always be possible; therefore the reuse of material on site will be explored wherever practicable, with wood material either reused in construction, or within landscaping aspects such as the use of wood chippings, or as mulch to enhance soil quality to aid the re-planting of trees.
- 2.2.11 Should this not prove to be a viable option for all generated material, then excess wood waste will be stored under cover, such as tarpaulin, to protect wood from the weather so that it may be re-used wherever possible off-site e.g. as carpentry material or offered to the local community for fire wood and biomass.
- 2.2.12 Attention will also be paid to the proximity principle, with local uses for waste materials considered where this represents the best practicable environmental option. For all material that cannot be re-used on or off site, or recycled, then elements of the wood and foliage material can be converted into wood-chip. Through following this process, it will be possible to limit the volume of tree and foliage waste sent for disposal as far as practicably possible. Discussions have been undertaken with Minerals and Waste department of Gwynedd Council regarding this matter and the above agreed.

2.3 ORDNANCE MANAGEMENT STRATEGY

- 2.3.1 An Unexploded Ordnance (UXO) report has already been commissioned for the Development (in Volume 3, Appendix 8.5). Ordnance-related wastes, mainly expected to be the remnants of burnt munitions, are likely to be present but concentrated within the areas identified in the UXO report around Q6.
- 2.3.2 A Ordnance Management Strategy, based on the recommendations of this report, will be prepared by the PC and is designed to safely manage any munitions and ordnance discovered. This Strategy will be finalised and approved as per Requirement 7 prior to the commencement of construction.
- 2.3.3 Should any munitions be discovered, the Strategy will be implemented. The UXO will be collected by specially trained personnel operating under strict procedures and will be destroyed under controlled conditions within the site.

All ordnance related wastes will be collected and removed off site for disposal by a licensed carrier to a suitable disposal facility.

2.4 ARCHAEOLOGICAL COMPENSATION AND ENHANCEMENT STRATEGY

- 2.4.1 Where reasonably practicable surviving remains associated with the former industrial use of the area will be avoided and left in situ. Where this is not possible a full programme of archaeological and building recording will be in place to provide a record of the structures/remains. This will be undertaken alongside a landscape survey so that the surviving remains are recorded in context with surrounding associated features. Archaeological evaluation and excavation will also be required in addition to the recording of any features affected.
- 2.4.2 Other areas, including the associated infrastructure and access tracks, will be subject to an archaeologically monitored topsoil strip to ensure that any previously unrecorded features are excavated and recorded.
- 2.4.3 No development (including any ground disturbance works or site clearance) shall take place other than in accordance with a Written Scheme of Investigation which has been submitted by the applicant and agreed in advance by the archaeological advisor to Gwynedd Council. The specification must meet all relevant archaeological standards. The format of the archaeological programme will follow that detailed in Management of Archaeological Projects (MAP2).
- 2.4.4 Prior to any work commencing (including any ground disturbance works or site clearance) the applicant/developer shall submit to and receive written approval from Gwynedd Council for any archaeological compensation and enhancement measures. This strategy must include all of the details set out in Requirement 15. The approved strategy will be fully implemented by the Applicant and all development shall subsequently be carried out in strict accordance with the approved strategy as per Requirement 7 unless otherwise agreed to in writing by Gwynedd Council.

2.5 LAND DISCOVERY STRATEGY

2.5.1 The Land Discovery Strategy will manage any previously unidentified areas of contaminated ground discovered during the construction phase of the Development. This would be produced between the developer and the appointed PC, must include all of the matter set out in Requirement 13 and would require the approval of Gwynedd Council under Requirement 7.

2.6 HEALTH AND SAFETY PLAN

2.6.1 Site specific risk assessments and method statements will be undertaken in accordance with the applicable legislation prior to the commencement of activities within the Order Limits; to identify any potential risks, assess their likelihood and significance, and to identify mitigation measures to be implemented to ensure the safety of workers and the general public.

2.6.2 Site security during the construction phase will be strict. Access to the site will be prevented by the use of temporary fencing to prevent unauthorised access. A compound for the temporary storage of equipment or materials will be provided. This will be locked with restricted access. Security staff will be utilised as appropriate.

2.6.3 The Applicant will ensure that adequate arrangements are in place for the discharge of all duties under the new Construction (Design and Management) Regulations 2015 (CDM).

2.6.4 A Health and Safety Plan (HASP) will be prepared by the contractor, which will set out how all health and safety matters on site and within the Order Limits are to be managed and how risks are to be identified and managed in accordance with current good practice and legal requirements. The HASP will focus on the health and safety of construction workers; however, the PC will also be responsible for ensuring the health and safety of any visitors to the site and of the general public. The HASP will contain, but not be limited to the following:

- Working from height;
- Working near water;
- Working in confined spaces;

- Blasting;
- Emergency response;
- Fires;
- Spills or leakages;
- Falling equipment;
- Public safety;
- Noise and Vibration;
- Security fencing and lighting;
- Vehicle and plant movement; and
- Construction traffic.

2.6.5 All staff working on site and within the Order Limits will undergo a site induction. Staff will be briefed on a daily basis prior to work commencing. Project managers and CDM controllers will carry out audits throughout the project.

2.6.6 A Health and Safety Plan (HASP) will be finalised by the PC once appointed in compliance with Regulation 7 of the DCO.

2.7 BIOSECURITY PLAN

2.7.1 The Biosecurity Plan will be developed for both the construction and operational phases of the Development. The Plan will provide detail on potential risks present in both of these phases of the Development and the mitigation measures to be implemented to avoid any significant effects from working in proximity or the transfer of Invasive Non-Native Species (INNS).

2.7.2 Invasive Non-Native Species (INNS) are defined as species that do not occur naturally in Great Britain, but have been introduced by human activity (intentionally or accidentally); they have subsequently become established in natural or semi-natural ecosystems or habitats, are agents of change and can adversely impact the environment, the economy, and health.

2.7.3 INNS of particular concern are those listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) (WCA). Under the legislation the following applies:

- *You must not release into the wild animals listed in Schedule 9 Part 1 of the WCA or animals of a kind not ordinarily resident in, or not a regular visitor to, the UK;*
- *You must not transfer between locations any animals listed in Schedule 9 Part 1 of the WCA or animals of a kind not ordinarily resident in, or not a regular visitor to, the UK. This is best practice unless the animal becomes captured/contained as part of transport, in which case it becomes an offence under the WCA (see previous bullet point);*
- *Plants listed on Schedule 9 Part 2 of the WCA, must not be planted or allowed to spread into the wild. If taken offsite, any such material is classified as controlled waste and there is a duty of care for its proper disposal; and*
- *Plants listed in Schedule 9 Part 2 of the WCA, even when located in managed land, must be kept under control and properly managed.*

2.7.4 Biosecurity is a set of precautions to prevent the introduction and spread of harmful organisms, including invasive species. The Great Britain Invasive Non-native Species Strategy (Defra, 2015) and EU Regulation 1143/2014 on Invasive Alien Species (entered into force on 1 January 2015) direct landowners and managers to adopt a proactive biosecurity driven approach to INNS management. NRW advocate this proactive approach. In order of priority, emphasis is placed on:

- Prevention (including reducing the probability of accidental spread and identifying spread pathways);
- Early detection and rapid response; and
- Control of established populations.

2.7.5 This Plan is currently being drafted in liaison with NRW and must be approved by Gwynedd Council prior to the commencement of development in accordance with Requirement 17.