Appendix 6.2: Sloy Pumped Hydro Storage Scheme: Scoping Opinion

Scottish Government
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The Scottish Government

Energy Consents Unit

Scoping Opinion on Behalf of Scottish Ministers Under The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017

Sloy Pumped Storage Scheme
Ash Design & Assessment LTD
On Behalf of SSE Generation Limited

December 2023

CONTENTS

1. Introduction

1.1. This scoping opinion is issued by the Scottish Government Energy Consents Unit on behalf of the Scottish Ministers to SSE Generation Limited a company incorporated under the Companies Acts with company number 02310571 ("the Company") and having its registered office at No.1 Forbury Place, 43 Forbury Road, Reading, United Kingdom, RG1 3JH in response to a request dated 23 June 2023 for a scoping opinion under the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 in relation to the proposed Sloy Pumped Storage Scheme ("the proposed development"). The request was accompanied by a scoping report.

1.2. The proposed development would be located at Sloy Power Station, Arrochar, Argyll and Bute, G83 7DP.

1.3. The proposed development would consist of an estimated total generating capacity of 120 megawatts ("MW") to convert the existing Sloy Hydroelectric Scheme into a Pumped Storage Scheme, by the introduction of new pumps, located in the grounds of the existing hydroelectric scheme, immediately north of the power station. The new pumps would enable water to be pumped through two or three of the existing four high pressure pipelines and tunnels from Loch Lomond to Loch Sloy.

1.4. In addition to the pumped storage hydro there will be ancillary infrastructure including:

- One surface building to house electrical switchgear, pump infrastructure and gantry crane;
- Vertical shaft, multi-stage pumps;
- A below ground pump hall located with the pump excavations, extending to a depth of approximately 20 m below existing ground level;
- Intake structure, including fish screens and a screen cleaning gantry, connecting the pumps to the extended existing tailrace;
- Removal and replacement of the existing spray reduction structure;
- New buried pipelines to take the water from the pumps to connect into two or three of the 2.4 m diameter high pressure above ground pipelines;
- Reconfiguration of power station internal road for vehicular access;
- Reinstatement of areas affected by construction of the scheme with new profile, earthworks, and planting; and
- Dismantling (to improve construction access) and reinstatement of the power station listed northern entrance gates and gate pillars.

1.5. The Company indicates the proposed development was opened in 1950 and there are no plans for decommissioning in the future.

1.6. The proposed development is solely within the planning authority of Loch Lomond and the Trossachs National Park.

1.7. The Scottish Ministers granted consent for a pumping station at the existing

Sloy Hydroelectric Power Station in September 2010.

Subsequent extensions to the consent were granted in 2013 and 2014, until 13 December 2018, however, due to a perceived lack of market, the scheme was never built.

2. Consultation

2.1. Following the scoping opinion request a list of consultees was agreed between ASH Design Assessment LTD (acting as the Company's agent) and the Energy Consents Unit. A consultation on the scoping report was undertaken by the Scottish Ministers and this commenced on 30 June 2023. The consultation closed on 21 July 2023. The Scottish Ministers also requested responses from their internal advisor Transport Scotland. Standing advice from Marine Directorate – Science Evidence Data and Digital (MD-SEDD) has been provided with requirements to complete a checklist prior to the submission of the application for consent under section 36 of the Electricity Act 1989. All consultation responses received are attached in ***ANNEX A Consultation response***.

2.2. The purpose of the consultation was to obtain scoping advice from each consultee on environmental matters within their remit. Responses from consultees and advisors, should be read in full for detailed requirements and for comprehensive guidance, advice and, where appropriate, templates for preparation of the Environmental Impact Assessment (EIA) report.

2.3. Unless stated to the contrary in this scoping opinion, Scottish Ministers expect the EIA report to include all matters raised in responses from the consultees and advisors.

2.4. The following organisations were consulted but did not provide a response:

- NatureScot (previously "SNH),
- Argyll & Bute Council
- Argyll District Salmon Fisheries Board
- Arrochar, Tarbet and Ardlui Community Council
- British Telecommunications plc
- Cruise Loch Lomond (ferry operator)
- Fisheries Management Scotland
- John Muir Trust
- Joint Radio Company Limited
- Loch Lomond Fisheries Trust
- Mountaineering Scotland
- Network Rail
- RSPB Scotland
- Scottish Wild Land Group
- Scottish Wildlife Trust

- Scotways
- Visit Scotland
- West of Scotland Archaeology Service
- Woodland Trust

With regard to those consultees who did not respond, it is assumed that they have no comment to make on the scoping report, however each would be consulted again in the event that an application for section 36 consent is submitted subsequent to this EIA scoping opinion.

2.5. The Scottish Ministers are satisfied that the requirements for consultation set out in Regulation 12(4) of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 have been met.

3. The Scoping Opinion

3.1. This scoping opinion has been adopted following consultation with NatureScot (previously "SNH"), Scottish Environment Protection Agency and Historic Environment Scotland, all as statutory consultation bodies, and with other bodies which Scottish Ministers consider likely to have an interest in the proposed development by reason of their specific environmental responsibilities or local and regional competencies. Argyll and Bute Council and Loch Lomond and Trossachs National Park, within whose area the proposed development would be situated, were consulted but a response has not been provided from Argyll & Bute Council to date.

3.2. Scottish Ministers adopt this scoping opinion having taken into account the information provided by the applicant in its request dated 23 June 2023 in respect of the specific characteristics of the proposed development and responses received to the consultation undertaken. In providing this scoping opinion, the Scottish Ministers have had regard to current knowledge and methods of assessment; have taken into account the specific characteristics of the proposed development, the specific characteristics of that type of development and the environmental features likely to be affected.

3.3. A copy of this scoping opinion has been sent to Argyll & Bute Council and Loch Lomond and Trossachs National Park for publication on their website. It has also been published on the Scottish Government energy consents website at www.energyconsents.scot

3.4. Scottish Ministers expect the EIA report which will accompany the application for the proposed development to consider in full all consultation responses attached in **Annex A.**

3.5. Scottish Ministers are satisfied with the scope of the EIA set out at Chapter 5 of the scoping report.

3.6. In addition to the consultation responses, Ministers wish to provide comments with regards to the scope of the EIA report.

The Company should note and address each matter.

3.7. Scottish Water provided information on whether there are any drinking water protected areas or Scottish Water assets on which the development could have any significant effect. Scottish Ministers request that the company contacts Scottish Water (via EIA@scottishwater.co.uk) and makes further enquires to confirm whether there any Scottish Water assets which may be affected by the development, and includes details in the EIA report of any relevant mitigation measures to be provided.

3.8. Scottish Ministers request that the Company investigates the presence of any private water supplies which may be impacted by the development. The EIA report should include details of any supplies identified by this investigation, and if any supplies are identified, the Company should provide an assessment of the potential impacts, risks, and any mitigation which would be provided.

3.9. MD-SEDD provide generic scoping guidelines for onshore wind farm and overhead line development https://www2.gov.scot/Topics/marine/Salmon-Trout- Coarse/Freshwater/Research/onshoreren) which outline how fish populations can be impacted during the construction, operation and decommissioning of a wind farm or overhead line development and informs developers as to what should be considered, in relation to freshwater and diadromous fish and fisheries, during the EIA process.

3.10. In addition to identifying the main watercourses and waterbodies within and downstream of the proposed development area, developers should identify and consider, at this early stage, any areas of Special Areas of Conservation where fish are a qualifying feature and proposed felling operations particularly in acid sensitive areas.

3.11. Scottish Ministers consider that where there is a demonstrable requirement for peat landslide hazard and risk assessment (PLHRA), the assessment should be undertaken as part of the EIA process to provide Ministers with a clear understanding of whether the risks are acceptable and capable of being controlled by mitigation measures.

3.12. The Peat Landslide Hazard and Risk Assessments: Best Practice Guide for Proposed Electricity Generation Developments (Second Edition), published at http://www.gov.scot/Publications/2017/04/8868, should be followed in the preparation of the EIA report, which should contain such an assessment and details of mitigation measures. Where a PLHRA is not required clear justification for not carrying out such a risk assessment is required.

3.13. The scoping report identified that a landscape and visual impact assessment will be undertaken for the proposed development to identify any potential landscape and visual effects.

3.14. The noise assessment should be carried out in line with relevant legislation and standards as detailed in Chapter 6 section 6.8 of the scoping report.

3.15. Ministers are aware that further engagement is required between parties regarding the refinement of the design of the proposed development regarding, among other things, surveys, management plans, peat, radio links, finalisation of viewpoints, cultural heritage, cumulative assessments, and request that they are kept informed of relevant discussions.

4. Mitigation Measures

4.1. The Scottish Ministers are required to make a reasoned conclusion on the significant effects of the proposed development on the environment as identified in the environmental impact assessment. The mitigation measures suggested for any significant environmental impacts identified should be presented as a conclusion to each chapter. Applicants are also asked to provide a consolidated schedule of all mitigation measures proposed in the environmental assessment, provided in tabular form, where that mitigation is relied upon in relation to reported conclusions of likelihood or significance of impacts.

5. Conclusion

5.1. This scoping opinion is based on information contained in the applicant's written request for a scoping opinion and information available at the date of this scoping opinion. The adoption of this scoping opinion by the Scottish Ministers does not preclude the Scottish Ministers from requiring of the applicant information in connection with an EIA report submitted in connection with any application for section 36 consent for the proposed development.

5.2. This scoping opinion will not prevent the Scottish Ministers from seeking additional information at application stage, for example to include cumulative impacts of additional developments which enter the planning process after the date of this opinion.

5.3. Without prejudice to that generality, it is recommended that advice regarding the requirement for an additional scoping opinion be sought from Scottish Ministers in the event that no application has been submitted within 12 months of the date of this opinion.

5.4. It is acknowledged that the environmental impact assessment process is iterative and should inform the final layout and design of proposed developments. Scottish Ministers note that further engagement between relevant parties in relation to the refinement of the design of this proposed development will be required and would request that they are kept informed of on-going discussions in relation to this.

5.5. Applicants are encouraged to engage with officials at the Scottish Government's Energy Consents Unit at the pre-application stage and before proposals reach design freeze.

5.6. When finalising the EIA report, applicants are asked to provide a summary in tabular form of where within the EIA report each of the specific matters raised in this scoping opinion has been addressed.

5.7. It should be noted that to facilitate uploading to the Energy Consents portal, the EIA report and its associated documentation should be divided into appropriately named separate files of sizes no more than 10 megabytes (MB).

Carolanne Brown

Energy Consents Unit
December 2023

ANNEX A

Consultation

List of consultees who were consulted

- Loch Lomond & the Trossachs National Park
- Historic Environment Scotland
- Scottish Environmental Protection Agency
- NatureScot (previously “SNH)
- Argyll & Bute Council
- Argyll District Salmon Fisheries Board
- Arrochar, Tarbet and Ardlui Community Council
- British Telecommunications plc
- Cruise Loch Lomond (ferry operator)
- Defence Infrastructure Organisation
- Fisheries Management Scotland
- John Muir Trust
- Joint Radio Company Limited
- Loch Lomond Fisheries Trust
- Mountaineering Scotland
- Network Rail
- RSPB Scotland
- Scottish Water
- Scottish Wild Land Group
- Scottish Wildlife Trust
- Scotways
- Visit Scotland
- West of Scotland Archaeology Service
- Woodland Trust

Internal advice from areas of the Scottish Government was provided by officials from Transport Scotland and bespoke advice from Marine Directorate – Science Evidence Data and Digital (MD-SEDD)

See Section 2.4 above for a list of organisations that were consulted but did not provide a response.

Defence Infrastructure Organisation

Wendy Talbot
Ministry of Defence
Safeguarding Department
St George's House
DIO Headquarters
DMS Whittington
Lichfield
Staffordshire
WS14 9PY

MoD Telephone: 07977410762
E-mail: DIO-safeguarding-statutory@mod.gov.uk

Your Reference: ECU00004840

Our Reference: DIO10059877

James McKenzie
Scottish Government
5 Atlantic Quay
150 Broomielaw
GLASGOW
GL2 8LU

19 September 2023

Dear James

MOD Safeguarding – SITE OUTSIDE SAFEGUARDING AREA (SOSA)

Proposal: It is proposed to convert the existing Sloy hydroelectric scheme into a pumped storage scheme, by the introduction of new pumps, located in the grounds of the existing hydroelectric scheme, immediately north of the power station. The new pumps would enable water to be pumped through two or three of the existing four high pressure pipelines and tunnels from Loch Lomond to Loch Sloy.

Location: Sloy Hydroelectric Station, Inveruglas, Loch Lomond

Grid Ref: Easting: 232128 Northing: 709893

Thank you for consulting the Ministry of Defence (MOD) on the above proposed development which was received by this office.

The Defence Infrastructure Organisation (DIO) Safeguarding Team represents the Ministry of Defence (MOD) as a consultee in UK planning and energy consenting systems to ensure that development does not compromise or degrade the operation of defence sites such as aerodromes, explosives storage sites, air weapon ranges, and technical sites or training resources such as the Military Low Flying System.

The consultation is on the scoping report for the conversion of Sloy Hydroelectric Station to a pumped storage scheme by the introduction of new pumps.

This application relates to a site outside of Ministry of Defence safeguarding areas. I can therefore confirm that the Ministry of Defence has no concerns with this proposal.

The MOD must emphasise that the advice provided within this letter is in response to the data and/or information detailed in the developer's documents titled "Scoping Report" dated June 2023. Any variation of the parameters (which include the location, dimensions, form, and finishing materials) detailed may significantly alter how the development relates to MOD safeguarding requirements and cause adverse impacts to safeguarded defence assets or capabilities. In the event that any amendment, whether considered material or not by the determining authority, is submitted for approval, the MOD should be consulted and provided with adequate time to carry out assessments and provide a formal response.

I trust this is clear however should you have any questions please do not hesitate to contact me.

Yours sincerely

REDACT
Assistant Safeguarding Manager
DIO safeguarding

HISTORIC ENVIRONMENT SCOTLAND | ÀRAINNEACHD EACHDRAIDHEIL ALBA

By email to: Econsents_Admin@gov.scot

Mr James McKenzie
Onshore Electricity Policy, Strategic Co-ordination & Consents Division
Directorate for Energy & Climate Change
Scottish Government

Longmore House
Salisbury Place
Edinburgh
EH9 1SH

Enquiry Line: 0131-668-8716
HMConsultations@hes.scot

Our case ID: 300066872
Your ref: ECU00004738

03 August 2023

Dear James McKenzie

The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017
Sloy Pumped Storage Scheme, Loch Lomond
Scoping Report

Thank you for your consultation on this scoping report which we received on 30 June 2023. We have reviewed the details in terms of our historic environment interests. This covers world heritage sites, scheduled monuments and their settings, category A-listed buildings and their settings, inventory gardens and designed landscapes, inventory battlefields and historic marine protected areas (HMPAs).

The relevant local authority archaeological and cultural heritage advisors will also be able to offer advice on the scope of the cultural heritage assessment. This may include heritage assets not covered by our interests, such as unscheduled archaeology, and category B- and C-listed buildings. In this case, you should contact the West of Scotland Archaeology Service (phone 0141 287 8334; email enquiries@wosas.glasgow.gov.uk).

Proposed Development
We understand that the proposed development would involve the installation or undertaking of the following works -

- One surface building to house electrical switchgear, pump infrastructure and gantry crane.
- Vertical shaft, multi-stage pumps.
- A below ground pump hall located with the pump excavations, extending to a depth of approximately 20 m below existing ground level.
- Intake structure, including fish screens and a screen cleaning gantry, connecting the pumps to the extended existing tailrace.
- Removal and replacement of the existing spray reduction structure.
- New buried pipelines to take the water from the pumps to connect into two or three of the 2.4 m diameter high pressure above ground pipelines.

- Reconfiguration of power station internal road for vehicular access.
- Reinstatement of areas affected by construction of the scheme with new profile, earthworks and planting.
- Dismantling (to improve construction access) and reinstatement of the power station listed northern entrance gates and gate pillars.
- Creation of a temporary construction compound and site establishment area and an area allocated for the temporary storage of excavated rock

The new build elements would mostly be focussed on a site immediately adjacent to the existing power station buildings on their north-eastern side.

Scope of assessment

Potential direct impacts

The proposed scheme would have a direct impact on the existing Sloy Power Station which is a category A listed building –

- LB43188 Sloy Awe Hydro Electric Scheme, Sloy Power Station including Boundary Walls, Gates and Gate Piers

Potential setting impacts

The proposed development has the potential to impact on the settings of one Category A listed building and one scheduled monument -

- LB43188 Sloy Awe Hydro Electric Scheme, Sloy Power Station including Boundary Walls, Gates and Gate Piers
- SM9264 Inveruglas Castle

Further information is provided in the annex attached to this letter.

Potential cumulative impacts

We recommend that the potential cumulative impacts of the proposed development in combination with other developments in the vicinity be assessed. This should assess the incremental impact or change when the proposed development is combined with other present and reasonably foreseeable developments.

Scoping Report

We welcome that cultural heritage effects are scoped into the assessment.

The Scoping Report has been prepared at an early stage in the design process and as such is lacking in detail. While we are content with this approach, it means our comments have to be more general and it is difficult to provide definitive advice on matters such as setting impacts, viewpoints and the direct impacts on the existing Sloy

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Power Station. We would be happy to provide further information and advice to the applicants as the design and assessment processes develop.

We have some concerns about the size of the study area proposed for cultural heritage interests especially when compared to those for the LVIA and natural heritage assessments. However, given the specific nature of the area we are content that all designated assets within our remit that are likely to experience an impact from the development have been identified. The same may not be true for undesignated assets or Category B and C listed buildings.

Further comment and information is provided in the attached annex.

Further information
Guidance about national policy relating to cultural heritage can be found on our website at https://www.historicenvironment.scot/advice-and-support/planning-and-guidance/historic-environment-policy-for-scotland-heps/ Technical advice is available on our Technical Conservation website at https://conservation.historic-scotland.gov.uk/.

We hope this is helpful and we would be happy to provide further information and advice to the applicants as they work through the EIA process. Please contact us if you have any questions about this response or require further information on any matter raised. The officer managing this case is Deirdre Cameron who can be contacted by phone on 0131 668 8896 or by email on Deirdre.cameron@hes.scot

Yours sincerely

REDACT

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Annex

Historic Environment Scotland's interest

From the information provided in the Scoping Report, we consider the proposed development has the potential to have significant impacts on two nationally designated heritage assets

LB43188 Sloy Awe Hydro Electric Scheme, Sloy Power Station including Boundary Walls, Gates and Gate Piers

The proposed development will result in direct physical impacts on the fabric of this Category A listed building complex. These impacts are likely to require listed building consent and should be controlled through that consent process. If they have not already done so, we recommend that the applicant should contact the Loch Lomond and Trossachs National Park Planning Team (01389 722024; planning@lochlomond-trossachs.org) for further information and advice on this matter.

The development also has the potential to have significant impacts on the setting of the Sloy Power Station complex. We note that the proposals are at an early stage of design and we expect setting impacts on nationally important assets to be mitigated as the designs are developed. The finalised proposals should demonstrate that the new buildings would not adversely impact the setting of the existing Category A listed Power Station building, both in terms of its immediate setting, and in longer views from Loch Lomond and the adjacent A82 trunk road.

We recommend that visualisations of how the new buildings would look should be submitted as part of the EIA. If these demonstrate potential for significant adverse impacts on the listed building then these impacts should be reduced or avoided by amendments to the proposed building's siting, massing and design.

SM9264 Inveruglas Castle

Inveruglas Castle comprises the remains of a Z-plan tower situated on Inveruglas Isle, off the west shore of Loch Lomond approximately 250m south south-east of the existing Sloy Power Station. The scheduling designation covers the whole of the island and includes the castle itself and the remains of a substantial jetty and other buildings which may be associated with the castle. Inveruglas Castle was the principal seat of the Clan Macfarlane. The castle is believed to have been abandoned during the period of the Commonwealth (1649-1660) when it was partially destroyed by Cromwellian Troops. As a result, the tower now only stands to first floor height.

Inveruglas Castle was designed and built to be a commanding presence in the local landscape, with clear ties to views from the loch-shore and on approach by boat from the north and south up Loch Lomond. Its setting is characterised by its relationship with the surrounding loch and hills and its prominent and commanding position within that setting. The current Sloy Hydroelectric Power Station forms part of the established setting of the monument however, and we consider that minor changes in keeping with the established industrial aesthetic of the Power Station would be unlikely to have an impact of national significance upon the monument.

We would encourage the applicant to take every reasonable step to minimise setting impacts upon Inveruglas Castle, but we note that the principle of a form of hydroelectric generation in this area is established.

We request that a photomontage visualisation be produced looking towards the proposed development from the north-west shore of the island upon which Inveruglas sits, which would aid in our assessment of possible setting impacts upon the monument.

Scoping Report

The Scoping Report does not provide a detailed description of the proposed development. The Report acknowledges this e.g. Section 2.1 states that “at this stage the detailed design of the Proposed Development has not been fully developed and a level of refinement of the scheme is expected prior to submission of a section 36 application”. While we are content with this approach, we wish to make it clear that the lack of detail at this stage means we cannot provide definitive advice or comment on issues such as potential setting impacts, all visualisations that may be necessary or the proposed direct physical impacts on elements of the listed power station complex. We would be happy to advise further as the design and assessment processes develop.

We also wish to highlight the following specific matters in the Report –

- Section 2.4 – we note and welcome the recognition that listed building consent will be required for works to the gate piers and boundary walls. It is possible that listed building consent may also be required for some elements of the works outlined in section 2.3 of the Report.
- Chapter 3 Planning Policy Context – given the requirement for listed building consent, we would have expected relevant policy to be noted in this section at 3.4 and/or the cultural heritage section at 6.9. The EIA process should also take consideration of the Historic Environment Policy for Scotland (2019)
- Section 6.9 – the study area used for cultural heritage interests is very small; a 1km study zone around the development. This is notably smaller than those used for the LVIA and natural heritage studies; 2.5km and 5km respectively. No reason is provided for the use of such a limited study area. Normally we would expect a

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Zone of Theoretical Visibility (ZTV) assessment with a much wider range to be used to establish potential impacts on cultural heritage assets. However, given the specific nature of the landscape and historic environment around the development site, we are content that extending the study area or using a ZTV would make no difference for HES's statutory interests in this case. This may not apply to cultural heritage assets outwith our remit.

- Visualisations – there is no specific mention of the use of visualisations in the cultural heritage chapter. Both wireframe and photomontage visualisations are a useful tool in assessing and illustrating setting impacts and we would expect their use in the EIA Report. As noted earlier, the lack of detail for the proposed development makes it difficult to offer much in the way of advice on this matter at this stage, but we would be happy to provide further advice as the design progresses.

Historic Environment Scotland
03 August 2023

SCOOL

4 August 2023

James McKenzie
Scottish Government
Onshore Electricity Policy
Strategic Co-ordination and Consents Division
5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

Dear James

ELECTRICITY ACT 1989
THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2017

Our Reference	PRE/2023/0065
SG Reference Number	ECU00004840
Proposal	Formation of pumped storage capacity to existing hydro plant – Hydro Non-Renewable (Generating Station of >100<200 MW Capacity.
Location:	Sloy Power Station, Arrochar, Argyll and Bute, G83 7DP

Please find enclosed the National Park Planning Authority's response to your consultation request. The purpose of this representation is to outline the key issues that are considered relevant to the proposal and to advise on the matters to be covered in the Environmental Impact Assessment.

It is not intended to be comprehensive, as the EIA process may well uncover as yet unidentified significant environmental issues and potential impacts.

If you have any questions regarding this response, then please contact Jennifer Paton on Jennifer.paton@lochlomond-trossachs.org.

SCOOL
Yours faithfully

REDACT

Stuart Mearns
Director of Place

Contents

1. DESCRIPTION OF THE DEVELOPMENT

1.1 The applicant is seeking consent under section 36 (s36) of the Electricity Act 1989 to convert the existing Sloy Hydroelectric Scheme into a Pumped Storage Scheme, by the introduction of new pumps, located in the grounds of the existing hydroelectric scheme, immediately north of the power station. The new pumps would enable water to be pumped through two or three of the existing four high pressure pipelines and tunnels from Loch Lomond to Loch Sloy.

1.2 The principle components of the development include;

- One surface building to house electrical switchgear, pump infrastructure and gantry crane.
- Vertical shaft, multi-stage pumps.
- A below ground pump hall located with the pump excavations, extending to a depth of approximately 20 m below existing ground level.
- Intake structure, including fish screens and a screen cleaning gantry, connecting the pumps to the extended existing tailrace.
- Removal and replacement of the existing spray reduction structure.
- New buried pipelines to take the water from the pumps to connect into two or three of the 2.4 m diameter high pressure above ground pipelines.
- Reconfiguration of power station internal road for vehicular access.
- Reinstatement of areas affected by construction of the scheme with new profile, earthworks and planting.
- Dismantling (to improve construction access) and reinstatement of the power station listed northern entrance gates and gate pillars

2. PLANNING POLICY BACKGROUND AND GUIDANCE

2.1. It is expected that the EIA report will summarise and give due consideration to the following policy documents:

2.2. Loch Lomond and the Trossachs National Park Local Development Plan, 2017 -2021 (in place to 2024) is relevant to the proposal with particular reference to the Overarching, Natural Environment and Historic Environment policies. Alongside this Plan is the Renewable Energy Supplementary Guidance which includes guidance on hydro energy, incorporating pumped storage.

2.3. The four statutory Aims of the National Park will be a material consideration in the determination of the energy consent. The EIA report should include a thorough assessment of the proposed development with respect to the Aims of the National Park: National Parks (Scotland) Act 2000 (legislation.gov.uk)

2.4. The National Park Partnership Plan (2018-2023) is a relevant material consideration https://www.lochlomond-trossachs.org/park-authority/what-we-do/national-park-partnership-plan-2018-2023 and the Draft Partnership Plan 2024 – 2029.

2.5. The Scoping Request makes reference to National Planning Framework 4 which confirms the requirements to achieve net zero emissions by 2045. It confirms in National Development 2 “pumped Storage Hydro” that this class of development will play “a significant role in balancing

and optimising electricity generation and maintaining the operability of the electricity system as part of our transition to net zero".

3. ENVIRONMENTAL STATEMENT STRUCTURE/SECTIONS

3.1 The EIA report must contain at least the information specified in schedule 4 of the 2017 regulations which is relevant to the specific characteristics of the development and to the environmental features likely to be affected.

3.2 The Scoping Report sets out the topics the EIA will cover – namely, Water Management and Hydrological Considerations, Ecology and Nature Conservation, Landscape and Visual Impact; Cultural Heritage, Traffic and Transport, Noise and Vibration, and Land Use and Recreation.

4. ENVIRONMENTAL TOPIC AREAS

4.1 **Water Management and Hydrological Considerations:** The National Park Planning Authority notes that SEPA and Scottish Water have been consulted as part of this scoping request and would defer to their position on technical matters.

4.2 **Ecology and Nature Conservation:** The National Park Ecologist has provided the following comments;

NPF4 Policy 3: Biodiversity: In order to allow a thorough assessment of the proposal against the requirements of NPF4 Policy 3: Biodiversity and Natural Environment Policy 6: Enhancing Biodiversity, the following additional information should be submitted as part of the EIA Report:

- An appraisal using best practice assessment methods to demonstrate how the proposal will conserve, restore and enhance biodiversity so that it is in a demonstrably better state than prior to the commencement of the project. More specifically, the appraisal shall demonstrate how criteria i to v detailed in NPF4 Policy 3 will be met and include a scheme for the significant enhancement of biodiversity.

The enhancement scheme shall contribute towards the objectives of the National Park Authority Future Nature Route Map, particularly improving the condition and extent of the three key habitat networks within the National Park - woodland, peatland and water. Assessment work undertaken on behalf of Transport Scotland for the upgrade of the A82 between Tarbet and Invernarnan identified native woodland restoration and expansion opportunities in the vicinity of the proposal. Our Trees and Woodland Strategy also identifies Preferred and Potential areas for native woodland creation adjacent to the site (see the green and orange areas highlighted on interactive online map). It is recommended that these opportunities are explored further to inform the enhancement scheme for this project. In addition, Buglife have identified a network of B-Lines in the UK to promote the restoration and creation of wildflower-rich stepping stones for pollinators and other biodiversity. The application site is situated within one of these B-Lines. As a result, we recommend that the potential to create wildflower-rich areas around existing and proposed infrastructure, where tree planting would not be possible, should be explored to link into this wider work and deliver additional benefits.

Opportunities to compliment the enhancement required for the adjacent transformer replacement project should also be explored by the applicant. We would be keen to work in partnership with the applicant and others to identify appropriate enhancement opportunities that can be delivered by the project.

SCOOL

Terrestrial Ecology:

Habitats

Woodland: As highlighted in the Scoping Report, the Native Woodland Survey of Scotland identifies an area of wet woodland to the north of the existing power station and within the proposed development area. Wet woodland is UK Biodiversity Action Plan (BAP) priority habitat and Scottish Biodiversity List habitat. There is potential for impacts on this area of wet woodland if the area to the north of the existing power station is identified as the location for a site establishment area, storage and reuse of excavated rock spoil as per the previously consented scheme. A further UK BAP priority habitat/SBL habitat, lowland mixed deciduous woodland, was identified during the September 2022 update Phase 1 Habitat Survey.

There is a strong presumption against the removal and fragmentation of UK BAP Priority Habitats in the Scottish Government's Policy on Control of Woodland Removal (CWRP). This policy states that removal will only be supported where this will achieve significant additional public benefits. This protection is mirrored in Natural Environment Policy 8: Development Impacts on Trees and Woodland and the recently published NPF4 Policy 6: Forestry woodland and trees. As a result, we recommend that the mitigation hierarchy is followed to, where possible, avoid impacts on existing native woodland, particularly the two UK BAP priority habitat/SBL habitats identified on the site. All semi-natural broadleaved woodland should be subject to a NVC survey and the results used to inform the layout of the proposal to avoid impacts UK BAP priority/SBL habitats and to help identify potential areas for habitat restoration/enhancement.

The need for any woodland removal should be justified in the EIA report along with the mitigation measures and options that the applicant has considered and assessed. This should include exploring alternative options for the storage and re-use of the excavated rock spoil from the construction works to avoid or minimise impacts on woodland. In particular, the potential to re-use of excavated rock spoil for other consented projects in the area should be fully explored along with the re-use of the construction compound for the adjacent transformer replacement project. Where woodland removal is justified, the compensatory planting area must exceed the area of woodland removed to compensate for the loss of environmental value.

Trees: There are number of scattered broadleaved trees within the power station site that are likely to be affected by the proposals. We recommend that a tree survey is undertaken in accordance with British Standards 5837: *Trees in relation to Design, Demolition and Construction* to identify the impacts on individual trees and identify mitigation measures to minimise impacts on trees. Where impacts on individual trees cannot be avoided, replacement tree planting should be identified in the EIA report to compensate for any losses.

Groundwater Dependent Terrestrial Ecosystems (GWDTE): A number of potential GWDTE were identified during the 2022 update Phase 1 habitat survey, this included wet woodland, marshy grassland, valley mire and flush/spring. We welcome the commitment to undertake further targeted NVC surveys of these habitats and recommend that the assessment in the EIA report considers the potential for indirect effects on these habitats as a result of hydrological changes. The results of the NVC survey should be used to inform the design process so that the development avoids, where possible, fragile and priority habitats. Where this is not possible, suitable restoration and/or compensation measures shall be identified in the EIA report.

Invasive Non-Native Species (INNS): The presence of Japanese knotweed, rhododendron, and white butterbur was recorded during the 2022 habitat survey. It is understood that the site is under active management to eradicate INNS. The Scoping report proposes that an INNS management plan will be produced to eradicate Japanese knotweed, rhododendron and other terrestrial INNS from surrounding habitats. We support the implementation of this measure to

ensure that INNS are not spread to new areas as a consequence of the development and no offences are committed under the Wildlife and Countryside Act 1981 (as amended by the Wildlife and Natural Environment (Scotland) Act 2012.). Consideration should also be given to the eradication of INNS from all land under the control of the applicant to contribute towards the delivery of biodiversity enhancement from the proposal.

Protected Species

Bats: A tree with moderate suitability for supporting bat roosts was identified in the woodland to the northeast of the power station. In addition, the wider site is likely to provide suitable foraging and commuting habitats for bats. No obvious potential roost features were identified on the existing power station building during the 2022 survey. The use of static detectors and walked transects is proposed in the Scoping report to assess the level of bat activity at the site. We also recommend that any trees or structures affected by the proposal are assessed for their suitability to support bat roosts and further survey work undertaken to confirm the presence or absence of roosts. All survey work should be carried out in accordance with the Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn) - Bat Conservation Trust (https://www.bats.org.uk/resources/guidance-for-professionals/bat-surveys-for-professional-ecologists-good-practice-guidelines-3rd-edition)

The results of these surveys should inform the design of the proposal to minimise impacts on bats and, where possible, deliver enhancement. Where impacts on bats are identified, mitigation/compensation measures should be devised to avoid or minimise any impacts. If the implementation of the identified mitigation measures is not sufficient to avoid offences under protected species legislation, a licence will be required from NatureScot before the works can proceed. In these circumstances, the identified mitigation measures could form the basis of a licence application to NatureScot.

Otter/ Loch Lomond Woods SAC: Two records of otter activity on the Inveruglas Water and one from the Arklet Water were returned from the desk study that informed the Scoping report. However, no evidence of otter activity was recorded during the 2022 survey despite the presence of suitable habitat within and adjacent to the site. The proposed development is situated approximately 860m away from the nearest section of the Loch Lomond Woods Special Area of Conservation (SAC). The qualifying interests of the Loch Lomond Woods SAC are western acidic oak woodland habitat and otters. As otters occupy very large home ranges (around 32km for males and 20km for females), it is likely that the otter population of the SAC may occasionally pass through the site. For this reason it will be necessary to undertake Habitats Regulations Appraisal (HRA) screening of the proposal to identify the potential for likely significant effects on the otter qualifying interest of Loch Lomond Woods SAC. To assist with HRA screening process, we recommend that a Species Protection Plan for otters is included in the EIA report. This plan should detail the mitigation measures that will be implemented to avoid or minimise any impacts on otters and confirm any licensing requirements for otters.

For the avoidance of doubt, we are content that there will be no impacts on the western acidic oak woodland qualifying interest of the SAC due to the separation distance between the development site and the SAC.

Red squirrel: There are records of red squirrel sightings at the site on the Saving Scotland's Red Squirrels sightings map and five potential red squirrel dreys were identified during the 2022 survey. The Scoping report concludes that the woodland at the site provides suitable foraging and commuting habitat for red squirrels as well as opportunities for squirrel dreys. Although the Scoping report highlights the presence of grey squirrels in the wider area, it should be noted that the application site lies with a predominantly red squirrel area and any dreys should assumed to be used by red squirrel unless survey work confirms otherwise.

Continued monitoring of the site for red squirrel activity or new drey features is proposed in the Scoping report. We recommend that this monitoring confirms whether any of the potential dreys identified during the 2022 survey are used by red squirrels. Given the potential for red squirrels to be affected by the proposal, we recommend that a Species Protection Plan for red squirrels is included in the EIA report. As for otters, this plan should detail the mitigation measures that will be implemented to avoid or minimise any impacts on red squirrels and confirm any licensing requirements.

Badger/pine marten: Although suitable habitat for these species was recorded at the site and they are present in the wider area, no evidence was recorded during the 2022 survey. Continued monitoring of the site for mammal burrows is proposed in the Scoping. Should this monitoring confirm the presence of badger, pine marten or other protected species, Species Protection Plans for these species should be included in the EIA report

Reptiles/amphibians: Although no records were returned from the desk study for the Scoping report, the site contains suitable habitats for reptiles and amphibians. As a result, we recommend that a Species Protection Plan for reptiles and amphibians is included in the EIA report.

4.3. **Aquatic Ecology**

Fish: As identified in the Scoping report, Loch Lomond is one of only two lochs in Scotland where powan are known to naturally occur. A refuge population was also introduced to Loch Sloy from Loch Lomond between 1988 and 1990. Powan are highly susceptible to declines in water quality, increased siltation and de-oxygenation. Populations may also decline – or even be lost – if alien species such as ruffe are introduced. Hydroelectricity drawdown regimes can also be problematic for powan.

The EIA for the previously consented scheme concluded that ruffe eggs were likely to be introduced to Loch Sloy via the pumps. This could potentially lead to the establishment of a population of ruffe in Loch Sloy and negatively impact on the refuge population of powan. To address this risk, the applicant offered other reservoirs as safeguard sites for powan and they were successfully introduced to Lochan Shira and Allt na Lairige. Powan from Loch Eck were also introduced to Loch Tarsan Reservoir and Loch Glashan Reservoir. The Scoping report indicates that further monitoring of these sites is proposed for 2023. We support this monitoring as it will be important to confirm the current status of these populations in order to conclude an assessment of the impacts on powan.

The previously consented scheme also included the screening of the intakes, a diversion wall and settlement lagoon to minimise impacts on fish. The Scoping report states that preventative and protective measures for powan would be included in the EIA and the monitoring of the powan and ruffe populations in Loch Sloy would continue. However, fish are to be scoped out of detailed assessment in the EIA due to the successful programme of powan translocation. Given the status of the Loch Lomond and Loch Sloy powan populations, we disagree with this approach and recommend that the current status of the translocated powan populations is confirmed and detailed consideration of the impacts of powan and other fish species is included in the EIA.

INNS: We welcome the intention for the EIA to include measures to reduce the risk of spread of INNS and rapidly address any adverse effects.

4.4 Ornithology: The National Park Authority welcomes the commitment to undertake update breeding bird surveys to inform the assessment in the EIA report.

4.5 Landscape Character and Visual Amenity:.

Methodology
We are generally content with the LVIA methodology. The LL&TNP comment and highlight these additional issues:

Scope of Study Area
6.6.3.1 proposes a 2.5km study area for the LVIA. The information provided in the scoping report does not allow LL&TNP to comment on the proposed extent of the study area. We would like to be consulted further once the building height/mass, associated ancillary infrastructure, extent of woodland removal has been established and a ZTV has been produced.

Visual Impact Assessment
A provisional ZTV has not been provided in the scoping report. Without this information the LL&TNP cannot ascertain the visibility of the proposed building and infrastructure. Therefore, we cannot provide meaningful advice on the likely visual impacts and key viewpoints to be included. The LL&TNP agree that a ZTV should be produced representing the height of the proposed new buildings. When producing the ZTV if a tree cover figure is provided the ZTV this should illustrate the loss of tree cover that is required for this development, rather than the current tree cover. This is to demonstrate the maximum visibility/worst case scenario. It is recognised that retained woodland vegetation will reduce visibility from the Loch edges, and the Loch itself but ground truthing is required with seasonal change to leaf cover. Higher views are likely to have views all year round.

The scoping report only proposes 2 viewpoints.

- Inveruglas Car Park
- The A82

As stated above without a figure, sections, drawings or a ZTV the LL&TNP cannot comment on the VPs proposed. The LL&TNP considers it will be likely that additional VPs will be required to provide a full representation of visual receptors and contribute to the design iteration process. The visual assessment is likely to require some high summit or path viewpoints to the east and west of the development. A water-based viewpoint that represents the Inveruglas/Inversnaid ferry, paddle boarders, canoeist, sailors etc, and long-distance path users should also be included in the visual assessment.

We would request we are consulted further on the View Point selection once the building height and mass has been established and a ZTV has been produced.

Viewpoints used for the Sloy substation transformer replacement may assist and would be useful in the cumulative visual assessment.

Photomontages should be provided from **all** viewpoints considered given the highly valued and sensitive location and receptors.

Landscape impact Assessment
6.6.1.3 and 6.6.3.2 of the scoping report identifies the National Scale Landscape Character Type (LCT) that the proposal will be located in and the surrounding LCTs that have the potential to be effected. The LL&TNP agree that the National scale Landscape Character Types are likely to be too broad a scale and that the use of the LLTNP 2010 Landscape Character Assessment could be considered with site visits and reference to the more recent, broader scale NS LCTs where appropriate. It will be important that both the pump storage and the replacement transformer developments use a consistent approach to the landscape character assessment to allow a coherent analysis to the overall change and impacts to the landscape character visual amenity of the area.

SCOOL

Special Landscape Qualities (SLQs)

Section 6.6.3.2 of the scoping report identifies the following SLQs to be assessed.

General Qualities

- *The Rich Variety of Woodlands*
- *Famous through routes*

Loch Lomond

- *Immensity of the Loch*
- *Banks of Broad Leaved woodland*

The National Park considers the following additional Special Landscape Qualities should be scoped in for assessment. See https://www.nature.scot/doc/naturescot-commissioned-report-376-special-landscape-qualities-loch-lomond-and-trossachs-national

• ***Two lochs in one - The Highland Loch***

The contrast in the southern and northern sections of the Loch is a Special Landscape Quality of Loch Lomond. Lack of settlement in the north, the Highland Loch section, contributes strongly to the sense of remoteness, and moving further into the highlands away from the busy southern lowlands.

'Settlement in this northern tract is sparse and low density, lying along the main road that hugs the western shore.'

The addition of this development to the remoter less developed north section of the Loch must be considered in the assessment.

• ***Distinctive mountain groups / Ben Lomond***

'Loch Lomond and its immediate surrounds are enclosed by hills and mountains on three sides which provide an impressive backdrop to views across the loch and grand panoramas from their summits'.

'It's summit offers a superb viewpoint with views extending across much of the Southern Highlands and the Central Lowlands.'

The addition of this development should be considered from the summit views and views across the loch.

- ***The easily accessible landscape splendour***

'The landscape splendour of the Park is easily accessible from major centres of population within the Central Belt, with some three million people within one hour's easy travel. Although the area is popularly known as 'Glasgow's playground', it is also a major draw for visitors not just from nearby Glasgow but from all over the world. It is a prime tourist destination, and an end it itself, with many not venturing further into the Highlands beyond.'

This is particularly pertinent due to the development's close proximity to the LL&TNP Inveruglas Visitor Centre, car parking, café, toilet facilities, the An Caenn Mor Scenic View Point and ferry crossing to Inversnaid.

We welcome the use of the '*Working Draft 11 – Guidance for Assessing the Effects of Special Landscape Qualities (November 2018)'.* This provides a detailed methodology on assessing the proposed development on the Special Landscape Qualities and will inform design to produce the best fit of development in this highly valued landscape. This Technical Guidance is currently being updated. To obtain the most recent document, contact NatureScot.

This should be used in conjunction with the following documents:
https://www.lochlomond-trossachs.org/park-authority/publications/evaluation-special-qualities-

SCOOL
loch-lomond-trossachs-national-park/

https://www.nature.scot/doc/naturescot-commissioned-report-376-special-landscape-qualities-loch-lomond-and-trossachs-national

Cumulative Assessment
The existing and proposed developments will result in an accumulation of man-made structures and elements in this sensitive landscape and could diminish the special landscape and visual qualities of this section of the National Park.

6.6.3.2 of the scoping report identifies the Sloy Power Station Transformer Replacement Scheme for consideration in the cumulative assessment.

Given the close proximity of other proposals and landscape change such as forest felling in the area and the impacts that they cumulatively will have on this area and providing consistency of advice the LL&TNP consider the; UGL connection, A82 upgrade, access tracks to facilitate undergrounding OHLs as part of the VISTA scheme and the Cruach Tairbet access road, forest felling and restocking it should also be considered in the cumulative assessment. Please see https://forestryandland.gov.scot/what-we-do/planning/active/cruach-tairbeirt-land-management-plan for information on the Cruach Tairbet work.

Landscape Designations

Wild Land Areas
6.6.3.2 of the scoping report assesses the potential effects on the Ben More – Ben Ledi Wild Land Area (WLA 7) as low. LL&TNP agree to scope out a WLA assessment. However, assessment of LVIA and SLQs should reference, and be informed by the WLA 7 description and the LL&TNP Relative Wildness Study. Viewpoint assessment is likely to include locations in WLA 7 and the LL&TNP Core Areas of Wildness such as the WHW and summit views.

Other components - Lighting
The scoping report does not detail lighting. This component of the development and temporary works must be considered in the assessment of LVIA and SLQs. This section of the Loch landscape has lower lighting levels and is an important component of the remoter experience and quality of the ***Highland Loch*** Special Landscape Quality. The site has potential to increase light pollution into the Inveruglas Glen, the east banks of Loch Lomond, and hilltops and high ground.

Enhancement and Mitigation

Building Design considerations
Working through the most up to date *'Guidance for Assessing the Effects of Special Landscape Qualities'* (check with NS for most up to date version) will steer and assist the design of the building, associated works and mitigation measures. Key to reducing visual, landscape and SLQ impacts will be the design of the building. This will include the location, orientation, scale, building materials, style and size of windows. Mirroring key architectural features such as the windows, scale of the lower south building, and colours will assist in establishing a successful fit between the new and existing A listed building. The previous application located the building to balance and provide symmetry to the building and its south lower building extents. Thought should be put into car parking and it would be best if it could be located behind the existing and new building.

Trees and Woodlands
The Loch Lomond and the Trossachs National Park Trees and Woodland Strategy https://www.lochlomond-trossachs.org/park-authority/publications/treesandwoodlands/ should be used to aid woodland enhancement, mitigation and removal. It considers the landscape character of the site and SLQs.

Excavated materials
The proposal should consider alternative location and repurposing solutions to the excavated material. The scoping report does not clearly state what the permanent storage plan is for the excavated material. If the excavated material will be surplus there may be opportunities to use it in nearby developments such as the FLS forest road at Cruach Tairbeit or the Sloy substation replacement. This could reduce or eliminate this aspect of the development further reducing the landscape and visual impacts.

Temporary Construction Compound and Vehicle holding area
All temporary construction compound and vehicle holding area works should consider and minimise the landscape and visual impacts associated with them. This will include the location, type of compounds such as larch facades etc. Reinstatement should seek enhancement opportunities leaving the landscape in an improved state than prior to the works.

4.6 Traffic and Transport: The National Park Authority notes that Transport Scotland has been consulted as part of this scoping request and would defer to their position.

4.7 Noise and Vibration: The National Park Authority recommends that Argyll and Bute Council Environmental Health Team should be consulted in respect of Noise Assessment for the site.

4.8 Cultural Heritage: The National Park Planning Authority notes that Historic Environment Scotland and the West of Scotland Archaeological Service have been consulted as part of this scoping request and would defer to their position. The presence of cultural heritage assets in the vicinity of the development is noted and consideration should be given to the relevant Historic Environment Policies in the National Park Local Development Plan.

4.9 Land Use and Recreation – The National Park Authority support further assessment as proposed in the scoping opinion following design evolution.

The Inveruglas Core Path is a popular route throughout the year and is often used by,

- Climbers accessing the Loch Sloy boulders
- Hill walkers accessing the Ben Vane (916m) and Ben Vorlich (943m) Munros, and also the Little Hills (808m) summit
- People walking and cycling the Three Lochs Way – a Great Scottish Trail attracting international visitors.
- General visitors to the Loch Sloy dam for its industrial heritage value

To date, formal visitor monitoring has not taken place on the Core Path but from anecdotal evidence / NPA observations the route is likely to support approximately 10 -15,000 visitors / year (weather dependant). The majority of recreational access on the Core Path occurs during weekends.

As the Access Authority, the NPA has not received any significant complaints from people exercising their access rights on the Core Path in recent years – despite regular operational use by SSE for substation and dam services, movement of large vehicles, plant and machinery etc. This is largely due to good conditions on the Core Path / access road, clear visitor signage at the main A82 access point, and an encouraging approach from SSE towards visitor management and their formal public access responsibilities. The NPA Recreation & Access Team sincerely hope this status quo continues during SSE's proposed upgrade work, we are available to offer advice and support during the work if required. It is recommended that the EIA covers any potential impacts on the use of the core path during construction, operation and decommissioning and

ensure that mitigation is in place to manage public access during the proposed works.

4.10 Schedule of Mitigation : A summary schedule is welcomed.

4.11 Scoped out issues: The National Park Authority agree with the recommended features to be scoped out namely:

Geology Soils and Water

- Air Quality
- Forestry
- Climate Change
- Human Health
- Major Accidents and Disasters
- Socio Economic

4.12 Cumulative Impacts.

The proposals must be considered together with other developments in the area including the adjacent transformer replacement project and associated tracks and underground cabling, A82 upgrade between Tarbet and Invernarnan and the Cruach Tairbet access road, forest felling and restocking - https://forestryandland.gov.scot/what-we-do/planning/active/cruach-tairbeirt-land-management-plan.

5. CONCLUSION

5.1 Subject to the above comments, I can confirm that the National Park Planning Authority broadly agrees with the topic areas for the EIA report as set out by the applicant. Further discussion with the applicant would be welcomed in relation to landscape viewpoints and achieving significant biodiversity enhancement for the project in line with the requirements of NPF4 Policy 3: Biodiversity.

A number of potential cumulative effects have been identified (forestry management, associated infrastructure, works under different consenting regimes) and it is expected that the EIA report will address these. An estimated construction timeline for the full duration of the works, including restoration and removal of the construction site should also form part of the EIA report.

Scottish Government
Riaghaltas na h-Alba
gov.scot

E: MSS_Advice@gov.scot

James McKenzie
Energy Consents Unit
Scottish Government
5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

Our ref: FL/45-H

04 September 2023

SLOY PUMPED STORAGE HYDROELECTRIC SCHEME, LOCH LOMOND AND THE TROSSACHS NATIONAL PARK

Thank you for seeking comment from Marine Directorate – Science, Evidence, Data and Digital (MD-SEDD) in relation to freshwater and diadromous fish and fisheries on the scoping report for the proposed Loch Sloy pumped storage hydro-electric scheme (PSH). MD-SEDD reviewed the scoping report and the comments submitted by SEPA and Loch Lomond and The Trossachs National Park Authority (LLTNPA). No response to date was received from NatureScot.

Loch Lomond supports a large number of fish species including Atlantic salmon, brown trout, European eel, powan, pike, perch, common roach, chub, flounder, dace and ruffe. Sea lamprey, river lamprey and brook lamprey inhabit Loch Lomond in addition to a rare land-locked dwarf form of river lamprey. Loch Sloy supports brown trout, eel and powan populations. The latter were introduced to the loch as a conservation measure associated with the vulnerable (in Scotland powan populations only occur naturally in Loch Lomond and Loch Eck) powan population in Loch Lomond which is currently under threat from predators e.g. pike and ruffe populations (Maitland and Lyle 2013).

Atlantic salmon, and all three species of lamprey are listed in the EU Habitats Directive. Salmon, trout, Arctic charr, European eel, river lamprey, brook lamprey, sea lamprey and powan are listed as priority species for conservation in the Scottish Biodiversity List. European eel is listed as critically endangered on the International Union for Conservation of Nature (IUCN). The European Commission developed an eel recovery plan which provides protection under Council Regulation No. 1100/2007.

The Endrick Water, which flows into the south east of Loch Lomond, is a special area of conservation (SAC) with brook and river lamprey, and salmon, qualifying features for this designation status. MD-SEDD advise ECU that the developer should consider the salmon smolt migration from the Endrick Water via Loch Lomond to their marine feeding grounds (e.g. the pathways and timings of the smolt runs).

The potential risk to the powan population in Loch Sloy associated with the transfer of ruffe from Loch Lomond to Loch Sloy was considered by the developer in the previously consented application. Powan populations were translocated from Loch Sloy to two waterbodies with powan populations from Loch Eck translocated to an additional two waterbodies. The scoping report states that fish surveys are proposed in 2023 in all four waterbodies containing a translocated population. Full details of these surveys, including the results, should be presented in the Environmental Impact Assessment (EIA) report and provide a review of the success or failure of these translocations.

MD-SEDD advise that NS and SEPA should be consulted regarding the potential to transfer ruffe into Loch Sloy and the interaction with the translocated powan populations.

The scoping report also states that further assessments of fish populations will be scoped out of the EIA. MD-SEDD agree with LLTNPA and advise that the potential impact associated with the construction and operation of the proposed development on all fish of high conservation value and which support important fisheries should be considered (please see our attached guidance document). MD-SEDD advise that up to date information should be sought on the fish populations in Loch Lomond, in the vicinity of Inveruglas, and Loch Sloy which may be at risk of an impact. MD-SEDD advise that further data should be sought to inform the likely migration pathways of salmon smolts from the River Falloch and the River Endrick and the risk of impingement and/or entrainment at the

water intake in Loch Lomond is assessed. The developer should contact the Loch Lomond Fisheries Trust and Loch Lomond Angling Improvement Association for information on local fish stocks. If sufficient relevant and up to date information and data cannot be otherwise obtained the developer should consider whether there is a need to carry out survey work to obtain it. The resilience of fish populations to the potential impacts of the proposed development should be considered. The potential cumulative impacts on fish populations as a result of the proposed project and other developments (existing and consented) e.g. the proposed replacement of transformers at Loch Sloy power station, Scottish Water abstractions in Loch Sloy and the abstraction at Ross Priory pumping station in Loch Lomond should also be considered.

Appropriate protective/mitigation measures, including the proposed replacement of the spray reduction structure, diversion wall and settlement lagoon should be presented in the EIA report. MD-SEDD reiterate our advice, submitted on 4 November 2009, relating to the previous Loch Sloy PSH application that all fish of conservation interest should be considered in the design of the screens and the approach velocity of water at the water intake in Loch Lomond and Loch Sloy. We note that the intake structure and associated extension of the tailrace, fish screens (12 mm spacing - specifically designed to avoid impacting salmon smolts) and the automated cleaning system are currently under discussion with SEPA (in their role as Controlled Activities Regulator). According to the scoping report the present maximum and minimum water levels of Loch Sloy and Loch Lomond will not change as a result of the proposed development, although variation in the level of Loch Lomond and Loch Sloy would be expected to be more frequent than they are at present during operation of the Loch Sloy pumped hydro-electric scheme. We agree with SEPA and support the proposed hydrological modelling as a means of assessing the potential hydrological impacts throughout the development.

MD-SEDD reiterate our previous advice regarding the need for post-commissioning monitoring, including the powan populations in Loch Sloy and the functioning of the screens, the approach velocities of water in front of the screen and the screen cleaning regime as a means of ensuring that the system is operating as an appropriate protective/mitigation measure for fish populations.

References

Maitland, P.S. and Lyle, A. A. (2013) Powan *Coregonus lavaretus* introduced to Carron Valley Reservoir: A conservation exercise. Forth Naturalist and Historian (36) 5-12.

Yours sincerely,

REDACT

Marine Directorate – Science, Evidence, Data and Digital Portfolio

Marine Laboratory, 375 Victoria Road,

Aberdeen AB11 9DB

www.gov.scot/marinescotland

Marine Scotland Science scoping advice on information required to assess the risk to freshwater and diadromous fish and fisheries associated with onshore hydro-electric scheme applications under Section 36 of the Electricity Act (1989) – March 2023

This guidance is for applications for run of river and reservoir (including pumped storage) hydro-electric schemes in relation to the potential impacts on freshwater and diadromous fish and associated fisheries.

Legislation and the Environmental Impact Assessment

In Scotland, hydro-electric schemes with a proposed generating capacity exceeding 50 MW are determined by the Scottish Ministers under Section 36 of the Electricity Act (1989). Under the Electricity Works (Environmental Impact Assessment) (Scotland) (EIA) Regulations (2017), Scottish Ministers are required to consider whether the proposed hydropower scheme and any associated facilities are likely to have a significant effect on the environment. Schedule 2 of the EIA regulations states that the carrying out of development to provide a generating station requires an EIA and should be accompanied by an EIA report. The Scottish Government Energy Consents Unit (ECU) process applications on behalf of the Scottish Ministers and provide guidance on the procedure for applications for onshore generating stations under Section 36 of the Electricity Act 1989 where the development concerned requires an EIA (Electricity Act 1989 - sections 36 and 37: applications guidance - gov.scot (www.gov.scot)). The potential impacts on freshwater and diadromous fish and fisheries as a result of the construction and operation of the proposed hydro-electric scheme should be considered throughout the course of the EIA and be presented in appropriate chapters in the EIA report.

The European Water Framework Directive (WFD) was transposed into Scottish law as the Water Environment and Water Services (Scotland) Act 2003 (WEWS Act). This legislation gave rise to The Water Environment (Controlled Activities) (Scotland) Regulations 2011, more commonly known as Controlled Activity Regulations (CAR). Any activity which may affect the water environment, including – discharges, disposal to land, abstractions, impoundments and engineering works is regulated by the Scottish Environment Protection Agency (SEPA) under CAR

(https://www.sepa.org.uk/media/34761/car_a_practical_guide.pdf). All hydropower developments require CAR authorisation. Further information can be found at

https://www.sepa.org.uk/regulations/water/hydropower/ and http://www.sepa.org.uk/regulations/water/engineering/engineering-guidance/.

The WFD sets out an approach to protect the water environment and through this legislation SEPA produce an annual WFD classification for all waterbodies in Scotland. Each waterbody is classified into five quality classes supported by measurements of chemistry, hydrology, morphology, access for fish migration and assessment of invasive non-native species (INNS). The construction and operation of a hydroelectric scheme should not bring about a deterioration in any of the above five measurements.

The following is information relating to freshwater and diadromous fish and fisheries matters that should be presented in the EIA report. Developers should complete the EIA checklist (Annex 1) prior to submitting an application. Full justification should be provided where information is not included in the EIA report. The absence of information may necessitate requesting additional information which could delay the application process.

Location

The river catchment and all waterbodies within, downstream and upstream of the proposed development area which are at risk of being impacted by the construction, operation and decommissioning of the proposed development should be identified. The WFD classification of these waterbodies should be identified (https://www.sepa.org.uk/environment/water/river-basin-management-planning/) and considered throughout the construction and operation of the development. All designated sites should be highlighted along with the freshwater and diadromous fish that are of qualifying interest. Under the European Habitats Directive a competent authority (SEPA is the competent authority for Controlled Activity Regulations (CAR) licences) should carry out a Habitat Regulations Assessment (HRA) to determine if the proposed project is likely to have a significant effect on a European site (https://www.nature.scot/professional-advice/protected-areas-and-species/protected-areas/international-designations/european-sites) and if so an Appropriate Assessment (AA) should be carried out.

Fish species and habitat use

Developers should seek up to date information to identify the fish species, their composition and habitat use and associated fisheries within the waterbodies which are at risk of being impacted by the proposed development. Local District Salmon Fishery Boards (DSFB) and local Fisheries Trust may have information on local fish stocks https://fms.scot/about-us-2/our-members/dsfb-trust-map/. The National Biodiversity Network Gateway is a database which holds information on the distribution of species in the UK (https://nbn.org.uk/the-national-biodiversity-network/archive-information/nbn-gateway/#:~:text=The%20NBN%20Gateway%20quite%20simply%20acts%20as%20a,the%20UK%20in%20a%20number%20of%20different%20ways).
Should existing information on the fish populations in the relevant waterbodies not be available developers should carry out fish population and habitat surveys. Fish habitat surveys should identify both the habitat quantity and quality for the different fish species and all life stages (e.g. spawning/nursery beds and smolt and adult migratory routes) and the presence of any obstacles upstream, downstream or within the potentially impacted reach which could impede fish migration.

Fish species of high conservation value include Atlantic salmon, brown / sea trout, sea lamprey, river lamprey, brook lamprey, European eel and Arctic charr. Some of these fish species can also support valuable fisheries.
NatureScot should be consulted when nature conservation sites are involved (https://www.nature.scot/professional-advice/protected-areas-and-species/protected-areas/international-designations/european-sites and https://www.nature.scot/plants-animals-and-fungi/fish/freshwater-fish).
The Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2003 is the general fish and fisheries legislation applying to inland waters and enables the legal methods of fishing, and fishing seasons to be defined and also defines the responsibility of DSFBs (Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2003 (legislation.gov.uk)).

The following is a list of the protection given to Atlantic salmon, brown/sea trout, European eel, lamprey and Arctic charr.

Atlantic Salmon

- Listed in EU Habitats Directive Annex 2 and 5. In Scotland salmon are a qualifying feature for 17 Special Areas of Conservation (SAC) and of these 11 have salmon as a primary feature for their designated status;
- Listed as a priority species for conservation in the Scottish Biodiversity Action Plan;
- Listed in Appendix III of the Bern Convention;
- Included in the Oslo and Paris Conventions (OSPAR) list of threatened and/or declining habitat species in all areas where it occurs; and
- North Atlantic Salmon Conservation Organisation (NASCO) and International Council for Exploration of the SEAS (ICES) promote the conservation of salmon stocks.

The Conservation of Salmon (Scotland) Regulations 2016 which were put in place under the Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act (2003) (https://www.legislation.gov.uk/asp/2003/15/contents) provides the legislation whereby the capture of salmon is prohibited in coastal waters and in inland waters where stocks are below a conservation limit, mandatory catch and release and management plans should be established (https://www.gov.scot/policies/salmon-and-recreational-fisheries/conservation/).

Marine Scotland (MS) Information includes the National Marine Plan Interactive (NMPi) which is an interactive map that contains a layer showing the distribution of Atlantic salmon in Scotland https://marinescotland.atkinsgeospatial.com/nmpi/default.aspx?availablelayers=%22843%22

Brown/sea trout

- Both brown and sea trout are jointly listed as a priority species for conservation in the Scottish Biodiversity Action Plan.

European eel

- European eel is listed as critically endangered on the International Union for Conservation of Nature (IUCN);
- European Commission developed an eel recovery plan which provides protection under Council Regulation No. 1100/2007; and
- Listed as a priority species for conservation in the Scottish Biodiversity Action Plan

Lamprey

- Sea, river and brook lamprey are listed in EU Habitats Directive Annex 2 and river lamprey is listed in Annex 5 of the same Directive; there are 5 SAC's in Scottish rivers designated for one or more lamprey species;
- Sea, river and brook lamprey are listed in Appendix III of the Bern Convention; and
- Sea, river and brook lamprey are listed as priority species for conservation in the Scottish Biodiversity Action Plan.

Arctic Charr

- Listed as a priority species for conservation in the Scottish Biodiversity Action Plan; and
- a conservation feature in 5 Sites of Special Scientific Interest (SSSI) under the Nature Conservation (Scotland) Act 2004

For further information on Arctic charr distribution, developers should consult the comprehensive assessment of the distribution of Arctic charr by Maitland and Adams (2017) "Arctic Charr in the Lochs of Scotland".

Fish population and habitat survey/monitoring techniques

Fish survey/monitoring techniques include the following:

- electrofishing of rivers/streams;
- trapping and various types of netting in lochs e.g. gill netting using standard protocols e.g. Swedish standard methods (Appelberg 2000);
- eDNA analysis;
- trapping downstream migrating juvenile salmon e.g. rotary screw traps; and
- fish acoustic tagging to determine migratory routes.

Details regarding licensing for fishing methods can be found at https://www.gov.scot/publications/consent-to-catch-salmon-or-other-freshwater-fish-forms-and-guidance/

A fish habitat survey should be carried out in line with guidance issued by SEPA (https://www.sepa.org.uk/media/131098/hydropower_annexb.pdf). All obstacles to fish migration, other than those which clearly constitute a complete barrier, should be assessed over a range of flows.

Full details of fish survey work (including methodology, sampling dates, a list of species, relative abundance, fish habitat use and availability and associated fisheries) and results should be presented in the EIA report. Information on fish populations and their habitat from survey work and/or other sources should enable the developer to carry out a rigorous assessment of the potential impact of the proposed development on all freshwater and diadromous fish and associated fisheries. Full details on proposed monitoring should also be discussed in the EIA report. Further information on monitoring of fish populations and water quality monitoring can be found at https://www.gov.scot/publications/onshore-renewables-interactions/.

Biodiversity of Scottish waters is protected through legislation such that it is an offence to intentionally stock any live fish or spawn into inland waters without a licence. Further information can be found at https://www.gov.scot/publications/introduction-of-freshwater-fish-and-ova/.

Developers should ensure that all fish work complies with the Animal (Scientific Procedures) Act (1986) and Animal Health and Welfare (Scotland) Act (2006) where required.

Impacts

Possible impacts on freshwater and diadromous fish populations may include or be caused by the following:

- entrainment into intakes by fast flowing water;
- impingement on poorly designed screens at intakes/outfalls or screens not functioning correctly due to the accumulation of debris;
- impediment to fish migration by dams and weirs or poorly designed watercourse crossings;
- disturbance and/or removal (through excavation/erosion/deposition/flooding out) of fish habitat e.g. spawning beds;
- creation of new fish habitat, e.g. reservoirs and impoundments;
- altering fish behaviour, disturbance, injury or mortality due to noise and vibration associated with construction works e.g. pumps, turbines, pilling;
- a delay, or increase in stress or energy use by fish when seeking out man-made fish passes;

- increased vulnerability of fish to predation due to fish congregating at screens, delayed migration and increased energy expenditure;
- deterioration of water quality due to the release of sediment associated with excavation works and stockpiled material, the release of hydrocarbons as a result of a fuel spillage, concrete contamination from batching plants and accumulation of sediment upstream of an impoundment (dam, weir or barrier);
- change in water quantity and flow regimes through abstraction/discharge and the creation of impenetrable surfaces e.g. access roads, buildings;
- change in water temperature;
- spread of species, including parasites and pathogens, to new waterbodies. One concern is the spread of INNS and SEPA discourage the transfer of water between catchments as a means of reducing the spread of INNS. Further guidance from SEPA, the lead organisation for INNS matters in Scottish fresh waters, is available at https://www.sepa.org.uk/media/163480/biosecurity-and-management-of-invasive-non-native-species-construction-sites.pdf; and
- between catchment transfer leading to genetic introgression of genetically distinct species.

All potential impacts should be described in the EIA report along with the resilience of fish populations to these potential impacts. The potential cumulative impacts on fish populations as a result of the proposed project and other relevant developments (existing and consented) should also be considered.

Mitigation

The developer should outline in the EIA report appropriate site-specific mitigation using the mitigation hierarchy, namely: avoid, minimise and only when unavoidable propose compensatory measures. Mitigation measures to be implemented before and/or during the construction phase include:

- avoidance through careful site design e.g., the selection of a site for a run of river scheme that is upstream of a natural barrier to migratory fish;
- avoidance of construction works during the salmonid migration/spawning period (June to September), during and immediately after periods of prolonged precipitation;
- avoidance of siting inlet/outlet points in or near valuable fish habitat;
- creation of a buffer zone between buildings/access tracks and waterbodies;

- silt fencing to control the release of sediment; and
- use of fish rescue/removal immediately prior to the commencement of construction works and/or inundation after construction works completed.

Mitigation measures to be implemented during the operational phase include:

- using correctly designed screens of appropriate mesh size and orientation (its angle to the flow) for fish species and their different life stages;
- regular cleaning of screens to avoid the build-up of debris and the avoidance of flushing screens with lots of debris during the spawning and the emergence stage of juvenile fish;
- control of water velocity to minimise the entrainment and impingement of fish and to provide suitable flows during fish migration and spawning periods. SEPA guidance (https://www.sepa.org.uk/media/383805/guidance-_for_developers_of_run_of_river_hydropower_schemes.pdf) states that flow velocities through screens must not exceed 0.3 metres per second to avoid the impingement of salmonid smolts;
- use of deflection mechanisms to encourage fish away from certain areas e.g. bubble curtains and lighting;
- seasonal restriction of generation to protect sensitive life stages of fish;
- ensure the provision for fish migration e.g. in the form of a fish pass designed to accommodate all fish species present in the waterbody and carefully designed watercourse crossings; and
- establish a monitoring programme to monitor any changes in the water quality and quantity and the sensitive life stages of fish populations during the construction and operation of the scheme.

Sources of further information

Appelberg M. (2000) Swedish standard methods for sampling freshwater fish with multi-mesh gillnets. Fiskeriverket Information. https://gupea.ub.gu.se/handle/2077/49088

https://www.nature.scot/professional-advice/planning-and-development/planning-and-development-advice/renewable-energy/hydroelectric-power

https://www.sepa.org.uk/regulations/water/guidance/

https://www.sepa.org.uk/regulations/water/hydropower/

https://www.sepa.org.uk/media/152049/wat-sg-74.pdf

https://www.sepa.org.uk/media/150984/wat_sg_28.pdf

https://www.sepa.org.uk/media/152075/wat-sg-89.pdf

https://www.gov.scot/publications/onshore-renewables-interactions/

https://www.gov.scot/publications/hydro-schemes-planning-advice/

Marine Scotland Science advice on freshwater and diadromous fish and fisheries in relation to onshore hydro-electric scheme developments.

March 2023

Annex 1

MSS – EIA Checklist

Marine Scotland Science (MSS) document entitled “Marine Scotland Science scoping advice on information required to assess the risk to freshwater and diadromous fish approach to the provision of advice on freshwater and diadromous fish and fisheries associated with onshore hydro-electric scheme applications under Section 36 of the Electricity Act (1989)” outlines the potential impacts on freshwater and diadromous fish and associated fisheries as a result of the construction and operation of hydro-electric schemes. These potential impacts should be considered throughout the course of the EIA and be presented in the appropriate chapters of the EIA report. Use of the checklist below should ensure that the EIA report contains the following information; the absence of such information ***may necessitate requesting additional information*** which could delay the process:

MSS Standard EIA Report Requirements	Provided in application YES/NO	If YES – please signpost to relevant chapter of EIA Report	If NO - please set out justification.	For ECU/MSS use
1. A map or maps outlining the proposed location of the hydro-electric development including the location of: ○ water inlets; ○ water outlets; ○ impoundments e.g. dams/weirs; ○ fish passes; ○ the route of all pipelines e.g. penstock				

○ permanent and temporary access tracks, including watercourse crossings; ○ buildings including turbine buildings, substations; ○ jetties/piers; ○ permanent and temporary construction compounds; ○ borrow pits; ○ all waterbodies and their Water Framework Directive classification; ○ nature conservation sites for which freshwater or diadromous fish are a qualifying interest; and ○ contour lines				
2. A description of site surveys to assess the fish populations, fish habitat and water quality including a map outlining the survey sites. All obstacles to fish migration should be identified;				
3. A description of the potential impacts on fish populations and their associated fisheries, fish habitat and				

water quality within, downstream and upstream of the proposed development area;				
4. Any potential cumulative impacts on the fish population, fish habitat and water quality associated with adjacent (operational and consented) developments including wind farms, hydro schemes, aquaculture and mining;				
5. Any proposed site specific mitigation measures as outlined in the MSS document entitled “Marine Scotland Science scoping advice on information required to assess the risk to freshwater and diadromous fish and fisheries associated with onshore hydro-electric scheme applications under Section 36 of the Electricity Act (1989)”;				
6. Full details of proposed monitoring as outlined in the above MSS document.				

The Scottish Government
Energy Consents Unit
5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

Network Rail
Town Planning
151 St Vincent Street
Glasgow
G2 5NW

Martin Henderson
Town Planning Technician

Planning reference: ECU00004840
Case Officer: James McKenzie

E-Mail:
TownPlanningScotland@networkrail.co.uk

Network Rail ref: 218 2023

20/07/2023

Dear Mr McKenzie,

Electricity Act 1989 The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 Re: Request For Scoping Opinion For Proposed Section 36 Application For Sloy Pumped Storage Scheme

Thank you for consulting Network Rail regarding the above development.

We would strongly suggest that reference to the significant issues below are included in the Scoping Opinion to ensure that potential impacts of both the construction and completed development on the current and future safe and efficient operation of the railway are assessed:

- Details of proposed construction, including drainage and other engineering works in the vicinity of the adjacent railway line.

Yours sincerely

REDACT

Martin Henderson
Town Planning Technician

From: Planning Consultations <PlanningConsultations@scottishwater.co.uk>
Sent: 14 July 2023 15:19
To: Econsents Admin; Ruth Kerr
Subject: Scottish Water – Amended Application Response - DSCAS-0090122-C4R -? G83 7DP -Sloy Hydro Electric station-Loch Lomond and The Trossachs National Park,
Attachments: DSCAS-0090122-C4R Amended Planning Consultation - ECU00004840- Sloy Hydro Electric station.pdf

Importance: High

Dear Local Planner,

Please find attached Scottish Water's Amended response to your application, this includes further information on how to progress your application to the next stage.

My I draw your attention to the request for a meeting with regards to the impact of this site, and request that you contact protectdwsources@scottishwater.co.uk directly to arrange this at your convenience.

I trust this is in order

Kind Regards,

REDACT

Ruth Kerr

Technical Analyst
North Regional Team

Strategic Development
Development Services
Dedicated Freephone Helpline: 0800 389 0379

DevelopmentOperations@scottishwater.co.uk

Scottish Water.

Trusted to serve Scotland.

Scottish Water

www.scottishwater.co.uk

Friday, 14 July 2023

Local Planner
Energy Consents Unit
5 Atlantic Quay
Glasgow
G2 8LU

Development Operations
The Bridge
Buchanan Gate Business Park
Cumbernauld Road
Stepps
Glasgow
G33 6FB

Development Operations
Freephone Number - 0800 3890379
E-Mail - DevelopmentOperations@scottishwater.co.uk
www.scottishwater.co.uk
Follow Us

Dear Customer,

Sloy Hydro Electric station, Loch Lomond and The Trossachs National Park,, Trossachs, G83 7DP
Planning Ref: ECU00004840
Our Ref: DSCAS-0090122-C4R
Proposal: convert the existing Sloy hydroelectric scheme into a pumped storage scheme, by the introduction of new pumps, located in the grounds of the existing hydroelectric scheme, immediately north of the power station. The new pumps would enable water to be pumped through two or three of the existing four high pressure pipelines and tunnels from Loch Lomond to Loch Sloy.

Please quote our reference in all future correspondence

Audit of Proposal

Scottish Water has no objection to this planning application; however, the applicant should be aware that this does not confirm that the proposed development can currently be serviced. Please read the following carefully as there may be further action required. Scottish Water would advise the following:

Drinking Water Protected Areas

A review of our records indicates that the proposed activity falls within a drinking water catchment where a Scottish Water abstraction is located. Scottish Water abstractions are designated as Drinking Water Protected Areas (DWPA) under Article 7 of the Water Framework Directive. Loch Sloy supplies Belmore Water Treatment Works (WTW) and it is essential that water quality and water quantity in the area are protected. In the event of an incident occurring that could affect Scottish Water we should be notified without delay using the Customer Helpline number **0800 0778 778**.

Looking at the proposal to return 20m3/s for 6 hours seems quite high volume which may cause disturbance to the raw water quality. Therefore it would be useful to hold a meeting between ourselves to discuss the application to better understand the proposal. Please could the necessary contact advise of suitable dates and attendees via email at protectdwsources@scottishwater.co.uk A member of the team will then coordinate a mutually agreeable time to suit all concerned parties.

Scottish Water have produced a list of precautions for a range of activities. This details protection measures to be taken within a DWPA, the wider drinking water catchment and if there are assets in the area. Please note that site specific risks and mitigation measures will require to be assessed and implemented. These documents and other supporting information can be found on the activities within our catchments page of our website at **www.scottishwater.co.uk/slm**.

We welcome that reference has been made to the Scottish Water drinking water catchment.

The fact that this area is located within a drinking water catchment should be noted in future documentation. Also anyone working on site should be made aware of this during site inductions.

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Surface Water

For reasons of sustainability and to protect our customers from potential future sewer flooding, Scottish Water will not accept any surface water connections into our combined sewer system.

There may be limited exceptional circumstances where we would allow such a connection for brownfield sites only, however this will require significant justification from the customer taking account of various factors including legal, physical, and technical challenges.

In order to avoid costs and delays where a surface water discharge to our combined sewer system is anticipated, the developer should contact Scottish Water at the earliest opportunity with strong evidence to support the intended drainage plan prior to making a connection request. We will assess this evidence in a robust manner and provide a decision that reflects the best option from environmental and customer perspectives.

General notes:

- Scottish Water asset plans can be obtained from our appointed asset plan providers:
    - Site Investigation Services (UK) Ltd
    - Tel: 0333 123 1223
    - Email: sw@sisplan.co.uk
    - www.sisplan.co.uk

I trust the above is acceptable however if you require any further information regarding this matter please contact me on **0800 389 0379** or via the e-mail address below or at planningconsultations@scottishwater.co.uk.

Yours sincerely,

REDACT
Development Services Analyst
PlanningConsultations@scottishwater.co.uk

Scottish Water Disclaimer:

"It is important to note that the information on any such plan provided on Scottish Water's infrastructure, is for indicative purposes only and its accuracy cannot be relied upon. When the exact location and the nature of the infrastructure on the plan is a material requirement then you should undertake an appropriate site investigation to confirm its actual position in the ground and to determine if it is suitable for its intended purpose. By using the plan you agree that Scottish Water will not be liable for any loss, damage or costs caused by relying upon it or from carrying out any such site investigation."

Scottish Environment Protection Agency
Buidheann Dìon Àrainneachd na h-Alba

James McKenzie
Energy Consents Unit
The Scottish Government

By email only to: Econsents_Admin@gov.scot

Our Ref: 9668
Your Ref: ECU00004840

SEPA Email Contact:
planning.south@sepa.org.uk

28 July 2023

Dear James

Electricity Works (EIA) (Scotland) Regulations 2017
Sloy Pumped Storage Scheme, Inveruglas, Loch Lomond and the Trossachs National Park

Thank you for consulting SEPA for an Environmental Impact Assessment (EIA) scoping opinion in relation to the Sloy Pumped Storage Scheme.

It is understood the proposal seeks to extend and convert the existing Sloy Hydroelectric Power Station into a pumped storage scheme. This would allow water to be pumped through existing pipelines and tunnels from Loch Lomond to Loch Sloy. This is to involve a new below ground pump hall, above ground building, intake structure on the existing tailrace and buried pipelines. Reconfiguration of the existing internal road, reinstatement of ground affected by construction, temporary compound and an area for the storage and reuse of excavated rock is also planned.

We have reviewed the Scoping Report (dated June 2023) and while we are generally satisfied with the scope of the assessment we request Geology, Soils and Water is scoped in and that information on the quantities and type of material to be excavated and associated reuse strategy is provided. Therefore, to avoid delay or potential objection we request the EIA address the issues outlined in Appendix 1 below. We also recommend the applicant continues to liaise with our Water Permitting Team regarding the regulatory requirements for the site under the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR).

We would welcome engagement with the applicant at an early stage to discuss any of the issues raised in this letter and would especially welcome further pre-application engagement once initial survey work or draft EIA chapters become available.

If you have queries relating to this letter, please contact us at planning.south@sepa.org.uk.

Kind regards,

REDACT
Senior Planning Officer
Planning Service

Ecopy to: james.mckenzie@gov.scot

Angus Smith Building
6 Parklands Avenue
Eurocentral
Holytown
North Lanarkshire
ML1 4WQ

Chairman
Bob Downes

CEO
Nicole Paterson

Tel: 03000 99 66 99
www.sepa.org.uk

Appendix 1: Detailed scoping requirements

This appendix sets out our minimum information requirements and we would welcome receipt and discussion around these prior to formal submission to avoid delays. There may be opportunities to scope out some of the issues below depending on the site. Evidence must be provided in the submission to support why an issue is not relevant for this site to **avoid delay and potential objection.** If there is a significant length of time between scoping and application submission the developer should check whether our advice has changed.

National Planning Framework 4 (NPF4) has recently been published. The guidance referenced in this response is being reviewed and updated to reflect the new policies. It will still provide useful and relevant information but some parts may be updated further in the future.

1. Impacts on the water environment

1.1 We support the intention to carry out hydrological modelling to explore and assess the potential effects of the project on water management in the Loch Lomond catchment and that this will be reported in the EIA. We understand it is not considered the maximum and minimum water levels of Loch Sloy and Loch Lomond would change due to the project, although variation in the levels would be expected to be more frequent than at present.

1.2 The hydrological modelling should include full details of the model and method used for the assessment. The modelling should show the proposed development does not have an impact on water resource for both abstractions (abstractions for public water supply from Loch Lomond and Loch Sloy). The proposed new abstraction rate from Loch Lomond should also be clearly stated within the report. We do not have set guidance for pumped storage schemes, however if any flow monitoring is carried out in support of the EIA we recommend referring to Annex A Hydrological Information of our Guidance for applicants on supporting information requirements for hydropower applications.

1.3 NatureScot and Loch Lomond and the Trossachs National Park should be consulted regarding the scope of any assessment on the impact to wetland breeding birds as loch levels may change more quickly and more often than currently. This may have implications beyond the 5km designated site search as this could impact the whole loch area. The planned hydrological modelling may assist in assessing the impacts in relation to this issue.

Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR)

1.4 The existing hydroelectric scheme has a licence from SEPA under CAR (CAR/L/1011861). It includes a number of abstractions which return to Loch Sloy and abstraction from Loch Sloy itself for the power station. The licence was varied in the past to include an abstraction from Loch Lomond for the previous pumped storage scheme which was never built.

1.5 The project will require authorisation from us under CAR. We therefore recommend the CAR and S36 applications are twin tracked. This will help to ensure that any CAR requirements can be accommodated more easily when proposals are at their most fluid. Should the applications not be twin tracked then we recommend the applicant refers to our Planning guidance on hydropower developments regarding the type of information that may need to be included to allow us to provide an indication of the potential consentability under CAR. More detailed guidance on CAR can be found on our hydropower webpage.

1.6 We understand initial discussions have already taken place with our Water Permitting Team and specifically about the new intake structure and associated extension of the tailrace and fish screens. Aspects of the design relating to the abstraction regime and fish screening will be considered at the CAR stage.

Other impacts on the water environment

1.7 Engineering activities in the water environment, such as culverts, bridges, bank modifications and diversions should be avoided wherever possible so the site layout should be designed to avoid such works or other direct impacts on water features. The submission must include a map showing all proposed temporary or permanent infrastructure overlain with all lochs and watercourses. Appropriate buffer zones, of minimum 6m from the top of the bank, should be included around any water features. If direct impacts are anticipated drawings should be provided showing what is proposed in terms of engineering works and details provided of measures to be employed to protect downstream sensitive receptors.

1.8 Further advice and our best practice guidance are available within the water engineering section of our website. Guidance on the design of water crossings can be found in our Construction of River Crossings Good Practice Guide.

Pollution prevention and environmental management

1.9 We note a CEMP is to be provided including details on pollution prevention and drainage management. We recommend a schedule of mitigation supported by site specific maps and plans be submitted. These must include reference to best practice pollution prevention and construction techniques (for example, limiting the maximum area to be stripped of soils at any one time) and regulatory requirements. They should set out the daily responsibilities of Ecological Clerk of Works, how site inspections will be recorded and acted upon and proposals for a planning monitoring enforcement officer. Please refer to the Guidance for Pollution Prevention (GPPs) and our water run-off from construction sites webpage for more information.

2. Excavated materials and waste management

2.1 Section 2.3.6 of the Scoping Report states the activities will result in rock excavations and the most appropriate areas for the reuse of these materials is being considered. While we acknowledge the scale of the works is limited to the area around the existing power station it is not clear what quantity of material will need to be excavated and reused.

2.2 In line with Schedule 4 of the Electricity Works (EIA) (Scotland) Regulations 2017 we suggest the EIA Report include an estimate of '*quantities and types of waste produced during the construction and operation phases*' and a description of the likely significant effects on the environment resulting from the disposal and recovery of waste. We acknowledge the CEMP is to be supported by a Site Waste Management Plan and information on Excavation Materials and Reinstatement. We suggest this describes the quantities and type of material to be excavated and the intended reuse strategy is for it along with rationale / justification reuse. We also recommend measures be taken through design to be minimise the quantities to be excavated as much as possible.

2.3 We understand one option being considered is to use the material to restore some land to the north of the existing power station disturbed during the original construction partly to address an issue with invasive nonnative species. For awareness, SEPA does not regulate the use of excavated materials on a development site, provided the use is necessary for the works, the material is suitable and does not require treatment and does not result in pollution. For further information please refer to the land remediation and waste management guidance. It is possible this will apply to the reuse of rock spoil material resulting from pump excavations in this manner but we can confirm on receipt of additional information.

2.4 Materials that do not meet the criteria listed in the guidance will need to be either treated prior to re-use or removed from the site as waste. These activities will be regulated by SEPA under waste management controls requiring any waste materials to be removed from the site and disposed of to a suitably licenced facility or made use of via a suitable waste management exemption.

2.5 SSE Renewables must consider the possibility of encountering contaminated materials arising from the construction of the original hydropower infrastructure. A procedure and plan for any contaminated materials should be included within the EIA.

2.6 Materials removed as part of the works, including but not limited to the existing spray reduction structure, rubble walling and woodland, should be treated as waste. Wastes must be classified, taken to a suitably permitted facility and accompanied by the appropriate Duty of Care paperwork. Further guidance on Duty of Care responsibilities can be found on the NetRegs website.

3. Geology, soils and water

3.1 It is proposed that Geology, Soils and Water be scoped out of the EIA for the proposed development. We recommend this chapter be included in the EIA.

3.2 As noted above, Section 2.3.6 details the requirement for significant rock excavations to facilitate development. The previous proposal suggested storage of this rock material adjacent to the existing power station and this is to be revisited. However, the report also indicates that "*an alternatives exercise will take place by the EIA Team….to consider the most appropriate areas for site establishment and storage and reuse of excavated materials*". From the information provided it is not clear what material will be excavated, where it will be stored and what impact it will have on the water environment. Therefore, we recommend Geology, Soils and Water is not scoped out of the EIA and is included to confirm there will be no detrimental impact on the water environment.

3.3 Section 7.1.1 states an intrusive ground investigation survey was carried out in 2010 by Jacobs Engineering across the consented development area. We recommend this ground investigation be included in support of the EIA.

3.4 We note that there is no mention of Private Water Supplies (PWS) in the Scoping Report. A PWS assessment should be undertaken and should be included in the Geology, Soils and Water section of the EIA report following the advice in Section 4 below.

4. Disruption to GWDTE and existing groundwater abstractions

4.1 Groundwater Dependent Terrestrial Ecosystems (GWDTE) are protected under the Water Framework Directive. Excavations and other construction works can disrupt groundwater flow and impact on GWDTE. The layout and design must avoid impacts on such areas.

4.2 We understand that 2022 surveys identified areas which could be potential GWDTE and further targeted National Vegetation Classification (NVC) surveys are planned. The NVC survey which includes the following information should be submitted:

a) A map demonstrating all GWDTE and existing groundwater abstractions are outwith a 100m radius of all excavations shallower than 1m and outwith 250m of all excavations deeper than 1m and proposed groundwater abstractions. The survey needs to extend beyond the site boundary where the distances require it.
b) If the minimum buffers cannot be achieved, a detailed site specific qualitative and/or quantitative risk assessment will be required. Please refer to Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems for further advice and the minimum information we require to be submitted.

5. Invasive non native species (INNS)

5.1 We acknowledge we recently highlighted the proposals will need to consider the risk of spreading Nuttall's Pondweed (Elodea nuttalli), a non-native invasive species from Loch Lomond to Loch Sloy. We welcome the intention to outline the measures in the EIA to reduce the risk of spread as far as is practicable and that a proposal to rapidly remedy any adverse effects will also be incorporated in the assessment.

5.2 In relation to terrestrial INNS, we understand the site is under management to eradicate INNS. It is understood that an invasive species management plan to specify eradication of nearby Japanese Knotweed and the continued reduction in Rhododendron ponticum is to be provided with the EIA. There is further information on INNS for the applicant on our website.

6. Flood risk

6.1 While we have no specific concerns with scoping of flood risk out of the assessment, we suggest the proposed hydrological modelling be used to demonstrate the project will not increase the risk of flooding to nearby receptors. Should that not be the case then we would recommend a Flood Risk Assessment be submitted following our Technical flood risk guidance for stakeholders. Please also refer to our Flood Risk Standing Advice for advice on flood risk in relation to essential infrastructure as well as our Controlled Activities Regulations (CAR) Flood Risk Standing Advice for Engineering, Discharge and Impoundment Activities.

6.2 Please note any crossings must be designed to accommodate the 0.5% Annual Exceedance Probability flows (with an appropriate allowance for climate change), or information provided to justify smaller structures.

7. Disturbance and re-use of excavated peat and other carbon rich soils

7.1 We understand that review of '*priority peatland mapping published by NatureScot indicates that the site is underlain by mineral soils and not located in an area designated as priority peatland*'. We recommend the EIA be supported by information to demonstrate there is no peat on site. Please note where proposals are on peatland or carbon rich soils further information will require to be submitted to address the requirements of NPF4 Policy 5. Should peat be identified on site between the scoping stage and submission we recommend we are reconsulted.

8. Decommissioning

8.1 We acknowledge there are no plans for decommissioning of the scheme in the future and therefore the assessment of effects associated with decommissioning have been scoped out of the EIA.

Development Management and Strategic Road Safety
Roads Directorate

George House 36 North Hanover St Glasgow G1 2AD
Direct Line: 0141 272 7379, Fax: 0141 272 7350
gerard.mcphillips@transport.gov.scot

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TRANSPORT SCOTLAND
CÒMHDHAIL ALBA

James McKenzie
Energy Consents Unit
The Scottish Government
5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

Econsents_Admin@gov.scot

Your ref:
ECU00004840

Our ref:
GB01T19K05

Date:
01/08/2023

Dear Sirs,

ELECTRICITY ACT 1989

THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2017

REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 APPLICATION FOR SLOY PUMPED STORAGE SCHEME

With reference to your recent correspondence on the above development, we acknowledge receipt of the Scoping Report (SR) prepared by SSE Renewables in support of the above development.

This information has been passed to SYSTRA Limited for review in their capacity as Term Consultant to Transport Scotland – Roads Directorate.

It is also noted that Transport Scotland has had a meeting with the applicant to discuss the project and submitted SR.

Based on the review undertaken and discussions held, Transport Scotland would provide the following comments.

Proposed Development

We understand that consent was granted for a pumping station at the existing Sloy Hydroelectric Power Station in September 2010. Subsequent extensions to the consent were granted in 2013 and 2014, until 13 December 2018, however, due to a perceived lack of market, the scheme was never built.

SSE Generation is now of the opinion that the existing Sloy Hydroelectric Power Station is ideally placed for the extension and conversion of the hydroelectric scheme into a pumped storage scheme. The proposed pumped storage scheme would be located at the Sloy Hydroelectric Power Station, opposite the Inveruglas visitor centre on the A82(T).

It is proposed to convert the existing hydro scheme into a pumped storage scheme by the introduction of new pumps which will be located in the grounds of the existing scheme. This will also comprise a new surface building, a new underground pump hall, intake structure and tailrace, new buried pipelines and the storage of excavated rock. We also note that the power station internal road would require to be realigned to accommodate the footprint of the new development.

Site Access

We note that there are two existing junctions off the A82(T) which allows access to the existing power station. The southern junction is used for the day-to-day operation of the existing scheme, whilst the northern junction acts as a secondary access with the gates being currently locked. It is proposed that the northern junction would be utilised during the construction of the proposed development, and that this will require temporary modifications to the existing junction geometry.

The SR states that consultation has begun with Transport Scotland regarding the temporary use of this northern junction, and this will continue through the EIA process. While this is considered appropriate, we would state that any proposed changes to the trunk road network must be discussed and approved (via a technical approval process) by the appropriate Area Manager for the A82(T), Neil MacFarlane, who can be contacted at neil.macfarlane@transport.gov.scot.

We would also request that a layout drawing of the modified access junction be provided, along with a Stage 1 Road Safety Audit. This plan should be submitted at 1:500 scale and be accompanied by visibility splay plans.

Assessment of Environmental Impacts

The methodology is somewhat confused with the proposal to produce a Transport Assessment which would form an appendix to the EIA with an EIA chapter summarising the findings of the TA. The methodology then effectively sets out what would normally be undertaken for an EIA chapter. We would suggest that the inclusion of an EIA chapter covering access, traffic and transport would be a more simplified approach. The chapter would examine the potential environmental effects associated with increased traffic.

Section 6.7 of the SR presents the proposed methodology for the assessment of Traffic and Transport. We note that the thresholds as indicated within the Institute of Environmental Management and Assessment (IEMA) Guidelines for the Environmental Assessment of Road Traffic are to be used as a screening process for the assessment. Transport Scotland is in agreement with this approach.

The SR indicates that potential trunk road related environmental impacts such as driver delay, pedestrian amenity, severance, safety etc will be considered and assessed where appropriate (i.e. where IEMA Guidelines for further assessment are breached). These specify that road links should be taken forward for assessment if:

- Traffic flows will increase by more than 30%, or
- The number of HGVs will increase by more than 30%, or
- Traffic flows will increase by 10% or more in sensitive areas.

This approach is acceptable and we also not that a cumulative assessment will be included. Any required mitigation should be detailed, and the residual effects identified.

We note that the proposed study area for use in the traffic and transport assessment is based upon the likely origin points for materials, staff and components required during construction, as follows:

- The A82(T) between Tarbet and Crianlarich.
- The A83(T) between Tarbet and Ardgaten.
- The A82(T) between Tarbet and Dumbarton.

With regards to base traffic data, we note that an Automatic Traffic Count (ATC) survey of the A82(T) at the existing northern access junction will be undertaken during a neutral month for a one-week period. In addition, traffic survey data will be obtained from the Traffic Scotland database for the following links:

- A82(T) to the north of Tarbet (ref. ATCCS001);
- A83(T) to the west of Tarbet (ref. ATC08104); and
- A82(T) south of Tarbet (ref. ATC08119).

The SR indicates that construction of the project would take approximately 24 months, and that baseline traffic flows would be subject to Low National Road Traffic Growth factors to allow for the future year baseline. Transport Scotland is satisfied with this approach.

With regard to accident data, we note it is proposed to use Crashmap to obtain accident statistics. We would state that more up to date statistics can be obtained directly from Transport Scotland. Contact accidentdatarequests@transport.gov.scot.

The SR states that there will be no increase in operational trips when compared to the current power station, therefore, it is not proposed to undertake an operational assessment. This is considered acceptable.

Abnormal Loads Assessment

We note that requirements for Abnormal Indivisible Loads (AIL) are not known at this time but will be determined during design development once the pump technology has been established. The SR states that should plant required for the construction be categorised as an AIL, an appropriate assessment will be undertaken. While this is considered acceptable, we would add that Transport Scotland will require to be satisfied that the size of loads proposed can negotiate the selected route and that their transportation will not have any detrimental effect on structures within the trunk road route path.

If Abnormal Loads are envisaged then a full Abnormal Loads Assessment report should be provided with the Environmental Impact Assessment Report (EIAR) that identifies key pinch points on the trunk road network. Swept path analysis should be undertaken and details provided with regard to any required changes to street furniture or structures along the route.

I trust that the above is satisfactory and should you wish to discuss any issues raised in greater detail, please do not hesitate to contact me or alternatively, Alan DeVenny at SYSTRA's Glasgow Office on 0141 343 9636.

Yours faithfully

REDACT

Gerard McPhillips

Transport Scotland
Roads Directorate

cc Alan DeVenny – SYSTRA Ltd.