

June 2025

# Glen Earrach Energy Pumped Storage Hydro Development

Additional Information

Glen Earrach Energy Ltd

Quality information

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## Appendices

Note, appendices are provided as separate documents.

Appendix 1 – Landscape and Visual

Appendix 2 – Water Resources

# Introduction

## Background

In March 2025, Glen Earrach Energy Limited ("the Applicant") submitted an application for consent under Section 36 of the Electricity Act 1989 and deemed planning permission under Section 57(2) of the Town and Country Planning (Scotland) Act 1997 (the "Section 36 Application") to the Energy Consents Unit (ECU) of the Scottish Government.

The Section 36 Application sought consent for the construction and operation of a new pumped storage hydro scheme on the Balmacaan Estate, to be known as the Glen Earrach PSH (the "Proposed Development"). The Proposed Development will have a storage capacity of approximately 34,000 megawatt hours (MWh) subject to the final configuration of the Headpond, Loch nam Breac Dearga. It would have approximately 2,000 megawatts (MW) of installed electrical pumping capacity and 1,800 MW of installed electrical generating capacity (both subject to final pump-turbine selection).

An Environmental Impact Assessment Report (EIAR) was provided with the application, detailing the results of a series of environmental studies undertaken to determine the likely significant effects of the Proposed Development on the environment under the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (the "EIA Regulations").

## Purpose of This Document

Since the submission of the Section 36 Application, the Applicant has continued to engage constructively with statutory consultees on the information contained in the EIAR. In response to this ongoing engagement, queries have been raised by The Highland Council (THC), NatureScot, Historic Environment Scotland (HES) and Scottish Environmental Protection Agency (SEPA), which have necessitated the provision of Additional Information to support the assessment process.

This document provides comprehensive responses to all statutory consultee queries received to date, along with necessary corrections to the EIAR and accompanying Planning Statement that have been identified by the Applicant. The Additional Information is structured to address specific technical areas where clarification or supplementary data has been requested.

## Scope of Additional Information

This Additional Information document comprises four chapters:

**Chapter 1: Landscape and Visual** - Provides revised photography and visualisations, in response to THC's Viewpoint Photography Quality Appraisal, including new photography and two additional viewpoint locations requested by THC.

**Chapter 2: Water Resources** - Delivers technical responses to NatureScot's five specific questions regarding hydrological impacts on Special Areas of Conservation (River Moriston SAC, Moray Firth SAC, and Urquhart Bay Woods SAC), and addresses Historic Environment Scotland's follow-up request regarding water level data.

**Chapter 3: EIAR and Planning Statement Corrections** - Documents two corrections identified by the Applicant: (1) the correct upper operating water level of 17.44 mAOD (previously stated as 17.6 mAOD), (this point was also raised by SEPA as part of their holding objection reference PCS-20005351) and (2) the accurate biodiversity net gain percentage for area-based habitats of 22% (previously stated as 12%).

**Chapter 4: Peat Management** - Responds directly to the second element of SEPA's holding objection, which was regarding peat disturbance at the Temporary Workers' Accommodation compound, demonstrating a 42% reduction in peat disturbance for that compound through design optimisation.

## Status and Context

The Additional Information contained within this document supplements the original EIAR and does not materially alter the conclusions of the environmental assessment. The information is provided to assist statutory consultees in their technical assessment of the Section 36 Application, and to demonstrate the Applicant's commitment to addressing all queries raised during the consultation process.

All technical assessments and responses contained herein have been prepared by suitably qualified professionals and are supported by appropriate appendices and supporting documentation where referenced.

# 1. Landscape and Visual

## 1.1 Introduction

- 1.1.1.1 Following submission of the Section 36 Application, THC provided the Applicant with a document (reference: 25/01599/S36 – Glen Earrach Pumped Storage Hydro (PSH) scheme – THC Viewpoint Photography Quality Appraisal) which reviewed the baseline photography captured from the thirteen viewpoints and used in the visualisations. A subsequent meeting was held on 3<sup>rd</sup> June 2025 between the Applicant and THC to discuss the comments and agree actions. On 6<sup>th</sup> June 2025, THC sent an email identifying additional viewpoint locations for which they requested photography and accompanying visualisations. A summary of all agreed actions is provided in the below Table 1-1.

**Table 1-1 Viewpoint Photography Quality Appraisal Summary of Comments**

VP Number	Location	THC Comment	Applicant Comment	Action Taken
VP 1	Meall Fuar Mhonaigh Summit	Very hazy – Not considered acceptable	The haze is present in the very distant background of the view. Several separate attempts were made to capture this image which was challenging to find conditions when snow was not evident in the view whilst maintaining clarity. The parts of the view affected by the development are sharp, well-lit and clear.	Applicant agreed to capture new photography and annotate the visualisation to assist in interpreting the aspects of the development within the view.
VP 2	Settlement of Foyers	Acceptable quality but choice of specific location is poor. Need location with clear view across loch	This is the most open point on the B852 which is representative of views from properties within the upper part of Foyers. The location and the intervening vegetation was discussed at the meeting on 4 <sup>th</sup> November 2024 when THC Landscape Officer noted that there can be benefit in using views which demonstrate the lack of visibility. Viewpoint 3 provides an open, unobstructed view across the loch to the Lower Control Works.	THC Landscape Officer acknowledged that this location showcases that only intervening vegetation was previously discussed. THC email of 6 <sup>th</sup> June 2025 identified two locations at Foyers that they considered should be selected as an additional or alternative viewpoint (selecting one of them). The Applicant has captured photography from one of the revised locations and this is identified by VP2a.
VP 3	Foyers Campsite	Very dark – not considered acceptable	The Proposed Development is clearly illustrated in this view within which there is contrast between the loch, loch shore and surrounding forested slopes of the glen.	The Applicant agreed to capture new photography which avoided the presence of cloud present in the view.
VP 4	Great Glen Way (GGW) & Bunloit Road	Acceptable	N/A	THC have since requested in their email of 6 <sup>th</sup> June 2025 that an additional location on the Great Glen Way should be captured. Photography has been captured from this additional location and is identified as VP 4a.

VP Number	Location	THC Comment	Applicant Comment	Action Taken
VP 5	Beach at LN off B852	Very dark – not considered acceptable	Potential to re-take noting that only summer photography will be achievable. At a distance of 9.5km, it is not considered likely that a lighter image would result in an increased legibility of the Proposed Development within the visualisation.	Applicant agreed to re-take photography.
VP 6	GGW nr Urquhart Castle	Too much shadow – not considered acceptable	The wireline shows that only the GIS switchyard and a small section of an existing access track which would be upgraded are theoretically visible from this viewpoint. The photomontage view demonstrates that intervening winter vegetation entirely screens these parts of the Proposed Development. Therefore, there seems little merit in re-capturing the image.	Agreed that no action was required due to screening of Proposed Development.
VP 7	Dores Beach	Very dark – not considered acceptable	Potential to re-take noting that only summer photography will be achievable and that this viewpoint is 17.4km away from the Lower Control Works which is identified in the wireline view and even with lighter baseline photography will be barely discernible in the view.	Applicant agreed to re-take photography.
VP 8	Suidhe Viewpoint	Acceptable	N/A	No action required.
VP 9	LN Canoe & Pleasure Craft	Acceptable	N/A	No action required.
VP 10	B962 – LN360 Trail nr Fort Augustus	Quite hazy – may not be acceptable	The Lower Control Works is the only part of the Proposed Development visible. At a distance of 16.2km, it is not considered likely that additional photography with less haze would result in an increased legibility of the Proposed Development within the visualisation.	THC agreed that no action was required and that the photography is acceptable.
VP 11	Core path NW of Fort Augustus	Acceptable	N/A	No action required.
VP 12	Core path Glen Coiltie	Too much shadow – not considered acceptable	Potential to re-take noting that only summer photography will be achievable. Several attempts were taken to capture this viewpoint, it's difficult to get it well-lit with the sun behind the viewer and the hill and forestry behind casting shadow across the view.	THC acknowledged the challenges of capturing winter photography from this location. The Applicant agreed to re-take photography.
VP 13	A82 layby	Dark/hazy, but main impact is clearly illustrated in foreground	As noted by THC, the development is clearly illustrated in the foreground of the view.	THC agreed that the photography was adequate but requested that the gate should be added to the visualisation. The Applicant agreed to do this.

1.1.1.2 New photography has been captured for the following viewpoints and visualisations have been prepared in accordance with THC and NatureScot standards and are provided within Appendix 1 as follows:

- AI A1.1 GE Overall Mapping NS;
- AI A1.2 GE Overall Mapping THC;
- AI A1.3 GE VP01-Meall Fuar-mhonaigh summit NS;
- AI A1.4 GE VP01-Meall Fuar-mhonaigh summit THC;
- AI A1.7 GE VP03-Foyers Campsite NS;



- AI A1.8 GE VP03-Foyers Campsite THC;
- AI A1.11 GE VP05-Beach near to Loch Ness View off the B852 NS;
- AI A1.12 GE VP05-Beach near to Loch Ness View off the B852 THC;
- AI A1.13 GE VP07-Dores Beach NS;
- AI A1.14 GE VP07-Dores Beach THC;
- AI A1.15 GE VP12-Core Path network and Glen Coiltie Walking Loop NS;
- AI A1.16 GE VP12-Core Path network and Glen Coiltie Walking Loop THC;
- AI A1.17 GE VP13-A82 layby NS; and
- AI A1.18 GE VP13-A82 layby THC.

1.1.1.3 Whilst every effort has been made to replicate the exact location that the winter photography was captured from, in some instances, notably at Viewpoint 1, the winter and summer photography do not exactly align. The additional summer photography captured from the original four viewpoints (Viewpoints 3, 5, 7 and 12) supplements the winter photography previously captured and presented in the EIAR. The additional summer photography and the updated visualisations for these viewpoints set out in Appendix 1 do not change the findings of the LVIA (Chapter 06 Landscape and Visual of the EIAR). The chartered landscape architects authoring the LVIA used a range of tools and professional experience to undertake the assessments including site appraisal, ZTVs, wirelines and a detailed understanding of the scheme design to inform the technical assessment. The new photography does not therefore change the conclusions of the LVIA.

1.1.1.4 The two new viewpoint locations (viewpoint 2a and 4a) are considered further in section 1.2 Additional Viewpoints below.

## 1.2 Additional Viewpoints

1.2.1.1 The thirteen viewpoint locations which have been used to inform the Landscape and Visual Impact Assessment (LVIA) were agreed with THC Landscape Officer at Scoping stage (19<sup>th</sup> September 2024) and subsequently at a meeting on 4<sup>th</sup> November 2024 (refer to para 6.3.1 of Chapter 06 Landscape and Visual of the EIAR).

1.2.1.2 As noted in Table 1-1 Viewpoint Photography Quality Appraisal Summary of Comments, two additional viewpoints have been added by THC, namely:

- Viewpoint 2a – this viewpoint is located on the B852 in the vicinity of the settlement of Foyers, with open views across Loch Ness. It is outside of the main settlement area along the road network and the residential dwellings around this location largely have views screened towards the proposed development by intervening vegetation in the foreground. It does nonetheless reflect an open view from a more elevated position in the vicinity of Foyers; and
- Viewpoint 4a – is representative of recreational users on the Great Glen Way and users of Bunloit Road. It is located approximately 1km to the north of Viewpoint 4. There is slightly less intervening vegetation between the viewpoint location and the proposed development in the background of the view compared with Viewpoint 4. Viewpoint 4 was selected to balance a clear view towards the proposed development and its location within the Loch Ness and Duntelchaig Special Landscape Area (SLA) (Viewpoint 4a is not within the SLA).

1.2.1.3 Visualisations have been prepared from these two additional viewpoints and are presented in Appendix 1 as follows:

- AI A1.5 GE VP02A-Settlement of Foyers NS;
- AI A1.6 GE VP02A-Settlement of Foyers THC;
- AI A1.9 GE VP04A-Great Glen Way and Bunloit Road near Bunloit NS; and
- AI A1.10 GE VP04A-Great Glen Way and Bunloit Road near Bunloit THC.

1.2.1.4 Whilst the Lower Control Works is clearly visible from Viewpoint 2a compared with Viewpoint 2 where intervening planting largely screens the view, the detailed analysis, presented in the EIAR Appendix 6.3 Visual Assessment,

Table 2-2 acknowledges that *'there would likely be more direct views experienced from upper storeys for the residential receptors, which represents the worst-case scenario and upon which this assessment is based'*. This statement refers to the entire visual assessment undertaken across all three development phases and not just Construction. The concluding sentence in Table 2-2 states 'Overall, the scale and nature of the Lower Control Works, within a section of currently undisturbed shoreline would be a noticeable change in the composition in the background of the view'. This statement is equally applicable to the change in view that would be experienced from Viewpoint 2a, with a similar significance of effect experienced as assessed for Viewpoint 2 (Moderate adverse and significant). It is therefore considered that the conclusions of the visual assessment presented for Viewpoint 2 would be no different for receptors represented by the additional Viewpoint 2a.

- 1.2.1.5 Saddle Dam 2 is visible both in Viewpoint 4 and 4a. The visual assessment of Viewpoint 4 is presented in the EIAR Appendix 6.3 Visual Assessment, Table 2-4. It acknowledges that recreational users of the Great Glen Way and the local road network further along Bunloit Road to the north and the south of the viewpoint location would have some instances where views would be more open towards the Proposed Development. The horizontal extent of Saddle Dam 2 visible from Viewpoint 4a is slightly increased compared with Viewpoint 4 with a similar increase in the vertical extent of the dam visible. However, Saddle Dam 2 is seen within the same landform context in both views and similarly occupies one small part of the horizontal extent of the view and does not distract from the prominence of the silhouette of the summit of Meall Fuar-mhonaidh. The conclusion stated in Table 2-4 therefore remains equally applicable to Viewpoint 4a, where '...the scale and nature of Saddle Dam 2 [note correction as incorrectly referred to Saddle Dam 1] would be an unobtrusive change in the background of the view'. As such, it is considered that the conclusions of the visual assessment presented for Viewpoint 4 would be no different for receptors represented by the additional Viewpoint 4a.
- 1.2.1.6 It should be noted that the text in the EIAR Appendix 6.3 Visual Assessment, Table 2-4 incorrectly refers to Saddle Dam 1 when in fact it should be referring to Saddle Dam 2.

## 1.3 Summary

- 1.3.1.1 Photography has been re-taken in response to THC comments, and revised and visualisations have been prepared for each location. Photography has been captured, and new visualisations have also been prepared from the two additional viewpoints requested by THC. The additional viewpoint locations despite showing comparatively more open views towards the proposed development do not change the conclusions of the original visual assessment presented in the LVIA, and this is the case for assessments of Pre-Construction & Enabling, Construction and Operation phases.

## 2. Water Resources

### 2.1 Introduction

- 2.1.1.1 This chapter provides a detailed response to both NatureScot's additional information request dated 28<sup>th</sup> May 2025 and HES' follow-up request submitted via the Energy Consents Unit on 12<sup>th</sup> June 2025. These requests relate to the hydrological assessment for the Proposed Development. This Additional Information forms part of the assessment of potential impacts on designated environmental and cultural heritage receptors.
- 2.1.1.2 NatureScot's request focuses on potential impacts on three Special Areas of Conservation (SACs):
- River Moriston SAC;
  - Moray Firth SAC; and
  - Urquhart Bay Woods SAC.
- 2.1.1.3 NatureScot's advisor reviewed the submitted EIAR and identified five specific areas on which they requested technical clarification to assist them with their assessment of hydrological impacts on these designated sites.
- 2.1.1.4 HES' follow-up request via the Energy Consents Unit on 12 June 2025 requested a copy of the water-level chart shown at the 29 May 2025 statutory-consultee meeting to inform its review of the EIAR.

### 2.2 Structure of This Response

- 2.2.1.1 This chapter addresses each of NatureScot's five questions in sequence on the following topics:
- **Question 1:** Typical and maximum pumping/generation periods used in modelling, and clarification on how daily inflow data was downscaled to hourly data;
  - **Question 2:** Flow and level duration curve data in tabular format showing baseline, baseline plus Glen Earrach, and baseline plus all PSHs, with percentage exceedance of key ecological level thresholds (15.27, 15.33, 15.48 mAOD);
  - **Question 3:** Flow duration curve data from inserts 13, 15 and 17 of Appendix 11.1, presented as tables showing 99th, 95th, 90th, 80th, 70th, 50th and 30th flow exceedance percentiles (the tables for this are presented as part of the response to Question 2);
  - **Question 4:** Hourly time-series plots of modelled Loch Ness levels for baseline and all scenarios, specifically for mid-May to mid-June 2023 (exceptional low levels) and a typical summer period; and
  - **Question 5:** Focus on specific parts of the level and flow ranges where impacts are most likely to be felt, rather than averaged data across the whole range.
- 2.2.1.2 In addition, this document provides a response to HES' request, submitted via the Energy Consents Unit on 12th June 2025.

### 2.3 Supporting Documentation

- 2.3.1.1 Appendix 2 contains water balance model extracts (relevant to the response to question 4) showing time-series data for the Proposed Development together with Dochfour Weir Works:
- May to June 2023 (exceptional low-level scenario);
  - May to June 2021 (typical summer conditions); and
  - Q1 2020 (winter scenario when seasonal variable weir mitigation is not operational).

- 2.3.1.2 These extracts demonstrate water level fluctuations under baseline conditions, with the Proposed Development operation only, and with all proposed PSH schemes combined.

## 2.4 Key Technical Notes

- 2.4.1.1 All modelling incorporates the proposed Dochfour Weir Upgrade, variable weir mitigation, which operates seasonally (May to September) to isolate River Ness flows from PSH operations during summer months. The details of the proposed Dochfour Weir Upgrade can be found in *Appendix 2.1 Dochfour Weir Upgrade Description* (Volume 5 of the EIAR).

## 2.5 Response to NatureScot Questions

### 2.5.1 NatureScot Question 1

- 2.5.1.1 **There doesn't appear to be anywhere in the documentation detailing the typical and maximum pumping and generation periods used for modelling. It is possible that this information is in another document but we would have expected it to be in the section that talked about the operating profile (section 4.2.8 of Appendix 11.1 Water Resources assessment). If this information is not detailed could this be provided to enable better understanding of the duration of fluctuations. Also if you could confirm how the net daily inflow data has been downscaled to hourly data to align with the modelled operational profile of pumping and discharge.**
- 2.5.1.2 **Response:** The operation profile for the Proposed Development will be dependent on the electricity market and will look to support the electricity grid network where there is under or over supply of electricity on the network. Detailed analysis has been carried out of the market demand, based on data for the period 2016 – 2024 and this has been fed into the water balance model of Loch Ness and the proposed Pumped Storage Hydro schemes linked to Loch Ness, the consented Loch na Cathrach scheme and the proposed Loch Kemp scheme. The existing operation of Foyers is already captured within the baseline data.
- 2.5.1.3 Extracts from the generation profile can be seen in the water balance model, which is shown in Appendix 2. In general, the Proposed Development will operate for short durations of 2 to 6 hours, with only occasional periods of longer duration operations.
- 2.5.1.4 As regards the downscaling of the net daily data to hourly data, the data used was 15 minute SEPA data, from the River Ness and Loch Ness gauging stations. Daily data was used from the Scottish Canals monitoring station at Dochgarroch Lock, to estimate the headloss between Loch Ness and Loch Dochfour. In addition, historical half-hourly pricing data was used as the basis of the PSH modelling. It is confirmed that no downscaling was carried out to the data from daily to hourly data.

### 2.5.2 NatureScot Question 2

- 2.5.2.1 **In section 5, a number of modelled annual and seasonal flow and level duration curves for a range of scenarios are presented. These are used in assessing the potential impacts of any prolonged low flows/levels at the weir and in the River Ness. However, they are small, busy graphs and it's not possible to pick out the degree of changes with any precision, particularly at low to moderate levels. Could this data be presented in a different format.**
- 2.5.2.2 **Could this data be provided in tables that show the baseline, baseline plus Glen Earrach and baseline plus all PSHs?**
- 2.5.2.3 **Response:** In addition to the flow duration curves provided in Appendix 11.1 of the EIAR, the supporting numerical data underlying these curves are presented below.
- 2.5.2.4 The following section summarises the impact on flows in the River Ness, as a result of the operation of the Proposed Development. The analysis looked at a number of options based on schemes considered and the level of mitigation in line with Section 4.4.4 of Appendix 11.1 of the EIAR. These are summarised as follows:

a) Baseline (Foyers operation included in baseline scenario);

b) The Proposed Development;

c) The Proposed Development and Loch na Cathrach; and

d) The Proposed Development, Loch na Cathrach and Loch Kemp.

2.5.2.5 Two mitigation scenarios are also considered with the above Pumped Storage Hydro schemes. These are as follows:

- Pumped storage schemes with no mitigation – No Mitigation; and
- Pumped storage schemes with introduction of variable weir, the Dochfour Weir works at Ness Weir to isolate the River Ness flows from the operation of the pumped storage schemes during summer months (May to September) only - Seasonal Variable Weir.

2.5.2.6 The flow duration curves have been assessed based on annual and seasonal basis. It should be noted that the Dochfour Weir Upgrade, seasonal variable weir, will operate between May and September and therefore only part of the Spring and Autumn time periods has the seasonal variable weir in operation.

#### 2.5.2.7 a) Baseline

The annual and seasonal flow duration curves for the River Ness based on baseline scenario are summarised in Figure 2.1.

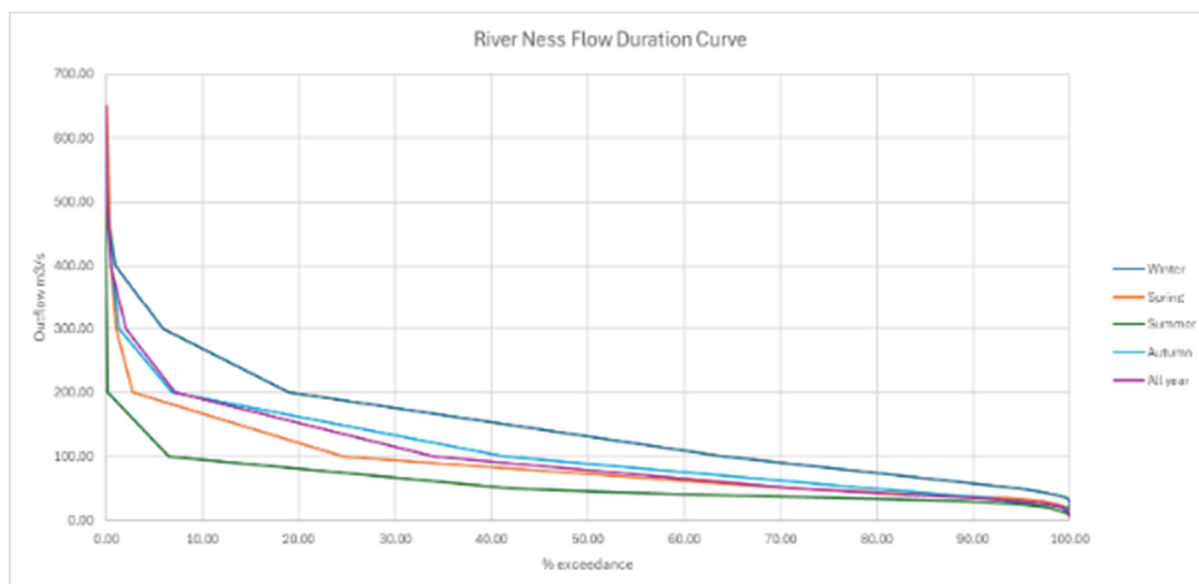


Figure 2-1: Baseline Flow Duration Curves

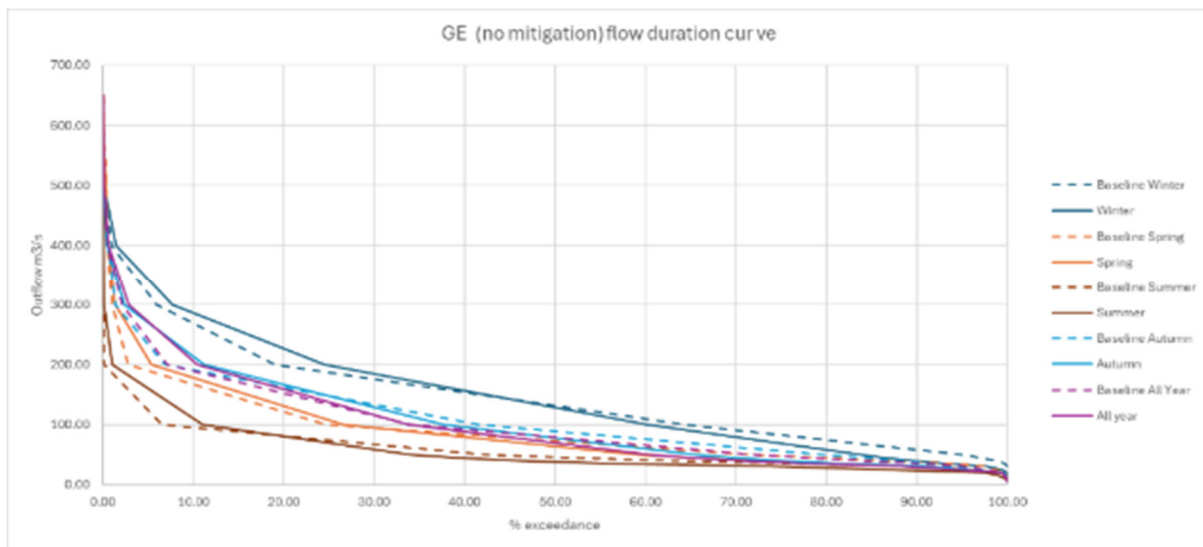
#### 2.5.2.8 b) The Proposed Development Only

This section summarises the impact on flows in the River Ness as a result of the operation of The Proposed Development. This includes both annual and seasonal variations, as well as with and without the proposed Dochfour Weir works.

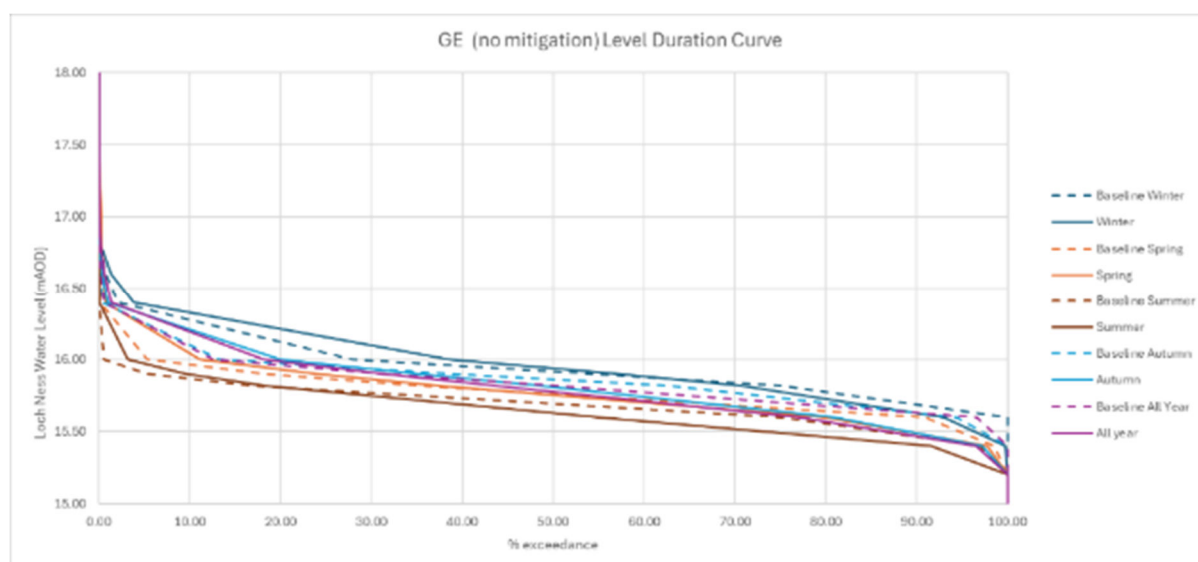
2.5.2.9 **The Proposed Development Annual and Seasonal Impact with no mitigation** - Simulation has been carried out based on modelling of Loch Ness, with an hourly inflow series. The no mitigation scenario is based on the Proposed Development running in line with the generation and pumping profile, together with the curtailment of operations when outside the water level operating window in Loch Ness.

**Table 2-1 River Ness flows - The Proposed Development with no mitigation**

Key Parameters	Baseline Annual	GE Annual	Baseline Winter	GE Winter	Baseline Spring	GE Spring	Baseline Summer	GE Summer	Baseline Autumn	GE Autumn
Q95	30	24.5	50	33	34	26.5	25	22	28	26
Q90	35	29	58	39	37	30.5	30	24	36.5	31
Q80	41	34	78	80	44	35	34	28	44	35
Q70	51	40	92	78	51	41	37	31	63	45
Q50	76	74	125	123	67.5	60	45	37	89	75
Q30	108	110	162	180	91	91	61	55	115	120
Q10	174	204	257	276	135	160	89	105	173	208

**Figure 2-2 The Proposed Development with no mitigation Flow Duration Curve****Table 2-2 Loch Ness levels – The Proposed Development with no mitigation**

Key Parameters	Baseline Annual	GE Annual	Baseline Winter	GE Winter	Baseline Spring	GE Spring	Baseline Summer	GE Summer	Baseline Autumn	GE Autumn
L95	15.50	15.40	15.70	15.55	15.55	15.40	15.45	15.30	15.45	15.40
L90	15.60	15.45	15.75	15.65	15.50	15.50	15.50	15.40	15.60	15.50
L80	15.65	15.55	15.80	15.75	15.65	15.60	15.55	15.45	15.70	15.60
L70	15.75	15.65	15.85	15.80	15.70	15.65	15.60	15.50	15.75	15.70
L50	15.80	15.80	15.95	15.90	15.80	15.75	15.70	15.60	15.85	15.80
L30	15.90	15.90	16.00	16.05	15.85	15.85	15.75	15.75	15.90	15.90
L10	16.05	16.10	16.15	16.20	15.95	16.00	15.85	15.90	16.05	16.10



**Figure 2-3 The Proposed Development with no mitigation Level Duration Curve**

- 2.5.2.10 Proposed Development Annual and Seasonal Impact with Seasonal Variable Weir** - To reduce the impact on the flows in the River Ness, the Dochfour Weir Upgrade, a regulating seasonal weir, is proposed to decouple the flows in the River Ness from the Pumped Storage Hydro activity in Loch Ness. When the Proposed Development is generating, a seasonal variable weir (known as the Dochfour Weir Upgrade in the EIAR) will rise at Ness Weir to match the raise in level of Loch Ness due to PSH activity, in so doing it will maintain the flows over the Dochfour Weir and in River Ness according to the flows without the Proposed Development.
- 2.5.2.11** When water is pumped back into the Proposed Development's Headpond, the Dochfour Weir Upgrade, regulating seasonal weir, will lower according to the change in level due to PSH activity, again decoupling the flows in the river from the Proposed Development's operations.
- 2.5.2.12** The Dochfour Weir will operate over the summer months (May to September). During winter months the variable weir will not be operated in order to ensure no increased risk in flooding at Loch Ness and along the River Ness. The existing sill level of the Dochfour Weir will be maintained.

**Table 2-3 River Ness flows – The Proposed Development with seasonal variable weir**

Key Parameters	Baseline Annual	GE Annual	Baseline Winter	GE Winter	Baseline Spring	GE Spring	Baseline Summer	GE Summer	Baseline Autumn	GE Autumn
<b>Q95</b>	30	27	50	33	34	24.5	25	25.5	28	28
<b>Q90</b>	35	31.5	58	39	37	29.5	30	29.5	36.5	32.5
<b>Q80</b>	41	37	78	57	44	35	34	34	44	40
<b>Q70</b>	51	44	92	78	51	40	37	37	63	50
<b>Q50</b>	76	66	125	123	67.5	58	45	45	89	67
<b>Q30</b>	108	104	162	180	91	87	61	60	115	116
<b>Q10</b>	174	200	257	275	135	155	89	89	173	209

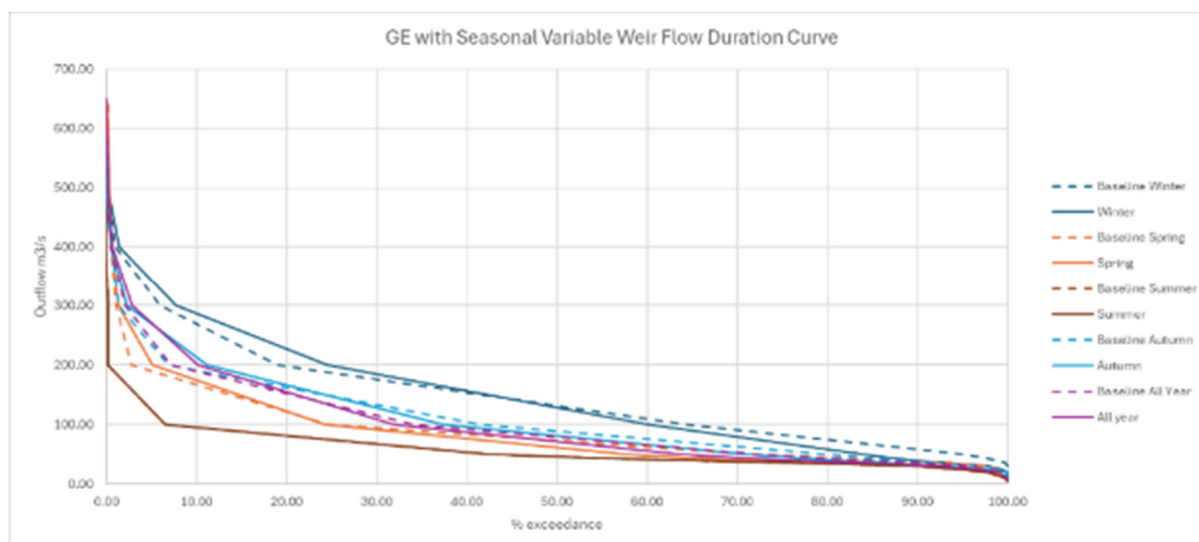
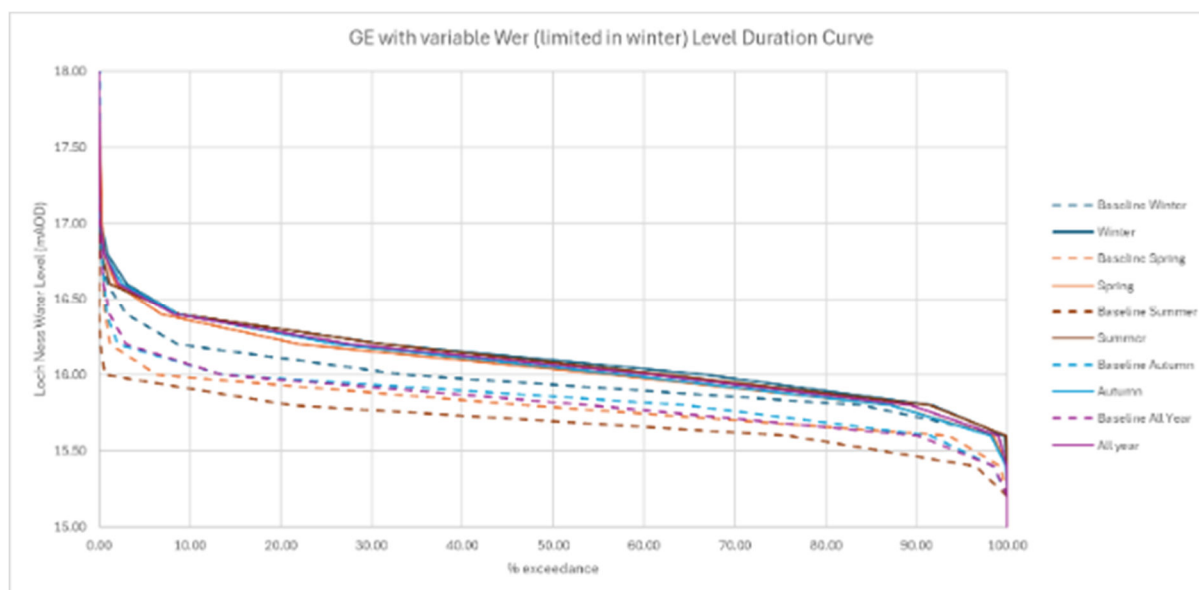


Figure 2-4 The Proposed Development with seasonal variable weir Flow Duration Curve

Table 2-4 Loch Ness levels – The Proposed Development with seasonal variable weir

Key Parameters	Baseline Annual	GE Annual	Baseline Winter	GE Winter	Baseline Spring	GE Spring	Baseline Summer	GE Summer	Baseline Autumn	GE Autumn
L95	15.50	15.55	15.70	15.55	15.55	15.50	15.45	15.55	15.45	15.55
L90	15.60	15.60	15.75	15.65	15.50	15.60	15.50	15.65	15.60	15.60
L80	15.65	15.70	15.80	15.75	15.65	15.65	15.55	15.70	15.70	15.70
L70	15.75	15.75	15.85	15.80	15.70	15.75	15.60	15.80	15.75	15.80
L50	15.80	15.90	15.95	15.95	15.80	15.85	15.70	15.90	15.85	15.90
L30	15.90	16.00	16.00	16.05	15.85	15.95	15.75	16.00	15.90	16.00
L10	16.05	16.15	16.15	16.20	15.95	16.10	15.85	16.15	16.05	16.15





**Figure 2-5 The Proposed Development with seasonal variable weir Level Duration Curve**

#### 2.5.2.13 c) The Proposed Development and Loch na Cathrach

This section summarises the impact on flows in the River Ness as a result of the operation of the Proposed Development and Loch na Cathrach PSH. These include both annual and seasonal variations as well with and without The Dochfour Weir works.

#### 2.5.2.14 The Proposed Development and Loch na Cathrach Annual and Seasonal Impact with no mitigation - The scheme will operate in line with the Proposed Development only with Dochfour Weir works, with the added impact of the scheme running in parallel with the Loch na Cathrach scheme.

**Table 2-5 River Ness flows – The Proposed Development & LnC with no mitigation**

Key Parameters	Baseline Annual	GE + LnC Annual	Baseline Winter	GE + LnC Winter	Baseline Spring	GE + LnC Spring	Baseline Summer	GE + LnC Summer	Baseline Autumn	GE + LnC Autumn
Q95	30	23.5	50	32	34	24.5	25	21.5	28	24
Q90	35	28	58	36	37	29	30	23	36.5	30
Q80	41	32	78	50	44	34	34	27	44	34
Q70	51	38	92	72	51	38	37	30	63	41
Q50	76	62	125	122	67.5	56	45	36	89	69
Q30	108	110	162	184	91	92	61	54	115	120
Q10	174	212	257	283	135	167	89	107	173	167

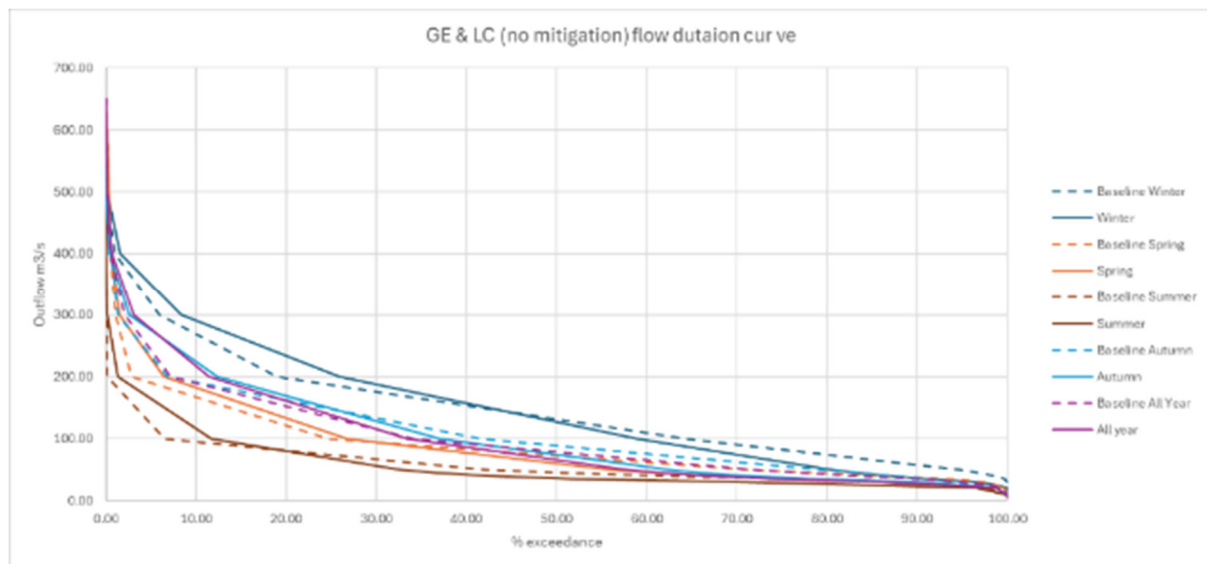


Figure 2-6 The Proposed Development & LnC with no mitigation Flow Duration Curve

Table 2-6 Loch Ness levels – The Proposed Development & LnC with no mitigation

Key Parameters	Baseline Annual	GE + LnC Annual	Baseline Winter	GE + LnC Winter	Baseline Spring	GE + LnC Spring	Baseline Summer	GE + LnC Summer	Baseline Autumn	GE + LnC Autumn
L95	15.50	15.40	15.70	15.50	15.55	15.40	15.45	15.38	15.45	15.40
L90	15.60	15.45	15.75	15.60	15.50	15.45	15.50	15.40	15.60	15.45
L80	15.65	15.55	15.80	15.75	15.65	15.55	15.55	15.45	15.70	15.55
L70	15.75	15.65	15.85	15.80	15.70	15.65	15.60	15.50	15.75	15.65
L50	15.80	15.75	15.95	15.95	15.80	15.75	15.70	15.60	15.85	15.80
L30	15.90	15.90	16.00	16.05	15.85	15.85	15.75	15.75	15.90	15.95
L10	16.05	16.10	16.15	16.25	15.95	16.05	15.85	15.90	16.05	16.10

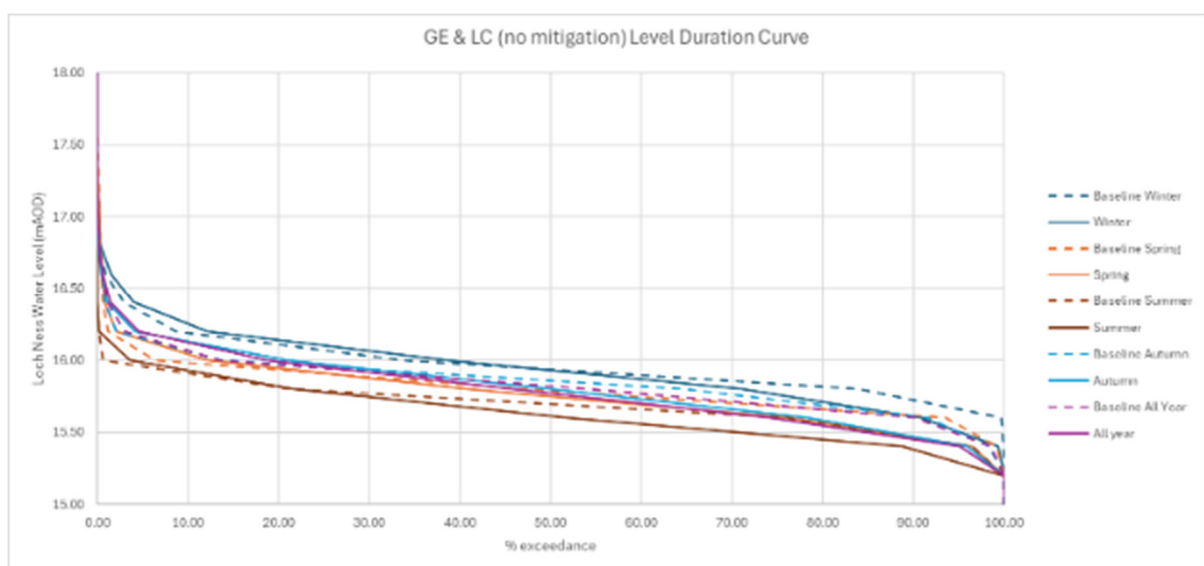
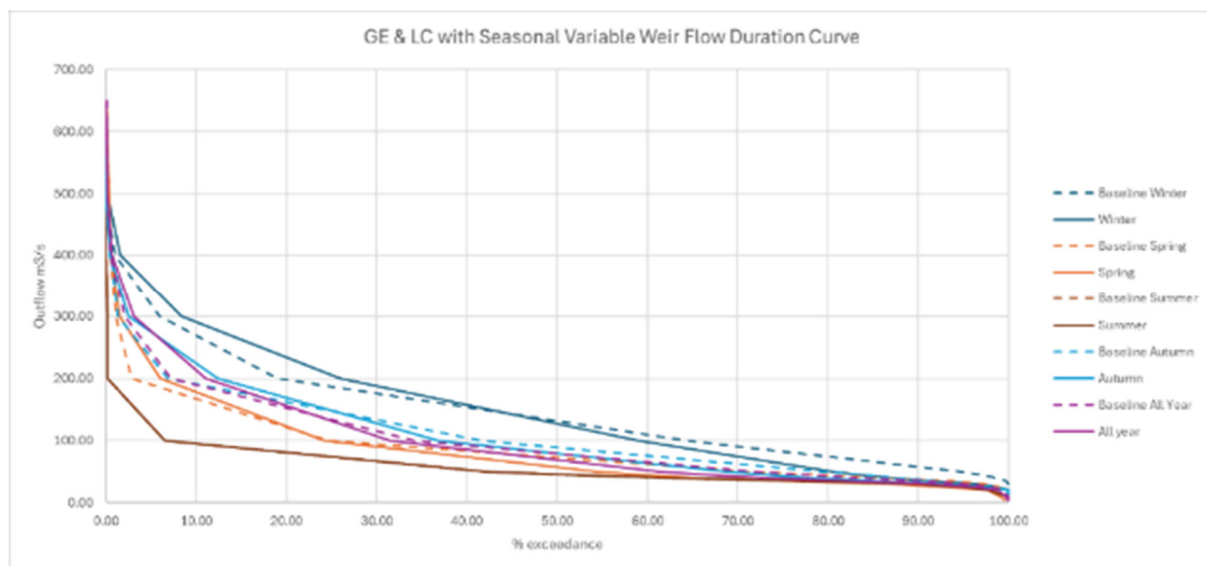


Figure 2-7 The Proposed Development & LnC with no mitigation Level Duration Curve

- 2.5.2.15 **The Proposed Development & Loch na Cathrach Annual and Seasonal Impact with Seasonal Variable Weir.** The scheme will operate in line with the Proposed Development only with seasonal variable weir with the added impact of the scheme running in parallel with the Loch na Cathrach scheme.

**Table 2-7 River Ness flows – The Proposed Development & LnC with seasonal variable weir**

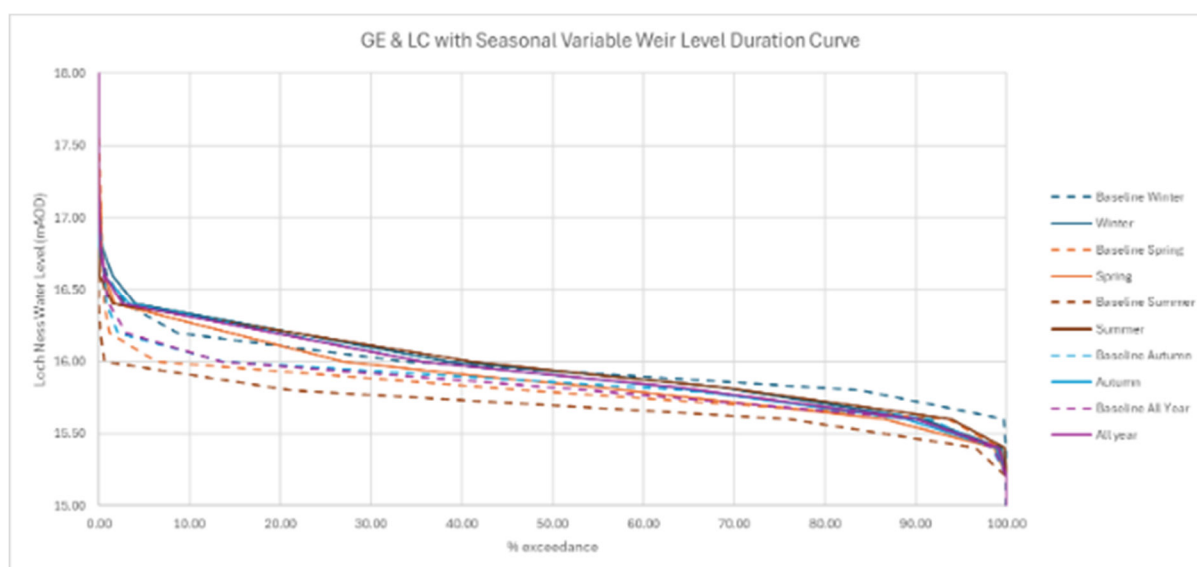
Key Parameters	Baseline Annual	GE + LnC Annual	Baseline Winter	GE + LnC Winter	Baseline Spring	GE + LnC Spring	Baseline Summer	GE + LnC Summer	Baseline Autumn	GE + LnC Autumn
<b>Q95</b>	30	26	50	31.5	34	23	25	25	28	28
<b>Q90</b>	35	31	58	36	37	27.5	30	30	36.5	32
<b>Q80</b>	41	36	78	50	44	33	34	34	44	38
<b>Q70</b>	51	42	92	73	51	36	37	37	63	48
<b>Q50</b>	76	64	125	122	67.5	55	45	45	89	76
<b>Q30</b>	108	104	162	184	91	86	61	60	115	116
<b>Q10</b>	174	210	257	283	135	160	89	89	173	218



**Figure 2-8 The Proposed Development & LnC with seasonal variable weir Flow Duration Curve**

**Table 2-8 Loch Ness levels – The Proposed Development & LnC with seasonal variable weir**

Key Parameters	Baseline Annual	GE + LnC Annual	Baseline Winter	GE + LnC Winter	Baseline Spring	GE + LnC Spring	Baseline Summer	GE+ LnC Summer	Baseline Autumn	GE + LnC Autumn
L95	15.50	15.50	15.70	15.50	15.55	15.45	15.45	15.55	15.45	15.50
L90	15.60	15.60	15.75	15.60	15.50	15.55	15.50	15.65	15.60	15.60
L80	15.65	15.70	15.80	15.75	15.65	15.65	15.55	15.75	15.70	15.70
L70	15.75	15.75	15.85	15.80	15.70	15.75	15.60	15.80	15.75	15.80
L50	15.80	15.90	15.95	15.95	15.80	15.85	15.70	15.95	15.85	15.90
L30	15.90	16.05	16.00	16.05	15.85	15.95	15.75	16.10	15.90	16.05
L10	16.05	16.20	16.15	16.20	15.95	16.20	15.85	16.20	16.05	16.20

**Figure 2-9 The Proposed Development & LnC with seasonal variable weir Level Duration Curve**

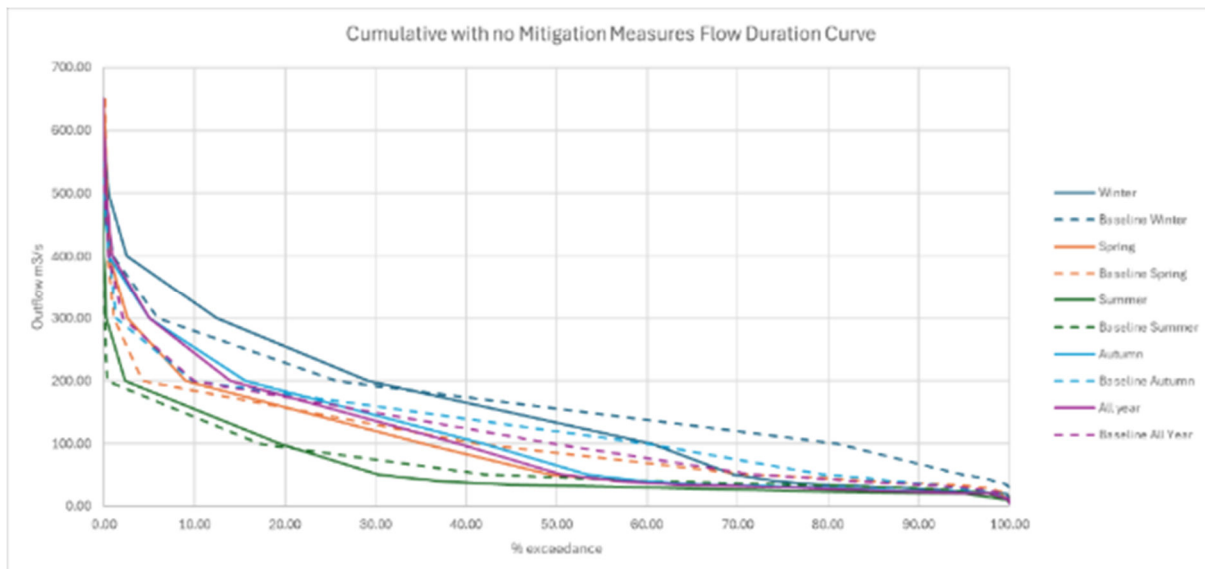
### 2.5.2.192 d) The Proposed Development, Loch na Cathrach and Loch Kemp

This section summarises the impact on flows in the River Ness as a result of the operation of the Proposed Development, Loch na Cathrach and Loch Kemp PSH. These include both annual and seasonal variations as well with and without various mitigation measures.

2.5.2.193 **The Proposed Development, Loch na Cathrach & Loch Kemp Annual and Seasonal Impact with no mitigation.** The scheme will operate in line with the Proposed Development only with no mitigation with the added impact of the scheme running in parallel with Loch na Cathrach and Loch Kemp schemes

**Table 2-9 River Ness flows – The Proposed Development, LnC & LK with no mitigation**

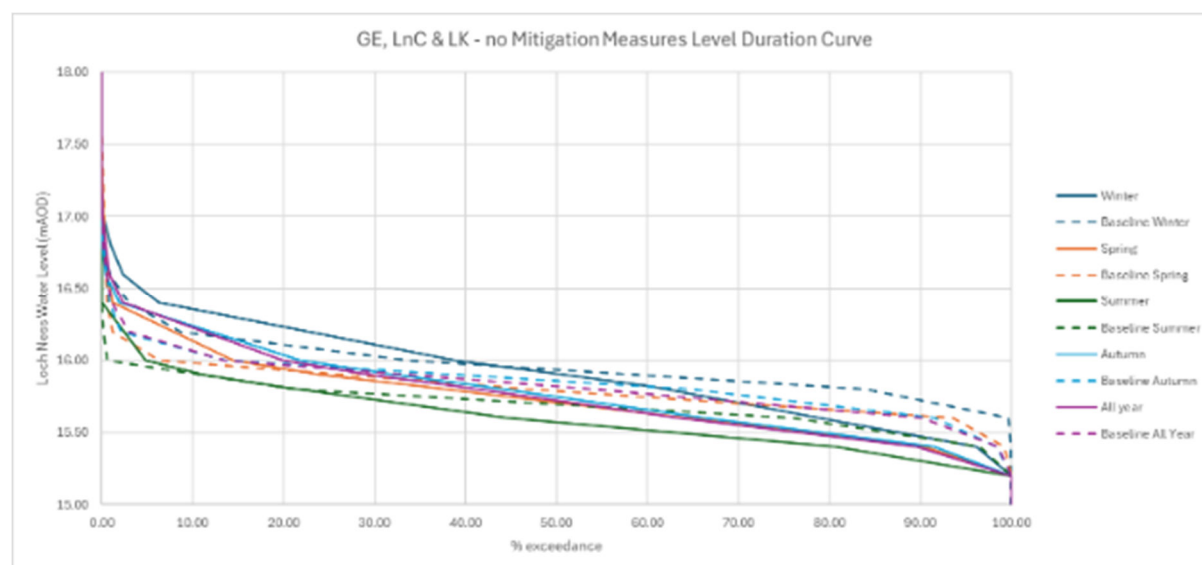
Key Parameters	Baseline Annual	GE, LnC + LK Annual	Baseline Winter	GE, LnC + LK Winter	Baseline Spring	GE, LnC + LK Spring	Baseline Summer	GE, LnC + LK Summer	Baseline Autumn	GE, LnC + LK Autumn
Q95	30	22	50	24	34	22	25	20	28	22
Q90	35	23	58	28.5	37	23.5	30	22	36.5	24
Q80	41	28	78	34	44	29	34	24	44	30
Q70	51	32	92	49	51	33	37	27	63	34
Q50	76	51	125	110	67.5	49	45	33	89	55
Q30	108	105	162	196	91	90	61	50	115	114
Q10	174	238	257	319	135	190	89	114	173	248



**Figure 2-10 The Proposed Development, LnC & LK with no mitigation Flow Duration Curve**

**Table 2-10 Loch Ness levels – The Proposed Development, LnC & LK with no mitigation**

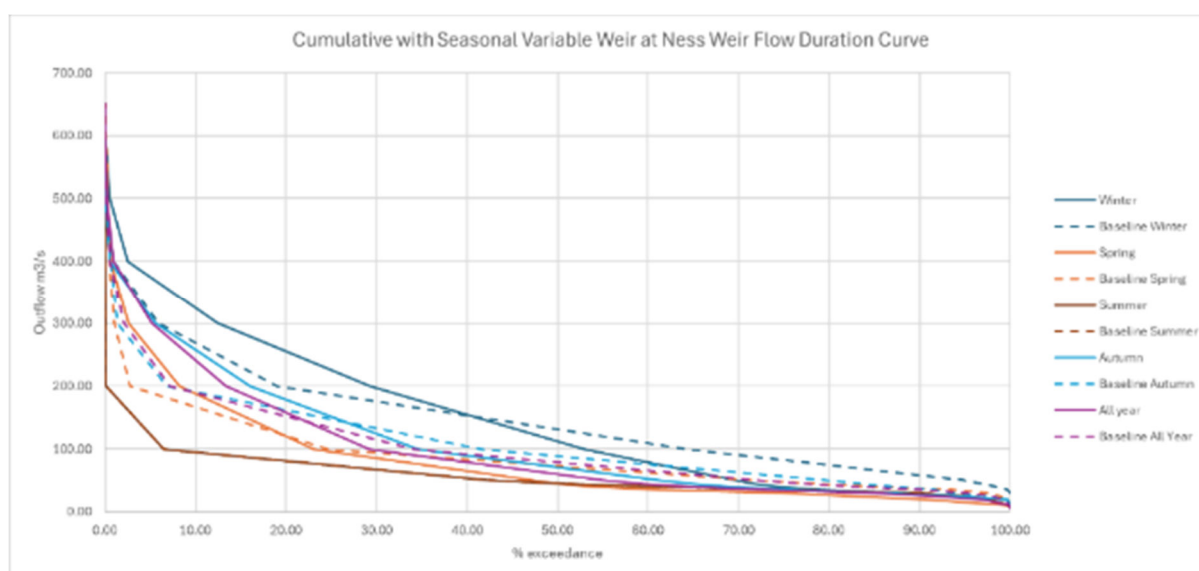
Key Parameters	Baseline Annual	GE, LnC + LK Annual	Baseline Winter	GE, LnC + LK Winter	Baseline Spring	GE, LnC + LK Spring	Baseline Summer	GE, LnC + LK Summer	Baseline Autumn	GE, LnC + LK Autumn
L95	15.50	15.38	15.70	15.40	15.55	15.38	15.45	15.38	15.45	15.38
L90	15.60	15.40	15.75	15.45	15.50	15.40	15.50	15.39	15.60	15.40
L80	15.65	15.45	15.80	15.60	15.65	15.45	15.55	15.40	15.70	15.50
L70	15.75	15.55	15.85	15.90	15.70	15.55	15.60	15.45	15.75	15.55
L50	15.80	15.75	15.95	15.95	15.80	15.70	15.70	15.55	15.85	15.75
L30	15.90	15.90	16.00	16.05	15.85	15.85	15.75	15.75	15.90	15.90
L10	16.05	16.05	16.15	16.30	15.95	16.05	15.85	15.90	16.05	16.15

**Figure 2-11 The Proposed Development & LnC with no mitigation Level Duration Curve**

- 2.5.2.194 **The Proposed Development, Loch na Cathrach & LK Annual and Seasonal Impact with Seasonal Variable Weir** - The scheme will operate in line with the Proposed Development only with seasonal variable weir, with the added impact of the scheme running in parallel with the Loch na Cathrach and Loch Kemp schemes.

**Table 2-11 River Ness flows – The Proposed Development, LnC & LK with seasonal variable weir**

Key Parameters	Baseline Annual	GE, LnC + Baseline LK Annual	Baseline Winter	GE, LnC + Baseline LK Winter	Baseline Spring	GE, LnC + Baseline LK Spring	Baseline Summer	GE, LnC + Baseline LK Summer	Baseline Autumn	GE, LnC + Baseline LK Autumn
Q95	30	22.5	50	24	34	20	25	25	28	20
Q90	35	26	58	29.5	37	21.5	30	30	36.5	27.5
Q80	41	32	78	34	44	26	34	34	44	33
Q70	51	36	92	49	51	32	37	37	63	40
Q50	76	56.5	125	110	67.5	45	45	45	89	70
Q30	108	96	162	196	91	80	61	60	115	112
Q10	174	236	257	320	135	180	89	89	173	251



**Figure 2-12 The Proposed Development, LnC & LK with seasonal variable weir Flow Duration Curve**

**Table 2-12 Loch Ness levels – The Proposed Development, LnC & LK with seasonal variable weir**

Key Parameters	Baseline Annual	GE, LnC + Baseline LK Annual	Baseline Winter	GE, LnC + Baseline LK Winter	Baseline Spring	GE, LnC + Baseline LK Spring	Baseline Summer	GE, LnC + Baseline LK Summer	Baseline Autumn	GE, LnC + Baseline LK Autumn
L95	15.50	15.40	15.70	15.40	15.55	15.40	15.45	15.60	15.45	15.40
L90	15.60	15.50	15.75	15.45	15.50	15.45	15.50	15.70	15.60	15.50
L80	15.65	15.65	15.80	15.60	15.65	15.55	15.55	15.80	15.70	15.60
L70	15.75	15.75	15.85	15.70	15.70	15.65	15.60	15.90	15.75	15.70
L50	15.80	15.95	15.95	15.90	15.80	15.85	15.70	16.15	15.85	15.90
L30	15.90	16.15	16.00	16.05	15.85	16.05	15.75	16.35	15.90	16.15
L10	16.05	16.50	16.15	16.3	15.95	16.40	15.85	16.55	16.05	16.50

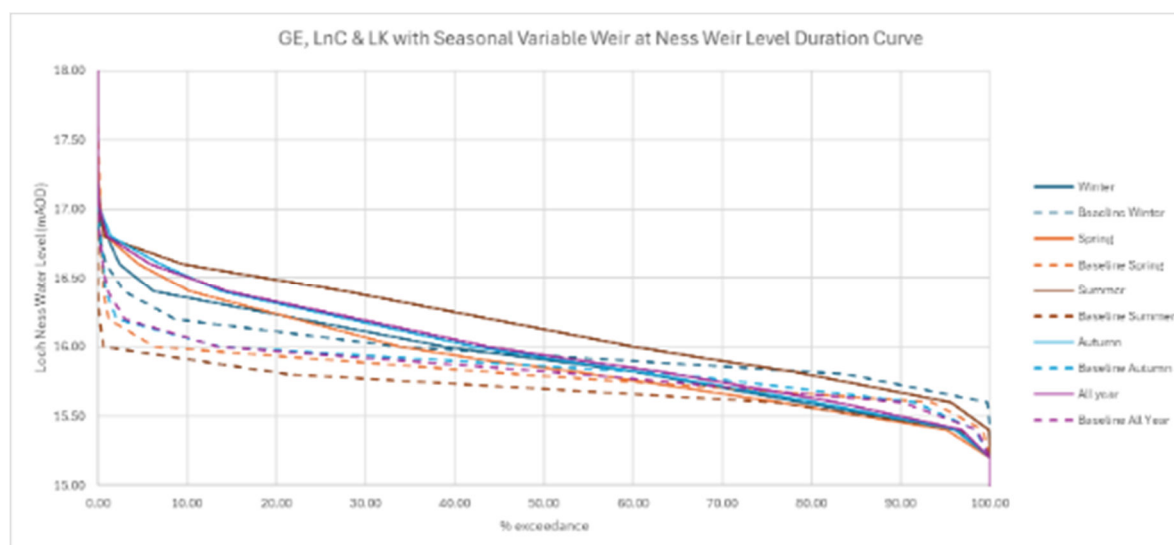


Figure 2-13 The Proposed Development, LnC & LK with seasonal variable weir Level Duration Curve

## 2.5.3 NatureScot Question 2 (continued)

- 2.5.3.1 **Most helpful would be tables that showed changes in the percentage exceedance of key ecological level thresholds, similar to Table 7.2 in Appendix 7.2 that shows the percentage exceedance of key contours at Urquhart Bay Wood SAC. Presented this way it would allow us to see how the scheme would change the proportion of time above and below relevant thresholds. In the case of salmon maybe Colin should confirm if this is a useful way of assessing impacts but based on the Loch Kemp work perhaps those thresholds could be 15.27mAOD (Foyers SPL), 15.33 (the level below which depths on the lower part of the weir are less than 0.15m - a potential barrier to adult upstream migration) and maybe 15.48 (the level of the smolt chute). There might be a higher threshold that would be useful too.**
- 2.5.3.2 **Response:** Water balance assessments were carried out as part of the analysis for a range of scenarios. An assessment of the percentage exceedance of key threshold levels noted above was undertaken. These are summarised in Table 2-13 below in a similar manner to that set out in Table 7.2 of Appendix 7.2 of the EIAR.
- 2.5.3.3 With the introduction of the Dochfour Weir Upgrade works, as advised in Appendix 2.1 of the EIAR, a new fish pass arrangement will be constructed to replace the existing arrangements at Ness Weir. The fish pass will be designed to allow the passage of fish over a wide range of water levels. The percentage exceedance quoted for the levels of 15.27, 15.33 and 15.48 mAOD will therefore not reflect the impact on fish passage. A new fish pass arrangement will provide a betterment over the current arrangement and will be designed in close consultation with a range of stakeholders.



Table 2-13 Percentage exceedance of key thresholds by Loch Ness water level under different scenarios

Water Level (m AOD)	Season	Baseline	GE		GE + LnC		GE + LnC + LK	
		weir not changed	weir not changed	seasonal variable weir	weir not changed	seasonal variable weir	weir not changed	seasonal variable weir
15.27	Spring	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Summer	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Autumn	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Annual	100.0	100.0	100.0	100.0	100.0	100.0	100.0
15.33	Spring	99.9	100.0	100.0	99.9	100.0	99.8	100.0
	Summer	99.2	99.4	100.0	99.2	100.0	98.9	100.0
	Autumn	100	100	100.0	99.8	100.0	99.8	100.0
	Annual	99.8	99.8	100.0	99.7	100.0	99.6	100.0
15.48	Spring	97.4	91.6	95.8	89.3	94.6	78.7	87.2
	Summer	89.8	75.5	97.8	71.6	89.2	62.7	98.8
	Autumn	93.4	91.6	96.3	90.3	95.9	80.4	89.7
	Annual	95.2	89.1	97.0	86.9	96.3	77.5	91.1
15.82	Spring	40.5	37.4	54.7	37.1	55.0	35.0	53.7
	Summer	16.8	18.3	63.8	18.9	68.8	19.2	78.1
	Autumn	59.3	48.6	63.8	46.5	63.1	41.7	60.7
	Annual	49.1	43.6	63.2	42.6	63.8	39.0	63.2
15.90	Spring	20.6	23.7	39.4	24.2	41.8	24.1	44.0
	Summer	4.6	9.5	50.1	10.1	55.9	11.2	69.8
	Autumn	36.3	34.8	49.1	34.4	51.0	32.3	52.2
	Annual	30.4	31.1	48.8	31.1	51.2	29.5	54.2
16.00	Spring	6.3	11.1	23.7	12.1	26.9	14.5	33.9
	Summer	0.6	3.2	33.9	3.6	41.1	4.8	60.1
	Autumn	13.6	20.0	32.4	20.9	35.6	21.9	42.2
	Annual	13.5	18.1	32.1	18.7	35.3	19.9	43.8

## 2.5.4 NatureScot Question 3

**2.5.4.1** We assume that reach-specific ecological flow thresholds are not known for river levels in the Ness. Therefore a table showing the flow duration curve data presented in inserts 13, 15 and 17 from Appendix 11.1 would allow us to better see the changes in flow. We suggest the tables show the 99, 95, 90, 80, 70, 50 and 30th flow exceedance percentiles.

**2.5.4.2** **Response:** In the earlier provided response to Nature Scot Question 2 (Section 2.5.2 above), the data used for the flow duration curves in inserts 13, 15 and 17 from Appendix 11.1 of the EIAR are included as requested.

**2.5.4.3** In respect of the Proposed Development-only scenario, the data contained in Insert 13 of the EIAR are presented in Table 2-1 and Figure 2-2 of this Additional Information.

**2.5.4.4** For the scenario in which the Proposed Development operates concurrently with the consented Loch na Cathrach scheme, the corresponding dataset is presented in Table 2-5 and Figure 2-6 (cf. Insert 15 of the EIAR)..

**2.5.4.5** Where the Proposed Development is assessed cumulatively with both the Loch na Cathrach and Loch Kemp schemes, the relevant data are presented in Table 2-9 and Figure 2-10 of this document (cf. Insert 17 of the EIAR).

**2.5.4.6** It should be noted that the Tables and Figures referred to above, provide the results for the scenario without the Dochfour Weir works. The Dochfour Weir works should be considered as part of the assessment as this forms part of the wider pumped storage consideration for Loch Ness. The corresponding tables and figures are as follows:

- Proposed Development – Table 2.3 and figure 2.4;
- Proposed Development and Loch na Cathrach – Table 2.7 and Figure 2.8; and
- Proposed Development, Loch na Cathrach and Loch Kemp – Table 2.11 and Figure 2.12.

## 2.5.5 NatureScot Question 4

**2.5.5.1** The exceedance percentile statistics are useful for giving an overview but given that the fluctuations will often be sub-daily and dependant on preceding level conditions, we need to see the modelled impact visualised on an hourly time-step. It would be helpful to see this in a typical summer and also in a recently exceptional low level scenario which, for low levels for example between mid-May and mid-June 2023. For this time period it would be helpful to see the modelled Loch Ness levels plotted as an hourly timeseries for baseline, baseline plus GE and baseline plus all PSHs.

**2.5.5.2** **Response:** Extracts for the water balance model are included in Appendix 2 of this document. These show the water levels based on both baseline together with the operation of the Proposed Development and in combination with the consented Loch na Cathrach and proposed Loch Kemp PSH. Water balance model results have been provided for the period May to June 2023 as requested, an exceptional low level scenario. Further model results are provided for May to June 2021, a more typical summer for comparison.

**2.5.5.3** Further water balance model results have been provided for February 2021 to represent a winter scenarios when the Dochfour Weir works, the seasonal variable weir is not in operation. This shows the reduced impact on water level over this period, based on the weir spill levels remaining unchanged from the existing arrangement.

## 2.5.6 NatureScot Question 5

**2.5.6.1** While there are advantages in seeing the proposed changes in levels and flows, averaged over time and presented across the whole range it will be helpful to get to more specific parts of the level and flow ranges where the impacts are most likely to be felt.

**2.5.6.2** **Response:** With the introduction of the variable weir (Dochfour Weir works) the flows in the River Ness are isolated from the Pumped Storage Hydro activities at Loch Ness during the operational periods of the variable weir.

**2.5.6.3** The variable weir avoids artificial loss of water from Loch Ness as a result of PSH operations during the generation cycles by raising the weir to match the volume of water released by the operation of the

scheme. Natural inflows will pass through Loch Ness as before ensuring that flows in the River Ness respond to inflows and direct rainfall on Loch Ness and not hydro operations. In a similar manner, the weir level will drop when water is pumped from Loch Ness, to avoid any unnatural drop in River Ness flows as a result of PSH activity.

- 2.5.6.4 With the operation of the variable weir flows in the River Ness are isolated from the PSH operations and are therefore not impacted by the PSH. The variable weir will operate between the months of May and September. Flows in the River Ness will not be impacted over this period. During winter months when the variable weir is not in operation, flows will fluctuate in the river as shown by the flow duration charts.
- 2.5.6.5 The operation of the seasonal variable weir isolates the River Ness flows from PSH inflows and abstractions. As a result, water levels in Loch Ness will fluctuate to provide the required attenuation during generation cycle. This attenuation will then be used up during the pumping cycles.
- 2.5.6.6 During the summer months, the Dochfour Weir Upgrade seasonal variable weir will maintain a higher average water level in Loch Ness, reducing the likelihood of extreme low water level conditions, which do currently occur naturally and cause challenges both for users of Loch Ness and for fish passage at the Dochfour Weir.

## 2.6 Energy Consents Unit request on behalf of Historic Environment Scotland on 12 June 2025

### 2.6.1 Context of Request

- 2.6.1.1 The Applicant has continued to undertake consultation with statutory consultees following the submission of the Section 36 Application for the Proposed Development.
- 2.6.1.2 A post-application submission meeting with statutory consultees was held on 29th May 2025. This was attended by THC, NatureScot, HES, and SEPA. The intent of the meeting was to continue dialogue with statutory consultees post-application submission and discuss any initial queries on the content of the EIAR accompanying the application.
- 2.6.1.3 During the meeting, a water level chart was included in a presentation from the Applicant, and referenced in relation to answering a question from HES on the water environment.
- 2.6.1.4 Following the meeting HES requested (via the Energy Consents Unit by email of 12th June 2025) a copy of the water level chart information presented at the meeting.

### 2.6.2 Response to Request

- 2.6.2.1 The water level chart included in the meeting presentation on 29<sup>th</sup> May 2025 is provided in Figure 2.14 below. This is a generic representation of the frequency and scale of water level changes in Loch Ness as a result of the Proposed Development, and cumulative PSH project scenarios. The legend for the data series are as follows:

- Observed (SEPA gauge);
- Modelled Baseline;
- Glen Earrach and Loch na Cathrach; and
- Glen Earrach, Loch na Cathrach and Loch Kemp.



**Figure 2-14 Water Levels Chart (extract from meeting presentation of 29 May 2025)**

- 2.6.2.2 The November 2017 dataset shared in the presentation was an early set of results that graphically shows the scale of the change in water level at Loch Ness and a comparison between the Proposed Development and the cumulative impact with other schemes.
- 2.6.2.3 Further to the above chart and to provide additional clarity, more detailed chart representations are provided in Appendix 2 of this document. This contains water balance model extracts showing time-series data for:
- May to June 2023 (exceptional low-level scenario);
    - Figure A2-1 Entire year of 2023
    - Figure A2-2 May - June 2023

- Figure A2-3 29 May to 13 June 2023
- May to June 2021 (typical summer conditions);
  - Figure A2-4 Entire year of 2021
  - Figure A2-5 May - July 2021
  - Figure A2-6 29 May to 13 June 2021
- Q1 2020 (winter scenario when seasonal variable weir mitigation is not operational); and
  - Figure A2-7 January – March 2020
- November 2017 (updated chart for the period shown in the presentation).
  - Figure A2-8 November 2017

These extracts demonstrate water level fluctuations under baseline conditions (which includes Foyers PSH) , with the Proposed Development operation only, and in combination with the consented Loch na Cathrach and proposed Loch Kemp PSH.

## 3. EIAR and Planning Statement Corrections

### 3.1 Introduction

- 3.1.1.1 The Applicant has identified corrections that are required to the EIAR and the standalone Planning Statement. Corrections are therefore also provided as Additional Information in this chapter. It should be noted that the Additional Information contained in this chapter does not change the conclusions of the assessment reported in the EIAR or the Planning Statement.

### 3.2 Corrections

- 3.2.1.1 This Additional Information contains two corrections as set out below.

*Correction 1: Upper Operating Water Level.*

- 3.2.1.2 Within the EIAR, Technical Appendices, and accompanying documentation, it is stated that the upper water level is **17.6 mAOD**. This is incorrect. The correct upper operating water level (hands-off / stop generation) is **17.44 mAOD**. This point was also raised by SEPA as part of their holding objection reference PCS-20005351.

- 3.2.1.3 This level is consistent with the value proposed in the Controlled Activities Regulations (CAR) licence application and corresponds to the most conservative (i.e. lowest) of the levels proposed by other Pumped Storage Hydro schemes on Loch Ness. It has been selected to avoid any detrimental impact on flood risk or on the standard of protection provided by the River Ness Flood Protection Scheme. The level reflects the lowest end of current hands-off thresholds for other abstractions on Loch Ness. This remains below the present 1-in-10-year flood level, which is the level that flood receptors are considered at risk, both along the shoreline of Loch Ness and downstream on the River Ness.

*Correction 2: Planning Statement – percentage reference to net gain for area-based habitats.*

- 3.2.1.4 Within the Planning Statement it is stated that "the Proposed Development would achieve 12% net gain for area-based habitats". This should read "the Proposed Development would achieve **22%** net gain for area-based habitats".
- 3.2.1.5 This is a typographical error only and does not change the conclusions of the assessment.

## 4. Peat Management

### 4.1 Introduction

- 4.1.1.1 This chapter provides a formal response from Glen Earrach Energy Limited (GEE) to the holding objection raised by SEPA under point 3.2 of their consultation response, dated 26 June 2025, in relation to peat disturbance arising from the Temporary Workers' Accommodation (TWA) compound. This objection was submitted under SEPA reference PCS-20005351, in connection with the overall application referenced ECU00005121. SEPA stated:

*"We object until the layout is revised to reduce the volume of peat disturbance, clearly demonstrating adherence to the NPF4 mitigation hierarchy."*

- 4.1.1.2 In direct response to this objection, the layout of the TWA compound has been revised to achieve a 42% reduction in peat disturbance within that compound, thereby revising the layout and reducing peat volume as specifically requested by SEPA, which represents approximately 20% of the total project peat disturbance. The following sections provide further clarification and supporting information.
- 4.1.1.3 This response supplements the information presented in the EIAR and Technical Appendix 15.2 (Outline Peat Management Plan) and should be read in conjunction with those documents.

### 4.2 Peat Excavation Reassessment and Design Optimisation

- 4.2.1.1 The original worst-case assessment submitted in the Section 36 Application assumed full excavation of peat across the entire TWA compound area of 215,917 m<sup>2</sup>, with an average peat depth of 0.37 m, resulting in an estimated excavation volume of 81,831 m<sup>3</sup>.
- 4.2.1.2 Through design optimisation, undertaken during Early Contractor Involvement (ECI) – conducted specifically to address environmental concerns raised during consultation – the layout was refined such that excavation is now required only where infrastructure will be constructed. The revised infrastructure footprint is 136,896 m<sup>2</sup>, with an average peat depth of 0.36 m, resulting in an updated peat excavation volume of 47,230 m<sup>3</sup>. This equates to a reduction of 34,602 m<sup>3</sup>, or 42%, within the compound.
- 4.2.1.3 As noted in SEPA's objection, the Temporary Workers' Accommodation compound and other compound areas together account for approximately a quarter of the total estimated 400,000+ m<sup>3</sup> of peat disturbance across the Proposed Development. The 42% reduction in this compound alone therefore represents a substantial contribution to the overall minimisation of peat disturbance, equivalent to approximately 8.7% of total project peat disturbance.
- 4.2.1.4 As a direct consequence of this optimisation, the Applicant confirms that peat and carbon-rich soils will not be stripped from the entire compound area. Excavation will only occur where specifically required for infrastructure (e.g. buildings, roads, drainage). This commitment is now embedded in the project design and is reflected in updated quantity calculations and construction sequencing.
- 4.2.1.5 In addition to the refinement undertaken for the TWA compound, the Applicant confirms that the same design approach will be applied to other compounds identified in the EIAR, including the general construction compounds (41,865 m<sup>2</sup>) and the above ground GIS switchyard (14,986 m<sup>2</sup>). While the current EIAR figures reflect a conservative, worst-case assumption of full peat stripping across these areas, the Applicant will adopt the same principle of limiting excavation to only those areas required for infrastructure (e.g. buildings, roads, drainage).

### 4.3 Layout Optimisation and Off-Site Provision

- 4.3.1.1 In line with SEPA's recommendations, the project has already incorporated off-site provisions for key functions including storage, logistics and laydown. On-site parking has already been limited to essential provision only, comprising coach parking for up to 12 coaches (to facilitate workforce transport to/from the site) and restricted individual vehicle parking, supplemented by bicycle storage facilities.
- 4.3.1.2 Further opportunities to reduce the area and intensity of peat disturbance will be secured through a Workers' Accommodation Strategy (WAS), to be brought forward via a planning condition. This strategy will include but not be limited to:

- Multi-level accommodation, building on the current double-stacked design and actively reviewing the potential for additional vertical efficiency where appropriate; and
- Additional off-site relocation of non-essential storage and facilities where feasible.

4.3.1.3 These measures are intended to minimise residual peat disturbance, while ensuring a high standard of accommodation. While seeking to avoid adverse social or operational consequences associated with the over-compression of the compound layout.

## 4.4 Demonstrating Adherence to the NPF4 Mitigation Hierarchy

4.4.1.1 This revised approach demonstrates a clear alignment with the NPF4 mitigation hierarchy, specifically for the TWA compound, which was the focus of SEPA's concern, by undertaking:

- Avoidance: No increase to the compound footprint; unnecessary excavation within the boundary has been avoided;
- Minimisation: Through selective excavation and infrastructure consolidation, peat disturbance within the compound has been reduced by 42%;
- Restoration: Areas disturbed during construction but not required for permanent infrastructure will be restored using appropriate techniques detailed in the finalised Peat Management Plan; and
- Offsetting: Any residual unavoidable peat impacts will be compensated through measures proportionate to the scale of impact, as secured through planning conditions.

## 4.5 Proposed Planning Conditions

4.5.1.1 To secure delivery of the above commitments, the Applicant supports the use of two targeted planning conditions:

*a. Final Peat Management Plan (PMP).*

4.5.1.2 A condition requiring submission and approval of a final PMP to the planning authority in consultation with SEPA and NatureScot. This will include:

- Further site-specific peat probing and refinement;
- A record of embedded minimisation measures; and
- Confirmation that all proposed uses of peat adhere to recognised good practice (excluding bund formation unless robustly justified).

*b. Workers' Accommodation Strategy (WAS).*

4.5.1.3 A separate condition requiring submission and approval of a WAS. This strategy — not included in the original EIAR — will ensure that the remaining opportunities to reduce footprint and peat impact are explored and secured further at the detailed design stage, whilst implementing the measures noted above in this chapter.

4.5.1.4 Both conditions will be discharged prior to commencement of construction of the relevant infrastructure, ensuring all optimisation measures are confirmed and agreed before any ground disturbance occurs in those locations.

## 4.6 Conclusion

4.6.1.1 The approach to peat removal within the layout of the TWA compound has been revised to achieve a 42% reduction in peat disturbance within this compound, which will be secured via a WAS condition. This represents a substantial reduction in a significant component of the overall peat excavation requirement. The Applicant has applied the NPF4 mitigation hierarchy through the sequential application of avoidance, minimisation, restoration and offsetting measures.

4.6.1.2 The approach addresses the concerns raised regarding peat disturbance by implementing the specific measures identified, including limiting excavation to essential infrastructure areas and avoiding blanket stripping of peat and carbon-rich soils across the entire compound area.



