

Appendix 14.2: Sloy Pumped Hydro Storage Scheme: Baseline Survey Records

Appendix 14.2: Baseline Survey Records

Baseline Survey Records

The following documents are included within this Appendix:

Baseline Survey Record – NML1

Baseline Survey Record – NML2

Baseline Survey Record – NML3

Measurement Equipment Calibration Certificates

Noise Monitoring Record - NML1



Project Title	Sloy Pumped Storage Scheme	Project Number	16027
Client	SSE	Surveyor	█

MONITORING LOCATION

Location Number	NML1
Location Name	Cottage on A82
Description	Cottage adjacent to powerstation Equipment located 6m from nearby facades or reflective surfaces.
Latitude	56.25003647
Longitude	-4.711852061
Noise sources noted during installation, weekly inspection and removal	Road traffic dominant. No audible sound from powerstation. Some birdsong (not significant).

NOISE MONITORING EQUIPMENT DETAILS

	Number	Model	Serial Number	Last Calibrated/ Conformance Checked
Sound Level Meter	SLM 58	NL52	721000	05/09/2022
Calibrator	CAL 8	NC75	35002724	28/03/2023

Weather Measurement	No
Equipment Notes	

NOISE MONITORING EQUIPMENT SETTINGS

	Frequency Weighting	Index	Interval	Time Weighting	Range	Audio Recording
Parameters Recorded	A	LA90	15 mins	Fast	20-110	No

DATA

File Name	Start Time	End Time	Cal. at Start	Cal. at End	Drift	Observations
101	10/08/2023 10:30	25/08/2023 10:03	94.0	93.9	0.1	

NML1 PHOTOGRAPHS

West



North



East



South



Noise Monitoring Record - NML2



Project Title	Sloy Pumped Storage Scheme	Project Number	16027
Client	SSE	Surveyor	

MONITORING LOCATION

Location Number	NML2
Location Name	Inveruglas Farm
Description	Farm cottage plus 2 holiday lets. Equipment located 10m from nearby facades or reflective surfaces.
Latitude	56.24687961
Longitude	-4.713544358
Noise sources noted during installation, weekly inspection and removal	Road traffic dominant. No other noise sources noted other than some birdsong. Note: this is not a working farm.

NOISE MONITORING EQUIPMENT DETAILS

	Number	Model	Serial Number	Last Calibrated/ Conformance Checked
Sound Level Meter	SLM 59	NL52	721001	05/09/2022
Calibrator	CAL 8	NC75	35002724	28/03/2023

Weather Measurement	Yes, Rain Gauge and Kestrel Weather Station installed.
Equipment Notes	

NOISE MONITORING EQUIPMENT SETTINGS

	Frequency Weighting	Index	Interval	Time Weighting	Range	Audio Recording
Parameters Recorded	A	LA90	15 mins	Fast	20-110	No

DATA

File Name	Start Time	End Time	Cal. at Start	Cal. at End	Drift	Observations
201	10/08/2023 11:15	25/08/2023 10:36	94.0	93.8	0.2	Kestrel WS stopped mid-survey

NML2 PHOTOGRAPHS

West



North



East



South



Noise Monitoring Record - NML3



Project Title	Sloy Pumped Storage Scheme	Project Number	16027
Client	SSE	Surveyor	■

MONITORING LOCATION

Location Number	NML3
Location Name	Sloy Powerstation
Description	In grounds of Powerstation close to north gate. Just across the road from the visitor centre. Equipment located 8m from nearby facades or reflective surfaces.
Latitude	56.25135308
Longitude	-4.710490573
Noise sources noted during installation, weekly inspection and removal	Traffic is dominant noise source. Some noise from inside of powerhouse (it is currently active). No water noise. Cannot hear Tx noise from Tx at rear of building.

NOISE MONITORING EQUIPMENT DETAILS

	Number	Model	Serial Number	Last Calibrated/ Conformance Checked
Sound Level Meter	SLM 60	NL52	721002	05/09/2022
Calibrator	CAL 8	NC75	35002724	28/03/2023

Weather Measurement	No
Equipment Notes	

NOISE MONITORING EQUIPMENT SETTINGS

	Frequency Weighting	Index	Interval	Time Weighting	Range	Audio Recording
Parameters Recorded	A	LAeq	15 mins	Fast	20-110	No

DATA

File Name	Start Time	End Time	Cal. at Start	Cal. at End	Drift	Observations
301	10/08/2023 12:45	25/08/2023 11:58	94.0	94.1	-0.1	

NML3 PHOTOGRAPHS

West



North



East



South



SLM58



CERTIFICATE OF CONFORMANCE

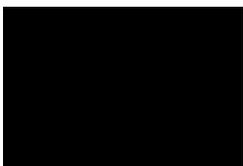
Date of Issue **05 September 2022**
Customer **TNEI Services Ltd**
Certificate Number **CONF092203**

	Manufacturer	Type	Serial Number
Sound Level Meter	Rion	NL-52	00721000
Preamplifier	Rion	NH-25	22106
Microphone	Rion	UC-59	21938

This is to certify that the instrument was tested and calibrated at the Manufacturer's factory according to their specification and that the product satisfied all the relevant requirements of the following Standards:

IEC 61672-1:2013 Class 1.

The instrument also received a functional check by ANV Measurement Systems prior to despatch in the UK, in accordance with our standard procedures.

Signed.  Position. Calibration Technician Date. 05 September 2022

BEAUFORT COURT, 17 ROEBUCK WAY, MILTON KEYNES, MK5 8HL

☎ 01908 642846 📠 01908 642814

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SLM 59



CERTIFICATE OF CONFORMANCE

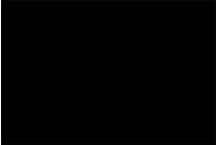
Date of Issue **05 September 2022**
Customer **TNEI Services Ltd**
Certificate Number **CONF092202**

	Manufacturer	Type	Serial Number
Sound Level Meter	Rion	NL-52	00721001
Preamplifier	Rion	NH-25	22107
Microphone	Rion	UC-59	21939

This is to certify that the instrument was tested and calibrated at the Manufacturer's factory according to their specification and that the product satisfied all the relevant requirements of the following Standards:

IEC 61672-1:2013 Class 1.

The instrument also received a functional check by ANV Measurement Systems prior to despatch in the UK, in accordance with our standard procedures.

Signed..  Position. Calibration Technician Date. 05 September 2022

BEAUFORT COURT, 17 ROEBUCK WAY, MILTON KEYNES, MK5 8HL

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SLM 60



CERTIFICATE OF CONFORMANCE

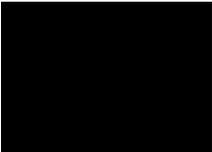
Date of Issue 05 September 2022
Customer TNEI Services Ltd
Certificate Number CONF092201

	Manufacturer	Type	Serial Number
Sound Level Meter	Rion	NL-52	00721002
Preamplifier	Rion	NH-25	22108
Microphone	Rion	UC-59	21941

This is to certify that the instrument was tested and calibrated at the Manufacturer's factory according to their specification and that the product satisfied all the relevant requirements of the following Standards:

IEC 61672-1:2013 Class 1.

The instrument also received a functional check by ANV Measurement Systems prior to despatch in the UK, in accordance with our standard procedures.

Signed..  Position. Calibration Technician Date. 05 September 2022

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CERTIFICATE OF CALIBRATION



0653

Date of Issue: 28 March 2023

Certificate Number: UCRT23/1424

Calibrated at & Certificate issued by:

ANV Measurement Systems

Beaufort Court

17 Roebuck Way

Milton Keynes MK5 8HL

Telephone 01908 642846 Fax 01908 642814

E-Mail: info@noise-and-vibration.co.uk

Web: www.noise-and-vibration.co.uk

Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

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Approved Signatory	

Customer TNEI
 Floor 7
 80 St Vincent Street
 Glasgow
 G2 5UB

Order No. 5001

Test Procedure Procedure TP 14 Calibration of Sound Calibrators (60942:2017)

Description Acoustic Calibrator

Identification	<i>Manufacturer</i>	<i>Instrument</i>	<i>Model</i>	<i>Serial No.</i>
	Rion	Calibrator	NC-75	35002724
Public evidence of Type Approval	Yes	Approved by	PTB	

The calibrator has been tested as specified in Annex B of IEC 60942:2017. As public evidence was available, from a testing organisation responsible for approving the results of pattern evaluation tests, to demonstrate that the model of sound calibrator fully conformed to the requirements for pattern evaluation described in Annex A of IEC 60942:2017, the sound calibrator tested is considered to conform to all the class 1 requirements of IEC 60942:2017.

ANV Job No. UKAS23/03225

Date Received 27 March 2023

Date Calibrated 28 March 2023

Previous Certificate	<i>Dated</i>	21 March 2022
	<i>Certificate No.</i>	UCRT22/1402
	<i>Laboratory</i>	0653

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

CERTIFICATE OF CALIBRATION

Certificate Number

UCRT23/1424

UKAS Accredited Calibration Laboratory No. 0653

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Measurements

The sound pressure level generated by the calibrator (averaged over a 20 to 25 second period) in its WS2 configuration was measured five times (rotating the calibrator on the microphone each time) by the Insert Voltage Method using a microphone as detailed below. The mean of the results obtained is shown below.

The frequency of the sound from the calibrator was measured five times over a 20 to 25 second period and the average frequency calculated.

The total distortion + noise of the sound from the calibrator was measured, using a rejection filter distortion factor meter, five times over a 20 to 25 second period and the average distortion + noise calculated.

Test Microphone	<i>Manufacturer</i>	<i>Type</i>
	Brüel & Kjær	4134

<u>Nominal</u> <u>Setting dB / Hz</u>	<u>Mean Level</u> <u>dB rel 20 µPa</u>	<u>Frequency</u>	<u>Distortion + Noise</u>
94 / 1000	94.01 ± 0.10	1000.00 ± 0.12Hz	(0.12 ± 0.02) %

<u>Environmental conditions during tests</u>	<u>Start</u>	<u>End</u>	
Temperature	21.24	21.12	± 0.30 °C
Humidity	38.5	38.8	± 3.0 %RH
Ambient Pressure	100.858	100.849	± 0.030 kPa

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

The uncertainties refer to the measured values only with no account being taken of the ability of the instrument to maintain its calibration.

A small correction factor may need to be applied to the sound pressure level quoted above if the device is used to calibrate a sound level meter which is fitted with a free-field response microphone. See manufacturers handbook for details.

Note: Calibrator adjusted prior to calibration? NO

Additional Comments The results on this certificate only relate to the items calibrated as identified above.

None

Calibrated by: 

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END
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