Scottish & Southern Electricity Networks

Fanellan Hub 400 kV Substation and Converter Station

Environmental Impact Assessment Report

Volume 4 | Technical Appendices

Appendix 14.4 – Calibration Certificate NL52 01265434

February 2025

TECHNICAL APPENDIX 14: NOISE IMPACT ASSESSMENT

14.4 Calibration Certificate NI52 01265434

ANV MEASUREMENT SYSTEMS

CERTIFICATE OF CALIBRATION

ilac-MRA UKAS CALIBRATION 0653

Date of Issue: 21 April 2022

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

Certificate Number: UCRT22/1548

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Approved Signatory K. Mistry

Customer	Wood Group UK Ltd St Vincent Plaza St Vincent Street Glasgow G2 5LD
Order No.	26010406
Description	Sound Level Meter / Pre-amp / Microphone / Associated Calibrator

Identification

Manufacturer	*Instrument*	*Type*	*Serial No. / Version*
Rion	Sound Level Meter	NL-52	01265434
Rion	Firmware		2.0
Rion	Pre Amplifier	NH-25	65436
Rion	Microphone	UC-59	13122
Brüel & Kjær	Calibrator	4231	2052327
	Calibrator adaptor type if applicable		UC 0210

Performance Class 1
Test Procedure TP 10. SLM 61672-3:2013
Procedures from IEC 61672-3:2013 were used to perform the periodic tests.
Type Approved to IEC 61672-1:2013 Yes
If YES above there is public evidence that the SLM has successfully completed the applicable pattern evaluation tests of IEC 61672-2:2013
Date Received 19 April 2022 ANV Job No. UKAS22/04276
Date Calibrated 21 April 2022

The sound level meter submitted for testing has successfully completed the periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed. As evidence was publicly available, from an independent testing organisation responsible for approving the results of pattern-evaluation tests performed in accordance with IEC 61672-2:2013, to demonstrate that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:2013, the sound level meter submitted for testing conforms to the class 1 specifications of IEC 61672-1:2013.

Previous Certificate	*Dated*	*Certificate No.*	*Laboratory*
	27 May 2020	UCRT20/1451	0653

CERTIFICATE OF CALIBRATION

UKAS Accredited Calibration Laboratory No. 0653

Certificate Number UCRT22/1548

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Sound Level Meter Instruction manual and data used to adjust the sound levels indicated.

SLM instruction manual title	NL-52/NL-42 Description for IEC 61672-1		
SLM instruction manual ref / issue	No. 56034 21-03	Source	Rion
Date provided or internet download date	19 March 2021		

	Case Corrections	Wind Shield Corrections	Mic Pressure to Free Field Corrections
Uncertainties provided	Yes	Yes	Yes

Total expanded uncertainties within the requirements of IEC 61672-1:2013 — YES

Specified or equivalent Calibrator	Equivalent		
Customer or Lab Calibrator	Customers Calibrator		
Calibrator adaptor type if applicable	UC 0210		
Calibrator cal. date	20 April 2022		
Calibrator cert. number	UCRT22/1540		
Calibrator cal cert issued by Lab	0653		
Calibrator SPL @ STP	94.11	dB	Calibration reference sound pressure level
Calibrator frequency	999.79	Hz	Calibration check frequency
Reference level range	Single	dB	

Accessories used or corrected for during calibration - Extension Cable & Wind Shield WS-15

Note - The Extension Cable was used between the SLM and the pre-amp for this calibration.

Environmental conditions during tests	Start	End	
Temperature	23.68	24.32	± 0.30 °C
Humidity	41.1	39.9	± 3.00 %RH
Ambient Pressure	100.33	100.28	± 0.03 kPa

Indication at the Calibration Check Frequency					
Initial indicated level	94.1	dB	Adjusted indicated level	94.1	dB
Uncertainty of calibrator used for Indication at the Calibration Check Frequency ±				0.10	dB

Self Generated Noise

Microphone installed - Less Than 17.9 dB A Weighting

Microphone replaced with electrical input device - UR = Under Range indicated

Weighting	A			C			Z		
	13.1	dB	UR	17.4	dB	UR	22.8	dB	UR

Self Generated Noise reported for information only and not used to assess conformance to a requirement

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.

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

None

..... END .....

Calibrated by: B. Giles R 3