

Construction Noise and Vibration Monthly Report – January 2025

Buckinghamshire

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Non-Technical Summary

This Noise and Vibration Monitoring Report fulfils HS2 Limited's commitment detailed in the Environmental Minimum Requirements (EMRs), Annex 1, Code of Construction Practice, to present the results of noise monitoring carried out within Buckinghamshire (BS) during the month of January 2025.

Within this period noise and vibration monitoring was undertaken at the following worksites:

- A422 Turweston North worksite (ref.: A422 TN) where overbridge construction, installation of construction joints, steel pre-fabrication, grouting, platform, access road and general site maintenance, reinforcement and formwork installation, concrete pours, backfilling, viaduct construction and earthworks were underway.
- School End (ref.: SE) and Hermitage Chetwode (ref.: HC) worksites where overbridge construction, utility works, earthworks, general site maintenance, site access and mass haul road maintenance and stockpiling were underway.
- Twyford worksite (ref.: TW) where viaduct works, general site maintenance, water pumping management, site access and mass haul road maintenance and stockpiling were underway.
- West Street Overbridge worksite (ref.: WSO) where grouting, concrete pours, wingwall construction and reinforced bar fixing, panel installation, drainage works, road works, waterproofing, bulk earthworks, technical backfill, reinforced concrete works and utility diversion were underway.
- Calvert worksite (ref.: CAL) where reinforced concrete works, production of concrete, material movements, earthworks and drainage were underway.
- Woodlands worksite (ref.: WDL) where wingwall repairs, waterproofing, technical backfill, material movements and dig and replace were underway.
- Quainton worksite (ref.: QAR) where dig and replace, utility works, site access road construction were underway.
- Oat Close worksite (ref: OC) where overbridge works, excavation and stockpiling underway.
- Waddesdon worksite (ref.: WAD) where culvert construction, utility diversion and earthworks were underway.
- Thames Valley Viaduct worksite (ref.: TVV) where formwork installation and lifting of beams were underway.
- Risborough Road worksite (ref.: RR) where road construction and utility diversion were underway.

- Aylesbury Golf Course worksite (ref.: GC) where cutting, culvert construction and utility diversions were underway.
- Nash Lee Lane worksite (ref.: NLL) where abutment works, platform works, concrete pours, construction of inlet headwall, utility diversion, backfilling, excavation, construction of substation base, culvert works and temporary surface water management were underway.
- Wendover Green Tunnel worksite (ref.: WGT) where reinforced bar fixing, drainage and catchpit installation, tunnel works, utility works, excavation, concrete pours, installation of steel and shutters, platform extension, material movements, operation of pre-treatment rigs and hydraulic grabs, temporary compound stabilisation, installation of compound and ground investigation were underway.
- Grove Farm worksite (ref.: GF) where diversion works, pile cropping, installation of wheel wash and vegetation clearance were underway.
- Small Dean Viaduct Compound worksite (ref.: SDVC) where reinforced bar installation, pre-cast slabs installation, grouting, generator installation, installation of launching equipment, launch of embankment preparation and viaduct were underway.
- Rocky Lane Embankment worksite (ref.: RLE) where drainage installation, reinforced bar fixing, preparation of formwork and utility diversion were underway.
- Wendover Dean Viaduct worksite (ref.: WDV) where car park extension removal and bearing installation underway.
- Leather Lane worksite (ref.: LL) where installation of land drainage and ground preparations were underway.
- South Heath worksite (ref.: SH) where earthworks, utility works, general site activities, culvert works, overbridge construction, ground investigation works, site access and haul road construction and operation were underway.
- North Portal worksite (ref.: NP) where earthworks, utility works, general site activities, culvert works, overbridge construction, ground investigation works and site access and haul road construction and operation were underway.
- Chesham Road worksite (ref.: CHSM), where general site activities, internal and external building works, demobilisation and landscaping were underway.
- Little Missenden Vent Shaft worksite (ref.: LM) where site operation, tunnel connections, headhouse superstructure works and building construction were underway.

- Amersham Vent Shaft worksite (ref.: AM), where site operation, external and internal building works, tunnel connection, superstructure concrete works, pre-casting of boundary wall, steel, cladding and mechanical plant works were underway.
- Chalfont St Giles Vent Shaft worksite (ref.: CSG) where site operation, road maintenance, demobilisation and internal and external building works were underway.
- Chalfont St Peter Vent Shaft worksite (ref.: CSP), where site operation, road maintenance, demobilisation and internal and external building works were underway.
- Colne Valley Viaduct worksite, which is partly located in the London Borough of Hillingdon (LBH), (ref.: CVV), where jetty and haul road maintenance, jetty removal, compound operations, ground investigation, pumping water management, satellite compound welfare works, generator farm operation, environmental maintenance, viaduct deck and landscaping works were underway.

Further works, where monitoring did not take place, were also undertaken at the following locations:

- Grovill Embankment (Westbury) where excavation and replace was underway.
- School End North where bulk excavation, vegetation clearance, stockpiling, drainage, pond maintenance and excavation, removal of badger fencing, fencing works and vehicle movements were underway.
- Godington where site access road construction, topsoil stripping and vegetation clearance were underway.
- Turweston A422 structure where compound development and temporary bridge and road diversions were underway.
- Charndon Lodge Pumping Station where excavation, backfilling, concrete works and utility works were underway.
- Infrastructure Maintenance Depot (IMD) where watercourse diversion, bulk earthworks and drainage installation were underway.
- MCJ where de-vegetation, drainage works, culver installation, embankment works and earthworks were underway.
- Bat Mitigation Structure where reinforced concrete works and technical backfill were underway.
- Greatmoor Culverts where mass concrete filling, technical backfill and grouting were underway.
- CAG 2 Underbridge where mass concrete filling was underway.

- Megaditch Culvert where waterproofing and technical backfilling were underway.
- SLC13 where reinforced concrete works, piling and earthworks were underway.
- GUN28 overbridge embankment filling was underway.
- QUA36 overbridge where reinforced concrete works was underway.
- Edgcott Road Overbridge where repairing and snagging works were underway.
- Doddershall Culverts where reinforced concrete works, technical backfill, construction of concrete protection slab and trimming battles were underway.
- QUA26 Underbridge where reinforced concrete works were underway.
- QUA28 Overbridge where reinforced concrete works were underway.
- Station Road Overbridge where reinforced concrete works, abutment pile cap pours and backfilling were underway.
- Hills Farm where stockpiling was underway.
- Culvert No.16 where backfilling was underway.
- Fleet Marston where earthworks, culvert and overbridge works were underway.
- Along A41 where concrete batching plant operation, earthworks, vehicle restraint system installation, highway construction, kerbing, pavement construction, signage installation and drainage works were underway.
- Westfield where excavation including pond excavation was underway.
- Meadoway where utility installation and road resurfacing were underway.
- Bowood Lane where installation of parapets, reinforced bars and shutters were underway.
- Nash Lee Road Diversion where temporary surface water management was underway.

The HS2 threshold levels for significant noise impacts, which are defined in Information Paper E23 (<https://www.gov.uk/government/publications/hs2-information-papers-environment>), were exceeded four (4) times during the reporting period.

No exceedances of trigger levels as defined in Section 61 consents occurred during the reporting period.

Five (5) complaints regarding noise and vibration were received by HS2 during the monitoring period.

Abbreviations and Descriptions

The abbreviations, descriptions and project terminology used within this report can be found in Table 1.

Table 1: Table of Abbreviations

Acronym/Term	Definition
$L_{Aeq,T}$	See equivalent continuous sound pressure level
Ambient sound	A description of the all-encompassing sound at a given location and time which will include sound from many sources near and far. Ambient sound can be quantified in terms of the equivalent continuous sound pressure level, $L_{pAeq,T}$
Decibel(s), or dB	Between the quietest audible sound and the loudest tolerable sound there is a million to one ratio in sound pressure (measured in Pascal (Pa)). Because of this wide range, a level scale called the decibel (dB) scale, based on a logarithmic ratio, is used in sound measurement. Audibility of sound covers a range of approximately 0-140dB.
Decibel(s) A-weighted, or dB(A)	The human ear system does not respond uniformly to sound across the detectable frequency range and consequently instrumentation used to measure sound is weighted to represent the performance of the ear. This is known as the 'A weighting' and is written as 'dB(A)'.
Equivalent continuous sound pressure level, or $L_{Aeq,T}$	An index used internationally for the assessment of environmental sound impacts. It is defined as the notional unchanging level that would, over a given period of time (T), deliver the same sound energy as the actual time-varying sound over the same period. Hence fluctuating sound levels can be described in terms of an equivalent single figure value, typically expressed as a decibel level.
Exclusion of data	Measurement of noise levels can be affected by weather conditions such as prolonged periods of rain, winds speeds higher than 5m/s and snow/ice ground cover. Noise levels measured during these periods are considered not representative of normal noise conditions at the site and, for the purposes of this report, are excluded from the assessment of exceedances and calculation of typical noise levels and are also greyed out in charts. Identifiable incongruous noise and vibration events not attributable to HS2 construction noise are also excluded.
Façade	A facade noise level is the noise level 1m in front of a large reflecting surface. The effect of reflection, is to produce a slightly higher (typically +3 dB) sound level than it would be if the reflecting surface was not there.
Free-field	A free-field noise level is the noise level measured at a location where no reflective surfaces, other than the ground, lies within 3.5 metres of the microphone position.
LOAEL	Lowest Observed Adverse Effect Level – the level above which adverse effects on health and quality of life can be detected.
Peak particle velocity, or PPV	Instantaneous maximum velocity reached by a vibrating element as it oscillates about its rest position. The PPV is a simple indicator of perceptibility and risk of damage to structures due to vibration. It is usually measured in mm/s.
SOAEL	Significant Observed Adverse Effect Level – the level above which significant adverse effects on health and quality of life occur.
Sound pressure level	The parameter by which sound levels are measured in air. It is measured in decibels. The threshold of hearing has been set at 0dB, while the threshold of pain is approximately 120dB. Normal speech is approximately 60dB at a distance of 1 metre and a change of 3dB in a time varying sound signal is commonly regarded as being just detectable. A change of 10dB is subjectively twice, or half, as loud.
Vibration dose value, or VDV	An index used to evaluate human exposure to vibration in buildings. While the PPV provides information regarding the magnitude of single vibration events, the VDV provides a measure of the total vibration experienced over a specified period of time (typically 16h daytime and 8h night-time). It takes into account the magnitude, the number and the duration of vibration events and can be used to quantify exposure to continuous, impulsive, occasional and intermittent vibration. The vibration dose value is measured in $m/s^{1.75}$.

1 Introduction

1.1.1 HS2 is required to undertake noise (and vibration) monitoring as necessary to comply with the requirements of the High Speed Rail (London-West Midlands) Environmental Minimum Requirements, including specifically Annex 1: Code of Construction Practice, in addition to any monitoring requirements arising from conditions imposed through consents under Section 61 of the Control of Pollution Act, 1974 or through Undertakings & Assurances given to third parties. Such monitoring may be undertaken for the following purposes:

- monitoring the impact of construction works;
- to investigate complaints, incidents and exceedance of trigger levels; or
- monitoring the effectiveness of noise and vibration control measures.

1.1.2 Monitoring data and interpretive reports are to be provided to each relevant local authority on a monthly basis and shall include a summary of the construction activities occurring, the data recorded over the monitoring period, any complaints received, any periods in exceedance of agreed trigger levels, the results of any investigations and any actions taken or mitigation measures implemented. This report provides noise data, and interpretation thereof, for monitoring carried out by HS2 within the Buckinghamshire (BS) Local Authority area for the period 1st to 31st January 2025.

1.1.3 Active construction sites in the local authority area where monitoring was undertaken during this period include:

- A422 Turweston North worksite, ref.: A422 TN (see Plan 1 in Appendix A), where works activities included:
 - Overbridge construction, including steel fixing.
 - Installation of construction joints.
 - Steel pre-fabrication.
 - Grouting.
 - Platform maintenance.
 - Access road maintenance.
 - General site maintenance.
 - Reinforcement installation.
 - Formwork installation.

- Concrete pours.
- Backfilling.
- Viaduct construction, including installation of planks.
- Earthworks, including drainage, surcharge and re-constructing the batter.
- School End worksite, ref.: SE (see Plan 2 in Appendix A) and Hermitage Chetwode Worksite ref.: HC (see plan 2 in Appendix A), where works activities included:
 - Overbridge construction, including striking and dismantling paratops, maintenance platform works, wingwall waterproofing and drainage.
 - Utility works, including pumping management.
 - Earthworks.
 - General site maintenance.
 - Site access and mass haul road maintenance.
 - Stockpiling.
- Twyford worksite, ref.: TW (see Plan 2 in Appendix A), where works activities included:
 - Viaduct works, including backfilling and preparation for mobilisation.
 - General site maintenance.
 - Water pumping management.
 - Site access and mass haul road maintenance.
 - Stockpiling.
- West Street Overbridge worksite, ref.: WSO (see Plan 2 in Appendix A), where works activities included:
 - Grouting.
 - Concrete pours.
 - Wingwall construction and reinforced bar fixing.
 - Pannel installation.
 - Drainage works.
 - Road works, including curbing.
 - Waterproofing.

- Bulk earthworks.
- Technical backfill.
- Reinforced concrete works.
- Utility diversion.
- Calvert worksite, ref.: CAL (see Plan 3 in Appendix A) where works activities included:
 - Reinforced concrete works.
 - Production of concrete.
 - Material movements.
 - Earthworks.
 - Drainage works.
- Woodlands worksite, ref.: WDL (see Plan 4 in Appendix A) where works activities included:
 - Wingwall repairs.
 - Waterproofing.
 - Technical backfill.
 - Material movements.
 - Dig and replace.
- Quanton worksite, ref.: QAR (see Plan 4 in Appendix A) where works activities included:
 - Dig and replace.
 - Utility works.
 - Site access road construction.
- Oat Close worksite, ref.: OC (see Plan 6 in Appendix A), where works activities included:
 - Overbridge works, including piling, reinforced concrete works, beam installation and earthworks.
 - Excavation.
 - Stockpiling.

- Waddesdon worksite, ref.: WAD (see Plan 5 in Appendix A), where works activities included:
 - Culvert construction.
 - Utility diversion.
 - Earthworks.
- Thames Valley Viaduct worksite, ref.: TVV (see Plan 5 in Appendix A), where works activities included:
 - Formwork installation.
 - Lifting of beams.
- Risborough Road worksite, ref.: RR (see Plan 6 in Appendix A), where works activities included:
 - Road construction.
 - Utility diversion.
- Aylesbury Gold Course worksite, ref.: GC (see Plan 6 in Appendix A), where works activities included:
 - Cutting.
 - Culvert construction.
 - Utility diversions.
- Nash Lee Lane worksite, ref.: NLL (see Plan 6 in Appendix A), where works activities included: Your location
 - Abutment works, including shutter installation, excavation and backfilling.
 - Platform works, including excavation, pile cropping and concrete pours.
 - Concrete pours.
 - Construction of inlet headwall.
 - Utility diversion.
 - Backfilling.
 - Excavation.
 - Construction of substation base.
 - Culvert works.
 - Temporary surface water management.

- Wendover Green Tunnel worksite, ref.: WGT (see Plan 7 in Appendix A), where works activities included:
 - Reinforced bar fixing.
 - Drainage and catchpit installation.
 - Tunnel works.
 - Utility works.
 - Excavation.
 - Concrete pours.
 - Installation of steel and shutters.
 - Platform extension.
 - Material movements.
 - Operation of pre-treatment rigs.
 - Operation of hydraulic grabs.
 - Temporary compound stabilisation, including platform installation, delivery and installation of welfare cabins.
 - Installation of compound, including platform installation and construction of foundations.
 - Ground investigation.
- Grove Farm worksite, ref.: GF (see Plan 7 in Appendix A), where works activities included:
 - Diversion works.
 - Pile cropping.
 - Installation of wheel wash.
 - Vegetation clearance.
- Small Dean Viaduct Compound worksite, ref.: SDVC (see Plan 7 in Appendix A), where works activities included:
 - Reinforced bar installation.
 - Pre-cast slabs installation.
 - Grouting.
 - Generator installation.

- Installation of launching equipment.
- Launch of embankment preparation.
- Launching of viaduct.
- Rocky Lane Embankment worksite, ref.: RLE (see Plan 7 in Appendix A), where works activities included:
 - Drainage installation.
 - Reinforced bar fixing.
 - Preparation of formwork.
 - Utility diversion.
- Wendover Dean Viaduct worksite, ref.: WDV (see Plan 7 in Appendix A), where works activities included:
 - Car park extension removal.
 - Bearing installation.
- Leather Lane worksite, ref.: LL (see Plan 8 in Appendix A), where works activities included:
 - Installation of land drainage.
 - Ground preparations.
- South Heath worksite, ref.: SH (see Plan 8 in Appendix A), where works activities included:
 - Earthworks.
 - Utility works, including drainage.
 - General site activities.
 - Culvert works.
 - Overbridge construction.
 - Ground investigation works.
 - Site access and haul road construction and operation.
- North Portal worksite, ref.: NP (see Plan 8 in Appendix A), where works activities included:
 - Operation of site plant.
 - Platform construction.

- Piling platform reinstatement.
- Porous portal structure works.
- Building construction.
- Batching plant operation and distribution of material.
- Tunnel walkway slip forming.
- Utilities works, including drainage.
- Chesham Road worksite, ref.: CHSM (see Plan 8 in Appendix A), where works activities included:
 - General site activities.
 - Internal and external building works, including cladding works.
 - Demobilisation.
 - Landscaping.
- Little Missenden Vent Shaft worksite ref.: LM (see Plan 9 in Appendix A), where works activities included:
 - General site activities including operation of plant.
 - Tunnel connection works.
 - Headhouse superstructure concrete works.
 - Building construction internal and external works.
- Amersham Vent Shaft worksite, ref.: AM (see Plan 10 in Appendix A), where works activities included:
 - General site activities including operation of plant.
 - External and internal building works.
 - Tunnel connection works.
 - Superstructure concrete works.
 - Pre-casting of boundary wall.
 - Steel and cladding works.
 - Mechanical plant works.
- Chalfont St Giles Vent Shaft worksite, ref.: CSG (see Plan 11 in Appendix A), where works activities included:
 - General site activities including operation of plant.

- Road maintenance.
- Internal and external building works.
- Demobilisation.
- Chalfont St Peter Vent Shaft worksite, ref.: CSP (see Plan 12 in Appendix A), where works activities included:
 - Operation of plant.
 - Road maintenance.
 - Internal and external building works.
 - Demobilisation.
- Colne Valley Viaduct – Load Test Pile 1 worksite, which is partly located in the London Borough of Hillingdon (LBH), ref.: CVV (see Plan 13 in Appendix A), where works activities included:
 - Jetty and haul road operation and maintenance
 - Jetty removal, including excavation, backfill, landscaping, cutting piles and steel works.
 - Compound operations.
 - Ground investigation works.
 - Pumping water management.
 - Satellite compound welfare and generator farm operation.
 - Environmental maintenance.
 - Deck finishes including preparation and operation of storage yards, installation of below deck access provision, traffic management on deck surface, installation of parapets, installation of noise barriers, troughs, pipes, steel works and other minor materials to the storage yards and deck, installation of stairs, operation of support plant, construction of kerbs, construction of concrete stitch, filling of voids and top openings, waterproofing, diaphragm walls construction, abutment works, concrete works (within deck), drainage and steel works.
 - Landscaping works including removal of cofferdams, earthworks, profiling and cutting, manhole chamber construction, drainage, soil placement and vegetation clearance.

1.1.4 Further works, where monitoring did not take place, were also undertaken at:

- Grovill Embankment (Westbury) where excavation and replace was underway.

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- School End North where bulk excavation, vegetation clearance, stockpiling, drainage, pond maintenance and excavation, removal of badger fencing, fencing works and vehicle movements were underway.
- Godington where site access road construction, topsoil stripping and vegetation clearance were underway.
- Turweston A422 structure where compound development and temporary bridge and road diversions were underway.
- Charndon Lodge Pumping Station where excavation, backfilling, concrete works and utility works were underway.
- Infrastructure Maintenance Depot (IMD) where watercourse diversion, bulk earthworks and drainage installation were underway.
- MCJ where de-vegetation, drainage works, culver installation, embankment works and earthworks were underway.
- Bat Mitigation Structure where reinforced concrete works and technical backfill were underway.
- Greatmoor Culverts where mass concrete filling, technical backfill and grouting were underway.
- CAG 2 Underbridge where mass concrete filling was underway.
- Megaditch Culvert where waterproofing and technical backfilling were underway.
- SLC13 where reinforced concrete works, piling and earthworks were underway.
- GUN28 overbridge embankment filling was underway.
- QUA36 overbridge where reinforced concrete works was underway.
- Edgcott Road Overbridge where repairing and snagging works were underway.
- Doddershall Culverts where reinforced concrete works, technical backfill, construction of concrete protection slab and trimming battles were underway.
- QUA26 Underbridge where reinforced concrete works were underway.
- QUA28 Overbridge where reinforced concrete works were underway.
- Station Road Overbridge where reinforced concrete works, abutment pile cap pours and backfilling were underway.
- Hills Farm where stockpiling was underway.
- Culvert No.16 where backfilling was underway.
- Fleet Marston where earthworks, culvert and overbridge works were underway.

- Along A41 where concrete batching plant operation, earthworks, vehicle restraint system installation, highway construction, kerbing, pavement construction, signage installation and drainage works were underway.
- Westfield where excavation including pond excavation was underway.
- Meadoway where utility installation and road resurfacing were underway.
- Bowood Lane where installation of parapets, reinforced bars and shutters were underway.
- Nash Lee Road Diversion where temporary surface water management was underway.

1.1.5 The applicable standards, guidance, and monitoring methodology are outlined in the construction noise and vibration monitoring methodology report which can be found at the following location <https://www.gov.uk/government/collections/monitoring-the-environmental-effects-of-hs2>. Noise and vibration monitoring reports for previous months can also be found at this location.

1.2 Measurement Locations

1.2.1 Forty-one (41) noise and seven (7) vibration monitoring installations were active in January in the BS area. Table 2 summarises the location of noise and vibration monitoring installations within the BS area in January 2025.

1.2.2 An additional vibration monitor, ref.: SR-Vib1, was installed within the vicinity of Quainton worksite, ref.: QAR, on 1st January.

1.2.3 Maps showing the positions of noise and vibration monitoring installations are presented in Appendix B.

Table 2: Monitoring Locations

Worksite Reference	Measurement Reference	Address
A422 TN	TN-NMP1	Turweston, Brackley
SE	SE-NMP1	School End, Chetwode
	SE-Vib1	School End, Chetwode
HC	HC-NMP1	Hermitage, Chetwode
TW	TW-NMP1	Twyford, Buckinghamshire
WSO	WSO-NMP1	West Street, Twyford
	PF-Vib1	Twyford, Buckinghamshire
CAL	SHC-NMP1	School Hill Compound, Calvert

Worksite Reference	Measurement Reference	Address
	BRA-Vib1	13 Brackley Lane, Calvert Village
	FCC-NMP1	Calvert South
WDL	WDL-NMP1	Woodlands Farmhouse, Station Rd, Quainton
	WDL-Vib1	Station Road, Quainton
QAR	QAR-NMP2	Station Road, Quainton
	SR-Vib1	Station Road, Quainton
	LSF-NMP1	Upper South Farm
OC	MF-NMP1	Moat Farm, Marsh Lane
GC	GC-NMP1	Aylesbury, Buckinghamshire
WAD	WAD-NMP2	Waddesdon, Buckinghamshire
TVV	TVV-NMP1	Aylesbury, Buckinghamshire
RR	RR-NMP1	Stoke Mandeville, Aylesbury
NLL	NLL-NMP1	Nash Lee Lane, Nash Lee
	NLL-NMP2	Nash Lee Lane, Nash Lee
WGT	ER-NMP1	Ellesborough Rd, Wendover
	ER-Vib1	Ellesborough Rd, Wendover
	BL-NMP1	Bacombe Lane, Wendover
	WT-NMP1	A413, Wendover
	WGT-NMP1	Wendover, Aylesbury
GF	GF-NMP1	Grove Farm, Wendover
	GF-Vib1	Grove Farm, Wendover
SDVC	SDVC-NMP1	Rocky Lane, Wendover
RLE	NCAS6-NMP1	Chesham Lane, The Lee, Wendover
	NCAS5-NMP1	Chesham Lane, The Lee, Wendover
WDV	WDV-NMP1	Upper Wendover Dean Farm, A413, Wendover
LL	GD-NMP1	Grimms Ditch, The Lee, South Heath
SH	HGF-NMP1	Hunts Green Farm, Kings Lane, South Heath
	PKF-NMP1	Park Farm, South Heath
NP	BFH-NMP1	Bury Farm, Great Missenden
	ORC-NMP1	Orchard Cottage, Ballinger Road, South Heath
	BLH-NMP1	Bayleys Hatch, South Heat, Great Missenden
CHSM	MDL-NMP1	Meadow Leigh Cottage, Firth Hill, South Heath
AM	AM-NMP1	Amersham Vent Shaft Worksite, Whielden Lane, Amersham
LM	LM-NMP1	Little Missenden, A413, Amersham

Worksite Reference	Measurement Reference	Address
	PWC-NMP1	Patricia Holmes, Little Missenden Vent Shaft Worksite, Amersham
CSG	CSG-NMP1	Chalfont St Giles Vent Shaft Worksite, Bottom House Farm Lane
CSP	CFC-NMP1	Cricket Field Cottages, Chesham Lane, Chalfont St. Peter
	CSP-NMP2	Chalfont St Peter Vent Shaft Worksite, Chesham Lane, Chalfont St. Peter
CVV*	CVV-NMP1	Northern boundary, Load Test Pile 1 Worksite, Denham Water Ski Club

* This worksite is within the London Borough of Hillingdon, for more details on the works taking place please refer to the London Borough of Hillingdon Noise and Vibration Report available at: <https://www.gov.uk/government/collections/monitoring-the-environmental-effects-of-hs2>

2 Summary of Results

2.1 Summary of Measured Noise Levels

2.1.1 Table 3 presents a summary of the measured noise levels at each monitoring location over the reporting period. The $L_{Aeq,T}$ is presented for each of the relevant time periods averaged over the calendar month, along with the highest single period $L_{Aeq,T}$ that was found to occur within the month.

Table 3: Summary of Measured dB LAeq Data over the Monitoring Period

Worksite Reference	Measurement Reference	Site Address	Free-Field or Façade Measurement	Weekday Average LAeq,T (Highest Day LAeq,T)					Saturday Average LAeq,T (Highest Day LAeq,T)					Sunday / Public Holiday Average LAeq,T (Highest Day LAeq,T)	
				0700 - 0800	0800 - 1800	1800 - 1900	1900 - 2200	2200 - 0700	0700 - 0800	0800 - 1300	1300 - 1400	1400 - 2200	2200 - 0700	0700 - 2200	2200 - 0700
A422 TN	TN-NMP1	Turweston, Brackley	Free-field	50.2 (54.3)	51.2 (54.6)	48.6 (52.5)	46.1 (50.2)	44.2 (55.4)	44.5 (47.1)	48.8 (50.2)	48.5 (51.7)	46.9 (54.8)	41.9 (49.8)	47.0 (52.9)	45.1 (50.9)
SE	SE-NMP1	School End, Chetwode	Free-field	50.2 (58.8)	57.5 (62.2)	40.2 (51.9)	39.3 (53.4)	39.9 (61.7)	43.7 (50.9)	49.1 (53.9)	49.7 (54.0)	43.5 (53.5)	36.9 (48.2)	44.0 (63.4)	45.2 (64.1)
HC	HC-NMP1	Hermitage, Chetwode	Free-field	51.5 (58.0)	58.4 (64.3)	41.5 (53.0)	40.9 (52.5)	41.7 (59.8)	46.8 (52.4)	50.9 (55.5)	52.4 (58.3)	45.0 (52.9)	38.0 (44.5)	42.8 (57.0)	42.5 (53.8)
TW	TW-NMP1	Twyford	Free-field	43.9 (51.6)	46.2 (52.1)	41.6 (48.6)	40.3 (47.9)	39.1 (54.6)	41.9 (44.8)	42.8 (45.8)	42.1 (48.7)	40.6 (49.4)	36.3 (43.3)	42.8 (56.2)	40.5 (54.3)
WSO	WSO-NMP1	West Street, Twyford	Free-field	50.1 (54.7)	50.8 (54.6)	47.4 (51.5)	44.1 (51.5)	40.8 (55.6)	45.2 (47.7)	47.2 (49.6)	45.8 (49.1)	43.2 (48.1)	36.3 (43.5)	45.4 (51.2)	43.1 (53.4)
CAL	SHC-NMP1	School Hill Compound, Calvert	Free-field	58.8 (74.1)	61.1 (70.0)	52.1 (69.8)	50.9 (67.3)	52.4 (75.3)	55.5 (57.7)	54.6 (60.1)	52.6 (59.8)	50.9 (59.4)	52.5 (61.6)	57.3 (74.8)	54.2 (63.2)
	FCC-NMP1	Calvert South	Free-field	47.6 (54.3)	50.6 (65.6)	41.3 (49.8)	41.2 (49.2)	40.5 (56.1)	42.4 (46.5)	43.9 (48.2)	44.0 (49.7)	41.1 (50.4)	37.5 (53.0)	43.3 (54.8)	43.1 (57.8)
WDL	WDL-NMP1	Woodlands Farmhouse, Station Rd, Quainton	Free-field	60.0 (70.5)	65.6 (73.2)	44.9 (56.5)	42.3 (55.2)	44.2 (59.0)	50.2 (59.1)	57.9 (65.9)	58.6 (71.0)	50.2 (61.5)	43.3 (52.7)	54.9 (67.8)	46.1 (53.7)

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Worksite Reference	Measurement Reference	Site Address	Free-Field or Façade Measurement	Weekday Average LAeq,T (Highest Day LAeq,T)					Saturday Average LAeq,T (Highest Day LAeq,T)					Sunday / Public Holiday Average LAeq,T (Highest Day LAeq,T)	
				0700 - 0800	0800 - 1800	1800 - 1900	1900 - 2200	2200 - 0700	0700 - 0800	0800 - 1300	1300 - 1400	1400 - 2200	2200 - 0700	0700 - 2200	2200 - 0700
QAR	QAR-NMP2	Station Rd, Quainton	Free-field	51.2 (57.1)	53.1 (65.3)	47.8 (53.4)	44.7 (54.1)	43.3 (57.8)	48.3 (50.0)	49.8 (50.8)	48.6 (50.0)	46.6 (48.8)	39.4 (44.1)	49.2 (60.8)	46.8 (60.5)
	LSF-NMP1	Upper South Farm	Free-field	55.2 (61.2)	57.1 (59.5)	40.9 (50.9)	37.5 (52.1)	43.5 (57.3)	49.8 (56.7)	52.7 (56.5)	53.0 (57.6)	49.1 (60.4)	36.6 (42.6)	50.4 (58.3)	45.9 (55.0)
GC	GC-NMP1	Aylesbury, Buckinghamshire	Free-field	48.0 (53.8)	49.3 (52.7)	45.9 (49.0)	45.4 (53.0)	44.8 (60.3)	45.3 (46.1)	46.5 (48.2)	46.2 (47.4)	46.6 (49.4)	44.3 (48.2)	47.1 (56.4)	45.0 (48.8)
OC	MF-NMP1	Moat Farm, Marsh Lane	Free-field	47.5 (62.1)	50.9 (56.0)	43.5 (53.8)	43.2 (53.0)	42.2 (63.3)	43.4 (46.0)	44.8 (46.0)	44.1 (45.2)	44.4 (48.5)	42.7 (47.6)	47.8 (62.8)	46.8 (60.1)
WAD	WAD-NMP2	Waddesdon, Buckinghamshire	Free-field	49.3 (54.3)	50.9 (53.4)	44.4 (54.1)	42.4 (52.8)	44.0 (59.8)	50.7 (51.5)	49.9 (52.0)	49.9 (56.3)	47.5 (56.4)	36.6 (44.0)	49.5 (57.1)	44.1 (54.6)
TVV	TVV-NMP1	Aylesbury, Buckinghamshire	Free-field	48.0 (58.3)	51.8 (55.7)	43.2 (54.0)	42.5 (57.3)	41.2 (61.5)	45.4 (48.7)	48.3 (50.6)	46.0 (48.9)	45.5 (55.4)	39.3 (45.8)	44.9 (57.3)	42.8 (54.5)
RR	RR-NMP1	Stoke Mandeville, Aylesbury	Free-field	51.5 (58.5)	50.1 (56.4)	48.8 (54.7)	47.1 (53.7)	44.6 (59.1)	47.5 (49.9)	48.2 (51.2)	49.4 (54.1)	49.9 (54.5)	44.3 (50.4)	50.2 (59.0)	46.4 (53.6)
NLL	NLL-NMP1	Nash Lee Lane, Nash Lee	Free-field	56.9 (60.8)	59.3 (63.2)	54.4 (58.3)	52.3 (57.0)	50.8 (60.0)	54.3 (62.4)	55.7 (62.0)	55.0 (59.8)	53.2 (63.5)	49.8 (58.3)	53.8 (59.0)	51.2 (57.5)
	NLL-NMP2	Nash Lee Lane, Nash Lee	Free-field	55.7 (60.1)	58.9 (64.9)	52.2 (58.9)	49.8 (56.7)	48.1 (61.6)	50.7 (51.4)	54.4 (55.7)	51.2 (53.4)	51.9 (55.3)	47.8 (55.6)	53.0 (60.0)	50.2 (56.9)

Worksite Reference	Measurement Reference	Site Address	Free-Field or Façade Measurement	Weekday Average LAeq,T (Highest Day LAeq,T)					Saturday Average LAeq,T (Highest Day LAeq,T)					Sunday / Public Holiday Average LAeq,T (Highest Day LAeq,T)	
				0700 - 0800	0800 - 1800	1800 - 1900	1900 - 2200	2200 - 0700	0700 - 0800	0800 - 1300	1300 - 1400	1400 - 2200	2200 - 0700	0700 - 2200	2200 - 0700
WGT	ER-NMP1	Ellesborough Rd, Wendover	Free-field	55.6 (59.4)	56.7 (60.3)	54.4 (59.2)	50.9 (57.5)	48.2 (57.6)	51.3 (54.5)	54.1 (56.1)	55.2 (55.8)	51.1 (55.3)	44.7 (49.7)	50.7 (55.6)	46.9 (52.3)
	BL-NMP1	Bacombe Lane, Wendover	Free-field	47.4 (52.9)	50.5 (54.5)	45.5 (49.3)	44.0 (48.4)	41.5 (53.9)	46.9 (49.0)	49.6 (52.5)	48.8 (50.4)	47.1 (50.8)	42.6 (46.7)	48.4 (55.3)	41.6 (53.5)
	WT-NMP1	A413, Wendover	Free-field	67.3 (70.1)	67.3 (70.5)	66.3 (68.7)	63.2 (66.6)	60.4 (68.7)	63.8 (64.7)	66.0 (66.4)	66.7 (66.9)	65.1 (66.8)	58.3 (61.9)	65.7 (69.8)	61.6 (68.2)
	WGT-NMP1	Wendover, Aylesbury	Free-field	55.0 (59.2)	55.6 (60.1)	54.5 (60.1)	51.8 (58.2)	48.5 (59.3)	50.6 (50.7)	54.0 (58.1)	48.4 (49.0)	48.3 (51.9)	44.0 (51.2)	50.2 (55.2)	46.2 (55.6)
GF	GF-NMP1	Grove Farm, Wendover	Free-field	52.6 (56.1)	54.9 (58.3)	49.4 (56.5)	46.7 (53.6)	42.9 (58.9)	50.2 (51.6)	50.3 (52.4)	47.6 (50.2)	51.2 (60.1)	43.2 (55.4)	52.2 (61.5)	45.7 (55.0)
SDVC	SDVC-NMP1	Rocky Lane, Wendover	Free-field	62.9 (66.9)	63.2 (65.3)	61.9 (65.9)	60.1 (64.8)	57.2 (66.6)	60.8 (62.1)	63.4 (64.8)	62.6 (63.7)	61.2 (64.1)	54.9 (59.5)	61.8 (65.7)	58.3 (64.5)
RLE	NCAS6-NMP1	Chesham Lane, The Lee, Wendover	Free-field	50.6 (61.4)	52.1 (60.3)	48.1 (59.0)	46.3 (58.1)	45.6 (67.6)	46.9 (50.2)	53.0 (59.4)	51.4 (59.7)	48.0 (61.2)	44.0 (51.2)	50.6 (61.7)	48.9 (63.9)
	NCAS5-NMP1	Chesham Lane, The Lee, Wendover	Free-field	57.1 (61.3)	59.0 (62.3)	55.5 (58.6)	53.4 (60.7)	50.1 (60.2)	53.8 (55.0)	57.3 (59.8)	56.0 (57.5)	54.8 (57.5)	48.3 (53.7)	56.1 (60.7)	52.0 (58.5)
WDV	WDV-NMP1	Upper Wendover Dean Farm, A413, Wendover	Free-field	53.7 (58.1)	59.2 (61.8)	49.0 (52.2)	46.6 (53.6)	44.5 (52.6)	51.3 (53.6)	60.2 (64.2)	57.6 (61.6)	50.1 (56.6)	43.2 (47.5)	52.7 (60.0)	48.7 (56.0)

Worksite Reference	Measurement Reference	Site Address	Free-Field or Façade Measurement	Weekday Average LAeq,T (Highest Day LAeq,T)					Saturday Average LAeq,T (Highest Day LAeq,T)					Sunday / Public Holiday Average LAeq,T (Highest Day LAeq,T)	
				0700 - 0800	0800 - 1800	1800 - 1900	1900 - 2200	2200 - 0700	0700 - 0800	0800 - 1300	1300 - 1400	1400 - 2200	2200 - 0700	0700 - 2200	2200 - 0700
LL	GD-NMP1	Grimms Ditch, The Lee, South Heath	Free-field	47.5 (58.8)	49.9 (58.8)	46.3 (57.9)	45.2 (57.4)	45.4 (64.1)	47.1 (52.7)	47.0 (48.6)	46.2 (49.1)	46.3 (54.2)	46.1 (53.3)	50.5 (63.0)	47.7 (59.3)
SH	HGF-NMP1	Hunts Green Farm, Kings Lane, South Heath	Free-field	46.7 (54.2)	50.2 (63.4)	42.3 (52.5)	40.2 (50.2)	38.4 (58.1)	47.3 (51.5)	46.2 (47.2)	46.4 (48.5)	43.4 (50.1)	36.3 (42.6)	46.1 (54.4)	43.1 (55.9)
	PKF-NMP1	Park Farm, South Heath	Free-field	53.6 (62.8)	56.1 (61.7)	44.5 (59.6)	43.1 (57.0)	42.6 (65.3)	46.2 (49.0)	46.8 (51.8)	49.6 (55.8)	45.0 (59.2)	36.1 (43.2)	46.7 (57.8)	44.5 (56.0)
NP	BFH-NMP1	Bury Farm, Great Missenden	Free-field	46.6 (58.1)	48.3 (56.0)	43.0 (52.2)	40.4 (51.6)	38.7 (59.8)	43.8 (47.7)	44.8 (46.7)	44.0 (47.2)	41.5 (49.1)	37.7 (45.6)	47.3 (55.5)	44.8 (57.8)
	ORC-NMP1	Orchard Cottage, Ballinger Road, South Heath	Free-field	(49.9) (58.4)	(50.6) (57.0)	(46.9) (55.2)	44.7 (56.7)	42.2 (60.8)	45.8 (52.3)	47.7 (48.8)	47.1 (48.8)	46.1 (51.4)	39.5 (47.8)	49.2 (58.1)	45.6 (57.1)
	BLH-NMP1	Bayleys Hatch, South Heath, Great Missenden	Free-field	(49.1) (55.0)	48.9 (56.8)	44.3 (49.4)	41.9 (48.6)	40.4 (56.4)	49.2 (52.9)	47.1 (49.3)	46.2 (47.6)	43.6 (51.3)	35.8 (43.2)	46.0 (52.6)	43.1 (53.0)
CHSM	MDL-NMP1	Meadow Leigh Cottage, Firth Hill, South Heath	Free-field	57.9 (60.3)	58.6 (61.0)	55.7 (57.7)	52.4 (57.5)	48.0 (60.5)	51.9 (53.2)	57.4 (61.7)	56.3 (57.0)	53.8 (56.8)	44.2 (50.5)	53.4 (59.3)	49.5 (56.0)
AM	AM-NMP1	Whielden Lane, Amersham	Free-field	62.1 (63.7)	67.4 (80.3)	59.8 (61.2)	57.3 (60.2)	53.5 (60.4)	57.4 (58.7)	59.8 (60.5)	59.6 (60.8)	58.4 (60.4)	51.3 (55.8)	57.6 (61.8)	54.7 (60.8)
LM	LM-NMP1	Little Missenden, A413, Amersham	Free-field	54.4 (58.4)	54.0 (58.8)	53.2 (56.2)	49.7 (55.7)	45.6 (56.7)	49.5 (50.6)	51.4 (52.3)	51.2 (53.3)	51.8 (55.8)	45.1 (50.4)	52.3 (60.4)	48.5 (55.9)

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Worksite Reference	Measurement Reference	Site Address	Free-Field or Façade Measurement	Weekday Average LAeq,T (Highest Day LAeq,T)					Saturday Average LAeq,T (Highest Day LAeq,T)					Sunday / Public Holiday Average LAeq,T (Highest Day LAeq,T)	
				0700 - 0800	0800 - 1800	1800 - 1900	1900 - 2200	2200 - 0700	0700 - 0800	0800 - 1300	1300 - 1400	1400 - 2200	2200 - 0700	0700 - 2200	2200 - 0700
	PWC-NMP1	Patricia Holmes, LM Worksite, Amersham	Free-field	61.8 (63.8)	61.3 (63.5)	61.0 (62.9)	57.3 (61.0)	53.0 (62.4)	56.8 (57.6)	59.3 (59.5)	60.0 (60.6)	59.0 (60.8)	51.1 (56.1)	58.1 (64.0)	55.4 (61.9)
CSG	CSG-NMP1	CSG Worksite, Bottom House Farm Lane	Free-field	46.5 (52.9)	48.4 (65.6)	42.1 (51.3)	40.7 (48.7)	36.3 (49.6)	44.8 (52.5)	45.0 (49.0)	47.8 (53.0)	41.7 (50.0)	35.2 (43.3)	45.4 (56.4)	37.9 (49.9)
CSP	CFC-NMP1	Cricket Field Cottages, Chesham Lane, Chalfont St. Peter	Free-field	56.0 (63.1)	57.6 (63.7)	54.8 (58.4)	52.8 (56.9)	48.5 (60.5)	56.2 (59.0)	57.8 (59.7)	56.0 (57.4)	55.5 (59.2)	47.7 (54.2)	56.5 (62.1)	47.7 (53.6)
	CSP-NMP2	Chalfont St Peter Vent Shaft Worksite	Free-field	48.3 (54.8)	48.9 (54.8)	45.7 (49.6)	44.4 (49.5)	39.6 (49.7)	43.9 (47.1)	48.2 (51.4)	48.2 (51.8)	44.5 (53.2)	39.6 (47.3)	47.4 (52.3)	43.5 (53.6)
CVV	CVV-NMP1	Northern boundary, Load Test Pile 1 Worksite	Free-field	62.8 (64.2)	61.9 (66.9)	60.6 (63.5)	57.5 (60.4)	56.2 (64.6)	57.9 (59.9)	60.4 (60.8)	61.0 (61.3)	60.3 (68.2)	53.0 (56.3)	58.5 (61.5)	56.4 (63.5)

2.1.2 Table 4 presents a summary of the measured vibration levels at the monitoring location over the reporting period. The highest PPV measured during the monitoring along any axis is presented in the table.

Table 4: Summary of Measured PPV Data over the Monitoring Period

Worksite Reference	Measurement Reference	Monitor Address	Highest PPV measured in any axis, mm/s
SE	SE-Vib1	School End, Chetwode	3.63 (X-axis)
WDL	WDL-Vib1	Station Road, Quainton	0.25 (Z-axis)
QAR	SR-Vib1	Station Road, Quainton	1.61 (Z-axis)
CAL	BRA-Vib1	13 Brackley Lane, Calvert Village	1.23 (X-axis)
WSO	PF-Vib1	Twyford, Buckinghamshire	1.40 (Y-axis)
WGT	ER-Vib1	46, Ellesborough Rd, Wendover	0.72 (Y-axis)
GF	GF-Vib1	Grove Farm, Wendover	4.07 (Z-axis)

2.1.3 Appendix C presents graphs of the noise and vibration monitoring data over the month for each of the measurement locations. Noise data presented consists of the hourly L_{Aeq} values and, where relevant, the $L_{Aeq,T}$ values (where the time period T has been taken to be the averaging period as specified in Table 1 of HS2 Information Paper E23). Vibration data presented consist of hourly PPV values. The full data set for the monitoring equipment can be found at the following location:

<https://data.gov.uk/dataset/24542ae7-dd44-444f-b259-871c4cc43b5e/environmental-monitoring-data>.

2.2 Exceedances of the LOAEL and SOAEL

2.2.1 The lowest observed adverse effect level (LOAEL) is defined in the Planning Practice Guidance – Noise (PPG) as the level above which “noise starts to cause small changes in behaviour and/or attitude, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a perceived change in the quality of life”.

2.2.2 The significant observed adverse effect level (SOAEL) is defined in the ‘Planning Practice Guidance – Noise’ as the level above which “noise causes a material change in behaviour and/or attitude, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in

difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.

2.2.3 HS2 Phase One Information Paper E23: Control of Construction Noise and Vibration sets out the LOAELs and SOAELs for construction noise.

2.2.4 Where reported construction noise levels exceed the LOAEL and SOAEL at nearby receptors, relevant periods will be identified. Summary statistics to evaluate ongoing qualification for noise insulation and temporary rehousing are also presented where relevant.

2.2.5 Table 5 presents a summary of recorded exceedances of the LOAEL and SOAEL over the reporting period, including the number of exceedances during each time period.

Table 5: Summary of Exceedances of LOAEL and SOAEL

Worksite Reference	Measurement Reference	Address	Day (Weekday, Saturday, Sunday, Night)	Time period	Number of exceedances of LOAEL	Number of exceedances of SOAEL
A422 TN	TN-NMP1	Turweston, Brackley	All days	All periods	No exceedance	No exceedance
SE	SE-NMP1	School End, Chetwode	All days	All periods	No exceedance	No exceedance
HC	HC-NMP1	Hermitage, Chetwode	Weekday	0800-1800	4	No exceedance
TW	TW-NMP1	Twyford	All days	All periods	No exceedance	No exceedance
WSO	WSO-NMP1	West Street, Twyford	All days	All periods	No exceedance	No exceedance
CAL	SHC-NMP1	School Hill Compound, Calvert	All days	All periods	Not Applicable*	Not Applicable*
	FCC-NMP1	Calvert South	Weekdays Nights	0800-1800 2200-0700	1 16	No exceedance No exceedance
WDL	WDL-NMP1	Woodlands Farmhouse, Station Rd, Quainton	Weekday	0700-0800	13	3
				0800-1800	20	1
			Saturday	0700-0800	1	No exceedance
				0800-1300	2	No exceedance
				1300-1400	2	1
			Night	1400-2200	9	No exceedance
2200-0700	1	No exceedance				

Worksite Reference	Measurement Reference	Address	Day (Weekday, Saturday, Sunday, Night)	Time period	Number of exceedances of LOAEL	Number of exceedances of SOAEL
QAR	QAR-NMP2	Station Rd, Quainton	Weekday	0800-1800	2	No exceedance
	LSF-NMP1	Upper South Farm	All days	All periods	No exceedance	No exceedance
GC	GC-NMP1	Aylesbury, Buckinghamshire	All days	All periods	No exceedance	No exceedance
OC	MF-NMP1	Moat Farm, Marsh Lane	All days	All periods	No exceedance	No exceedance
WAD	WAD-NMP2	Waddesdon, Buckinghamshire	All days	All periods	No exceedance	No exceedance
TVV	TVV-NMP1	Aylesbury, Buckinghamshire	All days	All periods	No exceedance	No exceedance
RR	RR-NMP1	Stoke Mandeville, Aylesbury	All days	All periods	No exceedance	No exceedance
NLL	NLL-NMP1	Nash Lee Lane, Nash Lee	All days	All periods	No exceedance	No exceedance
	NLL-NMP2	Nash Lee Lane, Nash Lee	Weekday	0800-1800	2	No exceedance
WGT	ER-NMP1	Ellesborough Rd, Wendover	All days	All periods	No exceedance	No exceedance
	BL-NMP1	Bacombe Lane, Wendover	All days	All periods	No exceedance	No exceedance
	WT-NMP1	A413, Wendover	Weekday Saturday	0800-1800 0800-1300	21 4	No exceedance No exceedance
	WGT-NMP1	Wendove, Aylesbury	All days	All periods	No exceedance	No exceedance
GF	GF-NMP1	Grove Farm, Wendover	All days	All periods	No exceedance	No exceedance
SDVC	SDVC-NMP1	Rocky Lane, Wendover	All days	All periods	No exceedance	No exceedance
RLE	NCAS6-NMP1	Chesham Lane, The Lee, Wendover	All periods	All periods	No exceedance	No exceedance
	NCAS5-NMP1	Chesham Lane, The Lee, Wendover	All days	All periods	No exceedance	No exceedance
WDV	WDV-NMP1	A413, Wendover	Saturday	0800-1300	1	No exceedance

Worksite Reference	Measurement Reference	Address	Day (Weekday, Saturday, Sunday, Night)	Time period	Number of exceedances of LOAEL	Number of exceedances of SOAEL
LL	GD-NMP1	Grimms Ditch, The Lee, South Heath	All days	All periods	No exceedance	No exceedance
SH	HGF-NMP1	Hunts Green Farm, Kings Lane, South Heath	Weekday	0800-1800	1	No exceedance
	PKF-NMP1	Park Farm, South Heath	Weekday Saturday	0700-0800 1400-2200	2 2	No exceedance No exceedance
NP	BFH-NMP1	Bury Farm, Great Missenden	All days	All periods	No exceedance	No exceedance
	ORC-NMP1	Orchard Cottage, Ballinger Road, South Heath	All days	All periods	No exceedance	No exceedance
	BLH-NMP1	Bayleys Hatch, South Heath, Great Missenden	All days	All periods	No exceedance	No exceedance
CHSM	MDL-NMP1	Meadow Leigh Cottage, Firth Hill, South Heath	All days	All periods	No exceedance	No exceedance
AM	AM-NMP1**	Whielden Lane, Amersham	All days	All periods	No exceedance	No exceedance
LM	LM-NMP1**	Little Missenden Vent Shaft Worksite	All days	All periods	No exceedance	No exceedance
	PWC-NMP1	Patricia Holmes, Little Missenden Vent Shaft Worksite, Amersham	All days	All periods	Not applicable***	Not applicable***
CSG	CSG-NMP1**	Chalfont St Giles Vent Shaft	All days	All periods	No exceedance	No exceedance
CSP	CFC-NMP1	Cricket Field Cottages, Chesham Lane	Weekday	0800-1800	1	No exceedance
	CSP-NMP2**	Chalfont St Peter Vent Shaft Worksite	All days	All periods	No exceedance	No exceedance

Worksite Reference	Measurement Reference	Address	Day (Weekday, Saturday, Sunday, Night)	Time period	Number of exceedances of LOAEL	Number of exceedances of SOAEL
CVV	CVV-NMP1**	Denham Water Ski Club, North Orbital Road	All days	All periods	Not applicable*	No exceedance

* The LOAEL or SOAEL has not been assessed due to high baseline levels.

** A distance correction has been applied when calculating exceedances of the LOAEL and SOAEL.

*** The LOAEL and SOAEL have not been assessed due to distance between monitoring station and nearest receptor.

2.2.6 Exceedances of the LOAEL were recorded at ten (10) monitoring locations during the month of January 2025. LOAEL exceedances were recorded during weekday and Saturday daytime, evening and night working periods.

2.2.7 For the purpose of reporting the number of days where the SOAEL is exceeded, multiple exceedances of the SOAEL in a 24-hour period would be counted as a single exceedance during that day. Over the reporting period, the overall number of SOAEL exceedances at each measurement location is shown in Table 6 and may be lower than the total sum of individual exceedances reported in Table 5 for each location.

Table 6: Summary of Total Exceedances of SOAEL

Worksite Reference	Measurement Reference	Monitor Address	Total of SOAEL exceedances in the month
WDL	WDL-NMP1	Woodlands Farmhouse, Station Rd, Quainton	4

2.2.8 Four (4) SOAEL exceedances were recorded due to HS2 construction works during January 2025.

2.3 Exceedances of Trigger Level

2.3.1 Table 7 provides a summary of exceedances of the S61 trigger noise levels determined to be due to HS2 related construction noise measured during the reporting period, along with the findings of any investigation.

Table 7: Summary of Exceedances of Trigger Levels

Complaint Reference Number (if applicable)	Worksite Reference	Date and Time Period	Identified Source	Results of Investigation (including noise monitoring results)	Actions Taken
-	-	-	-	-	-

2.4 Complaints

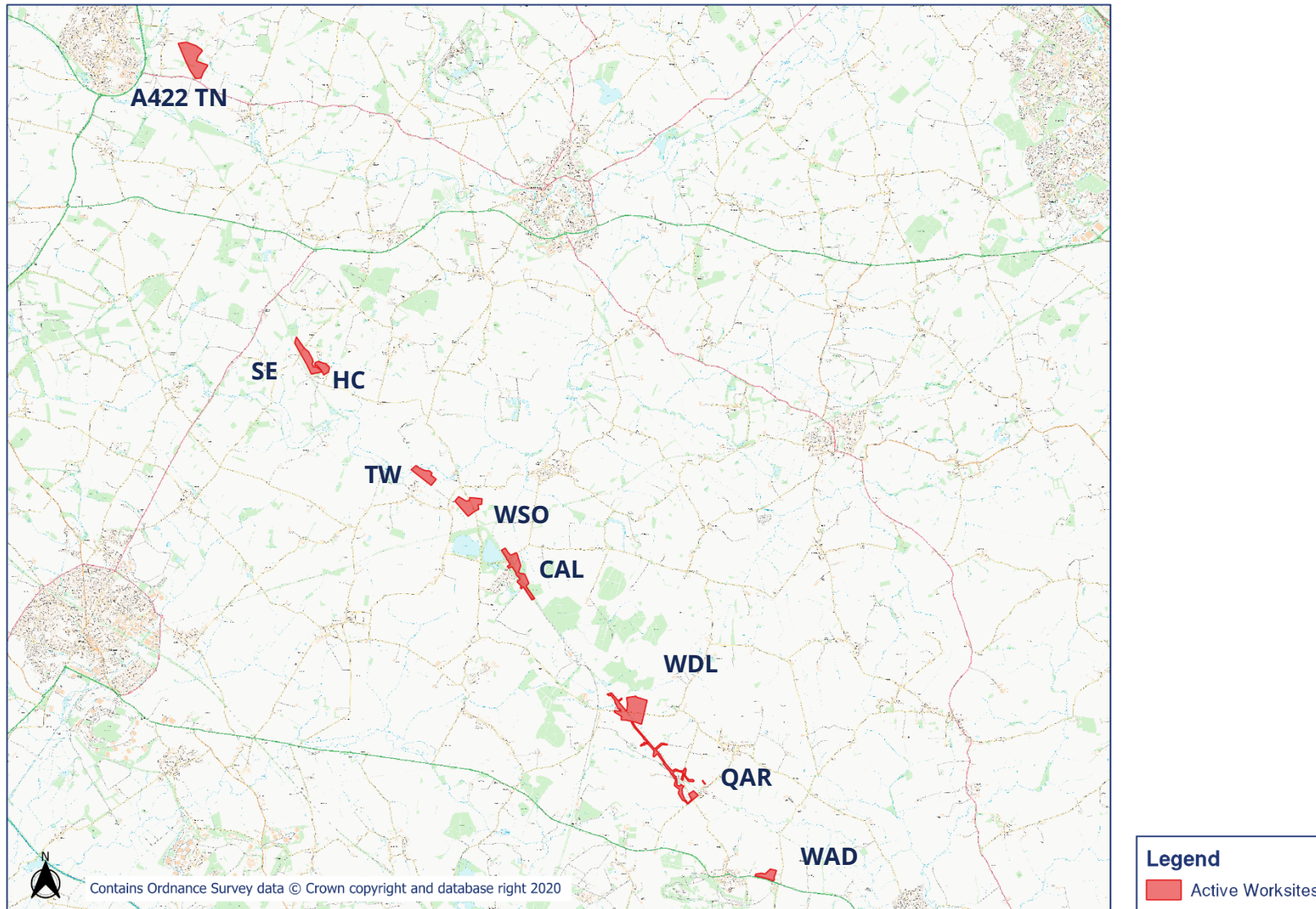
2.4.1 Table 8 provides a summary of complaint information related to noise and vibration received during the reporting period, along with the findings of any investigation.

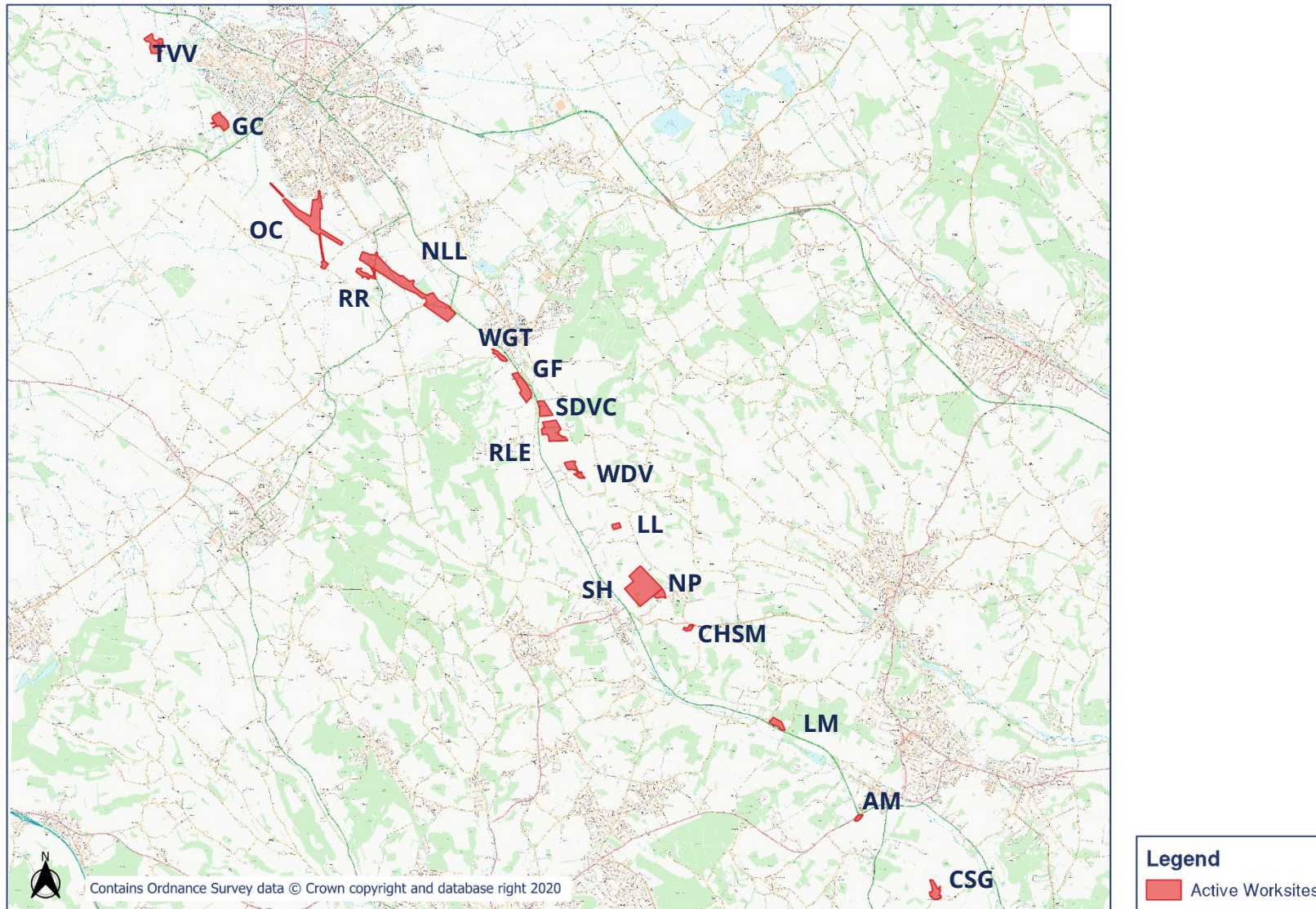
Table 8: Summary of Complaints

Complaint Reference Number	Worksite Reference	Description of Complaint	Results of Investigation	Actions Taken
HS2-25-46035-C	WGT	Disturbance due to loud works at nearby station.	No exceedances were found on nearby noise monitors. It is suspected the noise was due to works on the A413 as no works were taking place in the immediate area.	Resident has been updated with the results of the investigation.
HS2-25-46052-C	SH	General site noise heard at property.	Resident lives within close proximity to worksite. Nearby noise monitors are strictly managed, and no exceedances were breached, whilst all mitigation is in place and constantly reviewed.	The contractor is looking into installing a noise monitor on the property to reassure the consented noise levels. Resident has been updated with the results of the investigation
HS2-25-117905-E-C	GC	Noise and vibration felt at property.	The Contractor has been unable to identify any works in the area, that could have caused vibration, with nearest works 1km away. No reports of exceedances have been recorded and no other properties in the area have reported noise & vibration.	Resident has been updated with the results of the investigation
HS2-25-46079-C HS2-25-118020-E-C	NLL	Generator noise.	Noise due to generator on site for staff using welfare unit.	The results of the investigation has been relayed back to the

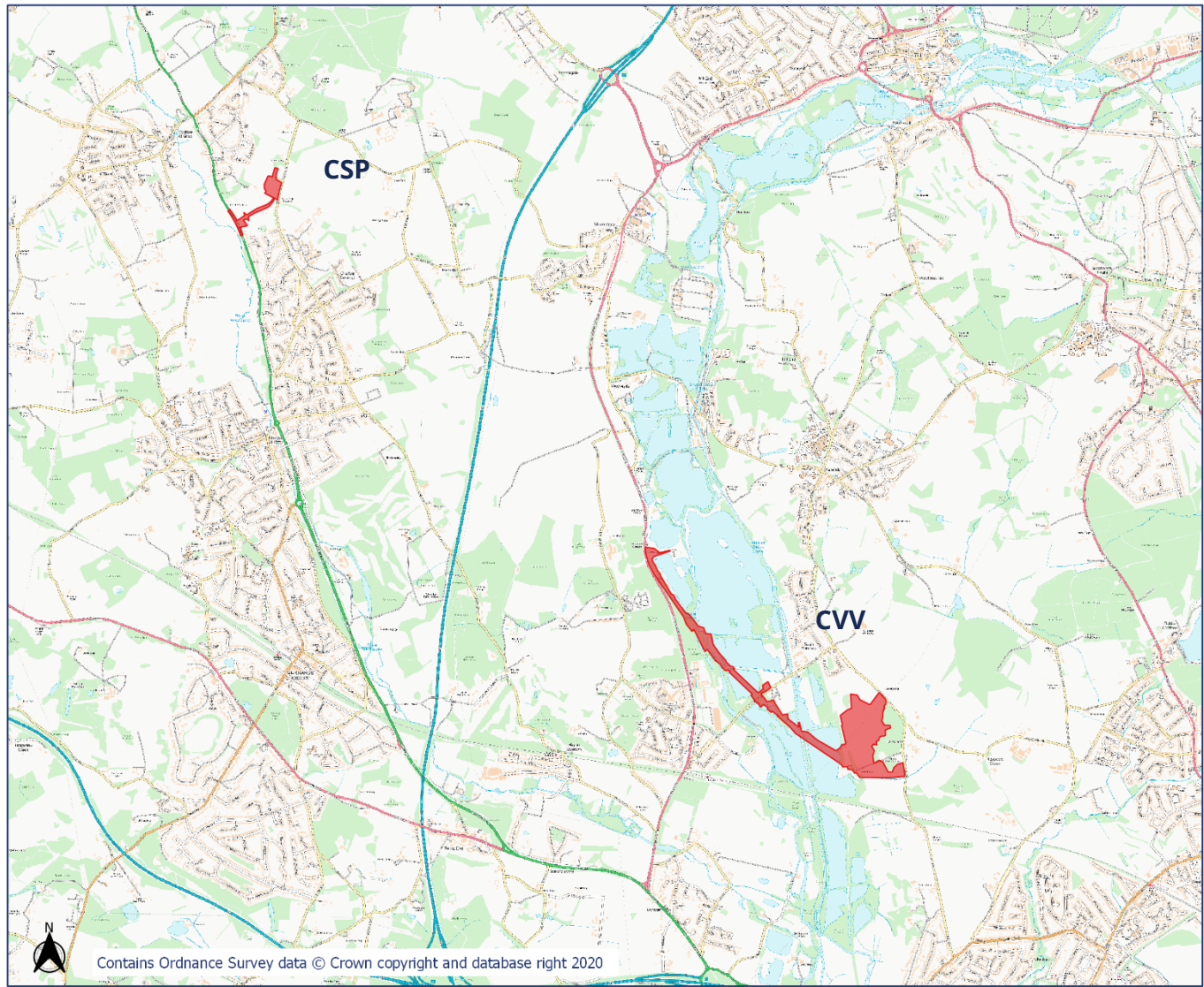
Complaint Reference Number	Worksite Reference	Description of Complaint	Results of Investigation	Actions Taken
				resident and an apology issued.

Appendix A Site Locations

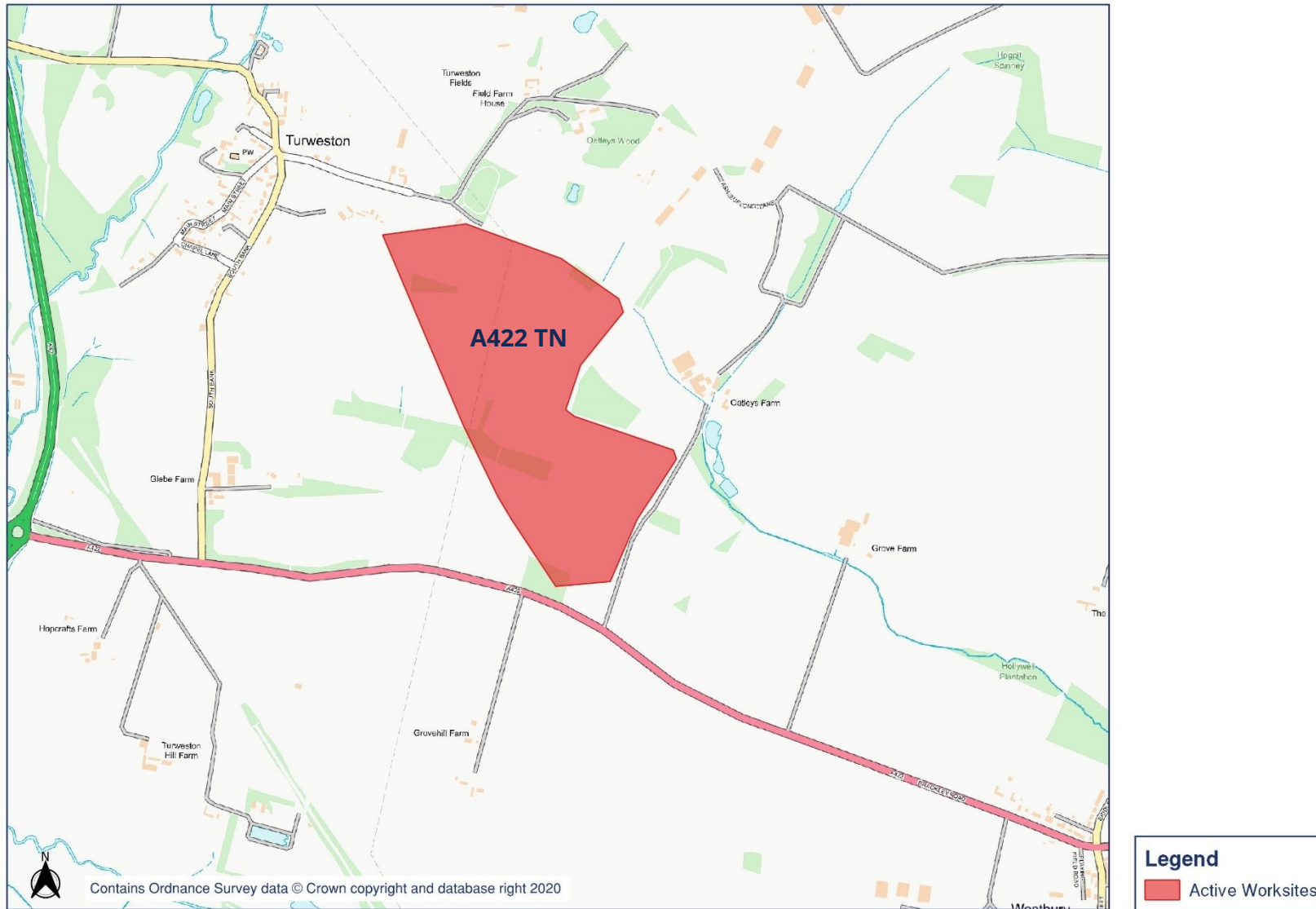


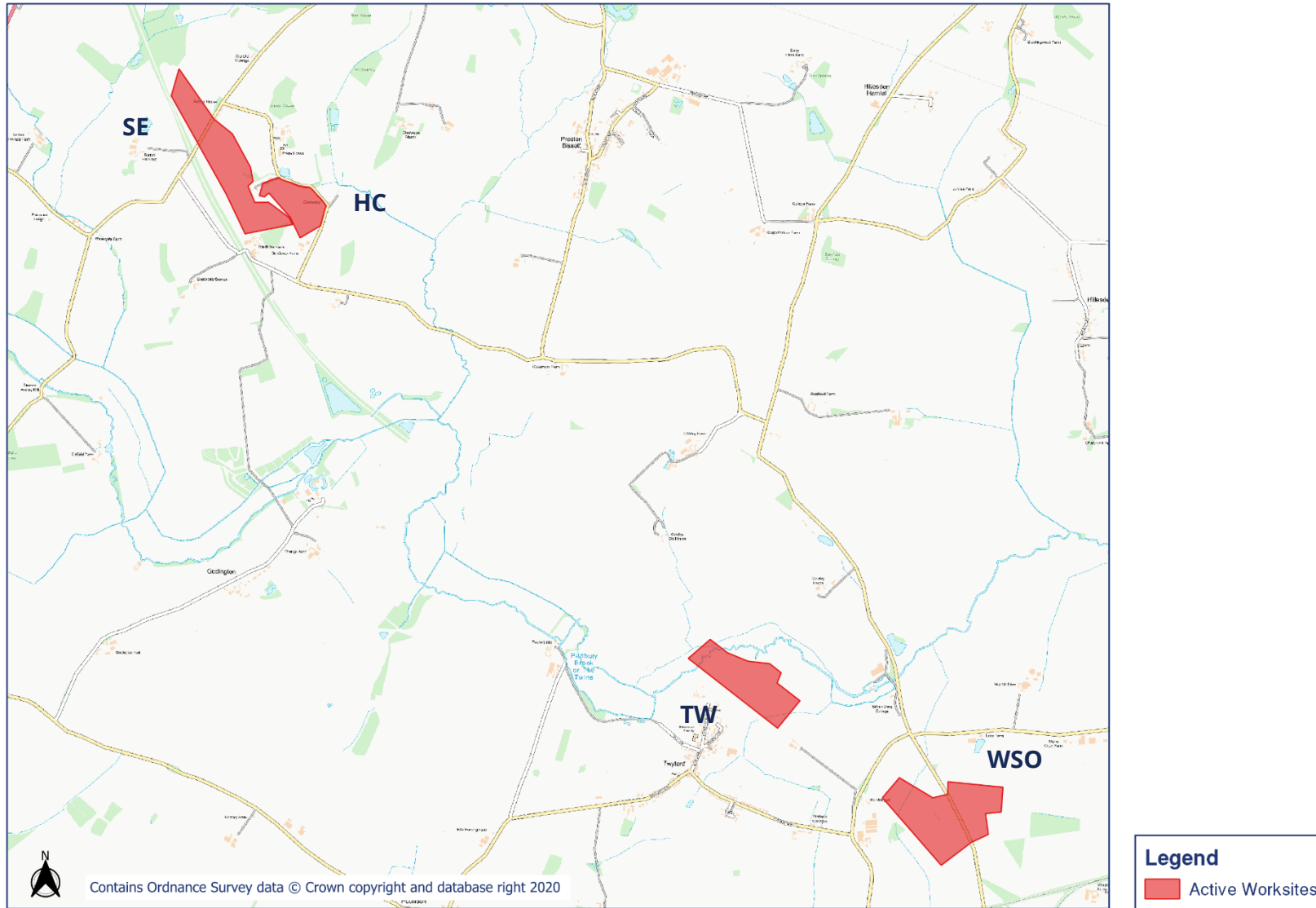


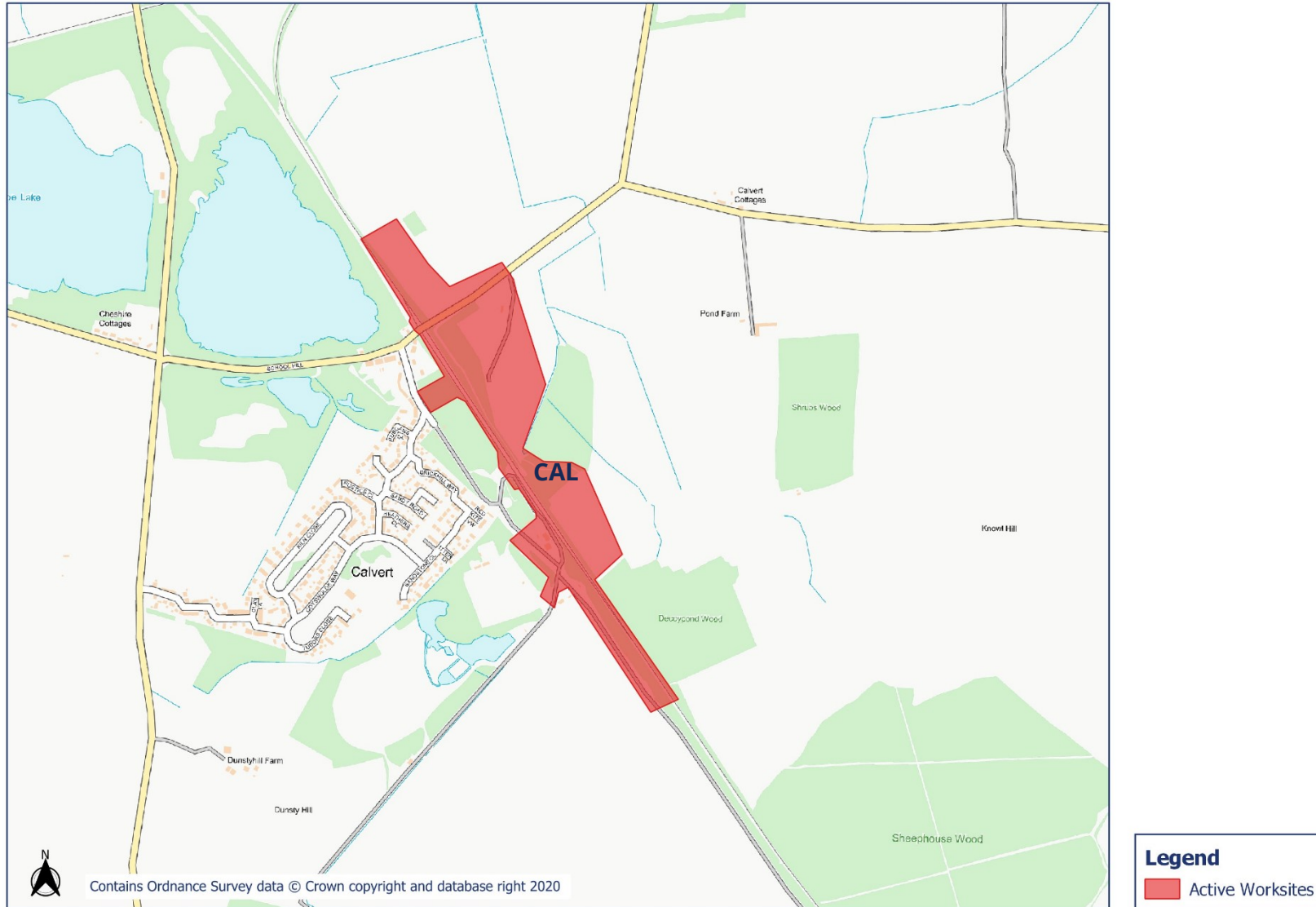
HS2 Worksite Identification Plan - Overview 3

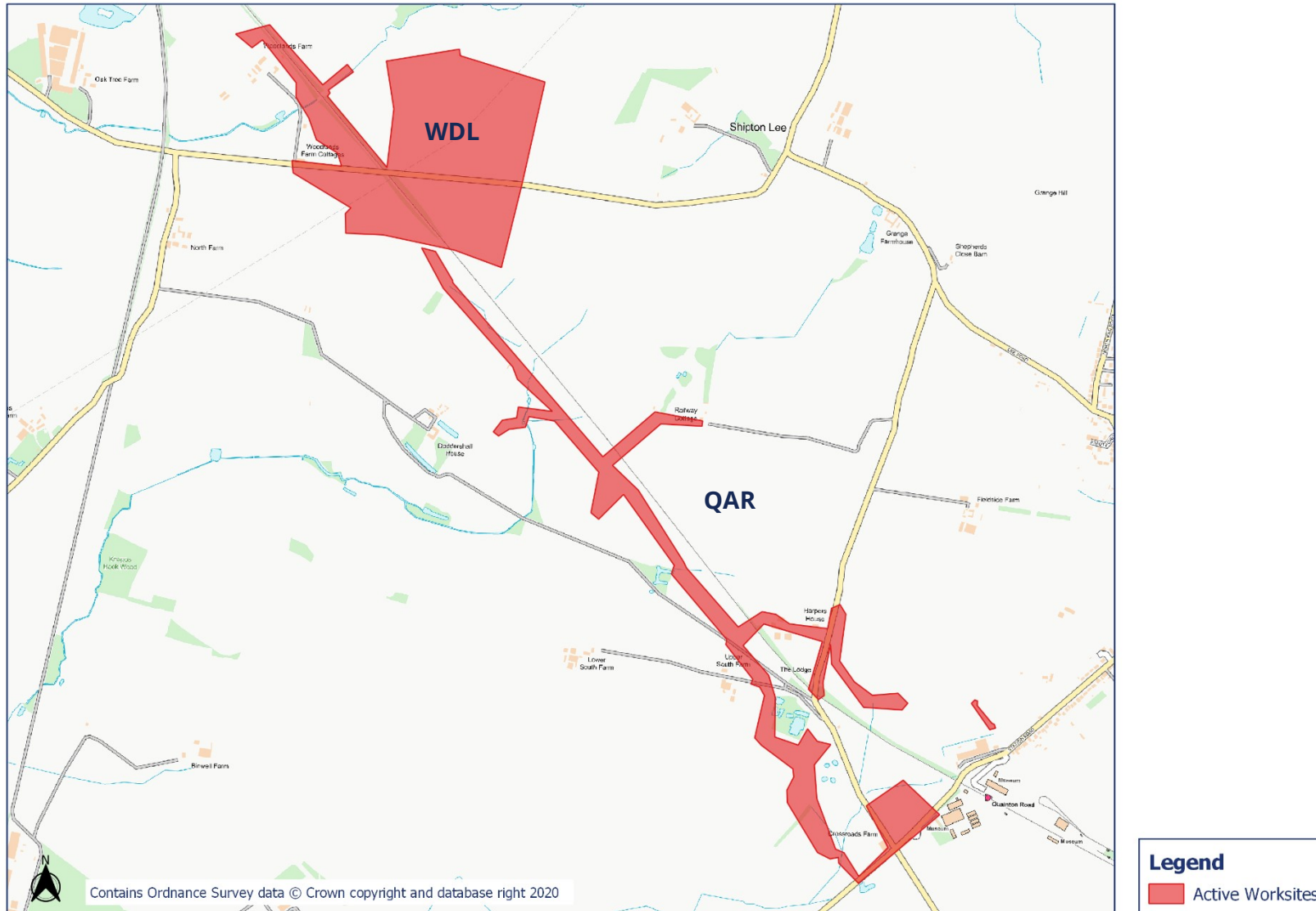


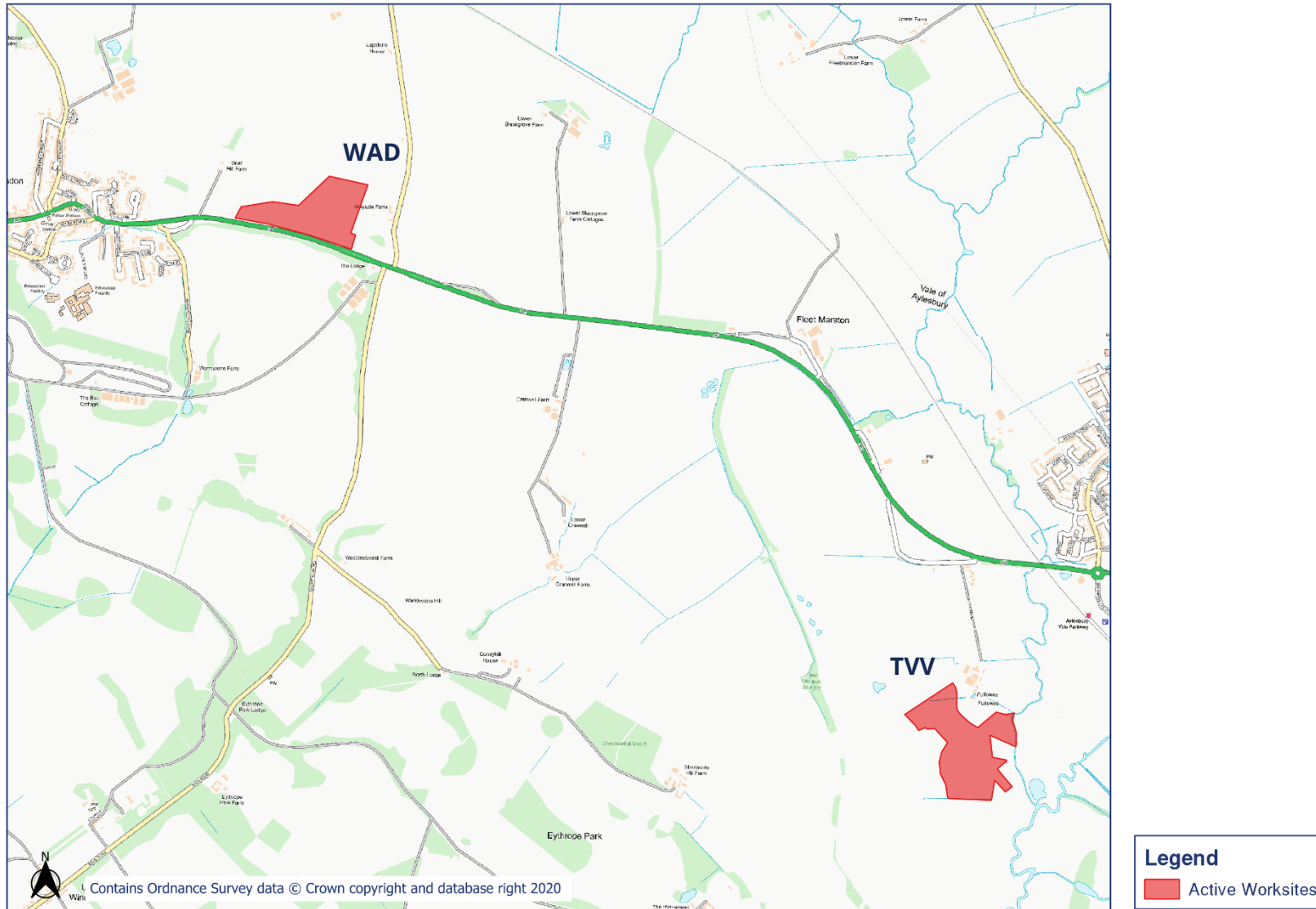
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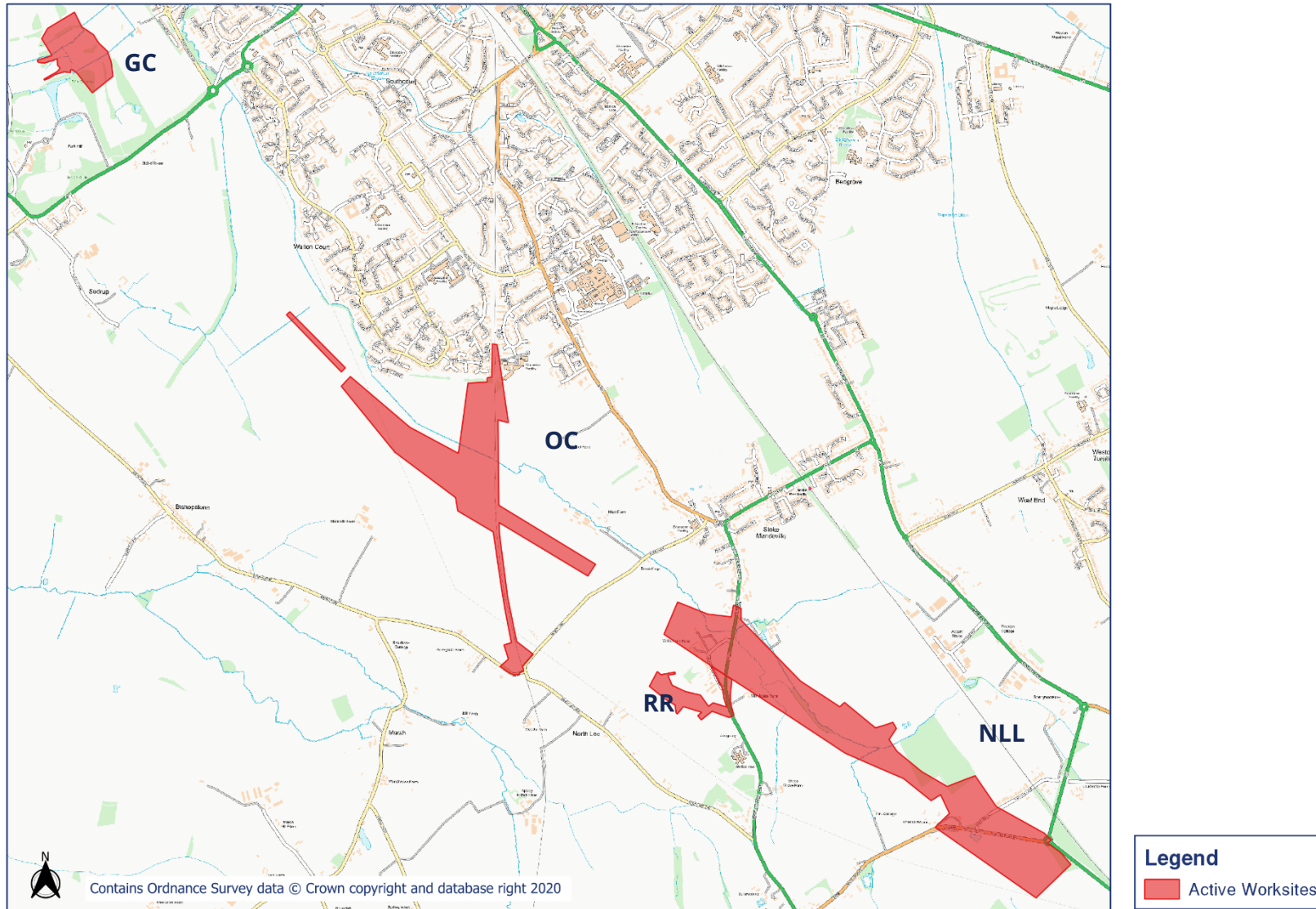


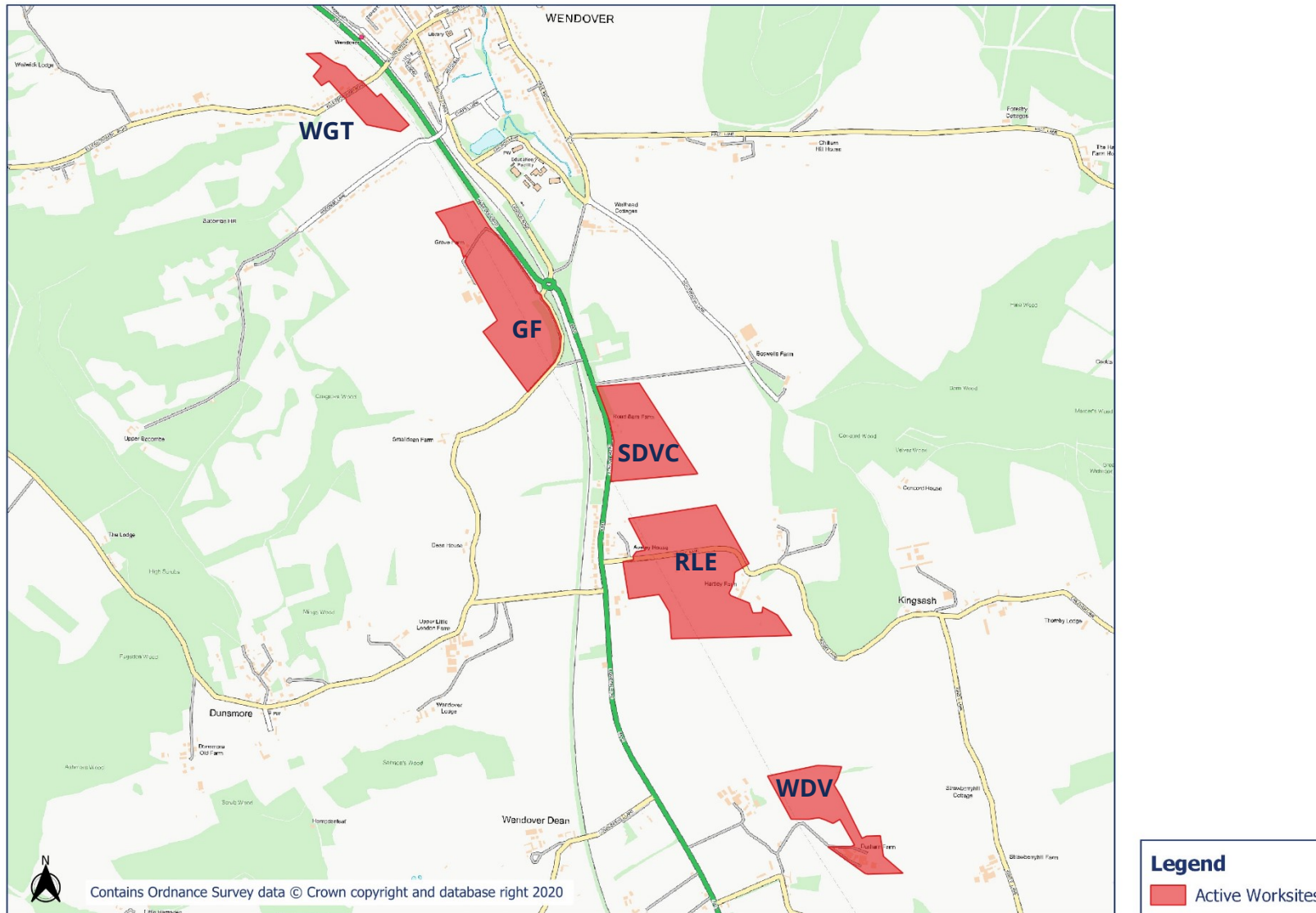


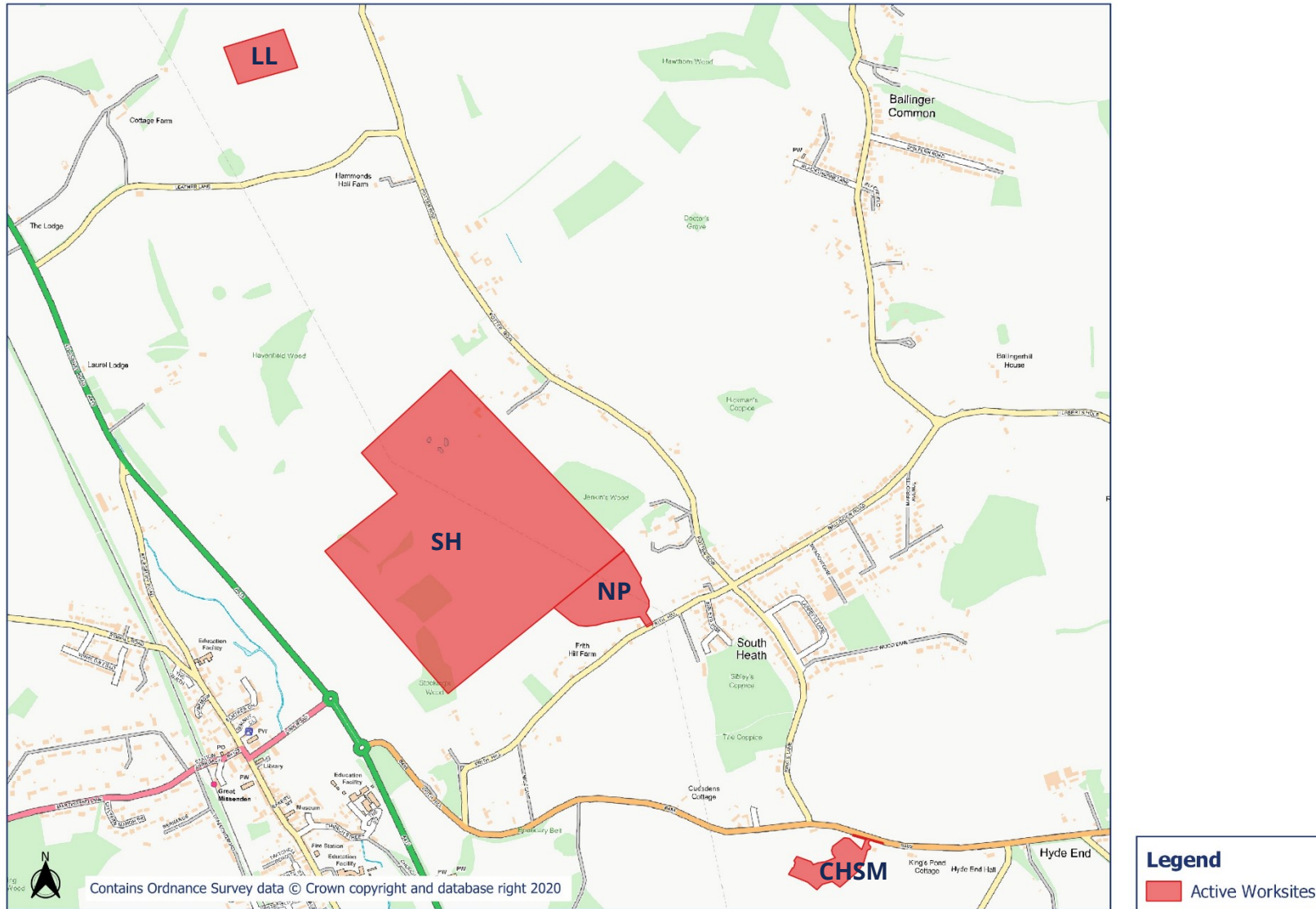




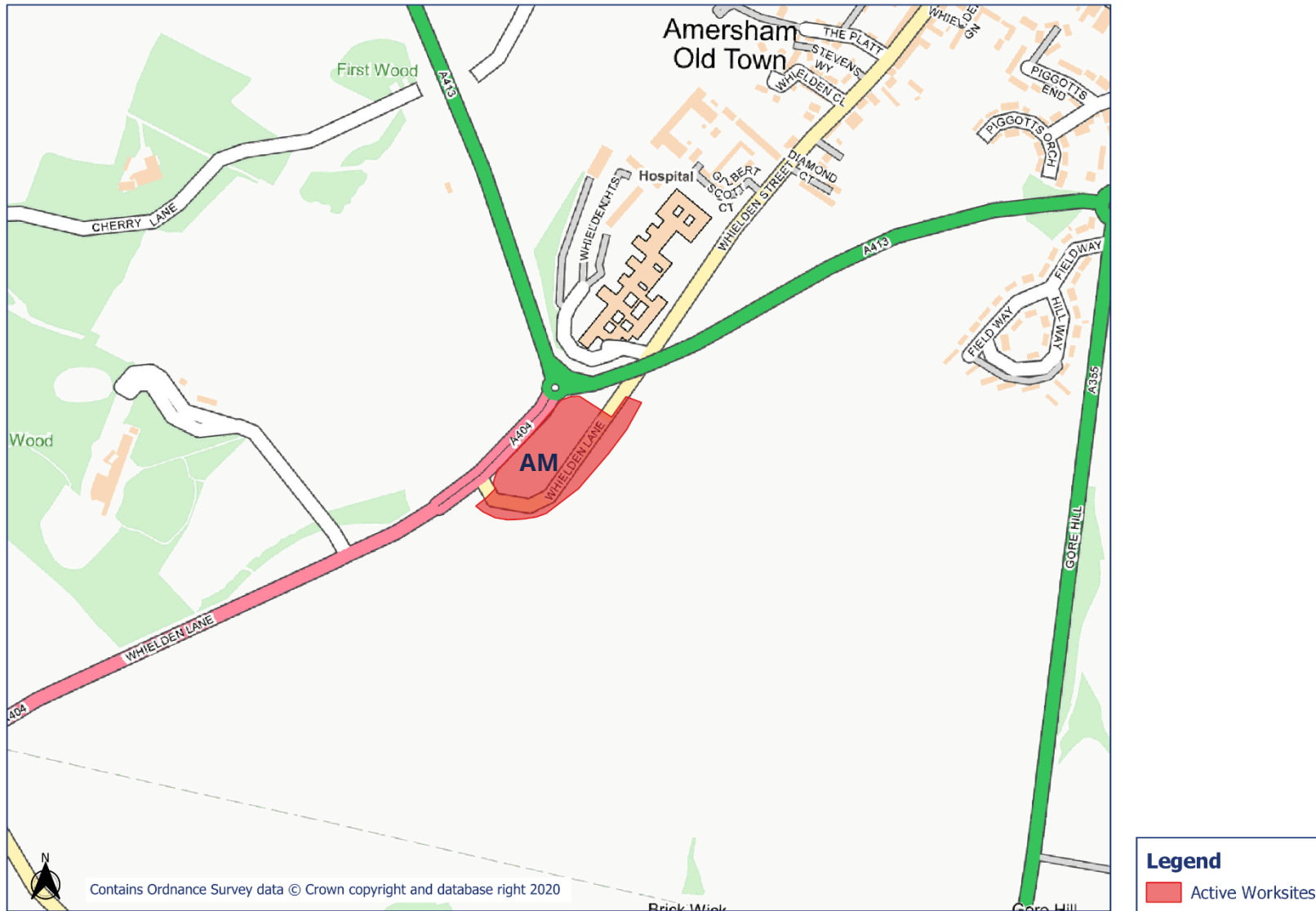


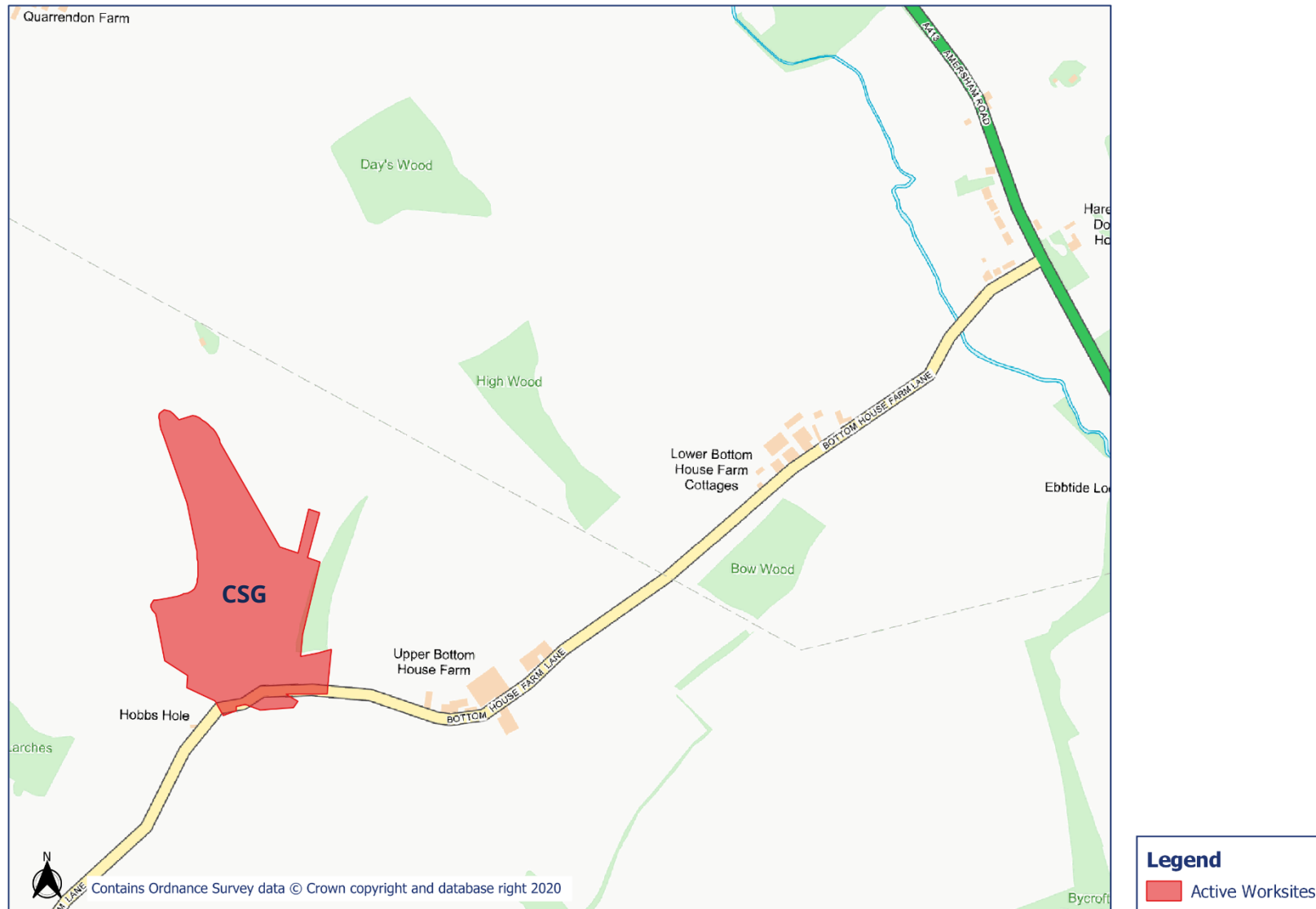


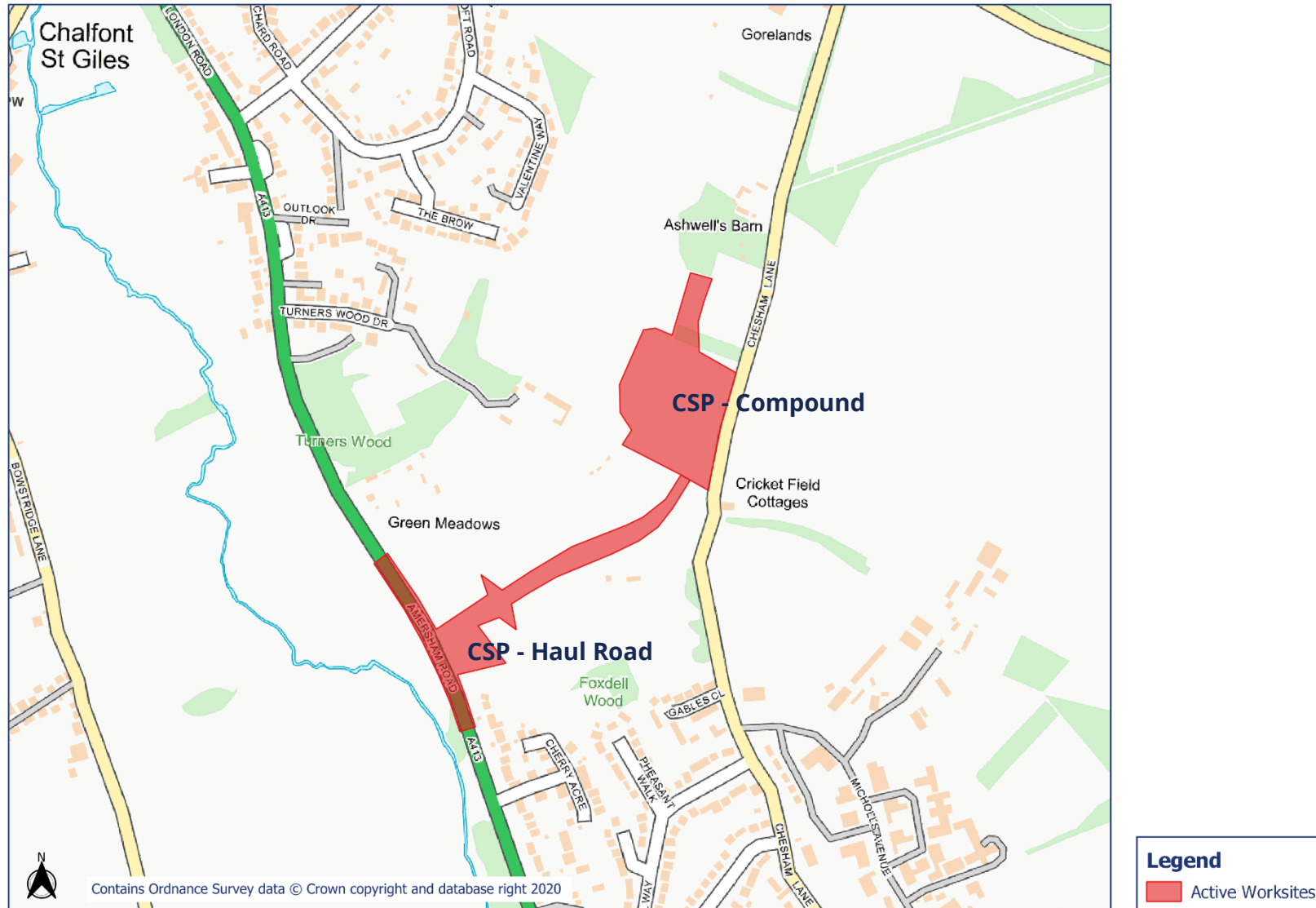


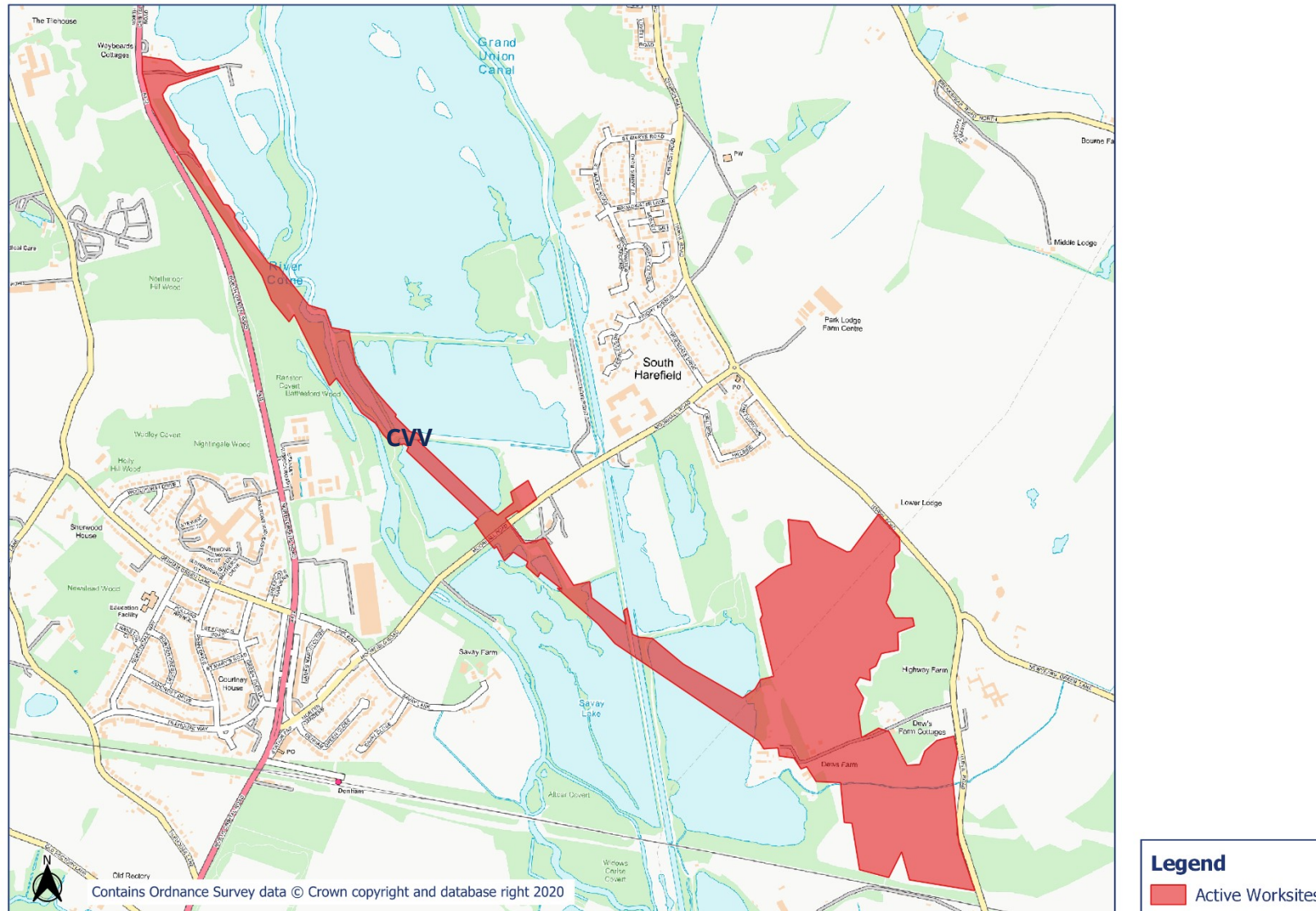




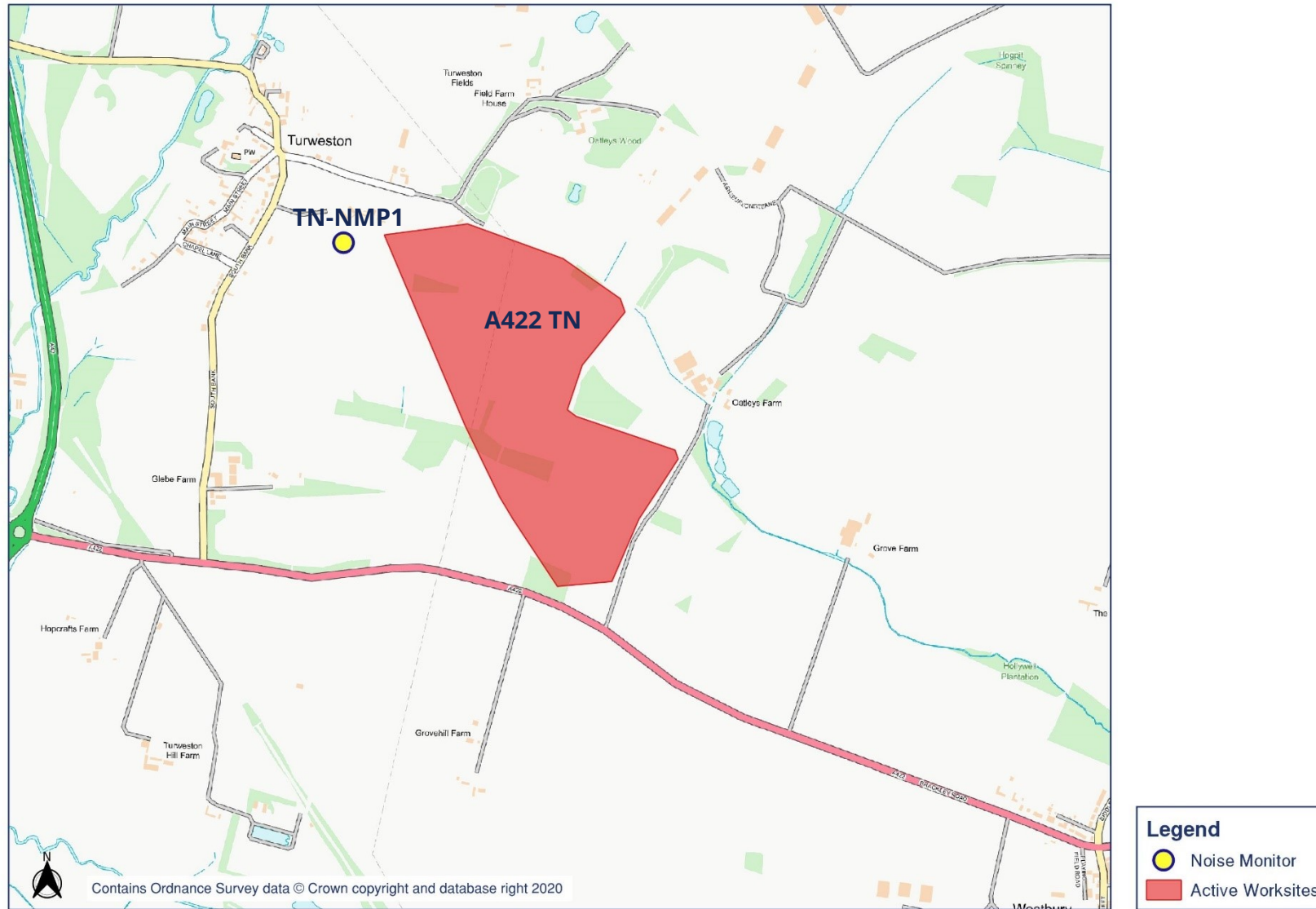


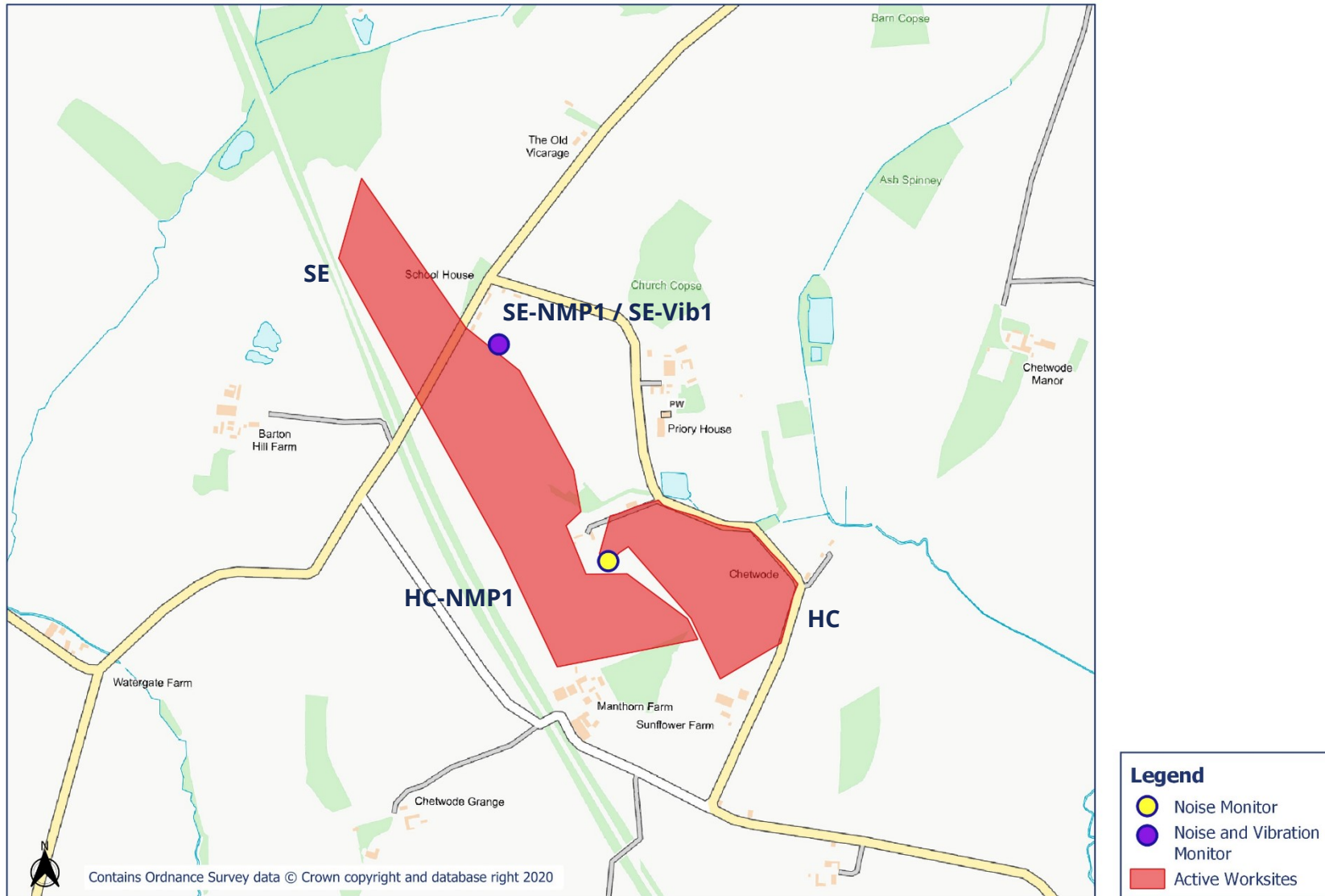


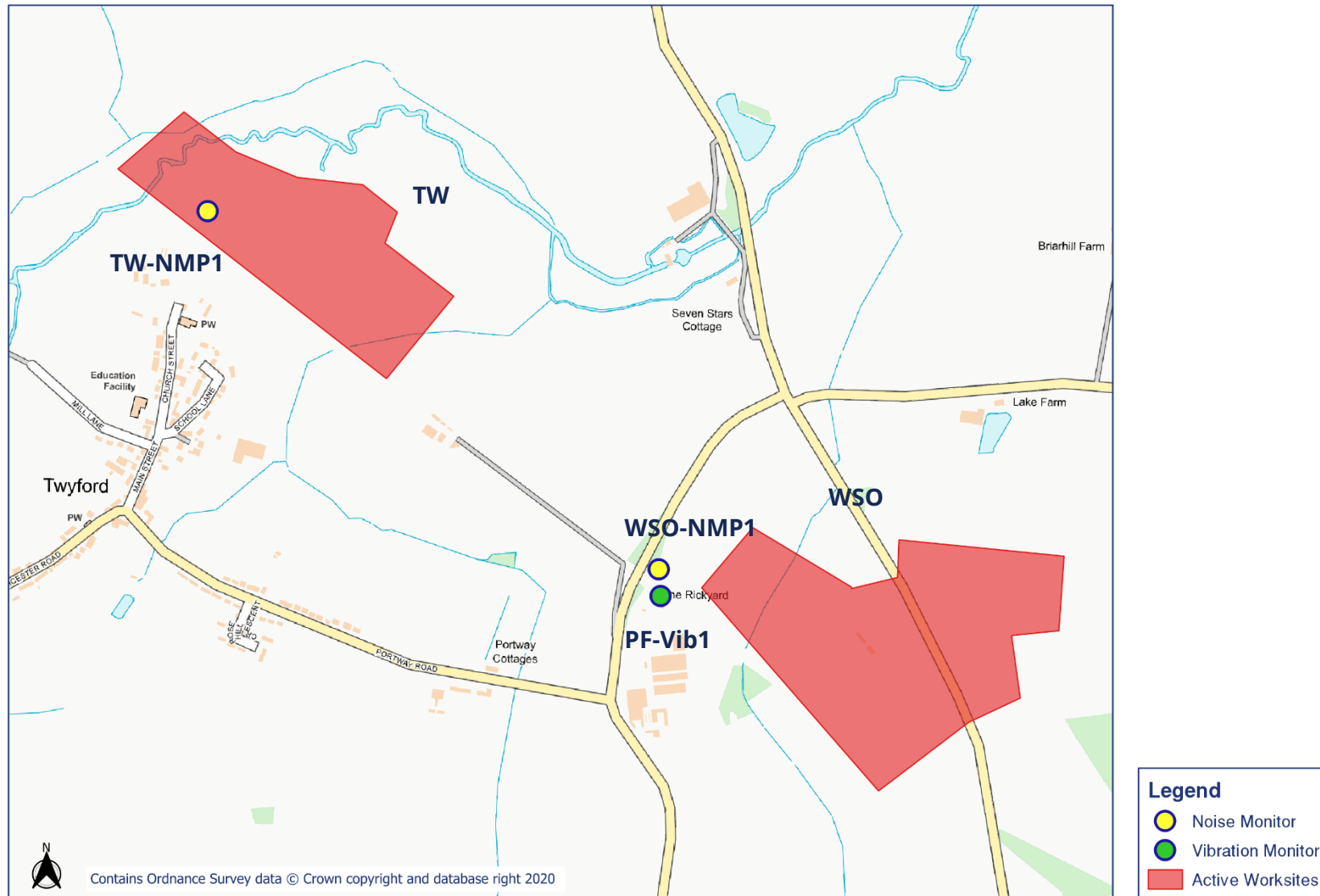


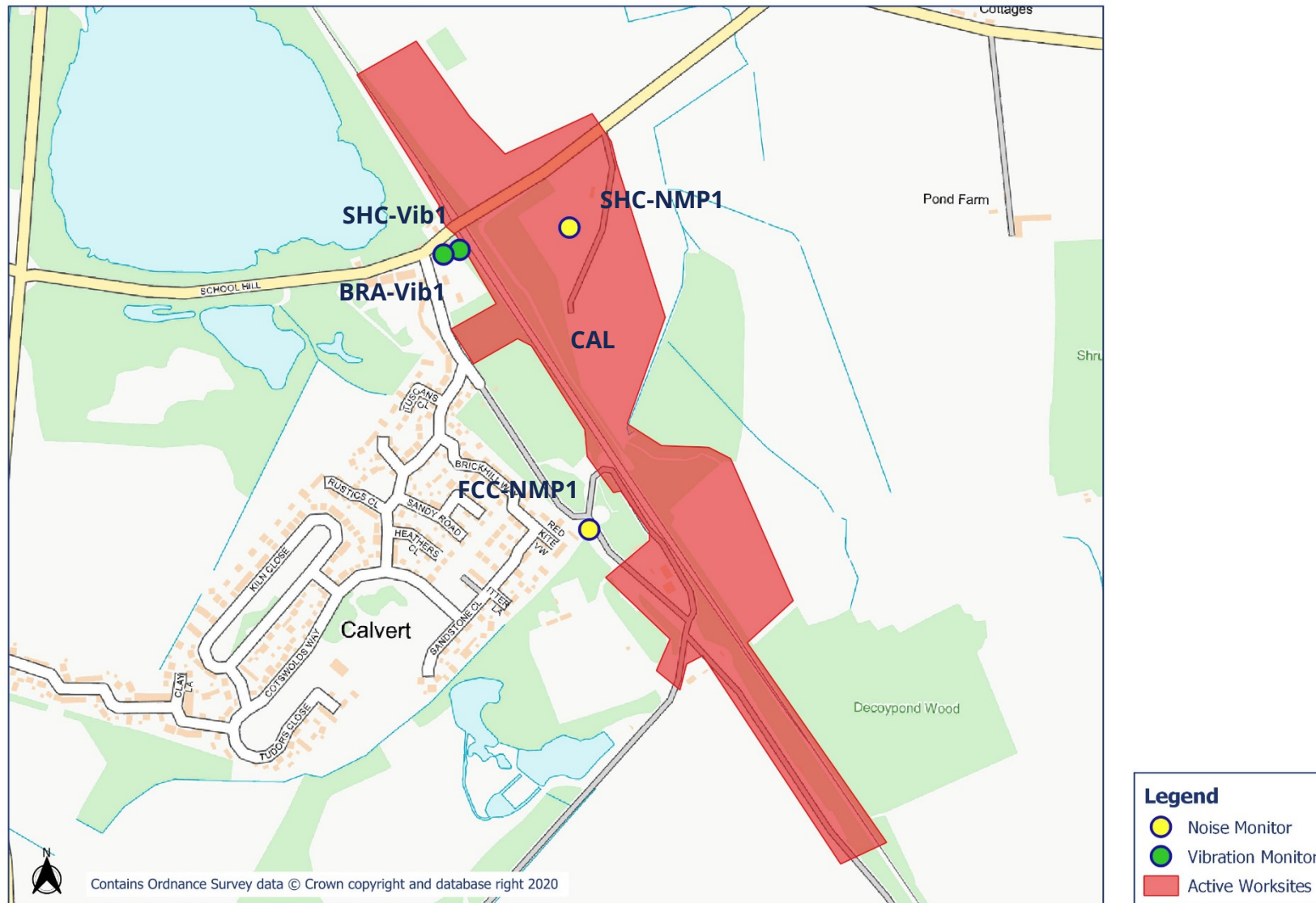


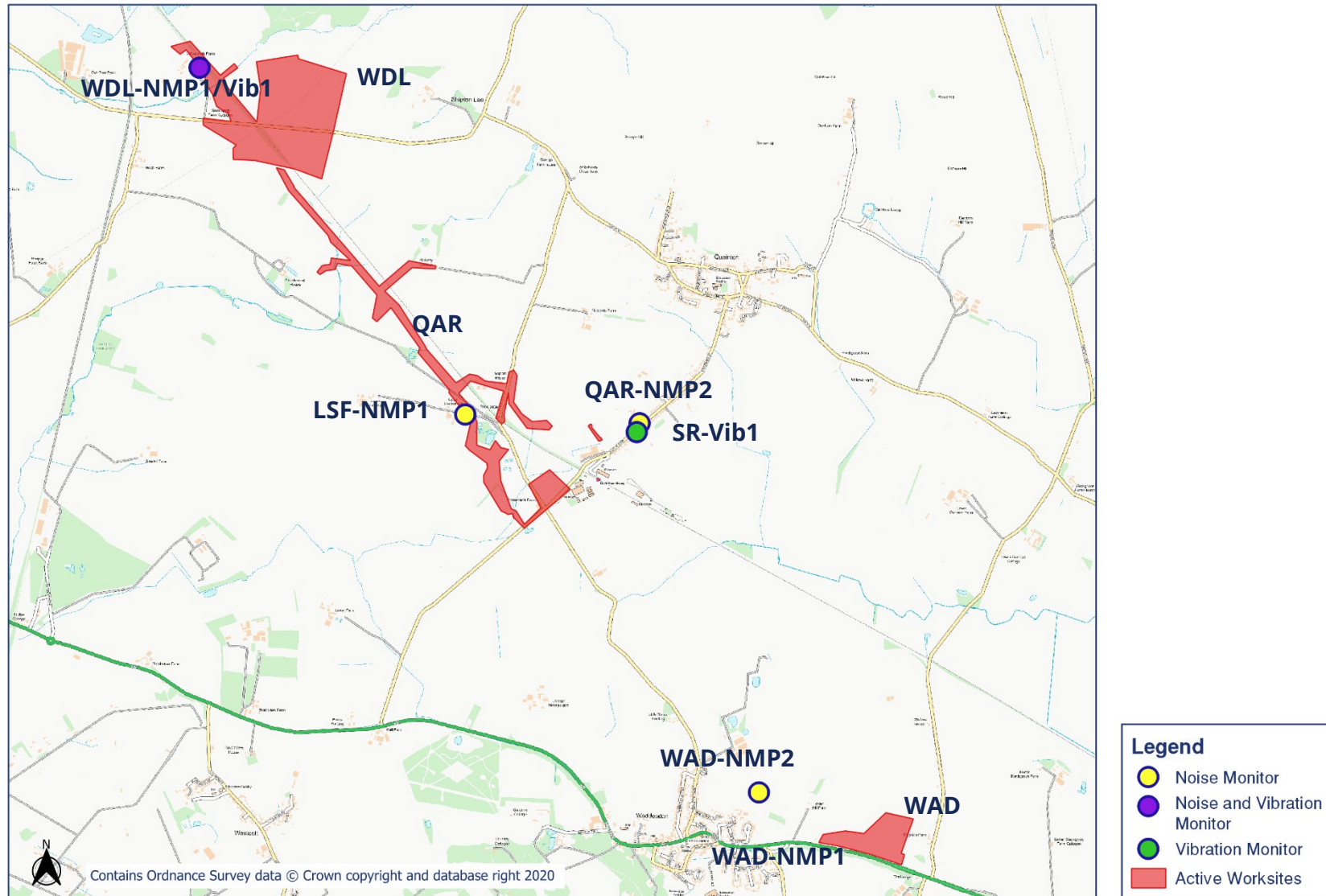
Appendix B Monitoring Locations

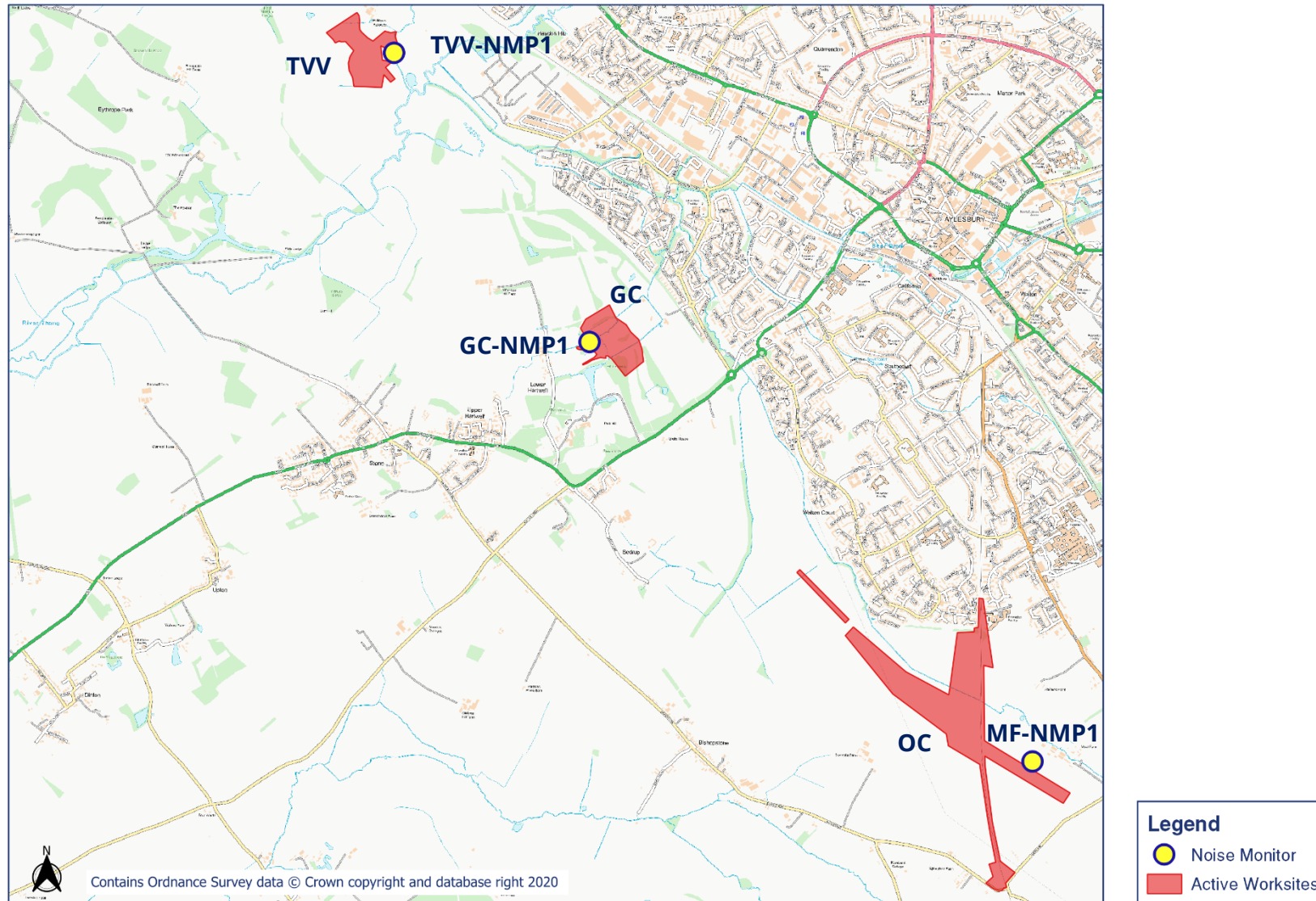


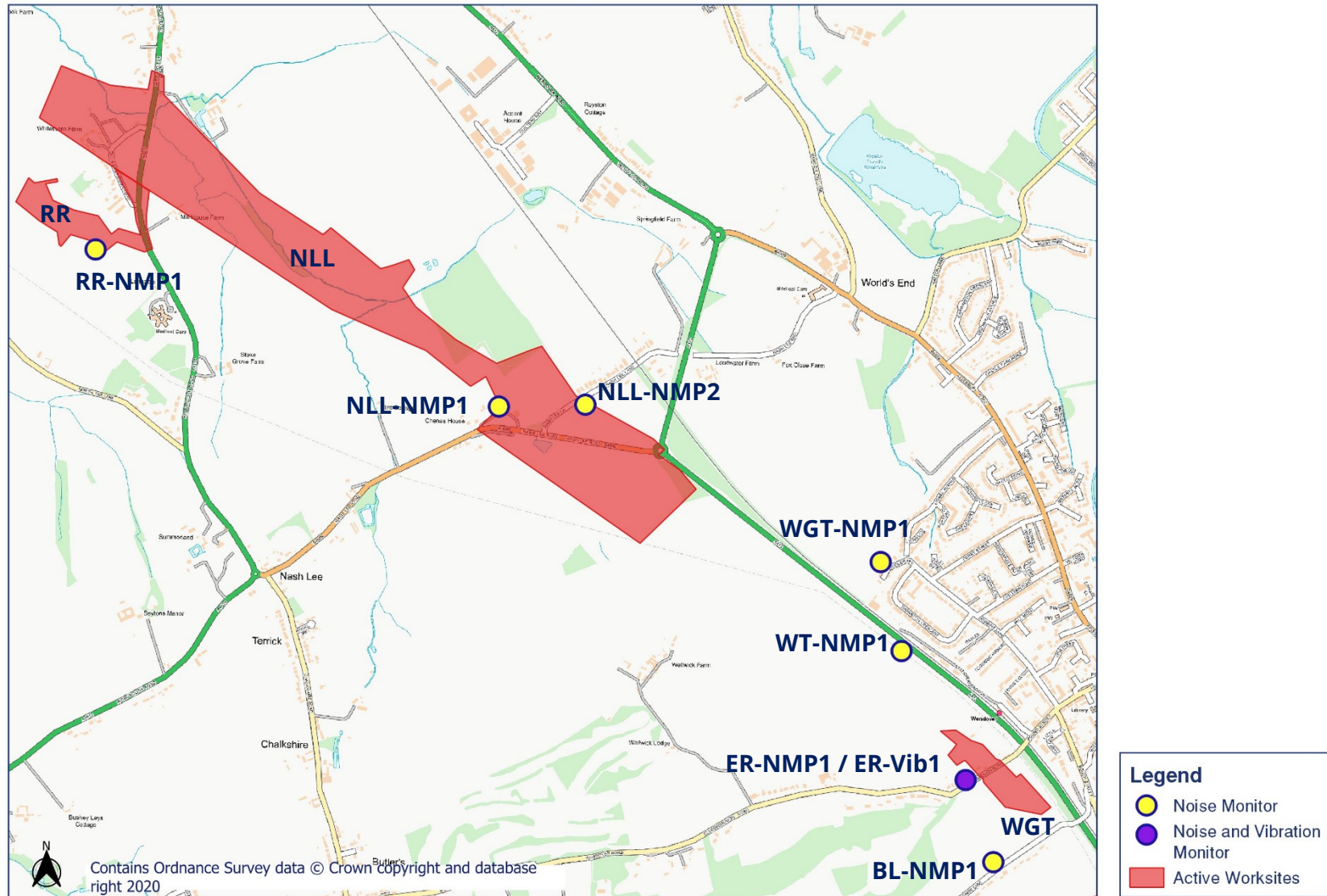


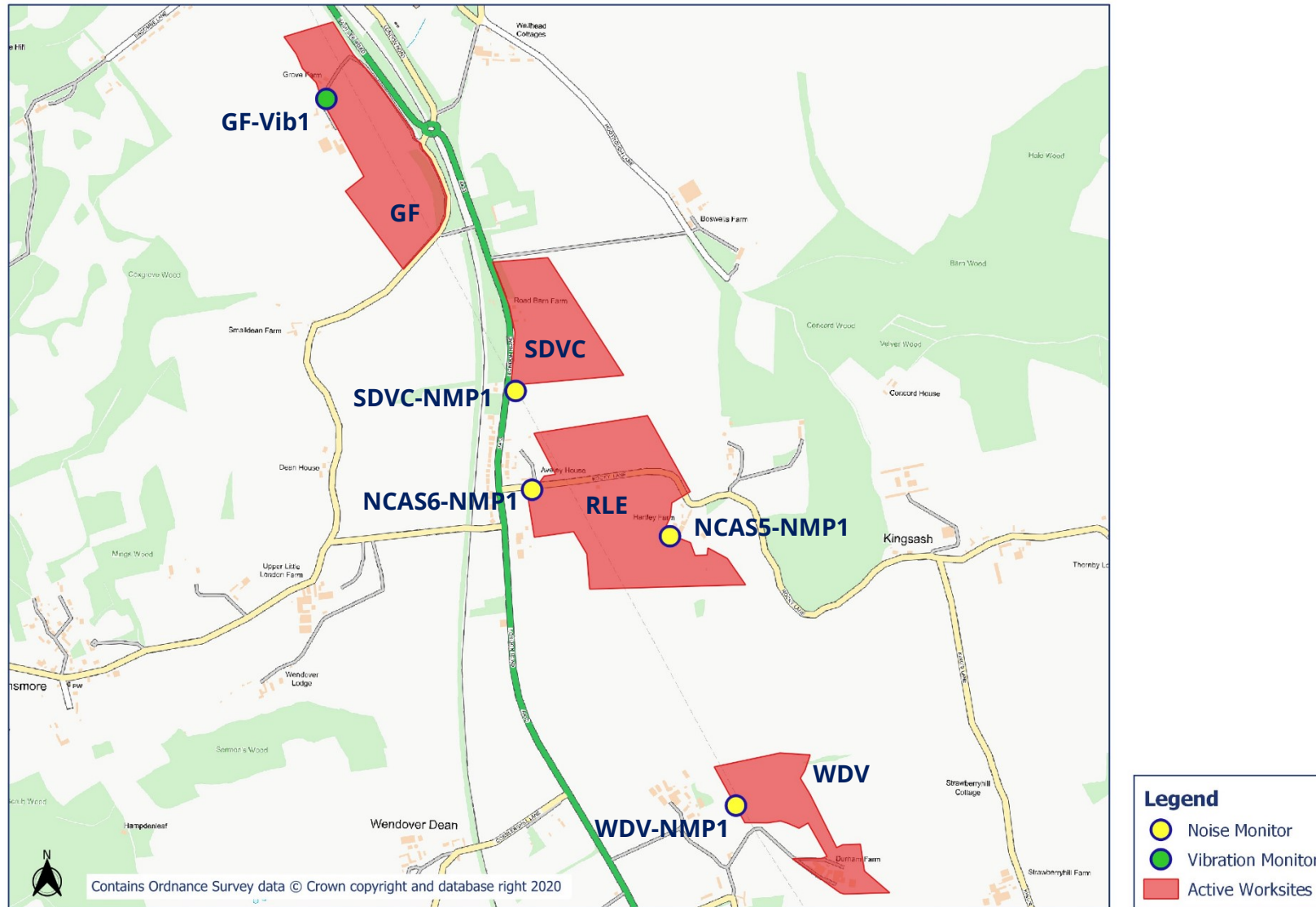


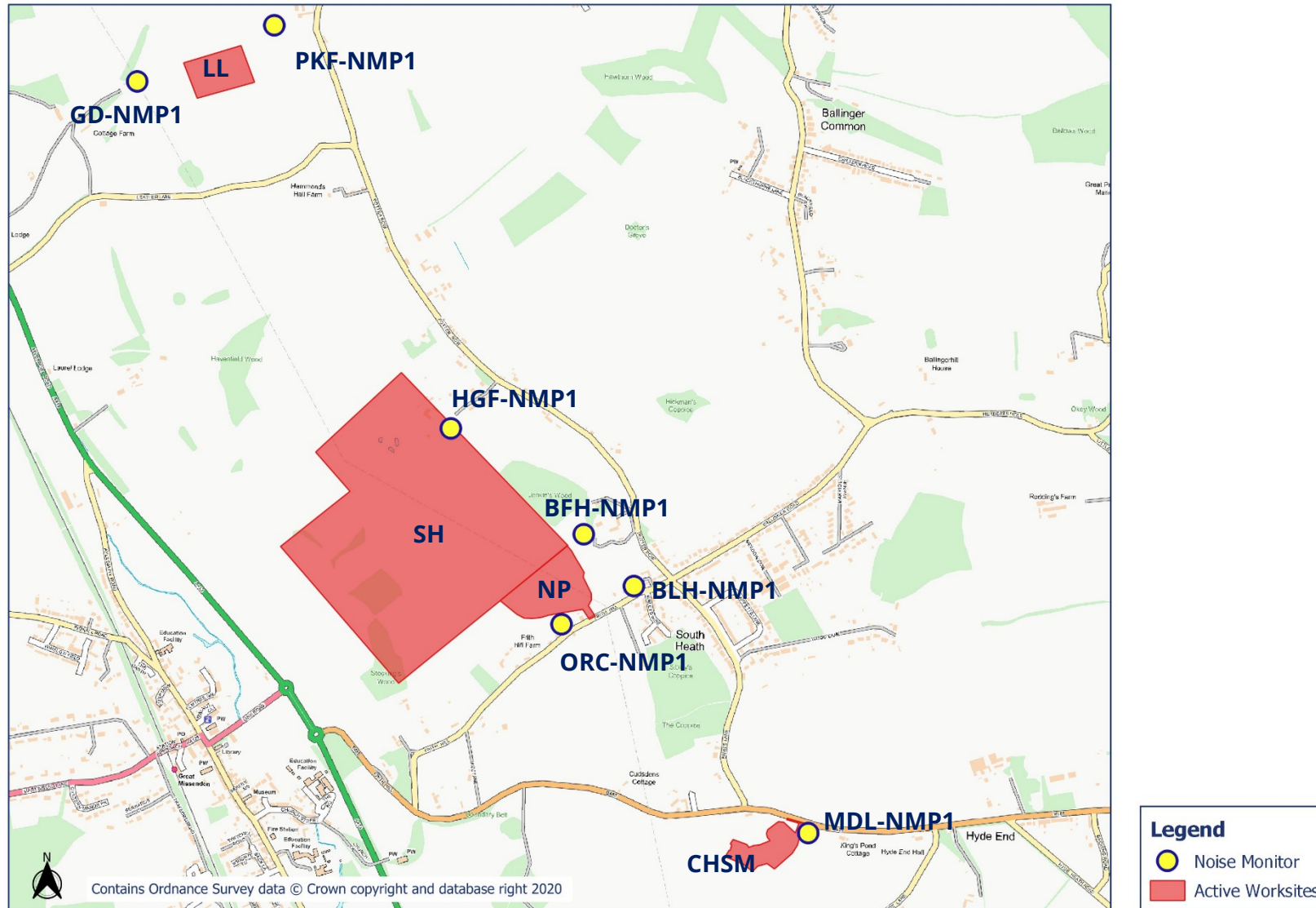




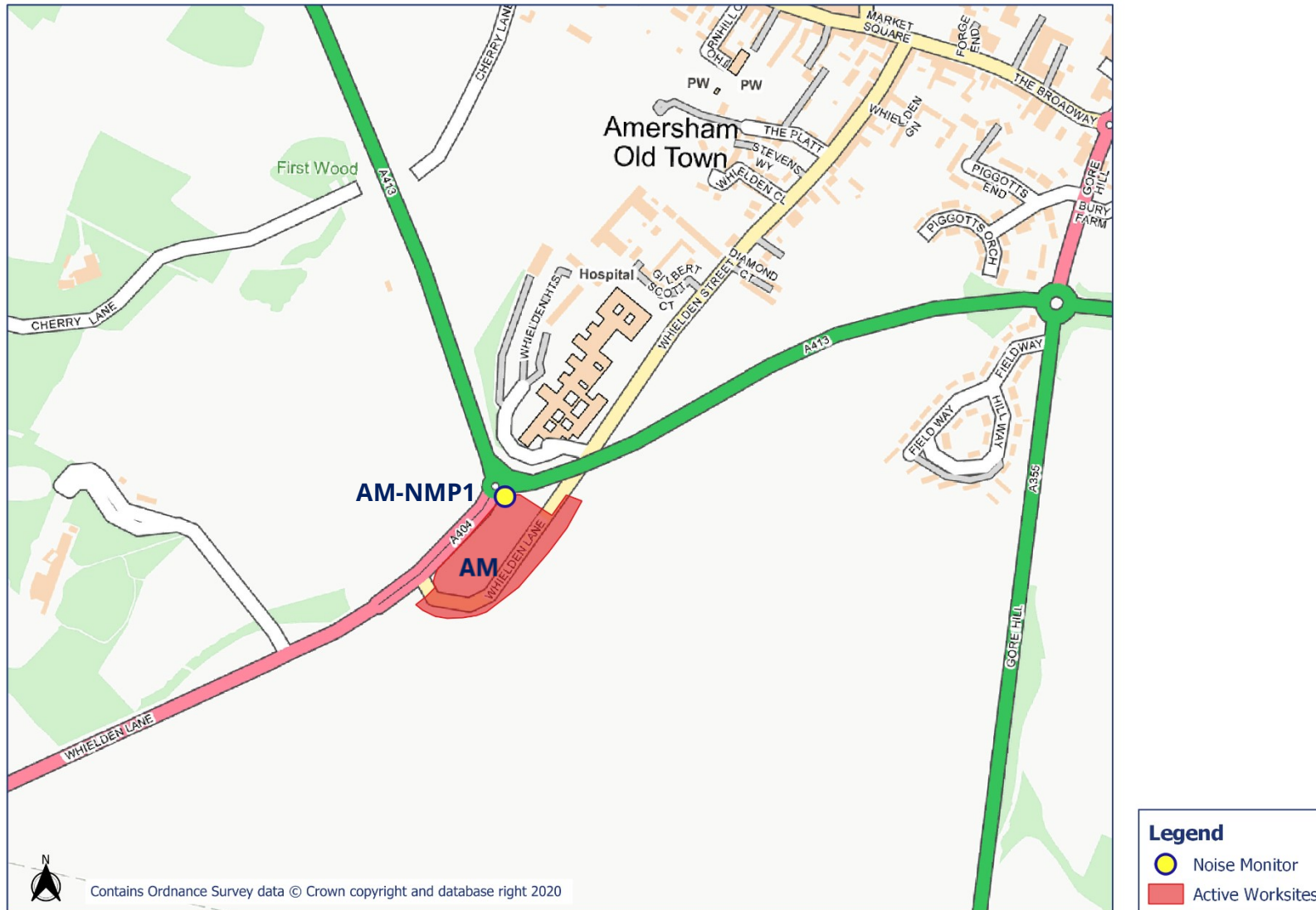






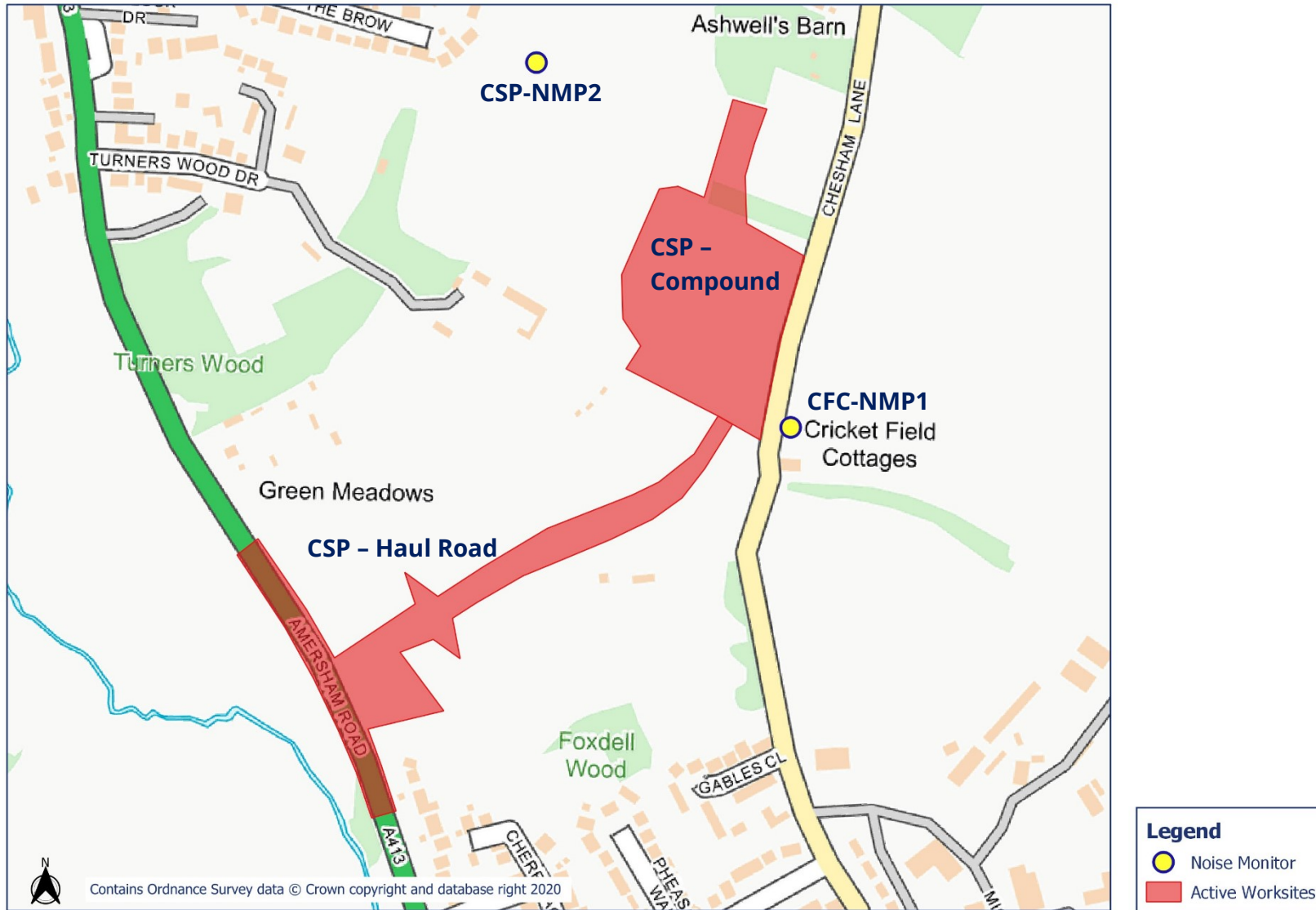


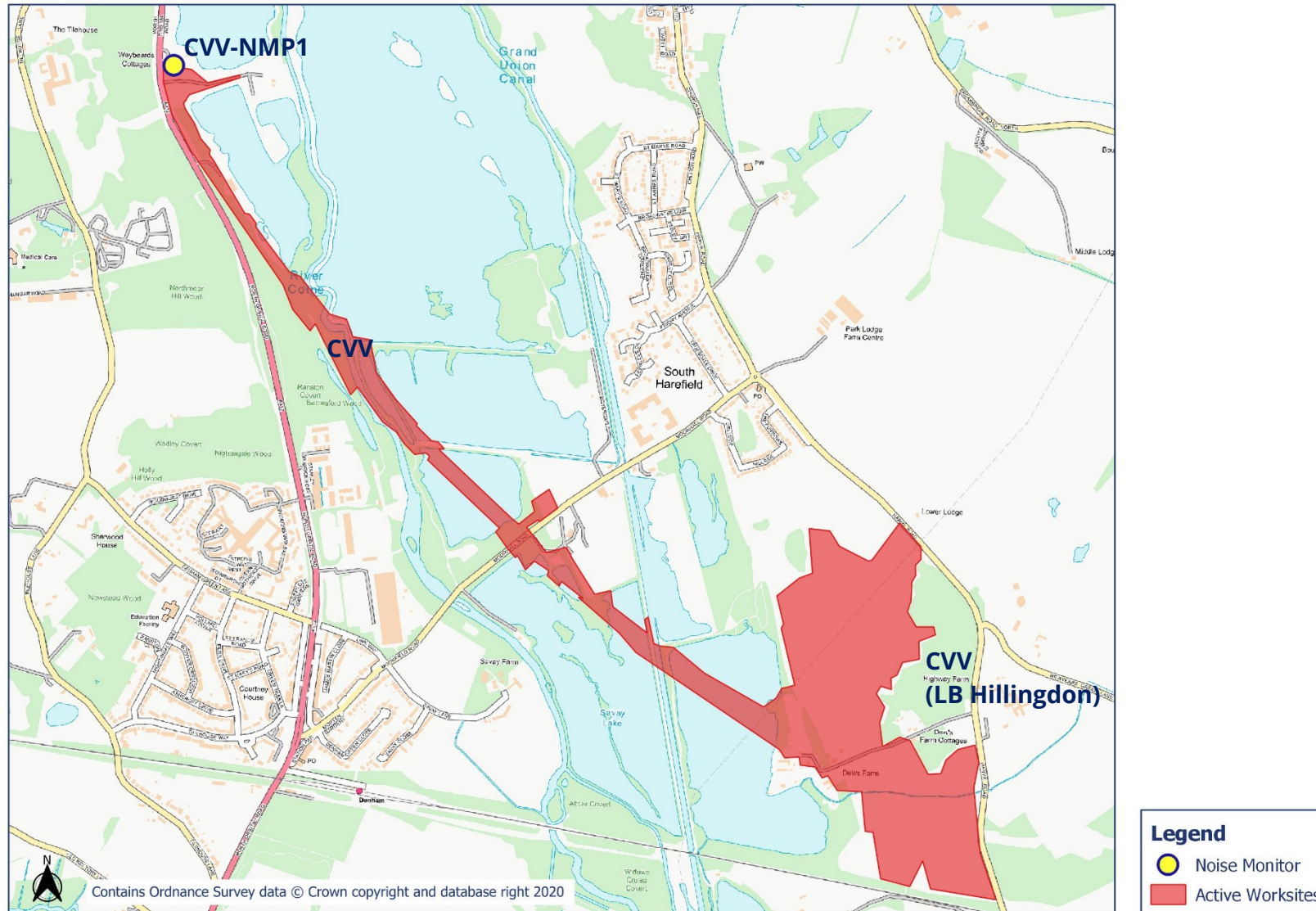






HS2 Noise and Vibration Monitoring Plan - 13



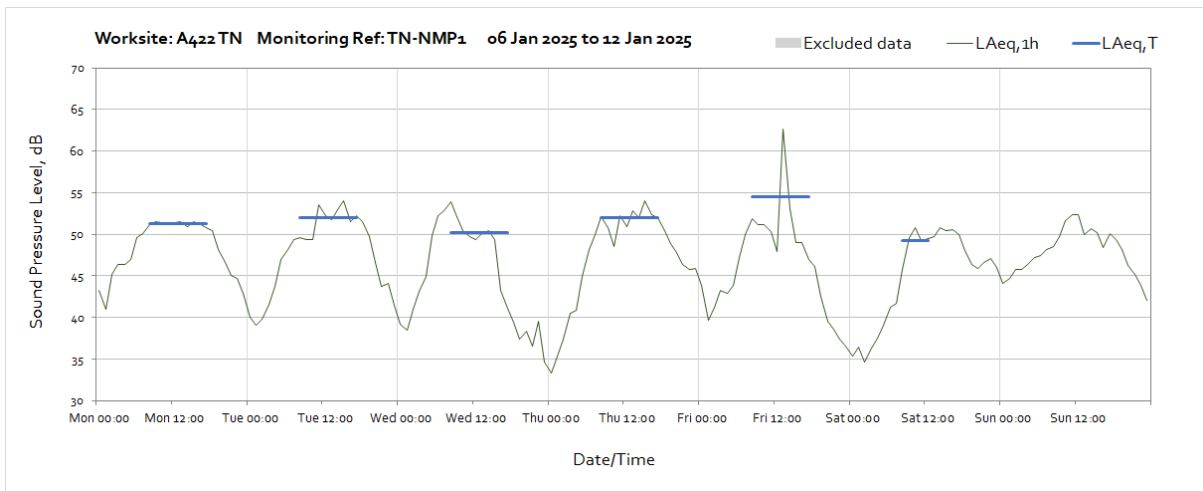
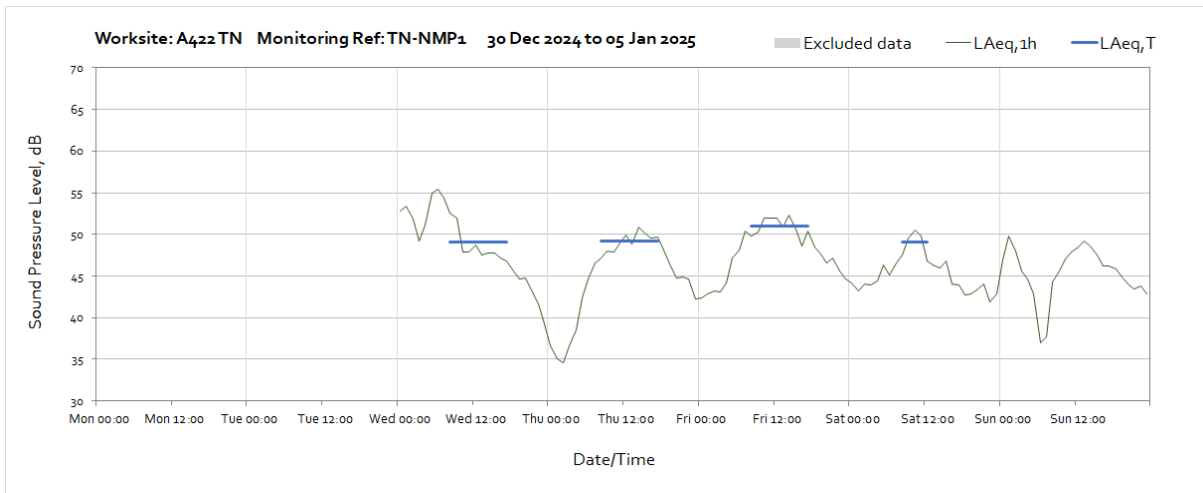


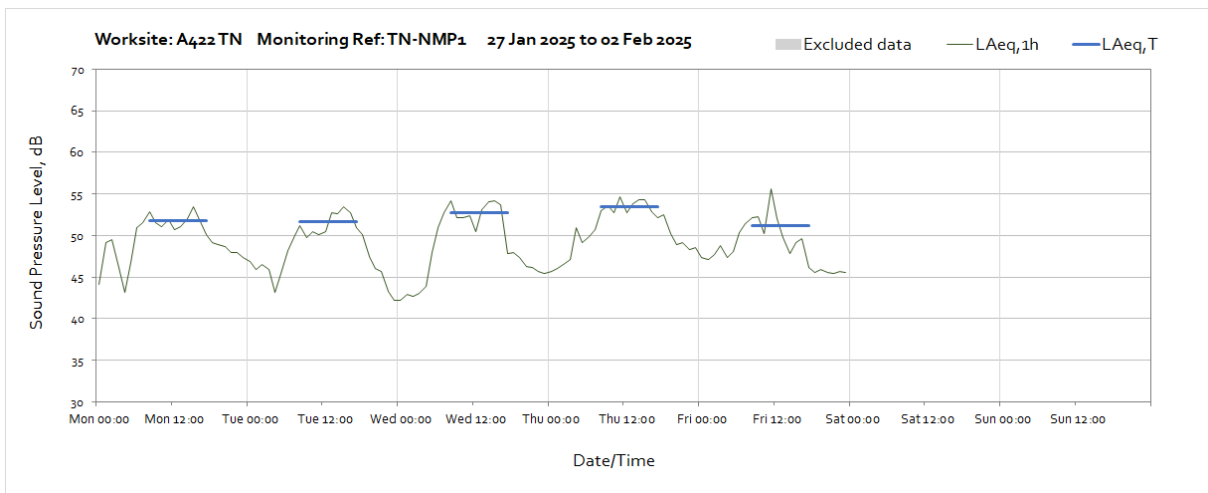
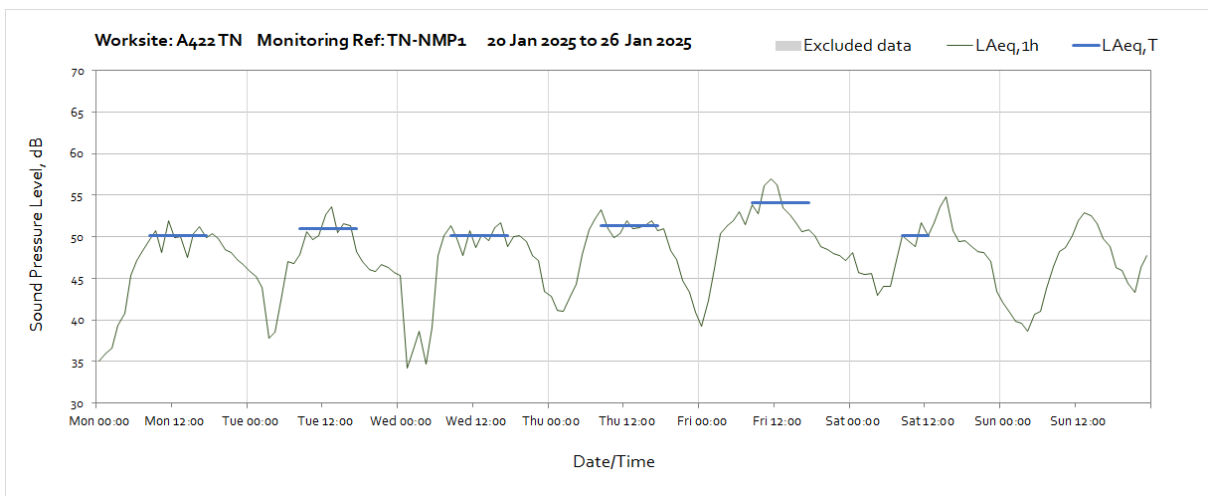
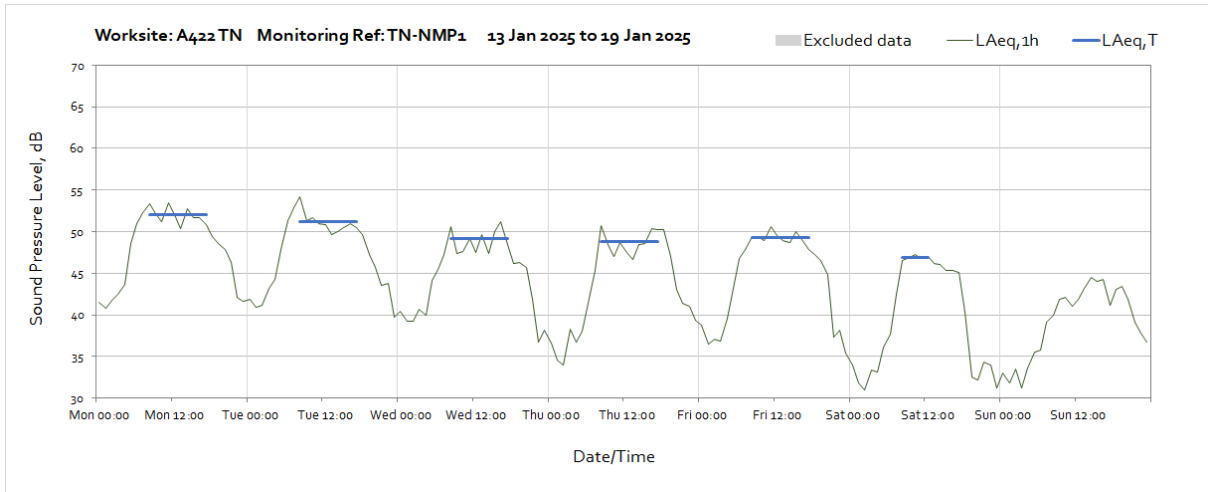
Appendix C Data

Noise

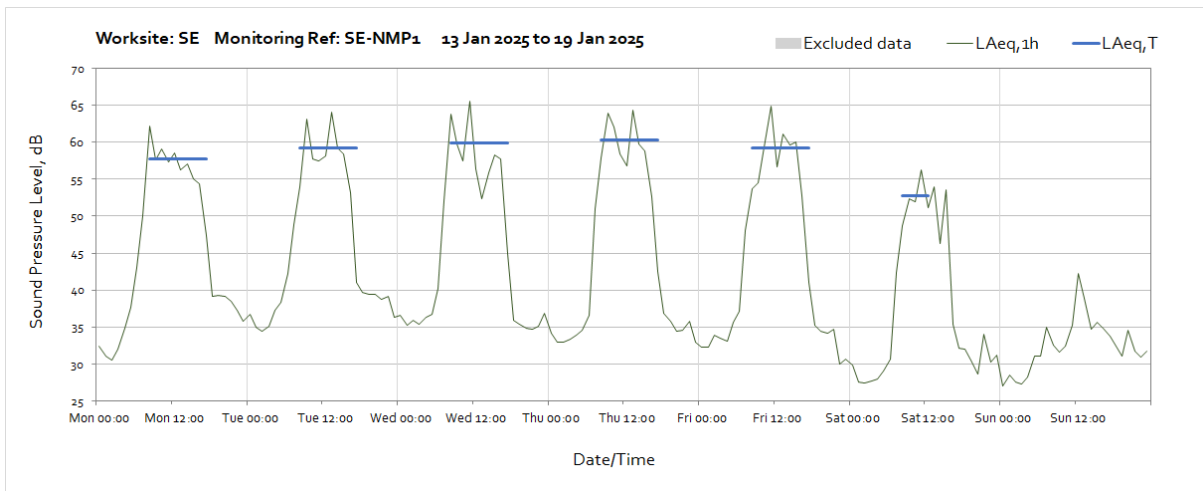
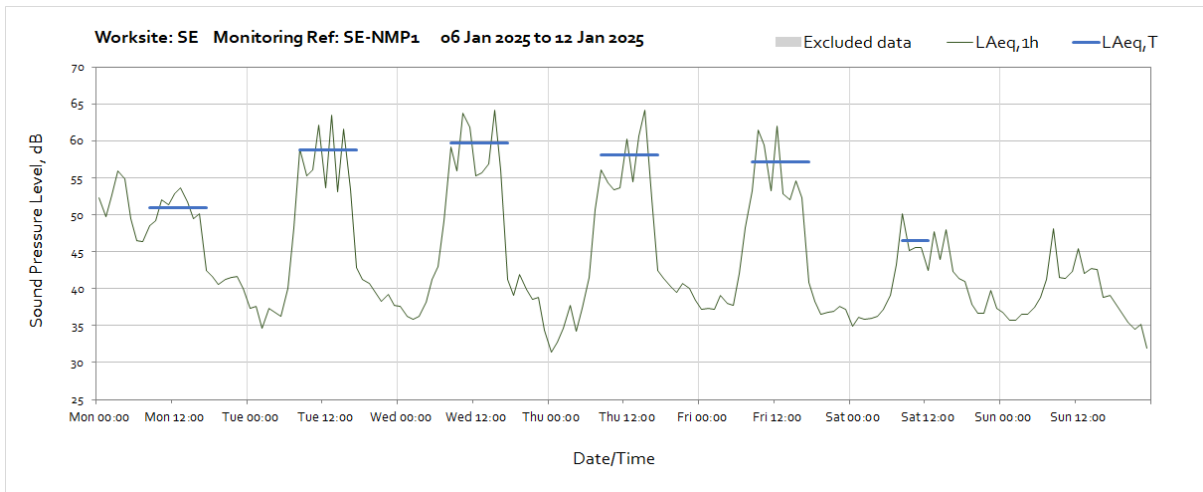
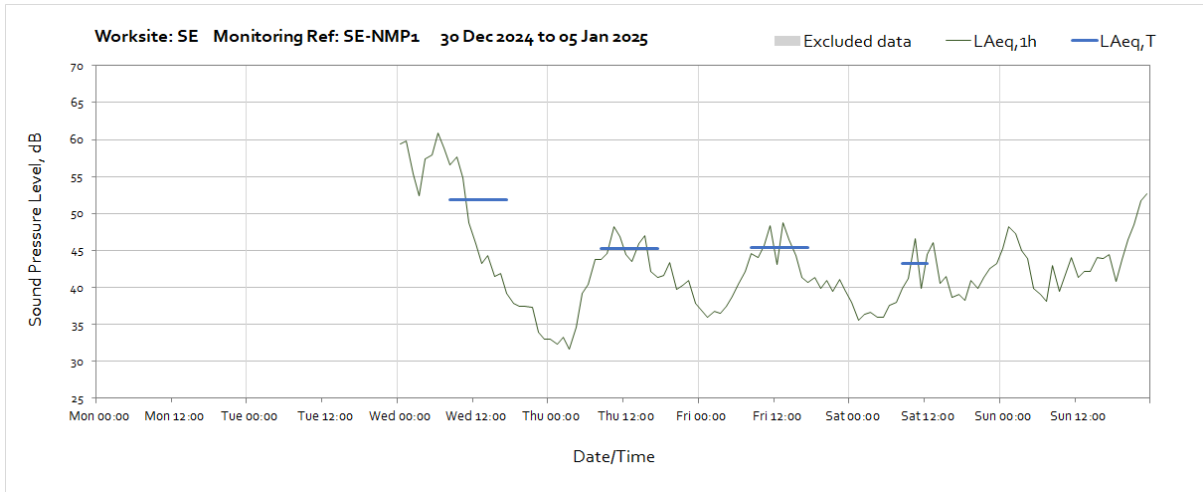
The following graphs show the hourly measured ambient noise level $L_{Aeq,1h}$ and, where relevant, the averaged noise level $L_{Aeq,T}$ values, where the time period T is as specified in Table 1 of HS2 Information Paper E23. Periods where noise levels are adversely affected by weather or only measured for part of the period, which are not representative of HS2 construction works, have been greyed out and excluded from the calculation of the $L_{Aeq,T}$ values in Table 3 of the main report.

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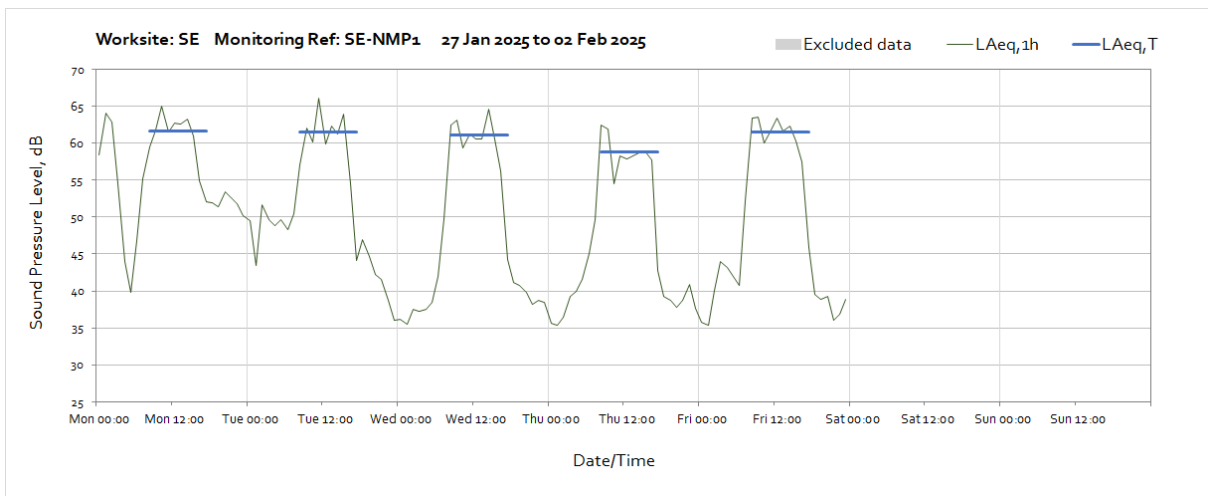
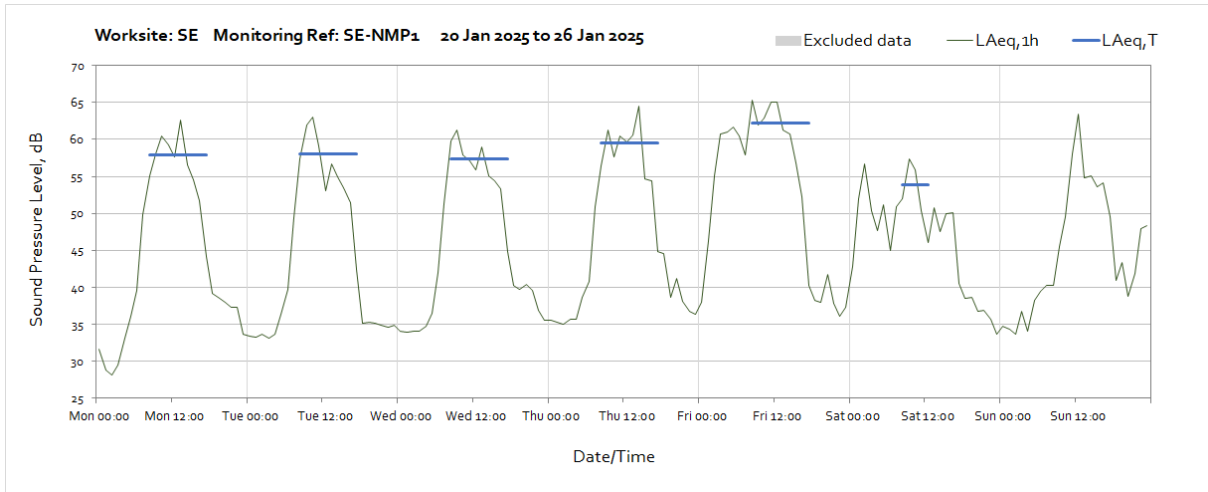




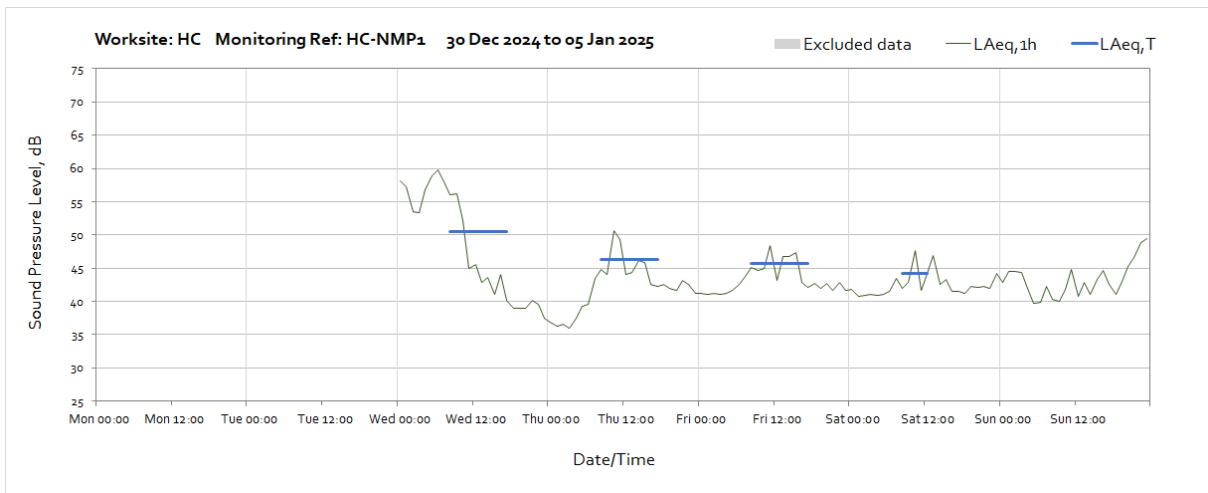
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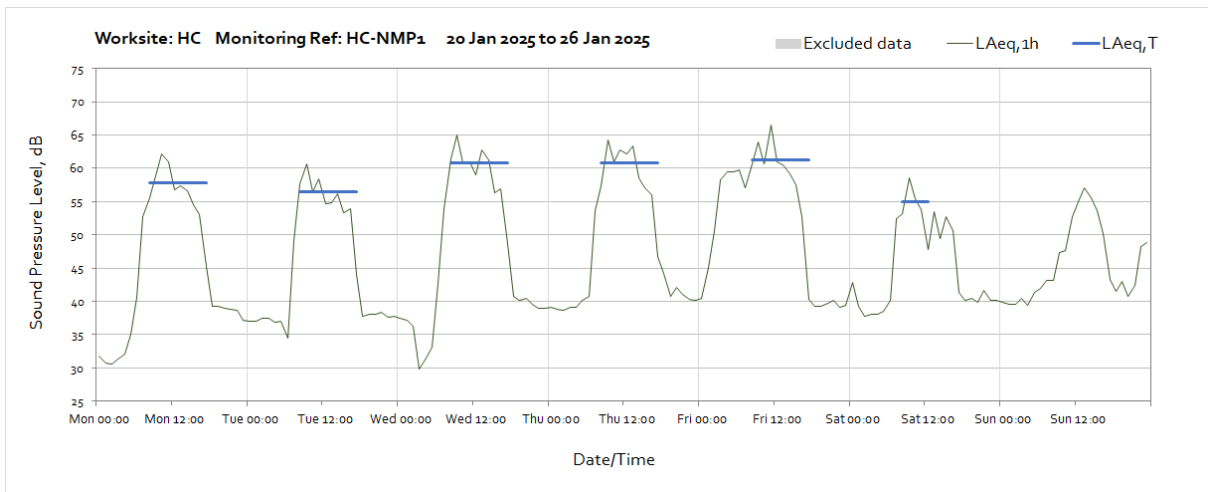
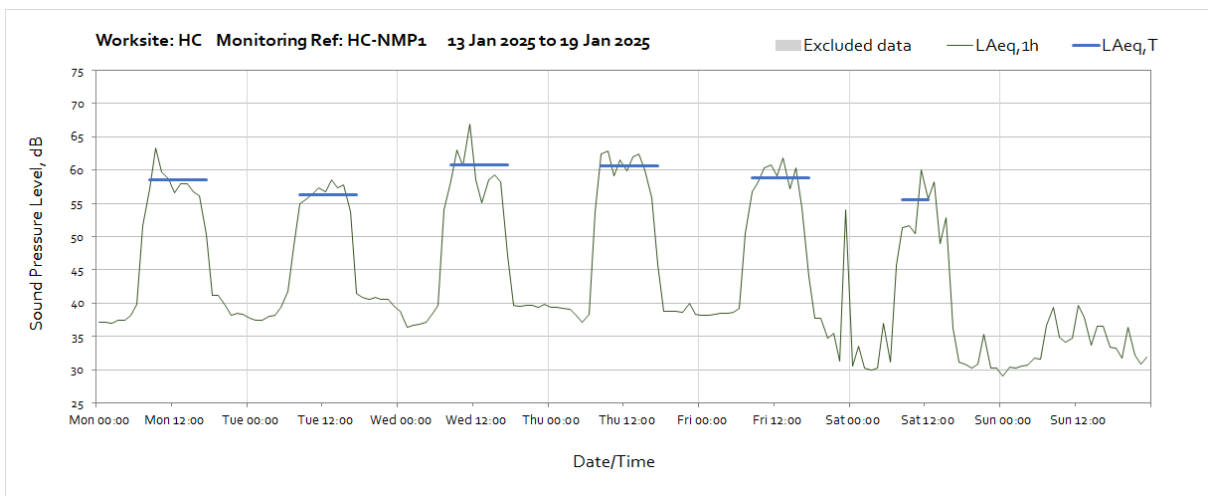
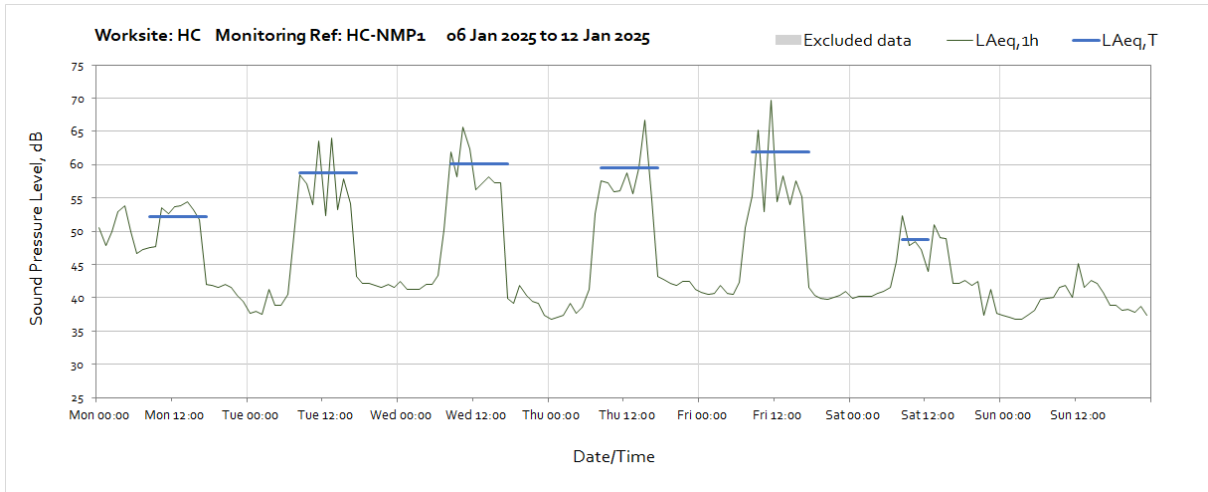


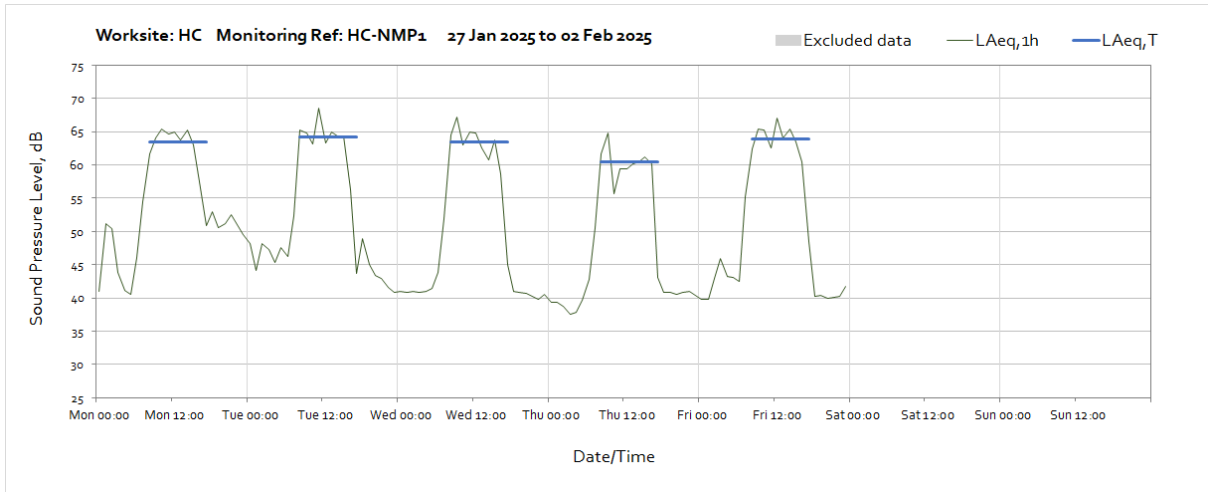
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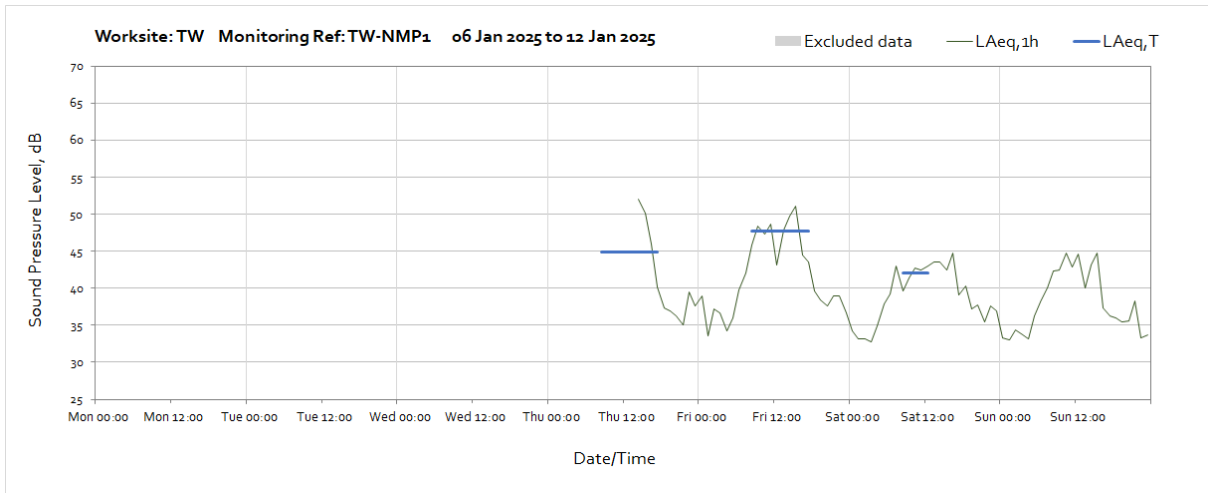
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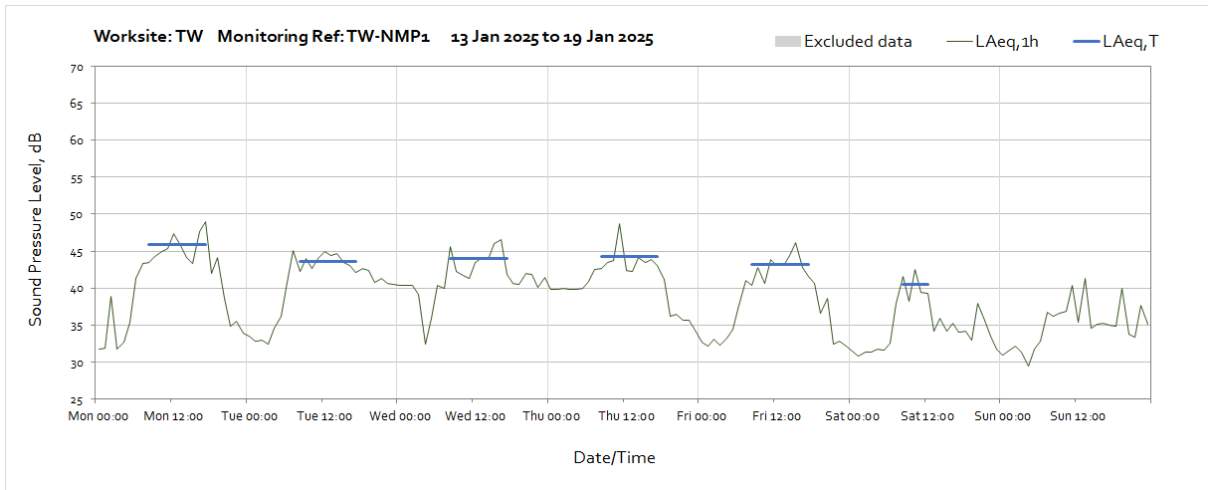


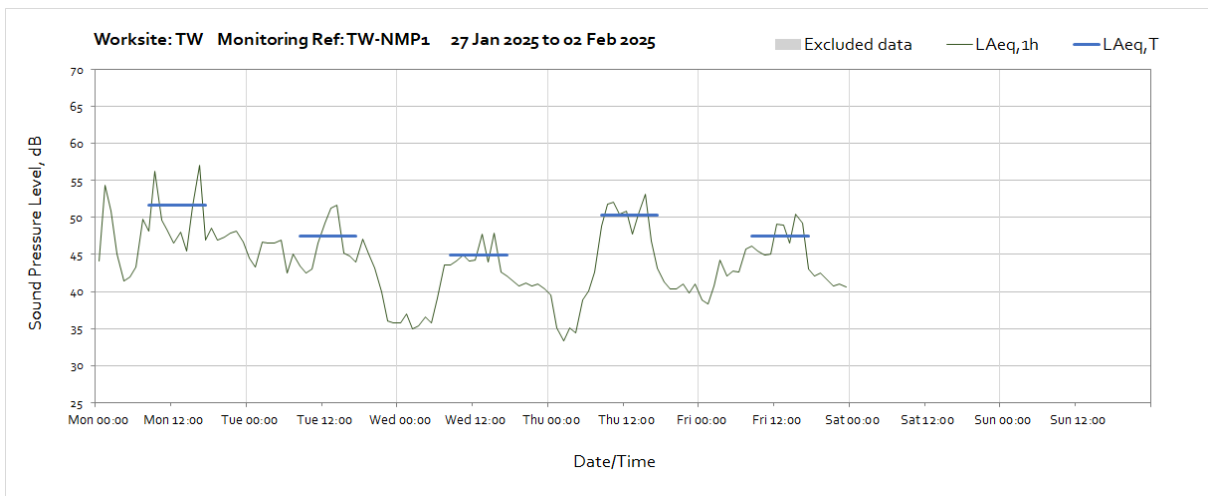
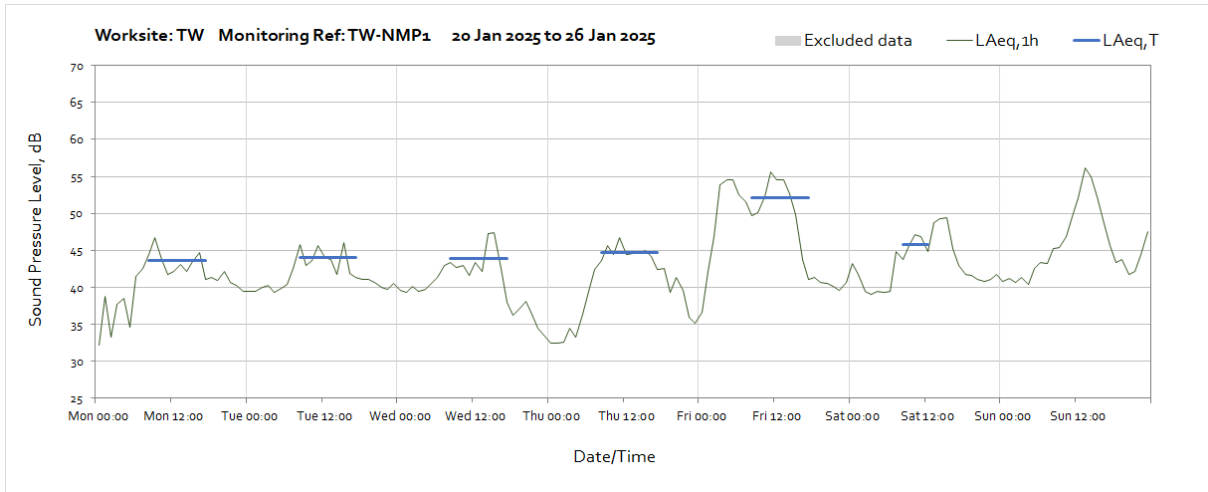


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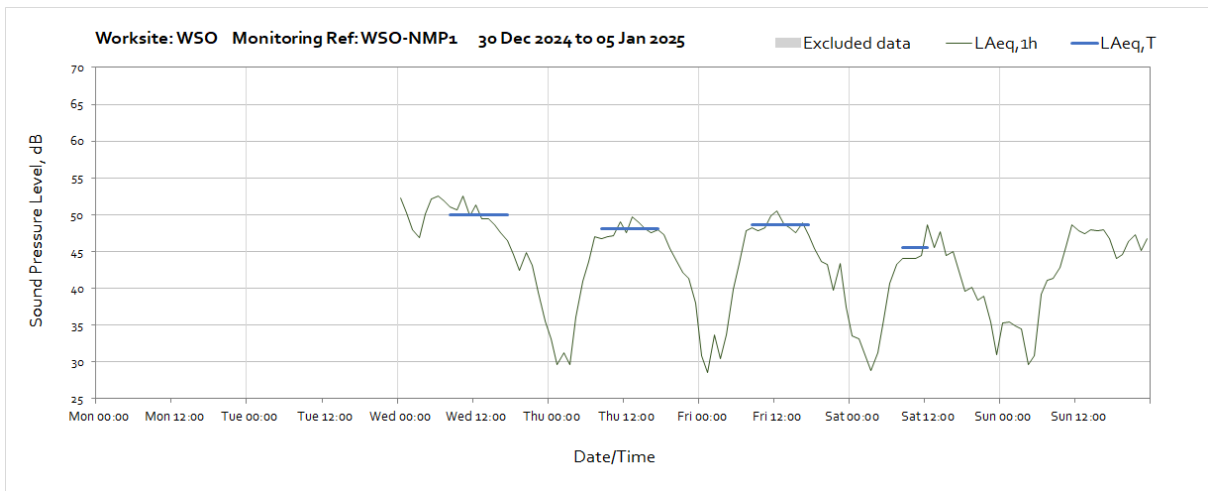


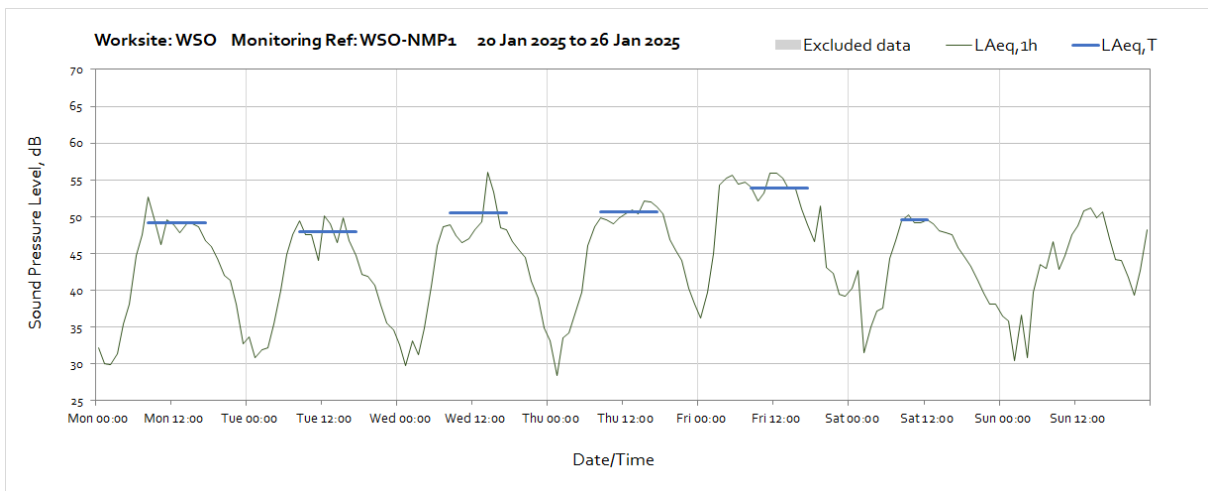
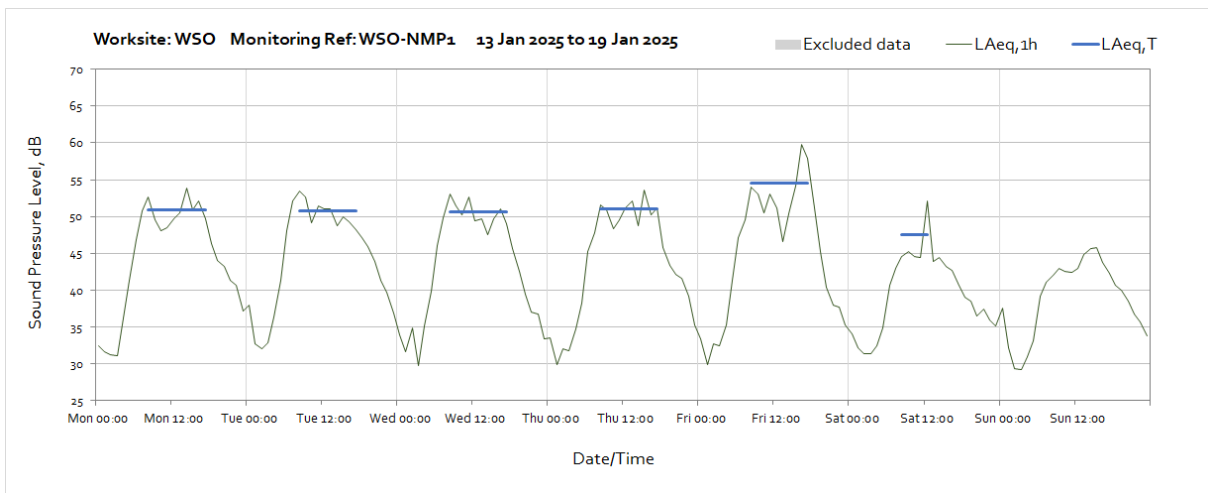
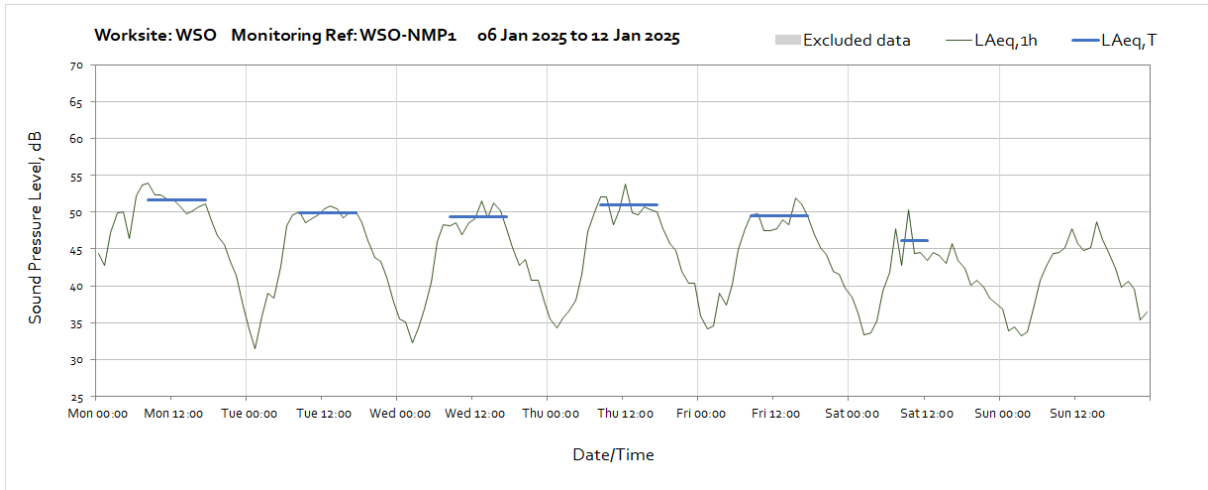
Note: Missing data until 14:00 on Thursday 9th January was due to a depleted monitor battery.

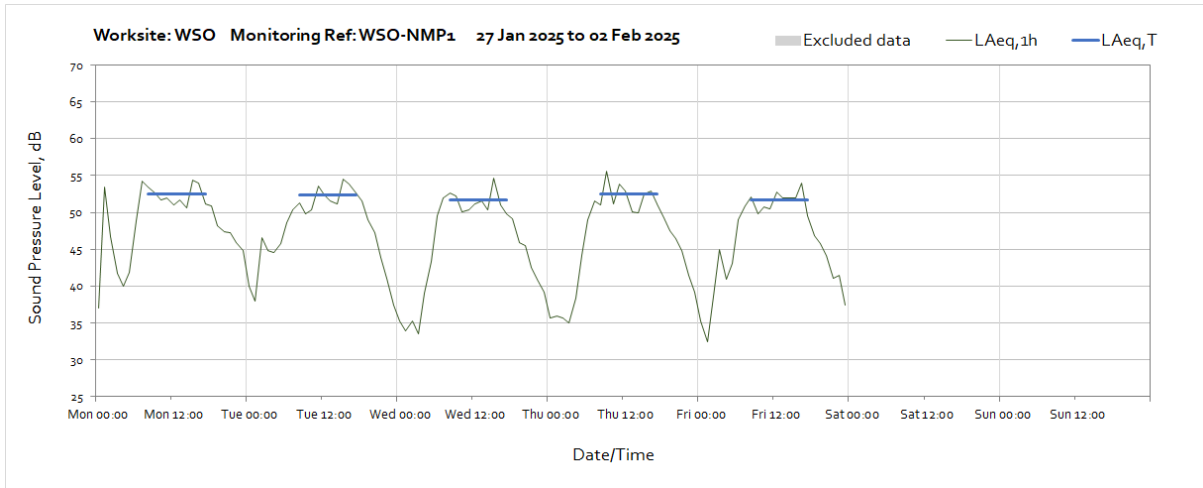




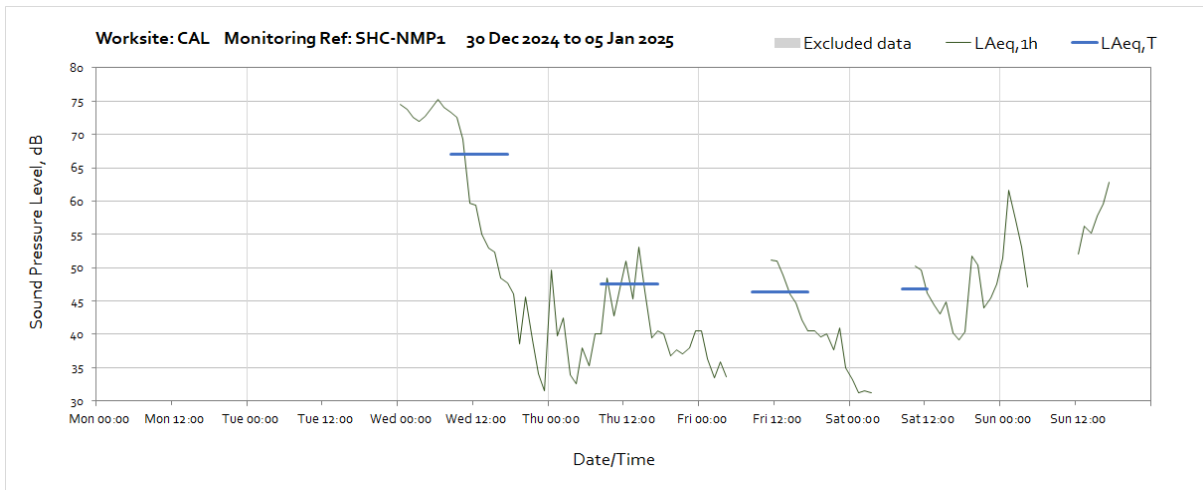
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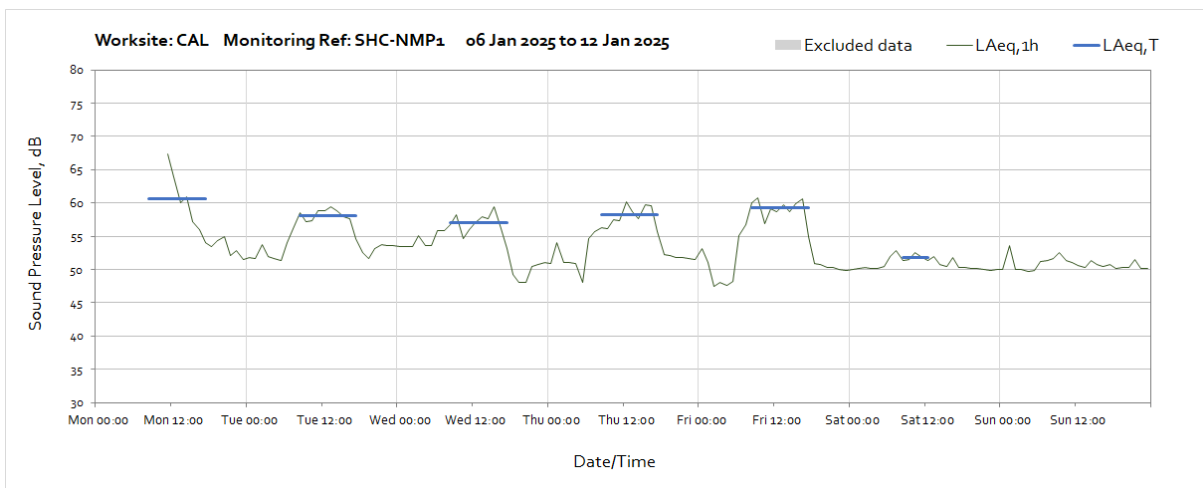




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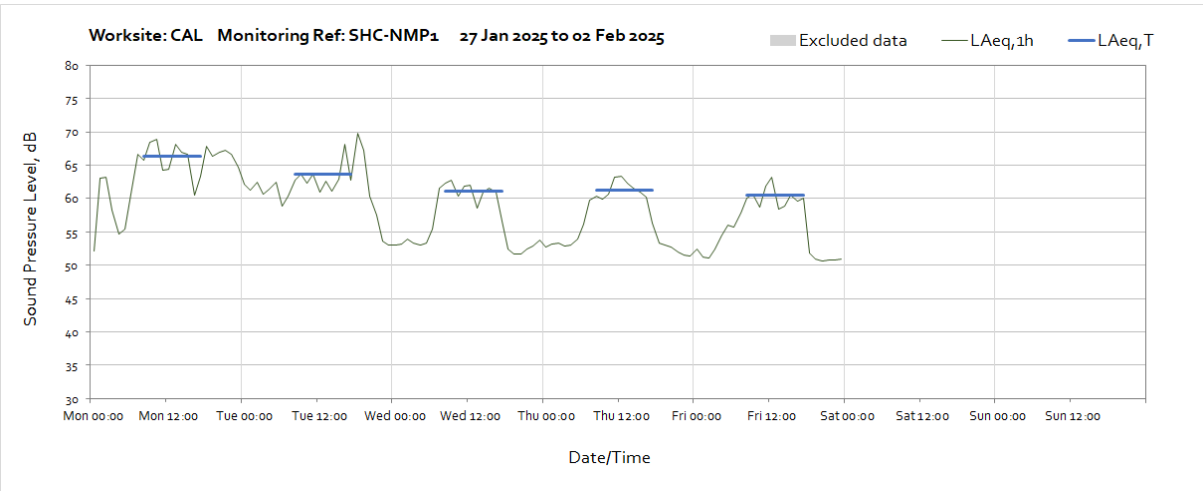
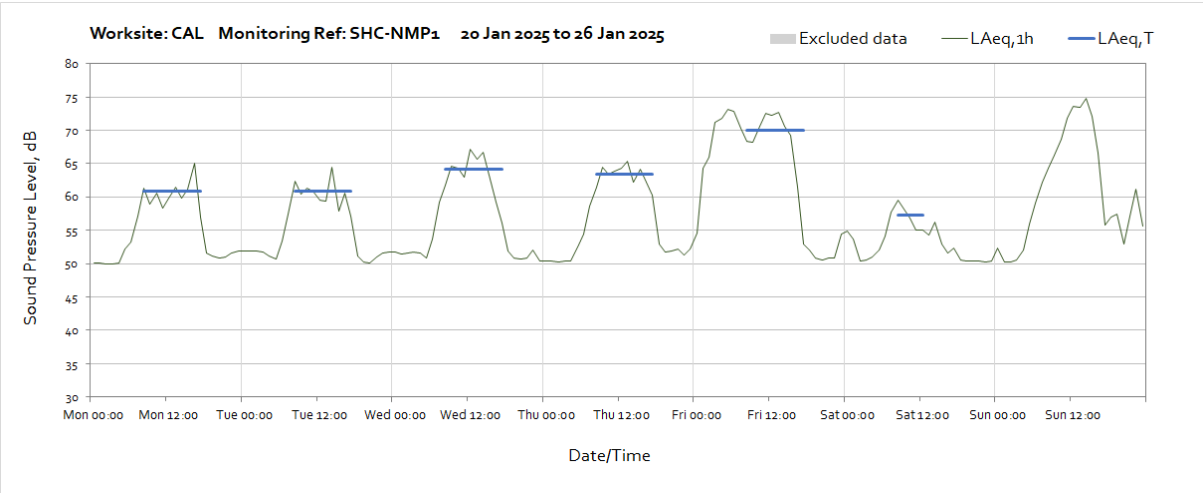
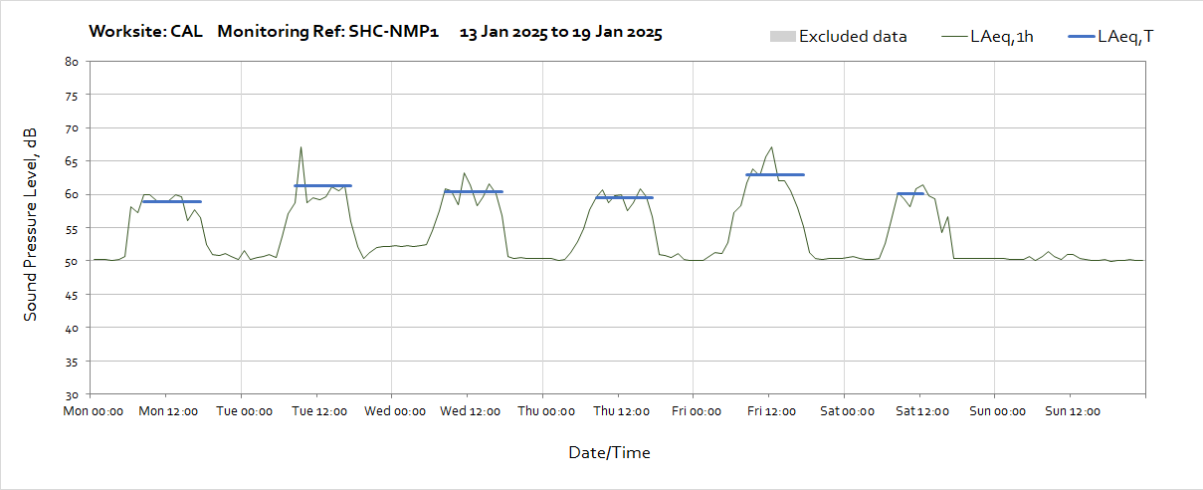


Note: Missing data throughout the week was due to a depleted monitor battery.

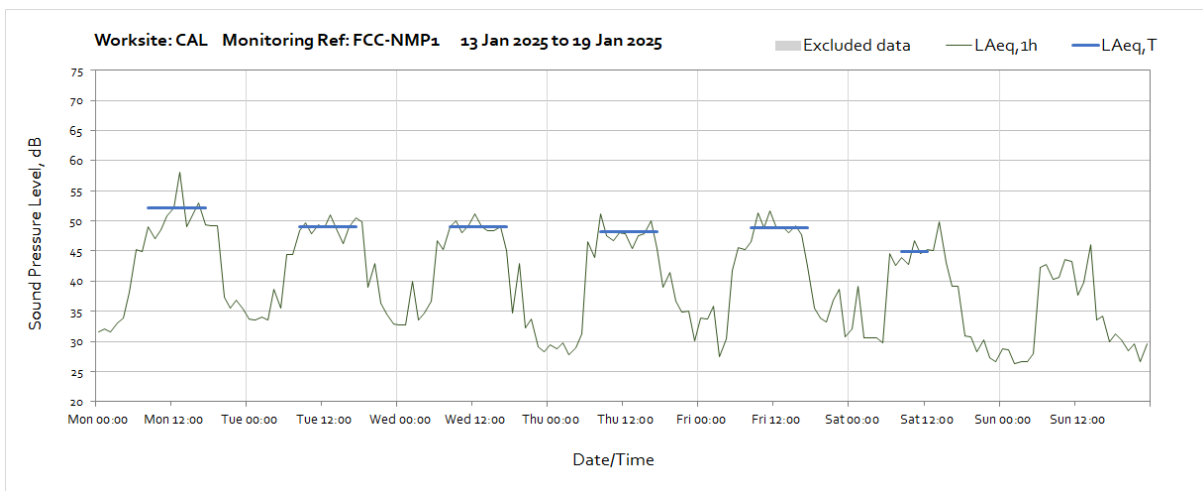
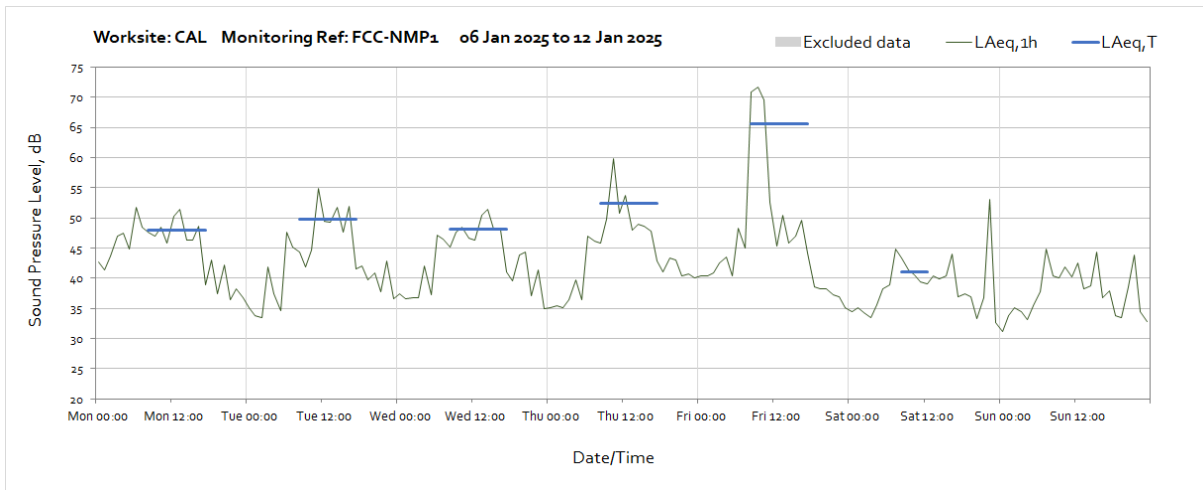
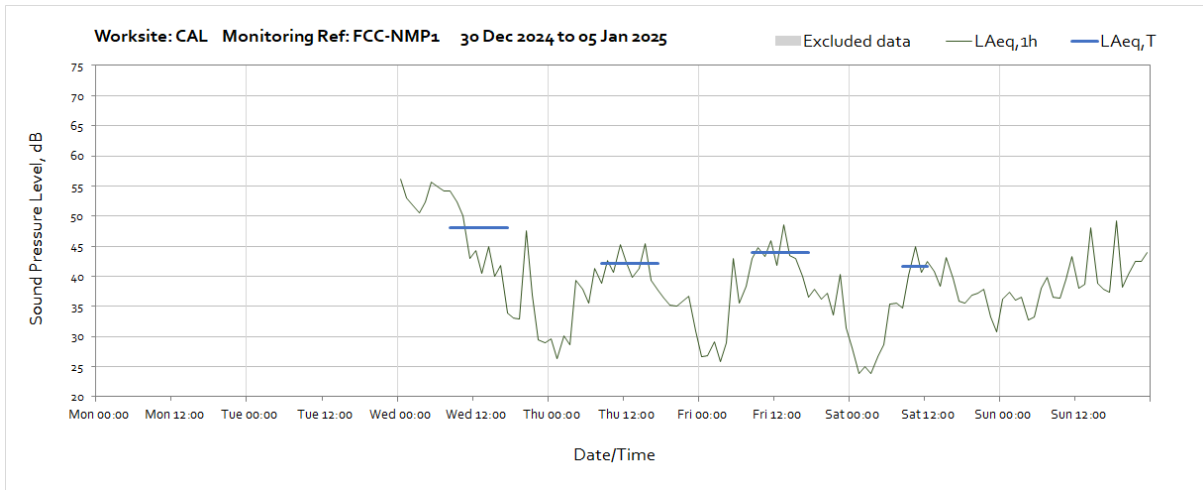


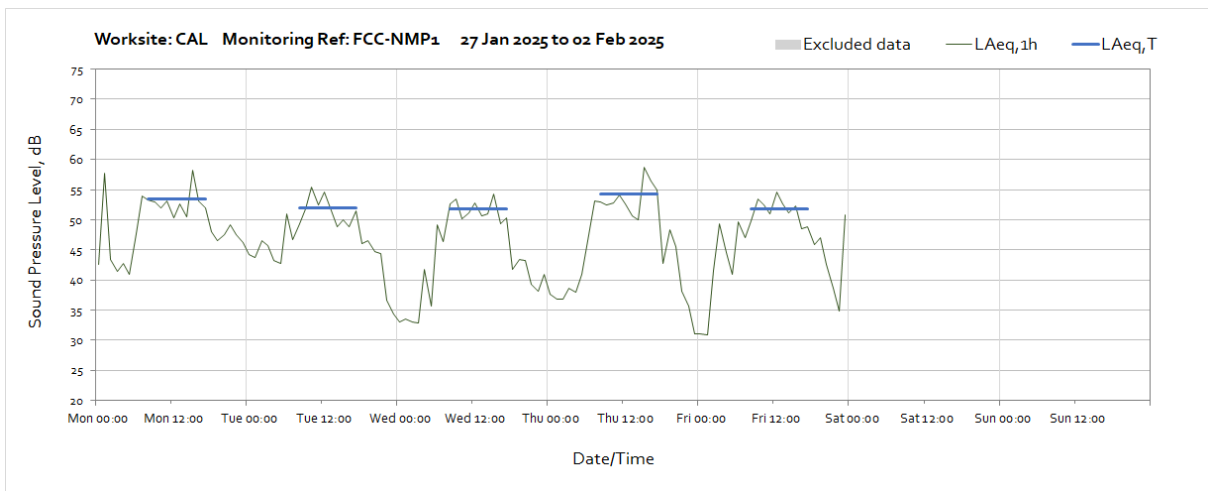
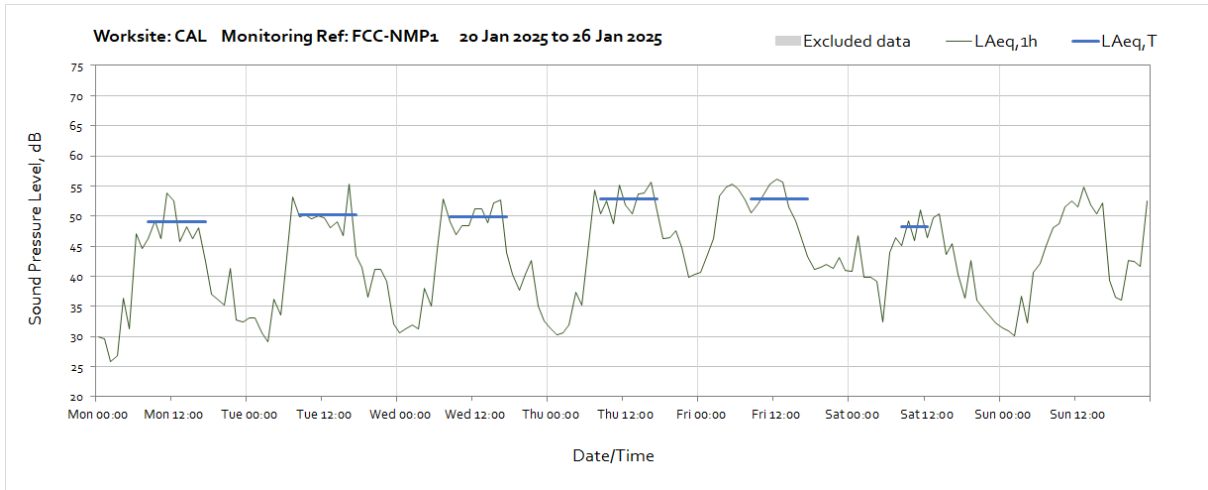
Note: Missing data between 05:00 on Sunday 5th January and 11:00 on Monday 6th January was due to a depleted monitor battery.

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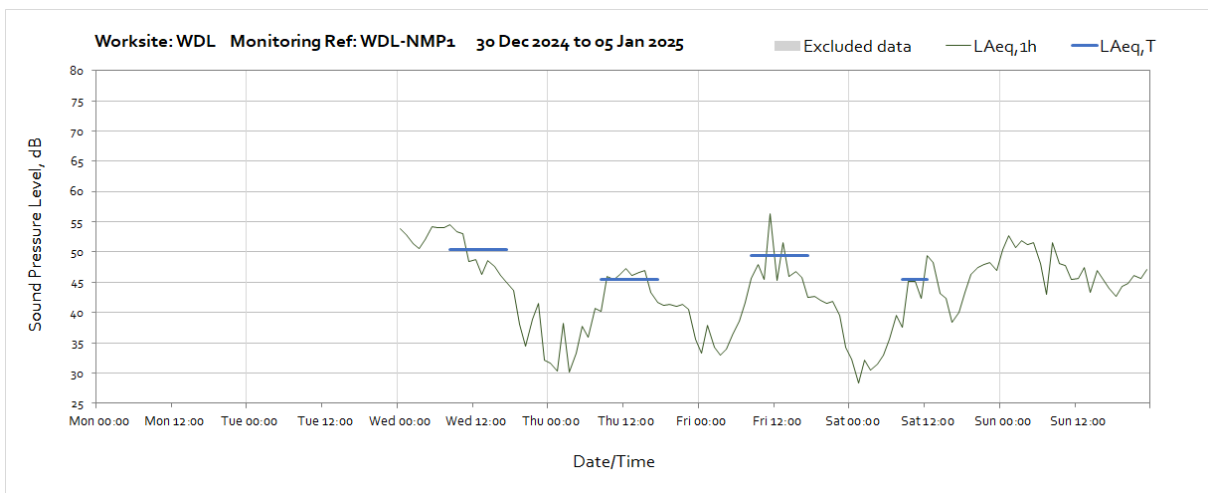


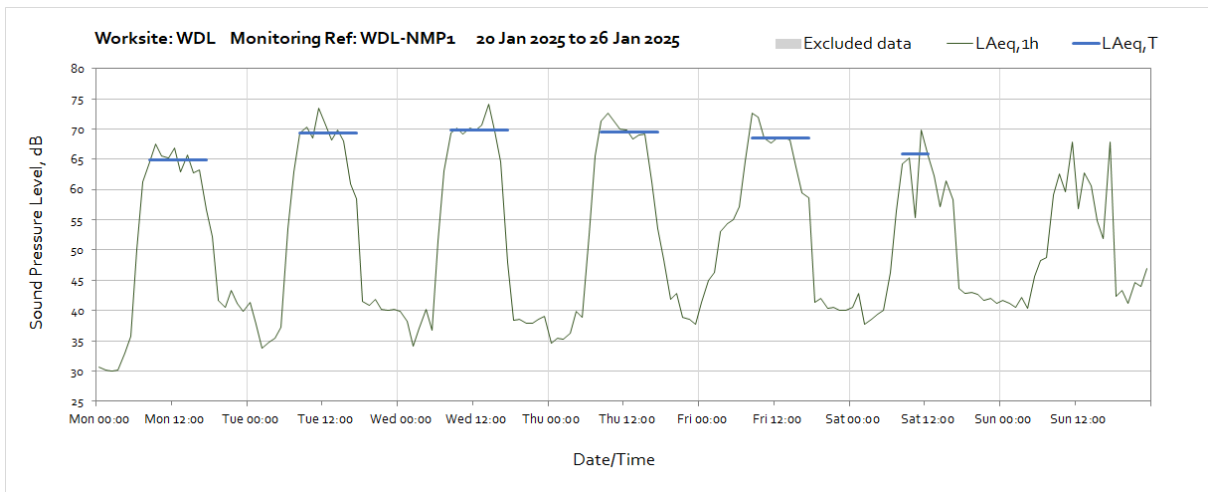
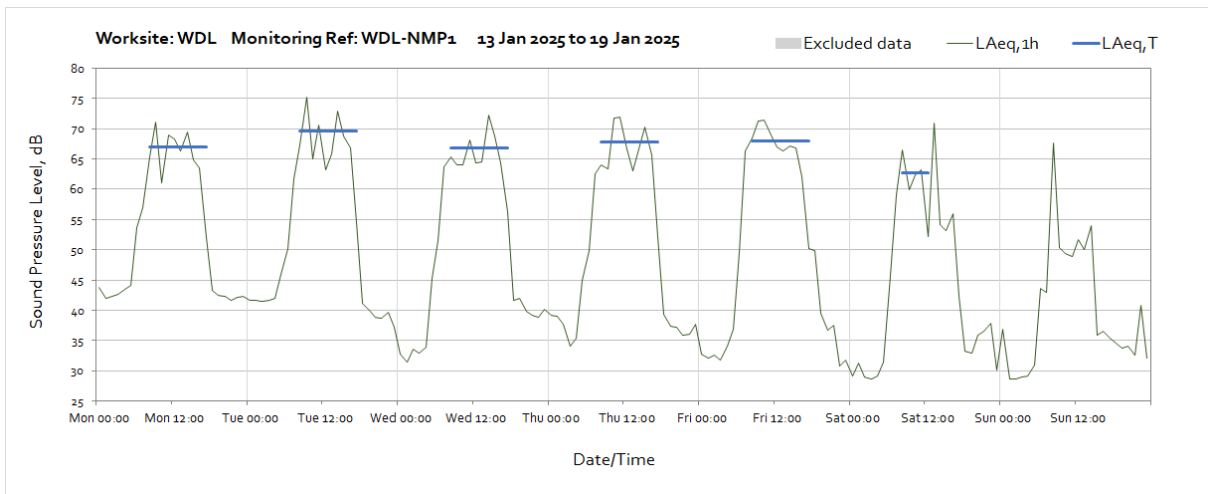
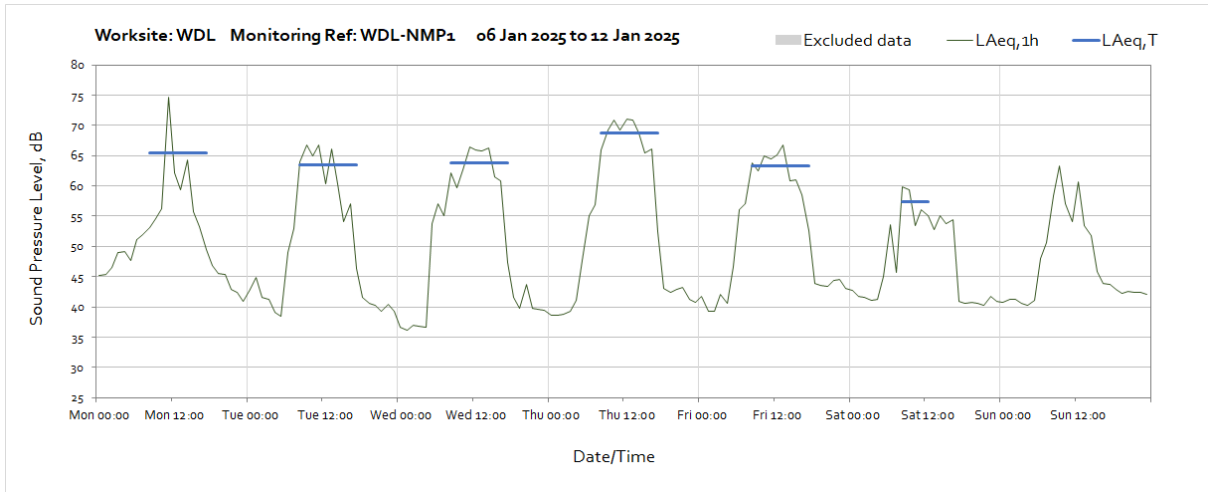
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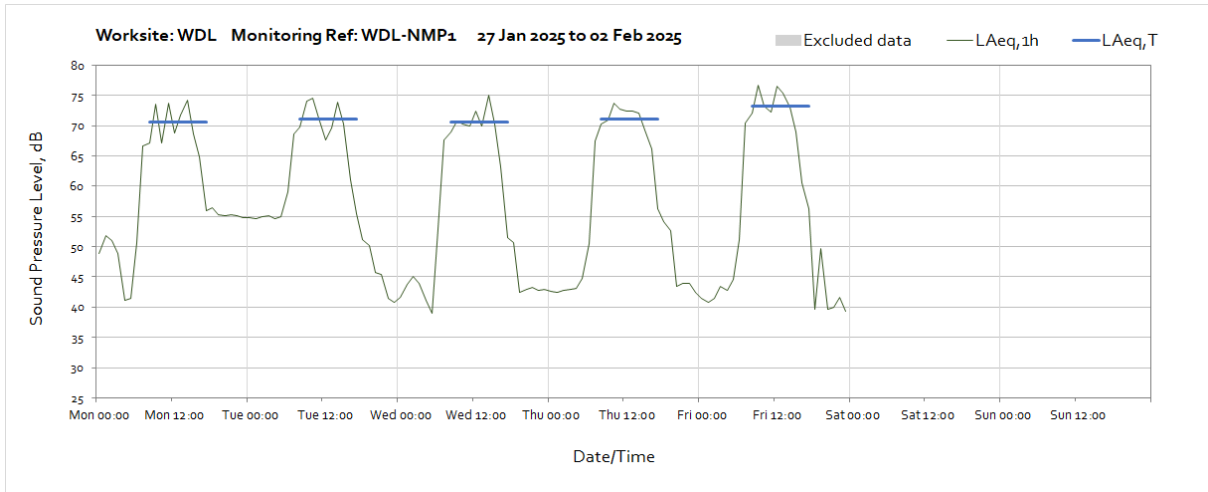




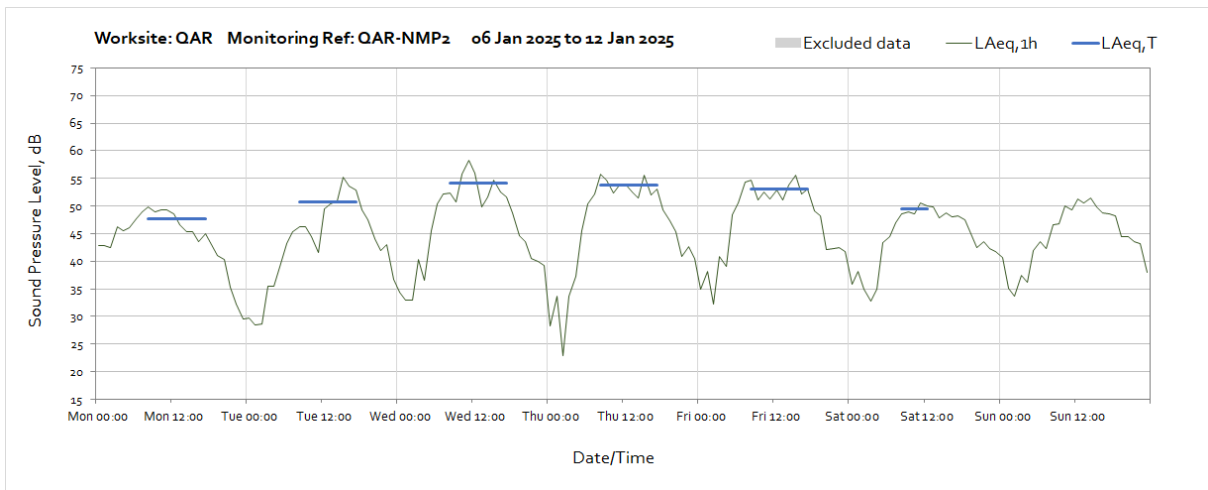
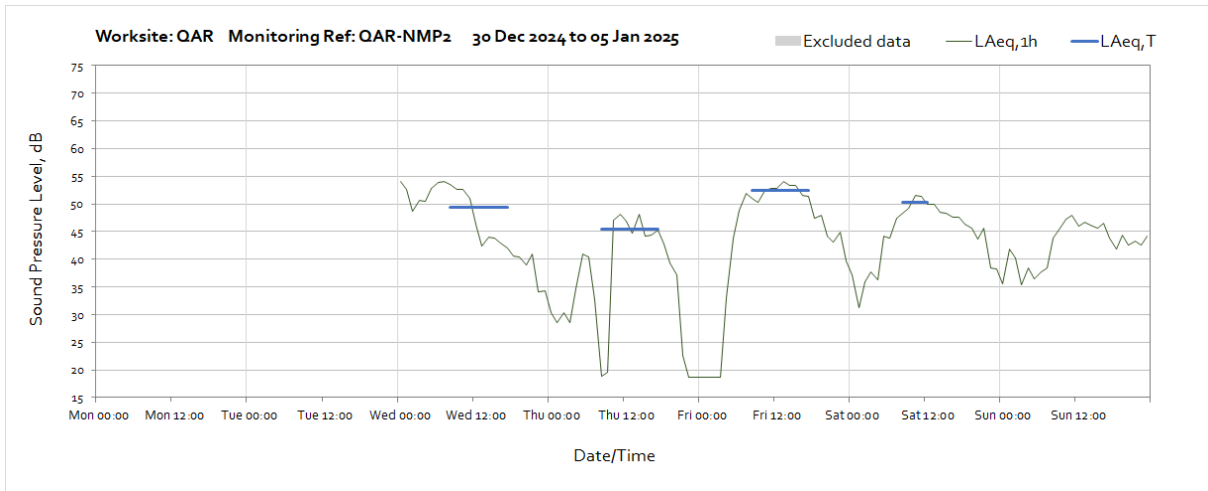
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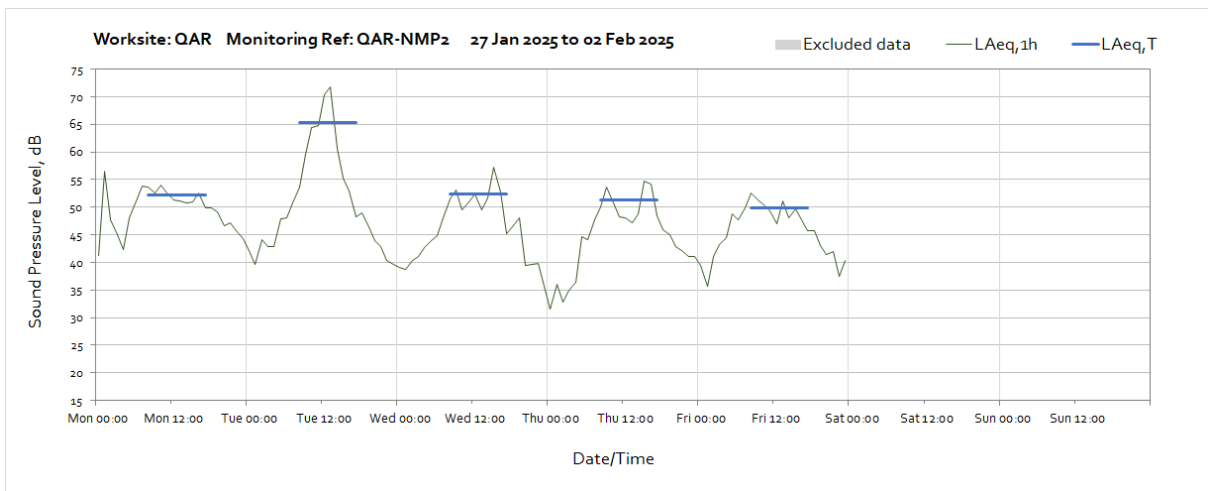
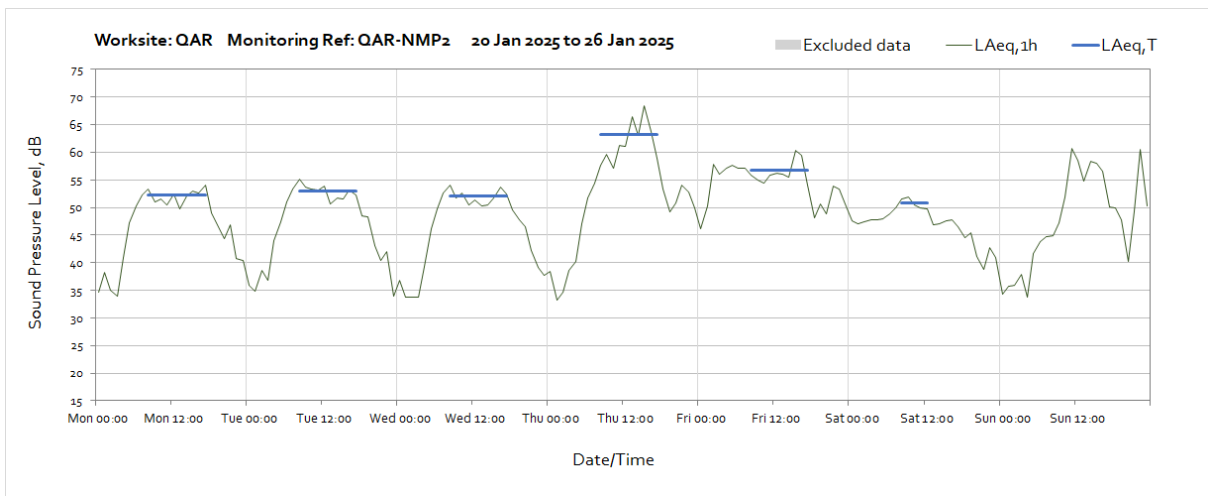
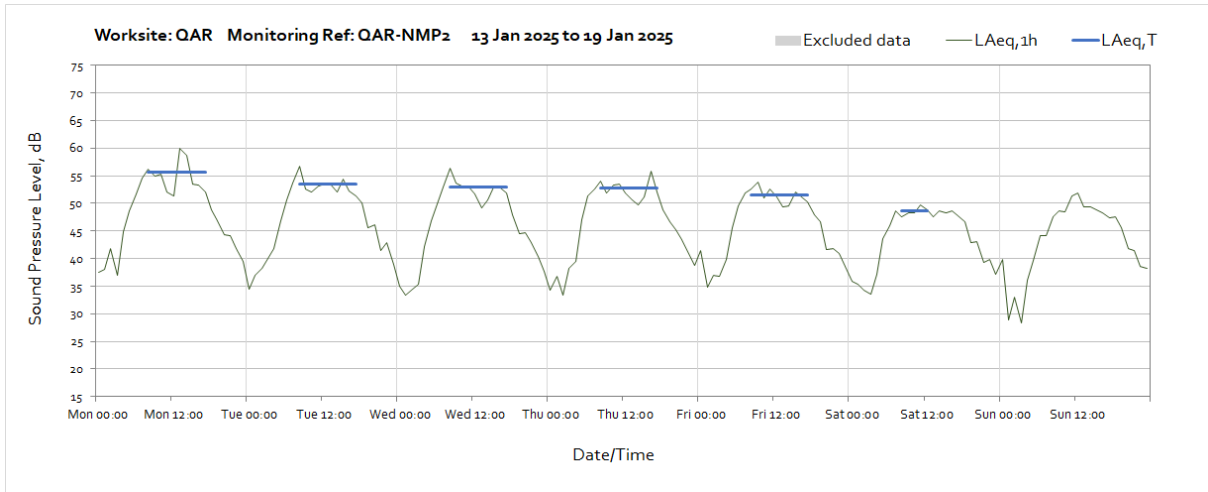




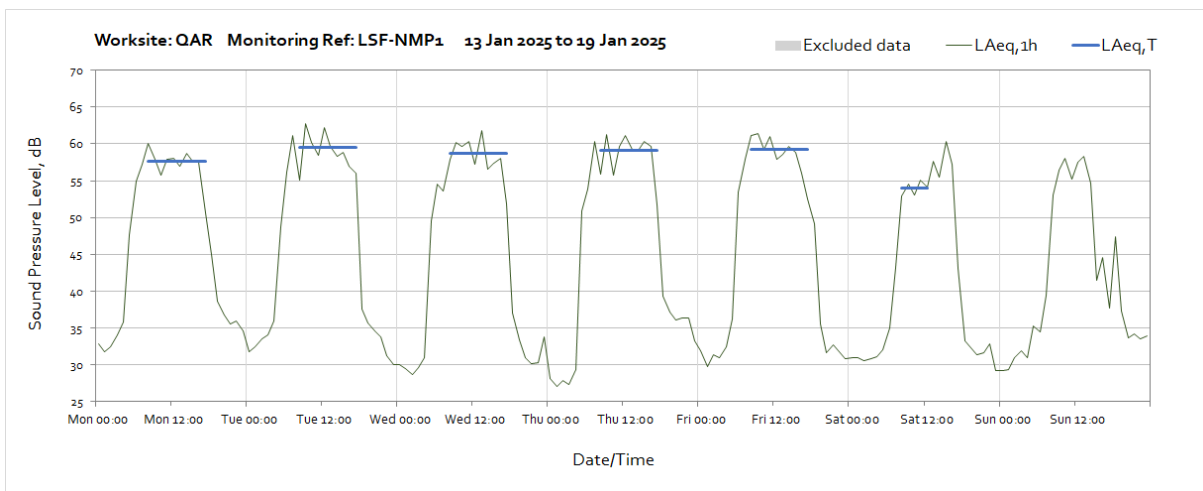
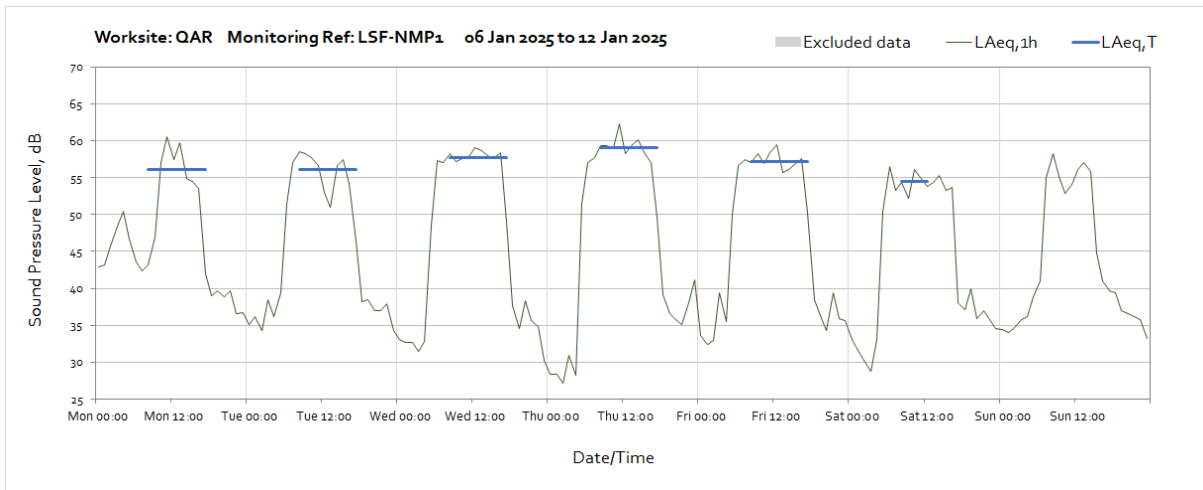
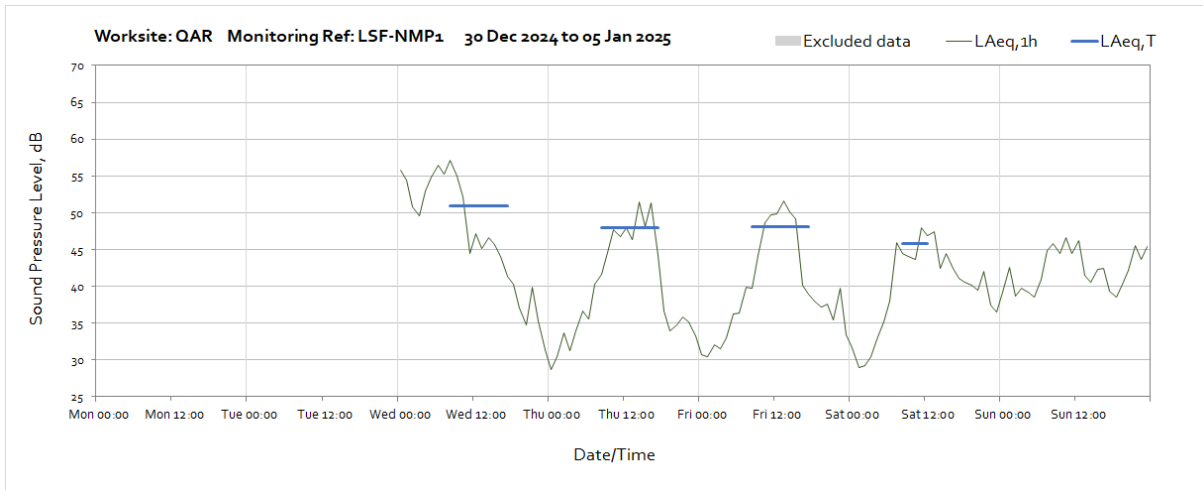


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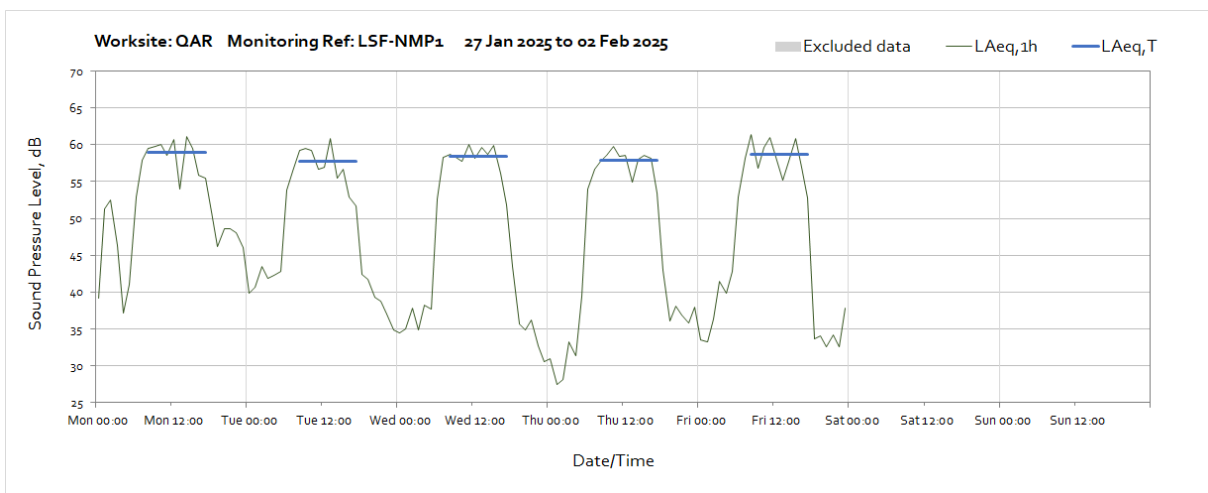
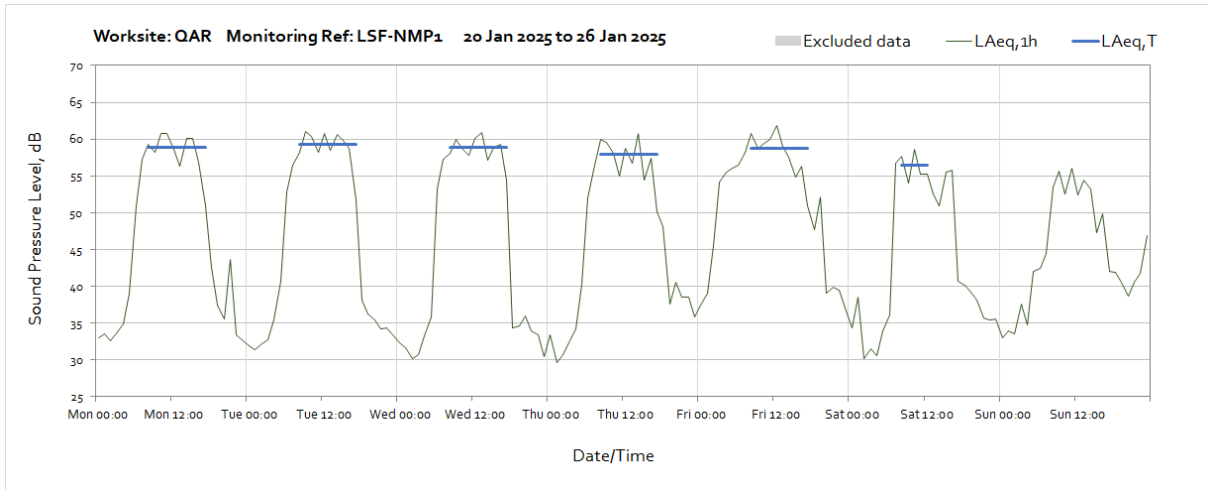




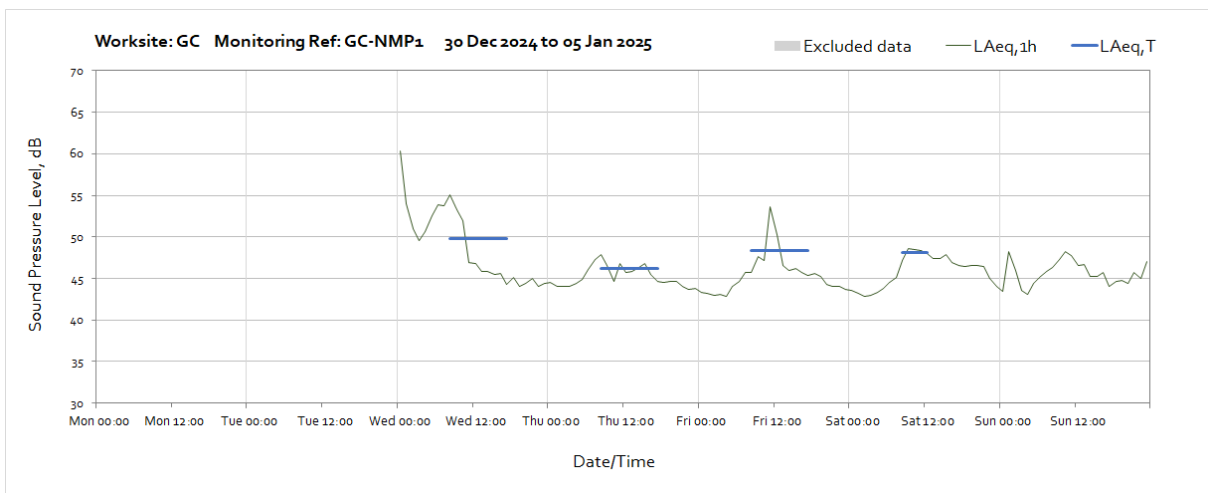
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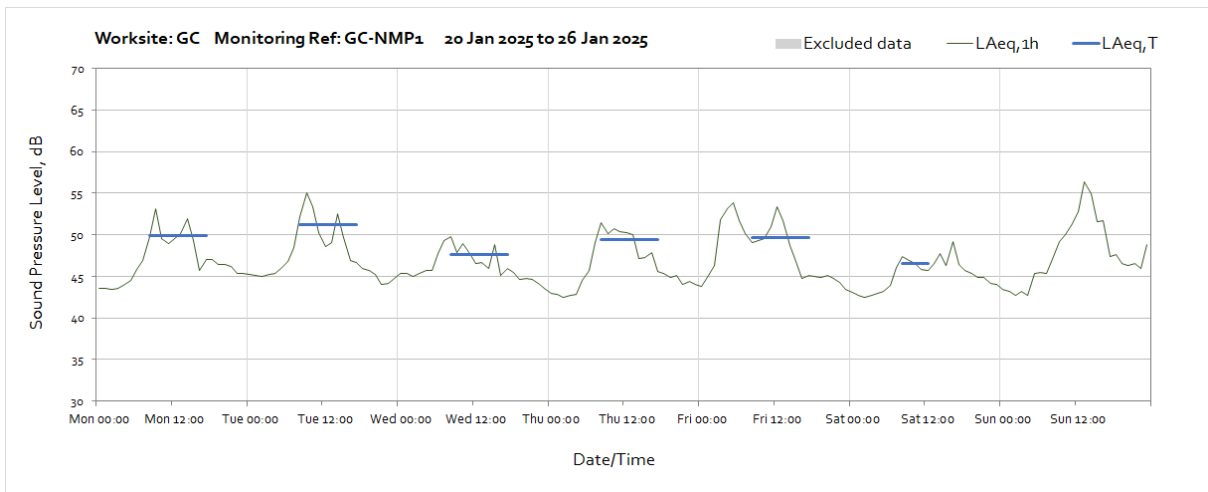
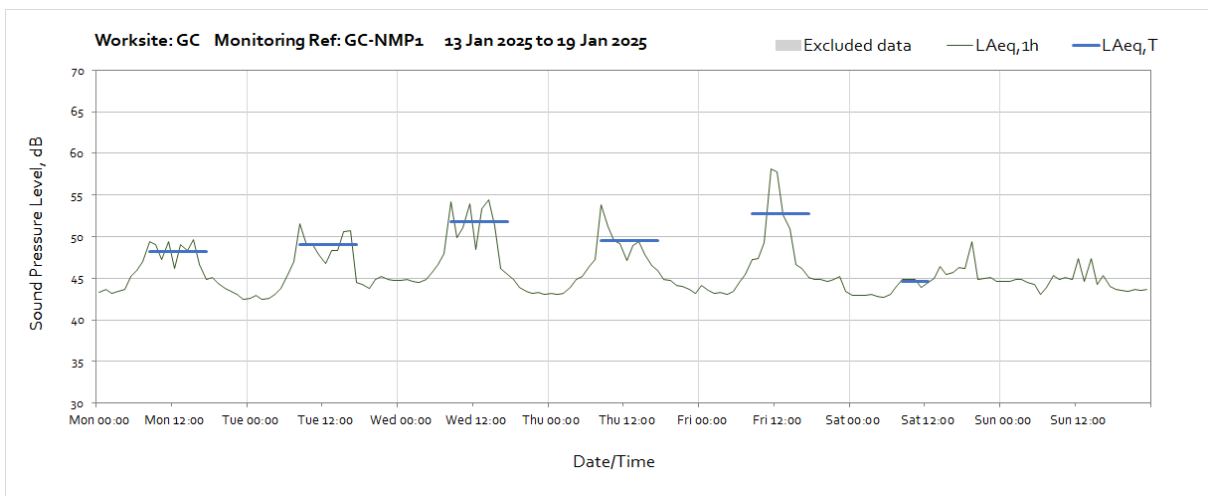
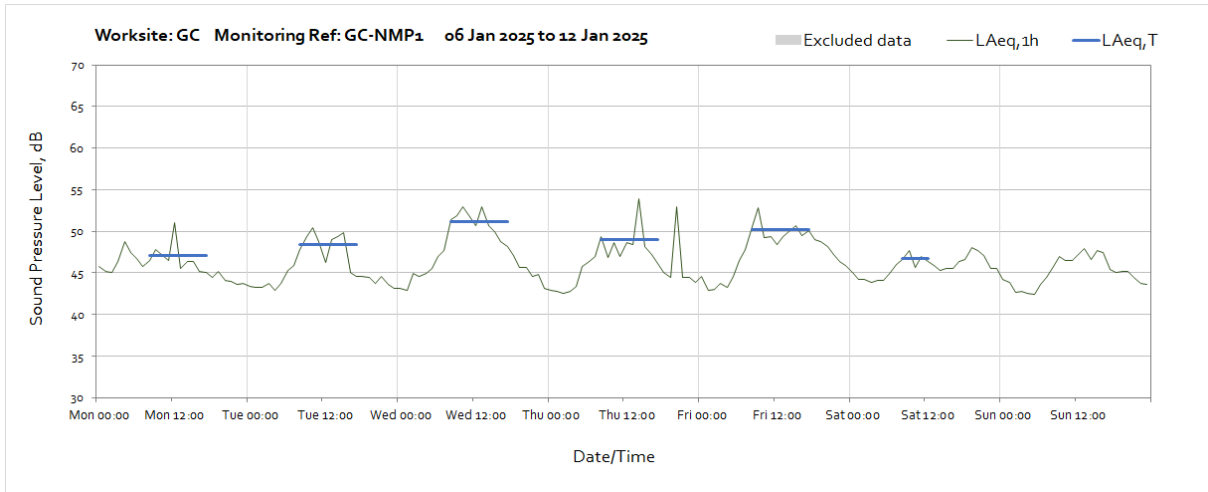


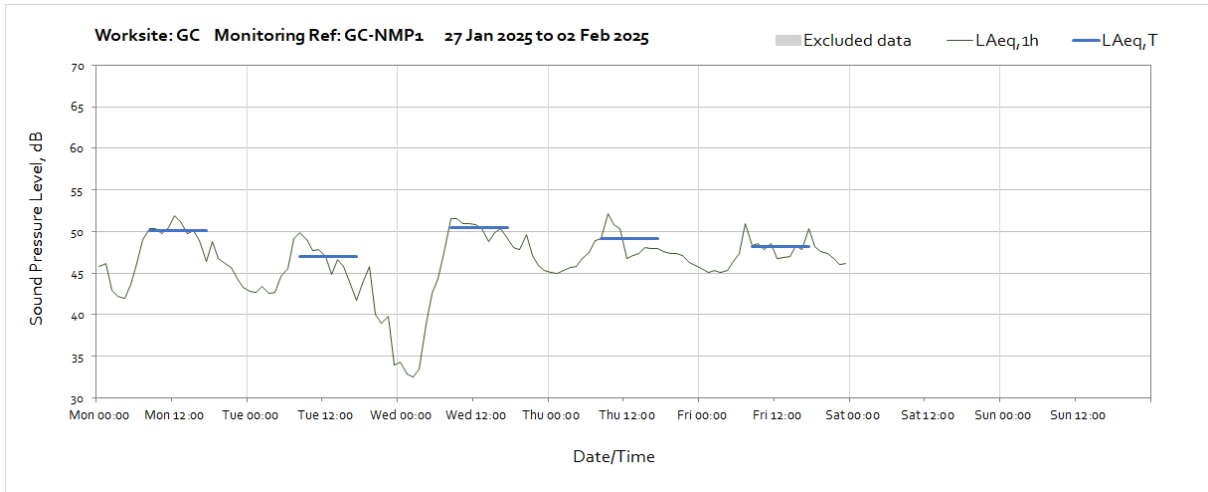
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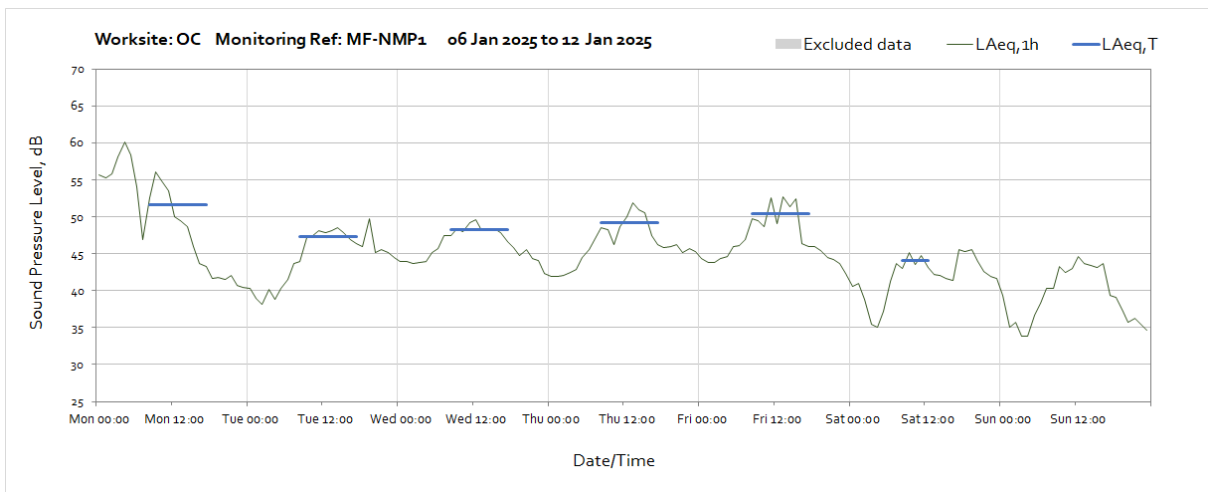
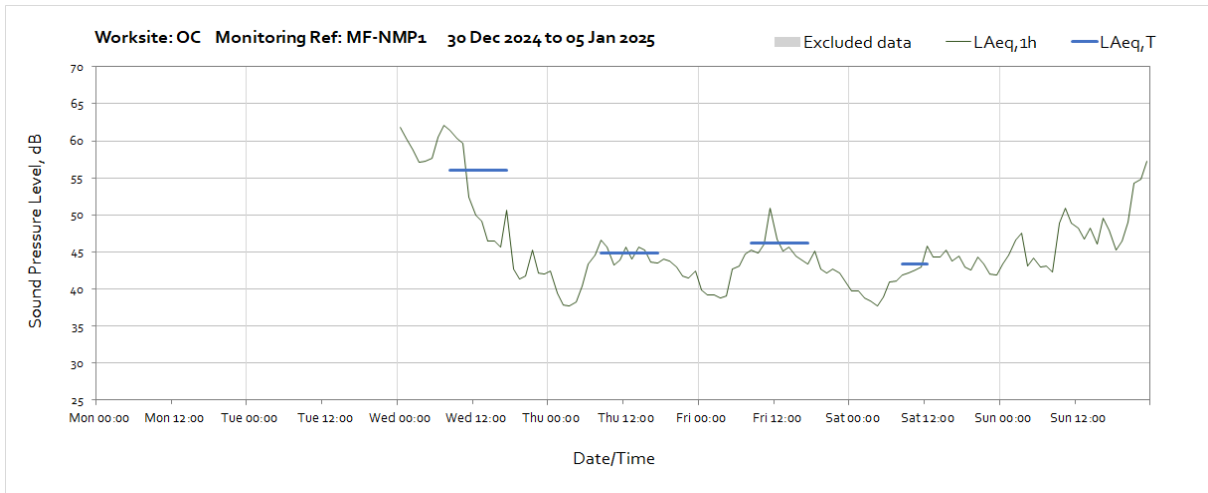
Worksite: GC – Monitoring Ref: GC-NMP1

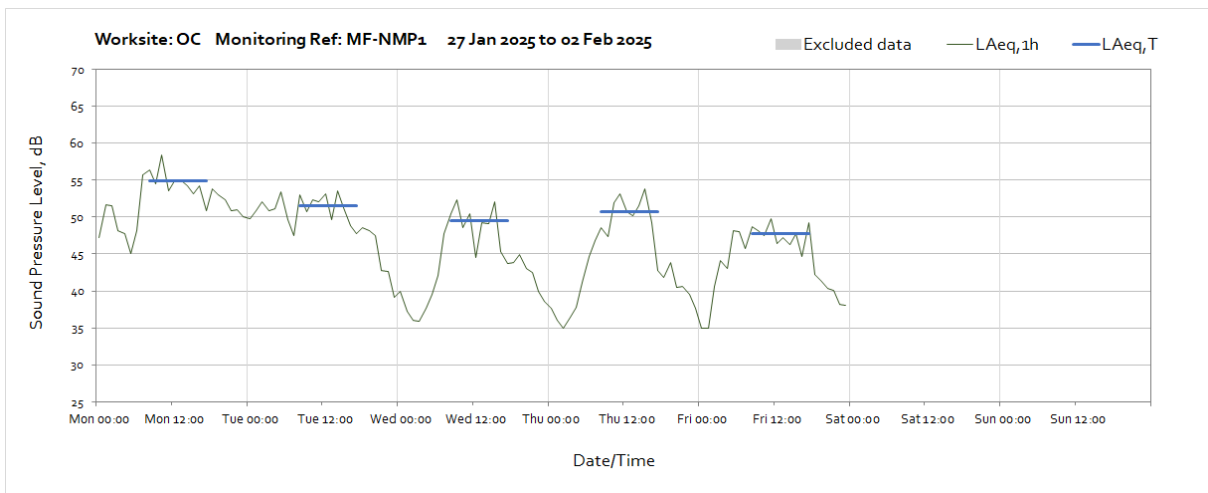
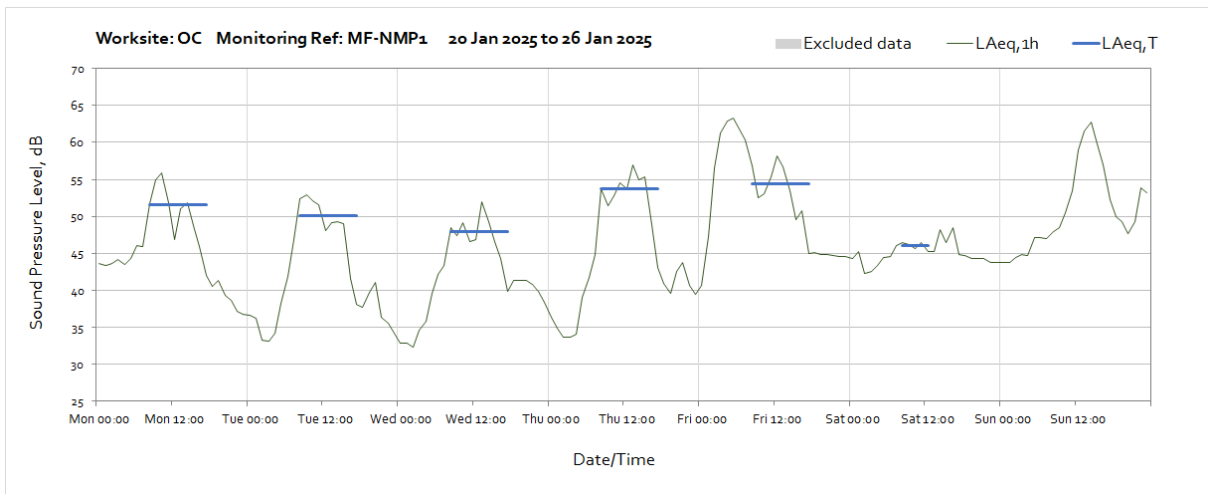
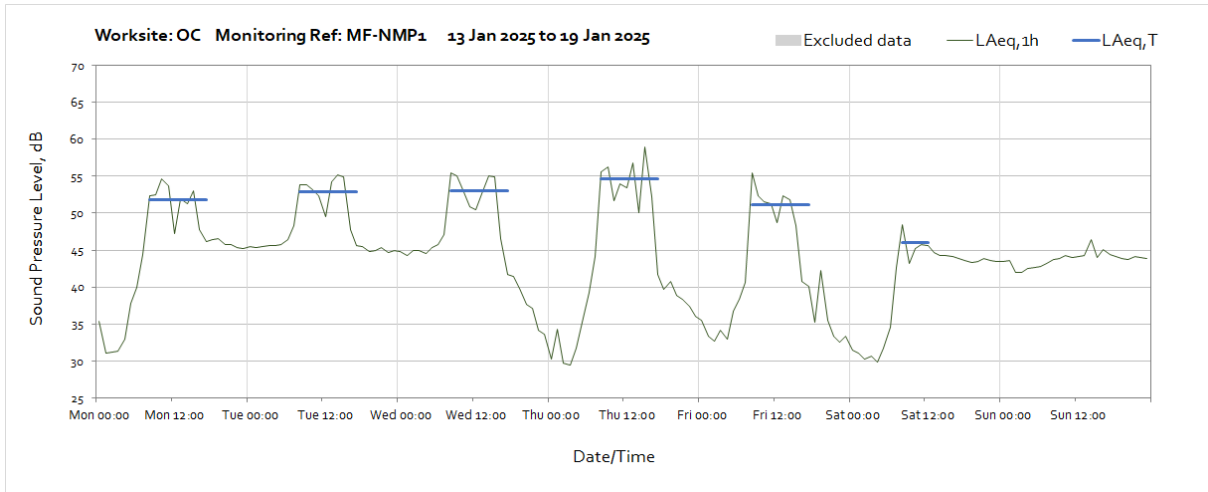




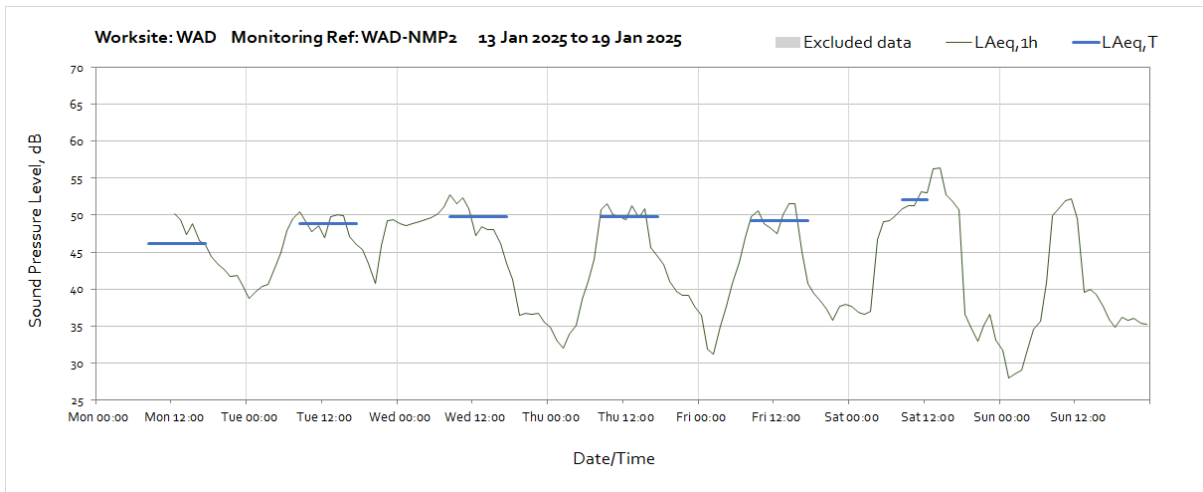


Worksite: OC - Monitoring Ref: MF-NMP1

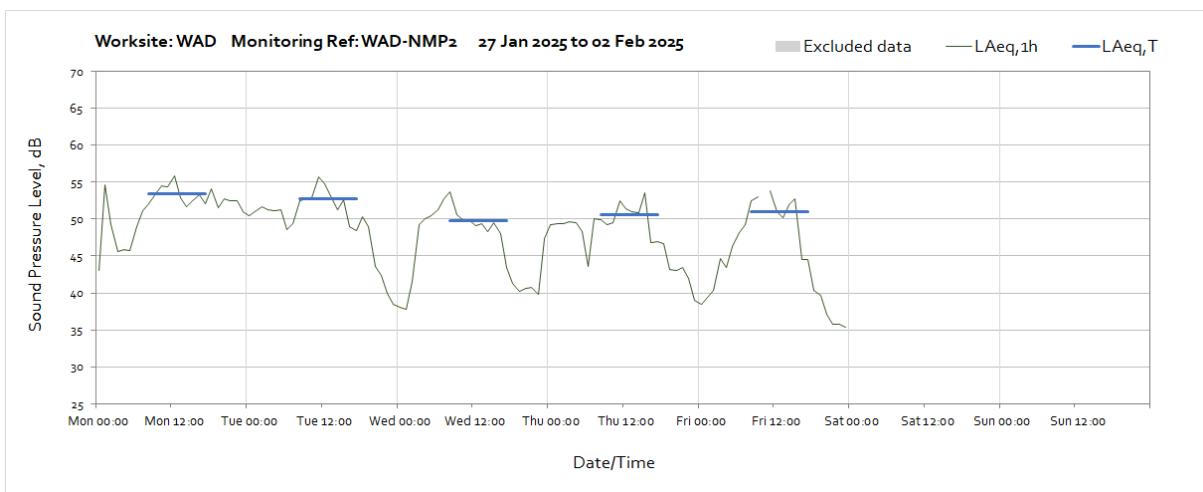
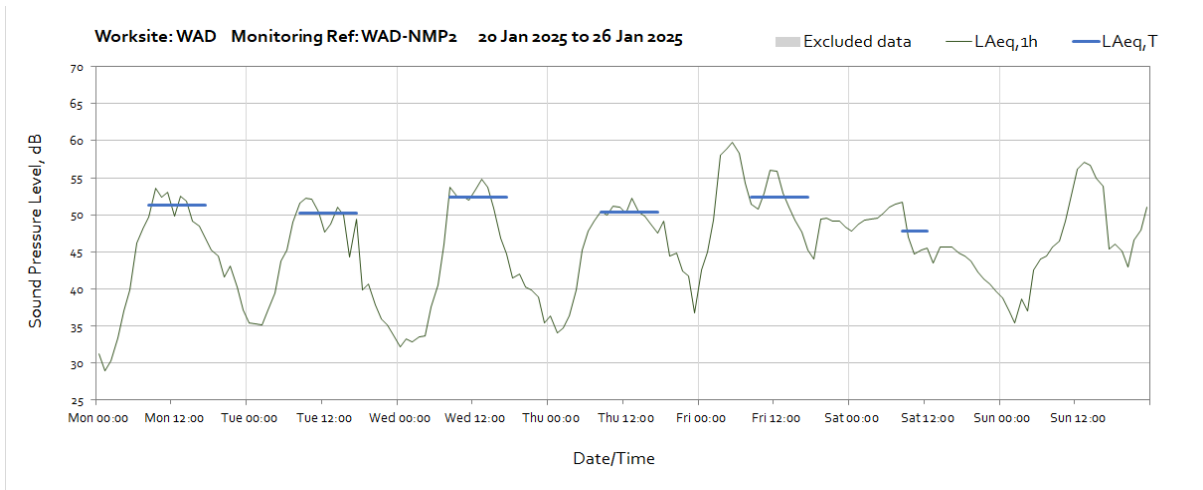




Worksite: WAD – Monitoring Ref: WAD-NMP2



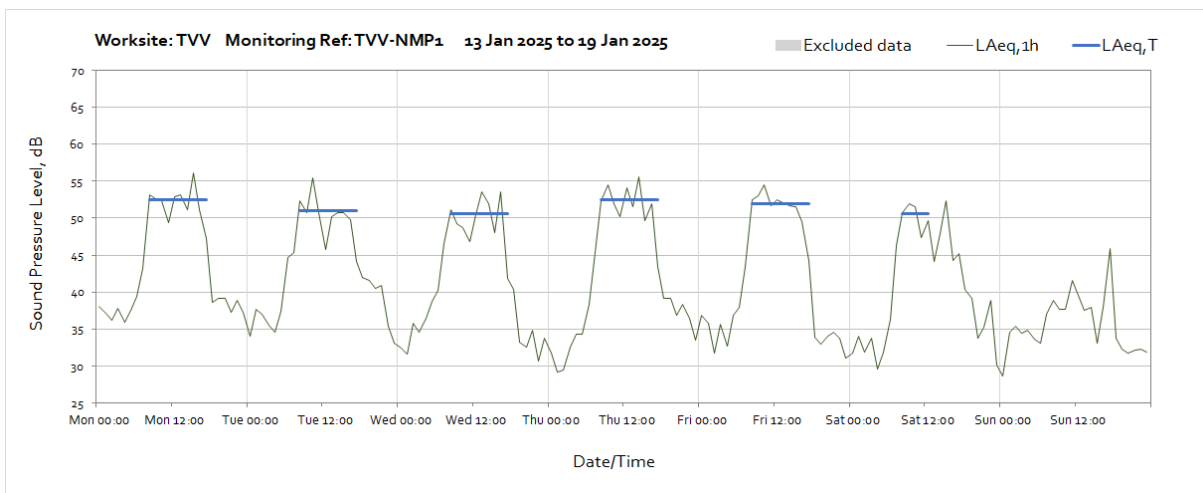
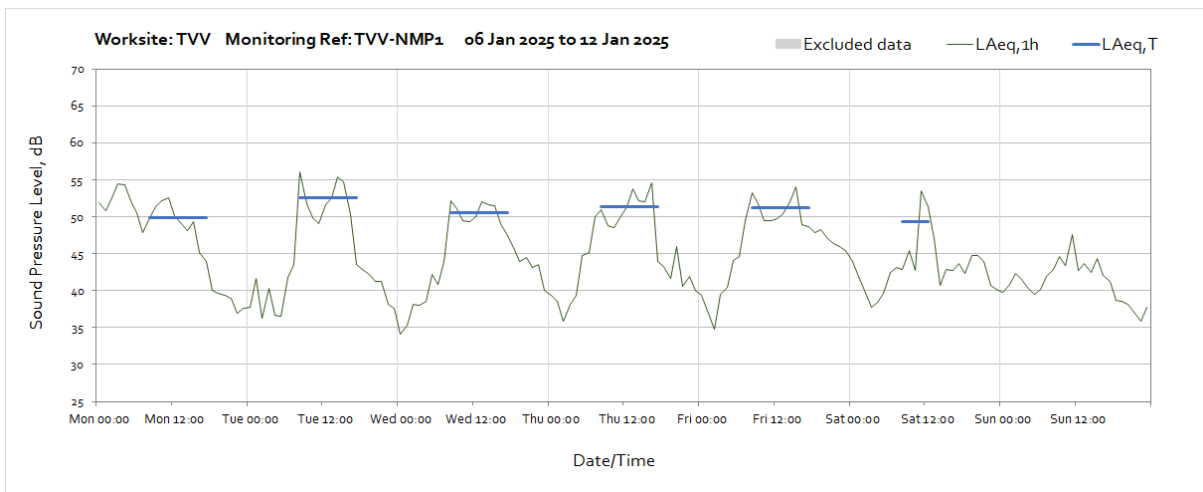
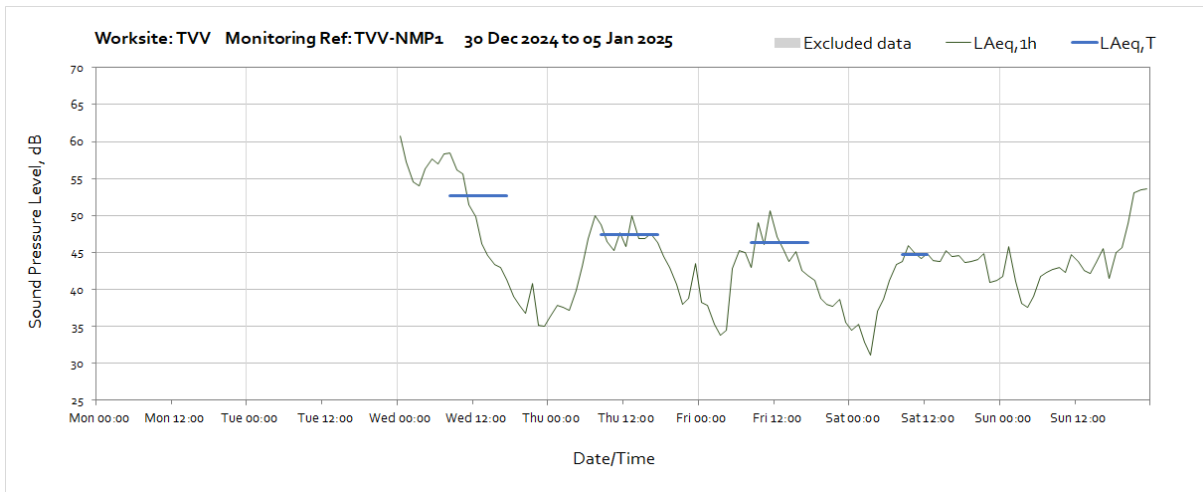
Note: Missing data from the start of the month until 12:00 on Monday 13th February was due to a depleted monitor battery.



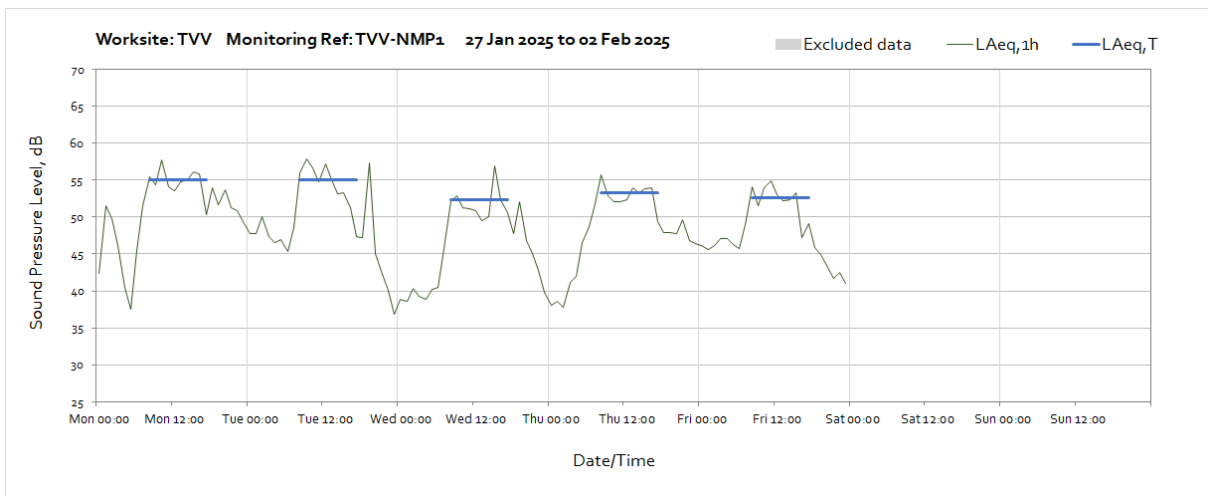
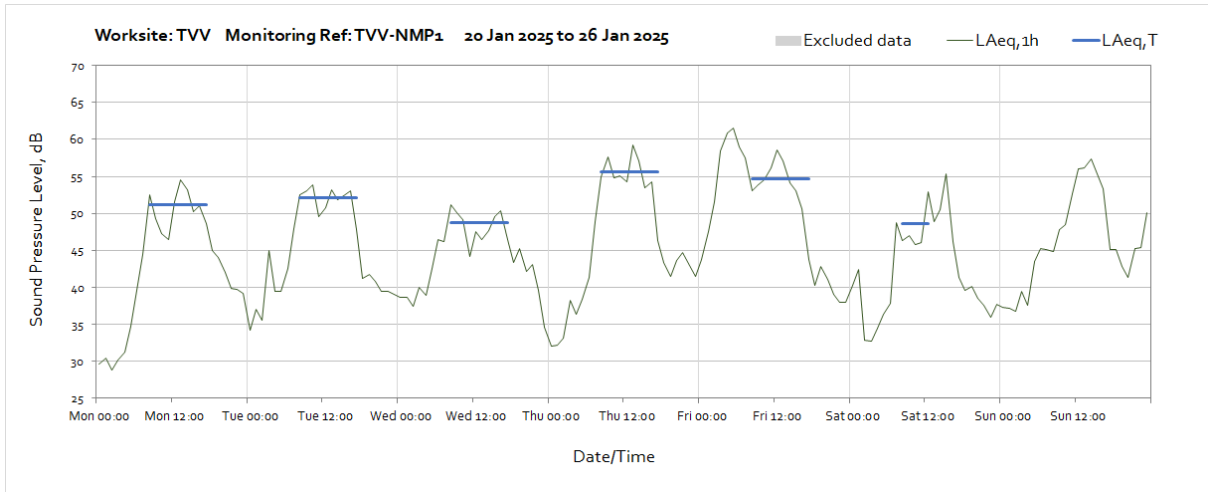
Note: Missing data between 10:00 and 11:00 on Friday 31st January was due to monitor maintenance.

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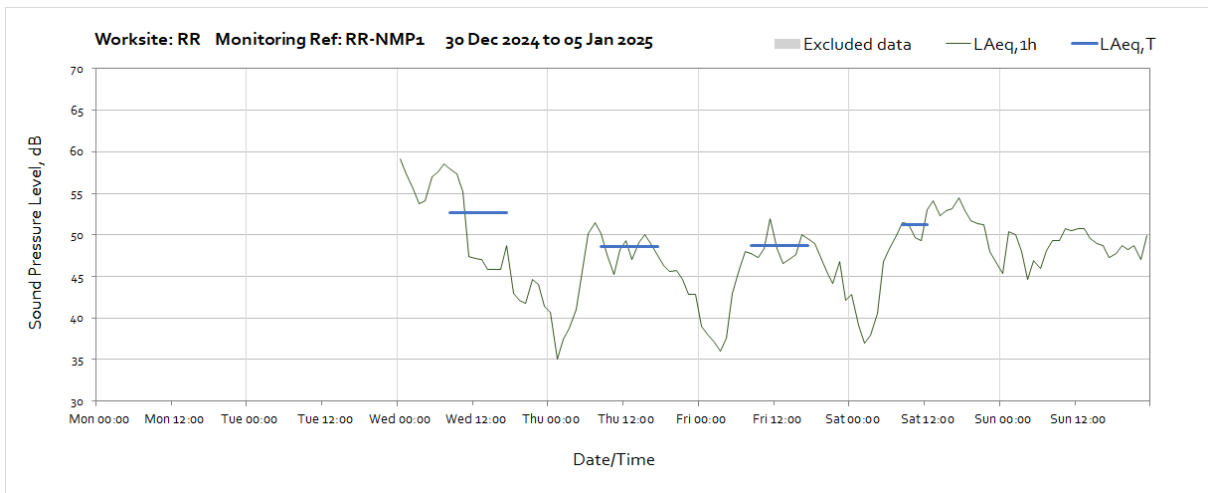
Worksite: TVV – Monitoring Ref: TVV-NMP1

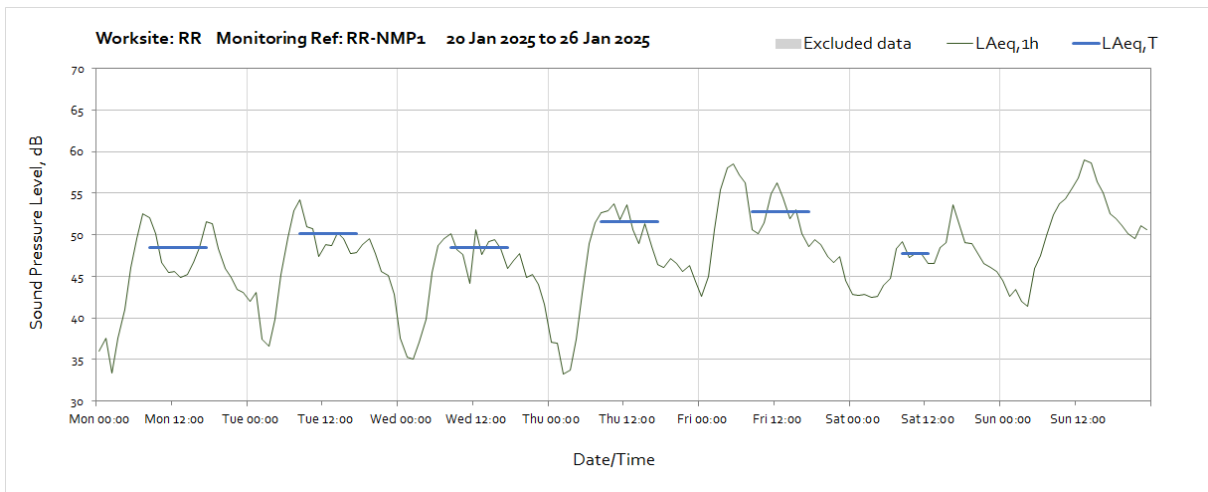
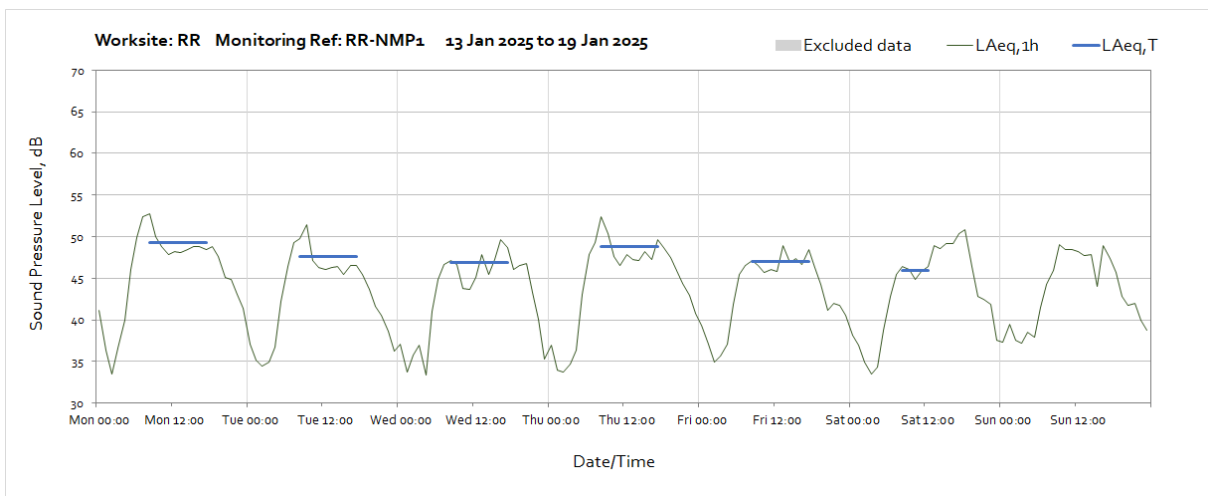
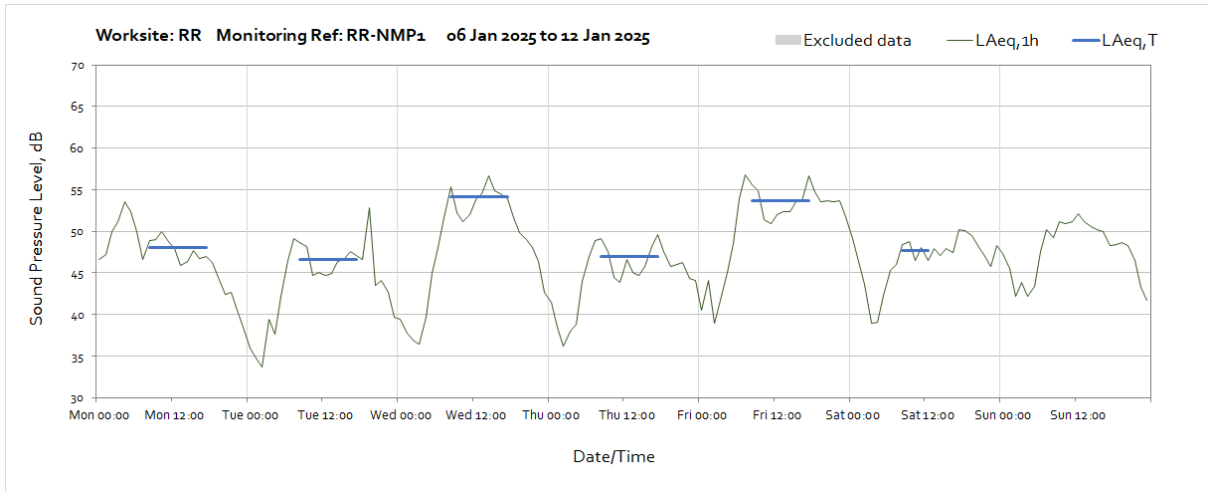


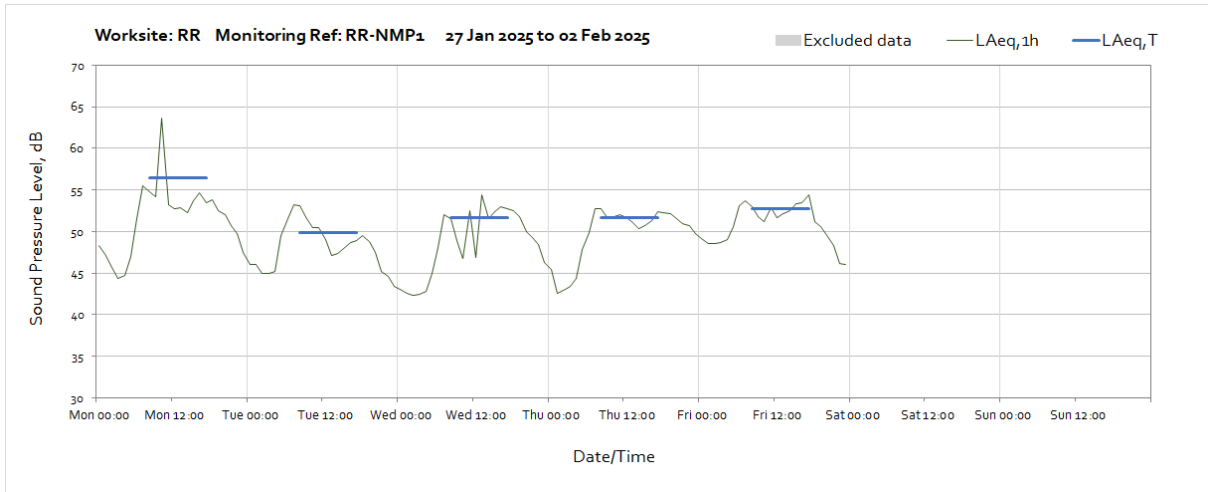
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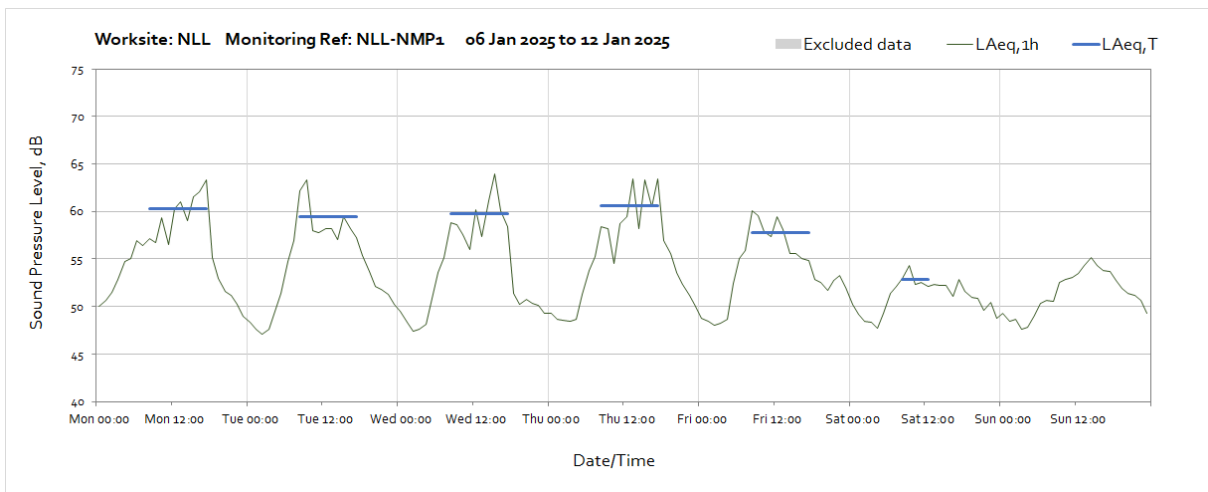
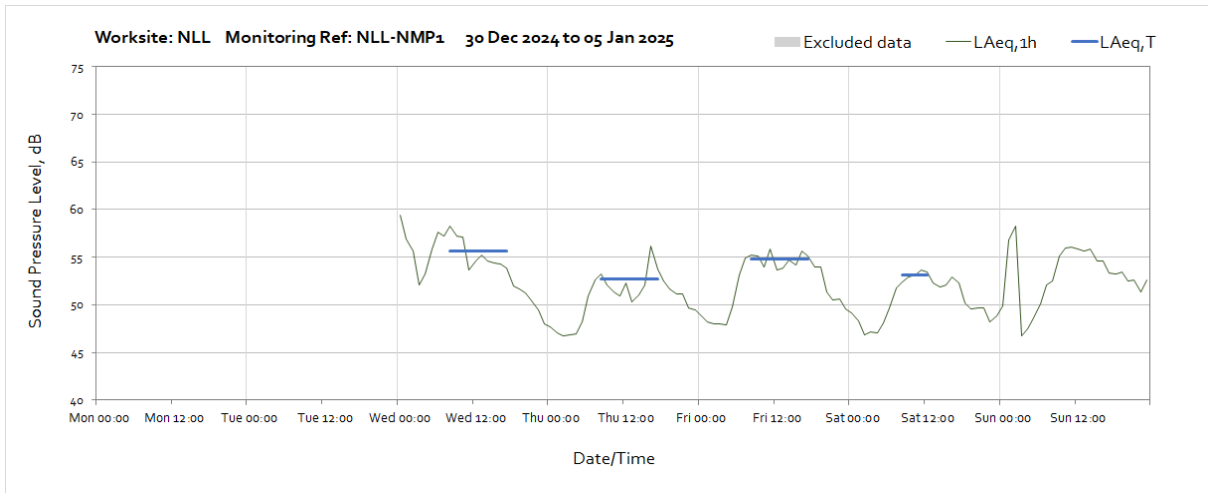
Worksite: RR – Monitoring Ref: RR-NMP1

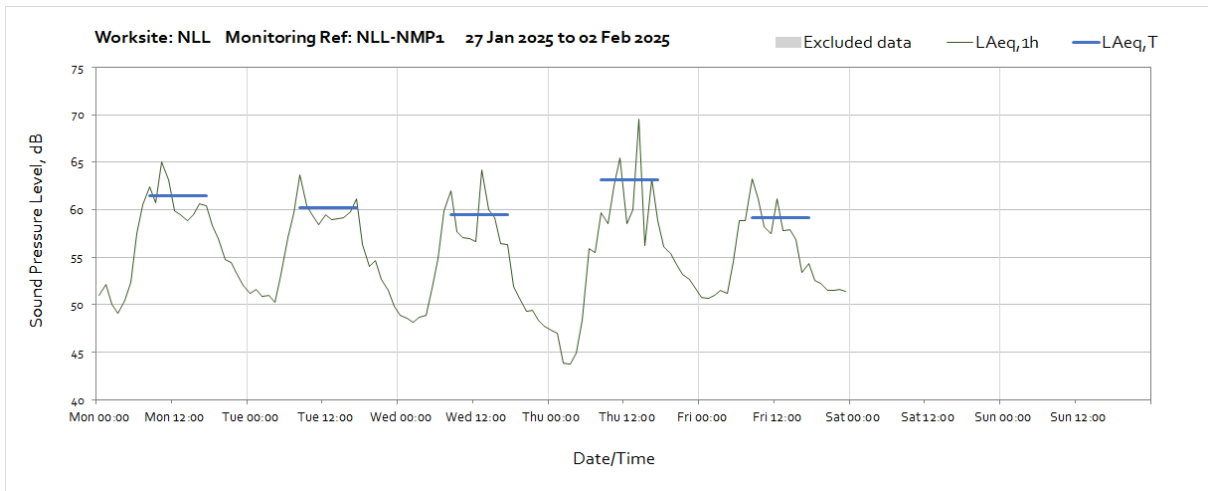
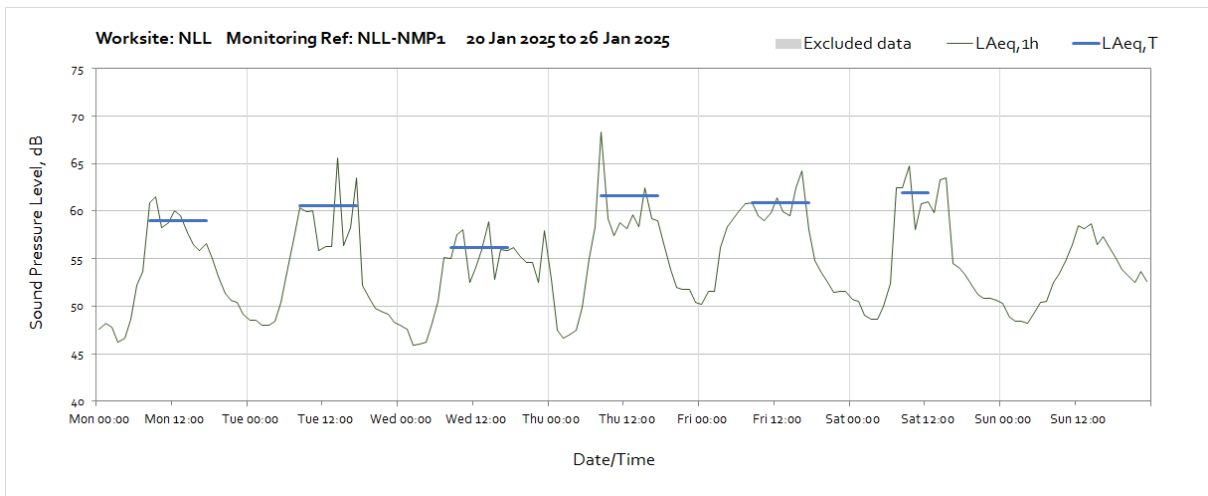
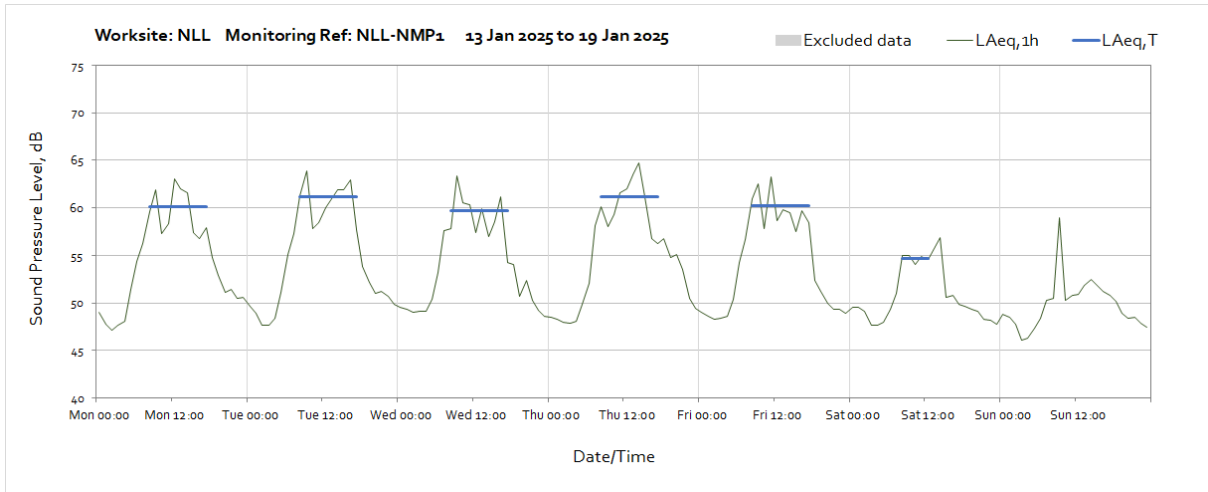




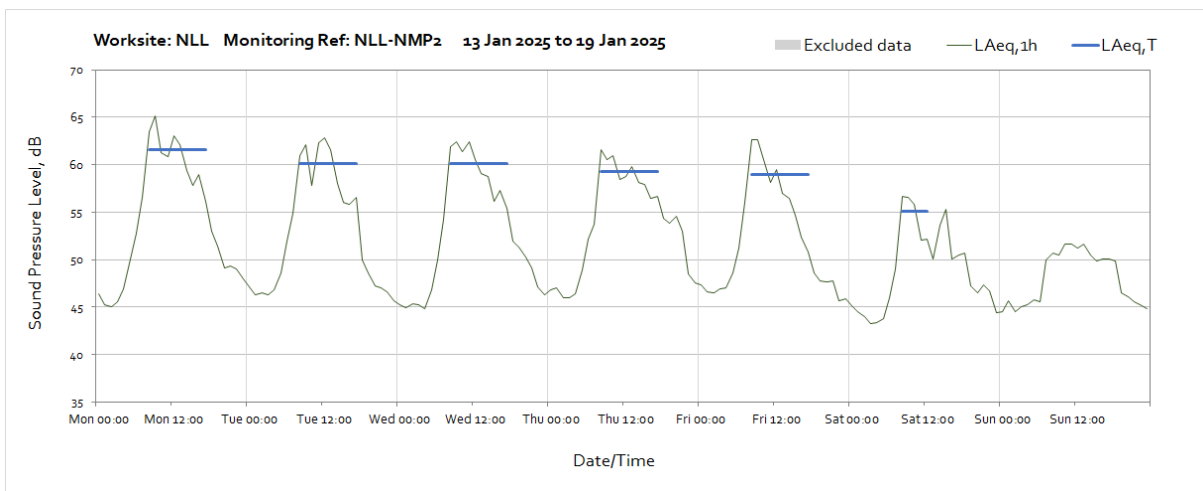
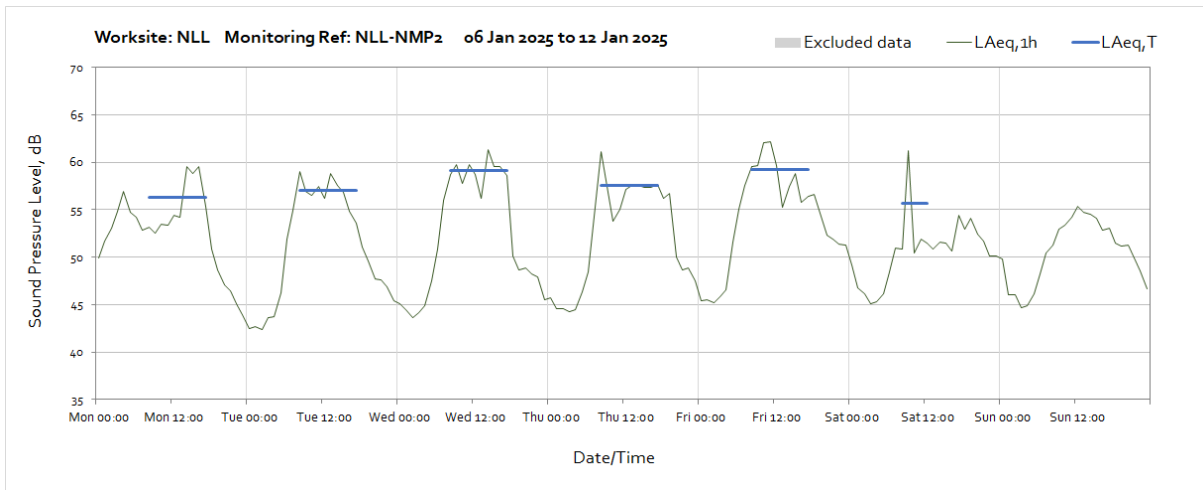
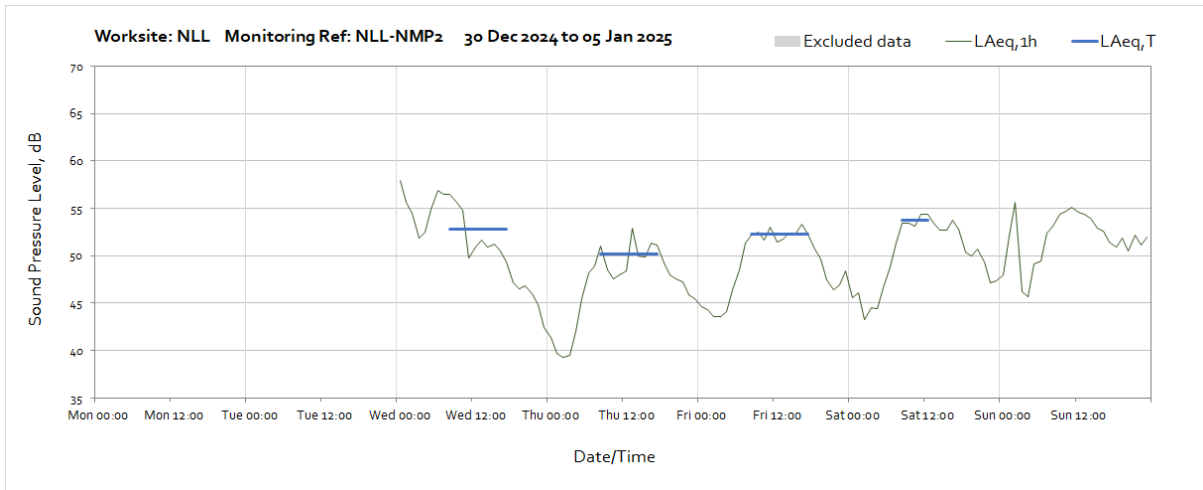


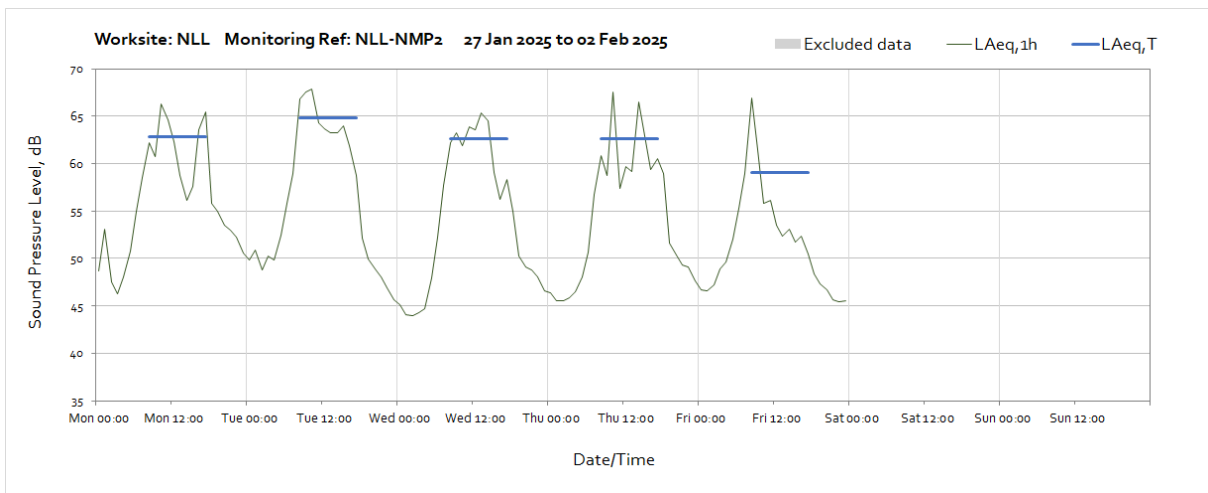
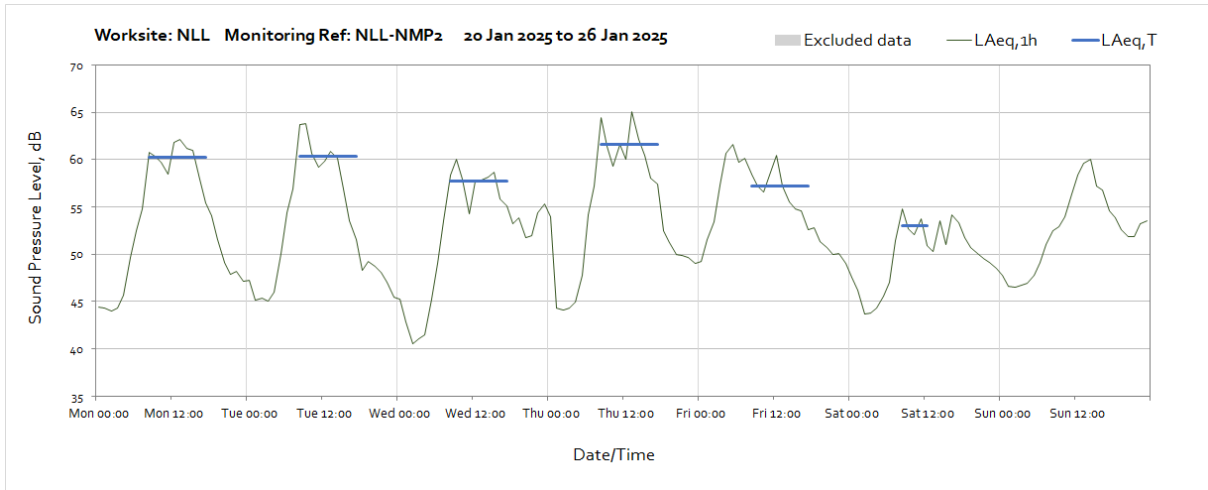
Worksite: NLL - Monitoring Ref: NLL-NMP1



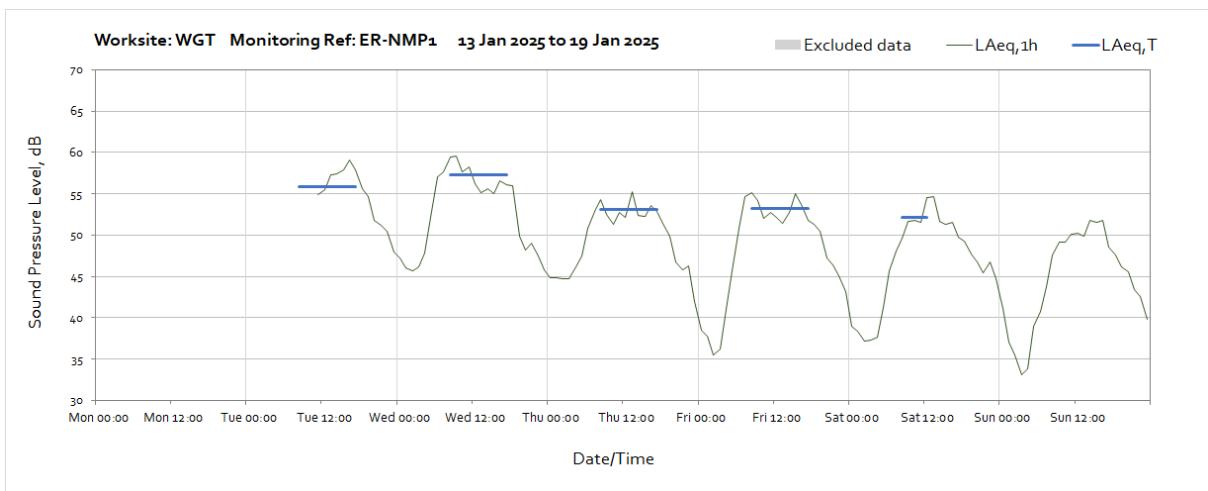


Worksite: NLL – Monitoring Ref: NLL-NMP2

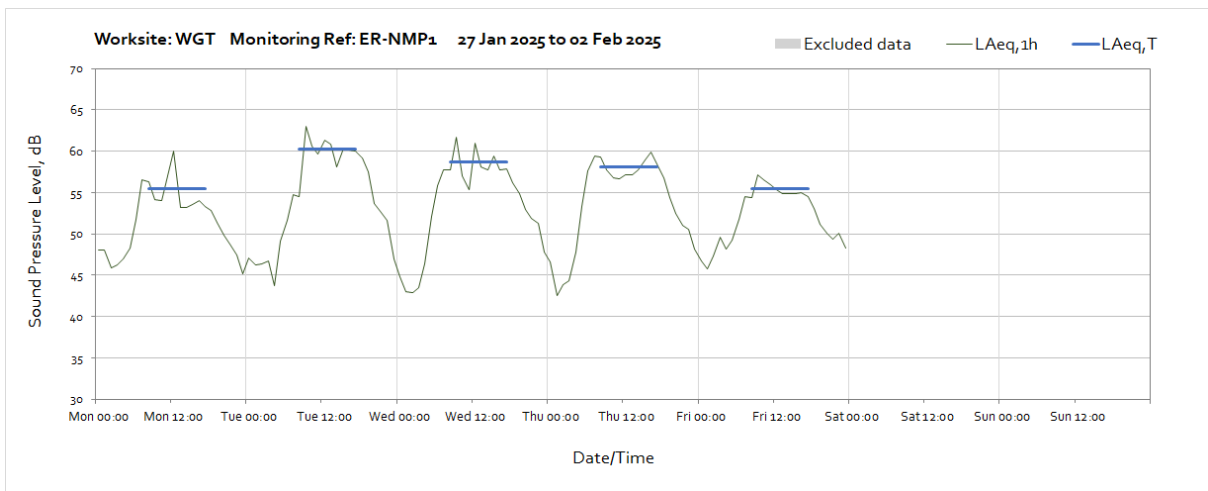
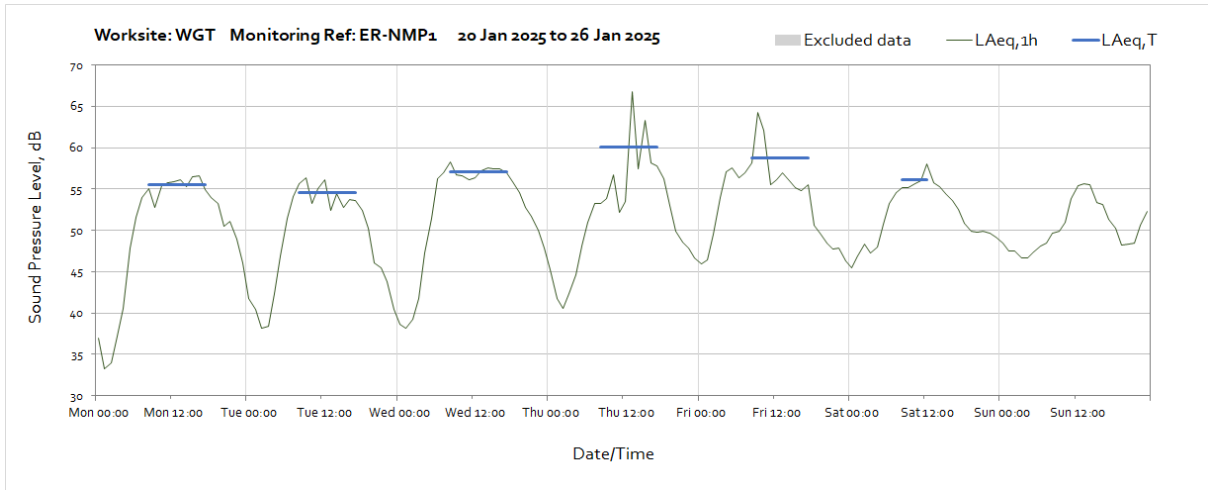




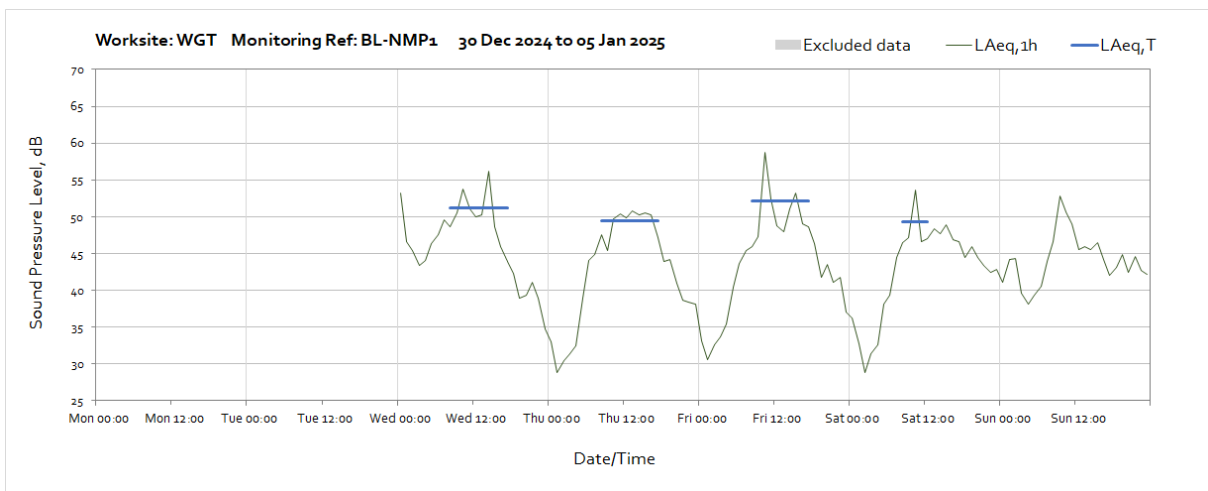
Worksite: WGT – Monitoring Ref: ER-NMP1

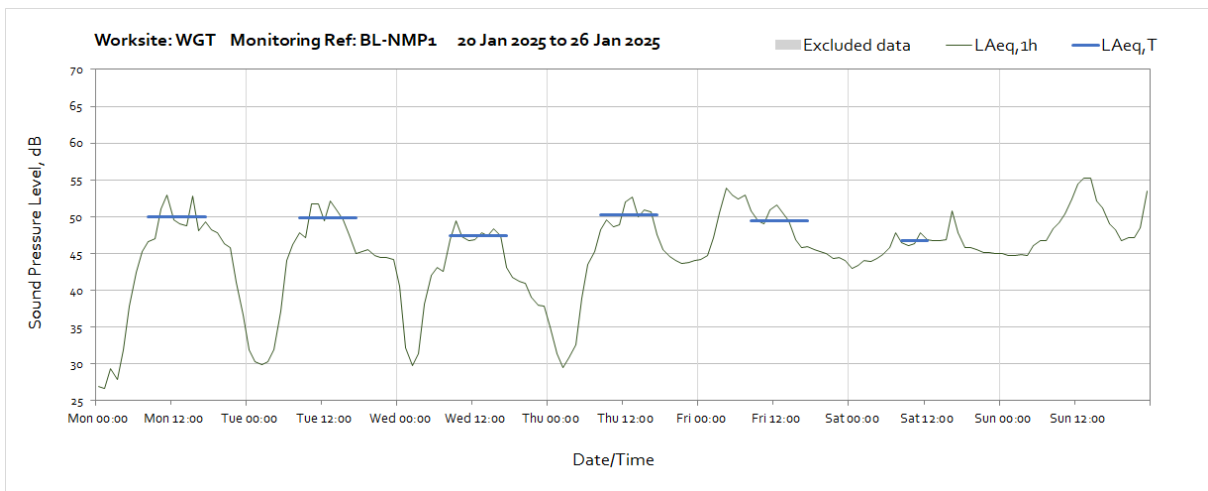
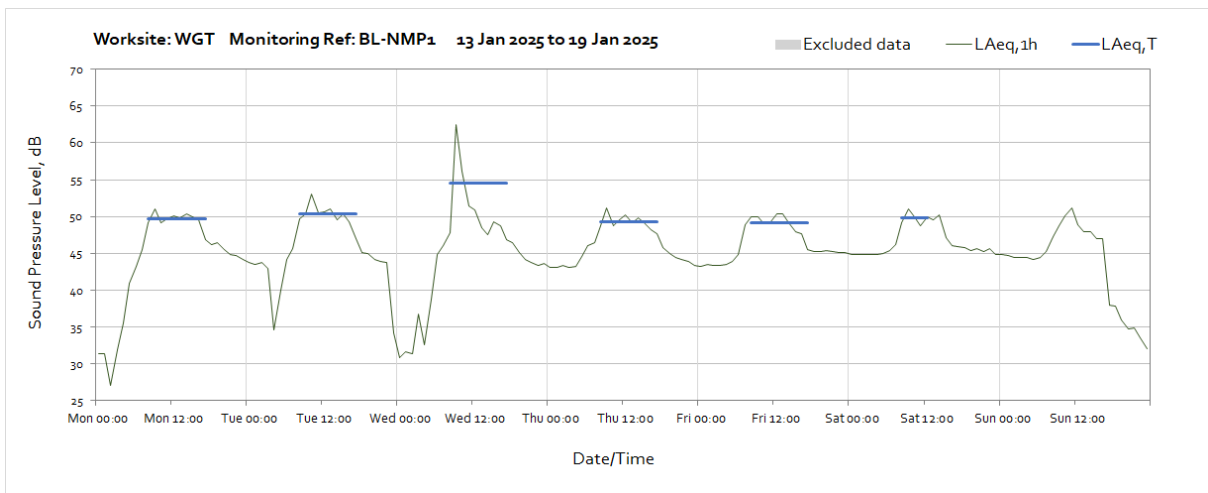
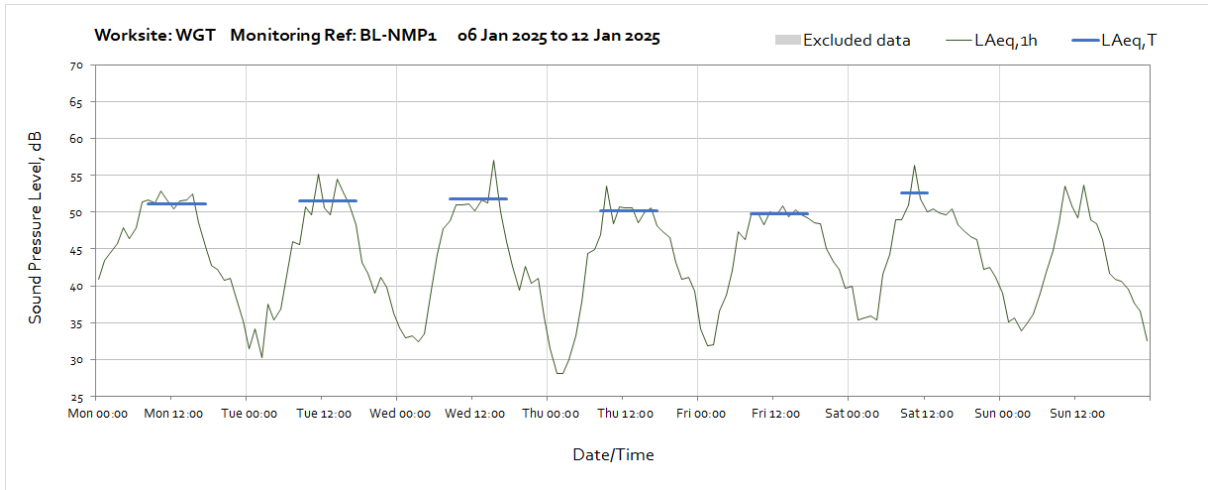


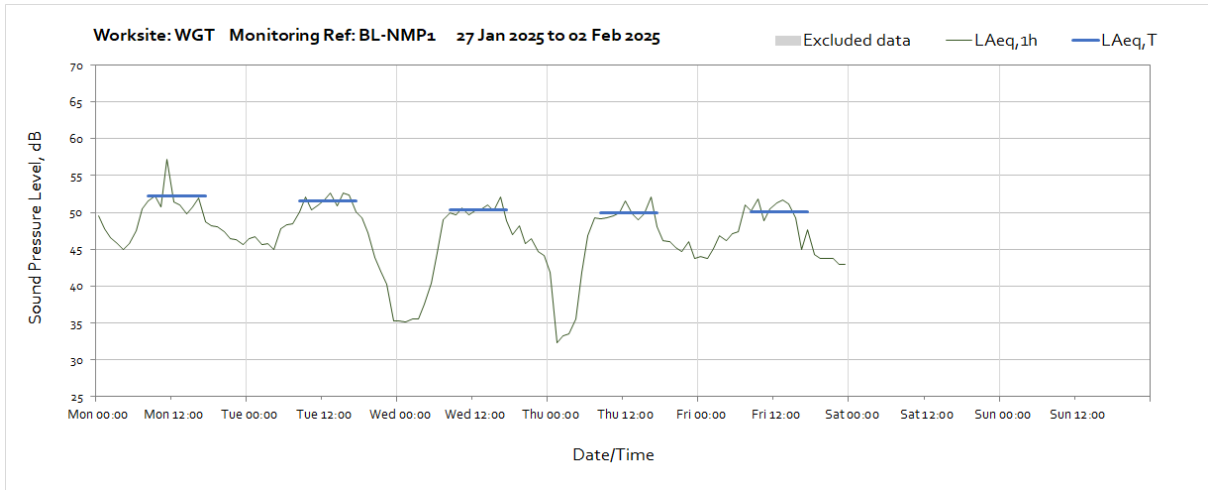
Note: Missing data from the start of the month until 11:00 on Tuesday 14th January was due to a SIM card fault within the monitoring station.



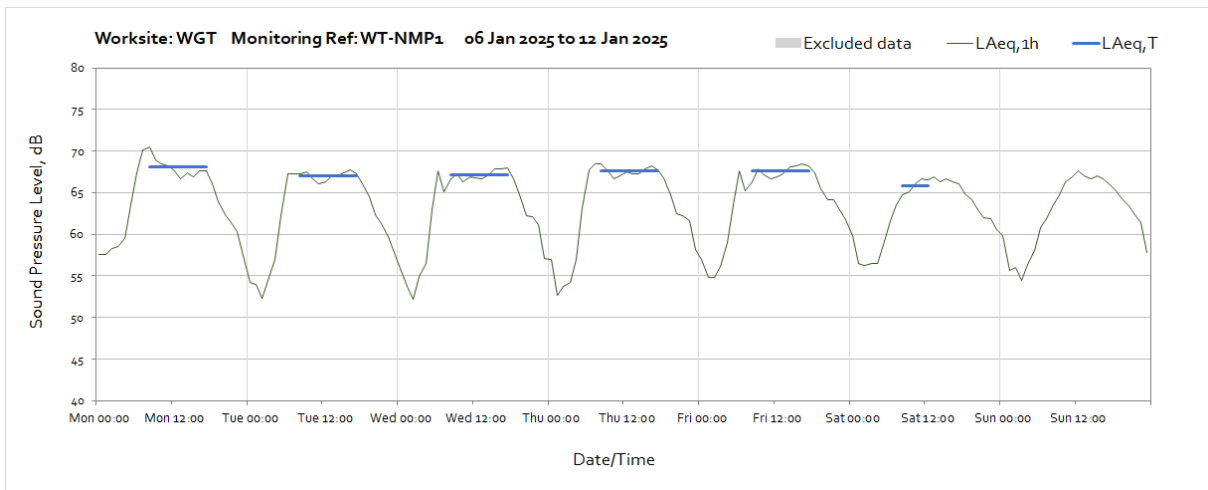
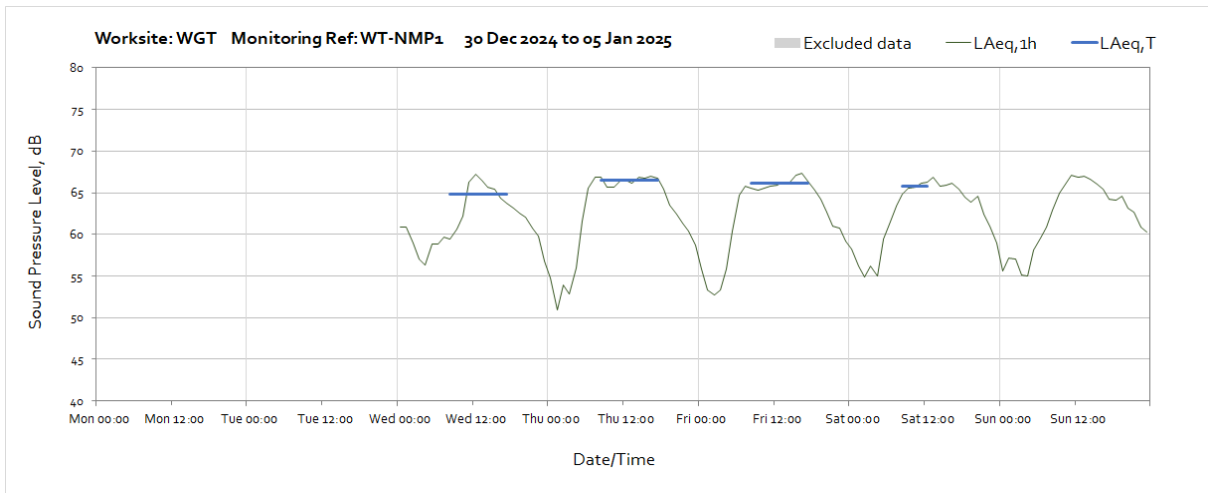
Worksite: WGT - Monitoring Ref: BL-NMP1

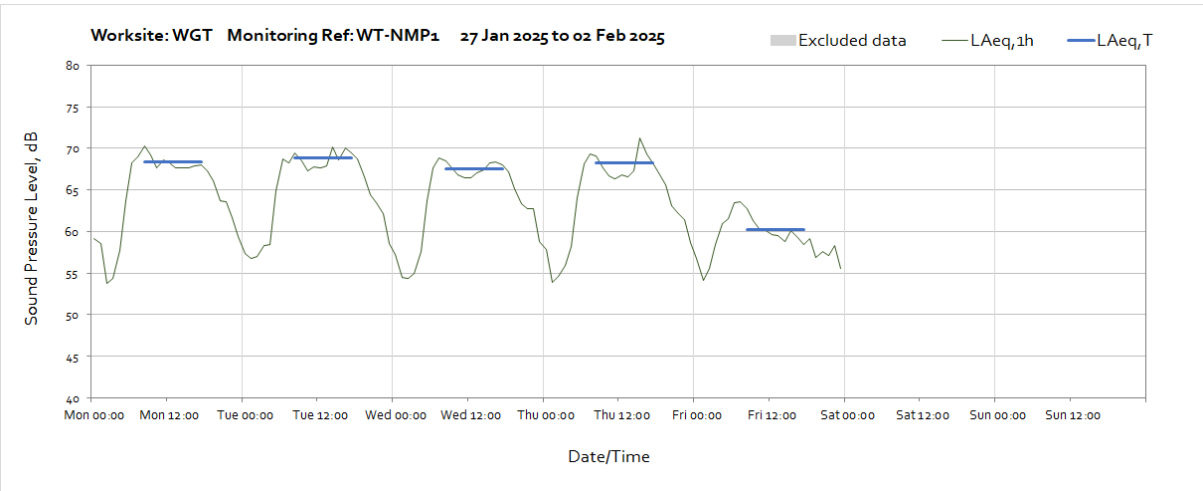
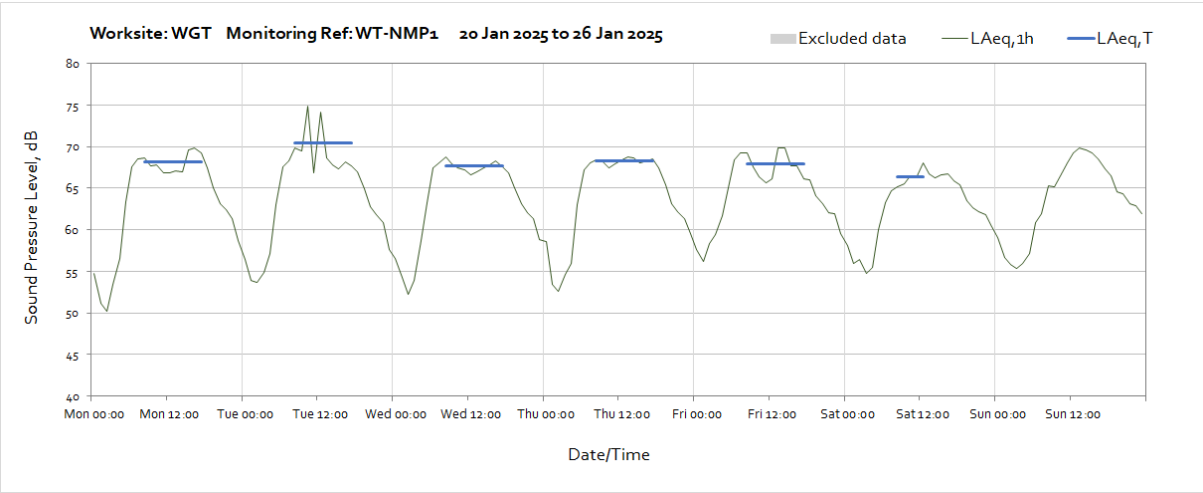
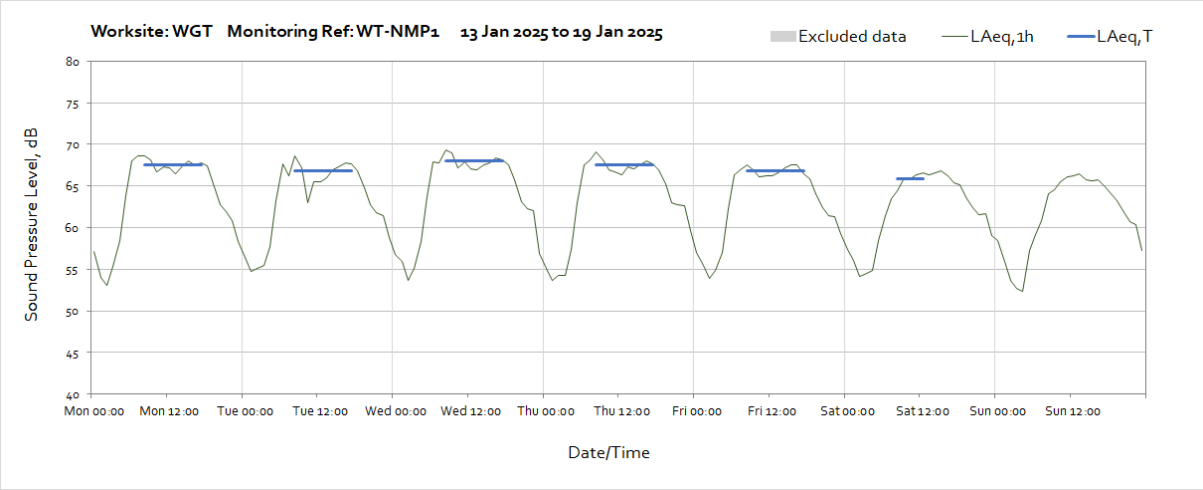




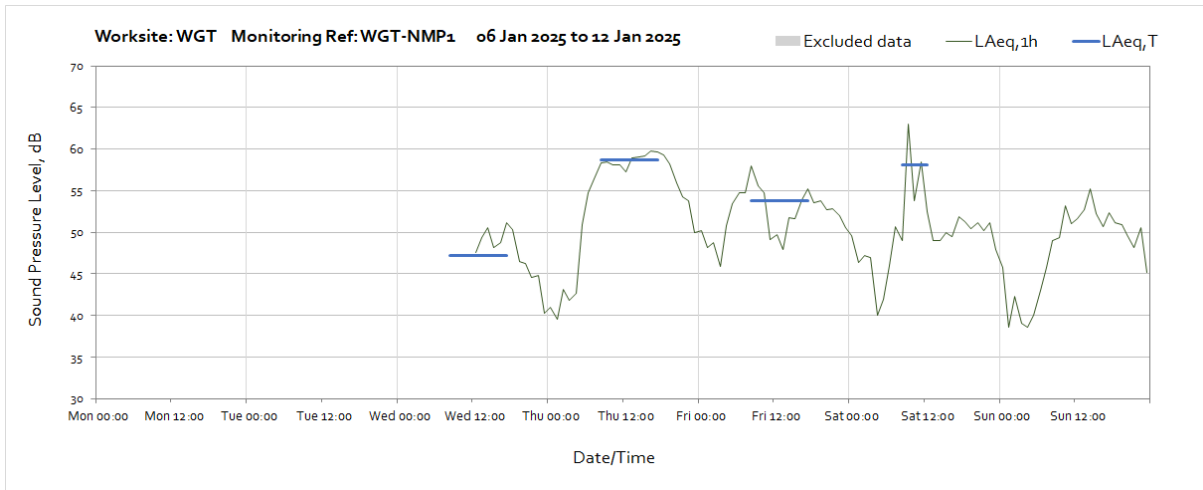


Worksite: WGT - Monitoring Ref: WT-NMP1

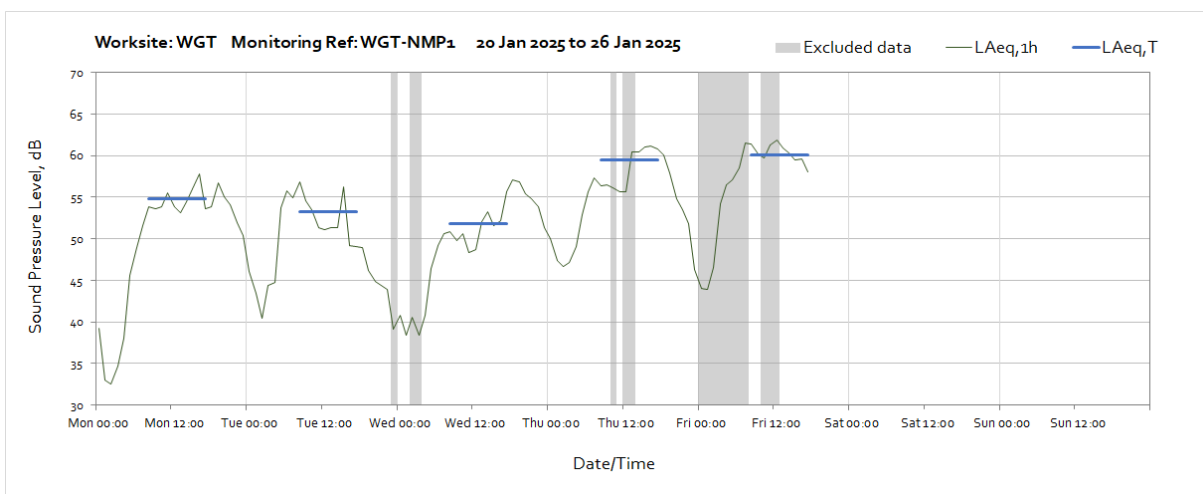
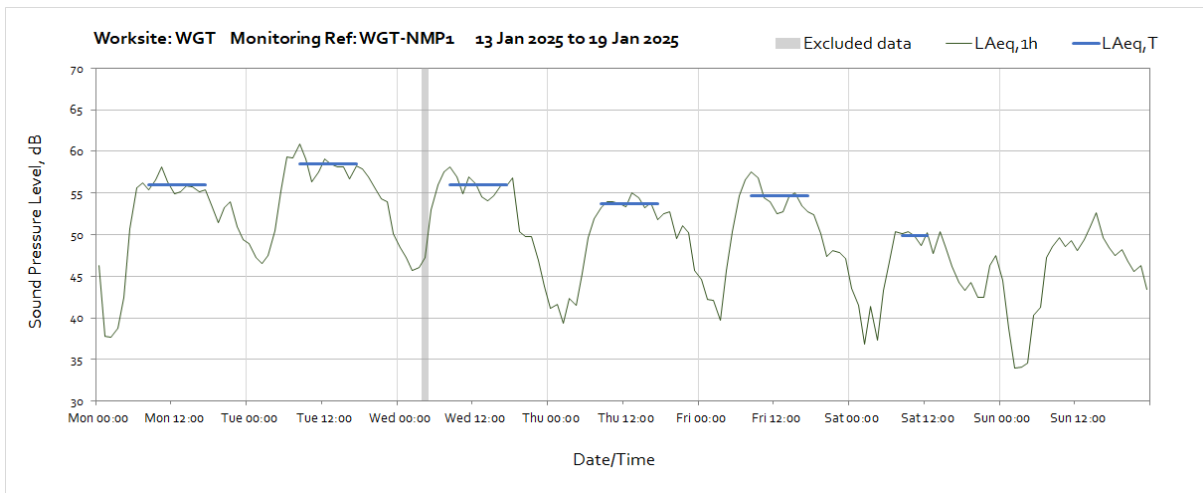




Worksite: WGT – Monitoring Ref: WGT-NMP1

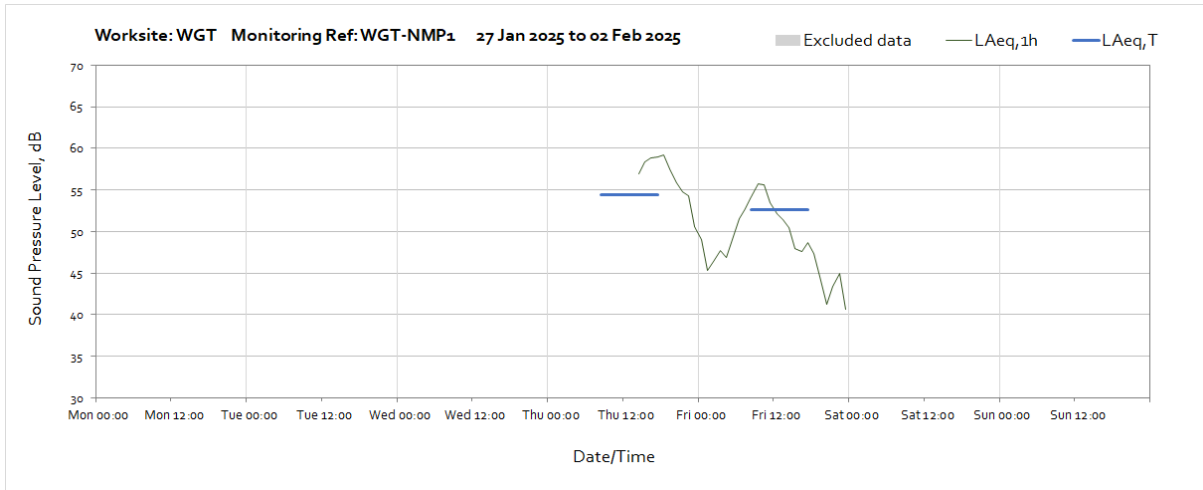


Note: Missing data from the start of the month until 13:00 on Wednesday 8th January was due to a depleted monitor battery.



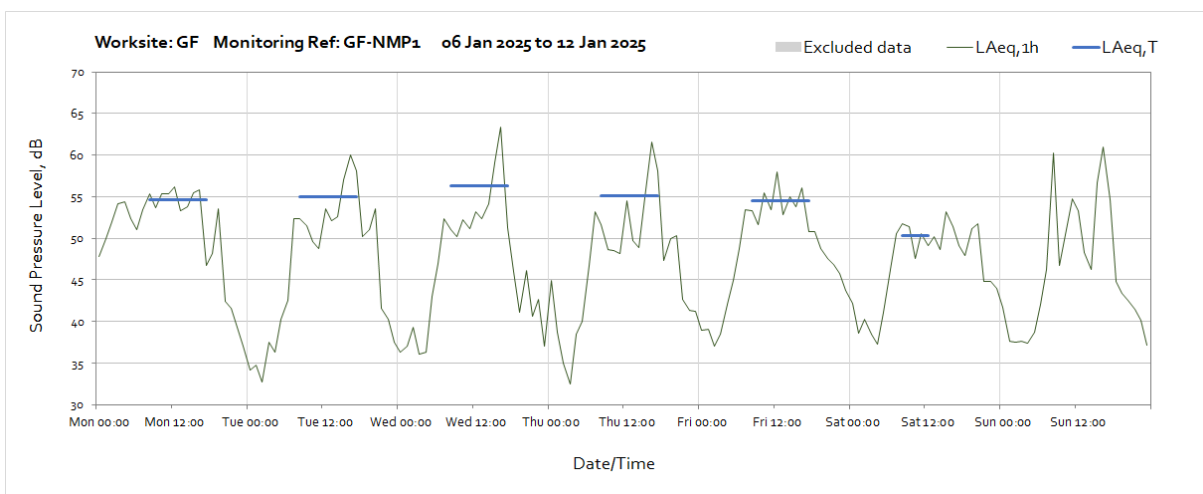
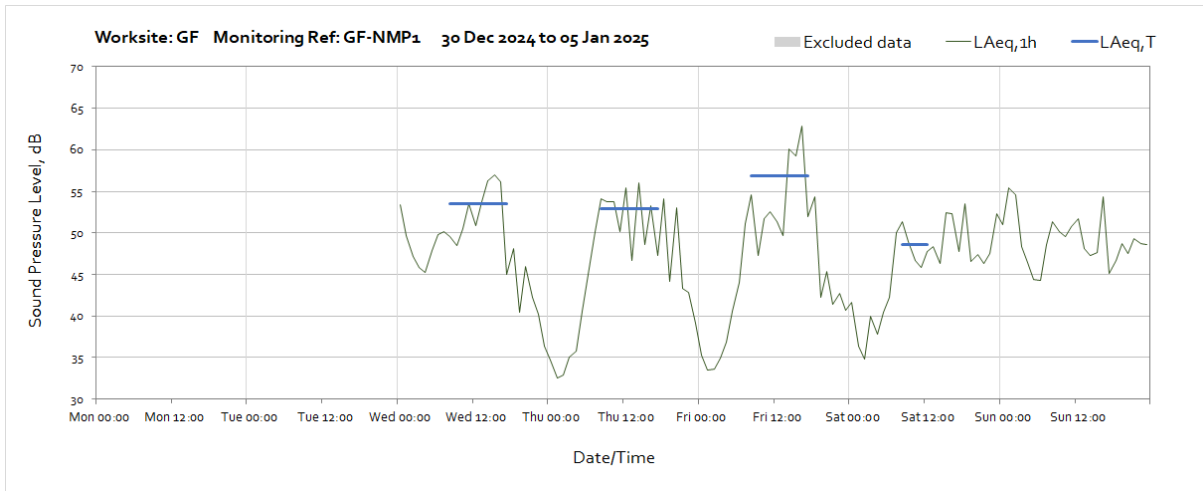
Note: Missing data between 18:00 on Friday 24th January until 14:00 on Thursday 30th January was due to a damaged battery cable causing a depleted monitor battery.

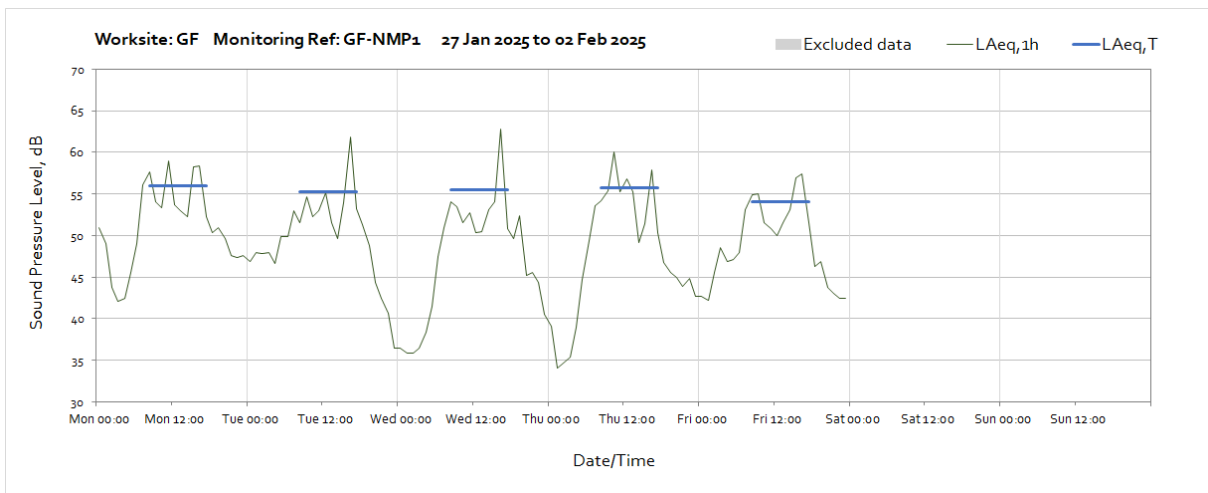
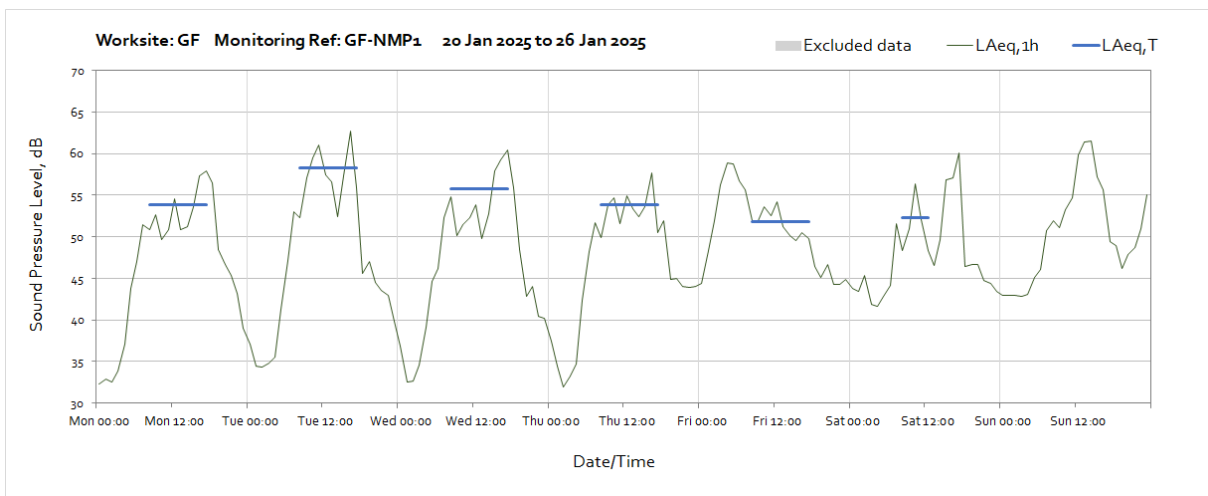
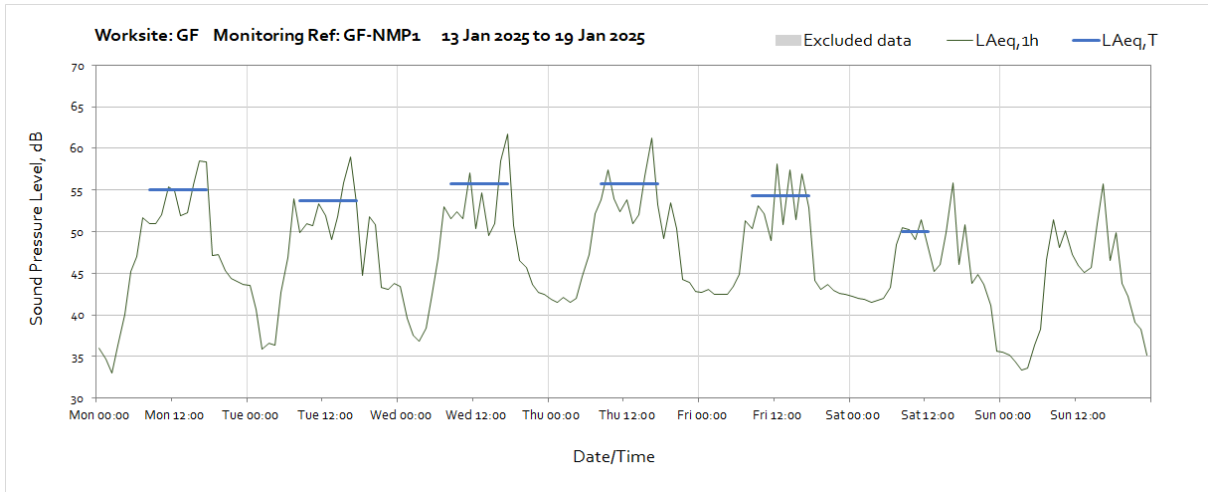
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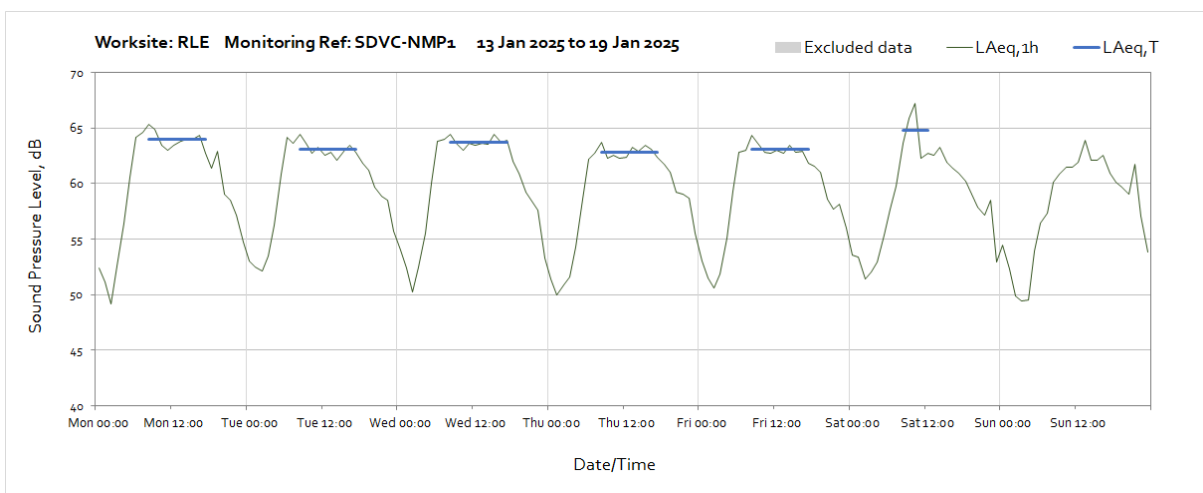
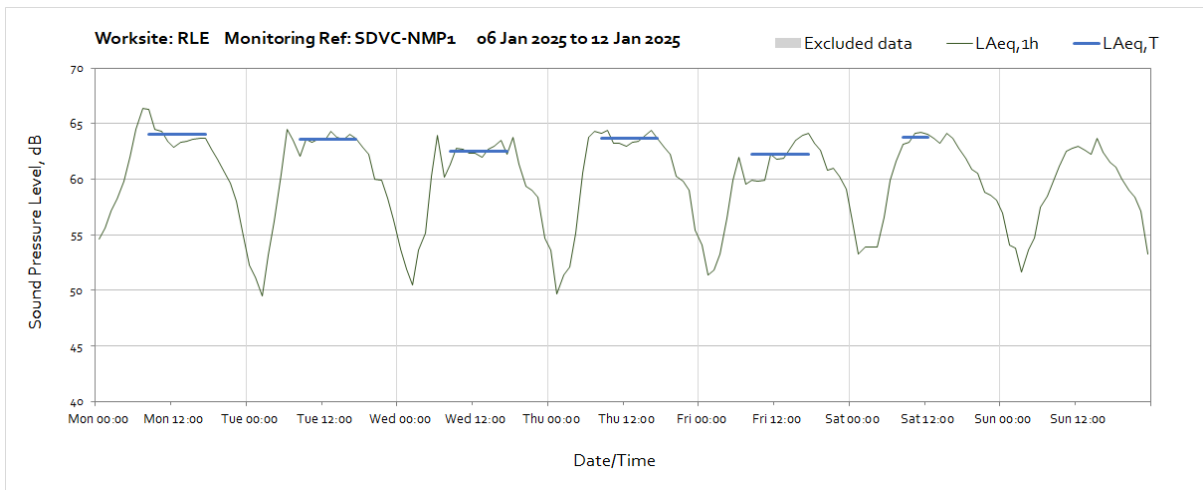
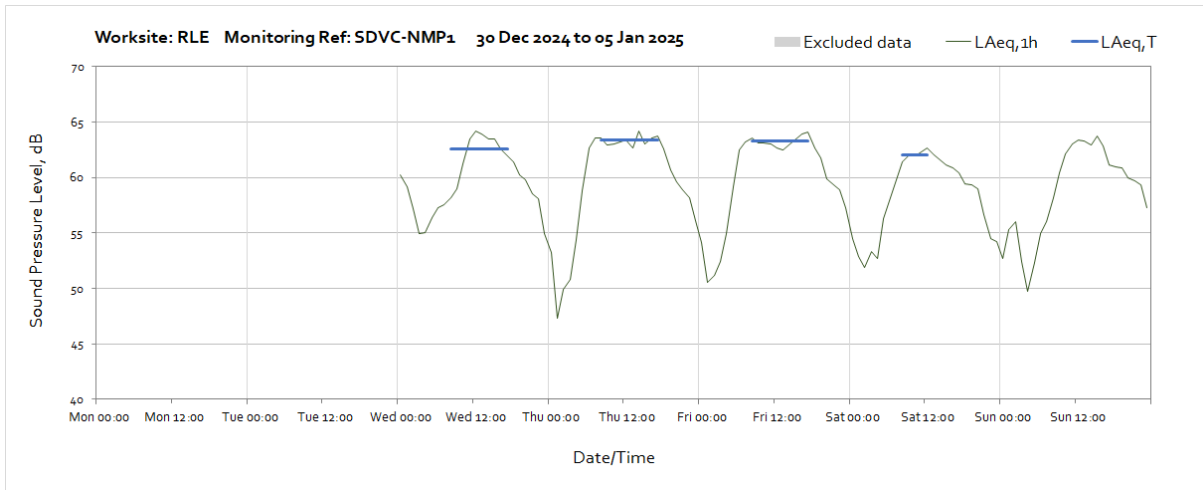
Note: Missing data between 18:00 on Friday 24th January until 14:00 on Thursday 30th January was due to a damaged battery cable causing a depleted monitor battery.

Worksite: GF – Monitoring Ref: GF-NMP1

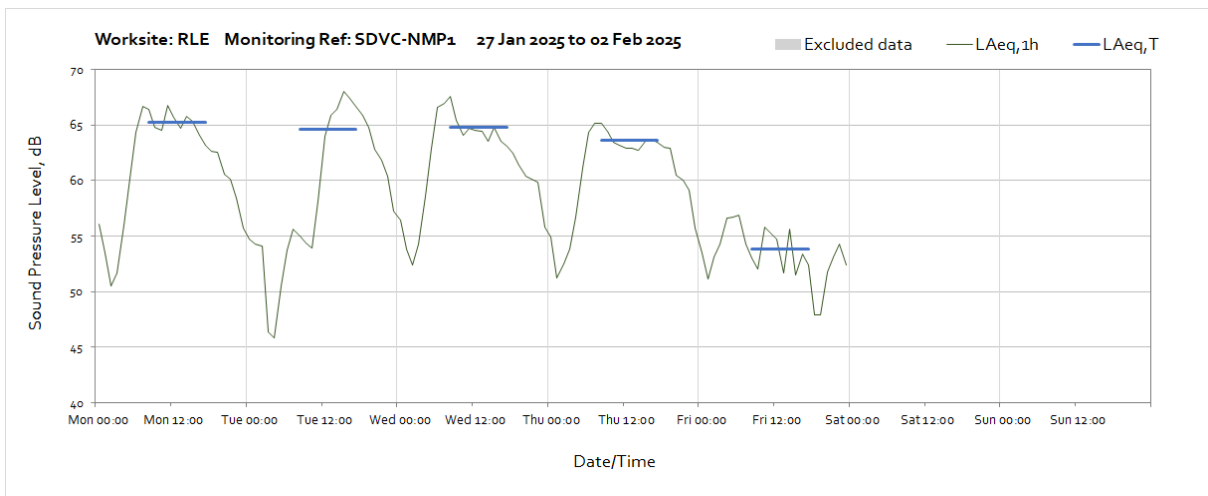
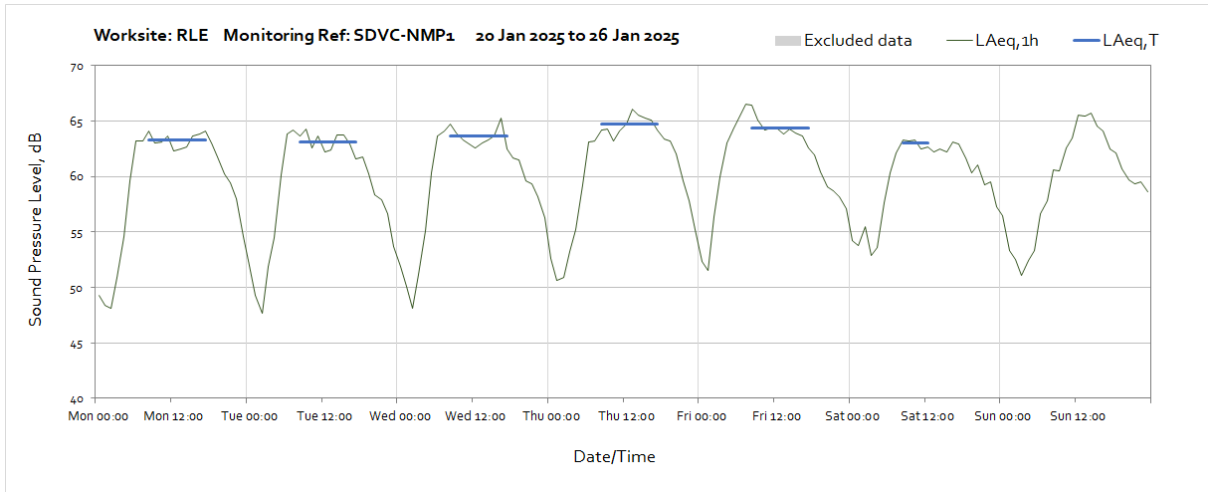




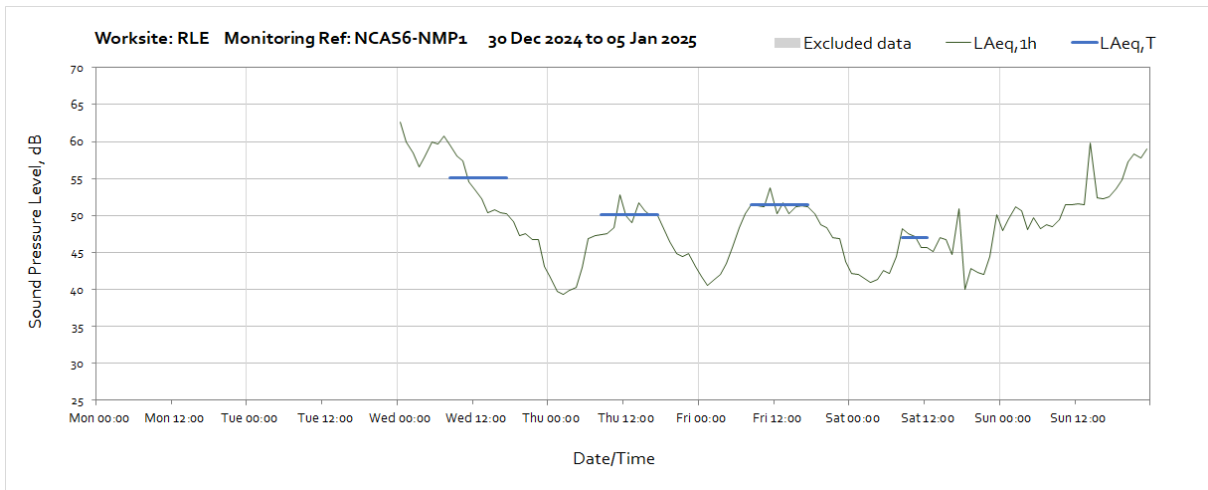
Worksite: RLE – Monitoring Ref: SDVC-NMP1

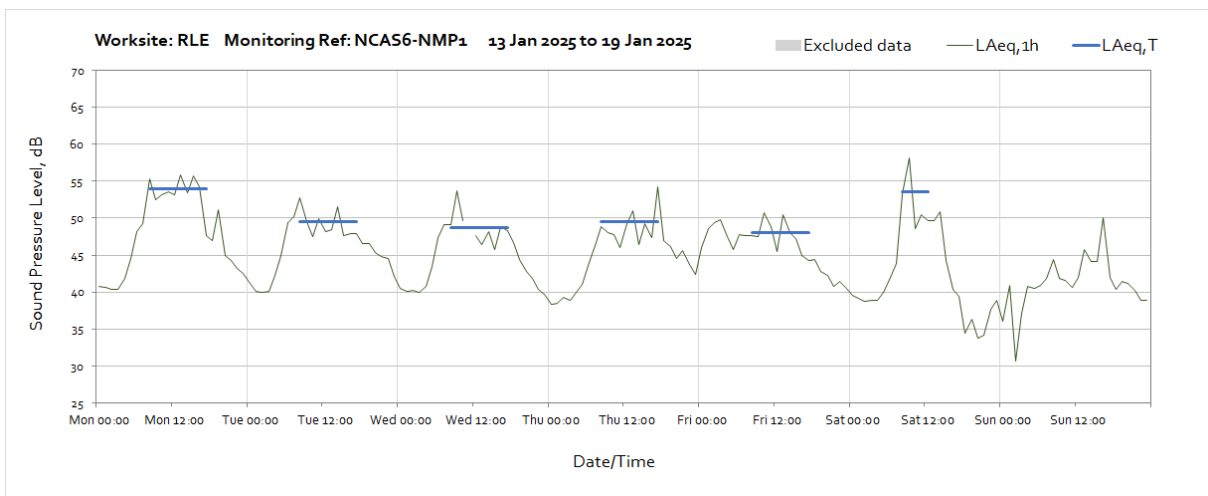
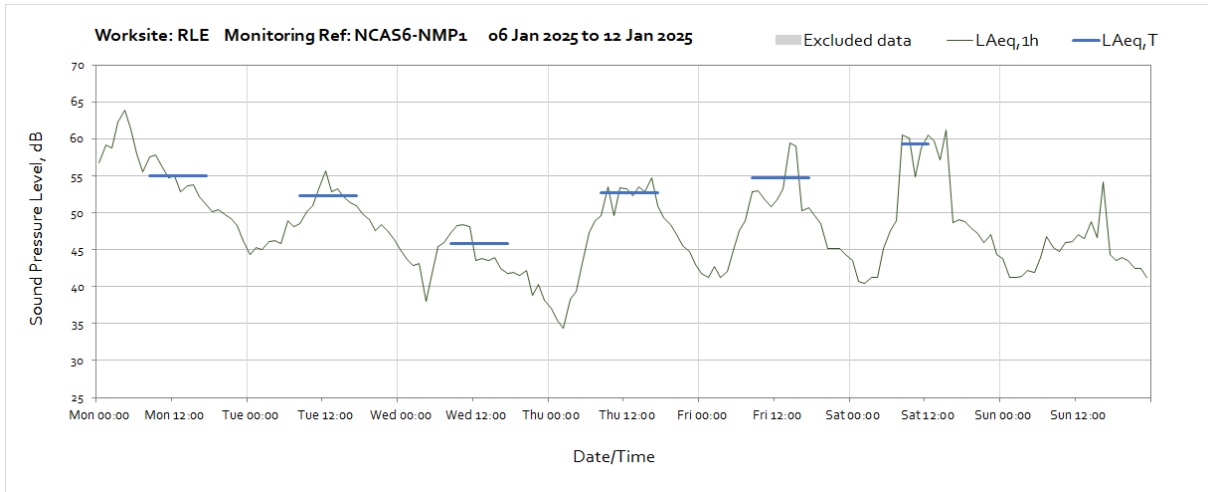


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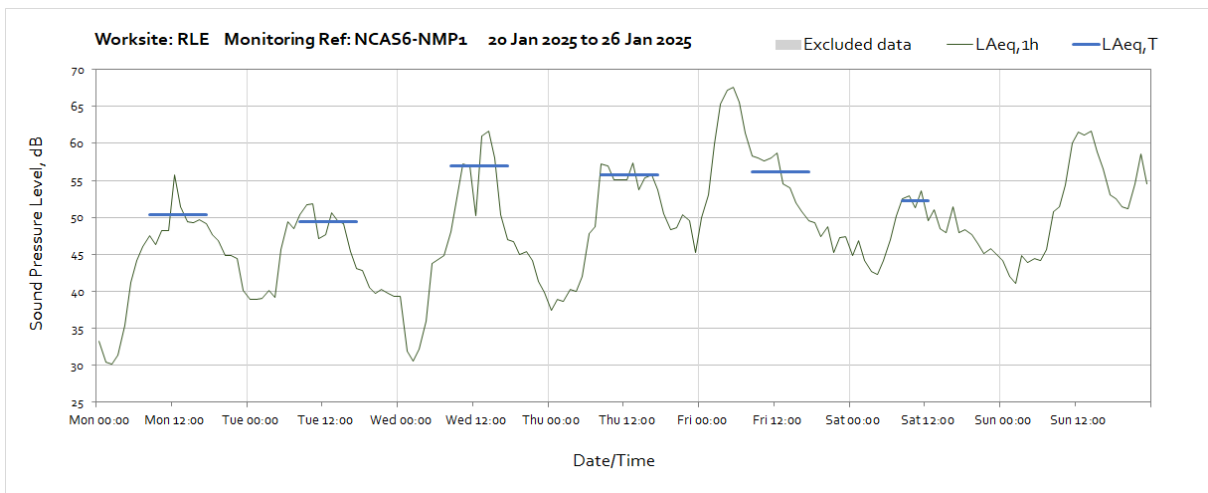


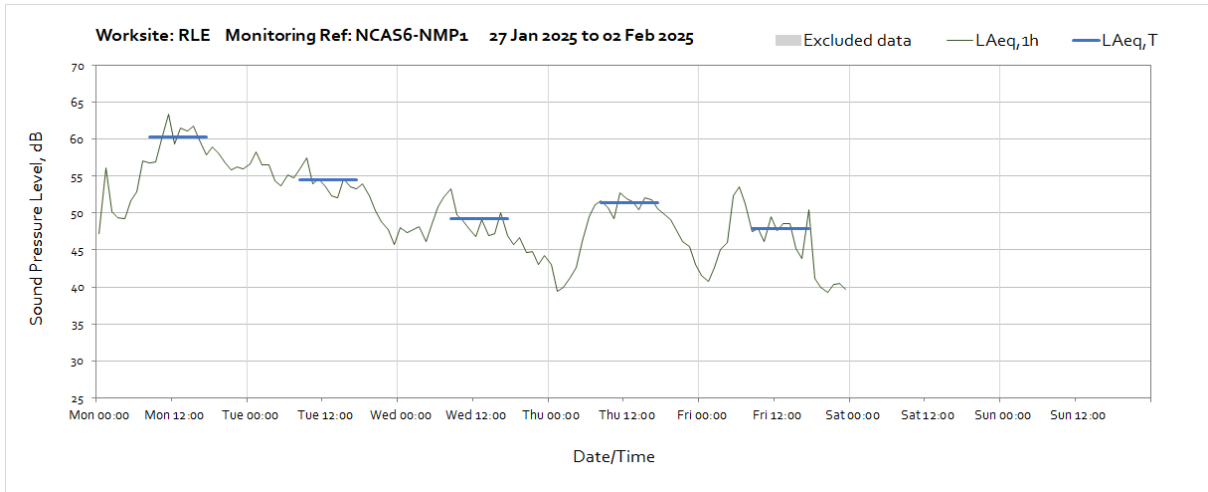
Worksite: RLE - Monitoring Ref: NCAS6-NMP1



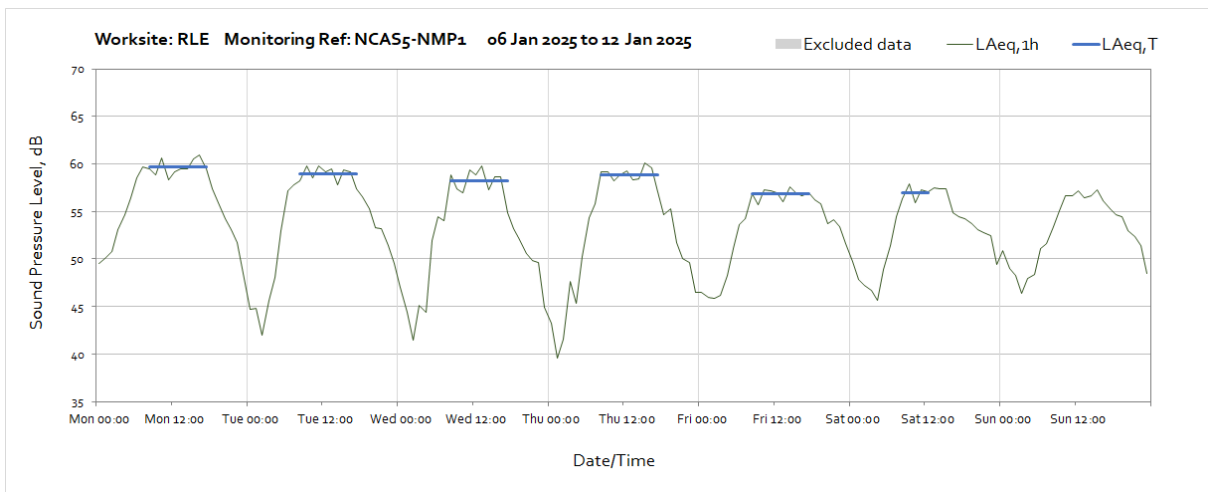
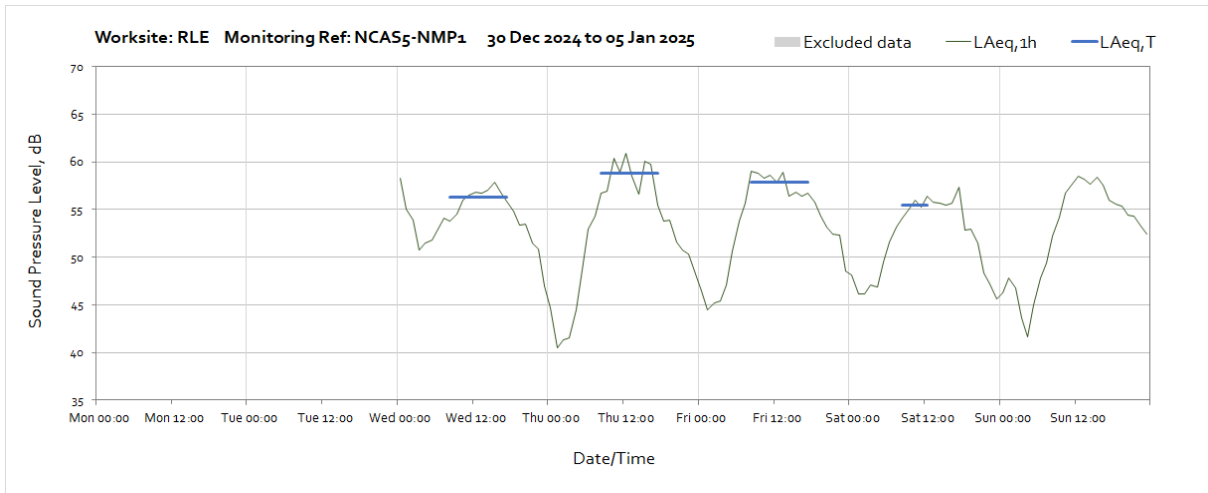


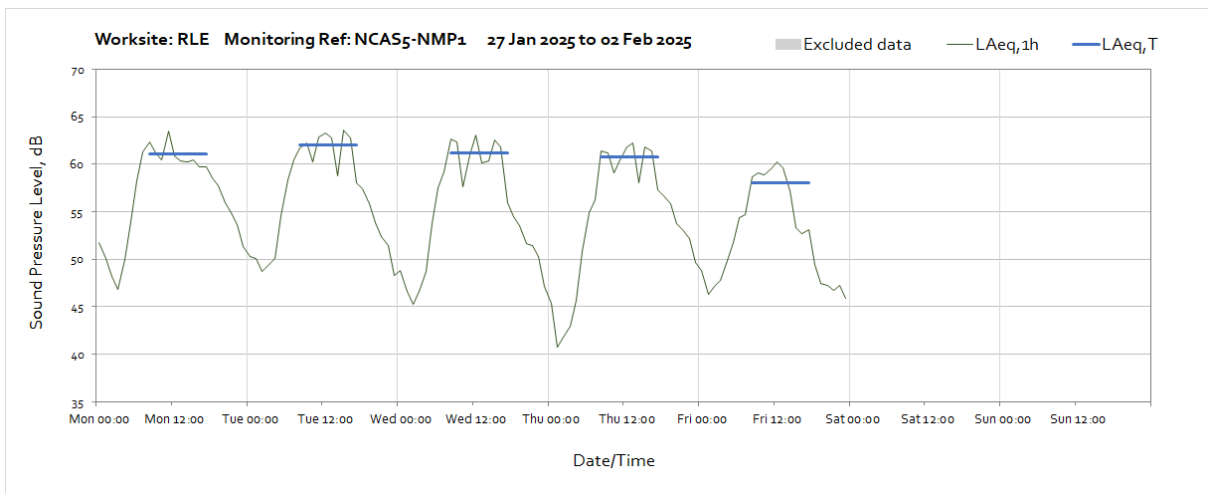
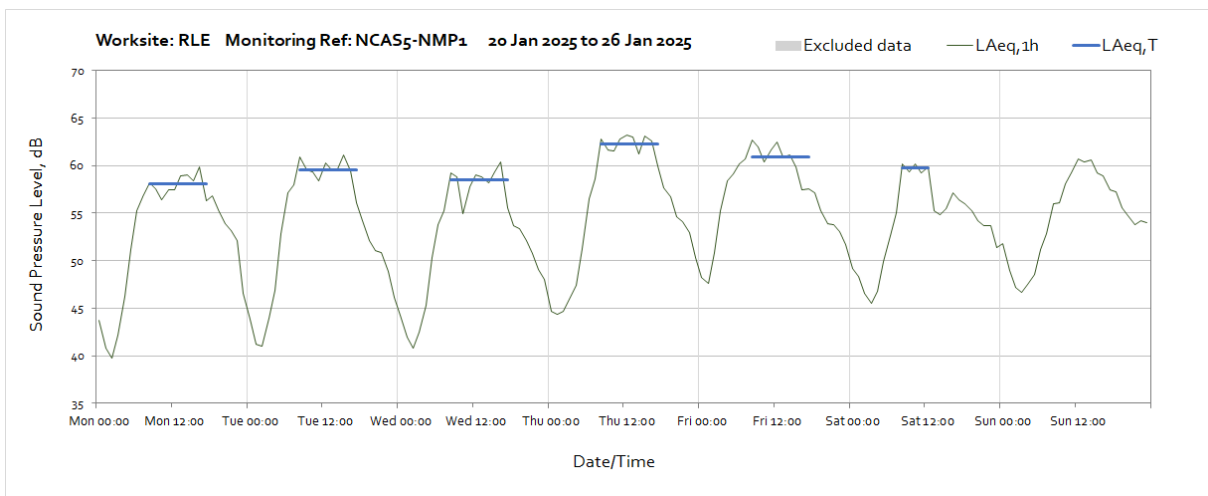
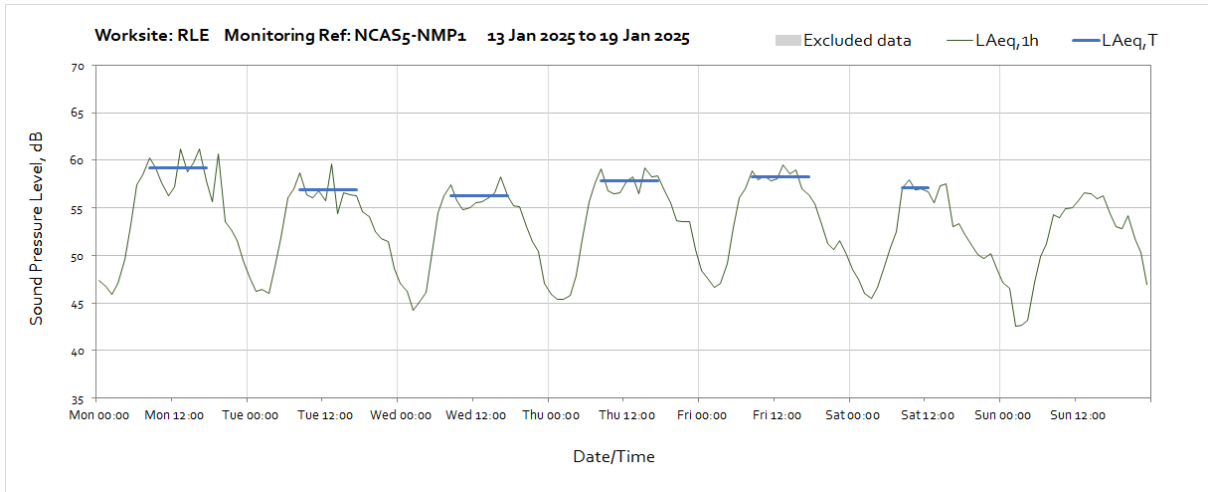
Note: Missing data between 11:00 and 12:00 on Wednesday 15th January was due to monitor maintenance.



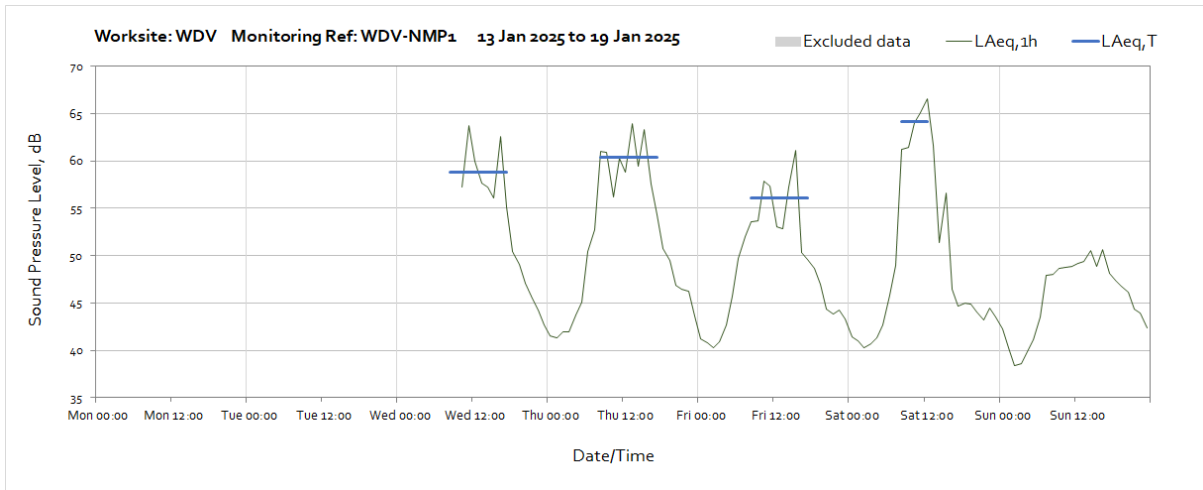


Worksite: RLE – Monitoring Ref: NCAS5-NMP1

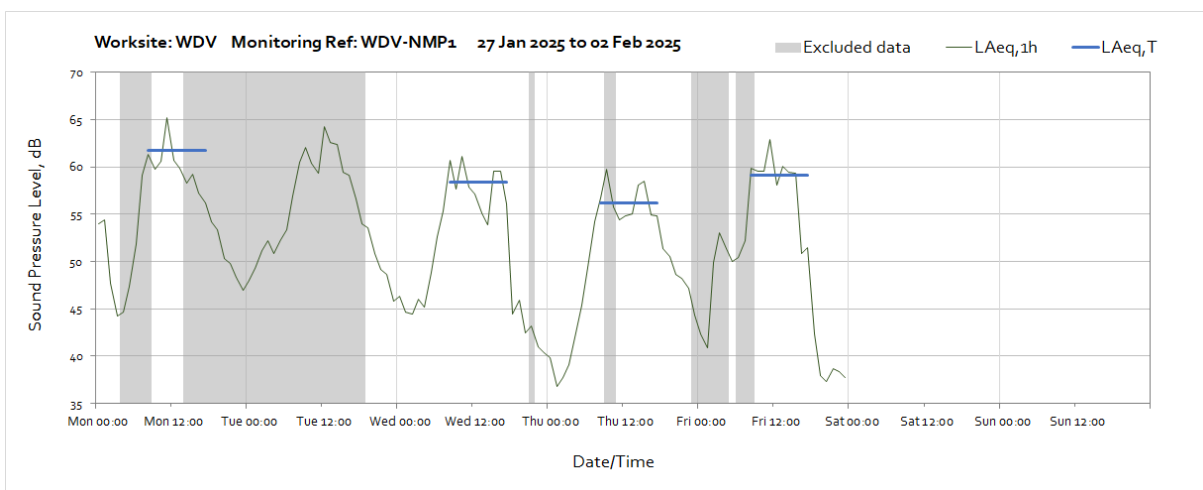
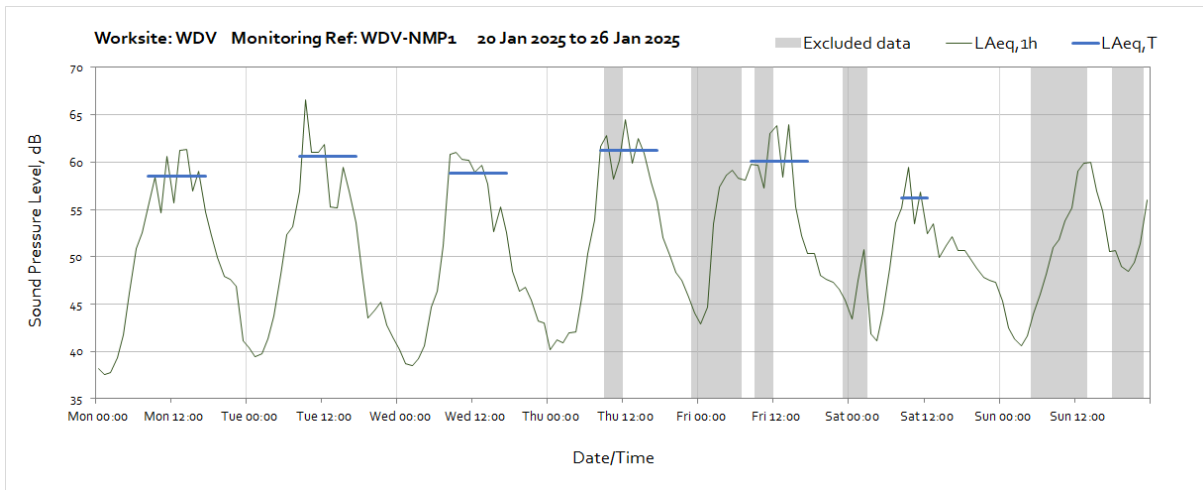




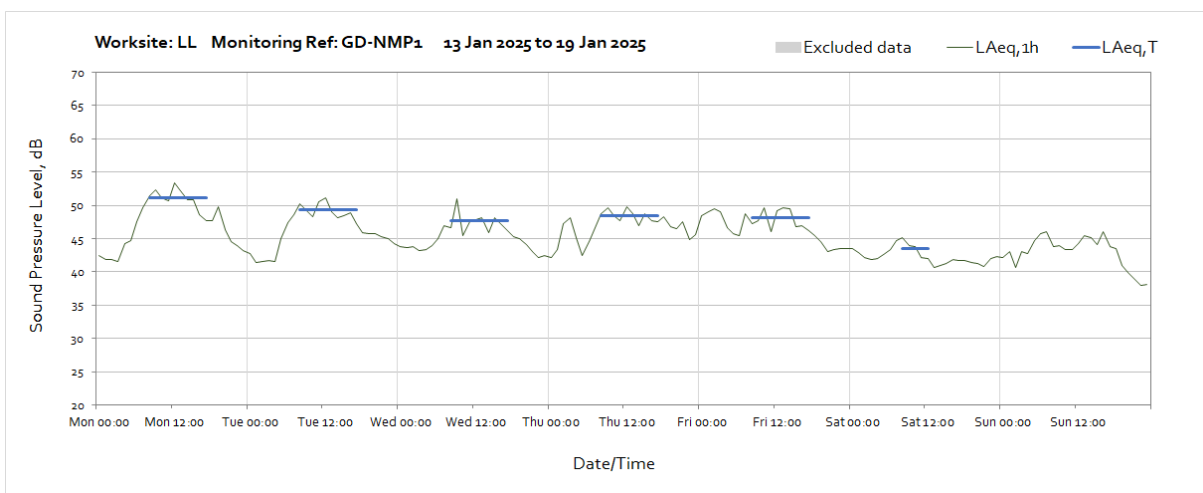
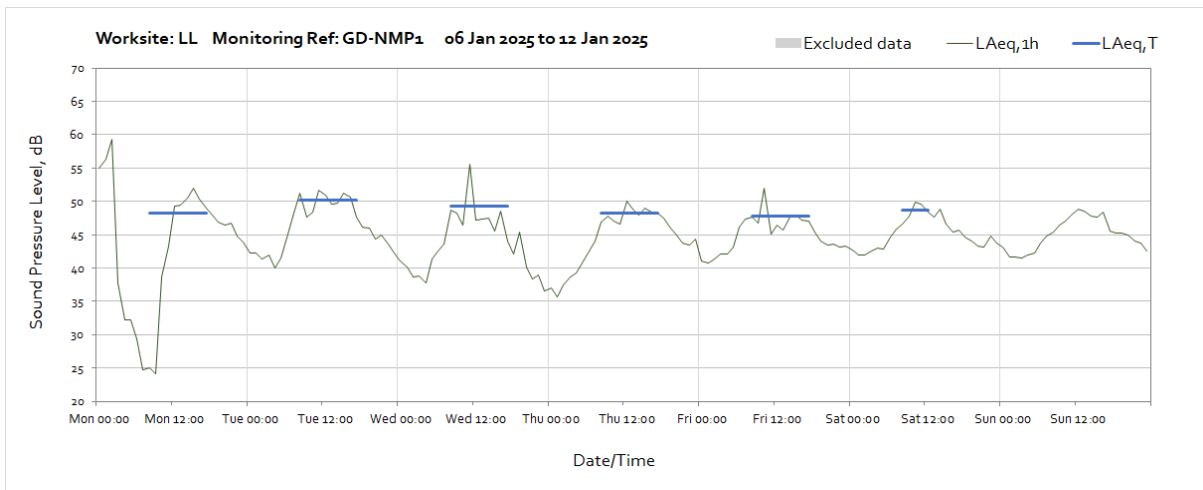
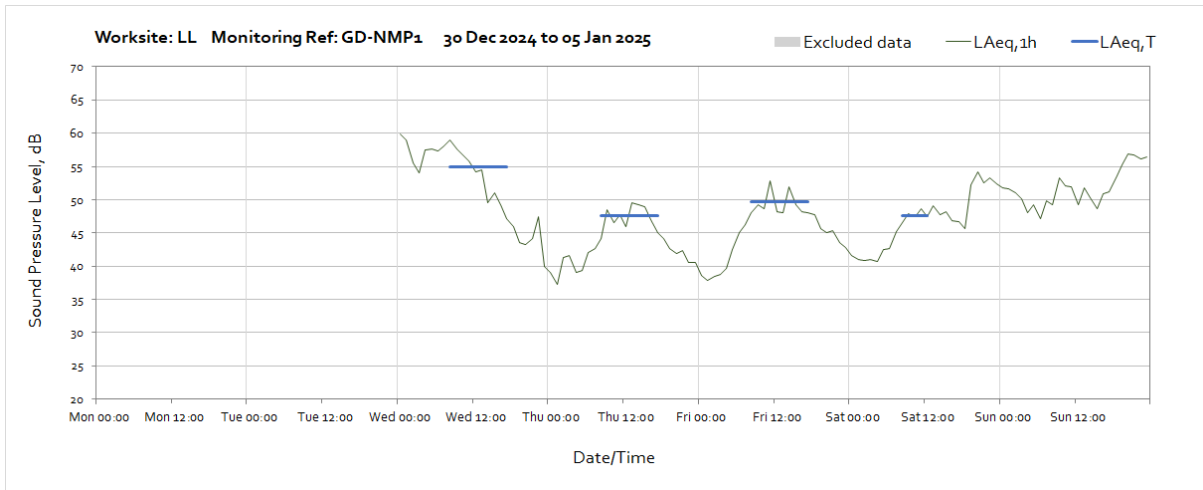
Worksite: WDV – Monitoring Ref: WDV-NMP1



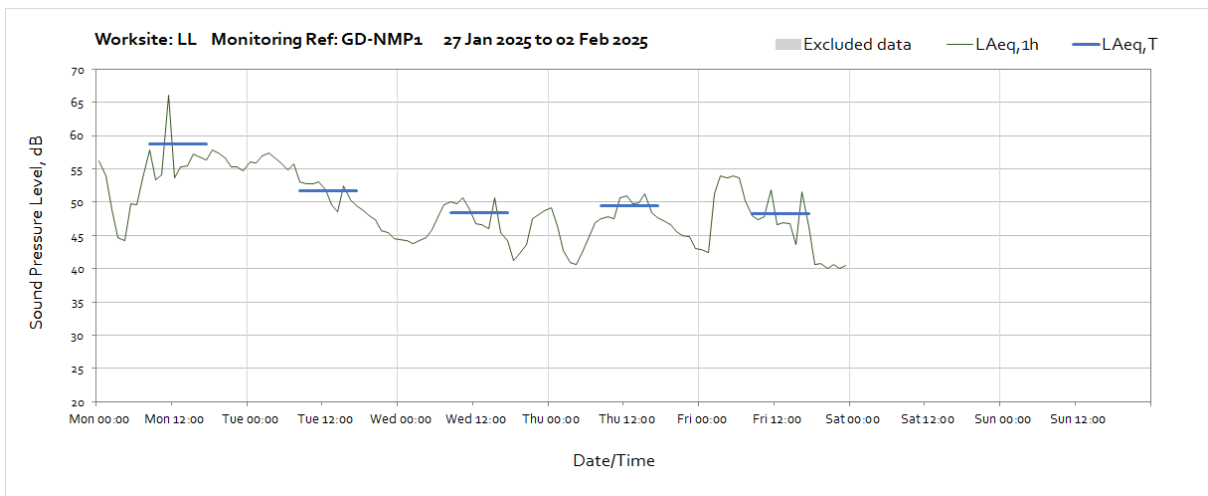
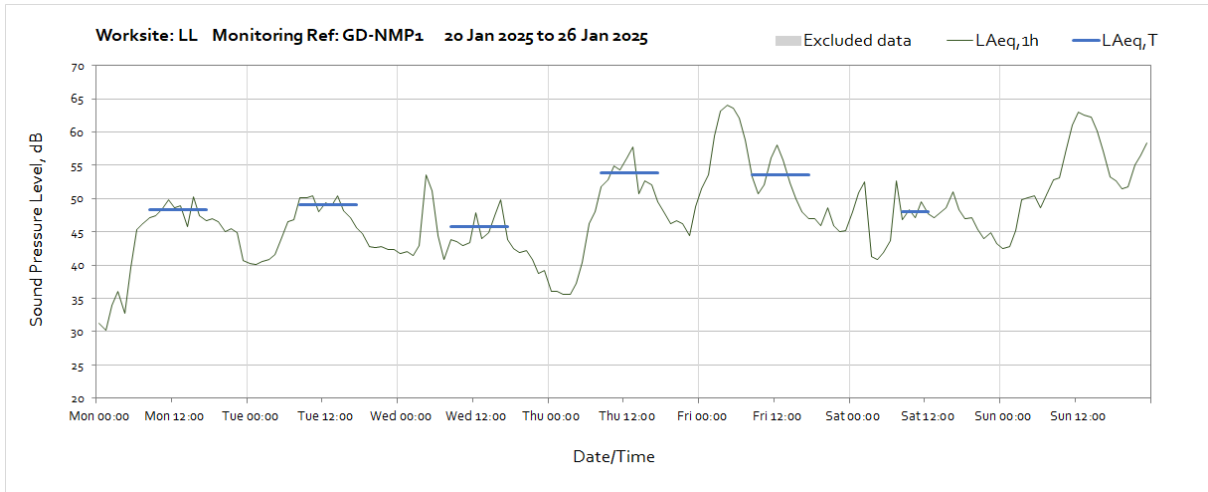
Note: Missing data from the start of the month until 10:00 on Wednesday 15th January was due to a communication error between the monitoring station and server.



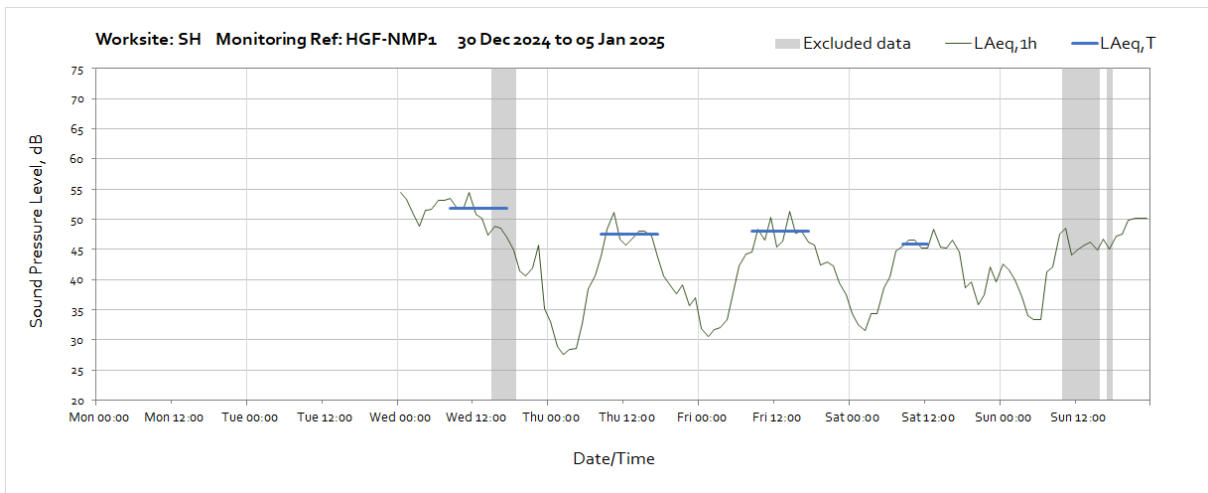
Worksite: LL - Monitoring Ref: GD-NMP1

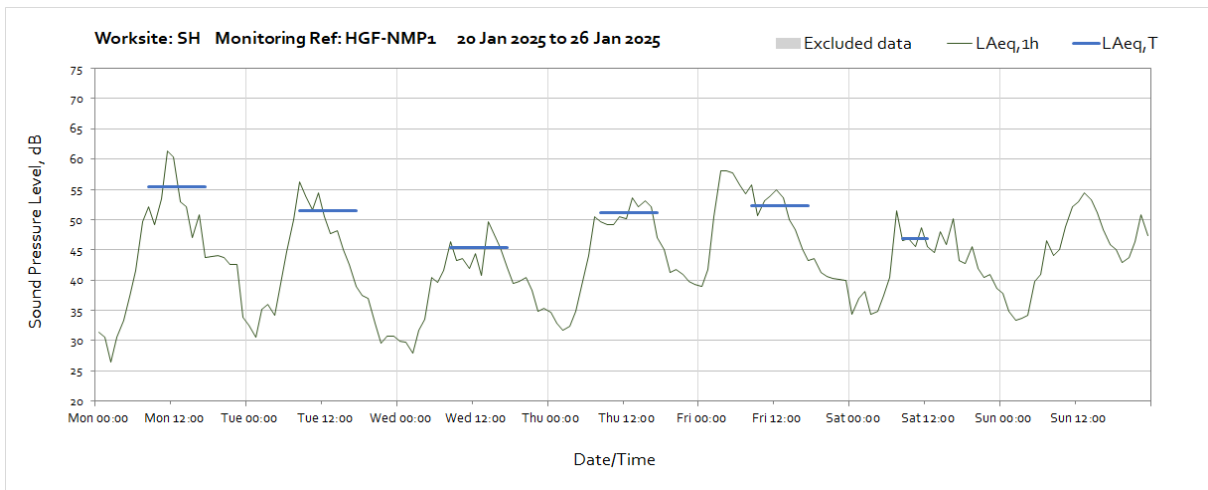
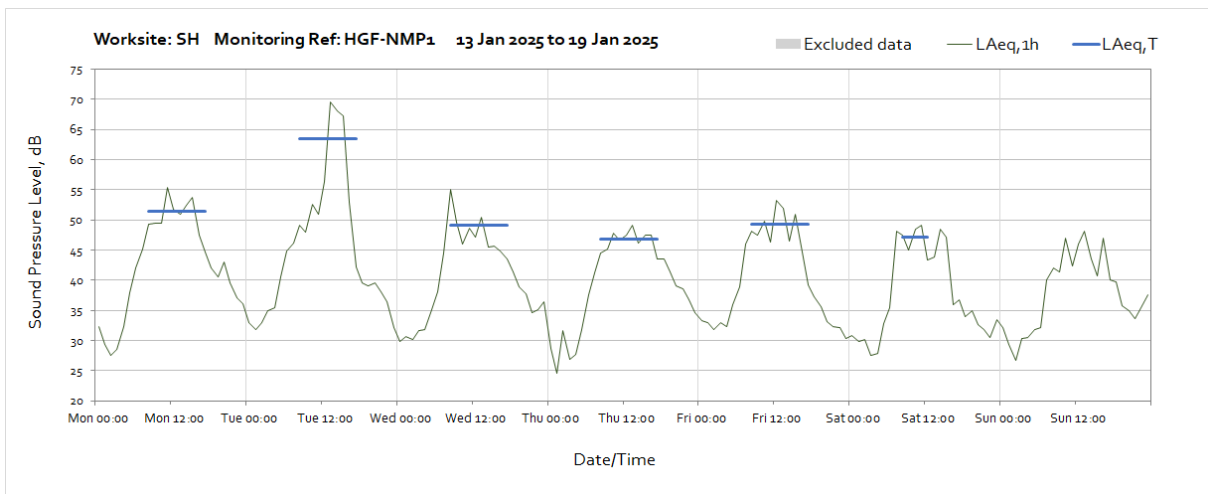
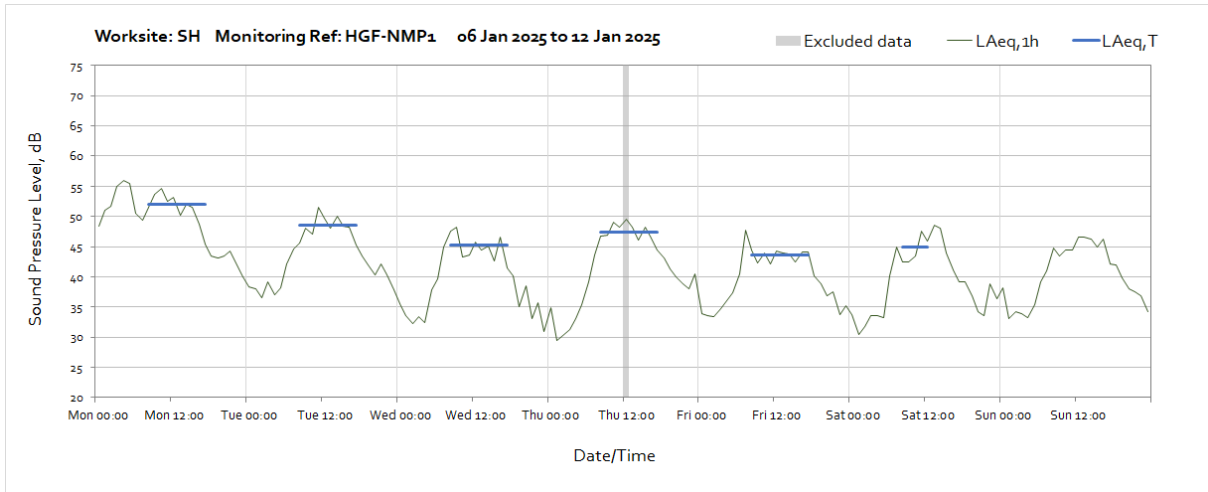


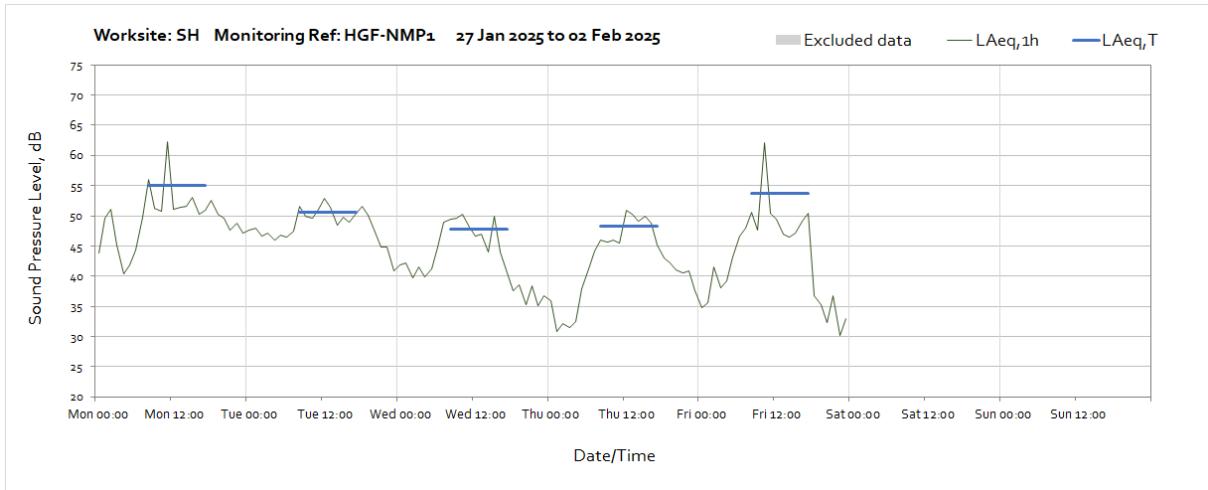
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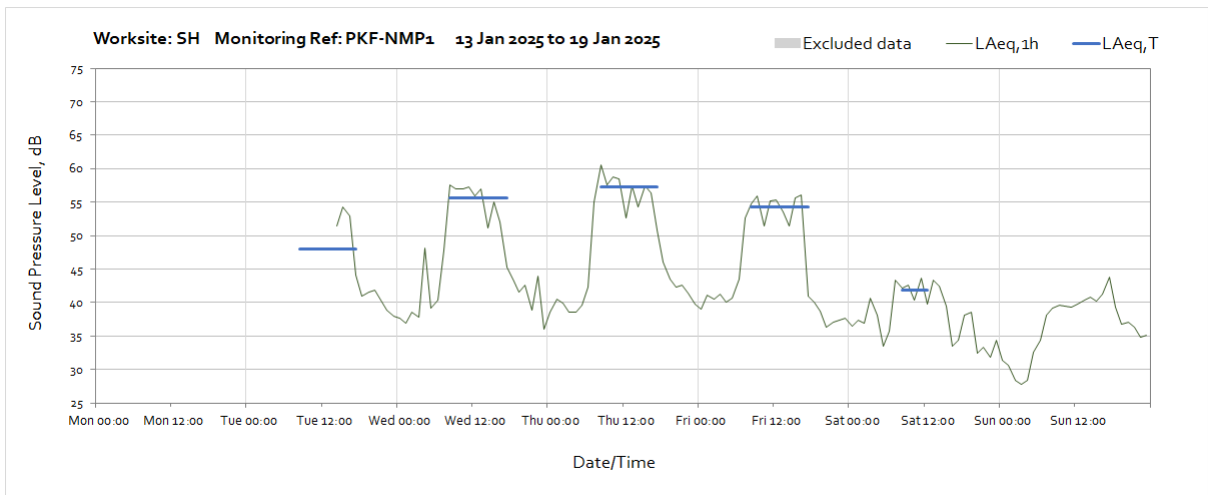
Worksite: SH - Monitoring Ref: HGF-NMP1



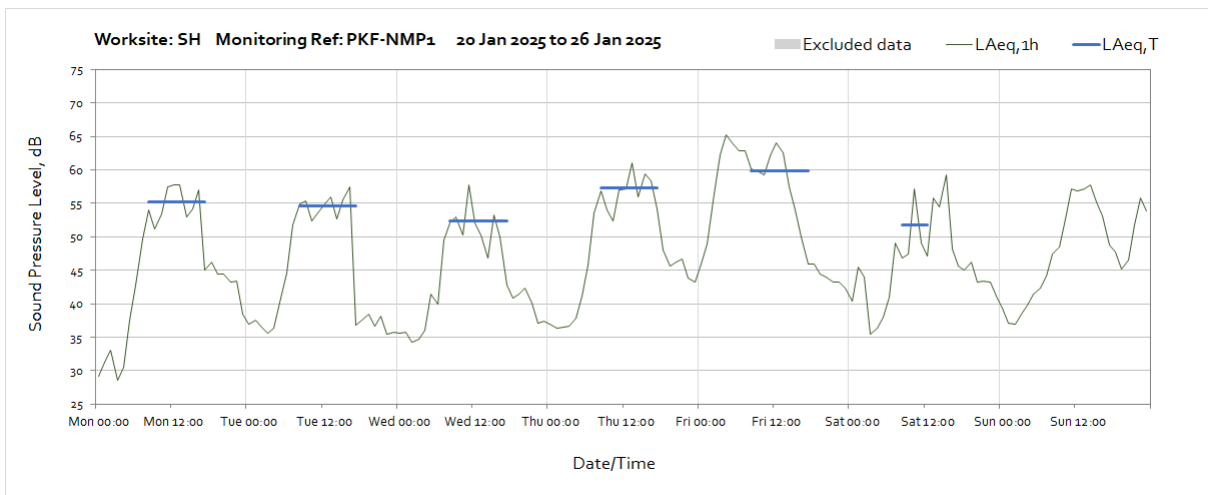


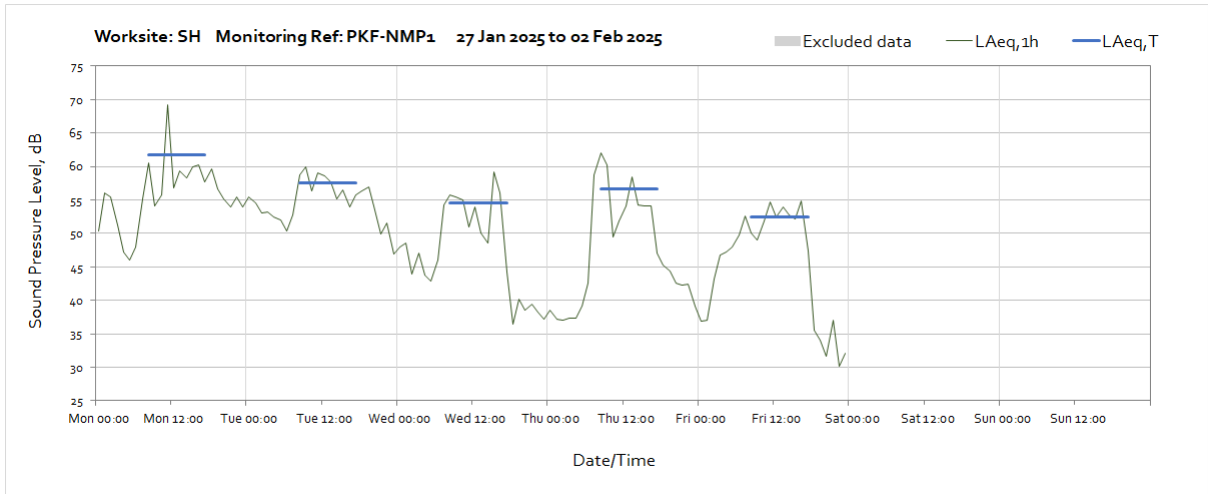


Worksite: SH – Monitoring Ref: PKF-NMP1

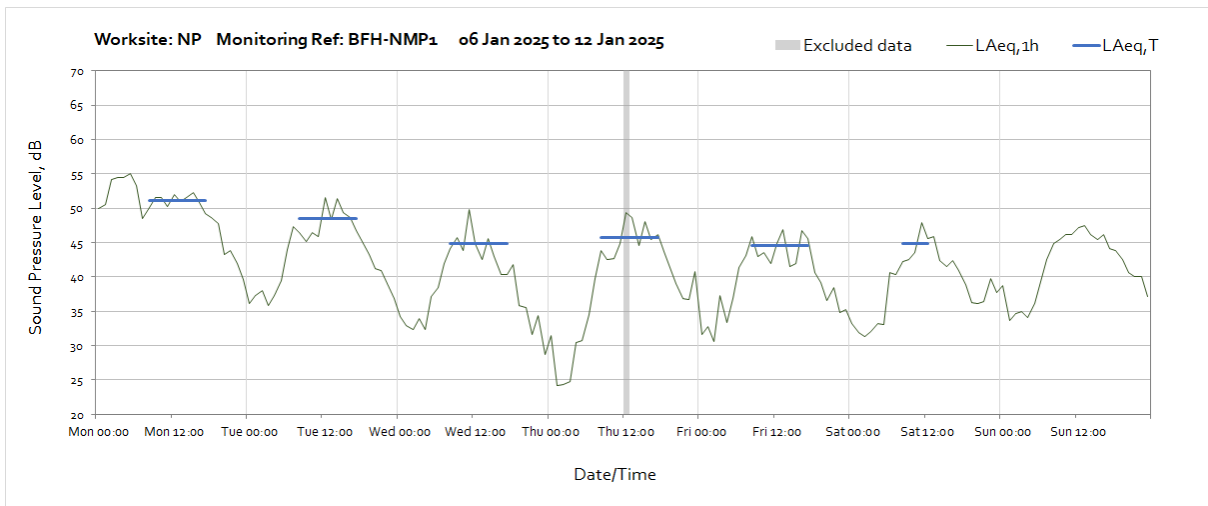
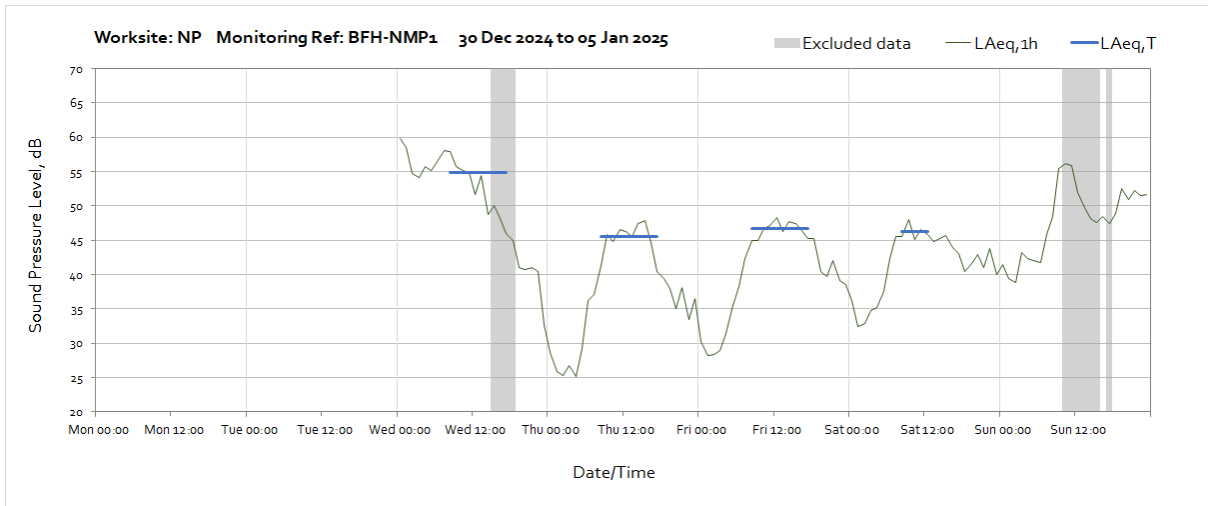


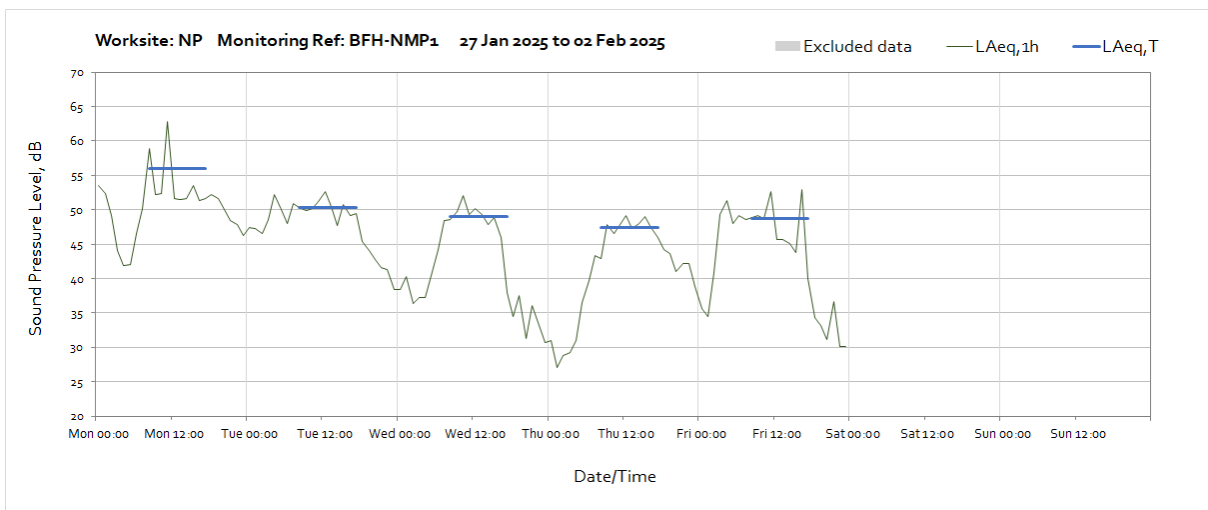
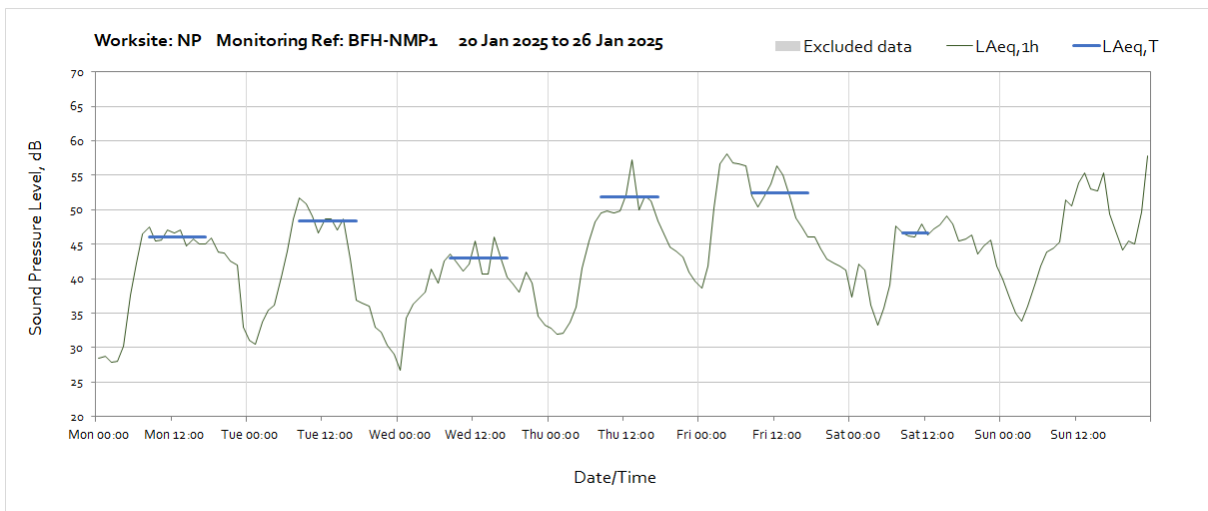
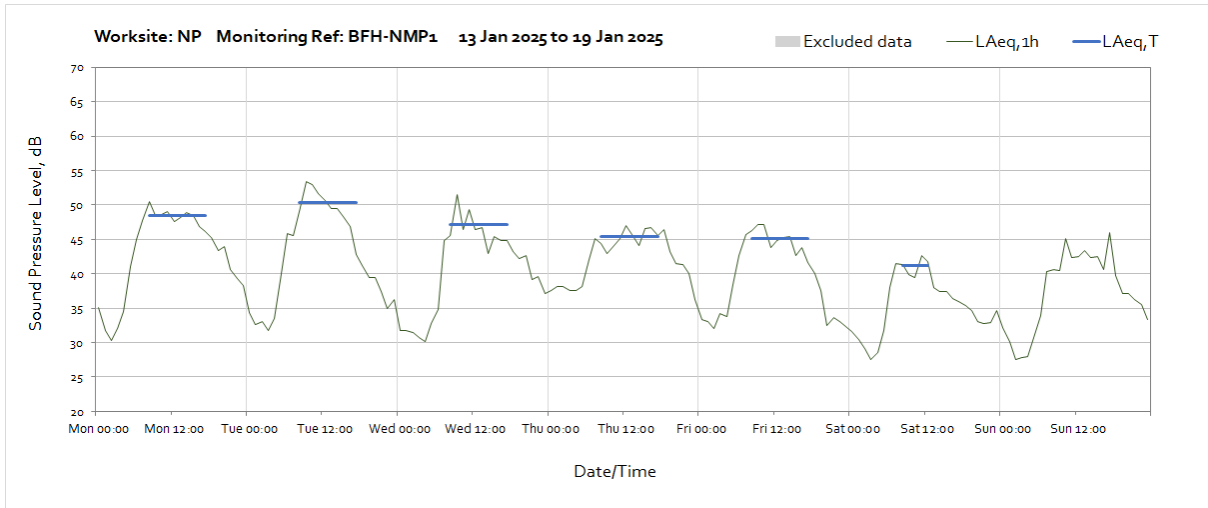
Note: Missing data from the start of the month until 14th January was due to a loss of power to the monitoring station caused by poor weather conditions preventing sufficient light reaching the solar panel.



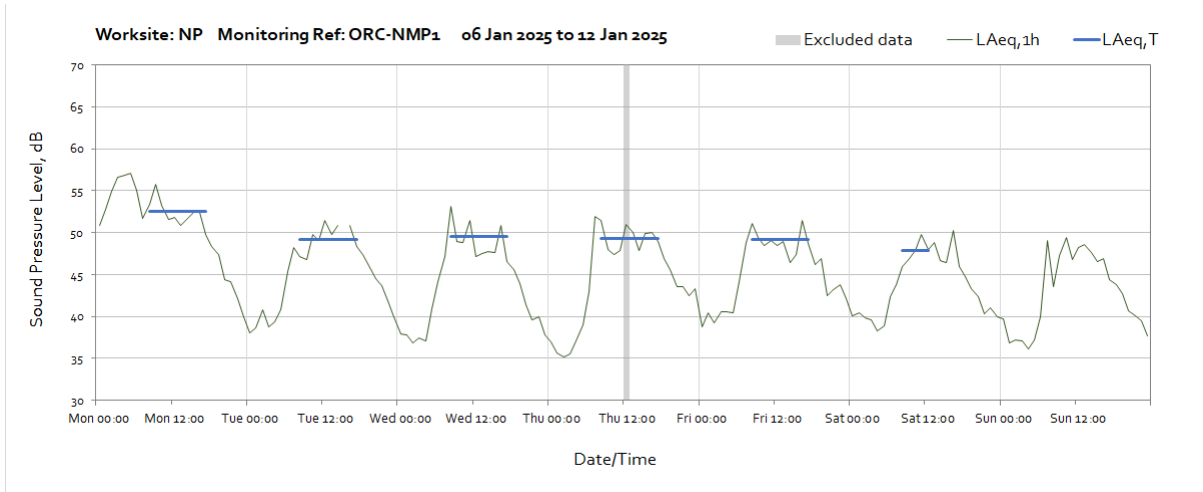
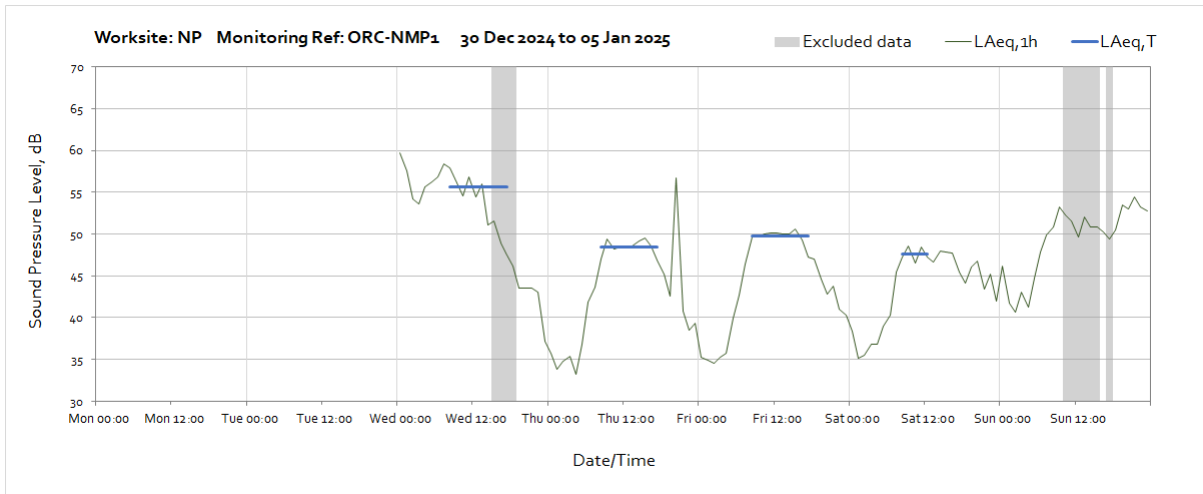


Worksite: NP - Monitoring Ref: BFH-NMP1

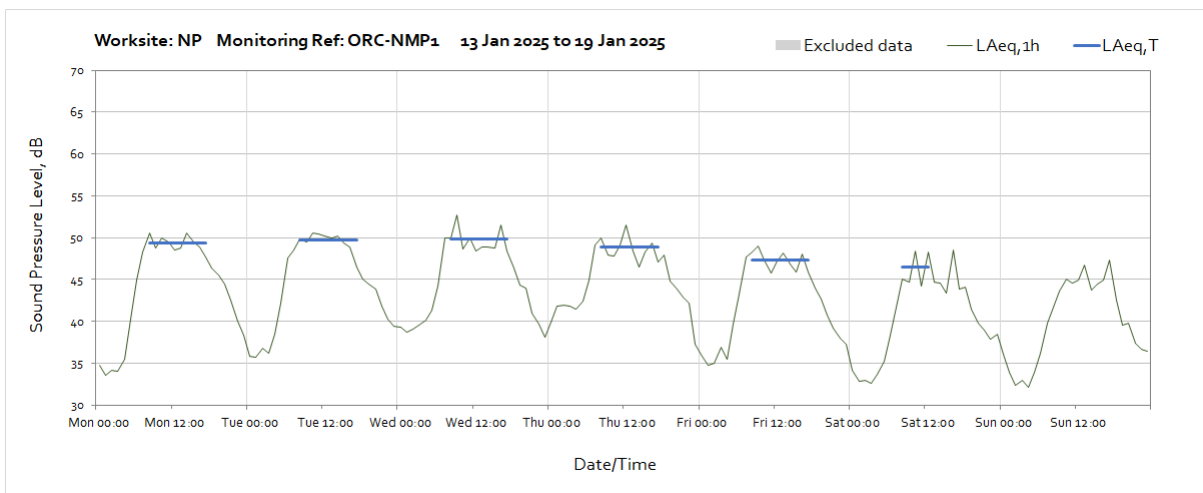




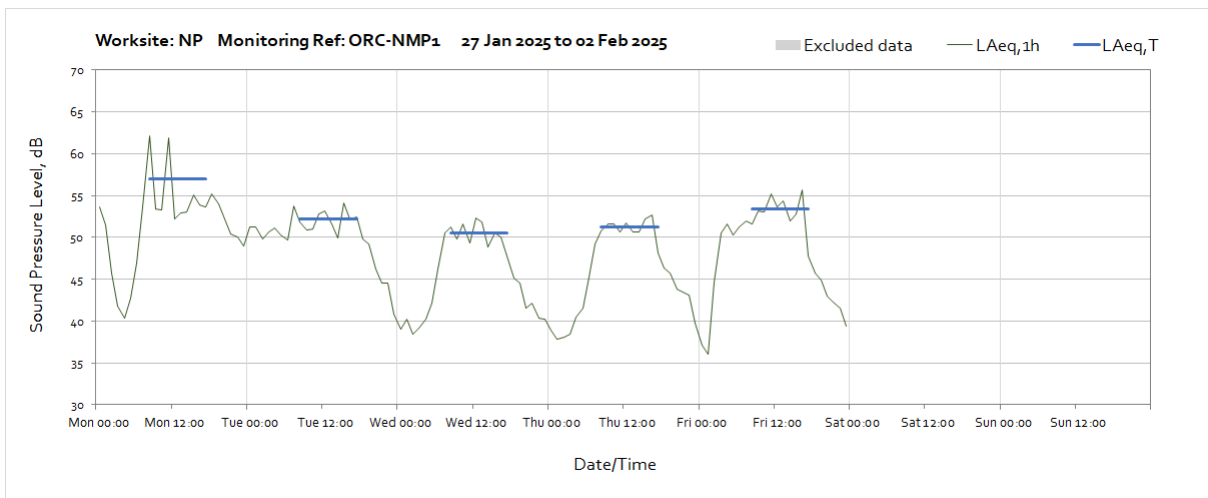
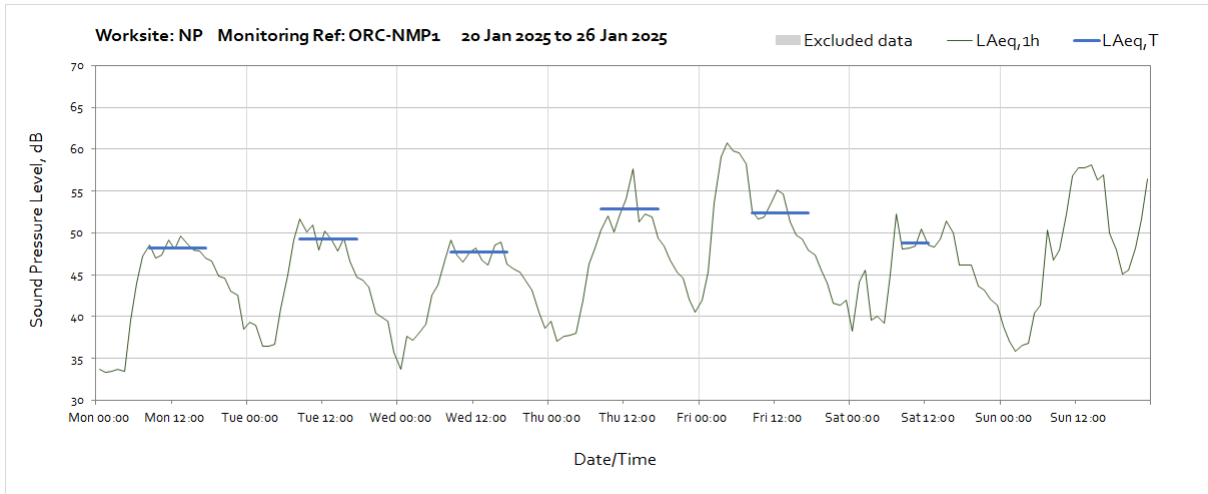
Worksite: NP – Monitoring Ref: ORC-NMP1



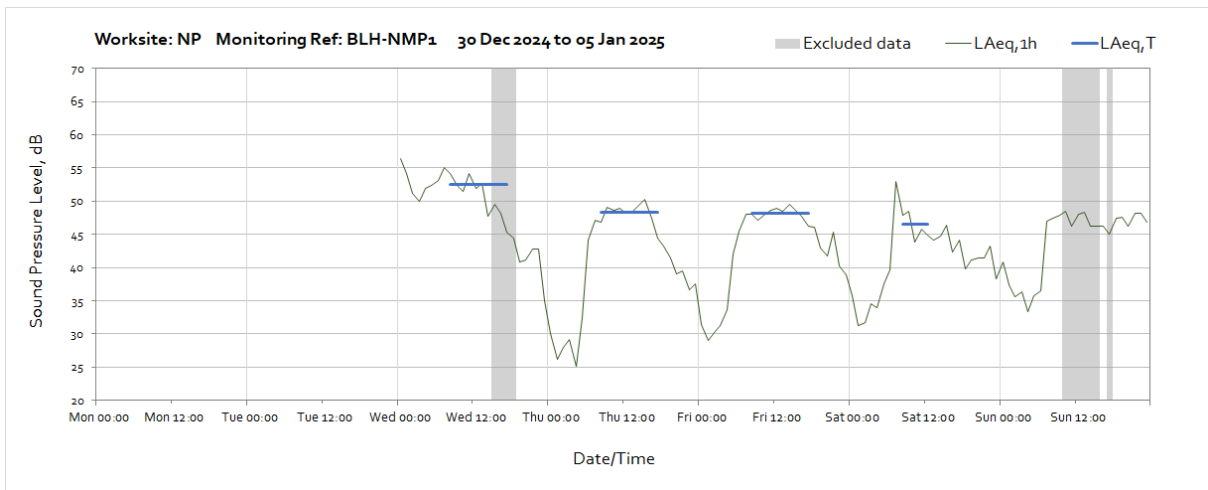
Note: Missing data between 15:00 and 16:00 on Tuesday 7th January was due to monitor field calibration.

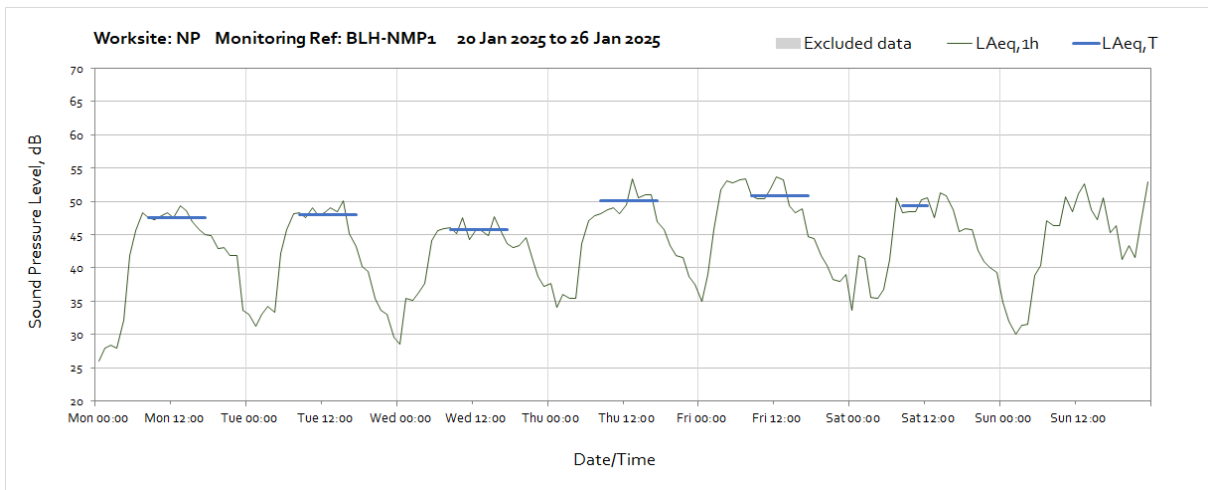
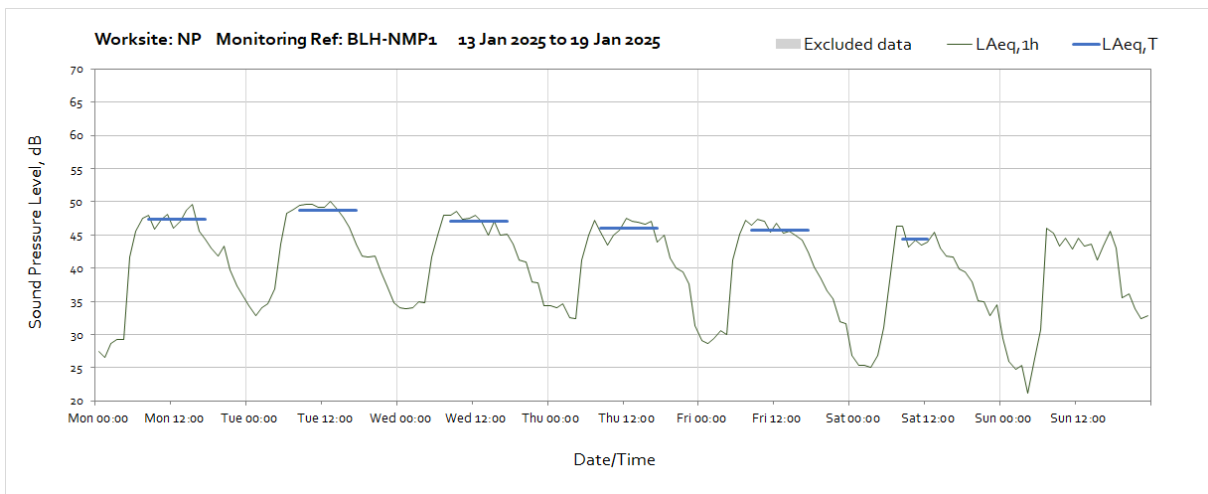
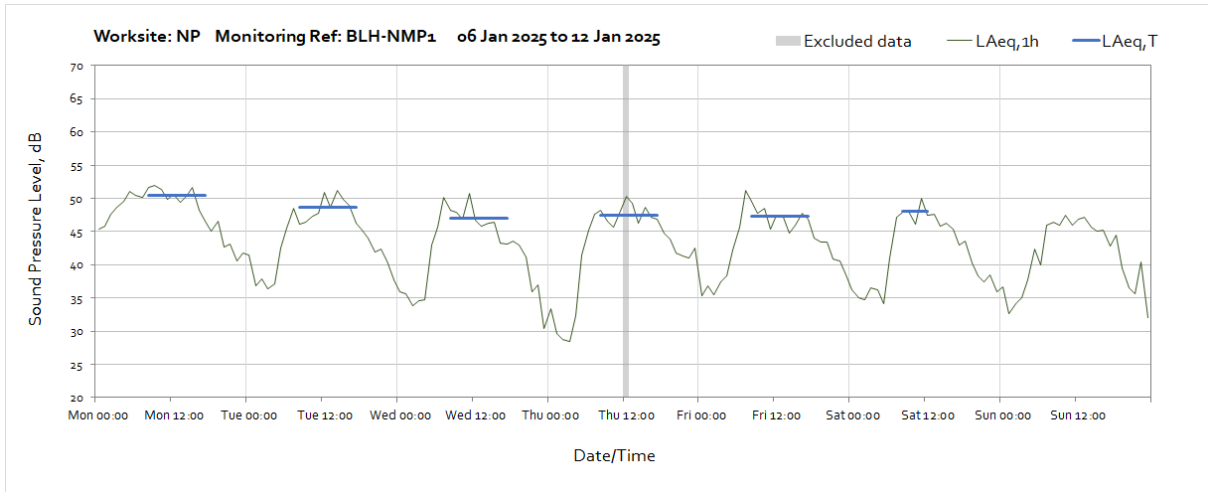


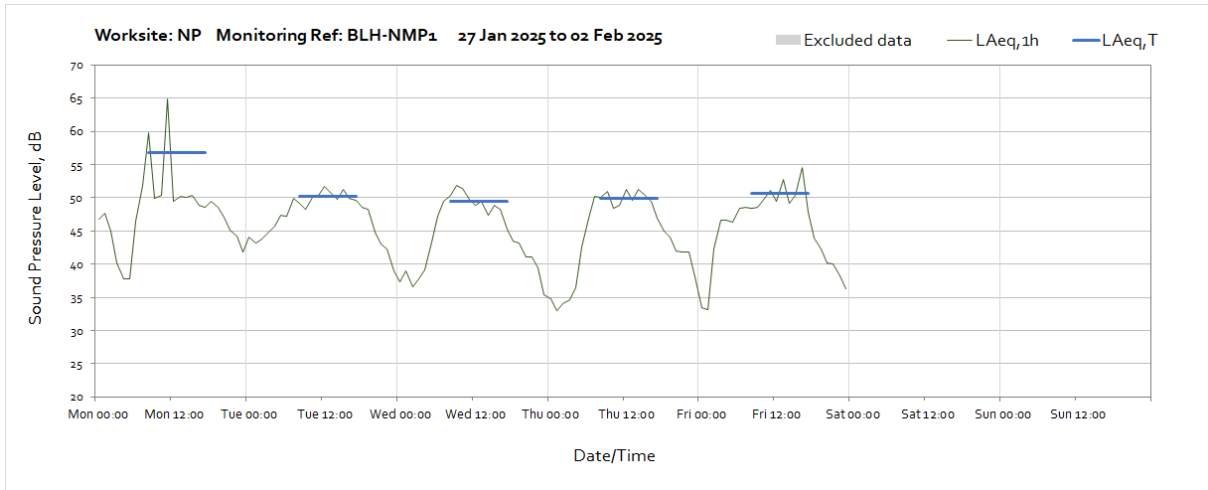
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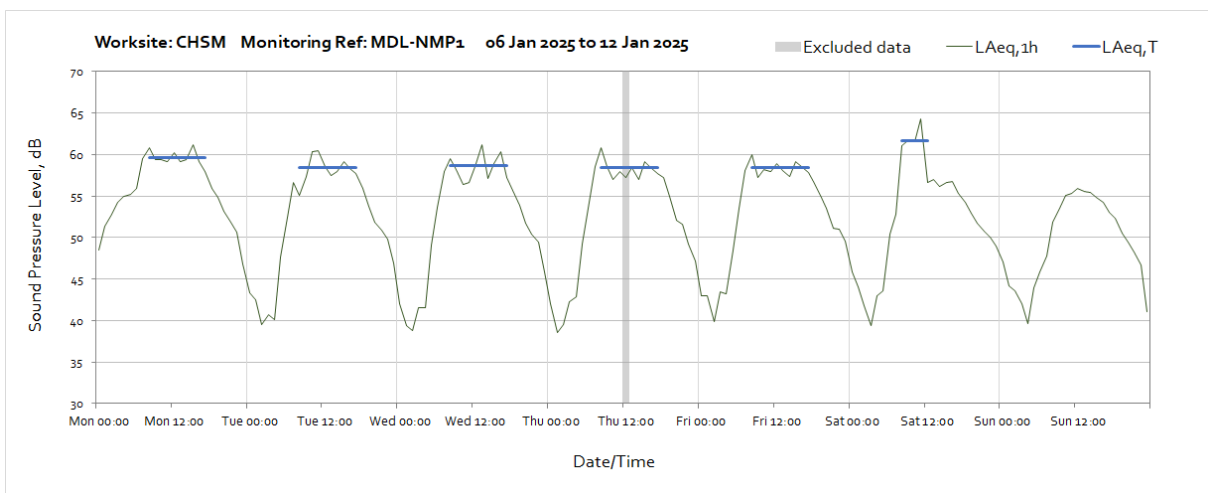
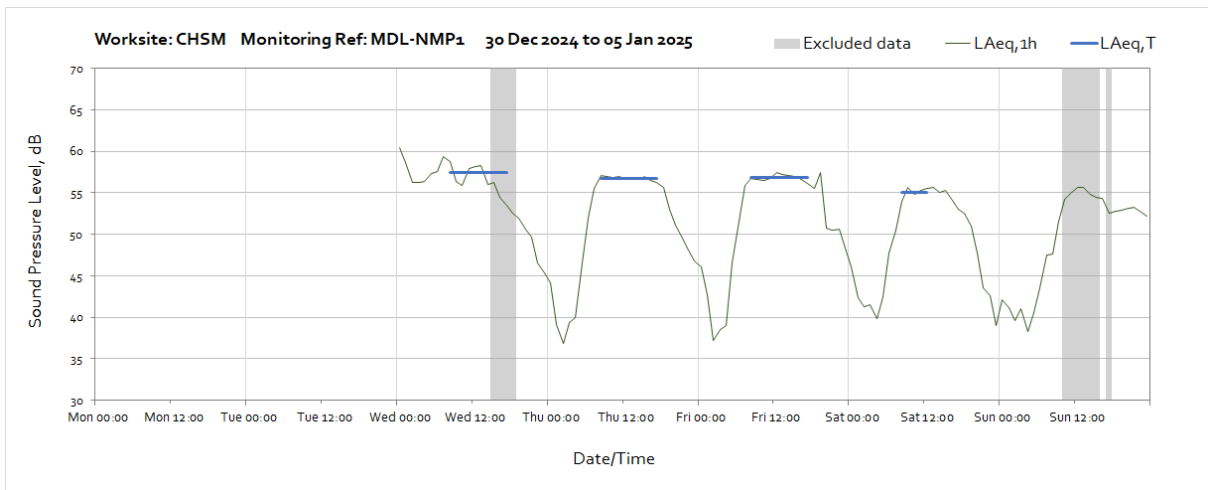
Worksite: NP - Monitoring Ref: BLH-NMP1

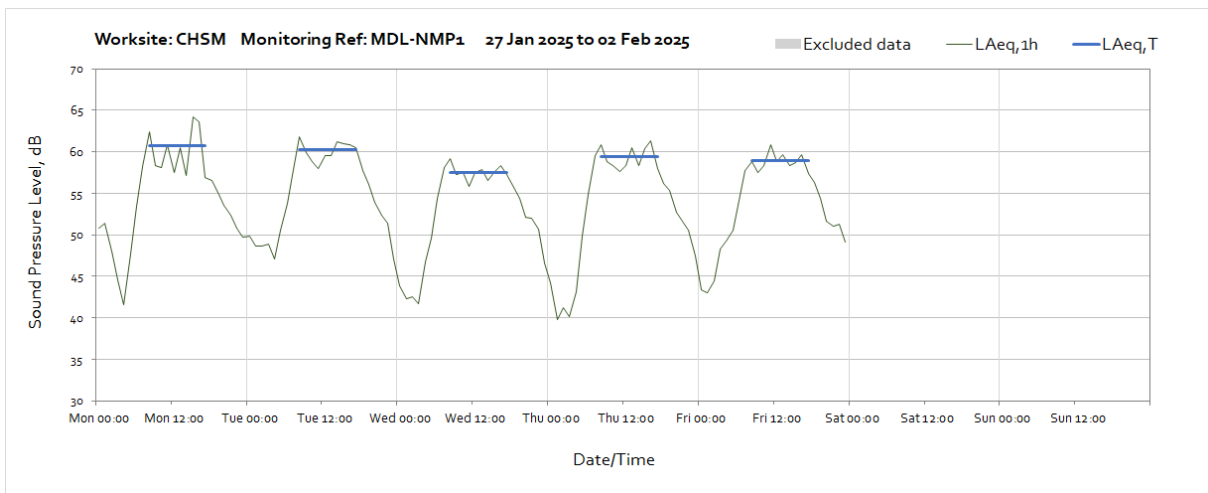
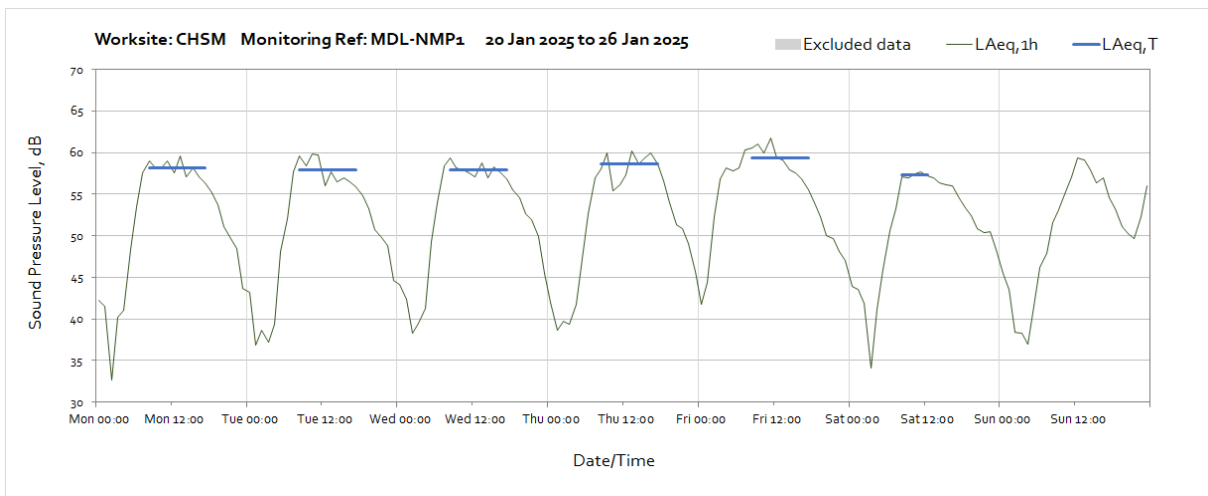
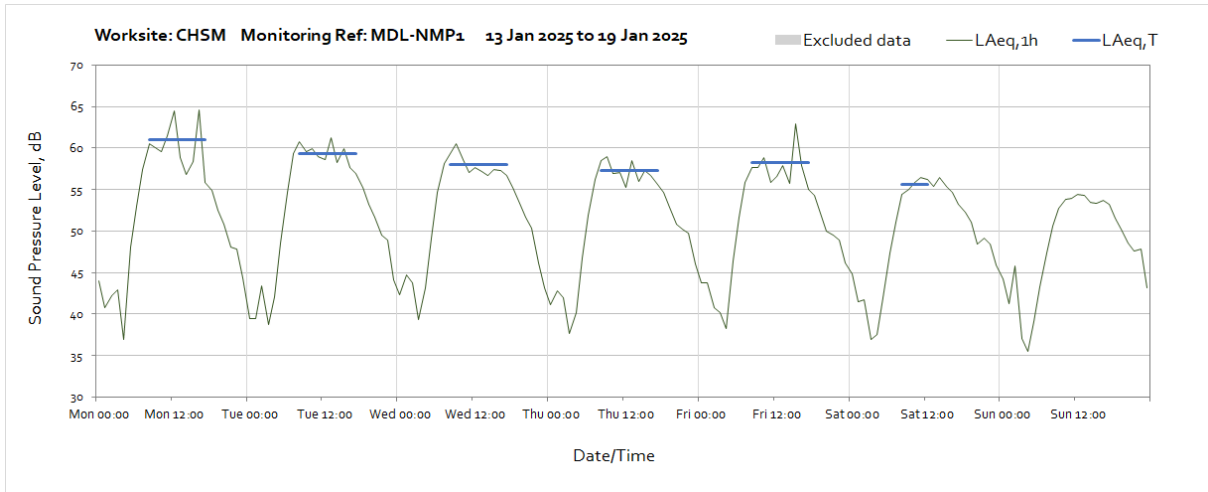




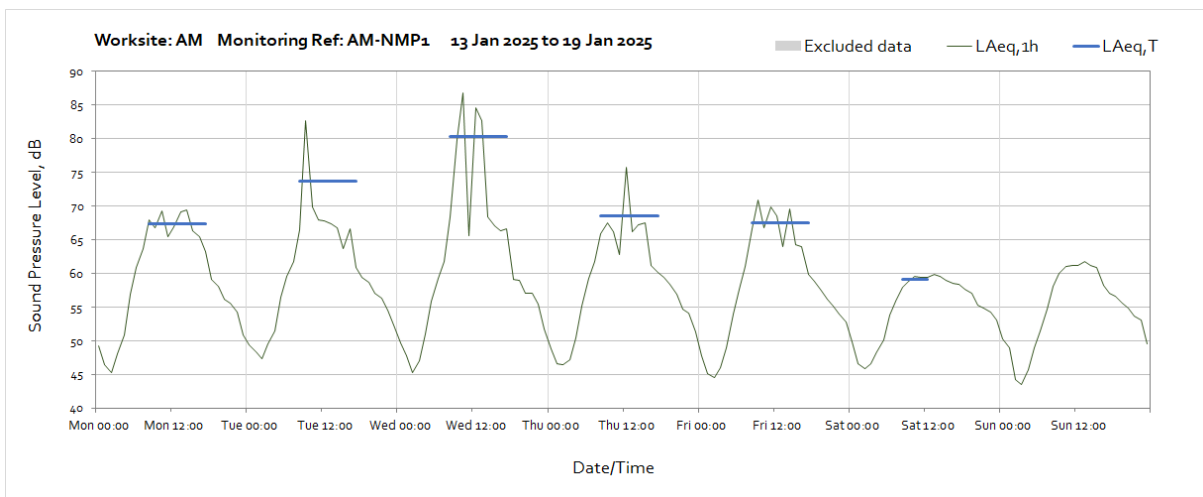
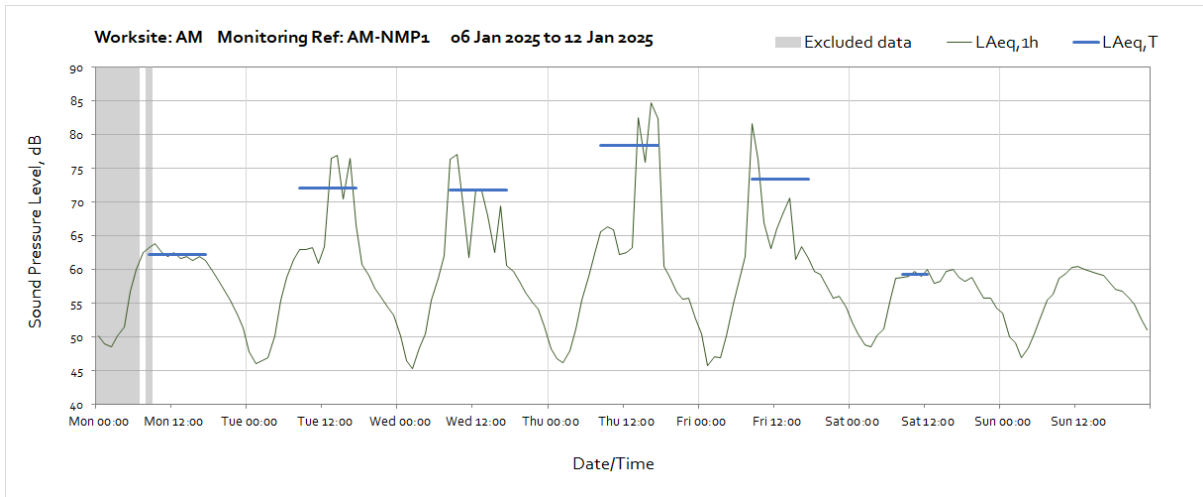
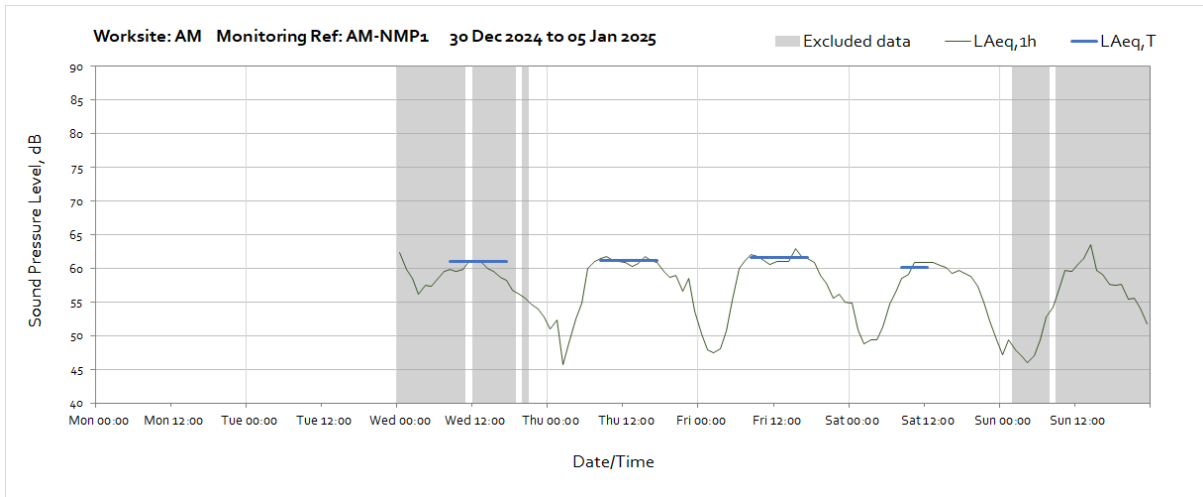


Worksite: CHSM – Monitoring Ref: MDL-NMP1

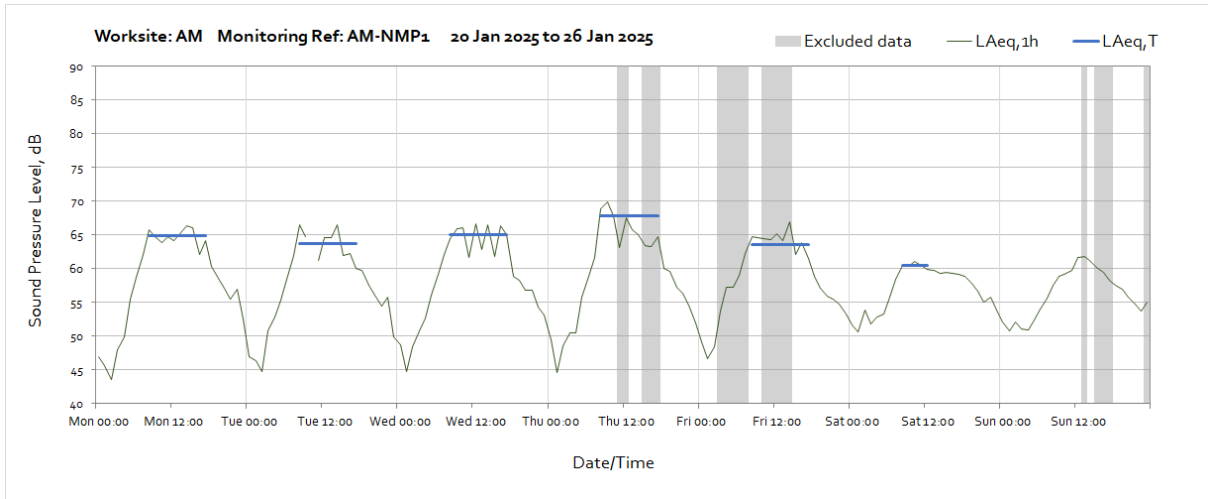




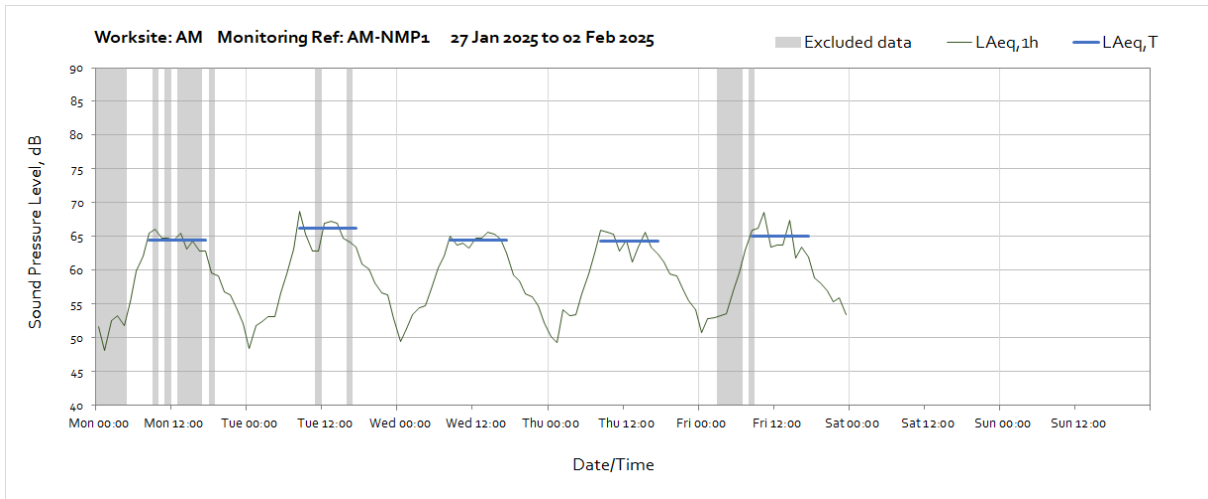
Worksite: AM - Monitoring Ref: AM-NMP1



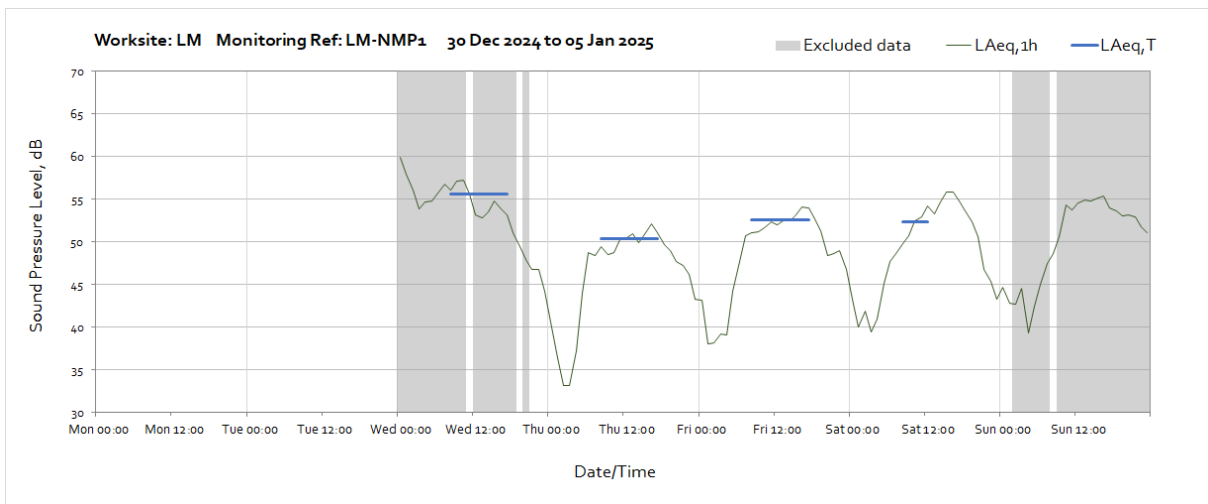
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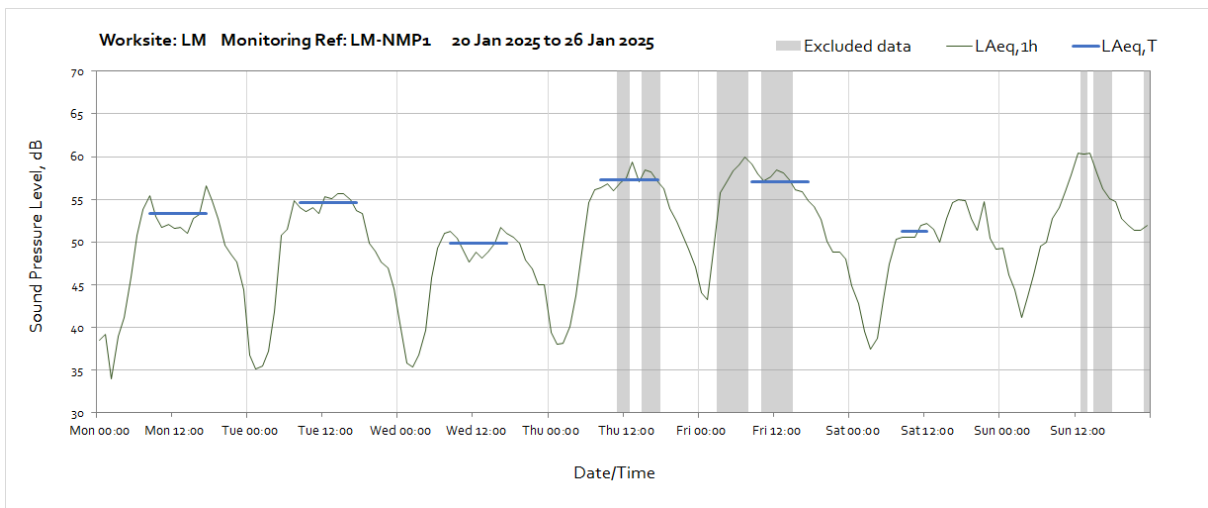
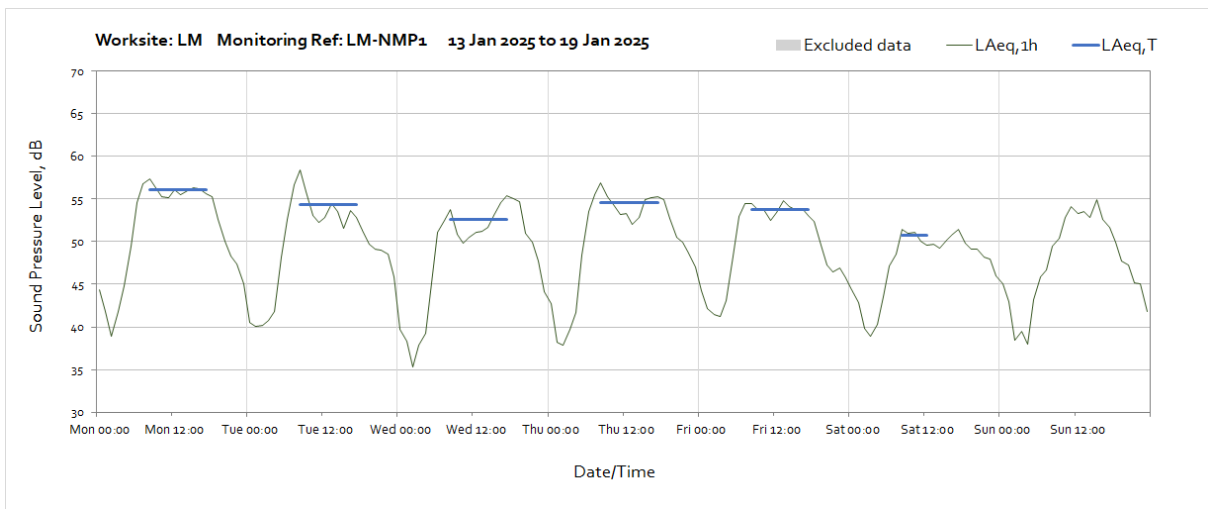
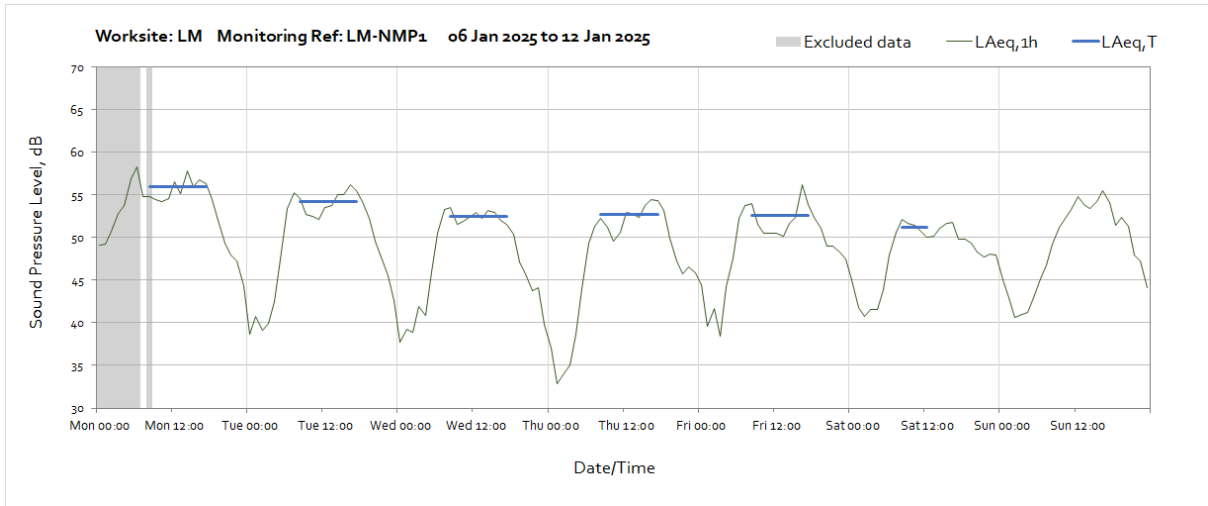


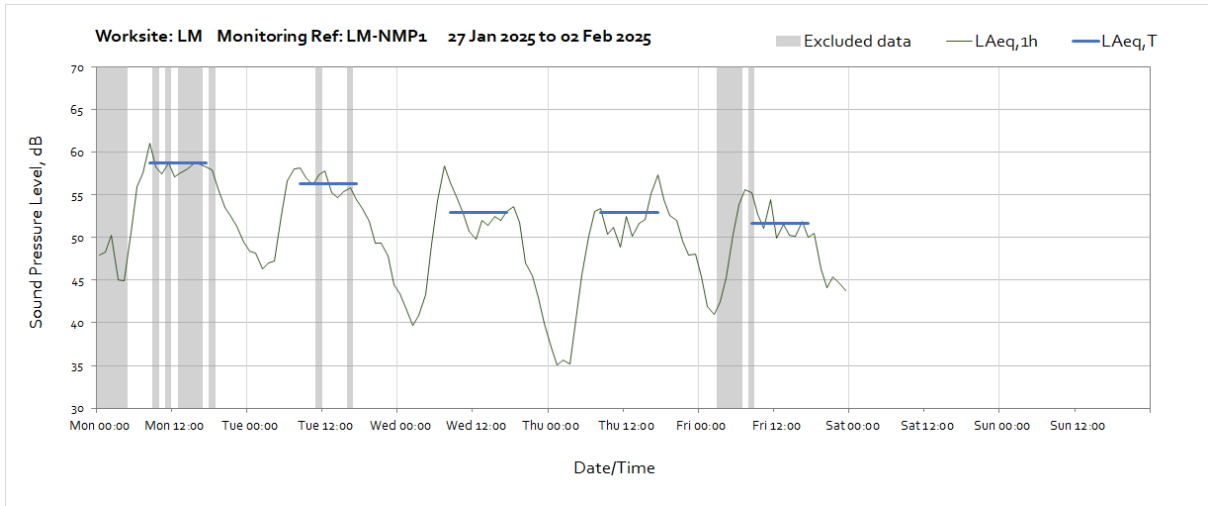
Note: Missing data between 10:00 and 11:00 on Tuesday 21st January was due to monitor field calibration.



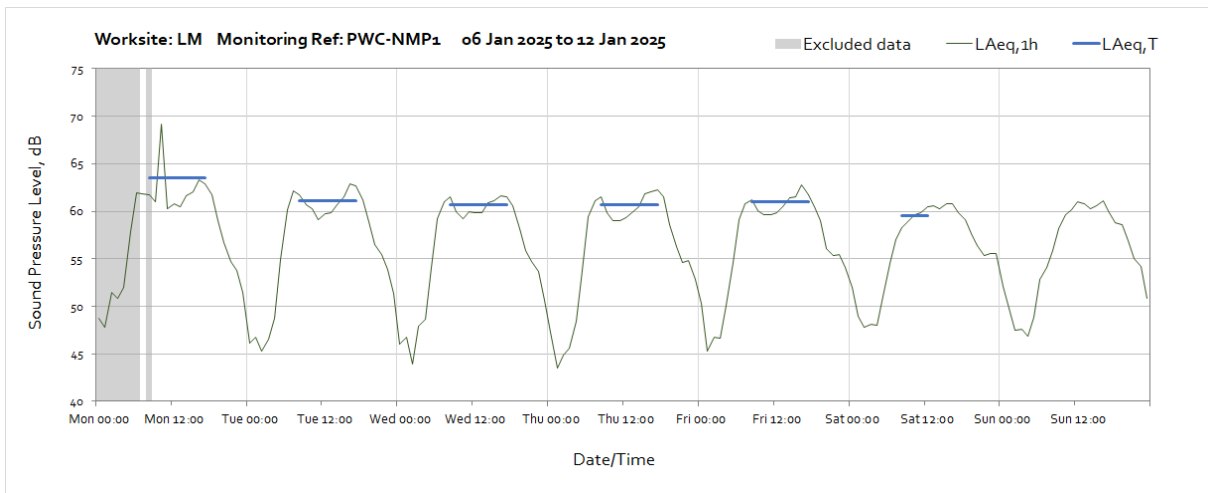
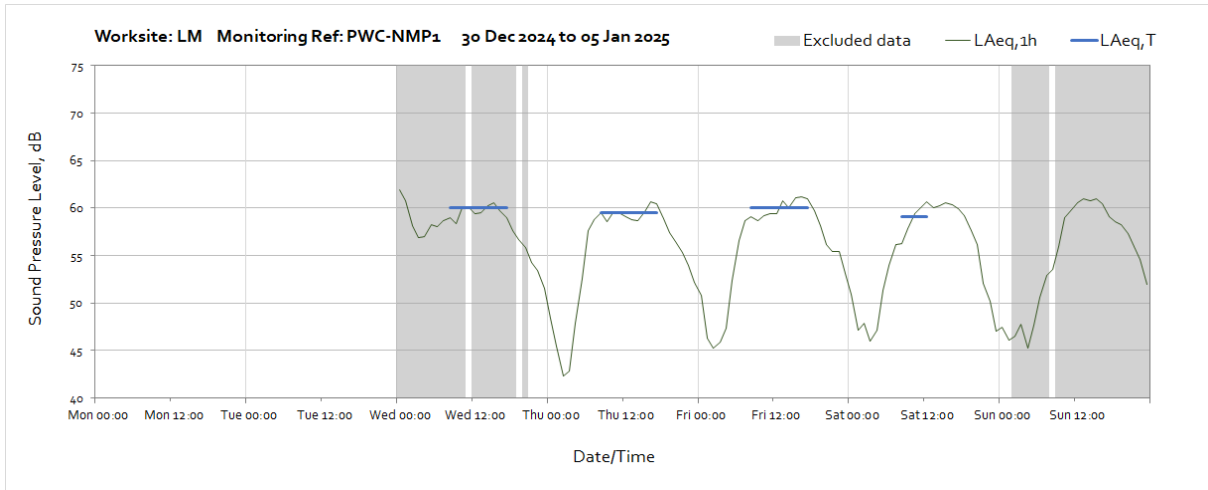
Worksite: LM – Monitoring Ref: LM-NMP1

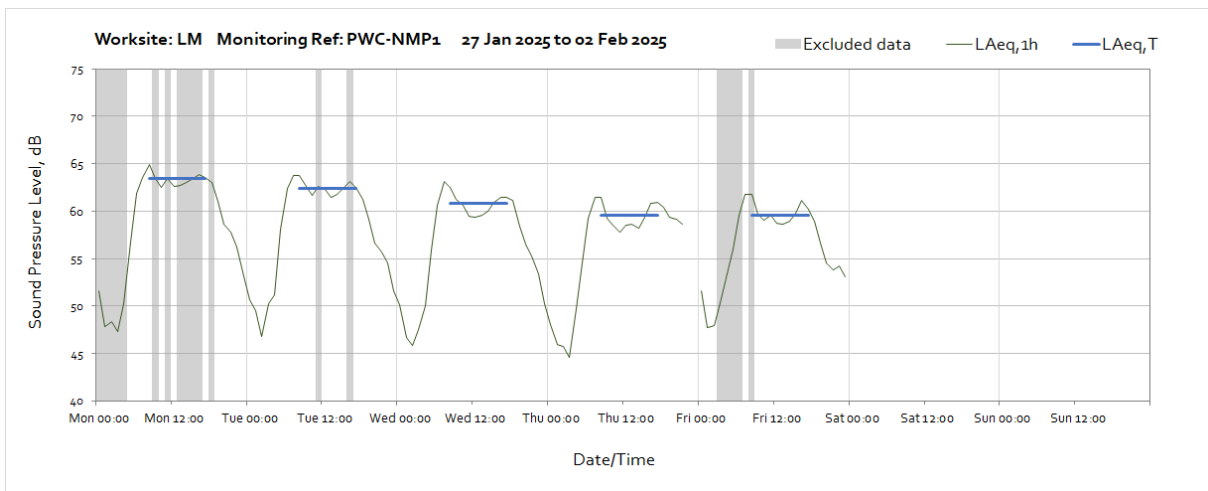
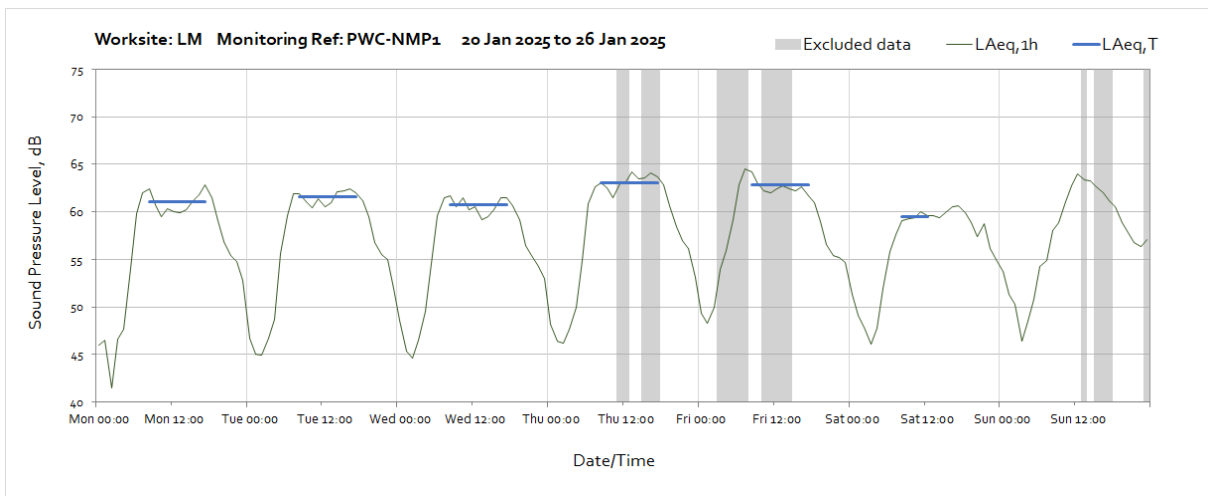
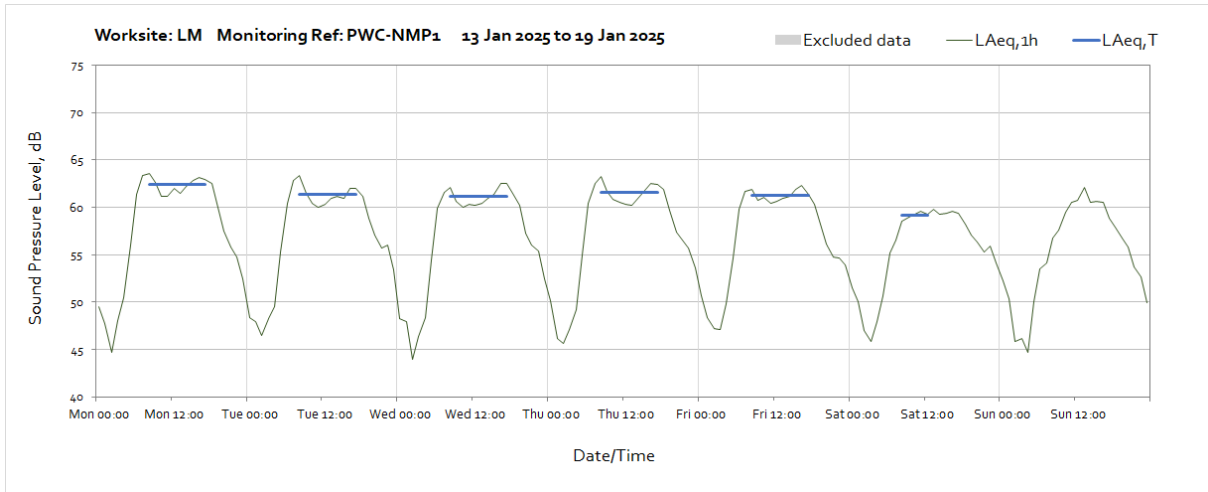






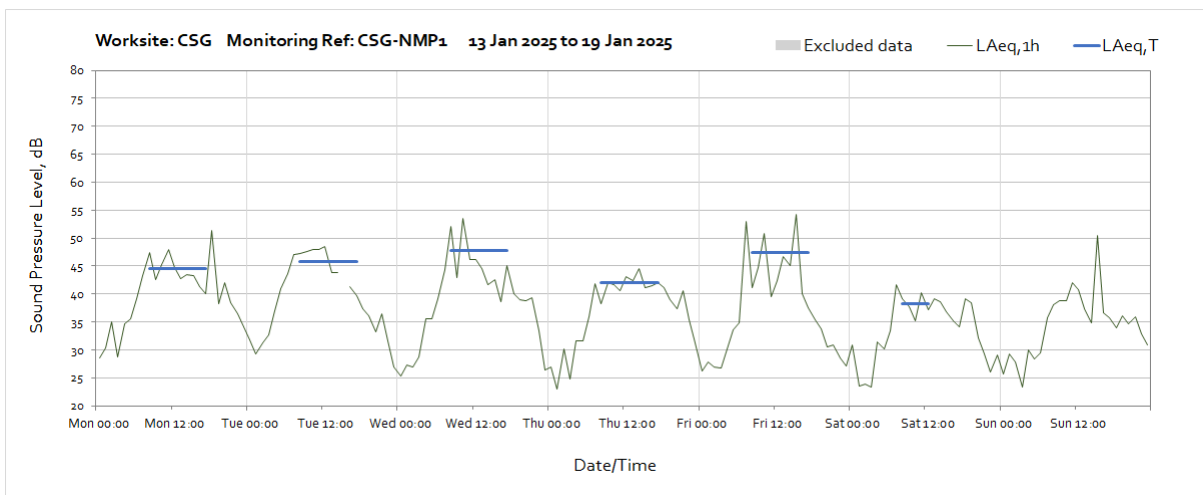
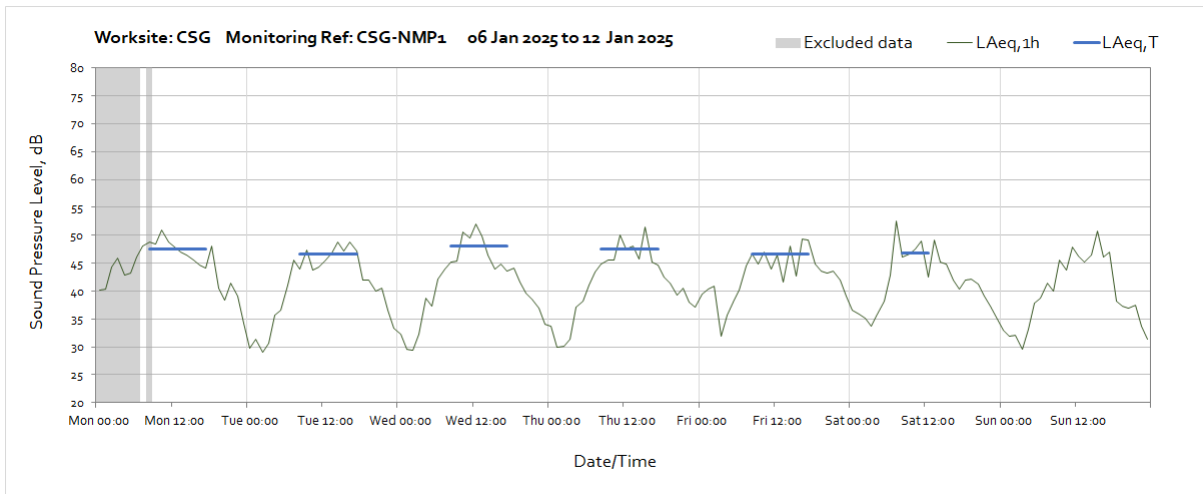
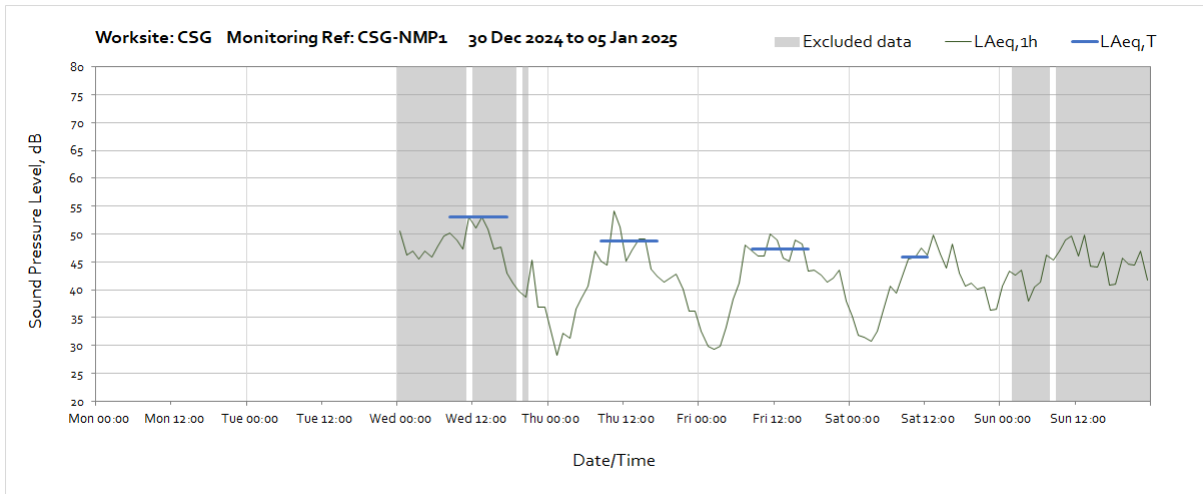
Worksite: LM – Monitoring Ref: PWC-NMP1





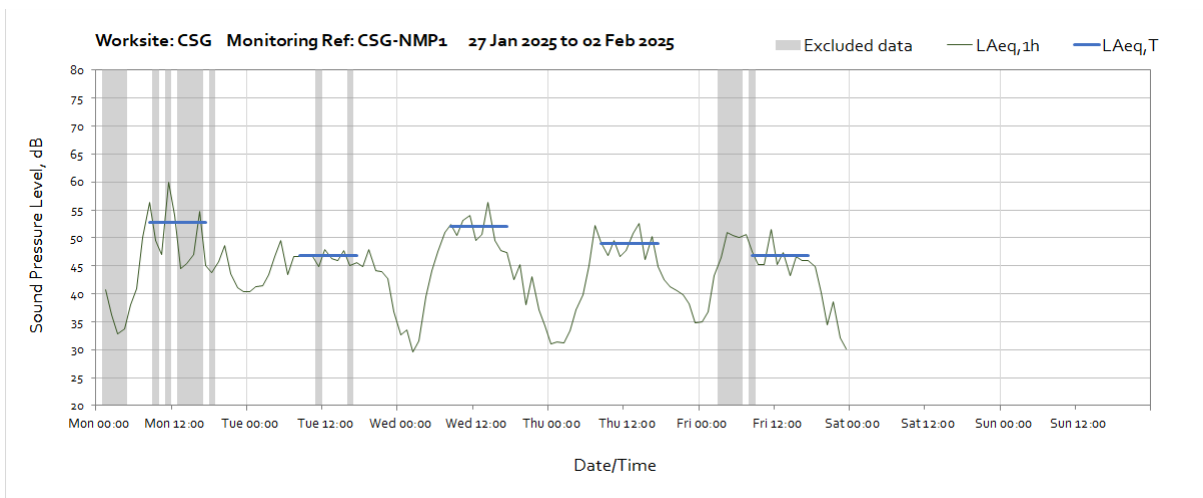
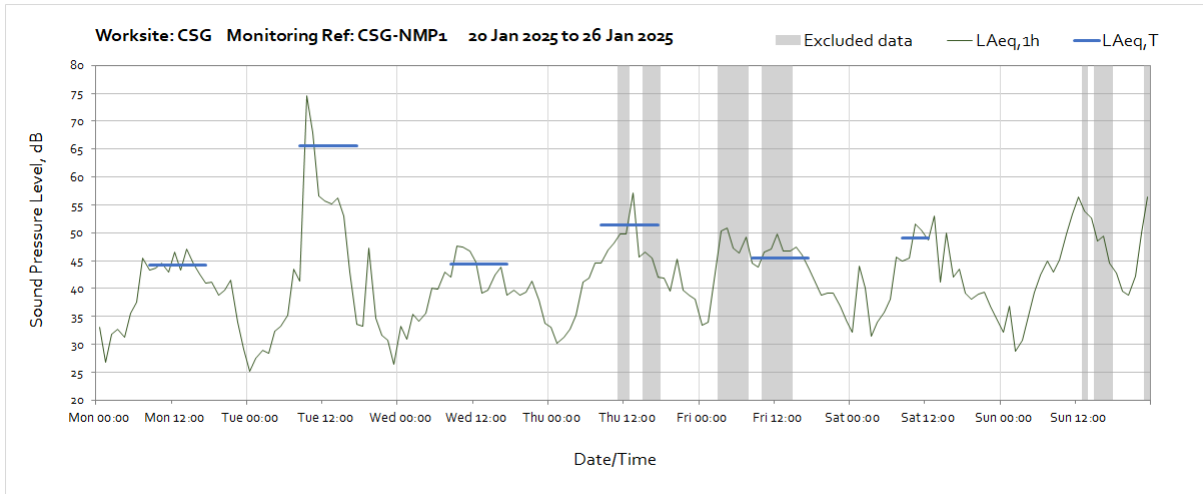
Note: Missing data between 22:00 on Thursday 30th January and 00:00 on Friday 31st January was due to a communication error between the monitoring station and server.

Worksite: CSG – Monitoring Ref: CSG-NMP1



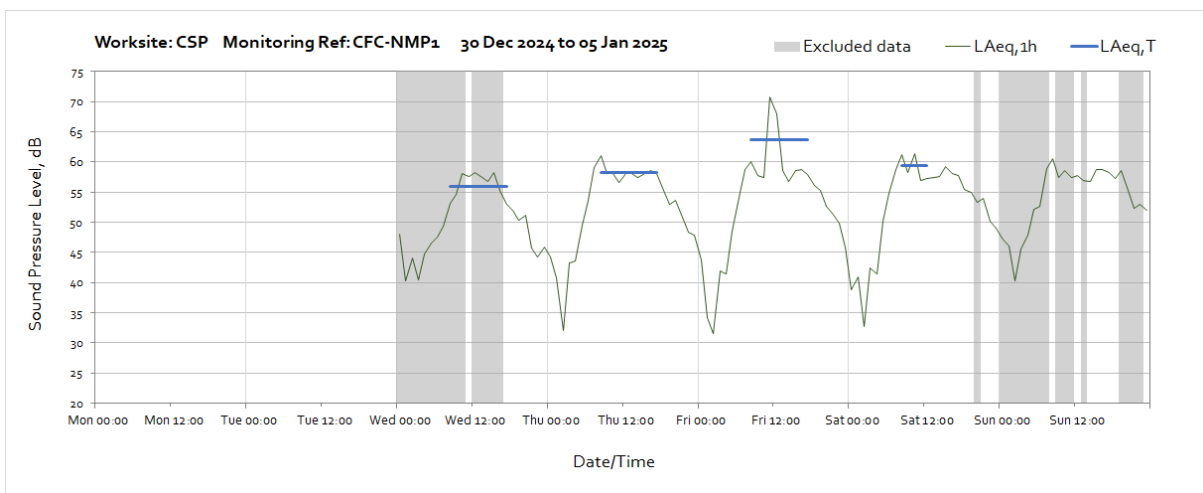
Note: Missing data between 15:00 and 16:00 on Tuesday 14th January was due to a communication error between the monitoring station and server.

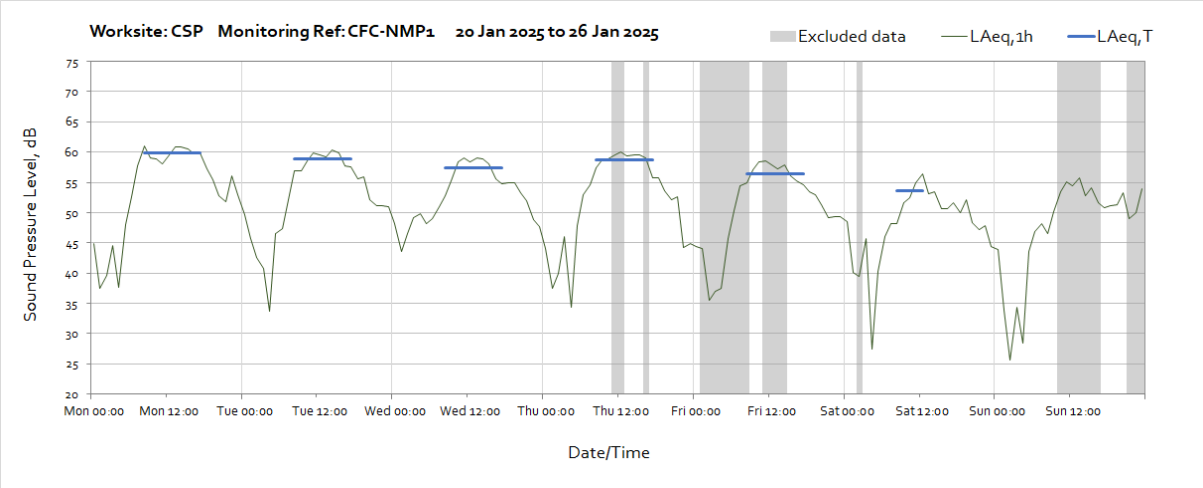
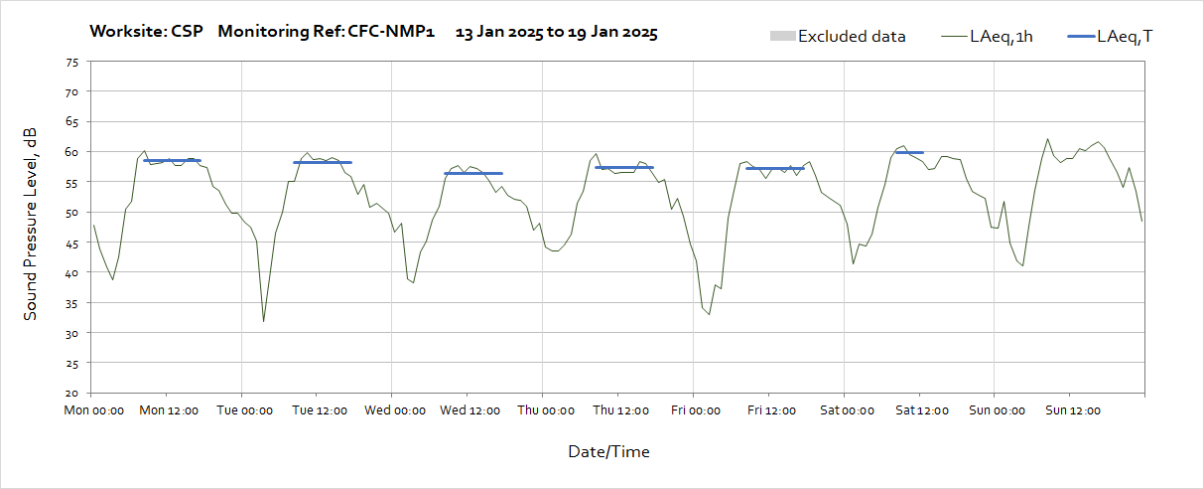
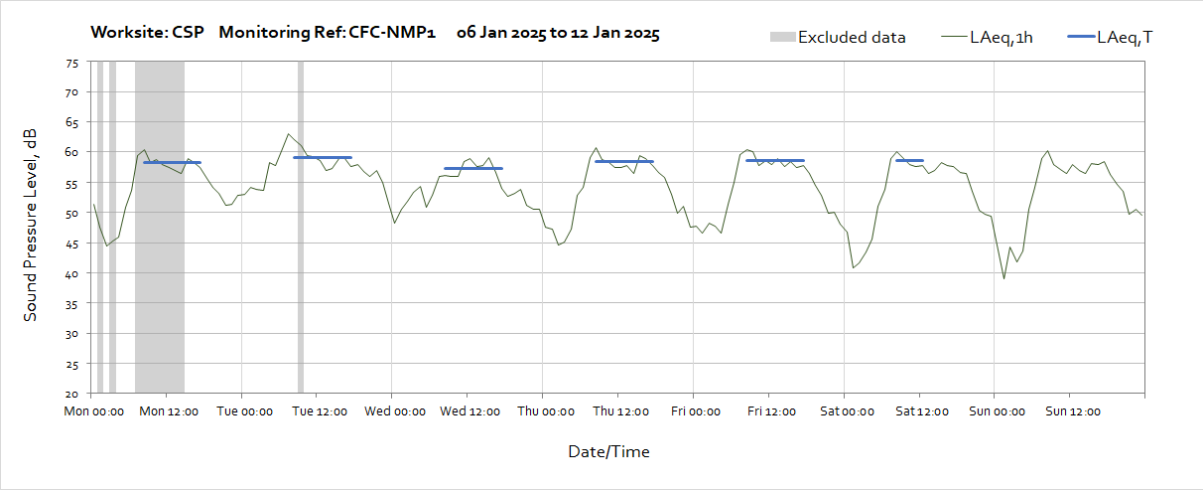
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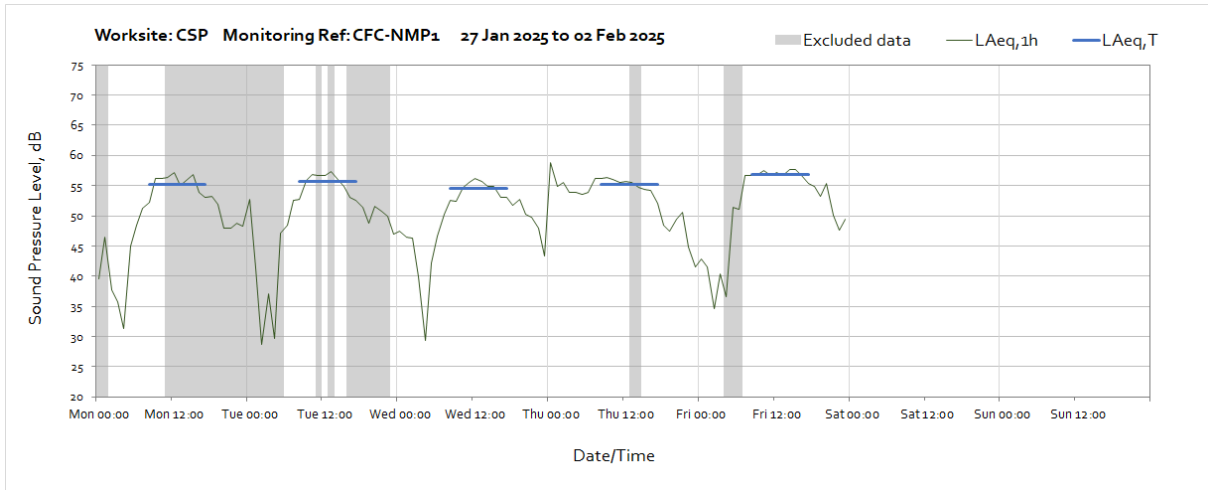


Note: Missing data between 00:00 and 01:00 on Monday 27th January was due to a communication error between the monitoring station and server.

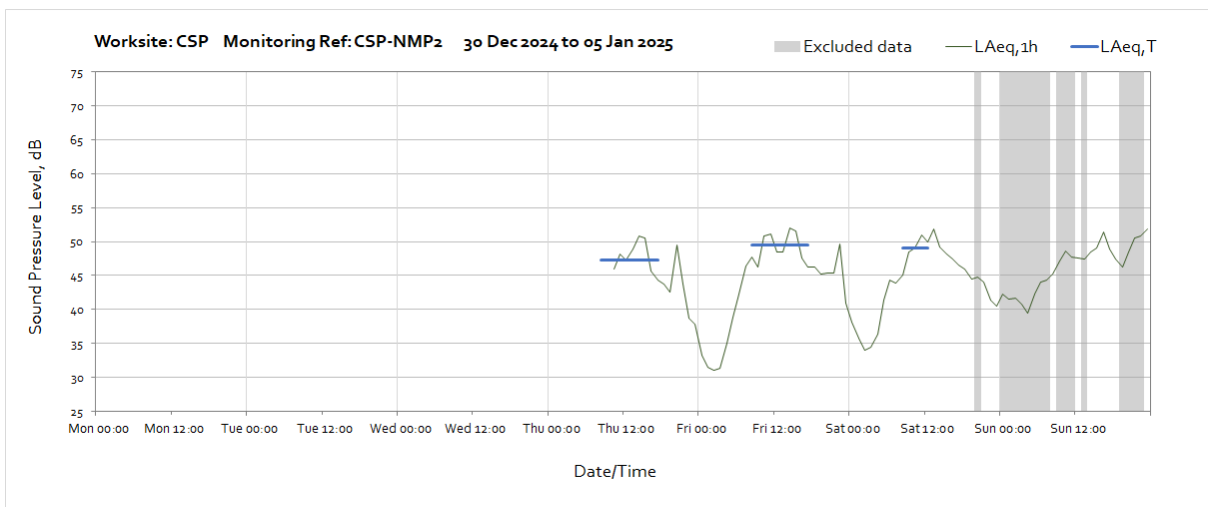
Worksite: CSP – Monitoring Ref: CFC-NMP1



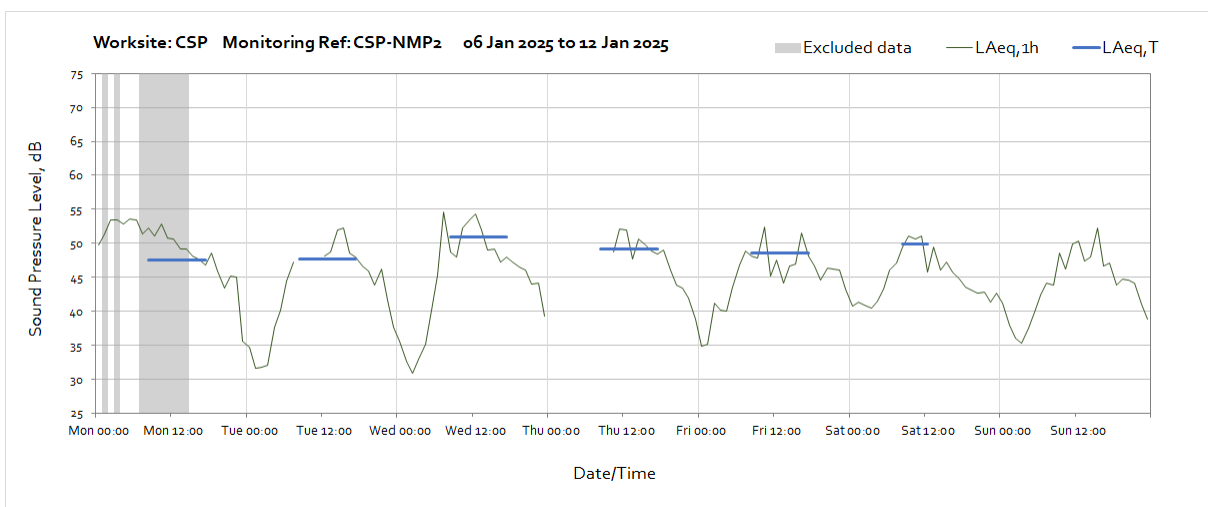




Worksite: CSP - Monitoring Ref: CSP-NMP2

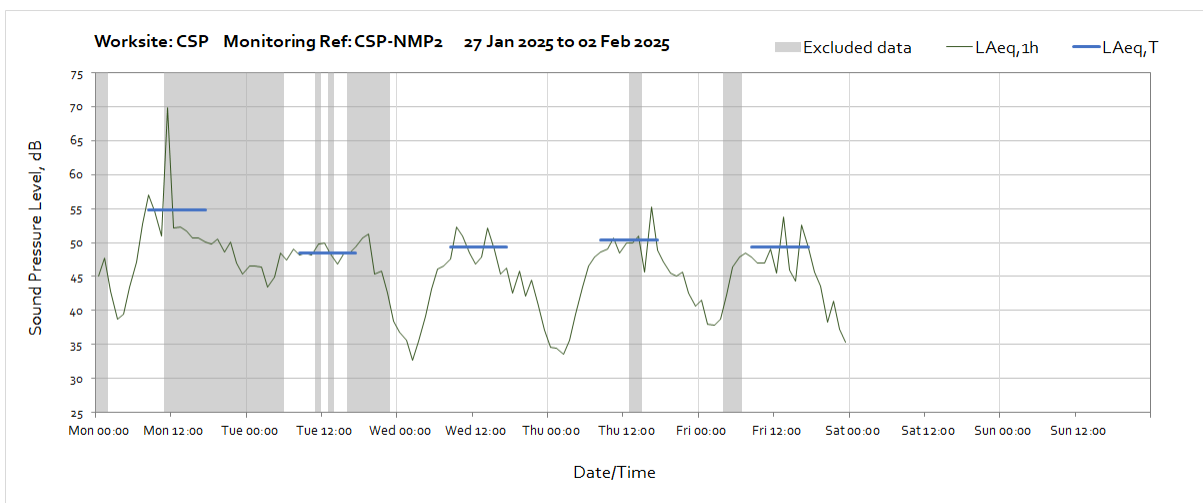
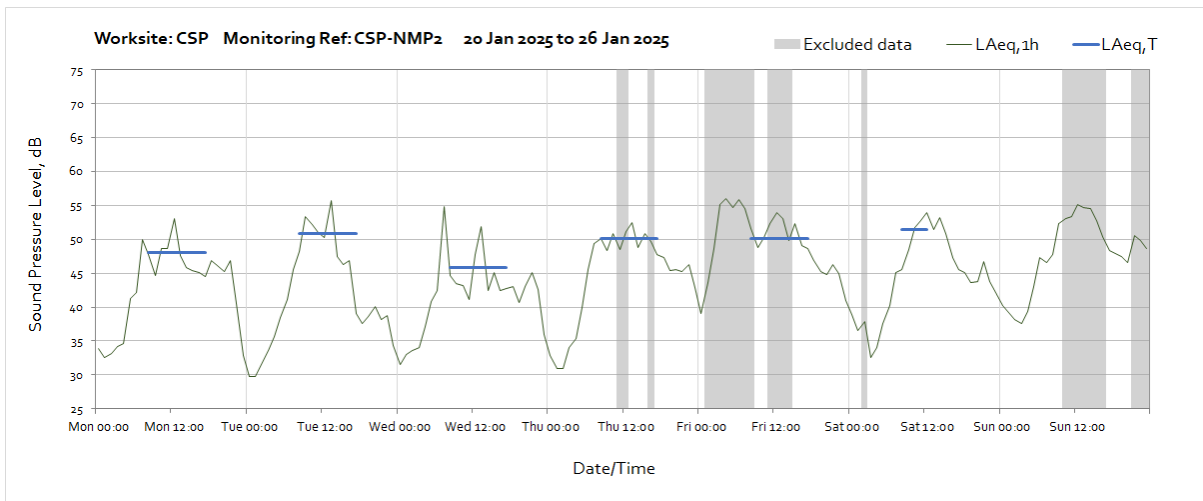
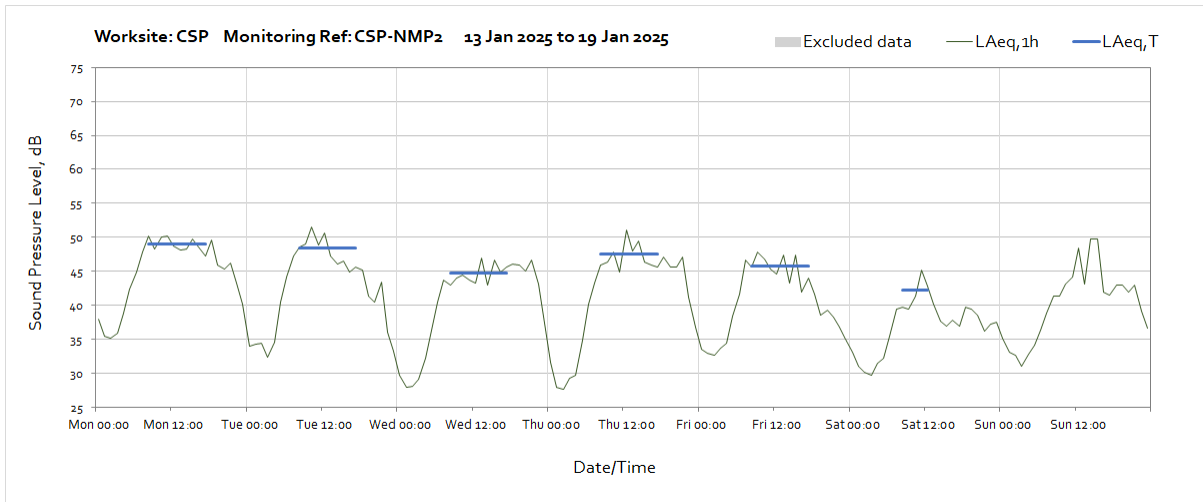


Note: Missing data from the start of the month until 10:00 on Thursday 2nd January was due to a loss of power to the monitoring station caused by poor weather conditions preventing sufficient light reaching the solar panel.

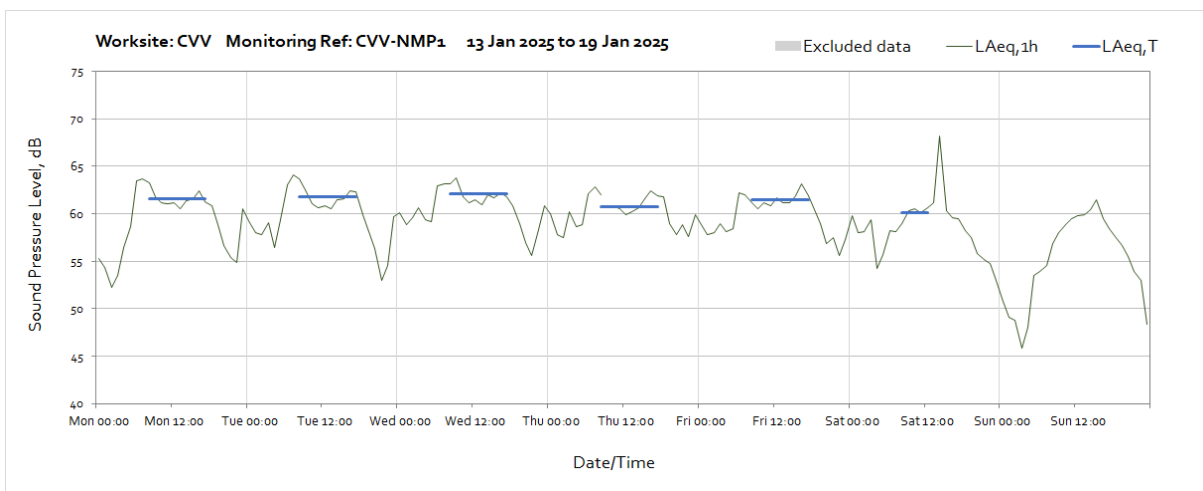
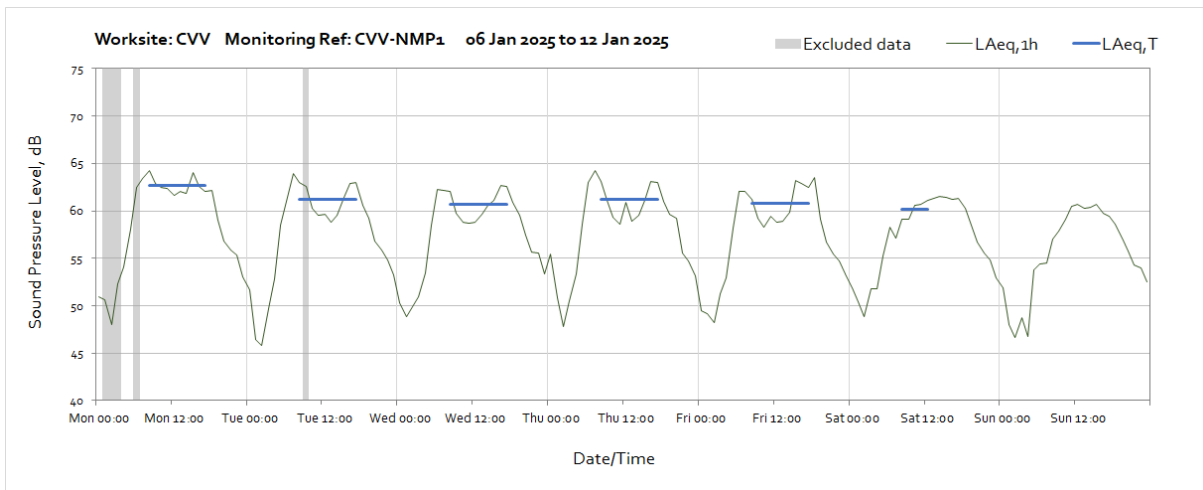
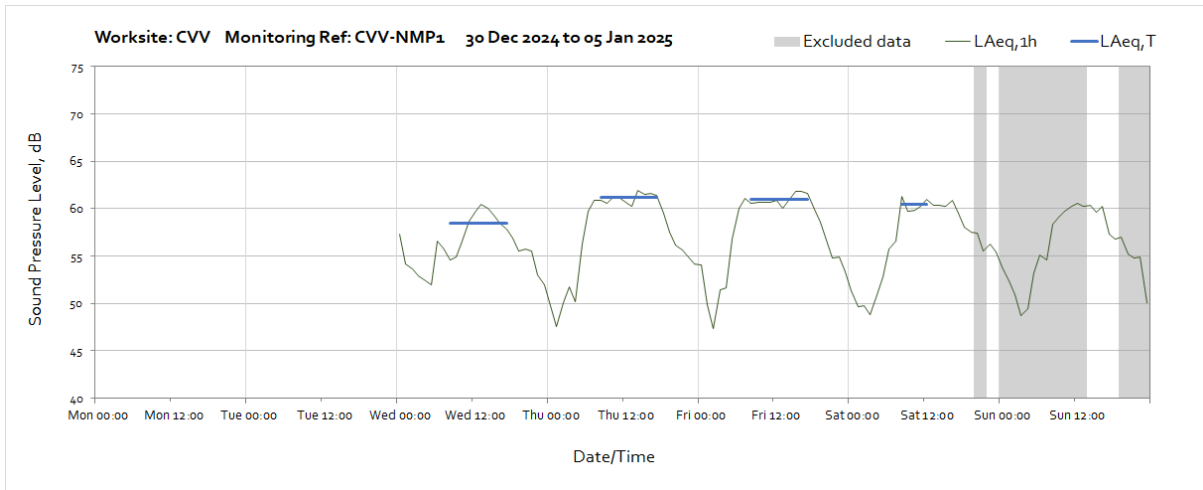


Note: Missing data between 08:00 and 12:00 on Tuesday 7th January and 00:00 and 10:00 on Thursday 9th

January was due to a loss of power to the monitoring station caused by poor weather conditions preventing sufficient light reaching the solar panel.

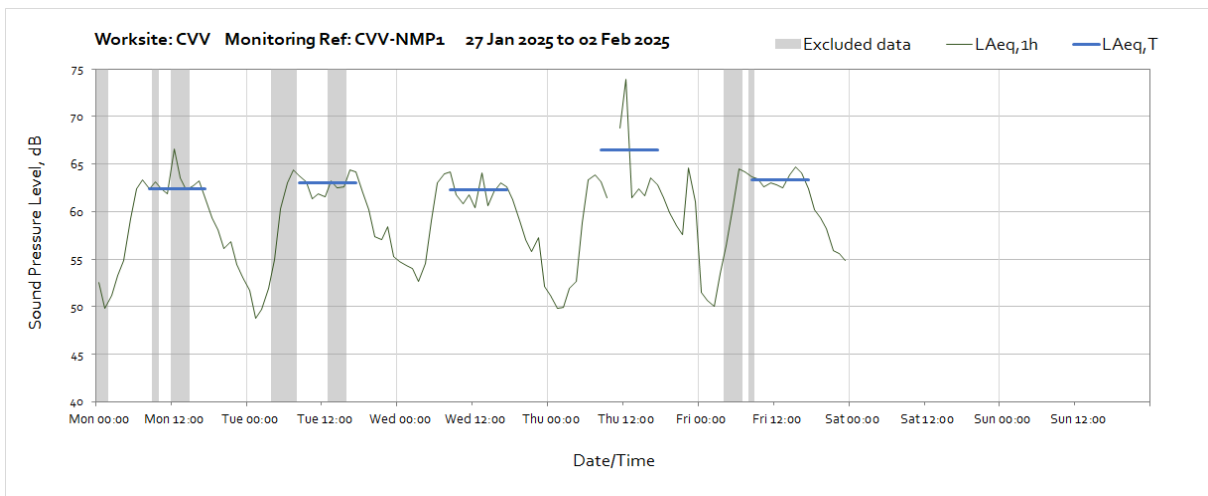
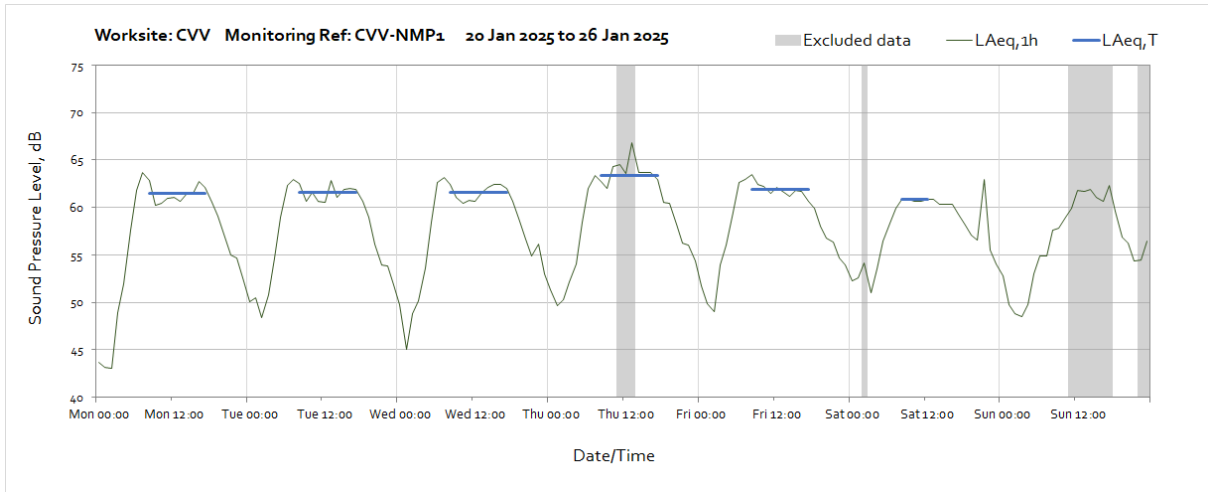


Worksite: CVV- Monitoring Ref: CVV-NMP1



Note: Missing data between 09:00 and 10:00 on Thursday 16th January was due to a communication error between the monitoring station and server.

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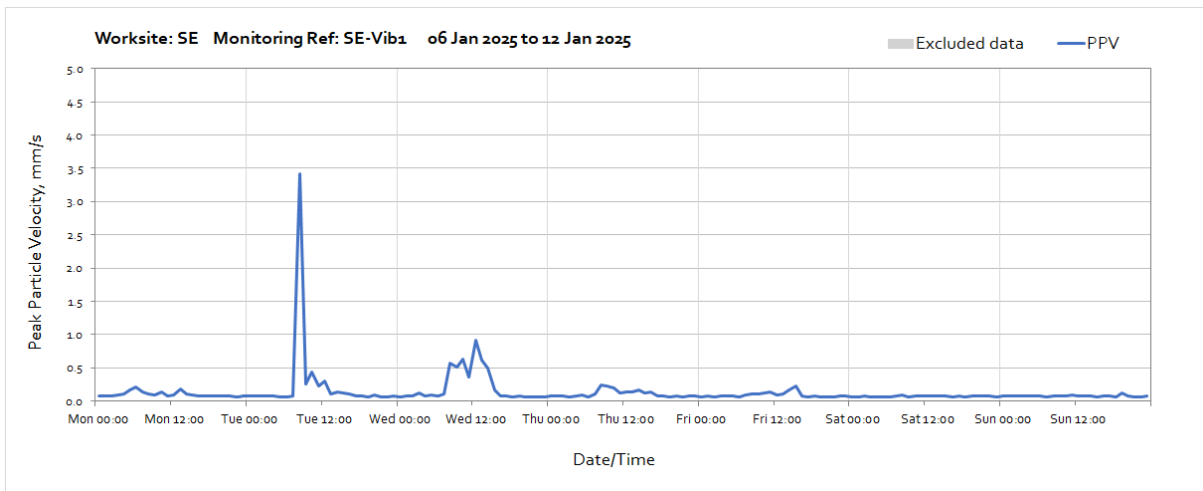
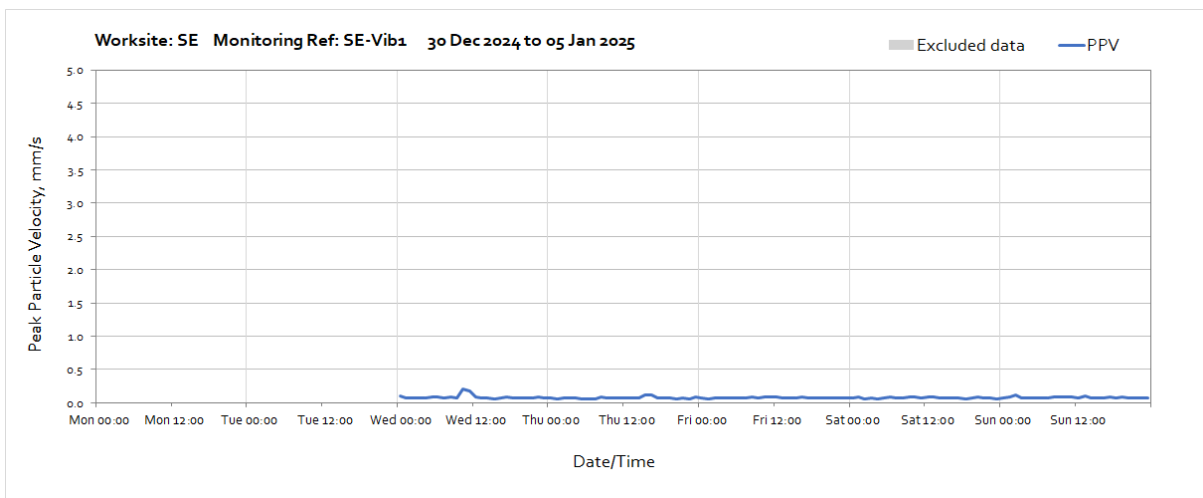


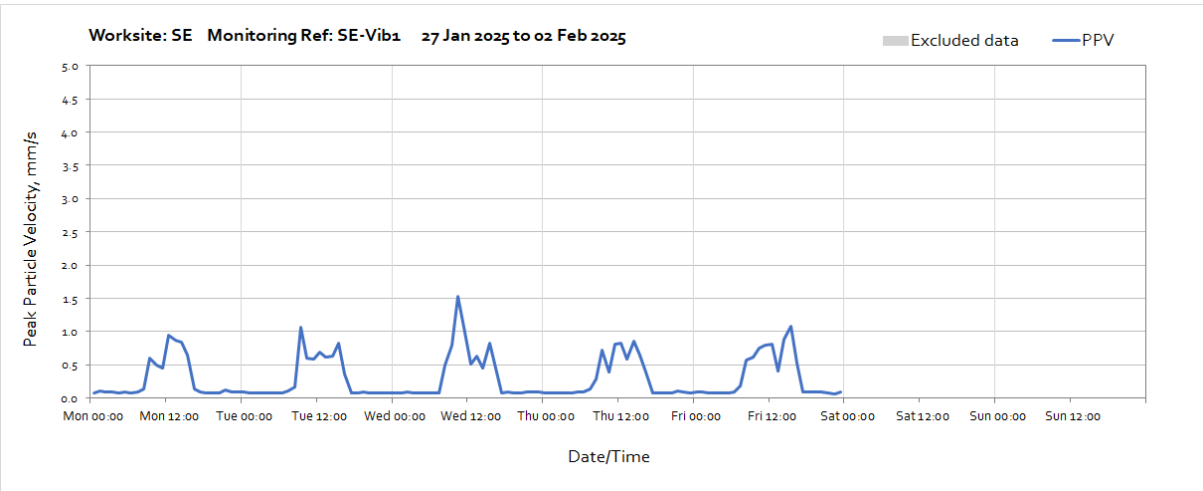
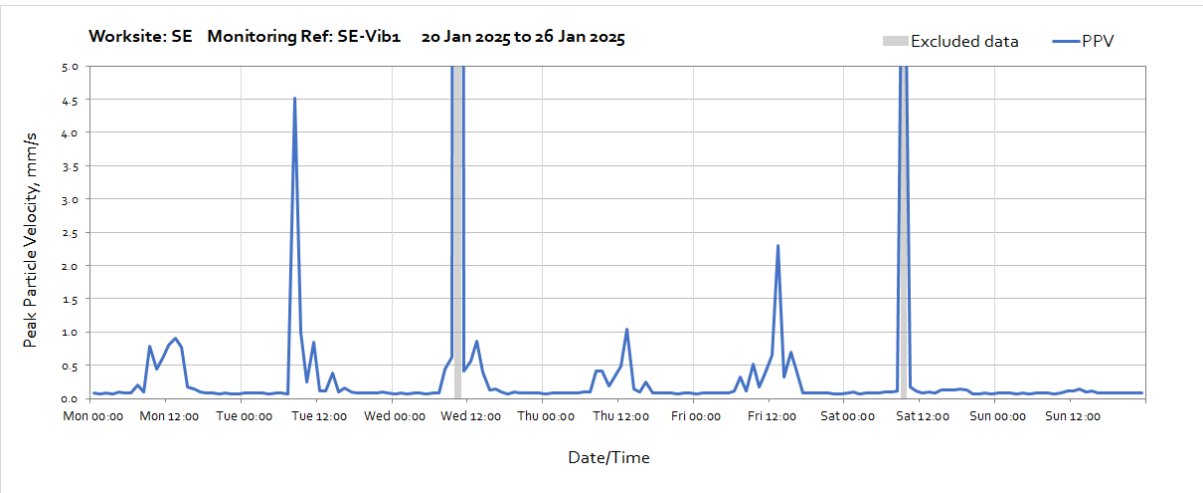
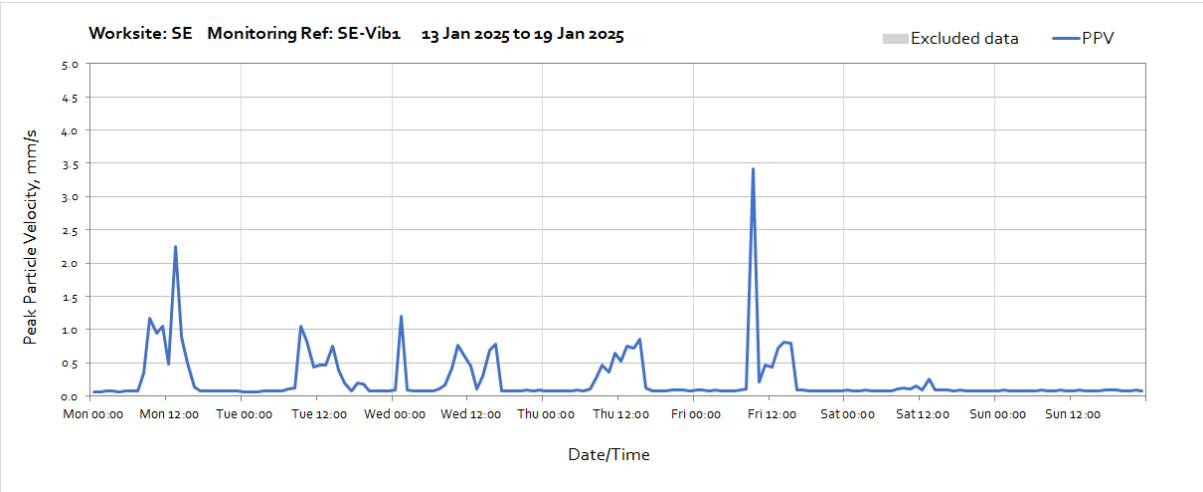
Note: Missing data between 10:00 and 11:00 on Thursday 30th January was due to monitor field calibration.

Vibration

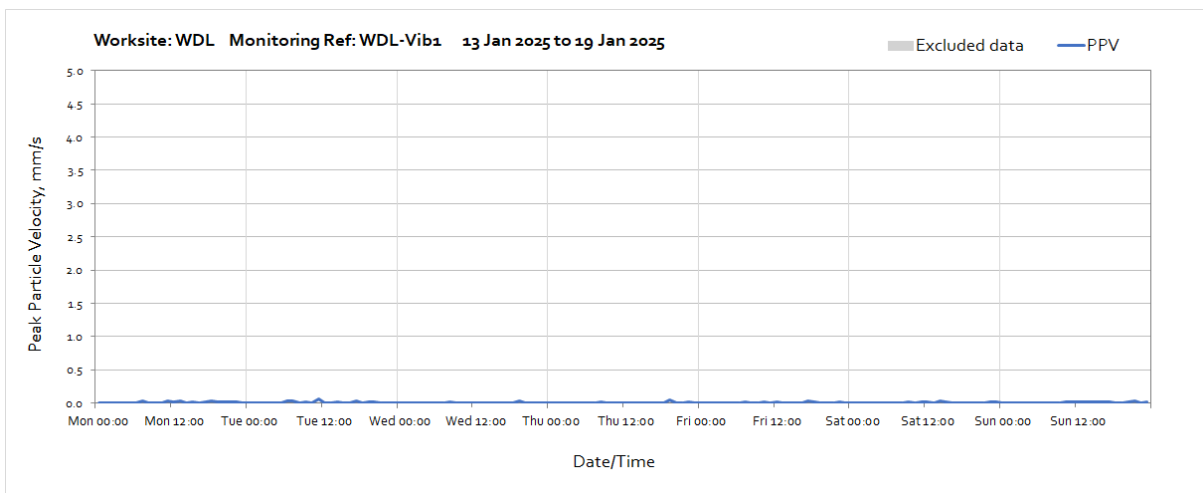
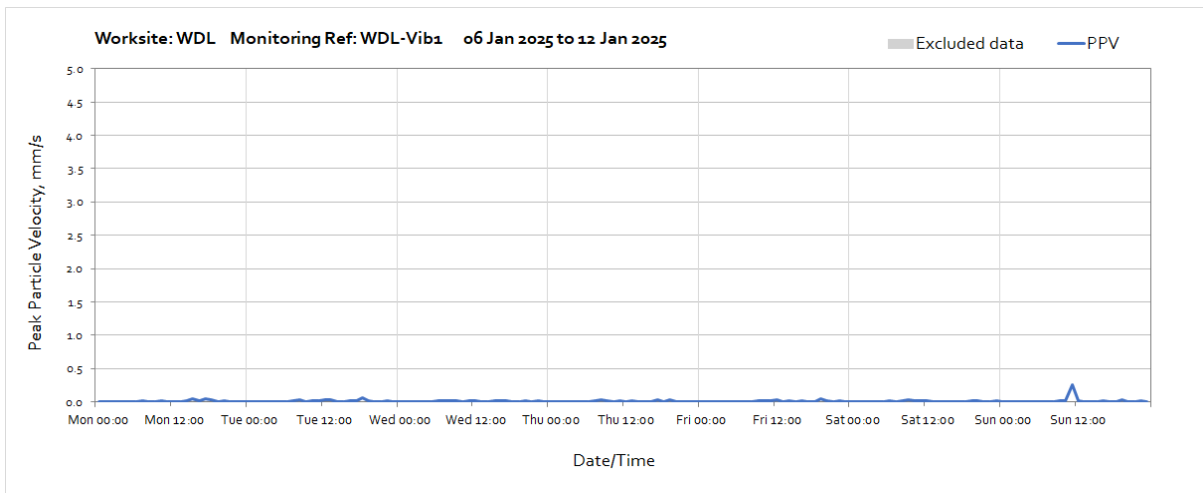
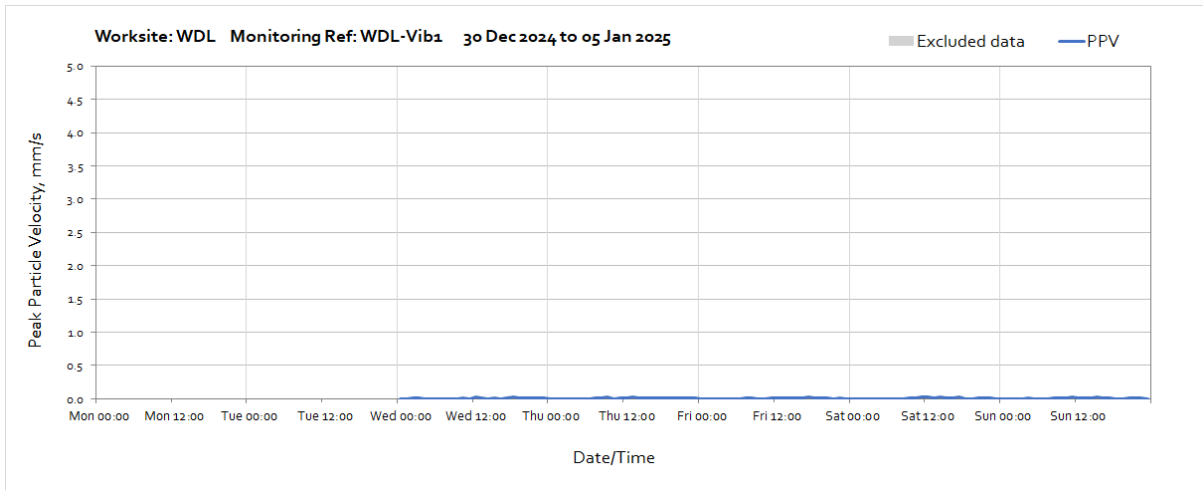
The following graphs show the hourly measured peak particle velocity PPV recorded during the monitoring period. The graphs show the highest PPV of the three orthogonal axes x, y and z. Periods where PPV values have been affected by local interference with the vibration monitor or only measured for part of the period, which are not representative of HS2 construction works, have been greyed out and excluded when calculating values in Table 4 of the main report.

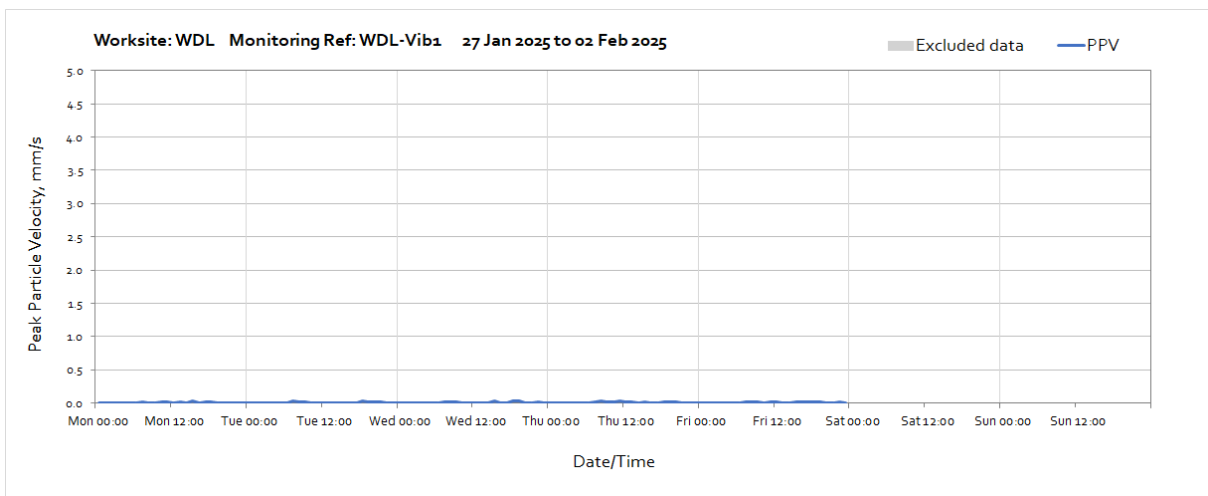
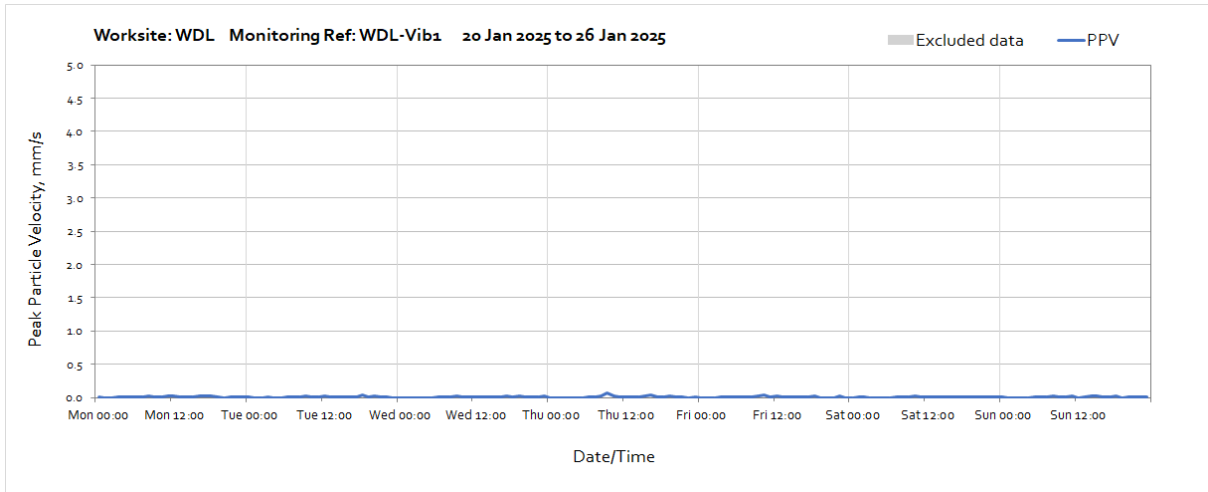
Worksite: SE – Monitoring Ref: SE-Vib1



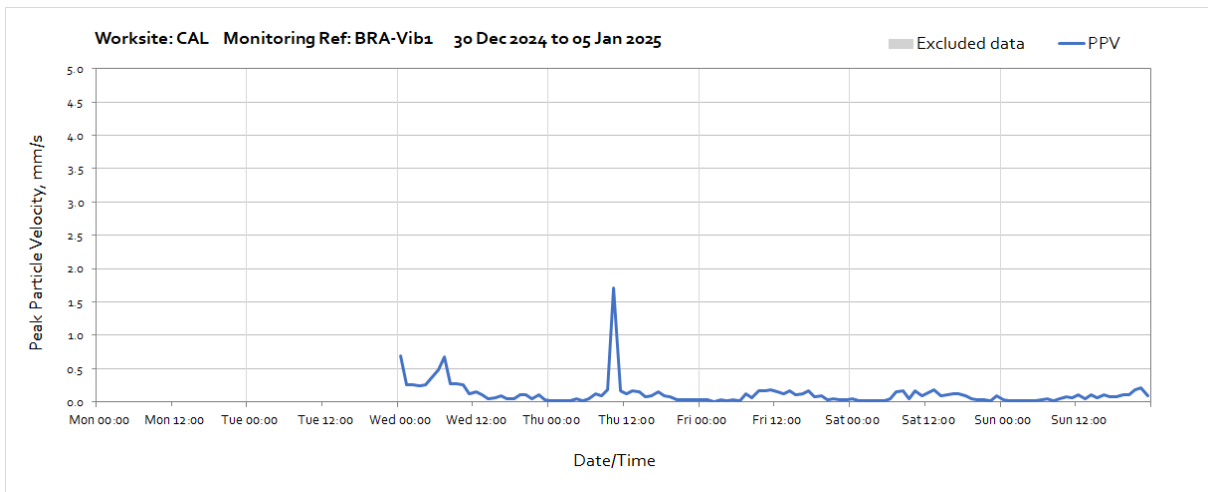


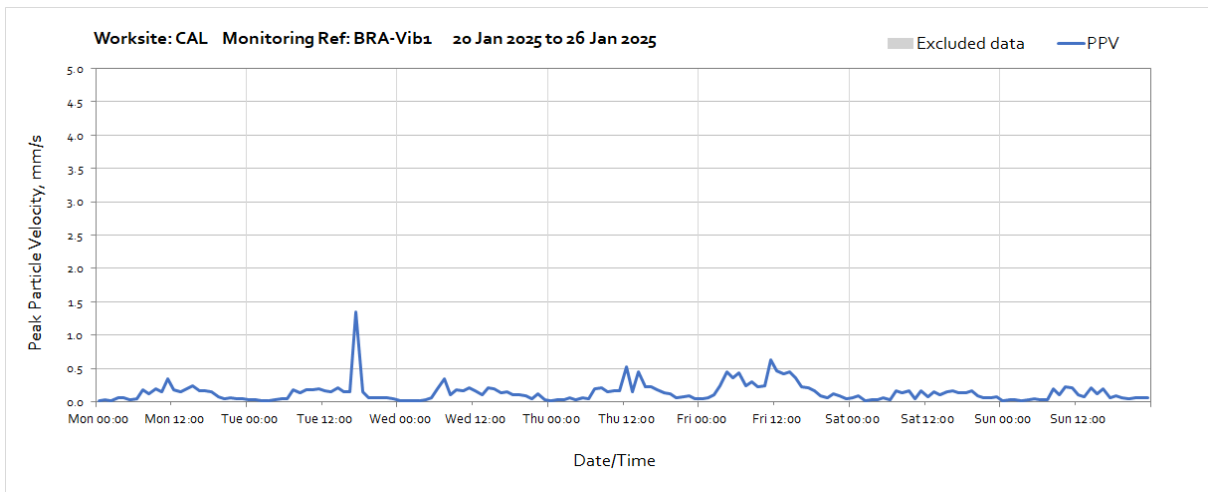
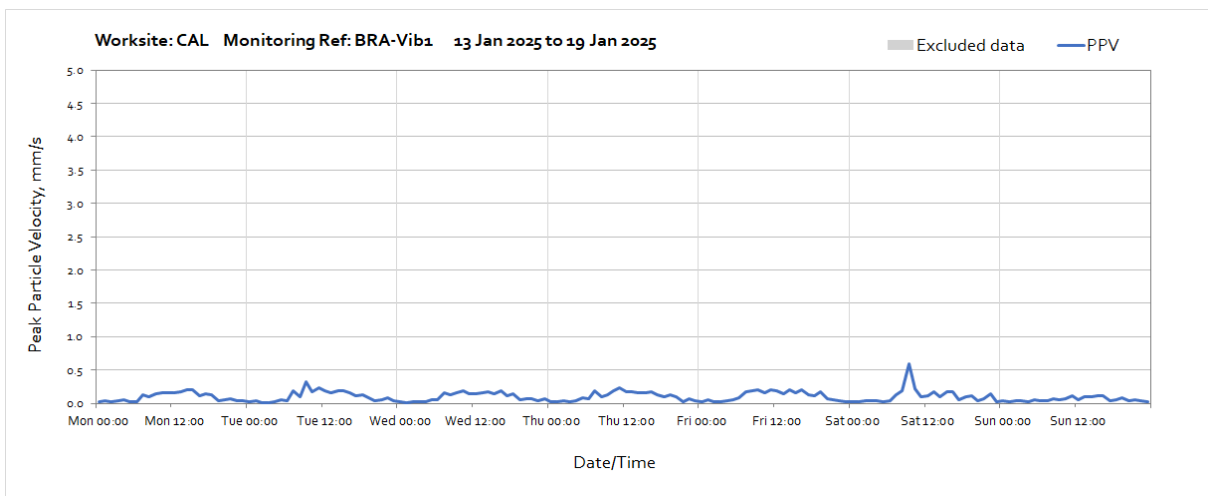
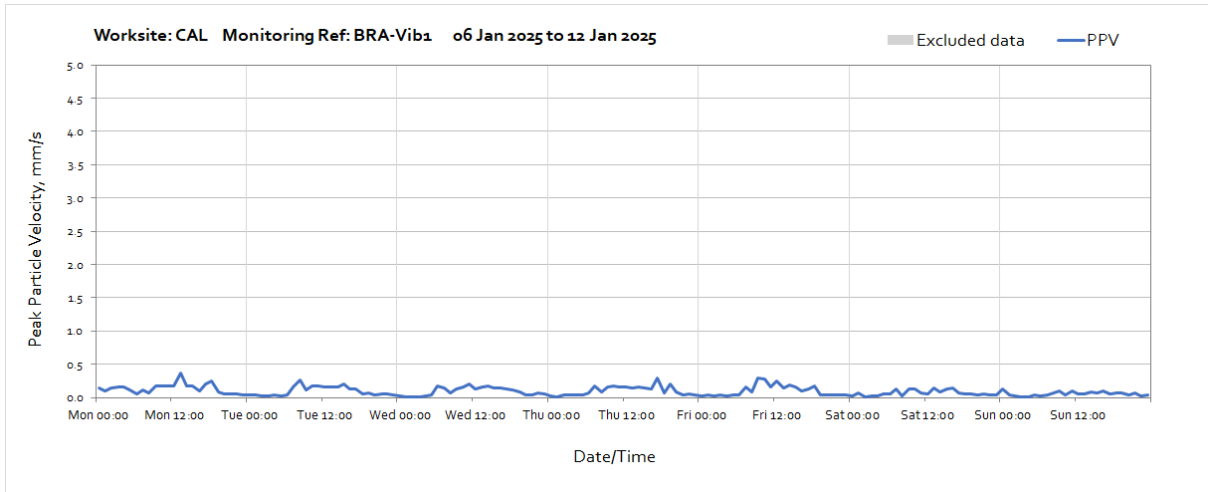
Worksite: WDL – Monitoring Ref: WDL-Vib1

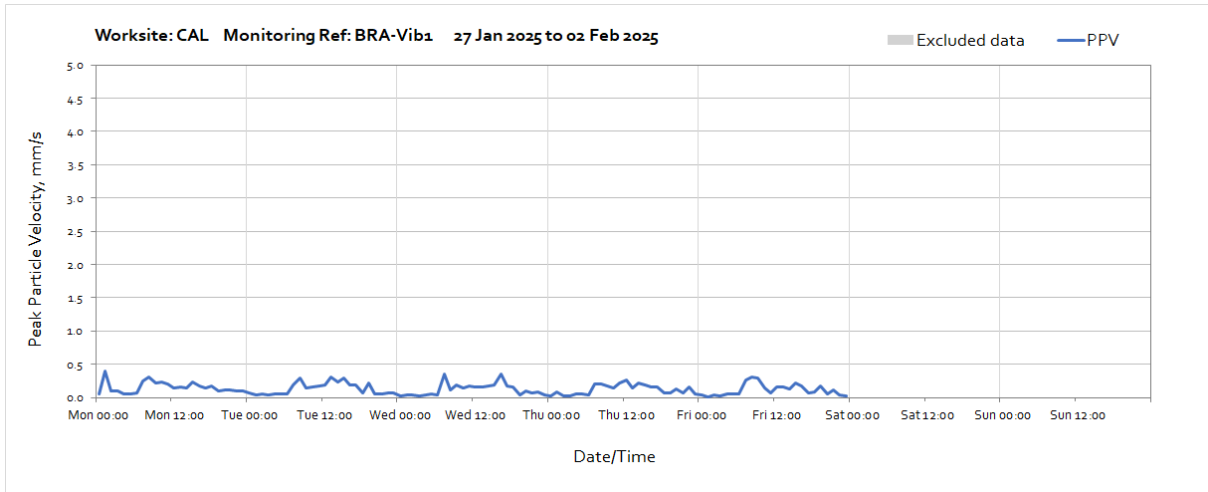




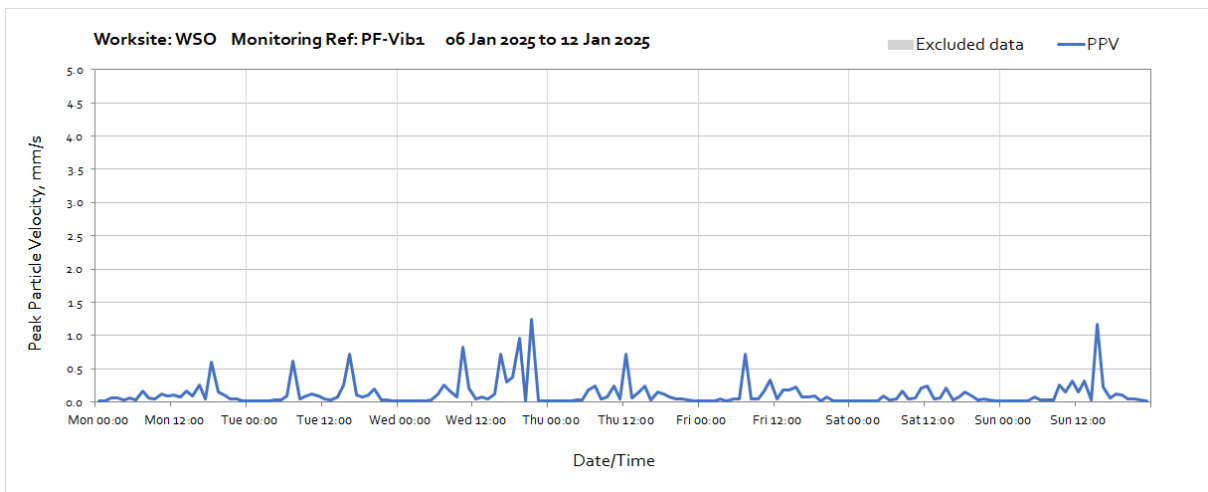
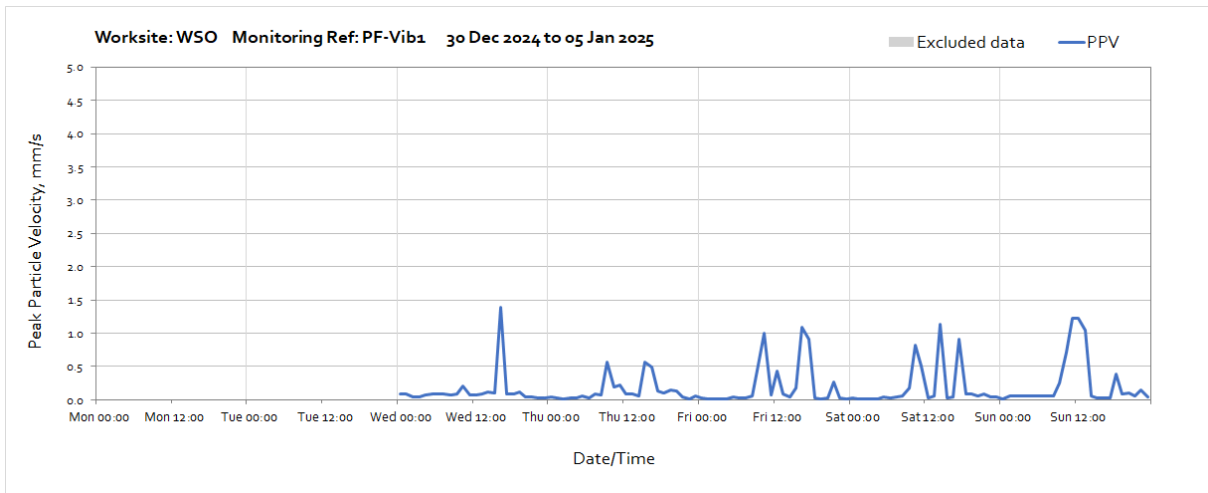
Worksite: CAL – Monitoring Ref: BRA-Vib1

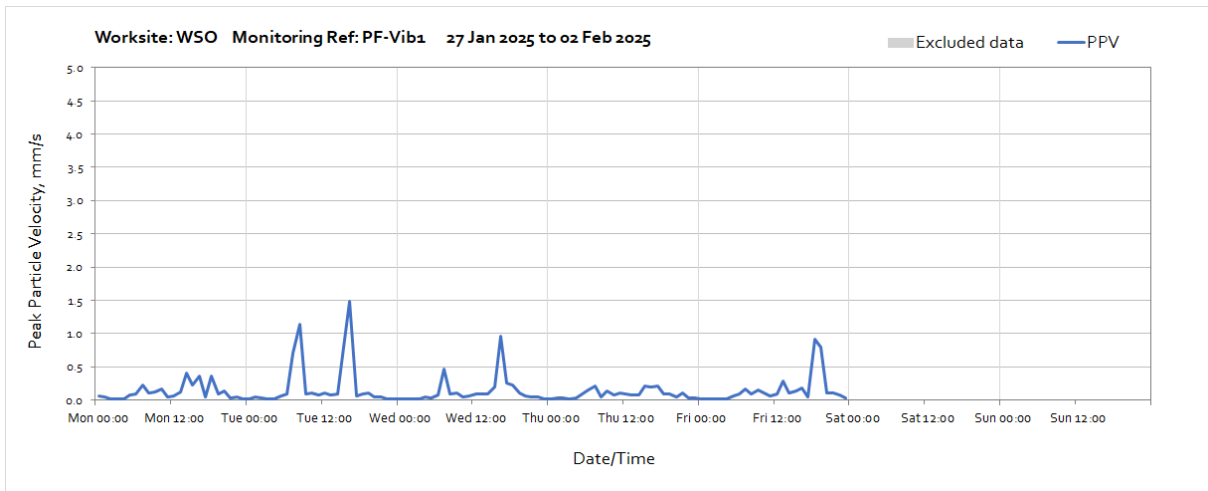
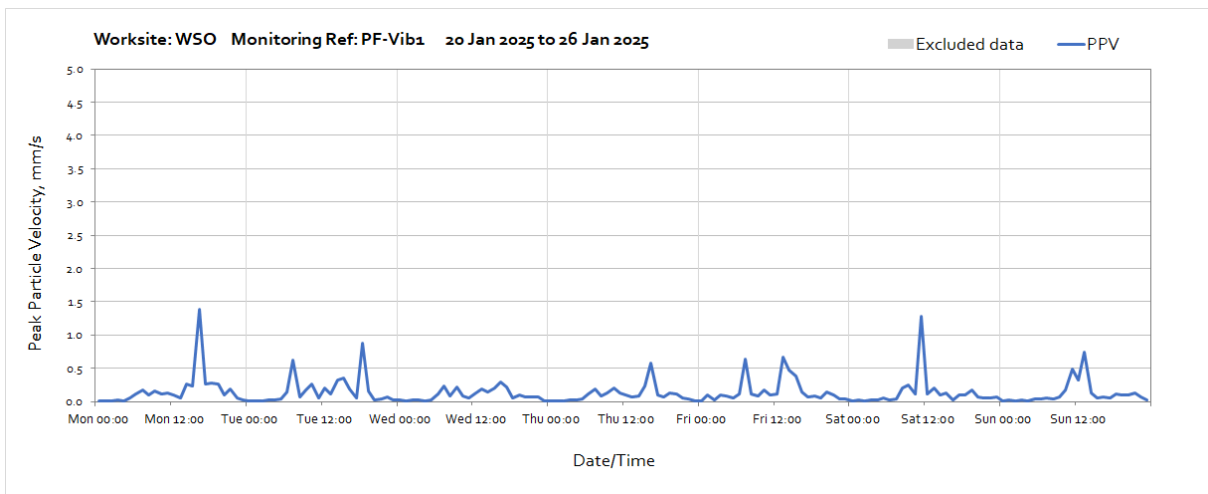
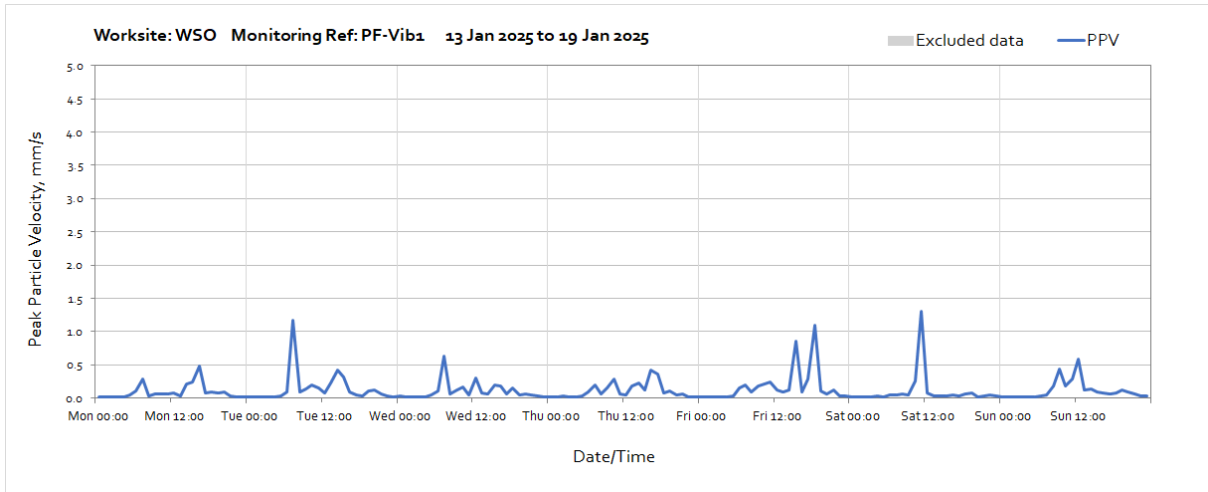




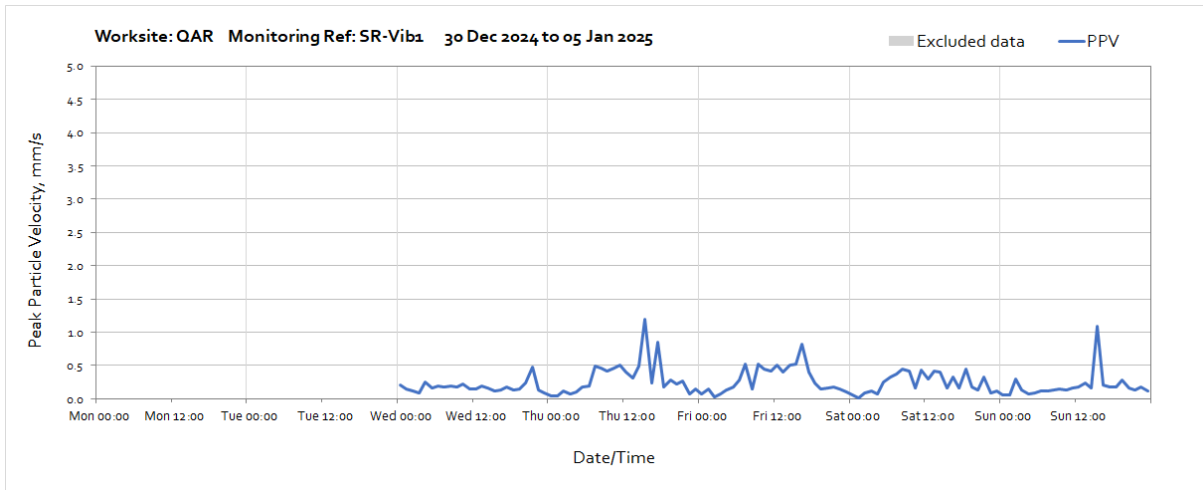


Worksite: WSO – Monitoring Ref: PF-Vib1

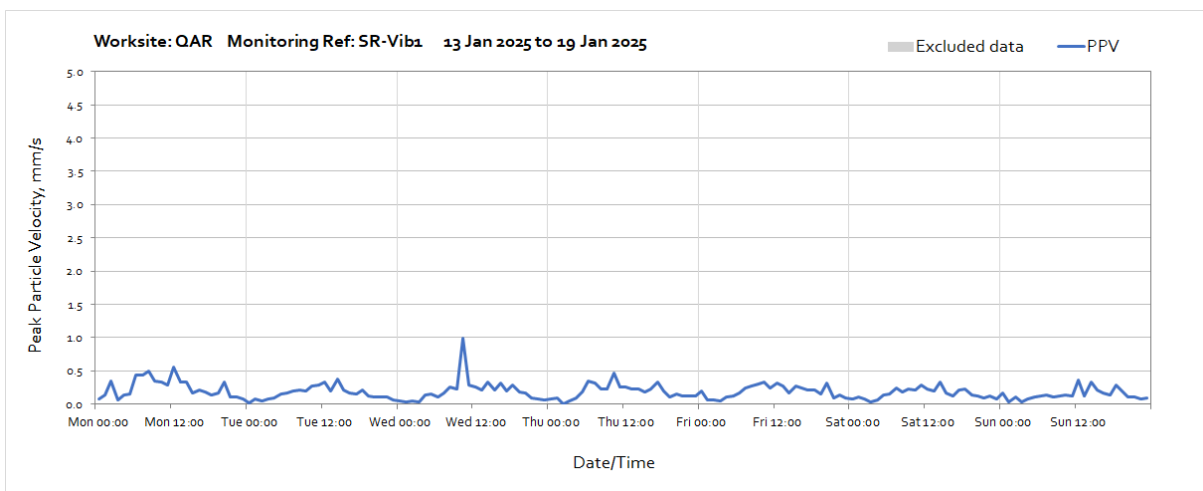
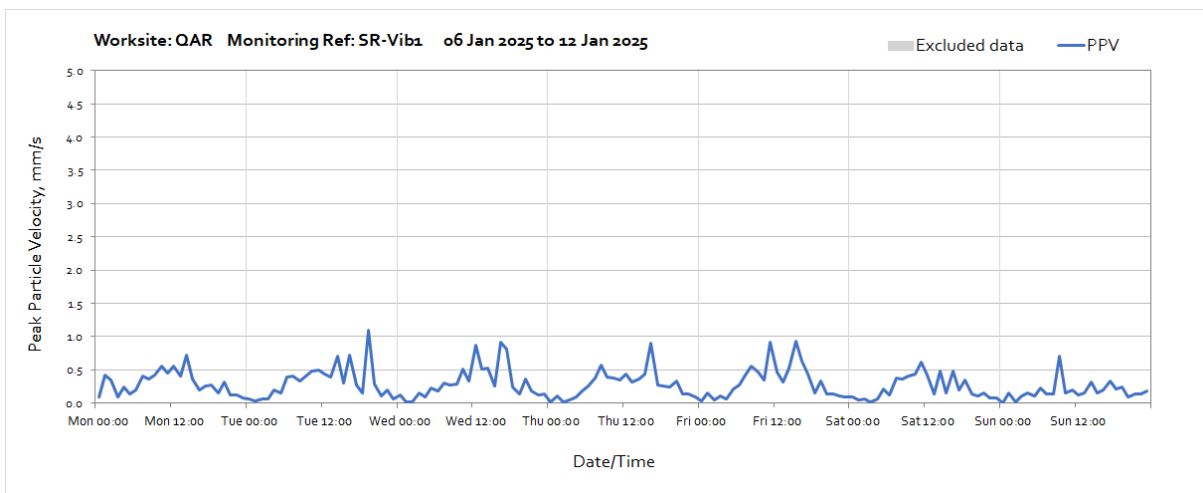




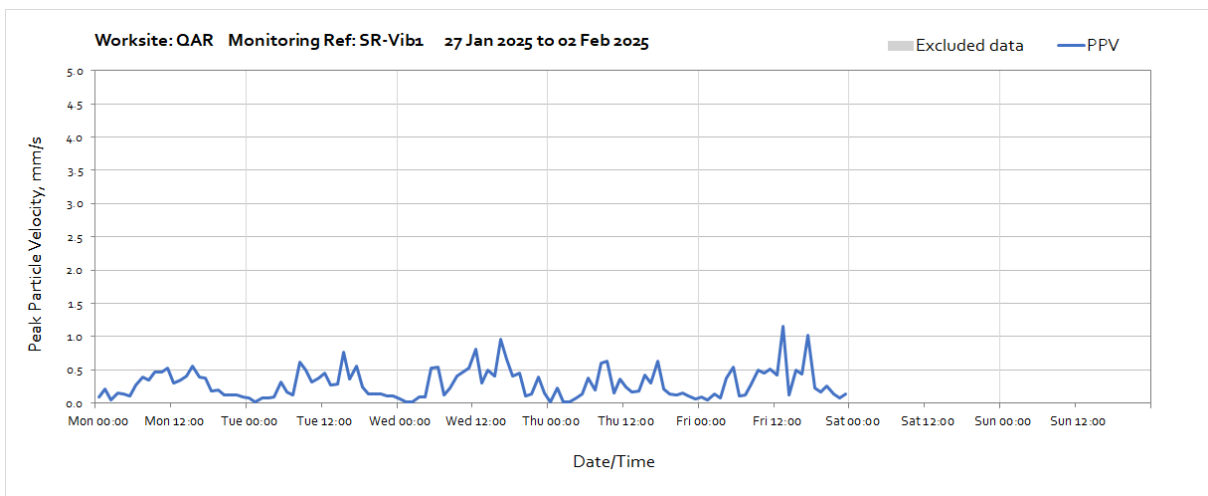
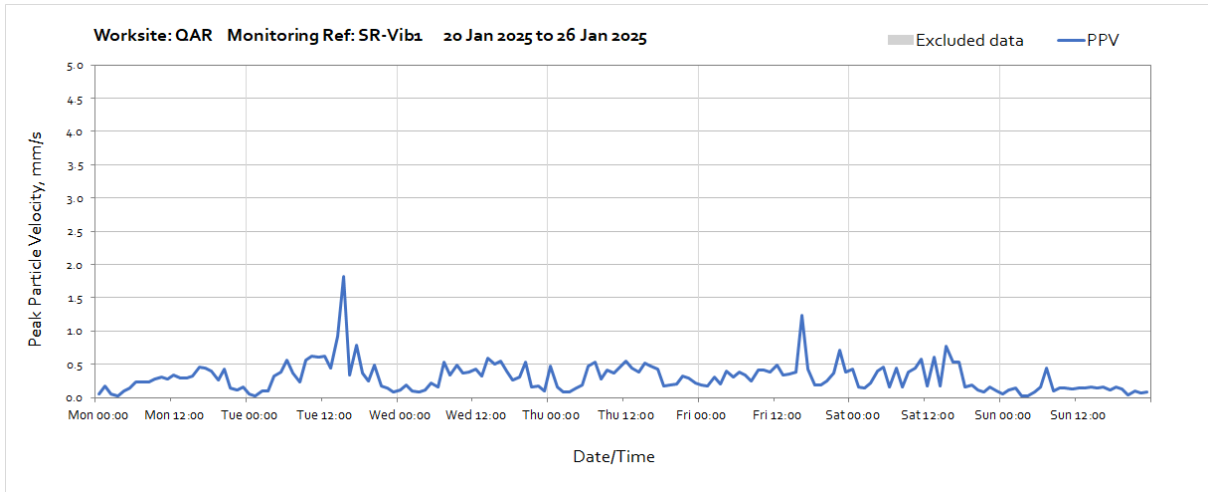
Worksite: QAR – Monitoring Ref: SR-Vib1



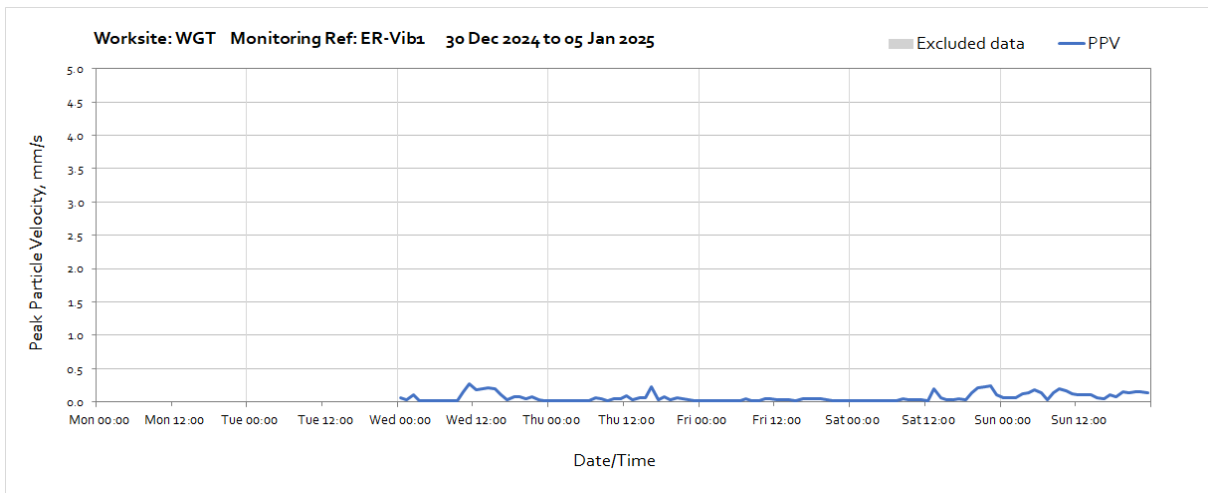
Note: Monitor was installed on the 1st January.

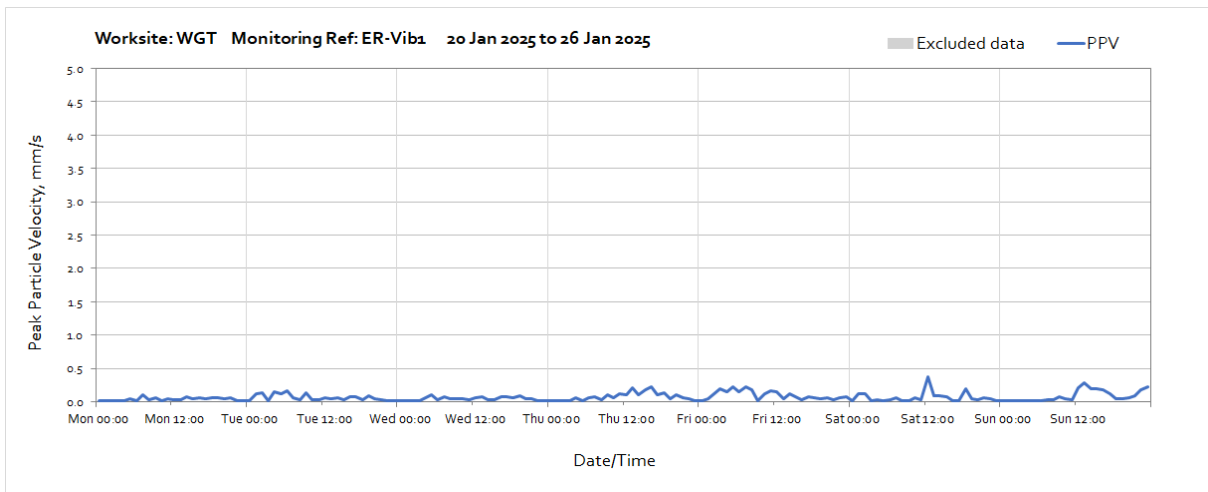
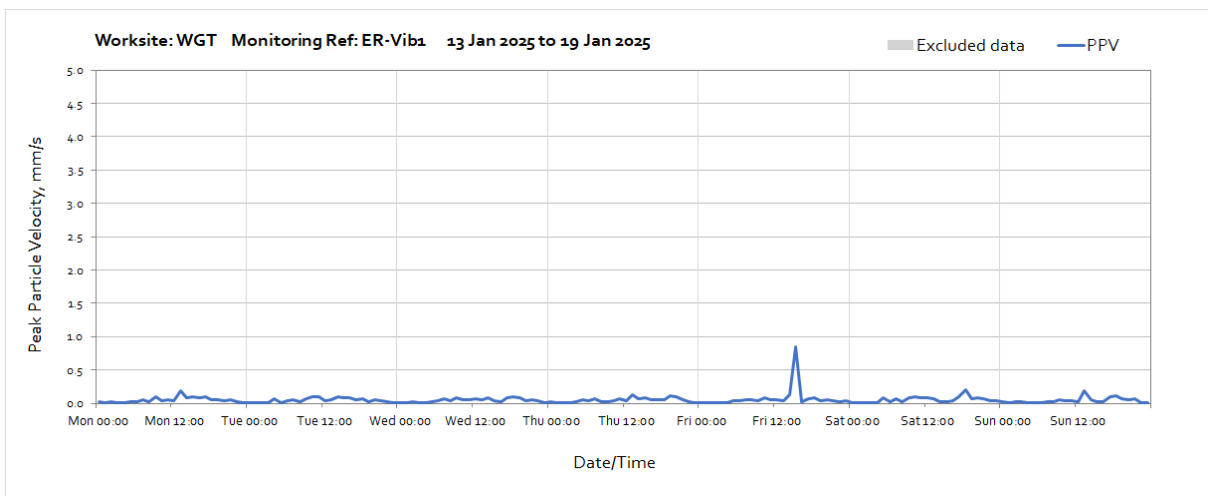
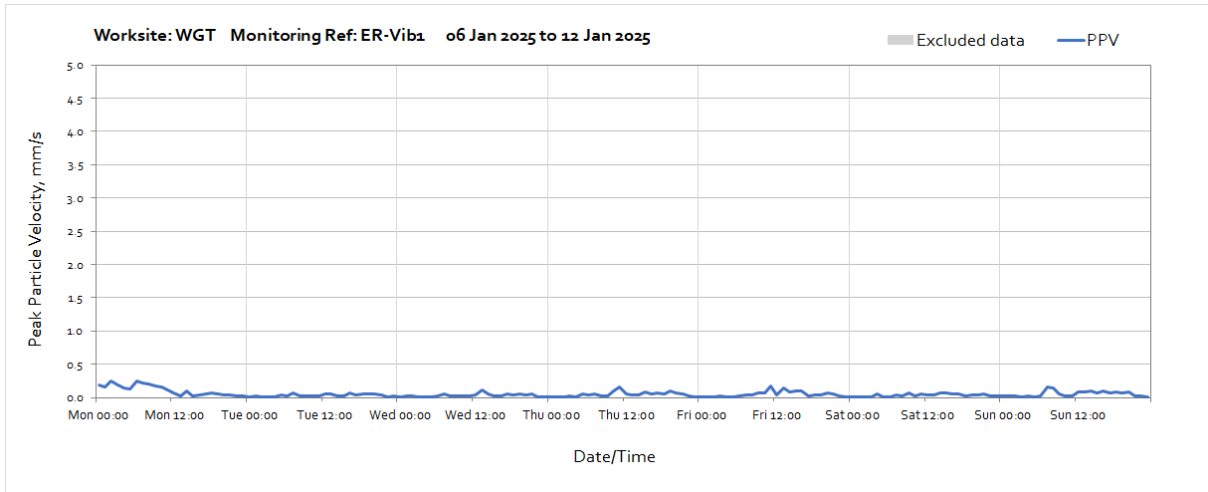


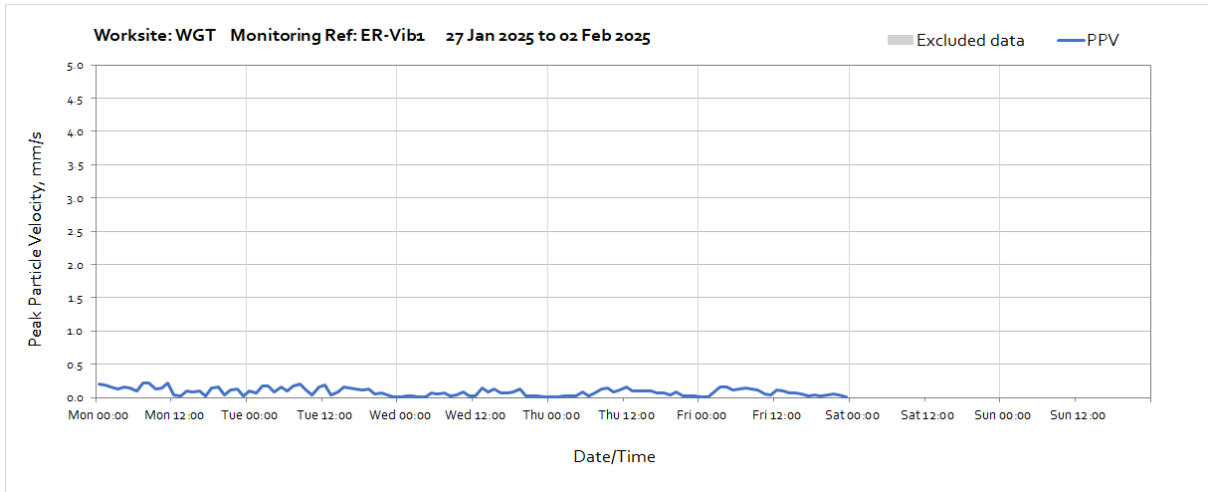
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Worksite: WGT - Monitoring Ref: ER-Vib1







Worksite: GF - Monitoring Ref: GF-Vib1

