



Noise Assessment Report

PAL International

WA Management
30.11.2020

Site	Bilton Way, Lutterworth, Leicestershire, LE17 4JA	Report Number	112020-01
Site Contact	[REDACTED]	Date of Assessment	26/11/2022
Author	[REDACTED]	Assessor(s)	[REDACTED]

Noise Survey Details

This document records the noise levels taken during assessment of the PAL International at Bilton Way and the noise operatives and personnel are exposed to. The survey was carried out on the 26.11.2020 on site. The report includes recommendations to ensure that PAL International comply with the requirement of The Control of Noise at Work Regulations 2005.

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Executive Summary

The noise survey was undertaken at PAL International Site on the 26th November 2020 as a follow up for internal noise risk assessments already carried out to assess the noise exposure for PAL International employees working in certain locations and with designated equipment. This noise assessment backs up the risk assessments that were already carried out and confirms that the noise readings were the same as manufacturers details.

Data was used from manufacturers details to produce an overall Company Risk Assessment for individual pieces of equipment regarding Noise, utilising worst case scenarios encountered in each case. This was then backed up by a noise assessment and readings being carried out on site within specific zones and near equipment already assessed. The findings from the on-site readings taken reflected the same findings from the risk assessments completed internally.

The noise survey highlights that there are areas of operation and activities carried out by PAL International employees where noise exceeds the Exposure Action Values set out in The Control of Noise at Work Regulations 2005 which are given in the Results Table (appendix 1) and set out in the Discussion section (5) which means PAL International must take certain actions, which were demonstrated as in place at the time of survey.

The survey shows that currently PAL International could make improvements within the Control of Noise at Work Regulations 2005.

Improvements could be achieved by the following:

- 1) Elimination and control of exposure to noise in the work place where possible.
- 2) Designation of mandatory hearing protection zones.
- 3) Provision of instruction, information and training.
- 4) Assessing the noise levels of individual equipment and using those findings along with those within this report to ascertain the potential need for occupational health surveillance.

It is recommended that PAL International undertake the above actions to demonstrate compliance. Further information on these recommendations and results are outlined in the report below.

 TechIOSH

SHEQ Consultant

1 Introduction

The Control of Noise at Work Regulations 2005 are designed to protect against risks to both health and safety from exposure to noise – the health risk of hearing damage in those exposed, and safety risks such as the noise affecting the ability to hear instructions or warnings.

The objective of this survey is to carry out an assessment of the noise PAL International employees are exposed to in line with The Control of Noise at Work Regulations 2005.

Measurements were taken throughout the site location ensuring an even distribution of sampling during a routine operating day; due to this being a sampling approach it is acknowledged that there may be instances where noise deviates from the findings outlined below. However, the survey aimed to assess the noise in circumstances as close to full operation as possible in order to get as close to true representation of noise that PAL International operatives may be exposed to.

2 Legislation

Regulation 5 places a duty on PAL International to conduct an assessment of the risk to health and safety created by exposure to noise at the workplace which includes the following responsibilities:

(1) An employer who carries out work which is liable to expose any employees to noise at or above a lower exposure action value shall make a suitable and sufficient assessment of the risk from that noise to the health and safety of those employees, and the risk assessment shall identify the measures which need to be taken to meet the requirements of these Regulations.

(2) In conducting the risk assessment, the employer shall assess the levels of noise to which workers are exposed by means of –

(a) observation of specific working practices;

(b) reference to relevant information on the probable levels of noise corresponding to any equipment used in the particular working conditions;

(c) if necessary, measurement of the level of noise to which his employees are likely to be exposed, and the employer shall assess whether any employees are likely to be exposed to noise at or above a lower exposure action value, an upper exposure action value, or an exposure limit value.

In addition, PAL International activities may cause employees of other employers to be exposed to noise, for example where visitors come on to site to carry out Health and Safety Audits. Regulation 3(2) places duties on all the employers involved and each will have a responsibility: (a) to their own employees; and (b) so far as is reasonably practicable, to any other person at work who is affected by the work they do. This responsibility applies to all the duties under the Noise Regulations except health surveillance (regulation 9), which you do not have to provide for anyone other than your own employees, while you only need to provide information, instruction and training.

The duties in the Noise Regulations are in addition to the general duties set out in the Health and Safety at Work etc. Act 1974 (the HSW Act). These general duties extend to the safeguarding of the health and safety of people who are not PAL International employees, for example sub-contractors, work experience, visitors and members of the public. Employees also have duties under the HSW Act to take care of their own health and safety and www.wamanagement.co.uk

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that of others whom their work may affect; and to co-operate with employers so that they may comply with health and safety legislation.

3 Exposure Limit Values and Action Values

The Control of Noise at Work Regulations 2005 sets out noise levels at which if employees are exposed certain action must be taken and exposure limit values which are noise levels to which employees must not be exposed. The Noise Assessment must include a likely noise exposure for which employees may be exposed to for comparison with the below exposure action values (EAV) and exposure limit values (ELV).

At Below 80dB(A) no action is required.

The Lower Exposure Action Values are defined as:

- a) A daily or weekly personal noise exposure of 80 dB(A) and
- b) A peak sound pressure of 135 dB(C)

The Upper Exposure Action Values are defined as:

- a) A daily or weekly personal noise exposure of 85dB(A) and
- b) A peak sound pressure of 137(C)

The Exposure Limit Values are defined as-

- a) A daily or weekly personal noise exposure of 87dB(A) and
- b) A peak sound pressure of 140dB(C)

4 Methodology and Noise Instrument

The Noise Assessment was undertaken using a sampling approach, aimed at capturing as true a picture of the noise PAL International employees are exposed to on site as possible.

The noise readings were taken in a representative sample of locations across the site (as shown in the Site Plan in Appendix 2).

The noise assessment was carried out using:

Equipment: Casella CEL Sound Level Meter

System ID: 1934

Model: CEL-620B

Serial Number: 5081637

Calibration Certificate Number: 13627

Calibration Date: 16.10.2020

The readings that were sampled during the assessment were believed to be true to the areas as were cross checked against readings already taken. A follow up report should be requested if any discrepancies are found and questioned.

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Copies of the Calibration Certificates are shown in Appendix 3.

Noise measures were taken of the 'A' weight sound pressure levels (which are displayed as L_{Aeq}) which has been used to calculate the daily exposure level (L_{EPd}) which is calculated using the measure noise (L_{Aeq}) and potential exposure times at each point for each operative. In addition, the peak sound pressures (L_{Cpeak}) were measured and recorded. The findings are displayed in Appendix 1- Table of Results.

5 Results

The results of the noise survey are laid out in Appendix 1- Table of Results, in addition Appendix 2- Site Layout and Zones shows the noise levels across the site plan.

6 Discussion

Zone 1- Converting Room.

Averaged over an 8 hour period the noise level in the converting room ranged from 80dB(A) to 85dB(A). This meets both the lower exposure action value of 80dB(A) and the upper exposure action value of 85dB(A) respectively. The location where the reading was taken showed disparities in the level of noise, with points 1,2 and 3 all meeting the upper exposure action value of 85dB(A) and points 4,5,6 exceeding the lower exposure action value of 80dB(A) but not reaching the upper value.

PAL International must reduce the exposure by a programme of technical/organisational measures as a priority, as well as providing information and training to operatives working in this area on the risks from noise. Provision of hearing protection is of free issue and is monitored to ensure its correct use and mandatory signage is put up within this area.

Zone 2- Packing Area.

Averaged over a 4 hour working day noise within this area fell below the lower exposure action value of 80dB(A). However, from samples taken, over an 8 hour working day the middle of the packing area, point 2, recorded noise levels of 81dB(A); this exceeds the lower exposure action value of 80dB(A).

Due to noise readings in excess of the lower exposure action value of 80dB(A) measures provision of information and training to operatives working in this area on the risks from noise should be implemented. Additionally, hearing protection is freely available in this area, although it would not be reasonable to declare this zone a hearing protection mandatory zone given the lower noise readings taken.

Zone 3- Warehouse.

The noise within this area ranged from 70dB(A) to 77dB(A) averaged over an 8 hour working day in all areas. This falls below the lower action value of 80dB(A). Monitoring should continue on noise exposure in this area and a review should be repeated to confirm that the risk level remains the same.

Zone 4- Mixing Room.

With no equipment running, but with the radio playing the background, this room recorded an average of 72dB(A) averaged over an 8 hour working day. This increased to 80dB(A) with the mixing equipment running, however, this was recorded at 77dB(A) over a 4 hour working day; below the lower action value of 80dB. Finally,

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with the IBC whisk running, noise readings showed levels of 81dB(A) and 84dB(A) over 4 and 8 hour days, respectively.

Technical and organisational measures should be taken to protect operatives working in this area from risk of noise exposure. Information and training is provided to operatives, hearing protection is of free issues and made mandatory within this area.

Zone 5- RO Water.

With the washer equipment running the noise within this area monitored at 84dB(A) over a 4 hour working day; exceeding the lower action limit of 80dB(A). Furthermore, averaged over an 8 hour working day noise levels of 87dB(A) were recorded; meeting the exposure limit value at which workers must not be exceeded.

PAL International must reduce the exposure by a programme of technical/organisational measures as a priority, as well as providing Information and training to operatives working in this area on the risks from noise. Provision of hearing protection is of free issue and is monitored to ensure its correct use and mandatory signage is put up within this area when operating equipment.

Zone 6- New Mixing Room.

With mixing equipment running noise levels were registered at 78dB(A) averaged over an 8 hour working day. Monitoring should continue on noise exposure in this area and a review should be repeated to confirm that the risk level remains the same.

Zone 7- Temcom Production Room.

Point 1 recorded noise levels of 78dB(A) averaged over an 8 hour working day, registering below the lower exposure action value of 80dB(A). However, both points 2 and 3 (the main control operative area and the roll replacement operative area), both measured noise levels in excess of the lower action limit of 80dB(A). Point 2 recorded a level of 80dB(A) and point 3 a level of 84dB(A) both averaged over 8 hour working days.

Given these findings, technical and organisational measures should be taken to protect operatives working in this area from risk of noise exposure. Information and training is provided to operatives, hearing protection is of free issues and made mandatory within this area.

Zone 8- New Packing Area.

Within this area no noise levels were recorded which met the lower exposure action value of 80dB(A) at points 2 and 3. However, when averaged over an 8 hour working day at point 1, noise levels of 80dB(A) were recorded.

Due to noise readings in excess of the lower exposure action value of 80dB(A) measures provision of information and training to operatives working in this area on the risks from noise should be implemented. Additionally, hearing protection is freely available in this area, although it would not be reasonable to declare this zone a hearing protection mandatory zone given the lower noise readings taken.

7 Recommendations

In order to comply with The Control of Noise at Work Regulations 2005 it is recommended that PAL International undertake the following actions:

Regulation 5- The Assessment of the Risk to Health and Safety Created by Exposure to Noise at the Workplace

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This assessment records the level of noise PAL International employees are exposed to during their time at work on site. This assessment must be reviewed and updated as required when:

1. There are changes to the work place, for example alterations to the building or layout.
2. Changes in people, for example new staff including young persons, changes to operating hours or patterns.
3. New equipment, plant or machinery.
4. Periodically; 2 yearly review.

This noise assessment must be retained for 40 years.

Regulation 6- Elimination or Control of Exposure to Noise at the Workplace

PAL International must ensure that where possible noise is eliminated at source, or where this is not reasonably practicable than the level of noise is reduced as far as is reasonably practicable by other means.

This should be considered in: zone 5, where the exposure limit value e of 87dB(A) was exceeded; zone 1, where the upper exposure action value of 85dB(A) was exceeded; and finally zones 2,4,7 and 8 where the lower exposure action value of 80 dB(A) was met.

Regulation 7- Hearing Protection

Hearing protection must always be used as a last resort when exposure has been eliminated or reduced as far as is reasonably practicable as outlined in Regulation 6.

Within zones 1 and 5 hearing protection should be made mandatory, with adequate signage placed to enforce this when equipment is in use. Furthermore, hearing protection should also be provided in zones 2, 4, 7 and 8 with information and training on the use of this PPE and the risk of noise given to employees working in these areas.

Regulation 8- Maintenance and Use of Equipment

PAL International must continue to ensure that all equipment, plant and machinery are in accordance with the Control of Noise at Work Regulations, properly maintained and in good repair in accordance with the manufacturer's instructions.

All employees who are issued with hearing protection must be given appropriate instruction on the use of such Personal Protective Equipment, they must keep it clean and in good condition, stored in a clean and dry location. All defects in PPE are to be reported to their line manager so that appropriate replacement can be made where necessary.

Regulation 9- Health Surveillance

PAL International should continue to provide health surveillance for all operatives that work on site and who are regularly exposed to noise levels above 85dB(A). The records of the health surveillance must be kept for 40 years and any remedial action taken.

This is potentially applicable within zones 1 and 5 where the noise readings were surveyed above the upper action value of 85dB(A) and exceeded the exposure limit value of 87dB(A).

Regulation 10- Information, Instruction and Training

PAL International must continue to provide all employees who may be exposed to an $L_{EP,d}$ of at or above the Lower Action Value of 80dB(A) with suitable information, instruction and training including:

- 1) The likely noise exposure and the risk to hearing the noise creates;
- 2) What PAL International are doing to control risks and exposures;
- 3) Where and how people can obtain hearing protectors;
- 4) How to report defects in hearing protectors and noise control equipment;
- 5) The employee's duties under the Noise Regulations;
- 6) What health surveillance employees will be provided with and it is provided;
- 7) What symptoms they should look out for (such as difficulty in understanding speech in conversation or when using the telephone, or permanent ringing in the ears), to whom they should report them and how they should report them.

8 References

The Control of Noise at Work Regulations 2005

HSE Guidance- Control of Noise at Work Regulations 2005 Guidance on Regulations L108

Appendix 1 Table of Results

Location/ Task	Activity Observed	L _{Aeq} dB	L _{Max} dB(A)	L _{CPK} dB(C)	Calculated L _{EP,d}		Sample Time Min:Sec
					4 Hours	8 Hours	
Location							
Zone 1 Converting room: 6 readings taken	Near entrance to the converting room	84.6	90.8	107.6	82	85	05:00
	At the rear left hand of the converting room	84.7	89.2	106.9	82	85	05:00
	Between equipment	84.8	93.7	113.3	82	85	05:00
	At the rear right hand of the converting room	81.7	88.5	107.9	79	82	05:00
	Main operative station at the clipper.	83.1	84.6	101.8	80	83	05:00
	Second operative station at the clipper.	79.9	84.3	101.8	77	80	05:00
Zone 2 Packing area: 3 readings taken	Near the entrance to the packing area	76.0	84.2	100.0	73	76	05:00
	Middle of the packing area	81.2	82.2	112.9	78	81	05:00
	Far end of the packing area	76.1	79.3	102.5	73	76	05:00
Zone 3 Warehouse: 3 readings taken	Near clinging station	77.4	90.5	111.7	75	77	05:00
	Middle of warehouse near packing doors	75.1	80.7	99	72	75	05:00
	Far end of the warehouse near roll turning door	69.3	74.4	91.6	65	70	05:00
Zone 4 Mixing room: 3 readings taken	No equipment running, radio playing in the background	72.3	82.8	103.2	70	72	05:00
	Mixer running	79.7	98.0	120.0	77	80	05:00
	IBC Whisk	83.6	99.0	125.0	81	84	05:00
Zone 5	Washer equipment reading	87.3	95.8	110.9	84	87	05:00

RO Water: 1 equipment reading							
Zone 6 New mixing room	Mixing equipment reading	77.8	81.3	110.1	75	78	05:00
Zone 7 Temcon production room	Near the door	77.1	84.3	105.1	74	77	05:00
	Main control operative area	79.8	84.4	100.3	77	80	05:00
	Roll replacement operative area	82.1	85.2	106.3	79	82	05:00
Zone 8 New packing area	By door and clinging machine	80.1	90.8	112.3	77	80	05:00
	Main operative control area	79.4	85.0	105.6	76	79	05:00
	Far side storage area	78.2	85.7	107.7	75	78	05:00

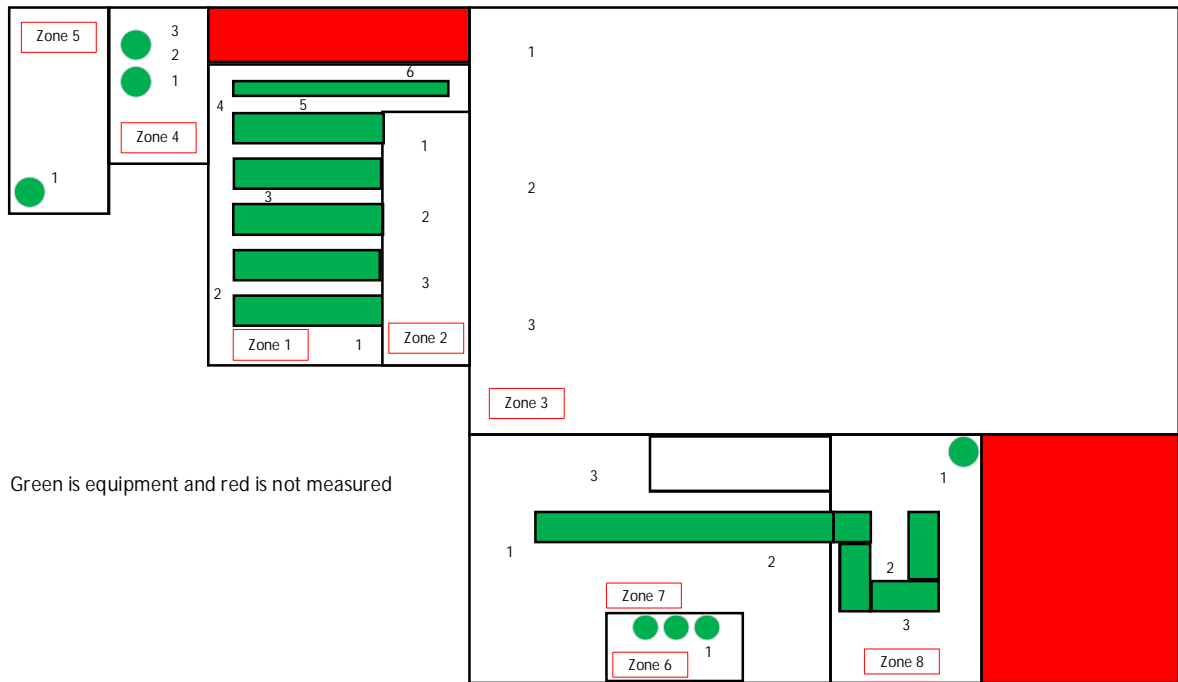
Comments:

Zones 1 and 5: Mandatory Hearing protection. Mandatory signage is already in place.
 Zones 2, 4, 7 and 8: Equipment allocated hearing protection at 24SNR. Mandatory signage is required within this area.

Colour Key L_{EP,d} Values

A Daily (L _{EP,d}) below the Lower Action Value (LAV of 80dB(A) and a peak sound pressure (L _{CPeak}) below 135dB(C).	
A Daily (L _{EP,d}) above the Lower Action Value (LAV of 80dB(A) and a peak sound pressure (L _{CPeak}) at or above 135dB(C).	
A Daily (L _{EP,d}) at or above the Lower Action Value (LAV of 85dB(A) and a peak sound pressure (L _{CPeak}) at or above 137dB(C).	
A Daily (L _{EP,d}) at or above the Upper Action Value (LAV of 87dB(A) and a peak sound pressure (L _{CPeak}) at or above 140dB(C).	

Appendix 2- Site Layout



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Appendix 3 Noise Instrument and Calibration

CERTIFICATE OF CALIBRATION	
Issued By EXPRESS INSTRUMENT HIRE LTD	Certificate Number 15971
Date of Issue 16 October 2020	Page 1 of 2 Pages



EXPRESS HOUSE, CHURCH ROAD
 TARLETON, PRESTON, LANCASHIRE
 PR4 6UP
 TEL:01772 815600
 email:sales@expresshire.net

Approved Signatory

L Myers A Gibson P Smith

Customer : Express Instrument Hire Ltd
 Express House, Church Road
 Tarleton, Preston Lancashire PR4 6UP

Date Received :

Instrument :	System ID :	1934	
	Description :	Sound Level Meter	
	Manufacturer :	Casella CEL	
	Model Number :	CEL-620B	
	Serial Number :	5081637	Last Calibration Certificate : 13627
	Procedure Version :	1.01	Last Calibration Date : 06/08/2015

Environmental Conditions

Temperature : 20°C +/- 5°C	Mains Voltage : 240V +/- 10V
Relative Humidity : 50% +/- 20%	Mains Frequency : 50Hz +/- 1Hz

Comments

Procedure written to manufacturers specification.
 Instrument was placed in lab and allowed to stabilise before calibration.

Traceability Information

Instrument description	Serial number	Certificate number	Cal. Date	Cal. Period
Casella CEL 120/1	4884710	34828U	05/08/2020	52

Calibrated By  Date of Calibration : 16 October 2020

This certificate provides traceability of measurement to recognised National Standards, and to the units of measurement realised at the National Physical Laboratory or other recognised National Standards laboratories.
 Copyright of this certificate is owned by the issuing laboratory and may not be reproduced except with the prior written approval of the issuing laboratory.
 This certificate complies with the requirements of BS EN ISO 10012:2003.

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CERTIFICATE OF CALIBRATION

Certificate Number
15971

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Test Title	Tolerance	Applied Value	Reading	Pass/Fail
Range 20-140dB				
114dB @ 1Khz	1dB	114dB	114.0dB	Pass
114dB @ 1Khz	1dB	94dB	94.0dB	Pass
CEL 110/2 Operation	---	---	Pass	

End of results

Uncertainties

dB 0.01dB

Appendix 4 Glossary of Terms

Noise- Any audible sound.

Sound- Vibrations that can be heard when they reach a person's ear

Sound Pressure- The variation of ambient pressure that is detected by the ear as sound.

Sound Pressure Level (L_p)- The Decibel version of Sound-Pressure.

Decibel (dB)- Ten times the logarithm of the square of the ratio of the sound pressure to a reference pressure (20 micro Pascals).

A Weighting- A frequency weighting that simulates the response of the ear. Sound Pressure Levels with the 'A' weighting have a unit of dB(A).

L_{eq} - The Value of the Sound Pressure Level in dB, of a continuous sound which has the same mean square sound pressure as a sound which varies with time i.e., the average sound pressure level.

$L_{EP,d}$ - The daily personal noise exposure level which is the level of daily personal noise exposure of an employee, taking no account of the effect of any personal hearing protector used.

L_{Cpeak} - The peak sound pressure level in dB(C)

$L_{Max}(A)$ - The Maximum A-weighted sound level reached during transient noise is called the Maximum Sound Level, abbreviated as $L_{Max}(A)$

Lower Action Value- The lower exposure action value, is an average of 80 dB (A weighted), measured over a day or a week. This is achieved by totalling a continuous noise of level 80 dB, over a period of eight hours daily or 40 hours weekly. Alternatively, it is a peak sound pressure level of 135 dB.

Upper Action Value- The upper exposure action value is an average of 85 dB (A weighted). This is achieved by totalling a continuous noise of level 85 dB, over a period of eight hours daily or 40 hours weekly. Alternatively, it is a peak sound pressure level of 137 dB.

Exposure Limit Value- The above values must be measured without protective equipment such as ear muffs or plugs. There are also Exposure Limit Values that must not be exceeded, but when estimating these hearing protection is taken in to account. These limit values are a daily or weekly average exposure of 87 dB(A weighted) and a peak sound pressure of 140 d

Single Number Rating (SNR)- The protection value provided by hearing protection.