# MONTGOMERY E.H.S.

# Pat Kenny

## NOISE MONITORING REPORT

## March 2012

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**PAT KENNY**

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# 1.0 Introduction

This Environmental Noise Survey has been prepared by Trevor Montgomery and assesses the noise impact associated with the operation of the Pat Kenny Poultry growing operation as part of its management programme and planning permission requirements.

The EPA in its guidelines for Noise surveys for IPPC and Waste licensing sets out the following requirements in relation to noise:

- Activities on-site shall not give rise to noise levels off site, at noise-sensitive locations, (at specified noise sensitive locations) which exceed the following sound pressure limits ($L_{Aeq}$) :
    - Daytime: 55dB(A)
    - Night-time: 45dB(A)
- There shall be no clearly audible tonal or impulsive components at any noise-sensitive locations.
- A noise survey of site operations shall be carried out on an annual basis.

The above noise limits relate to the following criteria:

| | |
|---|---|
| Daytime (08:00hrs to 22:00hrs): | 55dB $L_{Aeq}$, 30min |
| Night-time (22:00hrs to 08:00hrs): | 45dB $L_{Aeq}$, 30min |

Trevor Montgomery has been commissioned to conduct a noise survey in accordance with the sites planning permission and EPA requirements in order to establish whether or not the facility is operating in compliance with the criteria outlined above.

## 2.0 Survey Details and Measured Noise levels

An environmental noise survey was conducted in order to quantify the existing noise environment. The survey was conducted generally in accordance with ISO 1996: 1982: *Acoustics – Description and measurement of environmental noise and the* Environmental Protection Agency document entitled, Environmental Noise Survey Guidance Document. Specific details are set out below.

### 2.1 Choice of Measurement Locations

Whilst the planning permission criteria relate to noise levels at noise sensitive locations and specific noise source or defined areas within the plant. The four boundary locations (ML 1 to ML 5) are shown on Figure 1.1. These locations are described below.

| | |
|---|---|
| ML 1 | North corner at residence |
| ML 2 | Entrance to residence at west boundary |
| ML 3 | Entrance to Holland House |
| ML 4 | Pat Kenny front garden |
| | John Holland's front Garden |

**Position M1** is at the entrance to a residence to the north west of Pat Kenny poultry operation.

**Position M2 is** the entrance Residential entrance to existing poultry operation

**Position M3** is the entrance to the Holland residence

**Position M4** is Pat Kenny's front garden

**Position M5** is John Holland's front garden.

## 2.2 Survey Periods

Measurements were conducted over the course of three survey periods as follows:

- 21st October 2010 covering locations 1 to 3
- 18th of January 2011 to 9th of February 2011 at location 4
- 29th of March 2011 to 20th of April 2011 at Location 5

During all of the survey periods noted above, it is understood that the poultry operation was in normal operation.

The weather during the October survey the daytime survey was mild (nominally 7 to 12°C) and calm (less than 4 $ms^{-1}$). During the night-time it remained calm with occasional light breeze and the temperature dropped to around 4°C, conditions remained dry throughout both periods.

## 2.3 Personnel and Instrumentation

Trevor Montgomery conducted the noise level measurements during both survey periods.

The measurements were performed using a Cirrus Research 831B Type 1 Data Logging Sound Level Meter. Before and after the survey the measurement apparatus was check calibrated using a Cirrus Research: 515 Type 1 Acoustic Calibrator

## 2.4 Procedure

The Noise measurements were conducted on a cyclical basis. Sample periods were 15 minutes during both the daytime and night-time surveys. The results were saved to the instrument memory for later analysis where appropriate. Survey personnel noted all primary noise sources contributing to noise build-up.

Manned measurements were conducted external to the site at all locations marked as the closest noise locations to the Pat Kenny poultry operation (Locations 1 to 5). Measurements were conducted on a cyclical basis with sample periods of 15 minutes. The survey results were noted onto a Survey Record Sheet immediately following each sample, and were also saved to the instrument memory for later analysis where appropriate. Survey personnel noted the primary noise sources contributing to noise build-up during the noise survey.

## 2.5 Measurement Parameters

The boundary survey results are presented in terms of the following five parameters:

$L_{Aeq}$ is the equivalent continuous sound level. It is a type of average and is used to describe a fluctuating noise in terms of a single noise level over the sample period.

$L_{Apeak}$ is the instantaneous maximum sound level measured during the sample period.

$L_{A10}$ is the sound level that is exceeded for 10% of the sample period. It is typically used as a descriptor for traffic noise.

$L_{A90}$ is the sound level that is exceeded for 90% of the sample period. It is typically used as a descriptor for background noise.

The "A" suffix denotes the fact that the sound levels have been "A-weighted" in order to account for the non-linear nature of human hearing.

All sound levels in this report are expressed in terms of decibels (dB) relative to $2x10^{-5}$ Pa.

The specific noise level is the component of the ambient noise that can be attributed to the specific source, which is the Pat Kenny poultry operation in this case. The majority of the survey locations, there some extraneous noise from sources other than the Pat Kenny's poultry operation, i.e. traffic noise from the local road and the N21. It was also noted that noise emissions from the poultry operation site were relatively constant during and day and evening surveys. The Environmental Protection Agency document entitled, Environmental Noise Survey Guidance Document (2003) states the following:

"For some noise surveys, the $L_{A90}$ index may be used to give a good indication of the actual noise output from the site, where the noise emissions on site are relatively steady" In this assessment, we have adopted the $L_{A90}$ parameter as being representative of noise emissions from the Pat Kenny poultry operation.

# 3.0 Receiving Environment

## 3.1 General Description

Pat Kenny operates a poultry growing operations situated at Coolanoran, Newcastle west, Co. Limerick. The operation is employed in growing chickens for human consumption.

# 4.0 Survey Results and Discussion

The results for all Noise Monitoring Location (ML') are outline in Table 1(a), 1(b) and 1(c).

## 4.1 Noise Monitoring Location

### 4.1.1 Position M1

The day time survey was influence by noise from the North West of the poultry operation, Vehicular traffic along the local road and the N21, dogs barking and bird song. The noise survey had an $L_{Aeq}$ of 45.0 dB(A) with a $L_{A90}$ of 42.0 dB(A).

The survey had a number of vehicle movements during this time. Weather conditions were calm with no animal or human movements. The dominant noise source is vehicle movements along the local road and the N21 .

No tonal component was determined

### 4.1.2 Position M 2

At this location the noise was influenced by Pat Kenny's poultry operation, road and vehicle noise and bird song and is a good indication of the noise levels from the site. This location and is a good indication of the noise levels from the site. The survey results were $L_{Aeq}$ of 43.0 dB(A) and $L_{A90}$ of 40.0 dB(A). The main noise source was the movement of vehicle along the road and Pat Kenny poultry operation.

No tonal component was determined

4.1.3 Position ML 3

This location is the location to the West of the facility along the local road and is a good indicator of the noise levels from the existing poultry operation. The noise sources are mainly and traffic movements Pat Kenny poultry operation and bird song were auditable. The survey results were $L_{Aeq}$ of 46.0 dB(A) and $L_{A90}$ of 41.0 dB(A)

There were three vehicles movements during the survey. Weather conditions were calm with some bird song and the poultry operation just barely auditable.

No tonal component was determined

**Table 1a: Existing Noise Levels Measured During EIS Baseline Survey**

| Location | Time | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
|---|---|---|---|---|---|---|
| 1 | 09:32 | 45 | 49 | 42 | Measurement taken at boundary of residence | Cars passing |
| 2 | 10.03 | 43 | 48 | 40 | Measurement taken at boundary of residence | No Major Noise sources |
| 3 | 10.34 | 46 | 52 | 41 | Measurement taken at entrance of residence | Vehicles audible from N21 |

4.1.4 Position ML 4

The location is Pat Kenny's poultry operation to the northwest of the poultry operation, the monitoring was conducted from the 18th of January 2011 to 9th of February 2011. The noise level during the day was primarily vehicle noise and the poultry operation. Secondary noise sources were from a dog barking and bird song. The survey results were $L_{Aeq}$ ranging from 48.8 to 53.3 dB(A) and $L_{A90}$ ranging from 43.4 to 47.5 dB(A).

**Table 1b Existing Noise Levels Measured During EIS Baseline Survey at Pat Kenny**

| Date | LAeq | LA10 | LA90 | LCpeak |
|---|---|---|---|---|
| 18/01/2011 | 51.6 | 57.25 | 45.90 | 81.95 |
| 19/01/2011 | 52.8 | 58.61 | 46.99 | 84.55 |
| 20/01/2011 | 53.1 | 58.90 | 47.23 | 83.50 |
| 21/01/2011 | 53.3 | 59.21 | 47.47 | 85.03 |
| 22/01/2011 | 51.5 | 57.21 | 45.87 | 81.72 |
| 23/01/2011 | 51.2 | 56.87 | 45.60 | 78.92 |
| 24/01/2011 | 49.5 | 54.98 | 44.08 | 81.10 |
| 25/01/2011 | 50.1 | 55.50 | 44.55 | 79.01 |
| 26/01/2011 | 51.5 | 57.15 | 45.82 | 80.70 |
| 27/01/2011 | 51.2 | 56.88 | 45.60 | 79.61 |
| 8/01/2011 | 51.3 | 56.94 | 45.65 | 78.84 |
| 29/01/2011 | 51.7 | 57.39 | 46.01 | 84.00 |

| | | | | |
|---|---|---|---|---|
| 30/01/2011 | 51.1 | 56.73 | 45.45 | 82.01 |
| 31/01/2011 | 50.4 | 55.94 | 44.85 | 79.52 |
| 01/02/2011 | 48.8 | 54.13 | 43.40 | 78.73 |
| 02/02/2011 | 49.1 | 54.53 | 43.72 | 79.44 |
| 03/02/2011 | 48.9 | 54.32 | 43.55 | 78.80 |
| 04/02/2011 | 49.2 | 54.58 | 43.76 | 77.32 |
| 05/02/2011 | 49.1 | 54.50 | 43.70 | 77.11 |
| 06/02/2011 | 50.1 | 55.61 | 44.58 | 81.22 |
| 07/02/2011 | 50.2 | 55.72 | 44.68 | 80.07 |
| 08/02/2011 | 49.2 | 54.56 | 43.75 | 77.32 |
| 09/02/2011 | 49.6 | 55.01 | 44.10 | 78.48 |

Weather conditions were calm for most of the survey but heavy rain was recorded 19th and 20th of January 2011. The N21 is audible from Pat Kenny's at night or quite periods in the morning and evening.

No tonal component was determined

4.1.5 Position M 5

The location is on the west of the poultry operation in the front garden of John Holland residence. The noise level during the day was primarily vehicle noise from the local road and the N21 and a secondary noise source was bird song. The survey results were $L_{Aeq}$ ranged from of 45.6 to 53.8 dB(A) and $L_{A90}$ of 40.6 to 47.9 dB(A).

**Table 1c Existing Noise Levels Measured During EIS Baseline Survey at John Holland's**

| Date | LAeq | LA10 | LA90 | LCPeak |
|---|---|---|---|---|
| 29/03/2011 | 51.08 | 56.69 | 45.46 | 73.07 |
| 30/03/2011 | 51.03 | 56.6 | 45.41 | 74.17 |
| 31/03/2011 | 49.93 | 55.42 | 44.43 | 71.22 |
| 01/04/2011 | 49.23 | 54.64 | 43.81 | 75.35 |
| 02/04/2011 | 50.3 | 55.83 | 44.76 | 83.43 |
| 03/04/2011 | 51.26 | 56.89 | 45.62 | 85.89 |
| 04/04/2011 | 53.13 | 58.97 | 47.28 | 91.14 |
| 05/04/2011 | 51.79 | 57.48 | 46.09 | 86.97 |
| 06/04/2011 | 50.68 | 56.25 | 45.10 | 81.78 |
| 07/04/2011 | 50.32 | 55.85 | 44.78 | 83.15 |
| 08/04/2011 | 49.31 | 54.73 | 43.88 | 83.2 |
| 09/04/2011 | 49.16 | 54.56 | 43.75 | 79.9 |
| 10/04/2011 | 48.53 | 53.86 | 43.19 | 79.96 |
| 11/04/2011 | 48.15 | 53.44 | 42.85 | 80.21 |
| 12/04/2011 | 48.36 | 53.67 | 43.04 | 74.66 |
| 13/04/2011 | 47.86 | 53.12 | 42.59 | 73.9 |
| 14/04/2011 | 51.08 | 56.69 | 45.46 | 73.07 |
| 15/04/2011 | 53.8 | 59.71 | 47.88 | 83.03 |