N I C K

HITAKER

electro-acoustics

Andy Franks
3 D Management
c/o Agincourt Studios,
Agincourt Rd
London

18th April 2007

Dear Andy,

Re: Environmental impact of noise emissions from ventilation extract unit & a/c invertor units to the rear of studios.

Further to my visit and measurements of the noise emissions from the ventilation extract unit and the other a/c equipment mounted at the rear of the studios:

1) This morning I made a series of measurements (Laeq & L_{A90} percentile) over 5 minute periods on the rear roof of the studios. The measurements were made approximately 1m from the rear wall of the adjacent restaurant – this was approximately ½ the distance to the closest residential property façade. Measurements of noise emissions from the units at this position need to be reduced by 5-6dBA to calculate the levels at the closest residential façade, to account for the additional distance travelled.

2) At the measurement position the operation of the "invertor" chiller units was completely inaudible, but the operation of the extract fan was just audible

3) When the extraction system was completely turned off, the background noise levels were found to be between 49.3 and 49.8dBA. When the extraction fan was switched on to speed #3, the background noise levels increased marginally, to between 50.2 and 50.8dBA. This would imply that the noise emissions from the units are some 6dBA below the ambient background noise levels at the measuring point, and 11-12dBA below at the residential façade. This is within the limits specified by Camden Council in their Noise Standards (see attached).

4) Despite the relatively busy local road traffic, background noise levels will reduce in the evening /night time periods, although before midnight I would not expect them to fall much below 45dBA. This still gives some margin to operate the extraction system within the limits specified by Camden Council.

Nick Whitaker Electro-acoustics
33, Occupation Lane, London SE18 3JQ, UK
T. +44(0)20 8319 2423 M. +44(0)77 1863 2165
E. nickwhitaker@homechoice.co.uk

5) Further measurements were made with the fan speed on "purge" (the highest setting). The background noise levels at the measurement position were found to increase to 54dBA (implying 48-49dBA at the closest residential façade). This should be just within the limits specified by Camden Council during the day time periods, however I would suggest that this setting is not used during the evening periods.

6) A final analysis of the frequency content of the noise emissions from the fan unit was made using an octave band spectrum analyser at a distance of 3m from the unit. The spectrum was found to be typical of reasonably smooth, broadband noise, with no distinguishing pure tone content, or rattles or hums.

7) Previously it had been noted that the sound of rainfall on the steel casing of the ventilation extract was causing excessive noise. This can be reduced by covering the ductwork with a soft covering – eg: Astroturf or similar. I understand that Adams & Palmer are to install this, together with positioning plants on the rear roof to visually obscure the equipment.

I trust that this is sufficient information for the moment – I will meet you on site tomorrow morning.

Yours sincerely.

Nick Whitaker MIOA.

Attachment:

CAMDEN COUNCIL NOISE STANDARDS IN RESPECT OF PLANNING AND LICENSING APPLICATIONS

1a.

Noise levels at a point 1 metre external to sensitive facades shall be at least 5dB(A) less than the existing background measurement (L_{A90}), expressed in dB(A) when all plant/equipment are in operation.

Where it is anticipated that any plant/equipment will have a noise that has a distinguishable, discrete continuous note (whine, hiss, screech, hum) and/or if there are distinct impulses (bangs, clicks, clatters, thumps) special attention should be given to reducing the noise levels from that piece of plant/equipment at any sensitive façade to at least 10dB(A) below the L_{A90}, expressed in dB(A).

And,

1b.

For each of the octave band of centre frequencies 63Hz-8KHz inclusive, noise levels from all plant/equipment (measured in L_{Aeq}) when in operation shall at all times add not more than 1 decibel to the existing background noise level L_{A90}, expressed in dB(A), in the same octave band as measured 1 metre external to sensitive facades.

Details of measurement equipment:

Measurements were made using a hand held Integrating Sound Level Meter - Cirrus Research CR822A – measurements of L_{eq}, L_{A90} & Octave band frequency analysis were made over periods of 5 minutes.

The equipment was calibrated with a CR513A type 1 acoustic calibrator prior to and post the measurement session – no significant drift in calibration was noted over this period.
The weather conditions during the survey were sunny with low to medium wind speed.