

**David Webster**

---

**From:** Anani, John [John.Anani@Camden.gov.uk]  
**Sent:** 08 October 2007 12:44  
**To:** David Webster  
**Subject:** 297 Euston Road: Chillersreplacement  
**Attachments:** 297 Euston Road.xls

Dear David

I refer to our telephone conversation of this morning and your email below regarding replacement of the 5 chillers serving the above address.

Please find attached my spreadsheet calculations with explanatory note.

In submitting your planning application for the replacement of the five chillers, please kindly ensure that you attached the manufacturers data for the chillers you sent me together with a copy of my spreadsheet calculations.

This would enable the Camden officer dealing with your application to contact for any queries.

Best wishes

**Dr John Anani**  
**Senior Technical Officer**  
**Environmental Health Team**  
**Tel. 020 7974 2652**

-----Original Message-----

**From:** Ojo, Michelle  
**Sent:** Monday, October 08, 2007 11:58 AM  
**To:** Anani, John  
**Subject:** FW: 297 Euston Road

-----Original Message-----

**From:** David Webster [mailto:dwebster@foremanroberts.com]  
**Sent:** 08 October 2007 11:02  
**To:** Health Email  
**Subject:** 297 Euston Road

Good Morning Mr Anani

Further to my telephone call this morning, I should be grateful if you would look at the figures for 297 Euston Road. From our preliminary figures I am lead to believe there is no more than 1dbA difference between the noise level of the existing chillers and the proposed new chillers. As we have submitted a planning application, I am keen to get the noise level issue resolved as soon as possible, in order to avoid the planning application snagging up.

Best regards

David Webster  
Senior Mechanical Engineer

Foreman Roberts  
9 Kings Head Yard

08/10/2007

12 NOV 2007

Total Combined Noise Levels at Receiver										
Description		Octave Band Centre Frequency, Hz								
		63	125	250	500	1k	2k	4k	8k	Total Sound Power Level LwT
Predicted Noise Levels										
Carrier Chiller Model 30GW005		61	61	60	50	52	47	44	42	66
No of Units	4									
Additional dB		6	6	6	6	6	6	6	6	
Subtotal Noise Level		67	67	66	56	58	53	50	48	72
Daikin Chiller Model EUWAP8KAZW		78	76	72	77	68	64	58	52	83
Overall Total Noise Level		78	77	73	77	68	64	59	53	83
Carrier Chiller Model 30RA021		65	65	70	69	69	66	57	43	76
No of Units	3									
Additional dB		5	5	5	5	5	5	5	5	
Total Noise Level		70	70	75	74	74	71	62	48	80
Daikin Chiller Model EUWAP8KAZW		78	76	72	77	68	64	58	52	83
Overall Total Noise Level		79	77	77	79	75	72	63	53	85

It can be seen from the spreadsheet calculations above that the total Lw for the existing 4 Carrier Chillers Model 30GW005 is 72dB, that of the Daikin Model EUWP8KAZW is 83dB, with the overall sound power level of the 5 existing chillers being 83dB; the Daikin Chillers influencing the overall sound power level.

The three new Carrier chillers model 30RA021 give a combined sound power level of 80dB. This overall sound power level is 3dB lower than that of the 5 existing Chillers thus quieter.

It is seen from the spreadsheet calculations that if the existing Daikin Chiller is retain with the three new Carrier Chillers the overall sound power is 85dB; this being 2dB higher than the overall existing plant noise level. It is thus recommended that the 5 existing Chillers are replaced with the 3 new Carrier chillers suggested without the need to introducing any noise abatement mitigating measures.

**David Webster**

---

**From:** Anani, John [John.Anani@Camden.gov.uk]  
**Sent:** 08 October 2007 12:44  
**To:** David Webster  
**Subject:** 297 Euston Road: Chillersreplacement  
**Attachments:** 297 Euston Road.xls

Dear David

I refer to our telephone conversation of this morning and your email below regarding replacement of the 5 chillers serving the above address.

Please find attached my spreadsheet calculations with explanatory note.

In submitting your planning application for the replacement of the five chillers, please kindly ensure that you attached the manufacturers data for the chillers you sent me together with a copy of my spreadsheet calculations.

This would enable the Camden officer dealing with your application to contact for any queries.

Best wishes

**Dr John Anani**  
**Senior Technical Officer**  
**Environmental Health Team**  
**Tel. 020 7974 2652**

-----Original Message-----

**From:** Ojo, Michelle  
**Sent:** Monday, October 08, 2007 11:58 AM  
**To:** Anani, John  
**Subject:** FW: 297 Euston Road

**RECEIVED**  
**49 OCT 2007**

-----Original Message-----

**From:** David Webster [mailto:dwebster@foremanroberts.com]  
**Sent:** 08 October 2007 11:02  
**To:** Health Email  
**Subject:** 297 Euston Road

Good Morning Mr Anani

Further to my telephone call this morning, I should be grateful if you would look at the figures for 297 Euston Road. From our preliminary figures I am lead to believe there is no more than 1dbA difference between the noise level of the existing chillers and the proposed new chillers. As we have submitted a planning application, I am keen to get the noise level issue resolved as soon as possible, in order to avoid the planning application snagging up.

Best regards

David Webster  
Senior Mechanical Engineer

Foreman Roberts  
9 Kings Head Yard

08/10/2007

Total Combined Noise Levels at Receiver										
Description		Octave Band Centre Frequency, Hz								Total Sound Power Level LwT
		63	125	250	500	1k	2k	4k	8k	
Predicted Noise Levels										
Carrier Chiller Model 30GW005		61	61	60	50	52	47	44	42	66
No of Units	4									
Additional dB		6	6	6	6	6	6	6	6	
Subtotal Noise Level		67	67	66	56	58	53	50	48	72
Daikin Chiller Model EUWAP8KAZW		78	76	72	77	68	64	58	52	83
Overall Total Noise Level		78	77	73	77	68	64	59	53	83
Carrier Chiller Model 30RA021		65	65	70	69	69	66	57	43	76
No of Units	3									
Additional dB		5	5	5	5	5	5	5	5	
Total Noise Level		70	70	75	74	74	71	62	48	80
Daikin Chiller Model EUWAP8KAZW		78	76	72	77	68	64	58	52	83
Overall Total Noise Level		79	77	77	79	75	72	63	53	85

It can be seen from the spreadsheet calculations above that the total Lw for the existing 4 Carrier Chillers Model 30GW005 is 72dB, that of the Daikin Model EUWP8KAZW is **83dB**, with the overall sound power level of the 5 existing chillers being **83dB**; the Daikin Chillers influencing the overall sound power level.

The three new Carrier chillers model 30RA021 give a combined sound power level of **80dB**. This overall sound power level is 3dB lower than that of the 5 existing Chillers thus quieter.

It is seen from the spreadsheet calculations that if the existing Daikin Chiller is retained with the three new Carrier Chillers the overall sound power is **85dB**; this being 2dB higher than the overall existing plant noise level. It is thus recommended that the 5 existing Chillers are replaced with the 3

PROPOSED NEW CHILBERS (CARRIER).  
THREE IN NUMBER.

297 EUSTON ROAD

\* Acoustic power (dB ref. 1e-12 W) (Full load)

Octave band (Hz)

	125	250	500	1K	2K	4K	8K	Global
Lw	81	79	73	69	65	56	44.4	84
Lw(A)	65	70	69	69	66	57	43.3	75

Global Acoustic power dB(A), according to EUROVENT standard = 75

Average acoustic pressure (dB ref. 2e-5 Pa). Distance 1 m

Octave band (Hz)

	125	250	500	1K	2K	4K	8K	Global
Lp	66	63	57	54	48.9	40.3	28.8	68
Lp(A)	49.7	54	54	54	50	41.3	27.7	60

Global pressure level in dB(A) = 60

EXISTING CARRIER UNITS  
AIRCOOLED WATER CHILLERS 4-OFF

297 EUSTON ROAD

ISSUE 1  
SHEET 1/1  
29 NOV 1990

ENGINEERING DEPARTMENT  
SERIES 30GW SOUND DATA

MODEL	OPTION	SOUND POWER LEVEL RE 10 TO THE POWER OF -12 WATTS							
		63	125	250	500	1000	2000	4000	8000
30GW005	STANDARD	-	61.0	60.0	59.0	52.0	47.0	44.0	42.0
30GW008	STANDARD	-	56.5	60.0	53.5	52.0	45.5	36.0	32.5

EXISTING DAIKIN UNIT 297 EUSTON ROAD  
AIR COOLED WATER CHILLER 1-0FF.



Produced on Wednesday, 03 October 2007 with the Chiller Selection Program V2.6.7 and database version Central 5.8

Model reference	EUWAP8KAZW
Sound spectrum	
63Hz	78dB
125Hz	76dB
250Hz	72dB
500Hz	77dB
1000Hz	68dB
2000Hz	64dB
4000Hz	58dB
8000Hz	52dB
Sound data	
Sound power level	76.0dBA
Sound pressure level @ 1m	60.5dBA
Sound pressure level @ 5m	50.0dBA
Sound pressure level @ 10m	44.6dBA

Sound power data is in accordance with ISO3744. Measurement is at nominal condition. Sound pressure is calculated for indication purposes. Calculation is only valid for free field conditions:  $L_p = L_w - 10 \log(S)$ .

## 2. Selected options

EUWAP8KAZW

OPSP - Single pump (Std)