

Noise Monitoring Report

To	NMSG	From	Daniel Ellis, AECOM
		Date	02/06/2015
Subject	Plymouth EfW CHP facility: A summary of noise measurements to date (27/06/2015)		

1. CONSTRUCTION

Initial 30 minute measurement

Noise levels are measured at each receptor location over an initial 30 minute period. This will give an indication of whether or not the approved maximum 10 hour noise limit (set under Planning Condition 19) might be exceeded, but will not itself definitely prove whether or not the approved maximum 10 hour noise limits have been exceeded.

The monitoring results for construction are shown in Table 1. The results also include the commissioning phase which began in January 2015. Commissioning activities are occurring simultaneously with construction.

Construction noise limits were set prior to the construction phase commencing; monitored noise levels have been compared to these. Where the $L_{Aeq\ 10hr}$ (facade) exceeds the Maximum Permitted Noise Level ($L_{Aeq\ 10hr}$) these are highlighted. There have been four recorded instances where this has occurred, all at Savage Road in 2012.

There are no commissioning noise limits, however for clarity a comparison in levels is still provided.

Noise levels since the last NMSG meeting on 28/04/15 have ranged from 45dB at R15 to 58dB at CA1.

Table 1 a Construction Noise Levels at R15: Initial 30 Minute Readings

Location	Date	Estimated LAeq 10hr dB (facade)	Maximum Permitted Noise Level (LAeq 10hr dB)	Difference (dB)
Talbot Gardens (R15)	21/08/2012	64	70	-6
	22/08/2012	67	70	-3
	29/08/2012	64	70	-6
	30/08/2012	62	70	-8
	05/09/2012	64	70	-6
	21/09/2012	65	70	-5
	28/09/2012	60	70	-10
	10/10/2012	69	70	-1
	24/10/2012	62	70	-8
	08/11/2012	64	70	-6
	28/11/2012	68	70	-2
	12/12/2012	65	70	-5
	03/01/2013	58	70	-12
	09/01/2013	58	70	-12
	16/01/2013	66	70	-4
	24/01/2013	66	70	-4
	30/01/2013	63	70	-7
	06/02/2013	61	70	-9
	20/02/2013	61	70	-9
	06/03/2013	63	70	-7
20/03/2013	61	70	-9	
03/04/2013	58	70	-12	

Location	Date	Estimated LAeq 10hr dB (facade)	Maximum Permitted Noise Level (LAeq 10hr dB)	Difference (dB)
	18/04/2013	60	70	-10
	24/04/2013	59	70	-11
	01/05/2013	60	70	-10
	15/05/2013	59	70	-11
	30/05/2013	60	70	-10
	13/06/2013	63	70	-7
	19/06/2013	64	70	-6
	26/06/2013	62	70	-8
	04/07/2013	60	70	-10
	16/07/2013	59	70	-11
	24/07/2013	62	70	-8
	08/08/2013	60	70	-10
	22/08/2013	62	70	-8
	05/09/2013	62	70	-8
	20/09/2013	60	70	-10
	08/10/2013	59	70	-11
	22/10/2013	60	70	-10
	29/10/2013	60	70	-10
	13/11/2013	61	70	-9
	19/11/2013	60	70	-10
	26/11/2013	65	70	-5
	03/12/2013	63	70	-7
	11/12/2013	62	70	-8
	17/12/2013	63	70	-7
	09/01/2014	66	70	-4
	15/01/2014	61	70	-9
	22/01/2014	62	70	-8
	29/01/2014	63	70	-7
	07/02/2014	62	70	-8
	19/02/2014	61	70	-9
	05/03/2014	63	70	-7
	25/03/2014	60	70	-10
	01/04/2014	60	70	-10
	24/04/2014	60	70	-10
	29/04/2014	62	70	-8
	14/05/2014	57	70	-13
	28/05/2014	59	70	-11
	12/06/2014	57	70	-13
	03/07/2014	58	70	-12
	10/07/2014	56	70	-14
	23/07/2014	58	70	-12
	06/08/2014	53	70	-17
	20/08/2014	51	70	-19
	04/09/2014	57	70	-13
	16/09/2014	56	70	-14
	08/10/2014	60	70	-10
	17/10/2014	57	70	-13
	31/10/2014	59	70	-11
	20/11/2014	63	70	-7

Location	Date	Estimated LAeq 10hr dB (facade)	Maximum Permitted Noise Level (LAeq 10hr dB)	Difference (dB)
	02/12/2014	58	70	-12
	16/12/2014	56	70	-14
	06/01/2015	58	70	-12
	04/02/2015	52	70	-18
	11/02/2015	54	70	-16
	24/02/2015	54	70	-16
	10/03/2015	54	70	-16
	25/03/2015	53	70	-17
	09/04/2015	52	70	-18
	28/04/2015	57	70	-13
	07/05/2015	52	70	-18
	22/05/2015	45	70	-25
	27/05/2015	50	70	-20

Table 1 b Construction Noise Levels at R17: Initial 30 Minute Readings

Location	Date	Estimated LAeq 10hr dB (facade)	Maximum Permitted Noise Level (LAeq 10hr dB)	Difference (dB)
Talbot Gardens (R17)	13/08/2012	67	70	-3
	14/08/2012	67	70	-3
	22/08/2012	64	70	-6
	22/10/2013	61	70	-9
	29/10/2013	64	70	-6
	13/11/2013	60	70	-10
	19/11/2013	60	70	-10
	26/11/2013	65	70	-5
	03/12/2013	64	70	-6
	11/12/2013	66	70	-4
	17/12/2013	62	70	-8
	09/01/2014	62	70	-8
	15/01/2014	61	70	-9
	22/01/2014	60	70	-10
	29/01/2014	63	70	-7
	07/02/2014	62	70	-8
	19/02/2014	62	70	-8
	05/03/2014	60	70	-10
	25/03/2014	61	70	-9
	01/04/2014	58	70	-12
	24/04/2014	58	70	-12
	29/04/2014	57	70	-13
	14/05/2014	60	70	-10
	28/05/2014	55	70	-15
	12/06/2014	55	70	-15
	03/07/2014	64	70	-6
	10/07/2014	56	70	-14
	23/07/2014	56	70	-14
	06/08/2014	53	70	-17
	20/08/2014	50	70	-20
	04/09/2014	60	70	-10
	16/09/2014	52	70	-18
	08/10/2014	57	70	-13
	17/10/2014	59	70	-11
	31/10/2014	59	70	-11
	20/11/2014	63	70	-7
	02/12/2014	61	70	-9
	16/12/2014	60	70	-10
	06/01/2015	56	70	-14
	04/02/2015	61	70	-9
11/02/2015	54	70	-16	
24/02/2015	53	70	-17	
10/03/2015	54	70	-16	
25/03/2015	50	70	-20	
09/04/2015	56	70	-14	
28/04/2015	54	70	-16	
22/05/2015	48	70	-22	

Location	Date	Estimated LAeq 10hr dB (facade)	Maximum Permitted Noise Level (LAeq 10hr dB)	Difference (dB)
	27/05/2015	50	70	-20

Table 1 c Construction Noise Levels at R3: Initial 30 Minute Readings

Location	Date	Estimated LAeq 10hr dB (facade)	Maximum Permitted Noise Level (LAeq 10hr dB)	Difference (dB)
Savage Road (R3)	13/08/2012	64	65	-1
	14/08/2012	61	65	-4
	21/08/2012	63	66	-3
	22/08/2012	61	66	-5
	29/08/2012	64	66	-2
	30/08/2012	66	66	0
	05/09/2012	64	66	-2
	14/09/2012	62	66	-4
	14/09/2012	64	66	-2
	21/09/2012	64	66	-2
	28/09/2012	67	66	1
	03/10/2012	64	66	-2
	10/10/2012	69	66	3
	24/10/2012	66	66	0
	08/11/2012	68	66	2
	28/11/2012	71	66	5
	12/12/2012	65	66	-1
	03/01/2013	60	66	-6
	09/01/2013	65	66	-1
	16/01/2013	62	66	-4
	16/01/2013	64	66	-2
	24/01/2013	66	66	0
	30/01/2013	63	66	-3
	06/02/2013	59	66	-7
	20/02/2013	63	66	-3
	06/03/2013	63	66	-3
	20/03/2013	62	66	-4
	03/04/2013	61	66	5
	18/04/2013	62	66	-4
	24/04/2013	63	66	-3
	01/05/2013	63	66	-3
	15/05/2013	63	66	-3
	30/05/2013	62	66	-4
	13/06/2013	61	66	-5
	19/06/2013	59	66	-7
	26/06/2013	62	66	-4
	04/07/2013	63	66	-3
	16/07/2013	60	66	-6
	24/07/2013	63	66	-3
	25/07/2013	63	66	-3
	08/08/2013	61	66	-5
22/08/2013	59	66	-7	
05/09/2013	64	66	-2	
20/09/2013	61	66	-5	
08/10/2013	61	66	-5	
22/10/2013	63	66	-3	
22/10/2013	62	66	-4	
29/10/2013	61	66	-5	
13/11/2013	61	66	-5	
19/11/2013	61	66	-5	

Location	Date	Estimated LAeq 10hr dB (facade)	Maximum Permitted Noise Level (LAeq 10hr dB)	Difference (dB)
	26/11/2013	62	66	-4
	03/12/2013	66	66	0
	03/12/2013	66	66	0
	11/12/2013	63	66	-3
	17/12/2013	63	66	-3
	09/01/2014	63	66	-3
	15/01/2014	61	66	-5
	22/01/2014	63	66	-3
	29/01/2014	61	66	-5
	07/02/2014	63	66	-3
	19/02/2014	62	66	-4
	05/03/2014	59	66	-7
	25/03/2014	59	66	-7
	01/04/2014	61	66	-5
	24/04/2014	60	66	-6
	29/04/2014	65	66	-1
	14/05/2014	54	66	-12
	28/05/2014	59	66	-7
	12/06/2014	60	66	-6
	03/07/2014	61	66	-5
	10/07/2014	57	66	-9
	24/07/2014	56	66	-10
	06/08/2014	59	66	-7
	20/08/2014	55	66	-11
	04/09/2014	58	66	-8
	16/09/2014	56	66	-10
	08/10/2014	62	66	-4
	17/10/2014	57	66	-9
	31/10/2014	58	66	-8
	20/11/2014	58	66	-8
	02/12/2014	60	66	-6
	16/12/2014	56	66	-10
	06/01/2015	56	66	-10
	04/02/2015	59	66	-7
	11/02/2015	59	66	-7
	24/02/2015	57	66	-9
	10/03/2015	66	66	0
	10/03/2015	55	66	-11
	25/03/2015	56	66	-10
	09/04/2015	57	66	-9
	28/04/2015	54	66	-12
	07/05/2015	55	66	-11
	22/05/2015	57	66	-9
	27/05/2015	56	66	-10

Table 1 d Construction Noise Levels at R22: Initial 30 Minute Readings

Location	Date	Estimated LAeq 10hr dB (facade)	Maximum Permitted Noise Level (LAeq 10hr dB)	Difference (dB)
HamoazeAve (R22)	14/08/2012	49	57	-8
	21/08/2012	48	57	-9
	22/08/2012	51	57	-6
	29/08/2012	54	57	-3
	30/08/2012	48	57	-9
	05/09/2012	49	57	-8
	21/09/2012	46	57	-11
	24/10/2012	47	57	-10
	09/11/2012	50	57	-7
	28/11/2012	50	57	-7
	12/12/2012	50	57	-7
	03/01/2013	52	57	-5
	09/01/2013	49	57	-8
	16/01/2013	51	57	-6
	24/01/2013	48	57	-9
	30/01/2013	52	57	-5
	06/02/2013	51	57	-6
	20/02/2013	49	57	-8
	06/03/2013	48	57	-9
	20/03/2013	48	57	-9
	03/04/2013	48	57	-9
	18/04/2013	47	57	-10
	24/04/2013	49	57	-8
	01/05/2013	48	57	-9
	15/05/2013	51	57	-6
	30/05/2013	51	57	-6
	13/06/2013	50	57	-7
	19/06/2013	47	57	-10
	26/06/2013	54	57	-3
	04/07/2013	49	57	-8
	16/07/2013	46	57	-11
	24/07/2013	53	57	-4
	08/08/2013	44	57	-13
	22/08/2013	47	57	-10
	05/09/2013	51	57	-6
	23/09/2013	48	57	-9
	08/10/2013	49	57	-8
	22/10/2013	51	57	-6
	30/10/2013	53	57	-4
	13/11/2013	45	57	-12
	19/11/2013	50	57	-7
	26/11/2013	46	57	-11
03/12/2013	49	57	-8	
11/12/2013	50	57	-7	
17/12/2013	52	57	-5	
09/01/2014	48	57	-9	
15/01/2014	52	57	-5	
22/01/2014	46	57	-11	
29/01/2014	45	57	-12	
07/02/2014	47	57	-10	

Location	Date	Estimated LAeq 10hr dB (facade)	Maximum Permitted Noise Level (LAeq 10hr dB)	Difference (dB)
	19/02/2014	51	57	-6
	05/03/2014	50	57	-7
	25/03/2014	45	57	-12
	01/04/2014	48	57	-9
	24/04/2014	48	57	-9
	29/04/2014	51	57	-6
	14/05/2014	50	57	-7
	28/05/2014	49	57	-8
	12/06/2014	48	57	-9
	03/07/2014	48	57	-9
	10/07/2014	50	57	-7
	23/07/2014	46	57	-11
	06/08/2014	51	57	-6
	20/08/2014	48	57	-9
	04/09/2014	47	57	-10
	16/09/2014	51	57	-6
	08/10/2014	53	57	-4
	17/10/2014	52	57	-5
	31/10/2014	49	57	-8
	20/11/2014	51	57	-6
	02/12/2014	48	57	-9
	16/12/2014	49	57	-8
	06/01/2015	53	57	-4
	04/02/2015	50	57	-7
	11/02/2015	50	57	-7
	24/02/2015	50	57	-7
	10/03/2015	48	57	-9
	10/03/2015	47	57	-10
	25/03/2015	48	57	-9
	09/04/2015	48	57	-9
	28/04/2015	46	57	-11
	07/05/2015	46	57	-11
	22/05/2015	51	57	-6
	27/05/2015	48	57	-9

Table 1 e Construction Noise Levels at Cardinal Ave: Initial 30 Minute Readings

Location	Date	Estimated LAeq 10hr dB (facade)	Maximum Permitted Noise Level (LAeq 10hr dB)	Difference (dB)
Cardinal Ave	09/11/2012	60	-	-
	24/10/2012	59	-	-
	05/09/2012	57	-	-
	30/08/2012	58	-	-
	09/11/2012	60	-	-
	12/12/2012	62	-	-
	03/01/2013	56	-	-
	09/01/2013	63	-	-
	16/01/2013	60	-	-
	24/01/2013	62	-	-
	20/02/2013	57	-	-
	06/03/2013	57	-	-
	20/03/2013	54	-	-
	03/04/2013	55	-	-
	24/04/2013	58	-	-
	01/05/2013	59	-	-
	15/05/2013	54	-	-
	30/05/2013	53	-	-
	19/06/2013	53	-	-
	26/06/2013	57	-	-
	04/07/2013	55	-	-
	16/07/2013	53	-	-
	25/07/2013	56	-	-
	08/08/2013	58	-	-
	22/08/2013	57	-	-
	05/09/2013	53	-	-
	20/09/2013	55	-	-
	08/10/2013	55	-	-
	22/10/2013	59	-	-
	30/10/2013	57	-	-
	13/11/2013	58	-	-
	19/11/2013	56	-	-
	26/11/2013	56	-	-
	03/12/2013	57	-	-
	11/12/2013	56	-	-
	17/12/2013	56	-	-
	09/01/2014	57	-	-
	15/01/2014	59	-	-
	22/01/2014	55	-	-
	29/01/2014	56	-	-
	07/02/2014	58	-	-
	19/02/2014	57	-	-
05/03/2014	56	-	-	
25/03/2014	52	-	-	
01/04/2014	54	-	-	
24/04/2014	55	-	-	
29/04/2014	55	-	-	
14/05/2014	55	-	-	
28/05/2014	56	-	-	
12/06/2014	55	-	-	

Location	Date	Estimated LAeq 10hr dB (facade)	Maximum Permitted Noise Level (LAeq 10hr dB)	Difference (dB)
	03/07/2014	56	-	-
	10/07/2014	52	-	-
	23/07/2014	53	-	-
	06/08/2014	56	-	-
	20/08/2014	55	-	-
	04/09/2014	N/A	-	-
	16/09/2014	57	-	-
	08/10/2014	N/A	-	-
	17/10/2014	57	-	-
	31/10/2014	55	-	-
	20/11/2014	57	-	-
	02/12/2014	55	-	-
	16/12/2014	56	-	-
	06/01/2015	56	-	-
	04/02/2015	53	-	-
	11/02/2015	57	-	-
	24/02/2015	N/A	-	-
	10/03/2015	55	-	-
	25/03/2015	51	-	-
	09/04/2015	55	-	-
	28/04/2015	54	-	-
	07/05/2015	54	-	-
	22/05/2015	53	-	-
	27/05/2015	58	-	-

Table 1 f Construction Noise Levels at R20: Initial 30 Minute Readings

Location	Date	Estimated LAeq 10hr dB (facade)	Maximum Permitted Noise Level (LAeq 10hr dB)	Difference (dB)
Wolseley Road (R20)	14/08/2012	50	60	-10
	21/08/2012	57	60	-3
	22/08/2012	57	60	-3
	29/08/2012	55	60	-5
	30/08/2012	56	60	-4
	05/09/2012	56	60	-4
	21/09/2012	56	60	-4

2 Hour Measurement

Where the 30 minute measured noise level indicates a possible exceedance of the approved 10 hour limit ($L_{Aeq\ 10hr}$) a further 2 hours of measurements are undertaken ($L_{Aeq\ 2hr}$). It is agreed that this measurement shall be sufficient to ascertain if the 10 hour working day limit would be exceeded or not. The 2 hour monitoring results are shown in Table 2.

If at this point, based on the 2 hours of measurements, the approved limits over the 10 hour working day are not exceeded, no further action shall be taken. However, if at this point, the 2 hours measurement exceeds the approved limits over the 10 hour working day, a breach of the limit has been recorded.

Table 2 shows that there have been three breaches in Maximum Permitted Noise Level ($L_{Aeq\ 10hr}$) after 2 hours of monitoring and one measurement which after 2 hours monitoring was shown not to be a breach.

Table 2 Construction Noise Levels: Two Hour Readings

Location	Date	L_{Aeq} , 30min (dB)	L_{Aeq} , 2hrs (dB)	Maximum Permitted Noise Level ($L_{Aeq\ 10hr}$ dB)	Breach
Savage Road (R3)	28/09/2012	67	69	66	✓
Savage Road (R3)	10/10/2012	69	71	66	✓
Savage Road (R3)	08/11/2012	68	66	66	×
Savage Road (R3)	28/11/2012	71	67	66	✓

2. COMMISSIONING NOISE MONITORING

Phase 1

Noise monitoring results from targeted monitoring undertaken during Phase 1 of commissioning are provided in Table 3.

Table 3 - Commissioning Phase 1 Targeted Noise Monitoring

Location	Date	LAeq (dB)	LAFmax (dB)	Activity
Football Pitch (Savage Road)	26.02.15	53 (LAeq 8 mins)	66	Steam Blowing
R22	10.03.15	48 (LAeq 30 min)	69	Steam Blowing
R3	13.03.15	54 (LAeq 1 min)	61	Relief Valve Testing
R22	23.03.15	48 (LAeq 30 min)	70	Steam Blowing (20 min period)

Phase 2

Noise monitoring results from targeted monitoring undertaken during Phase 2 of commissioning are provided in Table 4.

Table 4 - Commissioning Phase 2 Targeted Noise Monitoring

Location	Date	LAeq (dB)	LAFmax (dB)	Activity
R3	28.04.15	54	75	First SWDWP Waste Deliveries
R15	28.04.15	57	69	First SWDWP Waste Deliveries
R17	28.04.15	54	68	First SWDWP Waste Deliveries
R22	28.04.15	46	68	First SWDWP Waste Deliveries
Cardinal Ave	28.04.15	54	74	First SWDWP Waste Deliveries
R3	27.05.15	56	72	Burning waste
R15	27.05.15	50	66	Burning waste
R17	27.05.15	50	67	Burning waste
R22	27.05.15	48	67	Burning waste
Cardinal Ave	27.05.15	58	77	Burning waste