

Job Number: JAL 5201
Client: AWE Aldermaston
Receptor: Aldermaston Manor House Hotel
Date: 28-Apr-10
Consultant: DG
QA: RM

Measured SEL of Building Alarms

SEL of Operations Building Alarm @ 40m 100 dB(A)
 SWL of Operations Building Alarm (1-hour) 101 dB(A)
 SEL of Support Building Alarm @ 19 m 100 dB(A)
 SWL of Support Building Alarm (1-hour) 95 dB(A)

Sound Power Level of Stack and Building Alarms

Source ID	Source Name	dB(A)	Octave bands with mid frequency in Hz								Distance to receptor (m)
			63	125	250	500	1 k	2 k	4 k	8 k	
D=1	Stack Normal Operation	94	101	104	97	66	68	84	86	84	380
D=2	Stack (High Purge)	97	104	107	100	69	71	87	89	87	380
D=3	Operational Building Alarm	101		97	96	97	96	96			380
D=4	Support Building Alarm	95		90	90	90	90	90			350

Specific Noise Level at Receptor (Calculated using ISO 9613:1996 [*1])

Source ID	Source Name	dB(A)	Octave bands with mid frequency in Hz							
			63	125	250	500	1 k	2 k	4 k	8 k
D=1	Stack Normal Operation	27	41	38	33	2	4	18	12	
D=2	Stack (High Purge)	30	44	41	36	5	7	21	15	
D=3	Operational Building Alarm	42		40	39	39	38	36		
D=4	Support Building Alarm	37		34	33	33	32	30		
D=4 and D=5	All Alarms	43		41	40	40	39	37		

Non -Test Operation

	Daytime	Night-time
Specific Noise Level (dBA)	27	27
Background (dBA)	38	36
Specific minus Background (dB)	-11	-9

Test Operation

	All Alarms	Stack (High Purge)	Total
Specific Noise Level (dBA)	43	30	44
Residual Noise Level (0900 - 1700 hr) (dBA)		49	
Ambient Noise Level (0900 - 1700 hr) (dBA)	50	49	50
Ambient Noise Change (dB)	1	0	1

[*1] - International Organization for Standardization (ISO) (1996). ISO 9613: Acoustics – Attenuation of sound during propagation outdoors. ISO Switzerland.