



WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY COMPLIANCE SUMMARY REPORT



Date 1/27/22

Wheel Plant Wheelabrator North Andover
Unit 1 Unit 1
Outlet Source Outlet

Date	Hour	On-Line Minutes	O2		NOx		SO2					CO			Carbon Feed		FF Temp (deg F)		Steam KLbs/Hr		
			Out Vol % Dry	Status	Outlet ppm 7%O2	Status	Outlet ppm 7%O2	Status	Inlet ppm 7%O2	Status	Removal	Status	Outlet ppm 7%O2	Status	4 Hr Block	Status	Lbs/Hr Avg.	8 Hr Block	1 Hr Avg.	4 Hr Block	1 Hr Avg.
1/27/2022	0	60	10.9		200		23		87		74		19			14		299		164.7	
1/27/2022	1	60	10.8		199		15		79		81		22			14		299		164.9	
1/27/2022	2	60	10.7		199		20		81		75		22			14		299		164.9	
1/27/2022	3	60	10.9		198		33		116		71		22	21		14		300	299	163.8	164.6
1/27/2022	4	60	10.8		199		25		111		77		19			14		299		164.8	
1/27/2022	5	60	10.8		199		19		83	IBCT	77	IBCT	21			14		299		164.4	
1/27/2022	6	60	10.7		199		16		58	IBT	73	IBT	21			14		299		165.0	
1/27/2022	7	60	10.7		197		11		63	IBCMT	83	IBCMT	21	21		14	14	299	299	165.1	164.8
1/27/2022	8	60	10.8		192		7		43	IBMT	85	IBMT	26			14		300		163.8	
1/27/2022	9	60	10.2		195		6		26	IBCMT	77	IBCMT	20			14		299		166.0	
1/27/2022	10	60	10.7		192		6		24	IBCMT	77	IBCMT	20			13		299		155.8	
1/27/2022	11	60	10.8		189		4		46	IBCMT	92	IBCMT	18	21		14		300	299	162.4	162.0
1/27/2022	12	60	10.8		191		4		44		92		18			14		299		162.3	
1/27/2022	13	60	10.9		196		9		51		83		13			14		299		167.3	
1/27/2022	14	60	10.8		196		7		57		88		21			15		299		166.8	
1/27/2022	15	60	10.9		196		5		49		91		18	17		14	14	299	299	162.3	164.7
1/27/2022	16	60	10.9		194		22		109		80		13			13		299		165.2	
1/27/2022	17	60	11.1		194		27		111		75		15			14		299		163.0	
1/27/2022	18	60	10.6		196		9		73		88		23			14		299		162.7	
1/27/2022	19	60	10.4		198		21		99		79		20	18		14		299	299	166.3	164.3
1/27/2022	20	60	10.6		196		28		108		74		19			14		300		164.5	
1/27/2022	21	60	10.3		200		16		76		79		18			14		299		166.6	
1/27/2022	22	60	10.2		198		14		70		80		19			14		299		165.8	
1/27/2022	23	60	10.2		197		11		60		81		17	18		14	14	299	299	164.9	165.4

Average:
Geometric Mean Average:

Limit:

196	12
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

82
≥ 75% Removal Efficiency

see above
≤ 69 ppmc 4-HR Block Average

see above
≤ 12 lb/hr 8-HR. Block Average

see above
≤ 345 °F 4-HR Block Average

see above
≤ 173 klb/hr 4-HR Block Average

Status Flags

- I - Invalid
- B - Bad
- C - Calibration
- M - Maintenance
- F - Offline
- P - Purge
- T - Out of Control
- E - Excluded
- ^ - Startup
- * - Shutdown



WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY COMPLIANCE SUMMARY REPORT



Date 1/27/22

Wheel Plant Wheelabrator North Andover
Unit 2 Unit Unit 1
Outlet Source Outlet

Date	Hour	On-Line Minutes	O2		NOx		SO2					CO			Carbon Feed		FF Temp (deg F)		Steam KLbs/Hr		
			Out Vol % Dry	Status	Outlet ppm 7%O2	Status	Outlet ppm 7%O2	Status	Inlet ppm 7%O2	Status	Removal	Status	Outlet ppm 7%O2	Status	4 Hr Block	Status	Lbs/Hr Avg.	8 Hr Block	1 Hr Avg.	4 Hr Block	1 Hr Avg.
1/27/2022	0	60	9.1		176		1		30		97		2			13		310		165.6	
1/27/2022	1	60	9.0		183		2		31		93		2			13		310		166.1	
1/27/2022	2	60	9.0		186		1		24		94		2			13		310		166.2	
1/27/2022	3	60	9.0		183		6		34		83		2	2		14		310	310	165.7	165.9
1/27/2022	4	60	9.0		183		3		25		89		2			13		310		165.7	
1/27/2022	5	60	9.3		188		9		30		70		3			13		310		165.3	
1/27/2022	6	60	9.2		182		8		29		71		3			13		310		165.5	
1/27/2022	7	60	9.1		178		3		21		86		2	3		13	13	310	310	165.9	165.6
1/27/2022	8	60	9.2		173		4		25		84		4			13		310		166.0	
1/27/2022	9	60	9.6		177		5		28		83		6			13		310		165.4	
1/27/2022	10	60	9.3		175		1		15		96		3			14		309		165.8	
1/27/2022	11	60	9.0		174		0		16		97		4	4		13		310	310	165.6	165.7
1/27/2022	12	60	9.0		160		2		21		91		3			14		310		166.2	
1/27/2022	13	60	9.2		155		1		22		95		1			13		310		166.0	
1/27/2022	14	60	9.0		158		1		20		97		3			13		310		165.1	
1/27/2022	15	60	9.0		177		4		37		89		2	3		14	14	310	310	166.2	165.9
1/27/2022	16	60	8.9		169		9		51		82		2			13		310		165.3	
1/27/2022	17	60	8.8		170		4		30		88		2			14		310		166.5	
1/27/2022	18	60	8.6		187		1		25		95		2			13		310		165.6	
1/27/2022	19	60	8.8		175		9		50		81		2	2		14		310	310	166.3	165.9
1/27/2022	20	60	9.0		165		5		34		85		2			14		310		165.0	
1/27/2022	21	60	8.7		180		1		19		93		2			13		310		166.2	
1/27/2022	22	60	8.5		184		0		14		99		2			14		310		165.5	
1/27/2022	23	60	8.5		180		1		20		95		2	2		13	14	310	310	165.4	165.5

Average:
Geometric Mean Average:

Limit:

176	2
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

92
≥ 75% Removal Efficiency

see above
≤ 69 4-HR Block Average

ppmc

see above
≤ 12 8-HR. Block Average

lb/hr

see above
≤ 345 °F 4-HR Block Average

°F

see above
≤ 173 4-HR Block Average

klb/hr

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WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 27-Jan-2022

Plant Wheelabrator North Andover
Unit Unit 1
Source Outlet

Opacity is a measure of how much soot or smoke may be contained in stack emissions. The more smoke that is contained in the emissions the higher the level of opacity. Continuous opacity monitors located after all of the air pollution control equipment measure the opacity of the emissions from each boiler. Typically the human eye can not detect or see smoke that is less than 5% opacity. You won't see smoke from a modern trash-to-energy plant although in colder weather you will see water vapor condensation, similar to seeing your breath on a cold day. This is not considered opacity. We have a permit limit established by the Massachusetts Department of Environmental Protection of 10% opacity averaged every six (6) minutes.

Limit 10 %

Time (hr)	1-6 min	7-12 min	13-18 min	19-24 min	25-30 min	31-36 min	37-42 min	43-48 min	49-54 min	55-60 min	Average
0	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1	1	1	1
3	1	1	1	1	1	1	1	1	1	1	1
4	1	1	1	1	1	1	1	1	1	1	1
5	1	1	1	1	1	1	1	1	1	1	1
6	2	IC	5	IC	1	1	1	1	1	1	2
7	1	1	1	1	1	1	1	1	1	1	1
8	2	2	2	2	2	1	1	1	1	1	1
9	1	1	2	1	1	1	1	1	1	1	1
10	1	1	1	1	1	1	1	1	1	1	1
11	1	1	1	1	1	1	1	1	1	1	1
12	1	1	1	1	1	1	1	1	1	1	1
13	1	1	1	1	1	1	1	1	1	1	1
14	1	1	1	1	1	1	1	1	1	1	1
15	1	1	1	1	1	1	1	1	1	1	1
16	1	1	1	1	1	1	1	1	1	1	1
17	1	1	1	1	1	1	1	1	1	1	1
18	1	1	1	1	1	1	1	1	1	1	1
19	1	1	1	1	1	1	1	1	1	1	1
20	1	1	1	1	1	1	1	1	1	1	1
21	1	1	1	1	1	1	1	1	1	1	1
22	1	1	1	1	1	1	1	1	1	1	1
23	1	1	1	1	1	1	1	1	1	1	1

Status Flags

I - Invalid C - Calibration F - Offline T - Out of Control ^ - Startup
 B - Bad M - Maintenance P - Purge E - Excluded * - Shutdown



WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 27-Jan-2022

Plant Wheelabrator North Andover
Unit Unit 2
Source Outlet

Opacity is a measure of how much soot or smoke may be contained in stack emissions. The more smoke that is contained in the emissions the higher the level of opacity. Continuous opacity monitors located after all of the air pollution control equipment measure the opacity of the emissions from each boiler. Typically the human eye can not detect or see smoke that is less than 5% opacity. You won't see smoke from a modern trash-to-energy plant although in colder weather you will see water vapor condensation, similar to seeing your breath on a cold day. This is not considered opacity. We have a permit limit established by the Massachusetts Department of Environmental Protection of 10% opacity averaged every six (6) minutes.

Limit 10 %

Time (hr)	1-6 min	7-12 min	13-18 min	19-24 min	25-30 min	31-36 min	37-42 min	43-48 min	49-54 min	55-60 min	Average
0	2	2	2	2	2	2	2	2	2	2	2
1	2	2	2	2	2	2	2	2	2	2	2
2	2	2	2	2	2	2	2	2	2	2	2
3	2	2	2	2	2	2	2	2	2	2	2
4	2	2	2	2	2	2	2	2	2	2	2
5	2	2	2	2	2	2	2	2	2	2	2
6	2	IBC	6	IBC	2	2	2	2	2	2	2
7	2	2	2	2	2	2	2	2	2	2	2
8	2	2	2	2	2	2	2	2	2	2	2
9	2	2	2	2	2	2	2	2	2	2	2
10	2	2	2	2	2	2	2	2	2	2	2
11	2	2	2	2	2	2	2	2	2	2	2
12	2	2	2	2	2	2	2	2	2	2	2
13	2	2	2	2	2	2	2	2	2	2	2
14	2	2	2	2	2	2	2	2	2	2	2
15	2	2	2	2	2	2	2	2	2	2	2
16	2	2	2	2	2	2	2	2	2	2	2
17	2	2	2	2	2	2	2	2	2	2	2
18	2	2	2	2	2	2	2	2	2	2	2
19	2	2	2	2	2	2	2	2	2	2	2
20	2	2	2	2	2	2	2	2	2	2	2
21	2	2	2	2	2	2	2	2	2	2	2
22	2	2	2	2	2	2	2	2	2	2	2
23	2	2	2	2	2	2	2	2	2	2	2

Status Flags

I - Invalid C - Calibration F - Offline T - Out of Control ^ - Startup
 B - Bad M - Maintenance P - Purge E - Excluded * - Shutdown