



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



Date 2/6/22

Wheel Plant Wheelabrator North Andover
Unit 1 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.
2/6/2022	0	60	10.3		196		12		28		57		9			14		299		163.0	
2/6/2022	1	60	10.4		197		16		50		69		9			13		299		163.8	
2/6/2022	2	60	10.3		200		23		74		69		8			14		299		165.3	
2/6/2022	3	60	10.2		199		17		55		69		8	9		14		300	299	165.6	164.4
2/6/2022	4	60	10.2		196		17		40		59		7			14		299		164.9	
2/6/2022	5	60	10.1		198		17		44		62		6			14		299		166.9	
2/6/2022	6	60	10.0		198		10		27		61		6			14		299		167.9	
2/6/2022	7	60	10.1		200		15		27		44		6	6		14	14	299	299	169.2	167.2
2/6/2022	8	60	9.9		198		19		33		44		6			14		299		169.6	
2/6/2022	9	60	10.0		199		21		43		51		6			13		300		169.5	
2/6/2022	10	60	10.2		198		15		31		53		6			14		299		166.1	
2/6/2022	11	60	10.1		194		9		23		61		7	6		14		300	299	164.6	167.5
2/6/2022	12	60	10.2		196		11		19		43		6			14		299		166.2	
2/6/2022	13	60	10.2		199		13		23		43		6			14		299		163.6	
2/6/2022	14	60	10.3		198		19		18		0		6			14		299		165.0	
2/6/2022	15	60	10.2		197		16		26		39		7	6		14	14	300	299	164.6	164.8
2/6/2022	16	60	10.1		194		12		20		39		6			14		299		167.2	
2/6/2022	17	60	10.4		199		19		27		28		7			14		299		164.6	
2/6/2022	18	60	10.7		200		22		40		46		5			14		299		163.9	
2/6/2022	19	60	10.6		197		16		29		44		7	6		14		300	299	164.5	165.1
2/6/2022	20	60	10.5		195		11		21		48		7			14		299		164.3	
2/6/2022	21	60	10.5		197		10		20		49		6			14		299		163.3	
2/6/2022	22	60	10.4		198		10		39		75		6			15		299		166.6	
2/6/2022	23	60	10.3		197		8		29		72		6	6		14	14	299	299	166.7	165.2

Average:
Geometric Mean Average:

Limit:

197	14
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

53
≥ 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 2/6/22

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.
2/6/2022	0	60	10.2		196		16		50		68		4			14		310		165.5	
2/6/2022	1	60	10.3		197		18		51		65		3			14		310		166.1	
2/6/2022	2	60	10.5		194		23		64		65		4			14		310		166.2	
2/6/2022	3	60	10.3		199		15		49		71		4	4		14		310	310	165.2	165.7
2/6/2022	4	60	10.2		197		19		51		63		4			14		310		165.7	
2/6/2022	5	60	10.1		195		21		32		33		4			14		310		165.8	
2/6/2022	6	60	10.1		198		23		33		30		4			14		310		166.6	
2/6/2022	7	60	9.9		198		20		27		24		3	4		15	14	310	310	169.4	166.9
2/6/2022	8	60	10.0		196		25		31		21		3			14		310		169.8	
2/6/2022	9	60	10.0		197		23		32		28		4			14		310		169.8	
2/6/2022	10	60	10.0		198		15		23		34		3			14		310		166.3	
2/6/2022	11	60	10.1		196		9		26		64		3	3		14		310	310	165.2	167.8
2/6/2022	12	60	10.1		196		9		35		73		3			14		310		165.0	
2/6/2022	13	60	10.0		196		7		28		74		3			14		310		165.6	
2/6/2022	14	60	10.0		198		15		25		39		3			14		310		165.2	
2/6/2022	15	60	9.9		196		20		32		38		3	3		14	14	310	310	165.8	165.4
2/6/2022	16	60	10.0		196		21		30		32		3			14		310		165.2	
2/6/2022	17	60	10.0		196		19		29		33		3			14		310		165.0	
2/6/2022	18	60	10.3		194		17		27		37		3			14		310		164.4	
2/6/2022	19	60	10.1		196		21		38		45		2	3		14		310	310	166.7	165.3
2/6/2022	20	60	10.1		198		18		35		49		3			14		310		165.8	
2/6/2022	21	60	10.0		196		19		41		54		3			14		310		165.8	
2/6/2022	22	60	10.0		198		11		39		71		3			14		310		166.0	
2/6/2022	23	60	10.1		195		13		47		72		3	3		14	14	310	310	165.1	165.7

Average:
Geometric Mean Average:

Limit:

197	17
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

53
≥ 75% Removal Efficiency

see above
≤ 69 4-HR Block Average

ppmc

see above
≤ 12 8-HR. Block Average

lb/hr

see above
≤ 345 4-HR Block Average

°F

see above
≤ 173 4-HR Block Average

klb/hr

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 OPACITY REPORT



Date 06-Feb-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	2	1	1	1	1	1	1
1	2	2	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	6	IC	1	1	1	1	1	1	2
7	1	1	1	1	2	1	2	2	2	1	1
8	2	2	2	2	2	2	1	2	2	2	1
9	1	1	1	1	1	1	2	2	1	1	1
10	2	2	2	2	2	2	2	2	2	2	2
11	2	2	2	2	2	2	2	1	1	2	2
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	2	2	2	2	2	1	2	2	1	1	1
21	1	1	2	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 06-Feb-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