



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



Date 3/30/22

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.
3/30/2022	0	60	10.0		197		15		54		72		4			14		309		167.7	
3/30/2022	1	60	10.2		195		21		69		69		3			14		310		167.6	
3/30/2022	2	60	10.2		196		26		97		73		4			14		309		169.6	
3/30/2022	3	60	10.4		181		24		89		73		2	3		14		309	309	166.8	167.9
3/30/2022	4	60	10.3		193		24		82		71		5			14		309		165.8	
3/30/2022	5	60	10.2		192		19		69		73		5			13		309		167.0	
3/30/2022	6	60	10.4		194		25		95		73		4			13		310		166.0	
3/30/2022	7	60	10.5		189		21		77		72		5	5		14	14	309	309	165.4	166.0
3/30/2022	8	60	10.4		192		22		84		74		5			13		310		167.0	
3/30/2022	9	60	10.3		196		30		124		75		6			14		309		167.5	
3/30/2022	10	60	10.3		184		21		64		67		6			14		310		165.9	
3/30/2022	11	60	10.5		183		23		76		70		5	5		13		309	310	164.7	166.3
3/30/2022	12	60	10.4		191		22		66		66		6			13		309		162.7	
3/30/2022	13	60	10.4		195		21		70		71		5			14		310		166.2	
3/30/2022	14	60	10.3		192		19		55		65		7			14		309		166.4	
3/30/2022	15	60	10.2		193		14		41		65		6	6		14	13	310	309	164.2	164.9
3/30/2022	16	60	10.2		193		20		50		60		5			13		309		165.2	
3/30/2022	17	60	10.6		191		25		78		69		5			12		309		162.7	
3/30/2022	18	60	10.4		195		30		86		66		6			14		310		163.5	
3/30/2022	19	60	10.5		192		29		106		73		5	5		14		309	309	166.4	164.5
3/30/2022	20	60	10.4		193		25		80		69		6			14		309		164.2	
3/30/2022	21	60	10.3		193		26		86		70		5			13		310		165.1	
3/30/2022	22	60	10.4		193		25		85		70		5			14		309		164.8	
3/30/2022	23	60	10.5		194		25		90		72		5	5		14	14	309	309	163.8	164.5

Average:
Geometric Mean Average:

Limit:

192	23
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

70
≥ 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 COMPLIANCE SUMMARY REPORT



Date 3/30/22

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.
3/30/2022	0	60	9.2		175		2		53		97		2			14		309		166.5	
3/30/2022	1	60	9.2		154		3		63		95		2			14		309		168.4	
3/30/2022	2	60	9.5		171		24		127		81		1			13		309		167.4	
3/30/2022	3	60	9.4		169		21		119		82		2	2		13		309	309	167.3	167.4
3/30/2022	4	60	9.2		175		11		80		86		2			13		309		166.7	
3/30/2022	5	60	9.2		159		7		71		91		2			14		309		168.1	
3/30/2022	6	60	9.2		171		11		93		88		2			14		309		167.5	
3/30/2022	7	60	9.3		164		17		110		85		2	2		12	13	309	309	167.5	167.4
3/30/2022	8	60	9.5		169		6		67		91		3			13		310		167.1	
3/30/2022	9	60	9.4		170		15		111		86		2			13		310		165.5	
3/30/2022	10	60	9.4		170		4		69		94		2			13		310		165.3	
3/30/2022	11	60	9.5		167		3		56		95		3	2		13		310	310	165.3	165.8
3/30/2022	12	60	9.2		178		2		48		97		2			14		310		166.2	
3/30/2022	13	60	9.4		176		12		94		87		1			14		310		165.3	
3/30/2022	14	60	9.3		175		6		59		90		2			13		310		166.0	
3/30/2022	15	60	9.3		188		1		36		98		2	2		13	13	310	310	164.6	165.5
3/30/2022	16	60	9.1		183		1		42		97		1			13		310		166.0	
3/30/2022	17	60	9.2		176		4		60		93		2			12		310		166.2	
3/30/2022	18	60	9.1		168		10		78		88		2			11		310		165.7	
3/30/2022	19	60	9.3		170		22		117		81		2	2		13		310	310	165.1	165.8
3/30/2022	20	60	9.2		174		24		129		82		2			12		310		165.3	
3/30/2022	21	60	9.1		171		24		117		80		2			15		310		165.7	
3/30/2022	22	60	9.2		177		22		99		78		2			15		310		165.8	
3/30/2022	23	60	9.1		179		15		90		83		2	2		14	13	310	310	165.9	165.7

Average:
Geometric Mean Average:

Limit:

172	7	OR	91
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean		≥ 75% Removal Efficiency

see above
≤ 69 ppmc 4-HR Block Average

see above	see above	see above
≤ 12 lb/hr 8-HR. Block Average	≤ 345 °F 4-HR Block Average	≤ 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 OPACITY REPORT



Date 30-Mar-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	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	IC	6	IC	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



WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 30-Mar-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	3
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