



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



Date 11/11/22

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.
11/11/2022	0	60	10.1		187		12		44		72		6			13		310		166.9	
11/11/2022	1	60	10.2		191		19		41		55		6			14		310		164.0	
11/11/2022	2	60	10.2		195		13		39		65		5			13		309		164.8	
11/11/2022	3	60	10.3		191		14		57		75		5	5		14		310	309	165.5	165.3
11/11/2022	4	60	10.2		194		16		66		76		5			13		310		165.9	
11/11/2022	5	60	10.2		187		14		38		64		4			13		309		165.9	
11/11/2022	6	60	10.5		190		15		41		64		5			13		309		164.6	
11/11/2022	7	60	10.3		191		13		45		71		5	5		13	13	310	310	165.6	165.5
11/11/2022	8	60	10.4		187		17		38		56		5			13		309		167.0	
11/11/2022	9	60	10.4		183		10		31		68		5			13		310		167.7	
11/11/2022	10	60	10.7		175		22		46		52		5			13		309		165.2	
11/11/2022	11	60	10.8		184		19		69		72		5	5		13		309	309	167.1	166.7
11/11/2022	12	60	10.8		196		16		74		78		6			13		310		167.0	
11/11/2022	13	60	10.8		196		28		122		77		5			14		310		164.7	
11/11/2022	14	60	10.6		199		13		60		78		4			14		310		164.2	
11/11/2022	15	60	10.7		190		19		99		81		5	5		14	13	309	309	163.9	164.9
11/11/2022	16	60	10.3		189		8		63		87		6			13		310		164.0	
11/11/2022	17	60	10.2		195		9		56		83		6			14		310		166.8	
11/11/2022	18	60	10.3		192		5		45		89		6			14		309		164.4	
11/11/2022	19	60	10.4		195		13		78		83		5	5		14		309	310	163.7	164.7
11/11/2022	20	60	10.6		189		19		94		80		5			14		309		167.1	
11/11/2022	21	60	10.7		196		18		77		76		4			14		310		164.6	
11/11/2022	22	60	10.4		191		18		80		77		5			13		309		165.2	
11/11/2022	23	60	10.3		191		19		79		76		5	5		13	13	310	309	166.1	165.7

Average:
Geometric Mean Average:

Limit:

191	14
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

75
≥ 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 11/11/22

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.
11/11/2022	0	60	10.0		192		12		35		67		2			13		310		166.2	
11/11/2022	1	60	10.0		187		19		34		45		2			13		310		166.7	
11/11/2022	2	60	10.0		193		10		30		66		2			13		310		167.0	
11/11/2022	3	60	10.2		192		13		41		67		1	2		13		310	310	166.0	166.5
11/11/2022	4	60	10.1		191		17		50		66		2			13		310		166.7	
11/11/2022	5	60	10.1		186		20		44		55		1			14		310		167.1	
11/11/2022	6	60	10.3		175		13		37		65		1			14		310		166.4	
11/11/2022	7	60	10.2		186		11		38		70		2	1		13	13	310	310	166.7	166.7
11/11/2022	8	60	10.2		186		14		38		65		2			13		310		166.9	
11/11/2022	9	60	10.1		187		12		39		70		2			13		310		166.2	
11/11/2022	10	60	10.3		176		23		36		37		1			13		310		166.4	
11/11/2022	11	60	10.3		175		13		30		57		1	1		13		310	310	168.0	166.9
11/11/2022	12	60	10.2		180		21		91		77		2			13		310		165.8	
11/11/2022	13	60	10.2		177		71		224		68		3			14		310		166.7	
11/11/2022	14	60	10.1		184		16		89		82		2			14		310		165.5	
11/11/2022	15	60	9.8		183		19		102		81		2	2		13	13	310	310	167.1	166.3
11/11/2022	16	60	9.8		174		17		97		83		1			13		310		167.3	
11/11/2022	17	60	9.6		183		12		69		83		1			14		310		166.7	
11/11/2022	18	60	9.5		184		11		55		81		1			14		310		167.2	
11/11/2022	19	60	9.9		181		7		49		86		1	1		14		310	310	165.6	166.7
11/11/2022	20	60	9.8		181		5		48		89		1			13		310		166.4	
11/11/2022	21	60	9.9		171		13		75		82		1			14		310		166.0	
11/11/2022	22	60	10.0		181		12		66		81		1			14		310		166.7	
11/11/2022	23	60	9.8		178		21		97		78		1	1		14	14	310	310	166.9	166.5

Average: Geometric Mean Average:	183	15	OR	73	see above	see above	see above	see above			
Limit:	≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean		≥ 75% Removal Efficiency	≤ 69 4-HR Block Average	ppmc	≥ 12 8-HR. Block Average	lb/hr	≤ 345 °F 4-HR Block Average	≤ 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 11-Nov-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 11-Nov-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	1	1	1	1	1	1	2	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	2	2	1	1	1	1	1	1	1
5	1	1	1	1	1	1	1	1	1	1	1
6	2	IBC	5	IBC	1	1	1	1	1	1	2
7	1	1	1	1	1	1	1	1	1	1	1
8	1	1	1	1	1	1	1	1	1	1	1
9	1	1	1	1	1	1	1	1	1	1	1
10	1	1	1	1	1	1	1	1	1	1	1
11	2	2	1	1	1	1	1	1	1	1	1
12	1	1	1	1	1	1	1	2	1	1	1
13	1	1	2	2	2	2	2	1	2	2	2
14	1	1	1	1	1	1	1	1	1	1	1
15	1	1	1	2	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	2	2	2	1	1	1	2	1
19	1	2	1	1	1	1	1	1	1	1	1
20	1	2	2	2	1	1	1	2	2	1	1
21	2	1	2	2	2	2	2	2	2	2	2
22	2	1	1	1	1	1	1	1	1	1	1
23	1	1	1	1	1	1	1	1	2	1	1

Status Flags

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