



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



Date 2/28/22

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.
2/28/2022	0	60	10.1		196		37		127		71		4			14		309		169.0	
2/28/2022	1	60	10.1		198		23		62		64		3			14		309		166.1	
2/28/2022	2	60	10.1		199		24		56		58		4			13		309		166.7	
2/28/2022	3	60	10.1		201		25		62		60		3	3		14		309	309	166.4	167.0
2/28/2022	4	60	10.2		197		17		37		53		3			14		309		167.0	
2/28/2022	5	60	10.1		198		20		30		32		3			13		309		166.7	
2/28/2022	6	60	10.0		199		15		23		38		6			13		310		164.7	
2/28/2022	7	60	9.9		194		10		13		21		6	4		13	14	309	309	164.1	165.6
2/28/2022	8	60	10.0		200		8		21		61		5			13		309		165.5	
2/28/2022	9	60	9.8		196		5		13		61		5			14		309		167.0	
2/28/2022	10	60	10.0		200		14		27		47		5			13		309		166.0	
2/28/2022	11	60	9.8		198		5		17		72		6	5		13		310	309	166.2	166.2
2/28/2022	12	60	9.8		199		2		9		77		6			13		310		163.5	
2/28/2022	13	60	9.8		198		4		18		77		5			13		309		167.5	
2/28/2022	14	60	9.8		193		3		12		78		5			13		309		166.2	
2/28/2022	15	60	10.2		199		2		6		69		3	5		13	13	310	309	164.3	165.4
2/28/2022	16	60	9.9		197		3		18		82		5			13		309		167.6	
2/28/2022	17	60	9.9		200		3		13		77		5			13		309		167.4	
2/28/2022	18	60	10.0		200		4		13		71		4			13		309		166.4	
2/28/2022	19	60	10.0		197		4		12		64		5	5		13		310	309	166.2	166.9
2/28/2022	20	60	9.7		201		8		14		47		5			14		309		167.2	
2/28/2022	21	60	9.9		195		12		17		29		5			14		309		165.7	
2/28/2022	22	60	9.7		198		13		18		28		6			15		310		167.5	
2/28/2022	23	60	10.0		197		22		33		32		5	5		13	14	309	309	165.7	166.5

Average: Geometric Mean Average:	198	8	OR	61	see above	see above	see above	see above
Limit:	≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean		≥ 75% Removal Efficiency	≤ 69 ppmc 4-HR Block Average	≤ 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 COMPLIANCE SUMMARY REPORT



Date 2/28/22

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.
2/28/2022	0	60	9.5		183		39		131		70		1			13		310		166.8	
2/28/2022	1	60	9.5		182		21		57		63		1			14		311		165.8	
2/28/2022	2	60	9.4		186		26		85		69		1			13		308		166.2	
2/28/2022	3	60	9.3		180		25		79		69		1	1		13		309	310	166.7	166.4
2/28/2022	4	60	9.1		184		12		38		68		2			13		313		167.0	
2/28/2022	5	60	9.3		182		16		44		64		1			13		308		167.1	
2/28/2022	6	60	9.4		190		16		39		58		2			13		306		162.1	
2/28/2022	7	60	9.4		179		18		29		38		2	2		13	13	312	310	165.5	165.4
2/28/2022	8	60	9.4		185		11		28		62		2			13		315		166.5	
2/28/2022	9	60	9.5		175		14		46		69		3			13		308		166.6	
2/28/2022	10	60	9.4		188		10		34		70		3			13		311		166.3	
2/28/2022	11	60	9.0		193		8		27		70		3	3		13		309	311	166.2	166.4
2/28/2022	12	60	8.9		182		4		15		75		3			14		311		167.3	
2/28/2022	13	60	8.9		193		1		18		93		2			14		303		167.5	
2/28/2022	14	60	9.0		192		1		12		87		1			14		308		166.9	
2/28/2022	15	60	9.2		184		1		7		93		2	2		14	13	305	307	165.0	166.7
2/28/2022	16	60	9.1		188		5		32		83		2			13		307		166.4	
2/28/2022	17	60	9.0		193		4		21		83		2			13		308		166.2	
2/28/2022	18	60	8.9		193		2		13		83		2			13		311		166.3	
2/28/2022	19	60	9.0		188		7		20		65		2	2		13		316	311	166.9	166.4
2/28/2022	20	60	9.1		192		3		12		75		2			14		306		166.2	
2/28/2022	21	60	9.0		187		7		16		58		2			13		304		166.1	
2/28/2022	22	60	9.0		189		15		25		41		2			13		304		166.4	
2/28/2022	23	60	9.1		191		22		39		44		4	2		13	13	304	304	167.0	166.4

Average:
Geometric Mean Average:

Limit:

187	8
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

73
≥ 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 28-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	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	1	1	1	1	1	1	1	1
3	1	1	1	2	2	2	2	2	2	2	2
4	2	2	2	2	2	2	2	2	2	2	2
5	2	2	2	1	2	1	1	2	1	1	1
6	2	IC	7	IC	2	2	2	2	2	2	2
7	2		2	2	2	2	2	2	2	2	2
8	2	2	2	1	1	2	2	2	2	2	1
9	2	1	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	1	1	1	1	1	1	1	1	1
13	1	1	2	2	2	2	2	2	2	2	1
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	1	2	1	2	1	2	1
17	1	1	2	2	2	2	2	2	2	2	2
18	2	2	2	1	1	1	1	1	1	1	1
19	1	1	1	2	2	2	2	2	2	2	1
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	1	1	1	2	2	1	1
23	2	2	2	2	1	2	2	2	1	2	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 28-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