



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



Date 7/14/22

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.
7/14/2022	0	60	9.9		179		15		67		78		4			14		308		166.7	
7/14/2022	1	60	9.7		191		19		77		75		3			13		306		166.1	
7/14/2022	2	60	9.7		196		21		82		75		3			13		309		166.0	
7/14/2022	3	60	9.8		198		19		77		75		3	3		13		312	309	164.6	165.9
7/14/2022	4	60	9.9		198		23		73		69		3			13		312		164.2	
7/14/2022	5	60	9.7		193		17		61		71		3			13		313		165.2	
7/14/2022	6	60	9.8		197		11		59		81		4			13		312		163.4	
7/14/2022	7	60	10.0		195		13		54		76		3	3		13	13	306	311	166.1	164.7
7/14/2022	8	60	10.3		195		19		45		59		4			13		308		164.3	
7/14/2022	9	60	10.0		194		13		58		78		5			13		304		165.2	
7/14/2022	10	60	10.0		192		18		54		66		3			13		311		166.6	
7/14/2022	11	60	10.3		200		30		89		66		3	4		13		311	309	165.2	165.3
7/14/2022	12	60	9.8		193		19		85		77		5			13		305		166.2	
7/14/2022	13	60	9.8		196		44		165		74		5			13		310		165.0	
7/14/2022	14	60	9.9		194		29		114		75		4			13		310		164.7	
7/14/2022	15	60	10.2		196		26		101		74		3	4		13	13	308	308	162.7	164.7
7/14/2022	16	60	10.6		197		31		118		74		2			13		308		165.5	
7/14/2022	17	60	10.1		199		35		109		68		4			13		304		164.5	
7/14/2022	18	60	10.1		193		34		90		62		3			13		315		166.6	
7/14/2022	19	60	10.1		198		29		81		64		3	3		14		310	309	165.1	165.4
7/14/2022	20	60	10.1		194		24		70		66		3			13		310		165.4	
7/14/2022	21	60	10.1		195		24		76		68		3			14		310		164.5	
7/14/2022	22	60	10.1		198		21		67		69		4			13		314		162.3	
7/14/2022	23	60	9.8		193		11		46		76		4	3		13	14	309	311	165.9	164.5

Average:
Geometric Mean Average:

Limit:

195	21
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

72
≥ 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 7/14/22

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.
7/14/2022	0	60	10.7		176		20		57		65		3			13		315		169.1	
7/14/2022	1	60	10.7		175		21		74		72		3			13		315		167.8	
7/14/2022	2	60	10.6		168		21		69		69		2			13		312		169.5	
7/14/2022	3	60	10.3		174		16		50		67		2	2		13		316	314	172.4	169.7
7/14/2022	4	60	10.5		157		21		79		73		11			13		310		171.2	
7/14/2022	5	60	10.5		171		5		47		88		2			13		299		168.6	
7/14/2022	6	60	10.5		186		10		44		77		3			13		309		162.2	
7/14/2022	7	60	10.8		173		6		36		82		2	4		13	13	316	308	167.5	167.4
7/14/2022	8	60	11.1		167		4		21		82		5			13		306		159.3	
7/14/2022	9	60	10.7		176		10		28		64		5			13		319		164.8	
7/14/2022	10	60	10.8		170		5		38		86		4			13		306		166.1	
7/14/2022	11	60	10.4		152		15		67		77		99	28		13		291	306	166.0	164.0
7/14/2022	12	60	10.5		177		27		122		78		5			13		300		163.9	
7/14/2022	13	60	10.7		187		127		322		61		8			13		308		160.3	
7/14/2022	14	60	10.5		169		28		99		72		4			13		317		167.3	
7/14/2022	15	60	10.8		168		11		48		78		4	5		13	13	306	308	162.8	163.6
7/14/2022	16	60	10.7		184		30		98		70		4			13		313		167.4	
7/14/2022	17	60	10.6		181		44		118		62		4			13		318		169.4	
7/14/2022	18	60	10.6		175		29		71		59		4			13		314		168.9	
7/14/2022	19	60	10.7		180		23		61		62		3	3		13		307	313	166.4	168.0
7/14/2022	20	60	10.7		187		18		66		72		2			13		301		167.5	
7/14/2022	21	60	10.7		190		20		58		66		2			13		302		165.8	
7/14/2022	22	60	11.0		191		13		48		72		2			13		302		159.9	
7/14/2022	23	60	10.8		196		19		42		55		2	2		13	13	308	303	163.0	164.0

Average:
Geometric Mean Average:

Limit:

176	17
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

73
≥ 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 OPACITY REPORT



Date 14-Jul-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	1
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	IM	1	IM	1	IM	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 14-Jul-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	2	2	1	1	1	2	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	2	1	2	2	2	2	2	1
5	2	1	1	2	1	1	1	1	1	1	1
6	1	IBC	6	IBC	1	2	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	2	IM	2	IM	2	IM	1	2
10	1	2	2	2	1	1	1	1	2	1	1
11	2	2	1	2	1	1	1	2	2	1	1
12	1	1	1	1	1	1	2	2	1	1	1
13	2	2	2	2	2	2	2	2	2	2	2
14	2	2	2	2	2	2	1	1	1	2	2
15	1	1	1	1	1	1	1	1	1	1	1
16	1	1	1	1	1	1	1	1	2	1	1
17	2	2	2	1	2	2	2	2	1	2	2
18	1	1	2	2	2	1	2	2	1	1	1
19	1	2	2	1	2	2	2	1	1	2	2
20	1	1	1	1	1	1	1	1	1	1	1
21	1	1	1	2	2	1	2	2	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