



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



Date 3/27/22

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
3/27/2022	0	60	9.7		189		29		112		74		4		14		304		166.2	
3/27/2022	1	60	9.7		188		28		118		76		5		13		304		168.1	
3/27/2022	2	60	9.6		195		25		117		79		4		13		305		166.3	
3/27/2022	3	60	9.6		198		26		97		73		4	4	13		305	304	168.3	167.3
3/27/2022	4	60	9.6		193		25		102		76		3		14		304		166.7	
3/27/2022	5	60	9.9		195		28		80		65		3		14		304		166.5	
3/27/2022	6	60	9.9		196		30		97		69		2		13		304		167.8	
3/27/2022	7	60	10.1		198		31		89		65		3	3	13	13	304	304	166.3	166.8
3/27/2022	8	60	10.0		194		19		70		73		3		13		304		168.8	
3/27/2022	9	60	9.8		191		21		83		74		4		13		304		170.4	
3/27/2022	10	60	10.1		197		20		92		78		2		13		304		168.4	
3/27/2022	11	60	10.0		194		15		78		81		3	3	13		304	304	166.9	168.6
3/27/2022	12	60	10.0		193		21		92		77		3		13		304		165.8	
3/27/2022	13	60	10.1		196		22		100		78		3		13		305		166.2	
3/27/2022	14	60	10.0		193		21		96		78		3		14		304		167.9	
3/27/2022	15	60	9.9		196		19		90		79		4	3	13	13	305	304	165.3	166.3
3/27/2022	16	60	9.7		161		17		71		76		4		14		304		166.5	
3/27/2022	17	60	9.9		169		16		71		77		3		14		304		165.6	
3/27/2022	18	60	9.9		185		19		81		76		3		14		305		166.0	
3/27/2022	19	60	10.0		195		23		78		71		3	3	13		305	304	166.9	166.3
3/27/2022	20	60	10.0		191		22		67		68		2		14		304		166.5	
3/27/2022	21	60	10.1		190		21		58		63		2		14		304		166.4	
3/27/2022	22	60	10.1		188		22		69		69		2		13		304		166.3	
3/27/2022	23	60	9.9		190		16		65		75		3	2	13	14	305	304	167.6	166.7

Average:
Geometric Mean Average:

Limit:

191	22
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

74
≥ 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 3/27/22

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.
3/27/2022	0	60	8.7		175		17		86		80		1			13		305		167.9	
3/27/2022	1	60	8.7		178		15		95		84		2			12		305		168.5	
3/27/2022	2	60	8.7		178		11		80		86		2			13		305		166.5	
3/27/2022	3	60	8.7		185		14		78		82		2	2		12		305	305	168.2	167.8
3/27/2022	4	60	8.8		181		6		68		92		3			12		305		166.8	
3/27/2022	5	60	8.7		171		7		58		87		2			12		305		168.6	
3/27/2022	6	60	8.6		173		23		93		75		79			13		305		171.4	
3/27/2022	7	60	9.2		173		11		61		82		2	22		15	13	305	305	164.0	167.7
3/27/2022	8	60	9.0		169		4		59		93		2			16		305		166.2	
3/27/2022	9	60	8.8		168		2		50		96		3			16		305		167.3	
3/27/2022	10	60	9.0		174		3		64		96		3			15		305		164.8	
3/27/2022	11	60	8.9		175		6		67		90		4	3		15		305	305	165.5	165.9
3/27/2022	12	60	9.0		157		2		38		95		5			12		305		165.2	
3/27/2022	13	60	8.9		168		9		70		87		3			12		305		167.4	
3/27/2022	14	60	8.9		176		7		66		90		2			12		305		165.6	
3/27/2022	15	60	8.6		167		1		46		97		3	3		13	14	305	305	166.3	166.1
3/27/2022	16	60	8.8		160		1		38		96		2			13		305		168.2	
3/27/2022	17	60	8.7		162		2		44		96		5			12		305		169.0	
3/27/2022	18	60	8.8		171		1		28		98		1			12		305		166.1	
3/27/2022	19	60	8.8		167		0		29		100		3	3		12		305	305	168.1	167.8
3/27/2022	20	60	8.9		172		1		26		97		3			13		305		167.9	
3/27/2022	21	60	8.9		164		1		28		96		1			15		306		167.1	
3/27/2022	22	60	9.2		166		1		30		97		2			15		305		167.0	
3/27/2022	23	60	9.1		165		1		34		97		2	2		13	13	304	305	168.4	167.6

Average:
Geometric Mean Average:

Limit:

171	3
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

94
≥ 75% Removal Efficiency

see above
≤ 69 4-HR Block Average

ppmc

see above
≤ 12 8-HR. Block Average

lb/hr

see above
≤ 345 °F 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 27-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 27-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	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