



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



Date 3/24/22

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.
3/24/2022	0	60	10.2		166		19		66		71		3			13		304		167.6	
3/24/2022	1	60	10.2		177		25		103		76		4			14		304		167.5	
3/24/2022	2	60	10.5		183		29		102		71		4			14		304		167.1	
3/24/2022	3	60	10.5		180		30		116		74		5	4		14		304	304	165.6	166.9
3/24/2022	4	60	10.3		181		30		93		67		3			15		305		164.7	
3/24/2022	5	60	10.3		177		23		77		71		3			12		304		164.3	
3/24/2022	6	60	10.6		166		23		73		68		4			15		304		164.2	
3/24/2022	7	60	10.2		182		15		57		73		5	4		13	14	305	304	165.8	164.8
3/24/2022	8	60	10.4		175		27		67		59		3			14		304		166.5	
3/24/2022	9	60	10.4		171		20		61		67		3			13		304		163.7	
3/24/2022	10	60	10.4		160		17		81		80		5			13		305		162.6	
3/24/2022	11	60	10.6		161		20		70		71		3	4		14		304	304	164.5	164.3
3/24/2022	12	60	10.2		182		22		67		67		5			13		305		165.9	
3/24/2022	13	60	10.2		184		18		53		66		6			15		304		166.4	
3/24/2022	14	60	10.1		184		20		45		56		6			14		305		165.9	
3/24/2022	15	60	10.2		182		14		43		68		6	6		13	14	304	305	164.9	165.8
3/24/2022	16	60	10.1		180		7		38		80		5			13		304		165.8	
3/24/2022	17	60	10.2		182		9		35		76		5			14		304		165.8	
3/24/2022	18	60	10.3		183		16		42		61		5			16		305		165.4	
3/24/2022	19	60	10.3		176		19		60		69		5	5		14		304	304	164.6	165.4
3/24/2022	20	60	9.8		178		5		45		88		5			14		305		165.3	
3/24/2022	21	60	9.8		177		3		40		92		4			14		304		165.0	
3/24/2022	22	60	10.0		185		9		56		84		4			15		305		164.7	
3/24/2022	23	60	9.9		177		8		55		85		5	5		14	14	304	304	163.6	164.7

Average:
Geometric Mean Average:

Limit:

177	16	74	see above	see above	see above
≤ 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
OR					
				≤ 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 3/24/22

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.
3/24/2022	0	60	10.0		189		13		80		83		1			14		308		167.1	
3/24/2022	1	60	9.9		197		13		73		82		2			14		304		166.0	
3/24/2022	2	60	9.9		188		12		61		80		1			15		305		166.7	
3/24/2022	3	60	9.9		189		6		74		91		1	1		15		313	307	166.5	166.6
3/24/2022	4	60	9.9		187		4		63		93		2			13		311		166.5	
3/24/2022	5	60	10.0		174		5		59		92		1			14		313		165.9	
3/24/2022	6	60	10.0		174		10		79		88		2			14		313		166.9	
3/24/2022	7	60	9.8		177		1		45		97		3	2		14	14	311	312	167.1	166.6
3/24/2022	8	60	10.0		161		2		44		96		2			14		308		165.7	
3/24/2022	9	60	10.4		175		7		93		93		3			14		310		159.1	
3/24/2022	10	60	9.9		173		10		103		90		2			14		309		166.4	
3/24/2022	11	60	9.8		147		3		30		90		1	2		13		306	308	166.4	164.4
3/24/2022	12	60	9.8		168		27		108		75		3			14		308		165.7	
3/24/2022	13	60	9.7		169		13		52		76		2			14		310		165.8	
3/24/2022	14	60	9.5		174		4		24		84		3			13		310		165.3	
3/24/2022	15	60	9.8		180		6		32		82		2	2		14	14	310	309	166.8	165.9
3/24/2022	16	60	9.9		145		5		30		81		9			14		310		165.3	
3/24/2022	17	60	9.6		191		7		39		83		3			14		310		165.8	
3/24/2022	18	60	9.6		192		11		46		77		2			15		310		165.6	
3/24/2022	19	60	9.7		190		9		37		77		1	4		13		310	310	165.3	165.5
3/24/2022	20	60	9.5		193		2		22		90		2			13		310		164.2	
3/24/2022	21	60	9.5		191		2		24		92		2			13		310		165.6	
3/24/2022	22	60	10.3		196		3		24		88		3			13		311		159.9	
3/24/2022	23	9	15.9	IF	241	IF	4	IF	0	IBF	0	IBF	885	IF	2	13	14	303	310	89.9	163.2

Average:
Geometric Mean Average:

Limit:

179	6
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

88
≥ 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

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WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 24-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 24-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	IF	2	IF	2	IF	2	IF	2	IF	2

Status Flags

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