



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



Date 5/11/22

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.
5/11/2022	0	60	10.1		165		1		31		97		8			13		293		166.2	
5/11/2022	1	60	10.1		182		2		24		92		8			13		305		168.0	
5/11/2022	2	60	10.3		186		3		31		90		10			14		304		168.0	
5/11/2022	3	60	10.3		178		3		25		88		8	9		13		310	303	165.9	167.0
5/11/2022	4	60	10.2		181		4		30		86		8			13		312		167.6	
5/11/2022	5	60	10.0		179		11		44		76		8			13		311		168.6	
5/11/2022	6	60	10.5		181		7		27		75		8			13		312		167.0	
5/11/2022	7	60	10.6		187		10		37		72		9	8		13	13	312	312	165.7	167.2
5/11/2022	8	60	10.3		172		10		55		82		10			13		313		166.3	
5/11/2022	9	60	10.6		160		6		49		87		9			13		300		164.7	
5/11/2022	10	60	10.6		187		16		40		59		10			14		312		167.7	
5/11/2022	11	60	10.5		185		5		46		90		6	9		14		300	306	167.4	166.5
5/11/2022	12	60	10.6		187		24		56		58		10			14		314		166.8	
5/11/2022	13	60	10.4		176		18		50		65		11			14		318		166.5	
5/11/2022	14	60	10.3		178		5		22		79		9			14		315		167.8	
5/11/2022	15	60	10.7		177		4		27		84		8	9		14	14	304	313	165.5	166.6
5/11/2022	16	60	10.2		169		13		53		75		9			14		309		166.4	
5/11/2022	17	60	10.0		172		5		35		87		8			14		306		168.3	
5/11/2022	18	60	10.3		176		12		58		79		8			14		305		166.5	
5/11/2022	19	60	10.2		178		20		71		72		8	8		14		310	308	166.3	166.9
5/11/2022	20	60	10.1		176		14		54		74		7			14		305		166.5	
5/11/2022	21	60	10.2		172		7		37		81		7			14		305		164.7	
5/11/2022	22	60	10.1		171		8		38		79		7			16		306		165.5	
5/11/2022	23	60	10.0		161		4		31		88		6	7		14	14	305	305	166.4	165.8

Average: Geometric Mean Average:	<div style="background-color: yellow; padding: 5px; border: 1px solid black;">177</div>	<div style="background-color: green; padding: 5px; border: 1px solid black;">7</div>	OR	<div style="background-color: green; padding: 5px; border: 1px solid black;">82</div>	<div style="background-color: grey; padding: 5px; border: 1px solid black;">see above</div>	<div style="background-color: green; padding: 5px; border: 1px solid black;">see above</div>	<div style="background-color: purple; padding: 5px; border: 1px solid black;">see above</div>	<div style="background-color: grey; padding: 5px; border: 1px solid black;">see above</div>
Limit:	<div style="border: 1px solid black; padding: 5px;"> ≤ 205 24-HR Block Avg. </div>	<div style="border: 1px solid black; padding: 5px;"> ≤ 29 24-HR Geometric Mean </div>		<div style="border: 1px solid black; padding: 5px;"> $\geq 75\%$ Removal Efficiency </div>	<div style="border: 1px solid black; padding: 5px;"> ≤ 69 ppmc 4-HR Block Average </div>	<div style="border: 1px solid black; padding: 5px;"> ≤ 12 lb/hr 8-HR. Block Average </div>	<div style="border: 1px solid black; padding: 5px;"> ≤ 345 °F 4-HR Block Average </div>	<div style="border: 1px solid black; padding: 5px;"> ≤ 173 klb/hr 4-HR Block Average </div>

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 COMPLIANCE SUMMARY REPORT



Date 5/11/22

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.
5/11/2022	0	60	10.0		196		2		23		93		2			14		310		167.1	
5/11/2022	1	60	10.2		200		1		24		95		2			15		310		168.1	
5/11/2022	2	60	10.3		195		3		37		93		3			14		310		167.2	
5/11/2022	3	60	10.0		198		1		23		95		1	2		14		310	310	167.0	167.4
5/11/2022	4	60	10.0		200		1		28		95		3			15		310		167.6	
5/11/2022	5	60	9.9		196		4		51		93		2			11		310		167.5	
5/11/2022	6	60	10.2		183		2		37		94		4			13		310		164.7	
5/11/2022	7	60	9.8		194		6		70		91		6	4		13	14	310	310	166.9	166.7
5/11/2022	8	60	10.2		196		14		89		85		3			13		310		167.3	
5/11/2022	9	60	10.8		192		5		52		90		5			12		310		168.3	
5/11/2022	10	60	10.8		196		4		42		90		4			13		310		167.8	
5/11/2022	11	60	10.5		196		1		23		95		4	4		12		310	310	167.4	167.7
5/11/2022	12	60	10.7		200		5		24		78		3			13		310		168.7	
5/11/2022	13	60	10.0		194		2		28		95		3			14		310		168.0	
5/11/2022	14	60	9.8		196		1		19		95		3			15		310		167.0	
5/11/2022	15	60	10.2		198		61		193		69		2	3		15	13	310	310	167.9	167.9
5/11/2022	16	60	10.1		195		11		72		85		4			14		310		166.1	
5/11/2022	17	60	10.1		197		4		50		92		3			15		310		167.2	
5/11/2022	18	60	10.2		191		13		85		84		3			15		310		168.1	
5/11/2022	19	60	10.1		197		9		80		89		2	3		15		310	310	167.5	167.2
5/11/2022	20	60	10.0		193		5		51		89		2			15		310		168.0	
5/11/2022	21	60	10.1		193		1		33		96		2			15		310		167.5	
5/11/2022	22	60	10.1		193		1		29		97		2			17		310		168.1	
5/11/2022	23	60	10.1		198		2		41		96		3	2		15	15	310	310	166.6	167.5

Average:
Geometric Mean Average:

Limit:

195	3
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

92
≥ 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 11-May-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-May-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	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0
6	2	IBC	4	IBC	0	0	0	0	0	0	1
7	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0

Status Flags

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