



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



Date 7/24/22

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.
7/24/2022	0	60	10.8		123		1		83		98		7			13		291		134.6	
7/24/2022	1	60	10.8		141		4		67		94		6			13		287		135.5	
7/24/2022	2	60	10.6		166		7		47		84		4			13		304		136.7	
7/24/2022	3	60	10.7		162		17		81		79		6	6		13		306	297	135.5	135.6
7/24/2022	4	60	10.5		155		19		73		74		5			13		304		134.6	
7/24/2022	5	60	10.5		161		21		73		72		4			13		307		136.1	
7/24/2022	6	60	10.5		156		23		104		78		4			14		309		135.7	
7/24/2022	7	60	10.4		156		34		139		75		5	5		13	13	311	307	136.5	135.7
7/24/2022	8	60	10.6		150		16		110		85		5			13		305		135.3	
7/24/2022	9	60	10.5		146		36		154		77		6			14		312		135.7	
7/24/2022	10	60	10.4		154		25		112		78		4			13		311		138.4	
7/24/2022	11	60	10.3		161		23		101		77		4	5		13		309	309	137.8	136.8
7/24/2022	12	60	10.2		159		21		91		77		4			14		312		140.0	
7/24/2022	13	60	10.4		152		22		107		80		4			13		314		137.5	
7/24/2022	14	60	10.5		153		23		119		80		4			13		309		134.7	
7/24/2022	15	60	10.6		153		33		144		77		5	4		13	13	309	311	133.9	136.5
7/24/2022	16	60	10.6		143		20		147		86		5			13		301		134.7	
7/24/2022	17	60	10.6		162		18		124		85		4			13		292		136.6	
7/24/2022	18	60	10.6		160		16		103		85		4			14		293		136.1	
7/24/2022	19	60	10.7		155		21		109		81		4	4		14		295	295	134.9	135.6
7/24/2022	20	60	10.5		163		24		112		79		3			13		306		136.0	
7/24/2022	21	60	10.4		158		19		85		78		3			13		311		137.4	
7/24/2022	22	60	11.1		175		19		76		75		9			14		319		135.3	
7/24/2022	23	9	15.5	IF	219	IF	6	IF	50	IBF	87	IBF	602	IF	5	13	13	308	312	82.0	136.2

Average: Geometric Mean Average:	155	17	OR	83	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 7/24/22

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.
7/24/2022	0	60	9.5		181		8		70		89		2			13		304		177.7	
7/24/2022	1	60	10.2		173		5		49		90		2			13		299		163.8	
7/24/2022	2	60	10.2		168		14		45		70		3			13		308		163.7	
7/24/2022	3	60	10.3		177		18		54		66		3	3		13		313	306	162.3	166.9
7/24/2022	4	60	10.1		164		10		44		78		3			14		313		165.7	
7/24/2022	5	60	10.2		159		19		53		64		4			13		311		162.7	
7/24/2022	6	60	10.2		155		22		89		75		3			14		312		162.1	
7/24/2022	7	60	9.9		155		14		83		83		2	3		13	13	310	312	163.5	163.5
7/24/2022	8	60	10.0		156		23		86		73		3			14		308		161.9	
7/24/2022	9	60	9.9		160		22		84		73		4			15		314		163.5	
7/24/2022	10	60	9.8		158		20		79		75		2			13		313		164.6	
7/24/2022	11	60	9.8		158		15		76		81		1	3		13		307	311	165.4	163.9
7/24/2022	12	60	9.8		155		32		119		73		3			13		312		165.9	
7/24/2022	13	60	9.6		169		20		96		79		2			13		311		168.6	
7/24/2022	14	60	9.5		164		28		115		76		3			13		306		165.9	
7/24/2022	15	60	9.3		174		29		104		72		2	2		13	13	315	311	170.3	167.6
7/24/2022	16	60	9.4		170		23		82		72		2			13		317		168.5	
7/24/2022	17	60	9.7		163		27		90		70		1			13		314		166.0	
7/24/2022	18	60	9.6		167		22		77		72		1			12		317		165.5	
7/24/2022	19	60	9.8		157		22		83		74		2	1		13		315	316	164.5	166.1
7/24/2022	20	60	9.8		164		21		72		70		1			13		313		165.1	
7/24/2022	21	60	9.7		157		20		77		74		1			14		316		169.0	
7/24/2022	22	60	9.8		167		24		93		74		1			13		316		165.5	
7/24/2022	23	60	9.8		170		25		65		62		2	1		13	13	316	315	166.2	166.5

Average:
Geometric Mean Average:

Limit:

164	19
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

75
≥ 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 24-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	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	1	1	1	1	1	1	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	IF	1	IF	1	IF	1	IF	1	IF

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-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	2	2	2	2	2	2	2	2	2	2	2
1	2	1	2	1	1	2	2	2	2	2	1
2	2	1	1	1	1	2	2	2	1	2	1
3	1	1	2	2	2	2	2	2	2	2	2
4	2	2	2	2	2	2	2	1	1	2	2
5	1	2	2	2	2	2	2	2	2	2	2
6	1	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	3	3	2	2	2	2	2	2
17	2	2	3	3	2	3	3	3	3	3	3
18	2	3	3	3	3	3	3	3	3	3	3
19	3	3	3	3	3	3	3	3	3	3	3
20	3	2	3	2	2	3	3	3	3	3	3
21	3	2	3	3	3	3	3	3	3	3	3
22	3	3	3	3	3	3	3	3	3	3	3
23	2	2	3	3	3	3	3	3	3	3	3

Status Flags

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