



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



Date 11/20/22

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.
11/20/2022	0	60	9.6		192		8		43		83		5			15		309		167.3	
11/20/2022	1	60	9.6		198		15		63		76		4			14		309		166.1	
11/20/2022	2	60	9.9		200		19		75		75		3			13		309		165.4	
11/20/2022	3	60	9.6		198		15		57		74		4	4		15		310	309	165.1	166.0
11/20/2022	4	60	9.4		198		5		45		89		4			14		309		166.3	
11/20/2022	5	60	9.4		196		9		53		83		4			14		309		165.3	
11/20/2022	6	60	9.7		197		12		54		78		4			14		310		168.3	
11/20/2022	7	60	9.9		199		13		46		72		4	4		14	14	308	309	165.1	166.2
11/20/2022	8	60	9.6		199		10		46		78		4			14		310		167.2	
11/20/2022	9	60	9.7		199		12		45		74		4			14		309		165.5	
11/20/2022	10	60	9.8		200		15		46		68		4			13		309		164.9	
11/20/2022	11	60	9.9		199		14		36		60		4	4		13		310	310	166.5	166.0
11/20/2022	12	60	9.9		199		14		37		62		4			13		309		166.6	
11/20/2022	13	60	9.9		200		17		45		62		4			13		309		166.5	
11/20/2022	14	60	10.2		198		14		43		68		4			13		310		166.6	
11/20/2022	15	60	9.9		199		7		29		77		5	4		14	13	310	310	165.9	166.4
11/20/2022	16	60	9.8		199		11		34		69		4			14		307		165.3	
11/20/2022	17	60	10.1		197		15		55		72		4			13		310		166.2	
11/20/2022	18	60	10.3		201		21		44		53		3			13		309		167.5	
11/20/2022	19	60	10.2		200		18		37		51		3	3		13		310	309	166.9	166.5
11/20/2022	20	60	10.1		195		14		35		61		3			13		309		167.0	
11/20/2022	21	60	10.0		201		11		36		70		3			15		310		166.4	
11/20/2022	22	60	9.8		195		11		46		76		4			13		309		168.1	
11/20/2022	23	60	9.9		191		5		35		87		3	3		13	13	309	309	167.0	167.1

Average: Geometric Mean Average:	198	12	<b>OR</b>	73	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 11/20/22

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.
11/20/2022	0	60	10.0		196		14		51		72		2			14		310		167.2	
11/20/2022	1	60	10.0		193		21		75		73		2			13		310		166.6	
11/20/2022	2	60	10.2		194		19		57		66		2			15		310		166.2	
11/20/2022	3	60	10.2		189		11		40		73		2	2		15		310	310	166.2	166.6
11/20/2022	4	60	10.1		193		9		37		76		4			14		310		165.8	
11/20/2022	5	60	10.0		193		12		45		72		2			14		310		167.1	
11/20/2022	6	60	10.0		193		9		35		75		3			14		310		166.3	
11/20/2022	7	60	10.0		188		6		27		76		2	3		14	14	310	310	166.0	166.3
11/20/2022	8	60	10.5		188		9		36		75		4			14		310		155.4	
11/20/2022	9	60	9.7		194		15		50		69		2			14		310		166.4	
11/20/2022	10	60	9.7		194		16		51		68		2			14		310		166.9	
11/20/2022	11	60	10.1		192		18		38		53		2	2		14		310	310	166.9	163.9
11/20/2022	12	60	10.3		186		21		43		52		2			13		310		167.1	
11/20/2022	13	60	10.2		193		23		58		61		2			13		310		166.0	
11/20/2022	14	60	10.2		188		21		49		56		3			13		310		166.8	
11/20/2022	15	60	10.1		196		15		36		58		2	2		13	14	310	310	166.9	166.7
11/20/2022	16	60	10.1		196		17		31		47		2			14		310		166.4	
11/20/2022	17	60	10.2		191		19		40		54		2			13		310		166.7	
11/20/2022	18	60	10.3		191		24		41		42		2			14		310		166.4	
11/20/2022	19	60	10.5		188		24		43		44		2	2		14		310	310	166.5	166.5
11/20/2022	20	60	10.3		190		14		38		63		2			14		310		166.3	
11/20/2022	21	60	10.2		187		9		31		72		2			14		310		166.7	
11/20/2022	22	60	10.2		188		5		27		80		2			13		310		166.6	
11/20/2022	23	60	10.3		194		4		25		83		2	2		13	14	310	310	166.0	166.4

Average:  
Geometric Mean Average:

Limit:

191	13
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

67
≥ 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

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# WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 20-Nov-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 20-Nov-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	1	1	1	1	2	2	2	2	2	2	1
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

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