



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



Date 12/20/22

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.
12/20/2022	0	60	10.8		154		10		32		68		6			14		309		166.2	
12/20/2022	1	60	10.5		144		7		26		75		6			13		309		165.5	
12/20/2022	2	60	10.8		155		23		34		32		5			14		309		165.8	
12/20/2022	3	60	10.6		155		21		35		39		6	6		13		310	309	166.5	166.0
12/20/2022	4	60	10.9		159		22		31		29		5			14		309		166.1	
12/20/2022	5	60	10.8		152		20		36		46		5			14		309		165.7	
12/20/2022	6	60	10.9		145		12		18		35		6			13		309		164.5	
12/20/2022	7	60	10.8		149		19		29		36		5	5		14	14	309	309	167.2	165.9
12/20/2022	8	60	11.1		151		22		46		53		5			14		309		164.3	
12/20/2022	9	60	11.0		153		20		48		59		6			13		310		165.4	
12/20/2022	10	60	10.8		145		21		30		29		6			13		310		166.0	
12/20/2022	11	60	11.0		149		23		46		49		7	6		13		309	309	165.3	165.2
12/20/2022	12	60	11.0		150		24		45		47		4			13		309		166.5	
12/20/2022	13	60	10.8		149		19		31	IBM	38	IBM	6			13		310		164.9	
12/20/2022	14	60	10.6		144		19		42		56		6			13		309		164.7	
12/20/2022	15	60	11.0		148		18		40		55		5	5		13	13	309	309	165.4	165.4
12/20/2022	16	60	10.8		151		21		49		58		6			14		310		166.3	
12/20/2022	17	60	10.9		152		28		85		67		5			13		309		166.6	
12/20/2022	18	60	10.7		153		44		140		69		7			13		309		166.9	
12/20/2022	19	60	10.9		145		18		47		63		5	6		14		309	309	166.3	166.5
12/20/2022	20	60	10.9		157		19		52		63		4			14		309		164.9	
12/20/2022	21	60	10.9		152		21		55		61		5			14		309		165.5	
12/20/2022	22	60	10.9		159		20		66		69		5			14		310		165.8	
12/20/2022	23	60	11.1		165		37		76		52		5	5		14	14	310	309	167.1	165.8

Average:  
Geometric Mean Average:

Limit:

151	20
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

54
≥ 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 COMPLIANCE SUMMARY REPORT



Date 12/20/22

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.
12/20/2022	0	60	10.3		139		2		18		89		3			14		311		166.2	
12/20/2022	1	60	10.1		141		1		15		94		2			13		311		167.3	
12/20/2022	2	60	10.5		138		3		15		83		2			14		311		166.1	
12/20/2022	3	60	10.4		140		5		20		74		2	2		14		311	311	166.9	166.6
12/20/2022	4	60	10.6		140		7		21		65		4			14		311		166.1	
12/20/2022	5	60	10.5		140		9		25		63		2			14		311		166.7	
12/20/2022	6	60	10.5		139		3		14		82		2			14		311		166.6	
12/20/2022	7	60	10.6		139		18		47		61		6	4		15	14	311	311	168.9	167.1
12/20/2022	8	60	10.7		139		4		24		82		4			14		311		165.3	
12/20/2022	9	60	10.7		140		13		39		67		3			13		311		166.7	
12/20/2022	10	60	10.6		139		13		31		58		4			14		311		166.7	
12/20/2022	11	60	10.7		140		6		21		73		2	3		14		311	311	166.3	166.2
12/20/2022	12	60	10.7		138		22		51		56		2			14		311		167.5	
12/20/2022	13	60	10.6		142		11		28	IBM	62	IBM	2			14		311		163.7	
12/20/2022	14	60	10.6		139		2		27		94		4			14		311		157.4	
12/20/2022	15	60	10.4		141		1		25		95		3	3		13	14	311	311	165.6	163.6
12/20/2022	16	60	10.3		140		3		34		91		4			14		311		166.4	
12/20/2022	17	60	10.4		139		24		75		69		3			14		311		166.7	
12/20/2022	18	60	10.4		139		23		87		73		3			14		311		166.5	
12/20/2022	19	60	10.6		139		7		31		76		2	3		14		311	311	165.8	166.4
12/20/2022	20	60	10.5		140		12		31		60		2			14		311		165.9	
12/20/2022	21	60	10.5		139		9		37		76		2			14		311		166.4	
12/20/2022	22	60	10.5		140		2		34		93		2			14		311		166.5	
12/20/2022	23	60	10.7		139		27		66		58		3	2		14	14	310	311	167.6	166.6

Average: Geometric Mean Average:	<b>140</b>	<b>6</b>	<b>OR</b>	<b>80</b>	see above	see above	see above	
Limit:	<b>≤ 205</b> 24-HR Block Avg.	<b>≤ 29</b> 24-HR Geometric Mean		<b>≥ 75%</b> Removal Efficiency	<b>≤ 69</b> ppmc 4-HR Block Average	<b>≥ 12</b> lb/hr 8-HR. Block Average	<b>≤ 345</b> °F 4-HR Block Average	<b>≤ 173</b> klb/hr 4-HR Block Average

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



Date 20-Dec-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	2	2	2	1	2	2	1
1	1	2	1	1	1	1	2	2	1	1	1
2	1	2	1	1	1	1	1	2	1	1	1
3	2	2	2	2	2	2	2	2	2	2	2
4	2	2	2	2	2	1	1	2	2	1	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	1	2	1	1	1	2	2	2	2	2	1
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	1	1	1	1	2	2	2	2	2	1
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	1	1	2	2	1	1
18	2	1	2	2	1	2	2	2	2	2	2
19	2	2	2	2	2	2	2	2	2	2	2
20	1	1	1	2	1	2	1	1	2	2	1
21	1	2	2	2	2	2	2	2	2	2	2
22	2	2	2	2	2	1	1	2	2	1	1
23	2	2	1	2	2	2	2	2	2	2	2

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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-Dec-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	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	IBC	5	IBC	1	1	1	1	1	1	1
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	1	1	1	1	1	1	1	1	1

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