



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



Date 1/6/23

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.
1/6/2023	0	60	10.5		193		17		70		75		4			14		309		166.1	
1/6/2023	1	60	10.6		190		15		63		76		4			15		309		165.2	
1/6/2023	2	60	10.7		198		19		64		70		4			14		310		164.5	
1/6/2023	3	60	10.6		195		16		53		70		4	4		13		309	309	165.8	165.4
1/6/2023	4	60	10.9		189		12		38		68		3			15		309		163.6	
1/6/2023	5	60	10.6		195		9		38		75		3			14		310		164.8	
1/6/2023	6	60	10.5		196		8		37		78		4			15		309		166.4	
1/6/2023	7	60	10.9		198		9		35		73		4	4		15	14	310	309	163.2	164.5
1/6/2023	8	60	11.2		195		18		39		55		4			14		309		165.5	
1/6/2023	9	60	11.5		199		15		38		61		5			15		309		164.1	
1/6/2023	10	60	11.3		200		18		61		70		4			14		310		165.2	
1/6/2023	11	60	11.0		197		22		90		75		6	5		15		309	309	164.2	164.8
1/6/2023	12	60	10.9		196		19		67		72		6			12		309		166.2	
1/6/2023	13	60	11.2		198		24		99		76		5			12		309		165.0	
1/6/2023	14	60	10.9		198		9		49		81		5			13		309		166.1	
1/6/2023	15	60	10.8		199		6		41		84		5	5		15	14	309	309	164.1	165.3
1/6/2023	16	60	10.7		197		7		36		81		5			16		309		165.1	
1/6/2023	17	60	10.9		195		12		63		82		5			14		309		163.6	
1/6/2023	18	60	10.8		191		16		60		73		4			15		309		167.2	
1/6/2023	19	60	11.0		187		20		82		76		3	4		17		309	309	168.4	166.1
1/6/2023	20	60	11.3		194		23		82		72		3			16		309		165.8	
1/6/2023	21	60	11.4		197		22		71		68		3			16		309		162.6	
1/6/2023	22	60	11.2		196		22		58		62		3			13		310		163.5	
1/6/2023	23	60	11.1		196		21		56		62		3	3		16	15	309	309	165.8	164.4

Average:
Geometric Mean Average:

Limit:

195	15
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

73
≥ 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

Status Flags

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



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Date 1/6/23

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.
1/6/2023	0	60	11.0		193		8		44		81		4			13		311		165.7	
1/6/2023	1	60	10.8		198		3		17		83		2			14		311		165.7	
1/6/2023	2	60	10.9		197		3		20		86		3			13		311		165.1	
1/6/2023	3	60	10.8		193		8		36		79		3	3		11		311	311	166.1	165.6
1/6/2023	4	60	10.8		196		7		31		77		3			13		311		165.4	
1/6/2023	5	60	11.0		196		6		25		77		1			13		311		166.0	
1/6/2023	6	60	11.0		194		4		22		83		2			12		311		164.9	
1/6/2023	7	60	10.8		198		4		26		85		1	2		14	13	311	311	166.4	165.7
1/6/2023	8	60	11.3		193		9		37		76		1			12		311		164.9	
1/6/2023	9	60	11.7		185		5		20		74		0			13		311		165.3	
1/6/2023	10	60	11.5		184		3		18		83		1			13		311		164.1	
1/6/2023	11	60	11.3		194		4		25		83		3	1		13		311	311	164.6	164.7
1/6/2023	12	60	11.3		196		4		23		82		3			11		311		165.8	
1/6/2023	13	60	11.2		192		2		24		90		3			11		311		166.0	
1/6/2023	14	60	11.1		197		2		18		87		3			13		311		165.2	
1/6/2023	15	60	10.9		196		3		26		89		3	3		15	13	311	311	164.6	165.4
1/6/2023	16	60	11.0		196		2		25		91		2			16		311		165.1	
1/6/2023	17	60	11.1		195		3		34		91		4			13		311		165.8	
1/6/2023	18	60	11.2		196		9		52		84		1			16		311		166.9	
1/6/2023	19	60	11.2		190		12		57		79		1	2		15		311	311	166.0	165.9
1/6/2023	20	60	11.5		194		17		55		70		2			17		311		165.0	
1/6/2023	21	60	11.2		193		8		37		79		1			16		311		164.9	
1/6/2023	22	60	11.1		194		9		37		76		1			14		311		166.0	
1/6/2023	23	60	11.1		194		8		36		77		1	1		15	15	311	311	165.2	165.3

Average:
Geometric Mean Average:

Limit:

194	5
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

83
≥ 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 06-Jan-2023

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	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	3	2	2	2	3	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 06-Jan-2023

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

Status Flags

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