



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



Date 1/1/23

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.
1/1/2023	0	60	10.9		197		17		59		71		3			14		309		164.0	
1/1/2023	1	60	10.5		199		9		42		78		4			14		310		166.2	
1/1/2023	2	60	10.6		200		21		63		66		3			13		309		168.3	
1/1/2023	3	60	10.7		199		24		73		67		3	3		14		309	309	168.2	166.7
1/1/2023	4	60	10.3		194		22		83		73		4			13		309		172.0	
1/1/2023	5	60	11.0		199		26		96		73		3			13		310		164.2	
1/1/2023	6	60	11.0		196		22		66		67		3			13		309		163.1	
1/1/2023	7	60	10.9		198		23		54		58		3	3		14	14	310	309	163.3	165.7
1/1/2023	8	60	10.8		200		19		61		69		3			14		309		168.3	
1/1/2023	9	60	10.6		198		20		82		76		3			14		309		167.5	
1/1/2023	10	60	11.1		195		24		74		68		3			13		309		164.8	
1/1/2023	11	60	11.1		197		22		75		70		4	3		14		309	309	164.6	166.3
1/1/2023	12	60	10.9		201		20		65		69		3			14		309		165.4	
1/1/2023	13	60	10.6		199		14		54		75		3			14		310		165.9	
1/1/2023	14	60	10.6		194		22		73		70		4			15		309		170.4	
1/1/2023	15	60	11.0		198		18		60		70		4	3		14	14	310	309	161.9	165.9
1/1/2023	16	60	10.3		189		15		74		79		7			14		309		171.2	
1/1/2023	17	60	11.0		189		18		62		71		5			14		309		164.1	
1/1/2023	18	60	11.4		195		13		58		77		6			14		310		157.5	
1/1/2023	19	60	11.1		198		6		41		85		4	5		13		309	309	160.6	163.3
1/1/2023	20	60	10.7		199		2		31		94		4			15		309		164.2	
1/1/2023	21	60	10.9		199		7		43		83		4			14		309		165.4	
1/1/2023	22	60	10.7		200		4		32		89		5			14		310		166.2	
1/1/2023	23	60	10.7		198		4		33		89		5	5		15	14	309	309	167.0	165.7

Average:
Geometric Mean Average:

Limit:

197	14
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

76
≥ 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 1/1/23

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.
1/1/2023	0	60	10.8		199		9		37		76		2			14		311		166.0	
1/1/2023	1	60	10.7		197		5		25		81		3			14		311		167.4	
1/1/2023	2	60	10.8		197		13		43		70		2			14		311		166.9	
1/1/2023	3	60	11.0		193		16		41		62		2	2		13		311	311	162.4	165.7
1/1/2023	4	60	10.8		200		21		49		57		2			13		311		166.7	
1/1/2023	5	60	11.0		194		20		53		61		1			13		311		165.8	
1/1/2023	6	60	11.0		194		14		39		64		1			13		311		164.4	
1/1/2023	7	60	11.0		195		16		35		54		1	1		14	14	311	311	166.0	165.7
1/1/2023	8	60	11.2		195		8		33		77		1			14		311		165.4	
1/1/2023	9	60	11.1		194		19		58		67		1			14		311		165.9	
1/1/2023	10	60	11.2		197		21		54		60		1			14		311		162.1	
1/1/2023	11	60	10.9		196		16		44		64		1	1		14		311	311	166.1	164.9
1/1/2023	12	60	10.9		196		13		41		68		1			14		311		165.1	
1/1/2023	13	60	10.9		196		6		31		80		1			14		311		166.0	
1/1/2023	14	60	11.0		189		11		45		75		1			14		311		166.2	
1/1/2023	15	60	11.1		195		10		39		74		2	1		14	14	311	311	164.8	165.5
1/1/2023	16	60	11.1		192		9		42		79		0			13		311		163.7	
1/1/2023	17	60	11.1		196		5		34		84		0			13		311		165.1	
1/1/2023	18	60	11.2		198		5		34		85		1			14		311		165.4	
1/1/2023	19	60	11.1		198		4		29		86		2	1		13		311	311	165.2	164.8
1/1/2023	20	60	11.1		197		6		29		81		2			14		311		166.9	
1/1/2023	21	60	11.2		196		3		24		88		2			14		311		166.4	
1/1/2023	22	60	11.2		196		9		39		76		3			14		311		166.7	
1/1/2023	23	60	11.2		196		2		15		86		3	2		14	13	311	311	167.4	166.8

Average:
Geometric Mean Average:

Limit:

196	9
≤ 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 °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 01-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	6	2	2	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 01-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