



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



Date 12/26/22

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.
12/26/2022	0	60	11.1		199		20		51		62		4			15		310		163.0	
12/26/2022	1	60	10.8		198		22		66		67		3			14		310		166.9	
12/26/2022	2	60	10.9		198		20		56		64		4			14		309		165.5	
12/26/2022	3	60	10.7		199		16		49		66		5	4		15		310	310	165.8	165.3
12/26/2022	4	60	10.8		201		18		63		71		4			14		310		166.4	
12/26/2022	5	60	10.7		198		18		57		69		4			14		309		167.4	
12/26/2022	6	60	10.8		198		15		45		66		4			15		309		165.8	
12/26/2022	7	60	10.4		198		3		39		91		6	4		13	14	310	310	162.1	165.4
12/26/2022	8	60	10.5		193		2		31		95		5			15		309		167.5	
12/26/2022	9	60	10.7		195		4		41		90		5			14		309		166.2	
12/26/2022	10	60	11.0		199		8		43		80		5			14		310		165.0	
12/26/2022	11	60	10.6		199		1		31		97		7	6		14		309	309	164.3	165.8
12/26/2022	12	60	10.6		198		9		44		80		5			15		310		166.9	
12/26/2022	13	60	10.7		199		11		39		72		5			14		310		166.0	
12/26/2022	14	60	10.9		199		11		43		74		5			14		309		165.4	
12/26/2022	15	60	10.9		199		7		33		80		5	5		14	14	309	309	164.4	165.7
12/26/2022	16	60	10.7		198		2		26		91		6			15		310		164.0	
12/26/2022	17	60	10.4		199		9		40		78		6			15		309		166.7	
12/26/2022	18	60	10.5		198		4		32		88		5			14		309		165.5	
12/26/2022	19	60	10.5		193		3		30		91		6	6		14		309	309	165.4	165.4
12/26/2022	20	60	10.7		197		8		42		81		4			14		309		165.8	
12/26/2022	21	60	11.2		197		15		42		65		3			14		309		164.7	
12/26/2022	22	60	10.9		199		3		41		92		4			14		310		165.8	
12/26/2022	23	60	10.7		198		2		46		95		4	4		15	14	309	309	167.0	165.8

Average:
Geometric Mean Average:

Limit:

198	7
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

83
≥ 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



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



Date 12/26/22

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.
12/26/2022	0	60	10.5		198		6		43		87		1			14		311		166.2	
12/26/2022	1	60	10.4		196		5		36		87		1			14		311		166.3	
12/26/2022	2	60	10.5		199		7		46		86		1			14		311		167.0	
12/26/2022	3	60	10.5		199		9		51		83		1	1		13		311	311	166.3	166.5
12/26/2022	4	60	10.7		193		5		40		88		2			14		311		165.6	
12/26/2022	5	60	10.6		198		8		49		84		1			15		311		166.2	
12/26/2022	6	60	10.5		197		1		26		97		1			14		311		165.6	
12/26/2022	7	60	10.3		199		1		24		97		2	2		14	14	311	311	166.2	165.9
12/26/2022	8	60	10.4		195		0		17		100		2			14		311		163.6	
12/26/2022	9	60	10.2		196		0		22		99		1			14		311		169.3	
12/26/2022	10	60	10.7		199		0		17		100		2			15		311		164.1	
12/26/2022	11	60	10.6		197		0		15		100		3	2		14		311	311	164.0	165.2
12/26/2022	12	60	10.7		197		0		15		100		2			14		311		164.3	
12/26/2022	13	60	10.6		198		0		19		100		1			14		311		165.3	
12/26/2022	14	60	10.6		201		0		14		100		2			14		311		163.8	
12/26/2022	15	60	10.5		196		0		9		100		2	2		14	14	311	311	164.5	164.5
12/26/2022	16	60	10.6		195		0		11		100		2			14		311		164.8	
12/26/2022	17	60	10.5		200		0		12		100		2			14		311		164.2	
12/26/2022	18	60	10.5		197		0		12		100		3			14		311		165.0	
12/26/2022	19	60	10.5		198		0		13		100		3	3		14		311	311	164.5	164.6
12/26/2022	20	60	10.4		197		0		27		99		1			14		311		165.0	
12/26/2022	21	60	10.4		197		0		23		100		2			15		311		165.5	
12/26/2022	22	60	10.7		197		0		26		100		1			14		311		164.0	
12/26/2022	23	60	10.6		197		1		32		98		1	1		15	14	311	311	164.5	164.8

Average: Geometric Mean Average:	197	0	OR	99	see above	see above	see above	see above			
Limit:	≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean		≥ 75% Removal Efficiency	≤ 69 4-HR Block Average	ppmc	≥ 12 8-HR. Block Average	lb/hr	≤ 345 °F 4-HR Block Average	≤ 173 4-HR Block Average	klb/hr

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WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 26-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	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 26-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

Status Flags

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