



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



Date 11/22/22

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.
11/22/2022	0	60	10.5		196		2		14		83		8			14		310		165.6	
11/22/2022	1	60	10.6		199		2		13		87		8			13		310		166.8	
11/22/2022	2	60	10.6		198		1		11		88		7			13		309		166.2	
11/22/2022	3	60	10.6		199		1		11		89		7	8		13		310	309	166.3	166.2
11/22/2022	4	60	10.6		199		1		16		91		8			13		309		165.7	
11/22/2022	5	60	10.6		199		2		14		87		7			13		310		166.9	
11/22/2022	6	60	10.7		200		6		26		77		7			13		310		166.3	
11/22/2022	7	60	11.0		189		6		26		77		7	7		13	13	308	309	165.1	166.0
11/22/2022	8	60	10.8		200		3		30		89		7			13		310		165.2	
11/22/2022	9	60	10.7		196		3		19		82		8			13		311		168.0	
11/22/2022	10	60	11.1		194		5		26		82		6			13		308		164.6	
11/22/2022	11	60	10.9		195		8		48		84		8	7		13		309	309	165.4	165.8
11/22/2022	12	60	10.8		194		3		35		90		8			13		309		166.4	
11/22/2022	13	60	10.7		196		8		56		85		9			13		309		163.6	
11/22/2022	14	60	10.6		201		3		30		89		8			13		310		165.7	
11/22/2022	15	60	10.9		199		5		31		84		7	8		13	13	310	309	166.2	165.5
11/22/2022	16	60	10.8		198		9		48		81		6			13		309		165.8	
11/22/2022	17	60	10.8		200		11		48		76		7			13		310		167.6	
11/22/2022	18	60	10.6		197		7		35		80		7			13		309		166.4	
11/22/2022	19	60	10.6		199		3		26		87		7	7		14		309	309	164.8	166.1
11/22/2022	20	60	10.8		196		9		47		80		6			13		309		165.7	
11/22/2022	21	60	10.9		197		46		177		74		8			14		310		164.6	
11/22/2022	22	60	10.8		200		45		164		73		7			14		309		165.5	
11/22/2022	23	60	10.9		199		22		79		72		5	6		13	13	309	309	165.5	165.3

Average: Geometric Mean Average:	197	5	OR	84	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 11/22/22

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.
11/22/2022	0	60	10.9		197		7		25		74		3			14		310		166.3	
11/22/2022	1	60	10.8		198		5		18		75		4			14		310		166.7	
11/22/2022	2	60	10.7		197		4		15		73		3			14		310		167.0	
11/22/2022	3	60	10.8		198		4		16		74		3	3		14		310	310	167.0	166.7
11/22/2022	4	60	10.9		194		4		15		71		4			14		310		166.3	
11/22/2022	5	60	10.9		197		5		21		76		3			14		310		166.5	
11/22/2022	6	60	10.8		198		8		24		66		2			13		310		166.5	
11/22/2022	7	60	11.0		190		14		38		63		2	3		13	14	309	310	166.1	166.3
11/22/2022	8	60	11.0		196		6		35		84		4			14		310		166.2	
11/22/2022	9	60	10.9		197		5		29		81		4			14		310		166.7	
11/22/2022	10	60	11.2		187		10		42		77		3			14		310		166.7	
11/22/2022	11	60	11.0		193		6		43		86		4	4		14		310	310	165.3	166.2
11/22/2022	12	60	10.6		198		10		57		83		4			13		310		166.4	
11/22/2022	13	60	10.6		195		7		37		82		4			14		310		166.7	
11/22/2022	14	60	10.7		196		13		52		75		4			14		310		167.2	
11/22/2022	15	60	10.7		194		9		36		76		3	4		14	14	310	310	166.5	166.7
11/22/2022	16	60	10.7		191		15		66		77		4			14		310		166.5	
11/22/2022	17	60	11.3		195		6		26		76		5			14		310		164.3	
11/22/2022	18	60	10.6		190		8		34		77		3			14		310		166.6	
11/22/2022	19	60	10.5		191		5		26		80		3	4		14		310	310	166.4	166.0
11/22/2022	20	60	10.7		190		7		36		80		3			14		310		166.4	
11/22/2022	21	60	10.8		194		32		122		74		5			14		310		166.1	
11/22/2022	22	60	10.9		194		55		198		72		3			14		310		166.8	
11/22/2022	23	60	11.0		194		28		104		73		2	3		14	14	310	310	165.5	166.2

Average:
Geometric Mean Average:

Limit:

194	8
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

77
≥ 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 22-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 22-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	1	2	2	2
11	1	2	2	2	2	2	2	2	1	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	1	1	1	1	1	1	1	1	1	1
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