



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



Date 1/16/23

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.
1/16/2023	0	60	10.1		195		17		53		68		3			13		309		161.7	
1/16/2023	1	60	10.1		187		16		57		71		3			13		309		165.5	
1/16/2023	2	60	10.2		195		21		65		68		2			14		309		166.6	
1/16/2023	3	60	10.3		200		21		51		58		1	2		14		309	309	166.6	165.1
1/16/2023	4	60	10.3		202		18		45		60		1			14		309		165.1	
1/16/2023	5	60	10.1		199		18		55		67		2			13		310		166.1	
1/16/2023	6	60	10.1		198		20		62		68		2			14		309		165.9	
1/16/2023	7	60	9.9		196		17		59		72		3	2		14	14	310	310	164.2	165.3
1/16/2023	8	60	9.8		196		4		25		82		4			13		309		168.0	
1/16/2023	9	60	9.9		201		3		26		87		4			13		309		166.5	
1/16/2023	10	60	10.1		199		8		32		77		4			13		309		165.6	
1/16/2023	11	60	9.9		196		11		44		74		4	4		13		310	309	167.8	167.0
1/16/2023	12	60	9.9		197		6		29		79		4			13		309		165.5	
1/16/2023	13	60	9.6		183		3		35		93		63			13		311		160.8	
1/16/2023	14	60	10.7		197		3		22		84		6			13		309		165.5	
1/16/2023	15	60	10.5		197		11		31		64		5	19		13	13	309	309	165.9	164.4
1/16/2023	16	60	10.4		201		13		32		59		4			13		310		166.5	
1/16/2023	17	60	10.3		192		12		42		71		5			13		309		165.6	
1/16/2023	18	60	10.8		194		14		60		76		6			13		309		165.5	
1/16/2023	19	60	10.6		199		12		44		72		6	5		13		309	309	165.9	165.9
1/16/2023	20	60	10.7		200		6		27		79		5			13		309		165.5	
1/16/2023	21	60	10.7		197		5		30		83		5			13		309		165.8	
1/16/2023	22	60	10.4		197		13		50		75		4			13		310		167.8	
1/16/2023	23	60	9.8		185		14		61		77		20	9		13	13	309	309	168.2	166.8

Average:
Geometric Mean Average:

Limit:

196	10
≤ 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

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 1/16/23

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.
1/16/2023	0	60	10.3		193		3		22		88		2			14		310		166.0	
1/16/2023	1	60	10.3		196		12		41		70		1			15		310		166.1	
1/16/2023	2	60	10.3		190		17		46		64		2			15		310		166.8	
1/16/2023	3	60	10.2		193		11		34		68		1	2		14		310	310	167.3	166.6
1/16/2023	4	60	10.3		195		8		29		73		3			14		310		166.9	
1/16/2023	5	60	10.3		194		8		37		78		2			14		310		166.2	
1/16/2023	6	60	10.3		192		5		27		80		2			14		310		166.2	
1/16/2023	7	60	10.3		190		2		18		90		3	2		14	14	310	310	165.9	166.3
1/16/2023	8	60	10.3		181		0		6		96		3			15		310		166.5	
1/16/2023	9	60	10.3		197		0		9		97		4			13		310		166.6	
1/16/2023	10	60	10.3		194		0		7		96		3			13		310		165.6	
1/16/2023	11	60	10.4		188		1		7		92		4	3		13		310	310	166.1	166.2
1/16/2023	12	60	10.1		197		0		12		99		5			13		310		167.0	
1/16/2023	13	60	10.0		195		1		15		93		3			13		310		165.4	
1/16/2023	14	60	10.3		177		1		11		94		4			13		310		165.0	
1/16/2023	15	60	10.3		186		1		12		95		4	4		13	13	310	310	167.1	166.1
1/16/2023	16	60	10.4		193		1		16		91		3			13		310		165.6	
1/16/2023	17	60	10.4		196		1		18		94		4			14		310		167.5	
1/16/2023	18	60	10.5		193		5		31		83		3			13		310		165.4	
1/16/2023	19	60	10.3		195		2		19		88		3	3		13		310	310	166.3	166.2
1/16/2023	20	60	10.2		193		1		14		96		3			13		310		166.7	
1/16/2023	21	60	10.2		199		2		26		91		3			13		310		167.1	
1/16/2023	22	60	10.3		196		2		25		92		2			14		310		167.0	
1/16/2023	23	60	10.3		191		1		16		93		3	3		14	13	310	310	165.9	166.7

Average:
Geometric Mean Average:

Limit:

192	2	OR	91
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean		≥ 75% Removal Efficiency

see above
≤ 69 4-HR Block Average

see above	see above	see above
≥ 12 8-HR. Block Average	≤ 345 °F 4-HR Block Average	≤ 173 4-HR Block Average

Status Flags

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WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 16-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	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	3	2	2	2	2
16	2	2	2	2	2	2	2	2	3	2	2
17	3	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 16-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	2
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