



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



Date 11/18/22

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.
11/18/2022	0	60	10.3		200		3		25		89		6			13		309		164.7	
11/18/2022	1	60	10.4		194		10		32		67		6			13		309		164.6	
11/18/2022	2	60	10.3		201		11		40		71		7			13		310		166.3	
11/18/2022	3	60	10.3		193		7		34		79		6	6		14		310	309	167.2	165.7
11/18/2022	4	60	10.3		186		13		42		70		5			14		309		166.5	
11/18/2022	5	60	10.4		177		18		51		64		5			14		310		165.4	
11/18/2022	6	60	10.5		194		13		45		71		5			13		309		165.3	
11/18/2022	7	60	10.1		192		8		35		77		6	5		13	14	310	309	162.5	164.9
11/18/2022	8	60	10.7		186		9		35		75		7			13		309		165.7	
11/18/2022	9	60	10.7		184		15		53		72		5			13		309		166.6	
11/18/2022	10	60	10.9		197		13		47		72		4			13		309		165.6	
11/18/2022	11	60	10.4		191		25		34		26		7	6		13		322	312	162.9	165.2
11/18/2022	12	60	9.5		183		1		30		96		8			14		305		164.8	
11/18/2022	13	60	9.4		169		1		33		96		8			13		311		163.3	
11/18/2022	14	60	9.4		182		9		71		88		6			13		310		164.1	
11/18/2022	15	60	9.5		188		3		40		92		5	7		13	13	309	309	165.2	164.3
11/18/2022	16	60	9.6		193		4		46		91		6			13		309		165.8	
11/18/2022	17	60	9.8		196		17		75		78		4			13		309		164.3	
11/18/2022	18	60	9.9		197		17		66		74		5			13		310		164.3	
11/18/2022	19	60	9.8		202		14		57		75		5	5		13		310	309	167.1	165.4
11/18/2022	20	60	10.0		201		20		64		69		5			13		309		164.9	
11/18/2022	21	60	9.8		195		18		85		79		5			13		309		165.7	
11/18/2022	22	60	9.9		192		22		63		65		5			13		309		165.8	
11/18/2022	23	60	9.4		194		4		44		90		6	5		13	13	310	309	165.8	165.6

Average:
Geometric Mean Average:

Limit:

191	9
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

80
≥ 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 11/18/22

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.
11/18/2022	0	60	10.2		196		6		25		78		2			14		310		167.0	
11/18/2022	1	60	10.3		196		9		32		70		2			13		310		166.9	
11/18/2022	2	60	10.3		194		5		22		75		3			14		310		166.3	
11/18/2022	3	60	10.3		195		10		35		70		2	3		13		310	310	166.9	166.8
11/18/2022	4	60	10.4		192		14		36		62		3			14		310		166.0	
11/18/2022	5	60	10.3		195		16		39		57		2			14		310		166.3	
11/18/2022	6	60	10.3		194		11		27		59		3			14		309		165.9	
11/18/2022	7	60	10.1		183		4		15		72		1	2		13	14	309	310	167.0	166.3
11/18/2022	8	60	10.6		184		4		24		84		2			14		312		165.8	
11/18/2022	9	60	10.5		189		12		56		78		2			13		310		166.1	
11/18/2022	10	60	10.6		184		13		40		67		3			13		310		166.5	
11/18/2022	11	60	10.6		187		14		42		67		7	4		14		319	313	162.2	165.2
11/18/2022	12	60	10.4		197		3		25		86		4			13		310		163.9	
11/18/2022	13	60	10.0		186		5		38		86		4			14		310		166.7	
11/18/2022	14	60	10.1		185		20		76		74		4			14		310		165.6	
11/18/2022	15	60	9.9		188		13		63		80		4	4		13	14	310	310	165.3	165.4
11/18/2022	16	60	10.1		183		24		101		76		4			13		310		166.1	
11/18/2022	17	60	10.1		184		23		75		69		3			13		310		166.5	
11/18/2022	18	60	10.0		186		17		63		72		3			13		310		166.8	
11/18/2022	19	60	10.1		186		14		48		71		4	4		13		310	310	166.1	166.4
11/18/2022	20	60	10.2		181		14		49		70		2			13		310		166.5	
11/18/2022	21	60	10.4		184		13		44		71		2			13		310		165.8	
11/18/2022	22	60	10.3		186		15		41		63		3			13		310		164.1	
11/18/2022	23	60	9.9		190		5		28		82		3	3		13	13	310	310	164.8	165.3

Average:
Geometric Mean Average:

Limit:

188	10
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

74
≥ 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 18-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 18-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	1	1	1	2	2	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	2	1	2	1	1	1	1
3	1	1	1	1	1	1	1	1	2	1	1
4	2	1	1	1	1	1	1	1	1	1	1
5	1	1	1	1	1	1	2	1	1	1	1
6	2	IBC	6	IBC	2	1	1	2	1	1	2
7	1	1	2	2	2	2	2	2	2	2	2
8	2	1	1	2	2	2	1	2	2	2	2
9	2	2	2	2	1	2	2	2	2	2	2
10	1	2	2	2	1	2	2	1	2	2	1
11	2	1	2	2	1	1	2	2	2	1	1
12	2	2	2	2	2	1	1	1	1	1	1
13	1	1	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	1	2	2	2	1
19	2	2	2	2	2	1	1	2	2	1	1
20	2	2	2	2	2	2	1	1	1	2	2
21	1	2	2	1	2	2	2	2	1	2	2
22	1	2	1	1	2	2	2	2	2	2	2
23	2	2	1	1	2	2	2	2	2	2	1

Status Flags

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