



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



Date 2/24/22

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.
2/24/2022	0	60	10.4		196		21		40		47		6			16		309		166.8	
2/24/2022	1	60	10.2		197		27		84		67		6			16		309		166.4	
2/24/2022	2	60	10.2		198		19		53		65		5			16		309		165.6	
2/24/2022	3	60	10.3		196		22		48		53		5	5		16		309	309	164.9	165.9
2/24/2022	4	60	10.3		199		26		58		55		6			15		310		164.4	
2/24/2022	5	60	10.2		199		30		79		62		6			15		310		166.3	
2/24/2022	6	60	10.2		178		15		33		54		6			15		309		165.8	
2/24/2022	7	60	10.5		176		8		13		39		5	6		15	16	309	309	165.5	165.5
2/24/2022	8	60	10.5		198		10		11		10		4			15		310		165.3	
2/24/2022	9	60	10.1		195		11		15		26		7			15		310		165.2	
2/24/2022	10	60	10.2		198		23		54		56		7			15		309		166.7	
2/24/2022	11	60	10.1		197		8		11		27		7	6		15		310	310	165.7	165.7
2/24/2022	12	60	10.3		195		17		33		50		6			16		309		165.5	
2/24/2022	13	60	10.1		197		11		28		61		6			15		309		165.1	
2/24/2022	14	60	10.0		192		8		18		56		5			15		309		165.8	
2/24/2022	15	60	10.3		196		12		27		55		6	6		15	15	309	309	164.8	165.3
2/24/2022	16	60	10.2		197		17		40		58		5			15		310		167.0	
2/24/2022	17	60	10.3		194		10		26		60		6			15		309		166.9	
2/24/2022	18	60	10.2		193		12		35		67		6			15		309		167.2	
2/24/2022	19	60	10.2		194		8		21		59		4	5		15		309	309	167.7	167.2
2/24/2022	20	60	10.0		196		11		29		61		5			15		310		166.6	
2/24/2022	21	60	10.0		196		5		17		68		6			15		309		165.5	
2/24/2022	22	60	9.9		197		8		26		68		6			15		309		166.7	
2/24/2022	23	60	10.2		195		16		35		53		7	6		15	15	309	309	164.4	165.8

Average:
Geometric Mean Average:

Limit:

194	13
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

55
≥ 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 2/24/22

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.
2/24/2022	0	60	9.4		187		20		53		62		1			13		307		166.8	
2/24/2022	1	60	9.6		193		24		81		70		1			16		309		167.0	
2/24/2022	2	60	9.5		192		20		60		67		1			16		306		167.0	
2/24/2022	3	60	9.6		193		25		74		67		2	1		16		314	309	166.1	166.7
2/24/2022	4	60	9.4		190		6		67		90		2			16		298		166.9	
2/24/2022	5	60	9.7		192		24		69		65		1			16		305		166.8	
2/24/2022	6	60	10.1		194		11		43		75		3			16	16	308		162.7	
2/24/2022	7	60	9.6		187		5		27		81		2	2		16	16	297	302	166.5	165.7
2/24/2022	8	60	9.6		184		9		23		61		1			16		307		167.1	
2/24/2022	9	60	9.6		183		9		25		64		1			16		310		166.3	
2/24/2022	10	60	9.6		185		10		50		81		3			16		303		167.0	
2/24/2022	11	60	9.6		182		4		34		89		2	2		16		303	306	166.9	166.8
2/24/2022	12	60	9.7		173		20		117		83		19			16		302		166.5	
2/24/2022	13	60	9.5		173		3		60		95		2			16		286		167.5	
2/24/2022	14	60	9.4		188		2		39		95		2			16		299		166.0	
2/24/2022	15	60	9.3		178		1		31		96		2	6		16	16	298	296	166.9	166.7
2/24/2022	16	60	9.5		180		1		44		97		2			16		290		166.6	
2/24/2022	17	60	9.6		173		1		61		98		1			16		286		166.7	
2/24/2022	18	60	9.5		175		1		52		98		2			16		281		167.0	
2/24/2022	19	60	9.3		172		1		46		97		2	2		16		290	287	166.9	166.8
2/24/2022	20	60	9.3		177		2		29		95		2			16		307		165.9	
2/24/2022	21	60	9.2		178		2		21		93		2			16		306		166.8	
2/24/2022	22	60	9.4		183		1		30		96		2			16		293		165.9	
2/24/2022	23	60	9.3		180		6		42		86		3	2		16	16	301	302	166.9	166.4

Average: Geometric Mean Average:	183	5	OR	89	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

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WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 24-Feb-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	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	2	1	2	1	1	2	1
2	1	1	1	1	1	2	1	1	1	2	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	2	2	2	2	2	2	2	2	2	1
6	2	IC	5	IC	1	2	1	1	1	1	2
7	1	2	2	2	2	2	2	2	2	2	2
8	2	2	1	2	1	1	1	1	1	1	1
9	2	2	2	2	2	2	2	2	2	2	2
10	2	2	1	1	1	1	1	1	1	1	1
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	1	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	1	2	1	2	1	1	2	2	2	1	1
19	2	2	2	2	2	2	2	1	1	2	1
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	1	2	2	2	2	2	2	2	2	1
23	2	2	2	1	1	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



WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 24-Feb-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	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