



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



Date 2/23/22

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.
2/23/2022	0	60	10.1		191		10		24		56		5			12		304		167.4	
2/23/2022	1	60	10.3		186		7		19		63		4			13		304		164.7	
2/23/2022	2	60	10.0		197		14		32		56		5			8		305		166.3	
2/23/2022	3	60	9.9		199		21		44		53		5	5		16		304	304	168.7	166.8
2/23/2022	4	60	10.1		195		14		44		68		4			18		304		165.6	
2/23/2022	5	60	10.1		196		15		36		57		5			18		305		165.9	
2/23/2022	6	60	10.1		196		19		36		47		6			16		304		165.1	
2/23/2022	7	60	10.1		196		25		78		68		5	5		16	15	304	304	165.8	165.6
2/23/2022	8	60	10.0		191		35		118		70		8			14		305		168.6	
2/23/2022	9	60	10.2		185		29		115		75		7			19		304		163.5	
2/23/2022	10	60	9.8		191		12		61		80		6			19		305		167.4	
2/23/2022	11	60	10.0		196		11		46		75		6	7		14		304	304	167.4	166.7
2/23/2022	12	60	10.0		190		10		34		69		7			14		304		166.4	
2/23/2022	13	60	10.1		191		8		39		80		7			14		305		164.4	
2/23/2022	14	60	10.3		194		9		38		75		7			15		304		165.8	
2/23/2022	15	60	10.2		195		16		44		63		7	7		16	16	305	304	164.7	165.3
2/23/2022	16	60	10.1		191		6		28		79		6			13		305		165.3	
2/23/2022	17	60	10.2		200		14		39		65		6			14		304		167.4	
2/23/2022	18	60	10.1		199		20		50		59		5			18		307		165.5	
2/23/2022	19	60	10.0		196		17		42		60		6	6		17		310	306	165.0	165.8
2/23/2022	20	60	10.1		198		22		45		52		6			16		310		166.8	
2/23/2022	21	60	10.2		193		19		41		54		4			17		309		167.1	
2/23/2022	22	60	10.1		196		22		41		47		6			16		309		167.0	
2/23/2022	23	60	10.1		200		20		34		43		6	5		16	16	309	309	167.8	167.1

Average:
Geometric Mean Average:

Limit:

194	15
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

65
≥ 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 2/23/22

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.
2/23/2022	0	60	9.2		172		7		27		73		0			15		301		164.9	
2/23/2022	1	60	9.1		177		13		38		67		0			13		304		165.8	
2/23/2022	2	60	9.1		186		23		48		53		0			15		310		165.7	
2/23/2022	3	60	8.9		188		18		41		57		0	0		14		311	307	166.1	165.6
2/23/2022	4	60	9.1		181		7		35		81		1			15		301		165.0	
2/23/2022	5	60	9.0		186		11		43		75		1			14		300		166.0	
2/23/2022	6	60	9.1		183		17		36		51		1			13		309		166.4	
2/23/2022	7	60	9.3		171		18		49		64		1	1		13	14	301	303	166.3	165.9
2/23/2022	8	60	9.4		158		26		62		57		1			10		312		167.3	
2/23/2022	9	60	9.5		154		4		50		92		0			21		290		166.6	
2/23/2022	10	60	9.1		182		13		55		77		2			16		306		166.4	
2/23/2022	11	60	9.1		180		18		62		70		2	1		13		313	305	167.1	166.9
2/23/2022	12	60	8.8		181		4		44		90		1			14		301		166.2	
2/23/2022	13	60	8.7		187		34		137		75		1			13		310		167.4	
2/23/2022	14	60	8.9		182		13		91		86		1			12		303		167.1	
2/23/2022	15	60	8.9		192		7		46		85		1	1		16	15	312	307	165.7	166.6
2/23/2022	16	60	8.8		193		9		44		79		1			15		312		166.7	
2/23/2022	17	60	9.0		194		16		55		71		1			16		305		166.7	
2/23/2022	18	60	9.0		195		15		67		78		1			19		307		166.7	
2/23/2022	19	60	9.1		191		21		52		60		1	1		14		312	309	166.5	166.6
2/23/2022	20	60	9.5		184		11		50		79		1			15		305		166.0	
2/23/2022	21	60	9.4		182		17		69		76		1			12		299		168.0	
2/23/2022	22	60	9.4		188		14		46		70		1			13		308		166.2	
2/23/2022	23	60	9.4		190		18		44		59		1	1		13	15	308	305	166.6	166.7

Average: Geometric Mean Average:	182	13	OR	74	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 23-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	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	IM	14	IM	2	IM	5
13	7	IM	18	IM	7	IM	18	IM	8	IM	13
14	1	2	1	1	1	1	1	1	1	1	1
15	1	2	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	2	1	1	1	1	1	1	1	1

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 B - Bad M - Maintenance P - Purge E - Excluded * - Shutdown



WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 23-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