



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



Date 11/17/22

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.
11/17/2022	0	60	10.5		196		8		54		85		5			13		309		165.3	
11/17/2022	1	60	10.4		193		4		39		90		5			13		310		164.4	
11/17/2022	2	60	10.1		197		4		43		91		6			13		310		167.1	
11/17/2022	3	60	10.2		196		4		42		91		5	5		13		309	309	165.9	165.7
11/17/2022	4	60	10.2		196		7		43		84		6			13		309		164.8	
11/17/2022	5	60	10.3		199		7		41		82		6			13		310		166.7	
11/17/2022	6	60	10.3		192		6		40		86		8			13		309		166.7	
11/17/2022	7	60	10.2		185		2		23		92		7	7		13	13	310	309	166.4	166.2
11/17/2022	8	60	10.6		199		15		55		72		7			13		309		167.6	
11/17/2022	9	60	10.7		197		21		82		75		7			14		309		165.5	
11/17/2022	10	60	10.5		199		7		30		76		7			13		310		165.9	
11/17/2022	11	60	10.5		197		18		46		61		6	7		13		310	309	167.7	166.7
11/17/2022	12	60	10.6		178		4		32		88		8			14		309		167.3	
11/17/2022	13	60	10.3		195		7		42		84		9			13		310		165.8	
11/17/2022	14	60	10.3		191		17		70		75		9			13		310		166.9	
11/17/2022	15	60	10.6		198		5		33		83		8	8		14	14	309	309	163.7	165.9
11/17/2022	16	60	10.4		192		9		36		76		6			13		309		165.9	
11/17/2022	17	60	10.6		201		14		52		73		6			13		310		165.7	
11/17/2022	18	60	10.7		200		22		86		74		6			13		309		165.8	
11/17/2022	19	60	10.4		197		21		72		71		6	6		13		310	309	165.5	165.7
11/17/2022	20	60	10.4		199		13		40		68		6			14		309		165.9	
11/17/2022	21	60	10.2		194		8		36		78		6			13		309		168.5	
11/17/2022	22	60	10.3		188		11		36		70		6			13		309		167.6	
11/17/2022	23	60	10.2		182		15		46		67		6	6		13	13	309	309	167.8	167.5

Average:
Geometric Mean Average:

Limit:

194	9
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

81
≥ 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 11/17/22

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.
11/17/2022	0	60	10.0		186		12		58		80		1			14		310		165.9	
11/17/2022	1	60	9.7		193		7		46		84		2			13		310		165.0	
11/17/2022	2	60	9.9		189		7		38		83		1			13		310		163.8	
11/17/2022	3	60	10.0		185		11		48		77		2	2		14		310	310	167.4	165.5
11/17/2022	4	60	10.1		192		10		43		78		3			14		310		164.7	
11/17/2022	5	60	10.2		194		9		44		80		2			13		310		165.6	
11/17/2022	6	60	10.2		193		7		34		81		4			13		310		165.6	
11/17/2022	7	60	10.1		179		5		30		83		4	3		13	13	310	310	164.1	165.0
11/17/2022	8	60	10.2		193		13		49		73		3			13		310		167.1	
11/17/2022	9	60	10.6		163		15		48		69		2			15		309		165.9	
11/17/2022	10	60	10.4		203		9		32		72		2			13		310		165.6	
11/17/2022	11	60	10.6		185		13		27		49		1	2		14		311	310	166.8	166.4
11/17/2022	12	60	10.2		194		7		33		78		3			13		310		166.6	
11/17/2022	13	60	10.2		192		15		47		69		4			14		310		166.2	
11/17/2022	14	60	10.4		198		21		65		67		2			13		310		167.2	
11/17/2022	15	60	10.3		192		9		35		73		2	3		13	14	310	310	167.0	166.7
11/17/2022	16	60	10.1		189		7		31		78		3			13		310		167.1	
11/17/2022	17	60	10.4		191		13		41		69		3			13		310		166.2	
11/17/2022	18	60	10.3		192		28		102		72		3			14		310		166.5	
11/17/2022	19	60	10.2		191		16		49		66		2	3		14		310	310	165.7	166.4
11/17/2022	20	60	10.2		192		13		37		63		2			14		310		166.6	
11/17/2022	21	60	10.4		191		17		49		65		2			14		310		165.2	
11/17/2022	22	60	10.4		188		14		41		65		2			13		310		166.8	
11/17/2022	23	60	10.4		195		13		42		69		2	2		14	14	310	310	165.7	166.1

Average:
Geometric Mean Average:

Limit:

190	11
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

74
≥ 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 17-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 17-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	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	1	2	1	1	1	2	1	1
3	1	1	1	1	1	2	2	2	2	2	1
4	2	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	2	1	1	1	1
8	1	1	1	1	1	2	2	2	2	2	1
9	2	2	1	1	2	1	2	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	2	1	1	1	2	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	2	1	1	1	1	1	1	1	1	1	1
17	2	1	2	1	1	1	1	1	1	1	1
18	1	2	2	2	2	2	1	1	1	2	2
19	1	1	1	1	1	2	2	1	1	2	1
20	1	2	1	2	1	2	2	2	1	2	1
21	1	1	2	2	2	2	2	1	1	2	2
22	2	2	1	1	2	1	2	1	1	1	1
23	2	2	1	1	2	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