



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



Date 2/13/23

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.
2/13/2023	0	60	10.7		193		7		38		82		4			13		309		166.9	
2/13/2023	1	60	10.8		191		20		59		66		2			13		309		165.5	
2/13/2023	2	60	10.7		199		19		43		57		2			14		310		165.6	
2/13/2023	3	60	10.7		197		17		38		55		2	3		13		309	309	163.5	165.4
2/13/2023	4	60	10.7		197		18		38		54		3			13		309		166.5	
2/13/2023	5	60	10.8		197		18		46		62		3			13		309		162.5	
2/13/2023	6	60	10.6		200		17		45		62		4			13		310		164.3	
2/13/2023	7	60	10.8		186		13		37		65		4	4		13	13	309	309	157.7	162.7
2/13/2023	8	60	10.5		199		16		41		61		4			13		310		164.9	
2/13/2023	9	60	10.3		197		6		26		77		4			13		310		166.8	
2/13/2023	10	60	10.9		191		8		22		63		3			13		309		163.9	
2/13/2023	11	60	11.0		196		15		42		63		3	4		13		309	309	162.7	164.6
2/13/2023	12	60	11.2		200		16		37		57		2			13		309		167.1	
2/13/2023	13	60	10.8		196		16		43		63		4			14		310		167.2	
2/13/2023	14	60	10.8		200		11		26		58		4			13		309		165.7	
2/13/2023	15	60	10.7		197		7		20		65		4	4		13	13	309	309	165.9	166.5
2/13/2023	16	60	10.5		200		13		33		61		5			13		310		165.1	
2/13/2023	17	60	10.7		202		21		45		55		4			13		309		166.3	
2/13/2023	18	60	10.5		196		19		49		61		5			13		309		165.0	
2/13/2023	19	60	10.5		199		16		32		51		5	5		13		309	309	167.4	165.9
2/13/2023	20	60	10.6		198		23		49		53		4			13		310		166.7	
2/13/2023	21	60	10.7		197		19		37		49		3			13		309		165.3	
2/13/2023	22	60	10.6		199		19		34		43		4			13		310		166.1	
2/13/2023	23	60	10.6		199		20		34		42		4	4		13	13	309	310	165.8	166.0

Average: Geometric Mean Average:	197	15	OR	60	see above	see above	see above	see above			
Limit:	≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean		≥ 75% Removal Efficiency	≤ 69 4-HR Block Average	ppmc	≥ 12 8-HR. Block Average	lb/hr	≤ 345 °F 4-HR Block Average	≤ 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 2/13/23

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.
2/13/2023	0	60	10.6		165		23		72		68		3			13		310		166.6	
2/13/2023	1	60	10.6		161		19		56		67		2			13		310		166.4	
2/13/2023	2	60	10.4		158		14		38		63		2			13		310		167.4	
2/13/2023	3	60	10.5		162		14		37		62		2	2		14		310	310	166.0	166.6
2/13/2023	4	60	10.5		164		19		43		56		3			14		310		167.2	
2/13/2023	5	60	10.7		171		18		42		57		2			14		310		166.2	
2/13/2023	6	60	10.5		172		25		61		59		3			15		310		166.6	
2/13/2023	7	60	10.5		172		14		33		59		4	3		14	14	310	310	166.3	166.6
2/13/2023	8	60	10.5		164		15		36		59		3			14		310		166.7	
2/13/2023	9	60	10.2		172		6		23		72		3			15		310		166.1	
2/13/2023	10	60	10.5		164		8		19		59		1			14		310		167.0	
2/13/2023	11	60	10.4		177		5		15		66		3	3		14		310	310	166.6	166.6
2/13/2023	12	60	10.4		168		8		25		67		3			15		310		166.9	
2/13/2023	13	60	10.1		167		5		21		76		2			15		310		166.8	
2/13/2023	14	60	10.2		168		5		22		77		2			14		310		166.2	
2/13/2023	15	60	10.4		161		5		24		78		3	3		14	14	309	310	168.1	167.0
2/13/2023	16	60	10.3		169		9		34		74		4			14		310		165.4	
2/13/2023	17	60	10.3		178		16		56		71		3			13		310		166.9	
2/13/2023	18	60	10.4		173		22		70		69		2			13		310		165.9	
2/13/2023	19	60	10.3		173		19		60		68		3	3		13		310	310	166.6	166.2
2/13/2023	20	60	10.4		166		21		72		70		3			13		310		166.6	
2/13/2023	21	60	10.5		168		18		58		68		3			13		310		166.8	
2/13/2023	22	60	10.5		168		16		50		68		2			14		310		166.3	
2/13/2023	23	60	10.3		170		16		51		69		2	2		14	13	310	310	166.7	166.6

Average:
Geometric Mean Average:

Limit:

168	13
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

67
≥ 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 OPACITY REPORT



Date 13-Feb-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	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	IC	5	IC	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



WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 13-Feb-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	2	2	2	2	2	2	2	1	1	2	2										
1	2	2	2	2	2	2	2	2	2	2	2										
2	2	2	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	2	2	2	2	2	2	2	2	1										
12	2	2	2	2	2	1	2	1	1	1	2										
13	2	2	2	IM	2	IM	5	IM	2	BM	18	BM	7	BM	18	BM	2	BM	6		
14	19	BM	6	BM	18	BM	7	BM	19	BM	5	BM	2	BM	22	BM	0	IM	5	BM	9
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
21	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Status Flags

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