



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



Date 5/21/23

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.
5/21/2023	0	60	9.9		132		3		46		93		4			13		309		167.3	
5/21/2023	1	60	9.9		138		7		53		87		4			13		309		166.3	
5/21/2023	2	60	10.2		141		6		48		88		4			13		310		163.9	
5/21/2023	3	60	10.4		141		27		115		77		3	3		13		309	309	165.9	165.9
5/21/2023	4	60	9.9		136		11		86		87		4			13		310		166.2	
5/21/2023	5	60	10.2		140		6		59		89		4			13		309		165.9	
5/21/2023	6	60	10.1		135		9		64		86		4			13		310		165.7	
5/21/2023	7	60	10.0		134		6		59		89		3	4		13	13	309	309	168.2	166.5
5/21/2023	8	60	10.2		139		9		61		86		3			13		309		167.1	
5/21/2023	9	60	10.2		139		11		60		81		3			13		309		166.2	
5/21/2023	10	60	10.3		137		10		60		83		3			13		309		163.6	
5/21/2023	11	60	10.2		140		13		64		79		2	3		13		310	309	167.9	166.2
5/21/2023	12	60	10.5		138		10		57		83		3			13		309		164.2	
5/21/2023	13	60	10.4		138		4		47		91		3			13		309		163.9	
5/21/2023	14	60	10.1		138		14		56		75		3			13		310		164.4	
5/21/2023	15	60	10.0		137		3		45		94		3	3		13	13	309	309	169.6	165.5
5/21/2023	16	60	10.3		137		6		60		90		3			13		309		166.3	
5/21/2023	17	60	10.6		140		9		64		86		3			14		309		162.3	
5/21/2023	18	60	10.4		138		6		60		90		3			13		310		164.0	
5/21/2023	19	60	10.4		140		11		66		83		3	3		13		309	309	165.2	164.4
5/21/2023	20	60	10.4		142		12		70		83		3			13		310		164.8	
5/21/2023	21	60	10.4		139		19		81		77		3			13		310		165.4	
5/21/2023	22	60	9.9		136		11		68		84		3			13		310		166.7	
5/21/2023	23	60	10.1		140		1		38		97		3	3		13	13	309	309	167.2	166.0

Average: Geometric Mean Average:	<div style="background-color: yellow; padding: 5px; border: 1px solid black;">138</div>	<div style="background-color: green; padding: 5px; border: 1px solid black;">8</div>	OR	<div style="background-color: green; padding: 5px; border: 1px solid black;">87</div>	<div style="background-color: lightblue; padding: 5px; border: 1px solid black;">see above</div>	<div style="background-color: lightgreen; padding: 5px; border: 1px solid black;">see above</div>	<div style="background-color: purple; padding: 5px; border: 1px solid black;">see above</div>	<div style="background-color: lightgrey; padding: 5px; border: 1px solid black;">see above</div>
Limit:	<div style="border: 1px solid black; padding: 5px;"> ≤ 205 24-HR Block Avg. </div>	<div style="border: 1px solid black; padding: 5px;"> ≤ 29 24-HR Geometric Mean </div>		<div style="border: 1px solid black; padding: 5px;"> $\geq 75\%$ Removal Efficiency </div>	<div style="border: 1px solid black; padding: 5px;"> ≤ 69 ppmc 4-HR Block Average </div>	<div style="border: 1px solid black; padding: 5px;"> ≥ 12 lb/hr 8-HR. Block Average </div>	<div style="border: 1px solid black; padding: 5px;"> ≤ 345 °F 4-HR Block Average </div>	<div style="border: 1px solid black; padding: 5px;"> ≤ 173 klb/hr 4-HR Block Average </div>

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 5/21/23

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.
5/21/2023	0	60	10.8		145		10		28		63		1			13		310		165.4	
5/21/2023	1	60	10.7		141		10		28		66		2			13		310		166.7	
5/21/2023	2	60	10.8		138		8		23		66		1			14		310		166.7	
5/21/2023	3	60	10.9		146		12		31		63		2	1		13		310	310	167.2	166.5
5/21/2023	4	60	10.8		141		16		52		69		5			14		310		166.3	
5/21/2023	5	60	10.7		141		15		36		57		5			13		310		167.3	
5/21/2023	6	60	10.8		139		20		39		50		4			14		310		166.5	
5/21/2023	7	60	10.8		139		16		43		62		4	5		14	13	310	310	166.6	166.7
5/21/2023	8	60	10.7		140		17		41		60		3			14		310		166.6	
5/21/2023	9	60	10.8		140		12		30		59		3			14		310		167.4	
5/21/2023	10	60	10.8		137		10		27		63		3			14		310		166.0	
5/21/2023	11	60	10.8		141		13		31		60		3	3		14		310	310	163.8	166.0
5/21/2023	12	60	10.5		140		15		34		56		3			13		310		170.5	
5/21/2023	13	60	10.7		140		13		29		55		4			14		310		167.7	
5/21/2023	14	60	10.7		141		9		28		69		3			15		310		166.1	
5/21/2023	15	60	10.6		150		6		14		56		4	3		15	14	310	310	165.9	167.6
5/21/2023	16	60	10.6		138		4		8		45		3			15		310		166.3	
5/21/2023	17	60	10.6		137		7		11		36		4			15		310		167.1	
5/21/2023	18	60	10.7		142		10		16		35		4			15		310		167.7	
5/21/2023	19	60	10.8		140		14		22		37		4	4		15		310	310	166.8	167.0
5/21/2023	20	60	11.0		138		12		23		48		4			15		310		165.9	
5/21/2023	21	60	10.8		140		14		26		45		3			15		310		167.2	
5/21/2023	22	60	10.8		141		7		19		65		4			15		310		165.7	
5/21/2023	23	60	10.8		138		4		16		74		3	4		15	15	310	310	166.3	166.3

Average:
Geometric Mean Average:

Limit:

141	11
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

58
≥ 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

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WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 21-May-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	1
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 21-May-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	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	3	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	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