



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



Date 5/28/23

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.
5/28/2023	0	60	9.9		131		13		102		87		3			12		309		163.5	
5/28/2023	1	60	9.9		138		12		91		86		2			13		310		166.1	
5/28/2023	2	60	9.8		140		9		78		89		3			13		309		166.3	
5/28/2023	3	60	9.7		138		4		67		93		3	3		13		309	309	167.1	165.7
5/28/2023	4	60	9.8		141		5		62		92		2			13		309		167.0	
5/28/2023	5	60	10.0		128		8		73		90		4			13		309		158.4	
5/28/2023	6	60	9.4		126		4		62		94		4			12		309		166.4	
5/28/2023	7	60	9.4		130		7		71		90		3	3		12	12	309	309	167.7	164.9
5/28/2023	8	60	9.7		136		13		70		81		3			13		310		165.9	
5/28/2023	9	60	9.9		129		5		66		92		5			13		309		162.8	
5/28/2023	10	60	10.0		136		14		91		84		7			13		310		162.3	
5/28/2023	11	60	10.0		134		8		73		89		5	5		13		310	310	164.4	163.9
5/28/2023	12	60	10.0		139		9		87		90		4			13		309		164.2	
5/28/2023	13	60	10.0		138		4		70		94		3			12		309		164.6	
5/28/2023	14	60	9.9		138		4		70		95		3			13		310		166.2	
5/28/2023	15	60	10.1		134		10		79		88		3	3		13	13	309	309	165.7	165.2
5/28/2023	16	60	10.1		131		19		106		82		3			13		309		165.6	
5/28/2023	17	60	9.7		136		8		78		90		3			13		310		167.0	
5/28/2023	18	60	9.9		136		8		71		89		2			13		309		167.2	
5/28/2023	19	60	9.9		133		6		63		90		3	3		12		310	309	164.7	166.1
5/28/2023	20	60	9.9		138		1		47		99		3			12		310		166.3	
5/28/2023	21	60	9.8		127		7		67		90		4			13		309		164.6	
5/28/2023	22	60	9.6		125		8		69		89		14			13		309		167.6	
5/28/2023	23	60	9.8		130		7		69		90		3	6		13	13	309	309	164.1	165.7

Average:  
Geometric Mean Average:

Limit:

134	7
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

91
≥ 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

**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 5/28/23

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.
5/28/2023	0	60	11.2		143		13		23		43		0			15		310		167.8	
5/28/2023	1	60	11.1		141		13		18		28		0			12		310		166.7	
5/28/2023	2	60	11.1		137		12		15		20		0			12		309		168.5	
5/28/2023	3	60	11.4		144		5		11		52		0	0		13		310	310	167.2	167.6
5/28/2023	4	60	11.4		145		14		11		0		3			12		310		166.9	
5/28/2023	5	60	11.4		142		13		10		0		3			12		310		166.0	
5/28/2023	6	60	11.4		144		11		6		0		3			13		310		164.9	
5/28/2023	7	60	11.2		144		17		8		0		3	3		12	13	310	310	167.8	166.4
5/28/2023	8	60	11.1		149		18		10		0		3			13		310		167.4	
5/28/2023	9	60	11.6		142		11		6		0		3			13		309		165.8	
5/28/2023	10	60	11.3		145		10		7		0		3			13		310		165.5	
5/28/2023	11	60	11.2		139		7		10		37		3	3		13		310	310	167.2	166.5
5/28/2023	12	60	11.5		143		13		22		41		3			12		310		166.0	
5/28/2023	13	60	11.4		139		14		21		34		3			10		310		169.2	
5/28/2023	14	60	11.6		144		6		10		39		3			11		310		164.6	
5/28/2023	15	60	11.3		145		9		17		47		2	3		16	13	309	310	167.2	166.7
5/28/2023	16	60	11.3		139		11		18		38		3			14		310		166.4	
5/28/2023	17	60	11.1		145		8		15		45		2			10		310		165.4	
5/28/2023	18	60	11.3		139		11		13		19		2			15		310		167.5	
5/28/2023	19	60	11.5		141		7		7		0		2	2		14		310	310	164.8	166.0
5/28/2023	20	60	11.3		140		12		15		16		3			13		310		166.8	
5/28/2023	21	60	11.4		140		10		12		17		2			13		310		165.6	
5/28/2023	22	60	11.3		143		14		12		0		2			13		310		166.8	
5/28/2023	23	60	11.3		140		12		14		14		3	3		13	13	310	310	166.8	166.5

Average: Geometric Mean Average:	142	11	<b>OR</b>	10	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 OPACITY REPORT



Date 28-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	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0
6	3	IC	5	IC	0	0	0	0	0	0	1
7	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	1	0	0	0	0	0	0	0
9	1	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0
23	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



# WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 28-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