



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



Date 7/17/22

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.
7/17/2022	0	60	10.1		182		6		77		92		3			13		302		165.6	
7/17/2022	1	60	9.7		176		19		85		77		3			13		310		166.8	
7/17/2022	2	60	9.8		180		13		78		83		3			13		305		166.5	
7/17/2022	3	60	9.6		182		18		75		77		3	3		13		305	305	168.1	166.8
7/17/2022	4	60	9.9		189		20		77		74		3			13		306		165.1	
7/17/2022	5	60	9.8		189		19		79		76		3			13		310		166.5	
7/17/2022	6	60	9.6		171		17		74		77		5			13		307		169.5	
7/17/2022	7	60	9.8		178		14		68		80		3	4		13	13	304	307	166.3	166.9
7/17/2022	8	60	9.9		182		18		77		77		4			13		305		165.7	
7/17/2022	9	60	9.8		186		21		60		65		3			13		312		165.5	
7/17/2022	10	60	9.7		165		14		59		76		4			13		314		167.1	
7/17/2022	11	60	9.4		167		18		63		72		3	3		13		310	310	171.5	167.4
7/17/2022	12	60	8.8		156		11		82		87		41			13		298		170.3	
7/17/2022	13	60	9.5		182		13		72		82		3			13		309		168.2	
7/17/2022	14	60	9.4		174		15		61		76		3			13		306		167.3	
7/17/2022	15	60	9.7		175		4		53		92		3	13		13		301	303	166.5	168.1
7/17/2022	16	60	9.7		177		16		90		82		3			13		298		166.9	
7/17/2022	17	60	9.8		181		19		81		76		3			13		298		165.6	
7/17/2022	18	60	10.4		183		16		65		76		5			13		302		156.0	
7/17/2022	19	60	9.8		169		20		67		70		4	4		13		309	302	167.6	164.0
7/17/2022	20	60	10.0		184		22		70		69		4			13		315		167.2	
7/17/2022	21	60	10.0		172		22		80		73		5			13		311		166.4	
7/17/2022	22	60	10.2		187		20		66		69		4			13		308		166.1	
7/17/2022	23	60	10.2		172		21		58		64		4	4		13	13	311	311	166.0	166.4

Average: Geometric Mean Average:	<b>178</b>	<b>16</b>	OR	<b>78</b>	see above	see above	see above	see above
Limit:	<b>≤ 205</b> 24-HR Block Avg.	<b>≤ 29</b> 24-HR Geometric Mean		<b>≥ 75%</b> Removal Efficiency	<b>≤ 69</b> ppmc 4-HR Block Average	<b>≤ 12</b> lb/hr 8-HR. Block Average	<b>≤ 345</b> °F 4-HR Block Average	<b>≤ 173</b> 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 7/17/22

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.
7/17/2022	0	60	10.2		176		12		67		83		1			14		306		172.7	
7/17/2022	1	60	10.8		173		12		84		86		2			14		313		163.7	
7/17/2022	2	60	10.9		160		49		173		72		4			14		307		164.4	
7/17/2022	3	60	10.3		164		31		87		64		19	7		14		312	310	167.9	167.2
7/17/2022	4	60	10.2		171		18		77		76		4			14		306		167.7	
7/17/2022	5	60	10.1		165		21		112		81		5			13		311		170.3	
7/17/2022	6	60	10.7		181		29		117		76		4			13		310		165.8	
7/17/2022	7	60	9.9		171		10		91		89		46	15		13	14	301	307	162.8	166.7
7/17/2022	8	60	9.8		180		20		89		78		2			14		316		175.1	
7/17/2022	9	60	10.5		163		6		51		87		2			14		305		159.5	
7/17/2022	10	60	10.4		177		10		37		74		1			14		319		164.8	
7/17/2022	11	60	10.5		169		6		43		86		1	2		14		308	312	162.4	165.4
7/17/2022	12	60	10.5		173		13		49		73		1			14		307		166.0	
7/17/2022	13	60	10.6		175		22		61		64		2			13		312		166.0	
7/17/2022	14	60	10.2		172		37		110		67		15			14		319		172.6	
7/17/2022	15	60	10.3		177		36		128		72		2	5		14	14	317	314	171.8	169.1
7/17/2022	16	60	10.3		181		28		104		74		2			13		310		169.8	
7/17/2022	17	60	10.8		167		23		77		71		3			13		309		161.4	
7/17/2022	18	60	10.6		172		21		63		67		2			14		309		161.2	
7/17/2022	19	60	10.7		168		15		74		79		2	2		14		306	309	162.2	163.6
7/17/2022	20	60	10.4		166		18		76		77		3			14		305		168.5	
7/17/2022	21	60	9.9		175		19		72		74		10			14		302		174.5	
7/17/2022	22	60	10.7		177		8		55		85		2			14		299		164.2	
7/17/2022	23	60	10.8		172		23		66		66		2	4		13	14	306	303	162.1	167.3

Average:  
Geometric Mean Average:

Limit:

172	18
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

77
≥ 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

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 OPACITY REPORT



Date 17-Jul-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	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 17-Jul-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	1	1	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	1	2	2	2	2	2	2	2	2	2
5	1	1	2	2	2	2	2	2	2	2	2
6	1	IBC	6	IBC	2	2	2	2	2	2	2
7	2	2	2	2	1	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	1	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	1	1	2	2
14	2	2	2	2	2	2	2	2	2	2	2
15	2	2	2	2	1	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	1	2	2	2	2	2	1	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	1	2	1	1	1	2
23	1	1	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