



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



Date 9/23/22

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.
9/23/2022	0	60	10.1		195		18		77		76		3			13		300		166.4	
9/23/2022	1	60	10.1		196		24		98		76		2			13		303		165.3	
9/23/2022	2	60	10.0		198		17		68		76		3			13		305		165.3	
9/23/2022	3	60	9.7		196		13		55		77		4	3		13		312	305	165.6	165.6
9/23/2022	4	60	10.0		193		14		51		72		4			13		313		164.4	
9/23/2022	5	60	10.0		193		9		42		78		4			13		312		162.3	
9/23/2022	6	60	9.8		199		15		41		64		4			13		319		167.3	
9/23/2022	7	60	9.9		197		10		42		76		4	4		14	13	323	317	165.1	164.7
9/23/2022	8	60	9.9		196		7		43		84		4			13		318		165.3	
9/23/2022	9	60	9.9		189		7		54		87		6			13		311		165.7	
9/23/2022	10	60	10.3		188		7		62		88		4			13		296		166.8	
9/23/2022	11	60	10.0		197		3		31		91		5	5		14		306	308	165.7	165.9
9/23/2022	12	60	9.7		197		3		33		91		6			13		315		164.7	
9/23/2022	13	60	9.7		199		2		28		93		5			14		314		164.9	
9/23/2022	14	60	9.8		195		11		62		83		5			13		317		164.2	
9/23/2022	15	60	9.6		191		8		55		86		6	6		13	13	313	315	165.4	164.8
9/23/2022	16	60	10.1		193		5		37		88		7			13		312		165.4	
9/23/2022	17	60	10.2		197		5		44		89		6			13		304		165.6	
9/23/2022	18	60	10.1		198		3		31		90		6			13		306		164.2	
9/23/2022	19	60	9.7		193		3		36		92		5	6		13		304	306	166.3	165.4
9/23/2022	20	60	10.2		198		6		31		79		6			13		312		164.8	
9/23/2022	21	60	10.3		194		6		29		79		6			14		315		165.9	
9/23/2022	22	60	10.4		198		10		39		74		5			13		317		165.5	
9/23/2022	23	60	10.4		197		10		45		77		6	6		14	13	314	314	165.1	165.3

Average: Geometric Mean Average:	195	7	<b>OR</b>	83	see above	see above	see above	see above
Limit:	≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean		≥ 75% Removal Efficiency	≤ 69 ppmc 4-HR Block Average	≥ 12 lb/hr 8-HR. Block Average	≤ 345 °F 4-HR Block Average	≤ 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 9/23/22

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.
9/23/2022	0	60	11.1		171		17		37		55		4			14		310		167.4	
9/23/2022	1	60	11.2		159		14		42		66		3			13		310		165.7	
9/23/2022	2	60	10.9		170		4		18		76		6			13		310		164.3	
9/23/2022	3	60	11.1		180		4		20		78		5	5		12		310	310	162.8	165.0
9/23/2022	4	60	11.0		173		5		21		74		6			13		310		165.2	
9/23/2022	5	60	11.0		181		5		16		71		5			13		310		164.6	
9/23/2022	6	60	11.2		174		12		18		32		12			12		310		165.7	
9/23/2022	7	60	10.8		183		3		14		78		6	7		13	13	310	310	165.3	165.2
9/23/2022	8	60	10.9		176		3		17		82		6			13		310		165.5	
9/23/2022	9	60	11.2		187		4		18		79		5			13		309		165.1	
9/23/2022	10	60	11.2		186		6		24		74		6			13		310		165.8	
9/23/2022	11	60	11.0		162		8		26		70		8	6		13		310	310	166.8	165.8
9/23/2022	12	60	10.7		185		3		11		73		6			13		310		164.9	
9/23/2022	13	60	10.6		188		3		10		74		6			13		310		164.0	
9/23/2022	14	60	11.1		186		14		63		78		6			14		310		163.9	
9/23/2022	15	60	10.6		188		4		25		82		8	7		14	13	310	310	162.8	163.9
9/23/2022	16	60	10.7		188		3		19		84		8			14		310		165.2	
9/23/2022	17	60	10.6		188		3		14		81		7			14		310		165.5	
9/23/2022	18	60	10.7		191		3		15		80		7			14		310		165.7	
9/23/2022	19	60	10.7		194		4		17		77		7	7		14		310	310	165.6	165.5
9/23/2022	20	60	10.9		188		7		25		74		7			14		310		164.3	
9/23/2022	21	60	10.9		182		4		14		72		7			14		310		165.4	
9/23/2022	22	60	11.0		176		4		17		75		5			14		310		166.8	
9/23/2022	23	60	10.9		179		6		22		75		4	6		13	14	310	310	166.3	165.7

Average:  
Geometric Mean Average:

Limit:

181	5
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

75
≥ 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 23-Sep-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	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	1	0	0	0	1	1
7	1		1		1	1	0	0	0	1	0
8	0		1		1	1	1	0	0	1	0
9	0		1		0	0	0	0	0	0	0
10	0		0		1	0	0	1	1	0	0
11	0		0		1	1	1	1	1	1	0
12	1		0		1	1	1	1	1	1	0
13	1		0		0	1	0	0	0	0	0
14	1		0		0	0	0	0	0	0	0
15	0		0		0	0	0	0	0	0	0
16	0		0		0	0	0	0	0	0	0
17	0		0		0	0	0	0	0	0	0
18	0		0		0	0	0	0	1	0	0
19	1		0		0	0	0	1	0	0	0
20	0		0		0	0	0	0	0	0	0
21	0		0		1	0	0	0	0	0	0
22	0		0		0	0	1	0	0	0	0
23	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 23-Sep-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	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	IBC	5	IBC	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