



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



Date 2/12/23

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.
2/12/2023	0	60	10.9		197		21		17		0		2			14		309		167.4	
2/12/2023	1	60	10.8		196		21		34		40		3			14		310		166.9	
2/12/2023	2	60	10.7		193		25		55		55		4			14		310		166.3	
2/12/2023	3	60	10.8		197		28		62		54		3	3		14		309	309	167.2	167.0
2/12/2023	4	60	10.8		193		29		75		61		3			14		309		163.3	
2/12/2023	5	60	10.7		201		30		71		58		3			14		309		165.3	
2/12/2023	6	60	10.5		197		22		47		54		3			14		309		163.7	
2/12/2023	7	60	10.5		199		19		35		47		4	3		14	14	310	309	166.3	164.7
2/12/2023	8	60	10.5		194		18		42		56		4			14		309		166.4	
2/12/2023	9	60	10.6		195		22		83		74		4			14		310		166.2	
2/12/2023	10	60	10.5		198		27		101		74		3			13		310		164.8	
2/12/2023	11	60	10.6		198		33		123		73		3	3		14		309	309	165.7	165.8
2/12/2023	12	60	10.6		199		19		65		70		3			14		310		167.0	
2/12/2023	13	60	10.7		198		17		52		68		3			14		310		166.1	
2/12/2023	14	60	10.7		201		18		52		65		3			14		309		166.5	
2/12/2023	15	60	10.7		195		20		62		67		3	3		14	14	309	309	165.8	166.4
2/12/2023	16	60	10.7		191		13		46		73		3			15		309		167.0	
2/12/2023	17	60	10.8		201		17		53		67		3			14		309		164.6	
2/12/2023	18	60	10.8		200		15		49		69		2			14		310		166.6	
2/12/2023	19	60	10.9		196		16		54		71		3	3		13		309	309	166.3	166.1
2/12/2023	20	60	10.8		198		16		48		67		3			13		310		165.0	
2/12/2023	21	60	10.8		201		11		36		70		2			13		309		166.7	
2/12/2023	22	60	10.7		197		17		51		67		3			13		310		164.9	
2/12/2023	23	60	10.5		197		8		36		78		3	3		13	13	309	309	167.3	166.0

Average:  
Geometric Mean Average:

Limit:

197	19
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

63
≥ 75% Removal Efficiency

see above
≤ 69 4-HR Block Average

ppmc

see above
≥ 12 8-HR. Block Average

lb/hr

see above
≤ 345 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 2/12/23

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.
2/12/2023	0	60	11.0		160		22		61		63		3			14		310		166.5	
2/12/2023	1	60	10.8		169		23		74		68		4			13		310		166.1	
2/12/2023	2	60	10.8		174		24		74		68		4			13		310		166.1	
2/12/2023	3	60	10.5		171		26		96		73		4	4		13		311	310	160.0	164.7
2/12/2023	4	60	10.6		183		23		76		70		4			12		309		163.8	
2/12/2023	5	60	10.5		177		16		33		50		3			12		310		166.2	
2/12/2023	6	60	10.6		180		24		45		46		3			14		310		166.2	
2/12/2023	7	60	10.6		183		27		75		64		4	4		14	13	310	310	166.7	165.7
2/12/2023	8	60	10.6		189		30		96		69		3			14		310		165.7	
2/12/2023	9	60	10.6		184		43		157		73		4			14		310		166.1	
2/12/2023	10	60	10.6		181		40		154		74		3			15		310		166.3	
2/12/2023	11	60	10.4		181		36		139		74		3	4		13		310	310	166.7	166.2
2/12/2023	12	60	10.5		173		19		67		71		2			13		310		166.8	
2/12/2023	13	60	10.7		172		16		55		71		2			14		310		166.5	
2/12/2023	14	60	10.6		176		20		72		71		2			13		310		167.0	
2/12/2023	15	60	10.6		164		22		76		72		2	2		12	14	310	310	166.4	166.7
2/12/2023	16	60	10.5		167		15		55		72		2			14		310		166.7	
2/12/2023	17	60	10.4		172		17		64		73		2			14		310		166.5	
2/12/2023	18	60	10.5		178		15		63		76		2			14		310		166.8	
2/12/2023	19	60	10.5		170		17		59		72		2	2		13		310	310	167.3	166.8
2/12/2023	20	60	10.6		159		19		65		70		2			13		310		167.5	
2/12/2023	21	60	10.7		173		20		61		67		3			12		310		165.9	
2/12/2023	22	60	10.6		169		19		62		69		2			14		310		167.0	
2/12/2023	23	60	10.6		172		16		52		69		3	2		14	13	310	310	165.9	166.6

Average:  
Geometric Mean Average:

Limit:

174	22
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

69
≥ 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 12-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	2	1	2	1	1
8	2	2	2	1	1	1	2	2	2	1	1
9	2	2	2	2	2	1	1	1	2	1	1
10	1	1	1	1	2	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 12-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	1	1	1	1	2	2	2	1	2	2	1
1	2	1	1	1	2	2	2	2	2	2	2
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	2
7	1	2	2	2	2	2	2	2	2	2	2
8	2	2	2	1	1	1	1	1	1	1	1
9	1	1	1	2	2	2	1	1	1	2	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	2	1	1
19	2	2	2	2	2	2	2	2	2	2	2
20	2	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	2	2	1	2	2	2	1	1

**Status Flags**

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