



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



Date 3/17/23

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.
3/17/2023	0	60	10.3		194		0		22		99		4			13		310		164.3	
3/17/2023	1	60	10.3		197		0		21		100		4			13		309		164.7	
3/17/2023	2	60	10.3		198		0		25		98		4			13		309		164.4	
3/17/2023	3	60	10.3		193		5		34		85		3	4		13		310	309	167.3	165.2
3/17/2023	4	60	10.4		193		7		32		79		4			13		309		164.3	
3/17/2023	5	60	10.6		189		2		24		93		4			13		310		164.6	
3/17/2023	6	60	10.4		189		0		21		99		4			13		309		162.0	
3/17/2023	7	60	10.2		190		0		22		99		3	4		13	13	310	309	169.0	165.0
3/17/2023	8	60	10.9		189		6		31		82		4			13		309		167.7	
3/17/2023	9	60	11.3		192		6		37	IBM	84	IBM	4			13		311		165.1	
3/17/2023	10	60	12.0		186		3		54		94		8			13		309		147.1	
3/17/2023	11	60	11.2		198		1		39		97		5	5		13		310	310	166.0	161.5
3/17/2023	12	60	10.7		187		0		25		100		5			13		309		167.0	
3/17/2023	13	60	10.4		194		0		20		100		4			13		309		165.9	
3/17/2023	14	60	10.1		188		0		25		100		6			13		310		163.2	
3/17/2023	15	60	10.2		178		0		29		100		6	5		13	13	309	309	165.3	165.4
3/17/2023	16	60	10.6		186		0		32		100		6			13		309		163.5	
3/17/2023	17	60	10.4		177		0		39		99		6			13		309		157.6	
3/17/2023	18	60	10.4		184		0		42		99		6			13		309		163.1	
3/17/2023	19	60	10.4		194		1		37		98		5	6		14		310	309	163.6	161.9
3/17/2023	20	60	10.5		195		3		41		94		6			13		309		165.7	
3/17/2023	21	60	10.4		196		4		40		89		6			13		309		165.6	
3/17/2023	22	60	10.3		194		5		38		87		6			13		309		165.6	
3/17/2023	23	60	10.4		195		8		42		81		7	6		14	13	309	309	165.7	165.7

Average: Geometric Mean Average:	191	1	99	OR	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 3/17/23

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.
3/17/2023	0	60	11.1		196		9		42		77		2			13		310		164.2	
3/17/2023	1	60	11.1		197		14		53		73		2			14		310		167.1	
3/17/2023	2	60	11.3		199		16		48		68		3			14		310		164.0	
3/17/2023	3	60	11.1		197		6		33		82		2	2		14		310	310	163.7	164.8
3/17/2023	4	60	11.2		198		12		40		70		3			13		310		167.1	
3/17/2023	5	60	11.3		195		6		29		79		2			13		310		165.2	
3/17/2023	6	60	11.0		198		1		18		92		3			14		310		162.8	
3/17/2023	7	60	11.4		196		13		41		68		5	3		13	14	309	310	168.0	165.8
3/17/2023	8	60	11.4		197		1		18		95		4			14		310		165.2	
3/17/2023	9	60	11.7		199		1		58	IBM	98	IBM	5			14		310		165.3	
3/17/2023	10	60	11.4		195		4		61		93		4			13		310		166.8	
3/17/2023	11	60	11.7		201		0		39		100		3	4		13		310	310	166.9	166.1
3/17/2023	12	60	11.4		197		0		43		100		4			13		310		166.5	
3/17/2023	13	60	11.4		197		0		30		100		3			13		310		166.2	
3/17/2023	14	60	11.3		197		0		34		100		4			14		310		165.9	
3/17/2023	15	60	11.3		197		0		33		100		3	4		13	14	310	310	165.9	166.1
3/17/2023	16	60	11.3		197		0		33		99		3			14		310		164.9	
3/17/2023	17	60	11.1		199		0		27		100		3			13		310		166.5	
3/17/2023	18	60	11.4		196		0		35		99		3			12		310		166.2	
3/17/2023	19	60	11.8		196		2		47		96		5	3		13		310	310	159.9	164.4
3/17/2023	20	60	11.7		198		4		48		91		2			13		310		165.6	
3/17/2023	21	60	11.8		197		6		51		87		2			14		310		166.4	
3/17/2023	22	60	11.7		197		4		44		91		2			14		310		166.0	
3/17/2023	23	60	11.7		197		8		57		85		2	2		14	13	310	310	166.2	166.0

Average:  
Geometric Mean Average:

Limit:

197	1
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

97
≥ 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

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



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



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



Date 17-Mar-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	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	1	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	2	IBC	4	IBC	0	0	0	0	0	0	1
7	0	0	0	1	0	1	1	0	0	1	0
8	1	0	0	0	0	0	0	0	0	0	0
9	0	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	1	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	1	0	0	0	0	0	0
18	1	1	0	0	0	0	0	0	0	0	0
19	0	0	0	1	1	0	0	1	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

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