



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



Date 8/15/23

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.
8/15/2023	0	60	9.9		141		4		61		94		0			14		310		168.0	
8/15/2023	1	60	10.0		141		4		62		93		0			14		309		166.1	
8/15/2023	2	60	9.7		141		9		69		87		0			13		310		169.9	
8/15/2023	3	60	10.3		137		1		47		97		0	0		12		309	309	160.8	166.2
8/15/2023	4	60	10.2		143		15		72		80		0			14		310		167.3	
8/15/2023	5	60	10.2		139		8		55		85		21			14		309		166.6	
8/15/2023	6	60	10.1		141		5		52		91		6			14		309		160.3	
8/15/2023	7	60	10.1		142		7		51		87		0	7		14	14	310	310	165.3	164.9
8/15/2023	8	60	10.1		141		2		39		95		0			14		309		166.5	
8/15/2023	9	60	9.7		140		3		42		93		1			14		310		168.8	
8/15/2023	10	60	10.1		141		3		36		91		0			14		309		168.2	
8/15/2023	11	60	10.0		140		20		123	IBM	83	IBM	1	1		14		309	309	166.6	167.5
8/15/2023	12	60	9.9		144		4		67	IBM	94	IBM	0			14		310		165.6	
8/15/2023	13	60	10.1		139		6		60	IBM	90	IBM	0			14		310		167.6	
8/15/2023	14	60	10.7		140		8		57		86		0			14		309		168.0	
8/15/2023	15	60	9.7		142		2		47		96		1	0		11	14	311	310	161.5	165.7
8/15/2023	16	60	10.6		140		4		44		92		1			11		309		168.3	
8/15/2023	17	60	10.7		142		4		53		93		1			14		309		161.2	
8/15/2023	18	60	10.0		141		2		47		96		0			15		310		163.7	
8/15/2023	19	60	9.9		142		6		54		89		0	0		15		309	309	167.2	165.1
8/15/2023	20	60	10.1		140		7		61		89		0			14		309		167.2	
8/15/2023	21	60	10.4		140		4		47		91		0			14		310		166.4	
8/15/2023	22	60	10.6		141		4		44		92		0			15		309		166.8	
8/15/2023	23	60	10.4		142		23		124		82		1	0		14	14	309	309	166.5	166.7

Average:  
Geometric Mean Average:

Limit:

141	5
≤ 150 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

92
≥ 80% 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 COMPLIANCE SUMMARY REPORT



Date 8/15/23

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.
8/15/2023	0	60	10.0		139		0		71		100		4			14		310		168.0	
8/15/2023	1	60	10.1		138		0		60		100		3			13		310		167.6	
8/15/2023	2	60	10.1		141		0		56		100		3			13		310		166.8	
8/15/2023	3	60	10.0		139		0		62		100		3	3		14		310	310	167.2	167.4
8/15/2023	4	60	10.2		140		0		64		100		4			13		311		169.3	
8/15/2023	5	60	10.4		137		1		58		99		5			14		310		168.3	
8/15/2023	6	60	10.7		144		0		48		100		4			14		309		165.2	
8/15/2023	7	60	10.1		138		0		36		100		5	4		14	14	310	310	166.3	167.3
8/15/2023	8	60	10.1		140		0		34		100		5			14		310		165.9	
8/15/2023	9	60	10.1		138		0		23		100		4			15		310		166.5	
8/15/2023	10	60	9.9		141		0		22	IBM	100	IBM	5			14		310		168.2	
8/15/2023	11	60	10.2		139		2		80	IBCM	98	IBCM	4	5		15		310	310	166.1	166.7
8/15/2023	12	60	9.8		144		0		53	IBCM	100	IBCM	5			14		310		158.7	
8/15/2023	13	60	10.0		138		0		48	IBCM	100	IBCM	5			14		310		165.1	
8/15/2023	14	60	10.5		138		0		57		100		5			14		310		165.6	
8/15/2023	15	60	10.2		141		0		36		100		5	5		12	14	310	310	165.8	163.8
8/15/2023	16	60	10.3		138		0		38		100		5			11		310		168.1	
8/15/2023	17	60	10.2		140		0		47		100		5			13		310		165.8	
8/15/2023	18	60	9.8		141		0		42		100		4			14		310		166.6	
8/15/2023	19	60	9.9		139		0		39		100		5	5		10		310	310	167.6	167.0
8/15/2023	20	60	9.9		139		0		33		100		3			13		310		166.7	
8/15/2023	21	60	9.8		140		0		37		100		3			14		310		167.7	
8/15/2023	22	60	10.2		140		0		43		100		3			14		310		166.6	
8/15/2023	23	60	9.9		138		5		87		95		5	4		8	12	310	310	167.6	167.2

Average: Geometric Mean Average:	140	0	<b>OR</b>	100	see above	see above	see above	see above
Limit:	≤ 150 24-HR Block Avg.	≤ 29 24-HR Geometric Mean		≥ 80% 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

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



Date 15-Aug-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	3	IC	5	IC	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



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



Date 15-Aug-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	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	2	IBC	4	IBC	0	0	0	0	0	0	1
7	0	0	0	0	0	0	0	0	0	0	0
8	0	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	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

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