



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



Date 11/21/23

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.
11/21/2023	0	60	10.9		140		25		39		36		0			14		309		166.9	
11/21/2023	1	60	10.8		141		28		41		32		0			14		309		168.5	
11/21/2023	2	60	10.9		141		29		49		41		0			14		309		167.2	
11/21/2023	3	60	10.9		143		20		34		42		0	0		14		310	309	165.6	167.0
11/21/2023	4	60	10.9		145		16		29		47		0			14		310		167.2	
11/21/2023	5	60	11.1		137		14		41		66		0			14		309		166.5	
11/21/2023	6	60	11.7		141		17		51		67		2			14		310		150.9	
11/21/2023	7	60	11.1		142		19		63		70		1	1		15	14	310	309	165.0	162.4
11/21/2023	8	60	11.2		140		14		48		71		0			13		309		166.2	
11/21/2023	9	60	11.1		142		14		47		69		0			17		310		166.7	
11/21/2023	10	60	11.1		141		16		59		73		0			10		309		168.1	
11/21/2023	11	60	10.9		140		14		39		65		0	0		14		309	309	168.9	167.5
11/21/2023	12	60	10.8		142		7		24		71		0			14		310		166.2	
11/21/2023	13	60	10.6		139		11		41		74		1			14		309		166.0	
11/21/2023	14	60	10.8		142		10		46		79		0			14		309		165.4	
11/21/2023	15	60	10.8		140		11		53		79		0	0		14	14	309	309	166.2	165.9
11/21/2023	16	60	10.7		141		3		33		91		0			14		309		166.2	
11/21/2023	17	60	10.8		139		11		49		78		0			14		309		168.6	
11/21/2023	18	60	10.8		142		12		56		79		0			14		309		169.1	
11/21/2023	19	60	10.9		139		10		57		82		0	0		14		309	309	167.7	167.9
11/21/2023	20	60	10.8		143		14		70		80		0			14		310		168.3	
11/21/2023	21	60	11.0		139		13		58		77		0			14		309		165.9	
11/21/2023	22	60	11.0		141		11		46		75		0			13		310		167.5	
11/21/2023	23	60	11.0		140		14		63		77		0	0		13	14	309	309	166.9	167.1

Average: Geometric Mean Average:	141	13	<b>OR</b>	71	see above	see above	see above	see above			
Limit:	≤ 150 24-HR Block Avg.	≤ 29 24-HR Geometric Mean		≥ 80% Removal Efficiency	≤ 69 4-HR Block Average	ppmc	≥ 12 8-HR. Block Average	lb/hr	≤ 345 °F 4-HR Block Average	≤ 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 11/21/23

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.
11/21/2023	0	60	10.6		138		9		34		73		4			11		310		167.5	
11/21/2023	1	60	10.6		139		6		27		78		4			19		310		167.9	
11/21/2023	2	60	10.6		139		6		29		78		3			14		310		167.8	
11/21/2023	3	60	10.4		141		4		25		84		4	4		13		310	310	167.1	167.6
11/21/2023	4	60	10.5		141		2		21		91		6			17		310		167.9	
11/21/2023	5	60	10.5		140		5		16	IBCT	66	IBCT	5			21		310		168.0	
11/21/2023	6	60	10.6		141		15		11	IBT	0	IBT	6			12		310		167.8	
11/21/2023	7	60	10.6		138		9		8	IBT	0	IBT	6	6		18	16	310	310	167.7	167.9
11/21/2023	8	60	10.5		139		1		16	IBT	92	IBT	6			22		310		166.6	
11/21/2023	9	60	10.4		140		1		22		95		6			8		310		168.0	
11/21/2023	10	60	10.2		139		9		37		75		6			19		310		167.9	
11/21/2023	11	60	10.0		139		0		15		99		6	6		17		310	310	167.9	167.6
11/21/2023	12	60	10.0		141		2		21		93		6			15		310		167.7	
11/21/2023	13	60	10.2		140		3		31		89		6			12		310		167.2	
11/21/2023	14	60	10.2		141		2		44		94		6			11		310		167.2	
11/21/2023	15	60	10.0		139		6		52		87		5	6		10	14	310	310	166.7	167.2
11/21/2023	16	60	10.2		139		0		33		100		6			13		310		168.3	
11/21/2023	17	60	10.1		140		1		36		97		6			14		310		167.0	
11/21/2023	18	60	10.2		139		5		45		89		6			14		310		166.8	
11/21/2023	19	60	10.1		139		2		42		95		5	6		14		310	310	167.9	167.5
11/21/2023	20	60	10.1		140		4		44		91		5			13		310		167.3	
11/21/2023	21	60	10.3		140		8		56		85		5			13		310		167.0	
11/21/2023	22	60	10.3		139		6		40		86		5			13		310		167.1	
11/21/2023	23	60	10.3		139		11		54		79		5	5		13	14	310	310	167.6	167.3

Average:  
Geometric Mean Average:

Limit:

140	3
≤ 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**

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



Date 21-Nov-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	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	0	IC	5	IC	0	0	0	0	0	0	1
7	0	0	0	0	1	1	1	1	1	1	1
8	1	1	1	1	1	1	1	1	1	1	1
9	1	1	0	1	0	0	0	0	0	0	0
10	0	0	0	1	0	0	1	0	1	0	0
11	1	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

**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 21-Nov-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	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	2	2	2	2	2	2	2	1
4	2	2	2	2	1	2	1	2	1	2	1
5	1	1	1	1	1	1	1	1	1	1	1
6	0	IBC	6	IBC	1	1	1	1	1	1	2
7	2	1	1	2	2	2	2	2	1	2	1
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	2	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	1	1	1	1	2	2	1	1	1	2	1
14	1	1	1	1	1	1	1	2	2	1	1
15	2	1	2	1	1	1	1	1	1	1	1
16	1	1	1	1	1	1	1	1	1	1	1
17	1	1	2	1	2	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	2	2	2	2	2	1	2	2	2	1
23	1	1	1	2	1	2	2	2	1	2	1

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