



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



Date 12/6/22

Wheel Plant Wheelabrator North Andover  
Unit 1 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.	4 Hr Block
12/6/2022	0	0	21.0	IF	31	IF	9	IF	-238	IBF	0	IBF	0	IF			2		71		0.0	
12/6/2022	1	0	21.0	IF	30	IF	9	IF	-241	IBF	0	IBF	0	IF			3		70		0.0	
12/6/2022	2	0	21.0	IF	31	IF	9	IF	-270	IBF	0	IBF	0	IF			2		69		0.0	
12/6/2022	3	5	20.1	ICF	29	ICF	8	ICF	-262	IBF	0	IBCF	1	ICF	0	ICF	0		66	69	0.0	0.0
12/6/2022	4	12	17.4	IBCF	156	IBCF	69	IBCF	-270	IBF	0	IBCF	558	IBCF			3		66		0.0	
12/6/2022	5	0	21.0	IF	28	IF	9	IF	169	IBCF	95	IBCF	1	IF			6		65		0.0	
12/6/2022	6	0	21.0	IF	27	IF	9	IF	-180	IBF	0	IBF	0	IF			3		64		0.0	
12/6/2022	7	0	21.0	IF	27	IF	9	IF	-217	IBF	0	IBF	0	IF	140	IBCF	4	3	63	65	0.0	0.0
12/6/2022	8	0	21.0	IF	25	IF	8	IF	-170	IBF	0	IBF	1	IF			2		60		0.0	
12/6/2022	9	0	21.0	IF	24	IF	8	IF	-126	IBF	0	IBF	0	IF			3		55		0.0	
12/6/2022	10	0	21.0	IF	24	IF	8	IF	-124	IBF	0	IBF	0	IF			2		56		0.0	
12/6/2022	11	0	21.0	IF	26	IF	8	IF	-127	IBF	0	IBF	0	IF	0	IF	0		62	58	0.0	0.0
12/6/2022	12	0	21.0	IF	27	IF	8	IF	-125	IBF	0	IBF	0	IF			0		62		0.0	
12/6/2022	13	0	21.0	IF	28	IF	8	IF	-128	IBF	0	IBF	0	IF			0		62		0.0	
12/6/2022	14	0	21.0	IF	29	IF	8	IF	-126	IBF	0	IBF	0	IF			0		63		0.0	
12/6/2022	15	0	21.0	IF	30	IF	8	IF	-128	IBF	0	IBF	0	IF	0	IF	1	1	62	62	0.0	0.0
12/6/2022	16	0	21.0	IF	30	IF	8	IF	-145	IBF	0	IBF	0	IF			0		61		0.0	
12/6/2022	17	0	21.0	IF	31	IF	8	IF	-154	IBF	0	IBF	0	IF			0		61		0.0	
12/6/2022	18	0	21.0	IF	31	IF	8	IF	-157	IBF	0	IBF	0	IF			0		61		0.0	
12/6/2022	19	0	21.0	IF	33	IF	8	IF	-148	IBF	0	IBF	0	IF	0	IF	0		63	61	0.0	0.0
12/6/2022	20	0	21.0	IF	33	IF	8	IF	-146	IBF	0	IBF	0	IF			0		66		0.0	
12/6/2022	21	0	21.0	IF	34	IF	8	IF	-145	IBF	0	IBF	0	IF			0		67		0.0	
12/6/2022	22	0	21.0	IF	35	IF	8	IF	-147	IBF	0	IBF	0	IF			0		68		0.0	
12/6/2022	23	0	21.0	IF	34	IF	8	IF	-147	IBF	0	IBF	0	IF	0	IF	0	0	68	67	0.0	0.0

Average:  
Geometric Mean Average:

Limit:

35 IBCF
9 IBCF
≤ 205 24-HR Block Avg.
≤ 29 24-HR Geometric Mean

OR

0 IBCF
≥ 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 COMPLIANCE SUMMARY REPORT



Date 12/6/22

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.
12/6/2022	0	60	10.5		191		6		15		58		3			14		310		165.1	
12/6/2022	1	60	10.4		192		11		24		52		3			14		310		166.9	
12/6/2022	2	60	10.4		194		12		21		42		3			14		310		166.9	
12/6/2022	3	60	10.5		183		18		32		42		2	3		12		310	310	166.1	166.2
12/6/2022	4	60	10.4		177		16		30		46		4			14		310		165.9	
12/6/2022	5	60	10.4		183		12		23		50		3			14		310		166.6	
12/6/2022	6	60	10.3		187		10		21		53		3			15		310		167.1	
12/6/2022	7	60	10.4		196		11		26		55		3	3		15	14	310	310	165.8	166.4
12/6/2022	8	60	10.2		174		10		26		62		3			14		309		166.3	
12/6/2022	9	60	10.4		166		16		39		57		3			14		310		167.4	
12/6/2022	10	60	10.3		192		14		22		39		3			16		310		166.7	
12/6/2022	11	60	10.2		172		6		14		58		3	3		14		310	310	164.7	166.3
12/6/2022	12	60	10.1		175		11		22		51		3			14		310		167.1	
12/6/2022	13	60	10.1		181		12		21		46		3			14		310		166.9	
12/6/2022	14	60	10.1		181		12		23		50		3			14		310		166.8	
12/6/2022	15	60	10.2		184		15		20		26		3	3		14	14	310	310	166.1	166.7
12/6/2022	16	60	10.2		181		8		15		42		3			13		310		166.0	
12/6/2022	17	60	10.2		182		8		22		62		3			14		310		166.5	
12/6/2022	18	60	10.2		175		6		17		66		3			14		310		165.6	
12/6/2022	19	60	10.2		176		4		14		70		3	3		14		310	310	166.5	166.2
12/6/2022	20	60	10.2		180		6		20		71		3			14		310		166.8	
12/6/2022	21	60	10.2		171		5		17		73		3			13		310		166.1	
12/6/2022	22	60	10.3		171		6		18		67		3			14		310		166.4	
12/6/2022	23	60	10.3		177		5		15		69		3	3		14	14	310	310	166.6	166.5

Average:  
Geometric Mean Average:

Limit:

181	9
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

56
≥ 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 06-Dec-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	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
1	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
2	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
3	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
4	1		1		1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
5	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
6	2	ICF	23	ICF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	4
7	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
8	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
9	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
10	2	IF	2	IF	1	IF	2	IF	1	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2
11	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2
12	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2
13	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2
14	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2
15	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2
16	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2
17	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2
18	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2
19	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2
20	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2
21	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2
22	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2
23	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2

**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 06-Dec-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	2	1	1	1	1	1	1	1
1	1	1	1	1	1	1	2	2	2	2	1
2	1	1	1	1	1	1	2	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	2	1	1	1	1
6	2	IBC	5	IBC	2	1	1	2	1	1	2
7	2	1	1	1	2	2	2	2	2	2	1
8	1	1	2	2	1	2	2	2	2	2	1
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	1	1	2	2
12	1	2	2	2	2	2	1	2	2	2	1
13	2	2	1	1	1	1	1	1	1	1	1
14	2	2	2	1	2	2	2	2	2	2	1
15	2	2	2	2	2	2	2	2	2	2	2
16	2	2	2	2	2	2	1	2	1	2	2
17	1	1	2	2	2	2	1	2	2	2	1
18	2	2	1	2	2	2	2	2	2	2	1
19	2	2	2	2	1	2	1	1	2	2	1
20	1	2	2	2	2	2	2	2	2	2	2
21	2	2	2	2	1	1	2	1	1	1	1
22	1	2	2	2	2	2	2	2	2	2	2
23	2	2	2	2	2	2	2	2	1	2	2

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