



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



Date 12/7/22

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
12/7/2022	0	0	21.0	IF	35	IF	8	IF	-150	IBF	0	IBF	0	IF		0		69		0.0		
12/7/2022	1	0	21.0	IF	37	IF	8	IF	-206	IBF	0	IBF	0	IF		0		70		0.0		
12/7/2022	2	0	21.0	IF	41	IF	8	IF	-221	IBF	0	IBF	0	IF		0		71		0.0		
12/7/2022	3	5	20.2	ICF	39	ICF	8	ICF	-230	IBF	0	IBCF	2	ICF	0	ICF		71	70	0.0	0.0	
12/7/2022	4	12	17.4	IBCF	193	IBCF	66	IBCF	-214	IBF	0	IBCF	556	IBCF		0		71		0.0		
12/7/2022	5	0	21.0	IF	40	IF	8	IF	185	IBCF	96	IBCF	0	IF		0		71		0.0		
12/7/2022	6	0	21.0	IF	41	IF	8	IF	-201	IBF	0	IBF	0	IF		0		71		0.0		
12/7/2022	7	0	21.0	IF	41	IF	8	IF	-225	IBF	0	IBF	0	IF	139	IBCF	0	0	70	71	0.0	0.0
12/7/2022	8	0	21.0	IF	41	IF	8	IF	-244	IBF	0	IBF	0	IF		0		70		0.0		
12/7/2022	9	0	21.0	IF	42	IF	8	IF	-244	IBF	0	IBF	0	IF		0		70		0.0		
12/7/2022	10	0	21.0	IF	43	IF	8	IF	-260	IBF	0	IBF	0	IF		0		71		0.0		
12/7/2022	11	0	21.0	IF	44	IF	8	IF	-280	IBF	0	IBF	0	IF	0	IF		71	71	0.0	0.0	
12/7/2022	12	0	21.0	IF	46	IF	8	IF	-274	IBF	0	IBF	0	IF		0		72		0.0		
12/7/2022	13	0	21.0	IF	47	IF	8	IF	-280	IBF	0	IBF	0	IF		0		72		0.0		
12/7/2022	14	0	21.0	IF	49	IF	8	IF	-281	IBF	0	IBF	0	IF		0		73		0.0		
12/7/2022	15	0	21.0	IF	50	IF	8	IF	-285	IBF	0	IBF	0	IF	0	IF	0	0	73	73	0.0	0.0
12/7/2022	16	0	21.0	IF	51	IF	8	IF	-270	IBF	0	IBF	0	IF		0		74		0.0		
12/7/2022	17	0	21.0	IF	51	IF	8	IF	-273	IBF	0	IBF	0	IF		0		74		0.0		
12/7/2022	18	0	21.0	IF	51	IF	8	IF	-273	IBF	0	IBF	0	IF		0		74		0.0		
12/7/2022	19	0	21.0	IF	51	IF	7	IF	-279	IBF	0	IBF	0	IF	0	IF	0	0	74	74	0.0	0.0
12/7/2022	20	0	21.0	IF	51	IF	7	IF	-288	IBF	0	IBF	0	IF		0		75		0.0		
12/7/2022	21	0	21.0	IF	52	IF	7	IF	-285	IBF	0	IBF	0	IF		0		75		0.0		
12/7/2022	22	0	21.0	IF	52	IF	7	IF	-290	IBF	0	IBF	0	IF		0		75		0.0		
12/7/2022	23	0	21.0	IF	52	IF	7	IF	-298	IBF	0	IBF	0	IF	0	IF	0	0	75	75	0.0	0.0

Average:  
Geometric Mean Average:

Limit:

<b>52</b> IBCF
<b>9</b> IBCF
≤ 205 24-HR Block Avg.
≤ 29 24-HR Geometric Mean

OR

<b>0</b> IBCF
≥ 75% Removal Efficiency

see above
≤ 69 4-HR Block Average

see above
≥ 12 8-HR. Block Average

see above
≤ 345 °F 4-HR Block Average

see above
≤ 173 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 12/7/22

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.
12/7/2022	0	60	10.4		176		7		18		63		2			14		310		166.5	
12/7/2022	1	60	10.4		186		11		21		49		2			13		310		166.6	
12/7/2022	2	60	10.4		188		16		26		38		3			14		310		166.4	
12/7/2022	3	60	10.3		193		12		23		47		2	2		14		310	310	167.3	166.7
12/7/2022	4	60	10.4		180		7		15		49		4			14		310		165.3	
12/7/2022	5	60	10.3		186		7		16		54		2			14		310		167.6	
12/7/2022	6	60	10.3		186		7		17		61		3			14		310		166.7	
12/7/2022	7	60	10.4		190		15		30		50		3	3		14	14	310	310	165.1	166.2
12/7/2022	8	60	10.5		172		21		52		60		2			14		310		166.3	
12/7/2022	9	60	10.4		176		7		17		56		2			14		310		166.7	
12/7/2022	10	60	10.3		186		11		19		45		2			14		310		166.9	
12/7/2022	11	60	10.3		189		18		19		6		3	2		14		310	310	166.8	166.7
12/7/2022	12	60	10.7		165		13		19		30		1			13		310		166.0	
12/7/2022	13	60	10.7		173		3		6		43		1			13		310		167.6	
12/7/2022	14	60	10.3		186		9		18		52		2			13		310		165.8	
12/7/2022	15	60	10.5		188		10		17		41		3	2		13	13	310	310	165.9	166.3
12/7/2022	16	60	10.1		186		19		36		48		2			13		310		166.2	
12/7/2022	17	60	10.0		191		9		15		42		3			13		310		166.0	
12/7/2022	18	60	9.9		194		10		20		52		2			13		310		165.6	
12/7/2022	19	60	9.9		186		11		20		45		2	2		13		310	310	166.8	166.1
12/7/2022	20	60	10.0		189		16		23		31		2			14		310		166.4	
12/7/2022	21	60	10.1		174		13		18		30		2			13		310		165.9	
12/7/2022	22	60	10.2		172		7		14		52		2			13		310		166.5	
12/7/2022	23	60	10.1		185		16		24		32		2	2		13	13	310	310	166.3	166.3

Average: Geometric Mean Average:	183	10	<b>OR</b>	46	see above	see above	see above	see above			
Limit:	≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean		≥ 75% 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

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



Date 07-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	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2
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	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
11	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
12	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
13	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
14	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
15	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
16	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
17	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
18	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
19	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
20	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
21	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
22	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
23	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	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 07-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	2	2	2	2	2	2	2	2	2	2	2
1	1	1	1	2	2	2	2	2	2	2	1
2	2	2	2	2	2	2	2	2	2	2	2
3	2	2	2	2	2	2	2	2	2	2	2
4	2	2	2	2	2	2	2	2	2	2	2
5	1	1	2	2	2	2	2	2	2	2	2
6	2	IBC	6	IBC	2	2	2	2	2	2	2
7	2	2	2	1	2	2	2	2	2	2	2
8	2	2	2	2	2	2	2	2	2	2	2
9	1	1	1	1	1	2	2	2	2	2	1
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	1	1	1	2	2
13	1	1	1	1	1	1	1	1	1	1	1
14	1	1	1	2	2	2	1	2	2	2	1
15	2	2	2	2	2	2	1	1	1	2	1
16	1	1	1	2	2	2	2	1	1	2	1
17	2	2	2	2	2	2	2	2	2	2	2
18	1	2	2	2	2	1	2	2	2	1	1
19	2	2	2	2	2	2	2	2	2	2	2
20	2	2	1	1	2	2	1	2	2	2	1
21	2	2	2	2	1	1	1	2	1	1	1
22	1	2	2	2	2	1	1	2	2	1	1
23	1	2	2	1	1	1	1	2	2	1	1

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