



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



Date 3/22/23

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
3/22/2023	0	0	20.9	IF	20	IF	8	IF	-661	IBF	0	IBF	0	IF			1		70		0.0	
3/22/2023	1	0	20.9	IF	20	IF	8	IF	-641	IBF	0	IBF	0	IF			1		69		0.0	
3/22/2023	2	0	20.9	IF	21	IF	8	IF	-697	IBF	0	IBF	0	IF			0		69		0.0	
3/22/2023	3	5	20.1	ICF	21	ICF	7	ICF	-707	IBF	0	IBCF	1	ICF	0	ICF	0		68	69	0.0	0.0
3/22/2023	4	12	17.3	IBCF	129	IBCF	65	IBCF	-704	IBF	0	IBCF	548	IBCF			1		68		0.0	
3/22/2023	5	0	20.9	IF	21	IF	8	IF	188	IBCF	96	IBCF	0	IF			1		67		0.0	
3/22/2023	6	0	20.9	IF	23	IF	8	IF	-674	IBF	0	IBF	0	IF			1		67		0.0	
3/22/2023	7	0	20.9	IF	24	IF	8	IF	-826	IBF	0	IBF	0	IF	137	IBCF	1	1	68	67	0.0	0.0
3/22/2023	8	0	20.9	IF	25	IF	8	IF	-928	IBF	0	IBF	0	IF			0		68		0.0	
3/22/2023	9	0	20.9	IF	25	IF	8	IF	-901	IBF	0	IBF	0	IF			0		69		0.0	
3/22/2023	10	0	20.9	IF	26	IF	8	IF	-1021	IBF	0	IBF	0	IF			0		70		0.0	
3/22/2023	11	0	20.9	IF	26	IF	8	IF	-885	IBF	0	IBF	0	IF	0	IF	0		70	69	0.0	0.0
3/22/2023	12	0	20.9	IF	24	IF	8	IF	-771	IBF	0	IBF	0	IF			0		70		0.0	
3/22/2023	13	0	20.9	IF	26	IF	8	IF	-950	IBF	0	IBF	0	IF			1		71		0.0	
3/22/2023	14	0	20.9	IF	27	IF	8	IF	-923	IBF	0	IBF	0	IF			0		72		0.0	
3/22/2023	15	0	20.9	IF	27	IF	8	IF	-803	IBF	0	IBF	0	IF	0	IF	0	0	72	71	0.0	0.0
3/22/2023	16	0	20.9	IF	28	IF	8	IF	-793	IBF	0	IBF	0	IF			0		72		0.0	
3/22/2023	17	0	20.9	IF	28	IF	8	IF	-906	IBF	0	IBF	0	IF			0		71		0.0	
3/22/2023	18	0	20.9	IF	29	IF	8	IF	-997	IBF	0	IBF	0	IF			1		71		0.0	
3/22/2023	19	0	20.9	IF	29	IF	8	IF	-1074	IBF	0	IBF	0	IF	0	IF	1		71	71	0.0	0.0
3/22/2023	20	0	20.9	IF	30	IF	8	IF	-1099	IBF	0	IBF	0	IF			1		70		0.0	
3/22/2023	21	0	20.9	IF	30	IF	8	IF	-1210	IBF	0	IBF	0	IF			1		70		0.0	
3/22/2023	22	0	20.9	IF	30	IF	8	IF	-1108	IBF	0	IBF	0	IF			0		69		0.0	
3/22/2023	23	0	20.9	IF	29	IF	8	IF	-1015	IBF	0	IBF	0	IF	0	IF	0	1	68	69	0.0	0.0

Average:  
Geometric Mean Average:

Limit:

30 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 3/22/23

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.
3/22/2023	0	60	11.9		203		15		90		84		3			13		310		166.0	
3/22/2023	1	60	11.8		184		20		88		77		3			13		310		166.4	
3/22/2023	2	60	11.8		175		19		88		79		2			13		310		166.0	
3/22/2023	3	60	11.9		185		16		78		80		2	3		13		310	310	166.0	166.1
3/22/2023	4	60	11.7		201		18		80		77		3			14		310		166.3	
3/22/2023	5	60	11.8		196		16		77		79		3			14		310		166.6	
3/22/2023	6	60	11.9		197		15		77		80		28			13		310		166.2	
3/22/2023	7	60	12.0		196		17		77		78		5	10		13	13	310	310	165.5	166.2
3/22/2023	8	60	12.1		171		8		69		89		1			13		310		168.4	
3/22/2023	9	60	12.0		200		15		76		81		3			13		310		166.4	
3/22/2023	10	60	12.2		194		19		86		78		3			14		310		165.8	
3/22/2023	11	60	12.3		198		6		63		90		4	3		13		310	310	160.5	165.3
3/22/2023	12	60	12.4		199		4		62		93		2			13		310		161.8	
3/22/2023	13	60	12.1		195		7		63		88		3			13		310		162.2	
3/22/2023	14	60	11.9		198		10		13		24		4			13		310		161.8	
3/22/2023	15	60	11.8		196		22		18		0		3	3		13	13	309	310	166.2	163.0
3/22/2023	16	60	11.8		198		15		13		0		3			13		310		165.3	
3/22/2023	17	60	11.6		200		23		14		0		3			13		310		167.0	
3/22/2023	18	60	11.6		196		20		6		0		3			13		310		166.4	
3/22/2023	19	60	11.6		198		20		5		0		3	3		14		310	310	166.9	166.4
3/22/2023	20	60	11.8		182		24		15		0		3			13		310		166.6	
3/22/2023	21	60	11.7		179		22		14		0		3			14		310		167.1	
3/22/2023	22	60	11.7		194		26		21		0		3			13		310		167.3	
3/22/2023	23	60	11.7		197		29		34		14		4	3		13	13	310	310	166.1	166.8

Average: Geometric Mean Average:	193	15	<b>OR</b>	58	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 22-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	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	3
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 22-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	1	0	1	0	0
1	0	0	0	0	0	0	0	0	1	0	0
2	0	1	1	0	1	1	1	0	0	1	1
3	0	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	2	IBC	5	IBC	1	1	1	1	1	1	1
7	1	1	1	1	1	1	1	1	1	1	1
8	1	1	1	1	0	0	0	0	0	0	0
9	1	1	0	0	0	1	1	1	0	1	0
10	1	0	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	0	1	1
13	0	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	0	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

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