



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



Date 12/13/22

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
12/14/2022	0	60	11.2		201		22		58		63		6		14		310		165.5	
6/8/2021	1	60	10.0		186		14		26		47		3		13		309		164.8	
6/8/2021	2	60	10.0		183		14		20		33		3		13		309		163.1	
6/8/2021	3	60	9.7		183		14		23		38		3	4	13		310	309	164.6	165.1
6/8/2021	4	44	9.9		177		17		24		28		5		13		309		162.9	
6/8/2021	5																			
6/8/2021	6																			
6/8/2021	7												5		13		309		162.9	
6/8/2021	8																			
6/8/2021	9																			
6/8/2021	10																			
6/8/2021	11																			
6/8/2021	12																			
6/8/2021	13																			
6/8/2021	14																			
6/8/2021	15																			
6/8/2021	16																			
6/8/2021	17																			
6/8/2021	18																			
6/8/2021	19																			
6/8/2021	20																			
6/8/2021	21																			
6/8/2021	22																			
6/8/2021	23																			

Average: Geometric Mean Average:	199	14	64	OR	see above	see above	see above	
Limit:	≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean	≥ 75% 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

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 12/13/22

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.	4 Hr Block
12/13/2022	0	0	20.6	IF	9	IF	6	IF	23	IBF	74	IBF	39	IF		0		272		28.7		
12/13/2022	1	0	20.7	IF	1	IF	7	IF	25	IBF	71	IBF	16	IF		0		230		11.7		
12/13/2022	2	0	20.7	IF	0	IF	7	IF	27	IBF	74	IBF	6	IF		0		194		2.7		
12/13/2022	3	5	19.9	ICF	0	ICF	91	ICF	28	IBF	0	IBCF	61	ICF	31	ICF	0	146	211	0.0	10.8	
12/13/2022	4	12	17.1	IBCF	64	IBCF	59	IBCF	29	IBF	0	IBCF	527	IBCF		0		140		0.0		
12/13/2022	5	0	20.7	IF	1	IF	7	IF	30	IBCF	78	IBCF	1	IF		0		107		0.0		
12/13/2022	6	0	20.7	IF	1	IF	7	IF	32	IBF	78	IBF	0	IF		0		96		0.0		
12/13/2022	7	0	20.7	IF	1	IF	7	IF	97	IBCMF	93	IBCMF	1	IF	132	IBCF	0	0	92	109	0.0	0.0
12/13/2022	8	0	20.7	IF	3	IF	7	IF	149	IBCF	95	IBCF	1	IF		0		91		0.0		
12/13/2022	9	0	20.7	IF	2	IF	7	IF	33	IBF	79	IBF	0	IF		0		89		0.0		
12/13/2022	10	0	20.7	IF	1	IF	7	IF	48	IBMF	86	IBMF	0	IF		0		86		0.0		
12/13/2022	11	0	20.7	IF	3	IF	7	IF	58	IBMF	88	IBMF	1	IF	1	IF	0	85	88	0.0	0.0	
12/13/2022	12	0	20.7	IF	1	IF	7	IF	65	IBF	90	IBF	0	IF		0		83		0.0		
12/13/2022	13	0	20.7	IF	1	IF	7	IF	89	IBF	92	IBF	0	IF		0		80		0.0		
12/13/2022	14	0	20.7	IF	1	IF	7	IF	200	IBF	97	IBF	0	IF		0		78		0.0		
12/13/2022	15	0	20.7	IF	1	IF	7	IF	266	IBF	97	IBF	0	IF	0	IF	0	76	79	0.0	0.0	
12/13/2022	16	0	20.7	IF	1	IF	7	IF	299	IBF	98	IBF	0	IF		0		74		0.0		
12/13/2022	17	0	20.7	IF	1	IF	7	IF	342	IBF	98	IBF	0	IF		0		73		0.0		
12/13/2022	18	0	20.7	IF	1	IF	7	IF	368	IBF	98	IBF	0	IF		0		71		0.0		
12/13/2022	19	0	20.7	IF	1	IF	7	IF	352	IBF	98	IBF	0	IF	0	IF	0	69	72	0.0	0.0	
12/13/2022	20	0	20.7	IF	1	IF	7	IF	321	IBF	98	IBF	0	IF		0		67		0.0		
12/13/2022	21	0	20.7	IF	1	IF	7	IF	320	IBF	98	IBF	0	IF		0		66		0.0		
12/13/2022	22	0	20.7	IF	1	IF	7	IF	318	IBF	98	IBF	0	IF		0		64		0.0		
12/13/2022	23	0	20.7	IF	1	IF	7	IF	301	IBF	98	IBF	0	IF	0	IF	0	63	65	0.0	0.0	

Average:	4 IBCF	8 IBCF	0 IBCMF	OR	see above	see above	see above	
Geometric Mean Average:								
Limit:	≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean	≥ 75% 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 13-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	1	1	1	1	1	2	1	1	1	1
1	1	1	1	1	1	1	1	1	2	1	1
2	1	1	1	1	1	1	1	1	1	1	1
3	1	1	1	1	1	1	2	1	1	1	1
4	1	1	1	1	1	1	1	1	1	1	1
5	1	2	1	1	1	1	1	1	1	1	1
6	2	IC	6	IC	1	1	1	1	1	1	2
7	1	1	1	1	1	1	1	1	1	1	1
8	1	1	1	1	2	1	2	1	2	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	2	1	2	2	2	1
12	1	2	2	1	1	1	1	1	2	1	1
13	2	1	1	2	1	2	1	1	1	2	1
14	2	2	2	1	1	1	1	2	2	1	1
15	1	2	1	2	2	1	2	2	2	1	1
16	2	2	1	1	2	2	2	2	1	2	1
17	2	2	2	1	2	1	1	2	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	2	1	1	1	1	1	1	1	2	1	1
22	1	2	1	1	2	1	1	1	2	1	1
23	1	1	2	2	2	2	2	2	2	2	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 13-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	IF	2	IF	2	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	BCF	23	BCF	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	2	IF	1	IF	1	IF	1	IF	2	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