



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



Date 3/28/23

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
3/28/2023	0	0	20.9	IF	23	IF	7	IF	-540	IBF	0	IBF	0	IF		0		51		0.0		
3/28/2023	1	0	20.9	IF	22	IF	7	IF	-515	IBF	0	IBF	0	IF		0		51		0.0		
3/28/2023	2	0	20.9	IF	22	IF	7	IF	-506	IBF	0	IBF	0	IF		1		51		0.0		
3/28/2023	3	5	20.1	ICF	21	ICF	7	ICF	-512	IBF	0	IBCF	1	ICF	0	ICF		50	51	0.0	0.0	
3/28/2023	4	12	17.4	IBCF	132	IBCF	63	IBCF	-511	IBF	0	IBCF	551	IBCF		2		50		0.0		
3/28/2023	5	0	20.9	IF	21	IF	7	IF	212	IBCF	97	IBCF	0	IF		1		161		0.0		
3/28/2023	6	0	20.9	IF	20	IF	7	IF	-456	IBF	0	IBF	0	IF		2		560		0.0		
3/28/2023	7	0	20.9	IF	19	IF	7	IF	-504	IBF	0	IBF	0	IF	138	IBCF	3	1	560	333	0.0	0.0
3/28/2023	8	0	20.9	IF	19	IF	7	IF	-504	IBF	0	IBF	0	IF		3		560		0.0		
3/28/2023	9	0	20.9	IF	18	IF	7	IF	-502	IBF	0	IBF	0	IF		1		560		0.0		
3/28/2023	10	0	20.9	IF	17	IF	7	IF	-534	IBF	0	IBF	0	IF		1		560		0.0		
3/28/2023	11	0	20.9	IF	17	IF	7	IF	-550	IBF	0	IBF	0	IF	0	IF		560	560	0.0	0.0	
3/28/2023	12	0	20.9	IF	17	IF	7	IF	-570	IBF	0	IBF	0	IF		0		560		0.0		
3/28/2023	13	0	20.9	IF	17	IF	7	IF	-559	IBF	0	IBF	0	IF		0		560		0.0		
3/28/2023	14	0	20.9	IF	17	IF	7	IF	-588	IBF	0	IBF	0	IF		0		560		0.0		
3/28/2023	15	0	20.9	IF	16	IF	7	IF	-615	IBF	0	IBF	0	IF	0	IF	1	560	560	0.0	0.0	
3/28/2023	16	0	20.9	IF	15	IF	7	IF	-629	IBF	0	IBF	0	IF		0		560		0.0		
3/28/2023	17	0	20.9	IF	15	IF	7	IF	-616	IBF	0	IBF	0	IF		0		560		0.0		
3/28/2023	18	0	20.9	IF	15	IF	7	IF	-623	IBF	0	IBF	0	IF		1		560		0.0		
3/28/2023	19	0	20.9	IF	14	IF	7	IF	-623	IBF	0	IBF	0	IF	0	IF		560	560	0.0	0.0	
3/28/2023	20	0	20.9	IF	14	IF	7	IF	-600	IBF	0	IBF	0	IF		1		560		0.0		
3/28/2023	21	0	20.9	IF	14	IF	7	IF	-590	IBF	0	IBF	0	IF		3		560		0.0		
3/28/2023	22	0	20.9	IF	13	IF	7	IF	-573	IBF	0	IBF	0	IF		4		560		0.0		
3/28/2023	23	0	20.9	IF	13	IF	7	IF	-578	IBF	0	IBF	0	IF	0	IF	2	560	560	0.0	0.0	

Average:
Geometric Mean Average:

Limit:

22 IBCF
8 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 3/28/23

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.
3/28/2023	0	60	11.0		197		2		17		86		3			13		310		165.2	
3/28/2023	1	60	10.9		197		2		19		91		2			13		310		167.0	
3/28/2023	2	60	10.9		197		1		18		94		2			13		310		166.4	
3/28/2023	3	60	10.9		198		1		18		97		2	2		13		310	310	164.6	165.8
3/28/2023	4	60	11.0		199		4		22		83		3			13		310		167.1	
3/28/2023	5	60	11.1		197		6		31		81		2			14		310		166.0	
3/28/2023	6	60	11.2		194		6		28		79		3			13		310		166.0	
3/28/2023	7	60	11.5		197		3		27		88		3	3		13	13	310	310	166.4	166.4
3/28/2023	8	60	11.3		198		4		25		86		3			13		310		166.8	
3/28/2023	9	60	11.1		182		3		23		85		5			13		310		163.7	
3/28/2023	10	60	10.9		144		4		23		82		3			13		310		166.8	
3/28/2023	11	60	11.0		146		5		19		75		3	4		13		310	310	166.9	166.1
3/28/2023	12	60	10.9		144		5		18		73		4			13		310		165.9	
3/28/2023	13	60	11.0		140		6		23		72		4			13		310		165.8	
3/28/2023	14	60	11.0		141		11		29		61		4			13		310		166.9	
3/28/2023	15	60	10.8		140		1		18		92		4	4		13	13	310	310	165.7	166.1
3/28/2023	16	60	10.5		139		2		19		92		3			13		310		167.1	
3/28/2023	17	60	10.7		141		1		19		94		3			13		310		166.3	
3/28/2023	18	60	10.9		138		2		21		89		3			14		310		166.7	
3/28/2023	19	60	10.9		140		3		23		87		3	3		13		310	310	166.6	166.7
3/28/2023	20	60	10.9		139		3		23		87		3			13		310		166.3	
3/28/2023	21	60	10.9		139		3		23		86		3			13		310		167.4	
3/28/2023	22	60	11.1		138		4		23		84		2			13		310		166.7	
3/28/2023	23	60	11.2		141		2		13		85		2	3		14	13	310	310	166.3	166.7

Average:
Geometric Mean Average:

Limit:

164	3
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

87
≥ 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 28-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 28-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	2	2	3	2	2	2	2	2	2	2	2
1	2	2	2	2	2	2	3	2	2	2	2
2	2	2	2	2	2	2	2	2	2	2	2
3	2	2	3	3	3	2	2	2	3	2	2
4	3	3	2	2	2	3	2	2	2	3	2
5	2	2	2	2	2	2	3	2	2	2	2
6	2	IBC	6	IBC	2	2	2	2	2	2	3
7	2	2	2	2	2	2	2	2	2	2	2
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	3	2	2	2	2	2	2	2
11	2	2	2	2	2	2	2	2	2	2	2
12	3	3	3	3	3	3	2	3	3	3	3
13	3	3	3	3	2	3	3	3	3	3	3
14	2	2	2	3	2	3	2	2	2	3	2
15	3	3	3	3	3	3	2	3	3	3	3
16	2	2	2	2	2	3	2	2	2	3	2
17	3	3	3	3	3	3	3	3	3	3	3
18	3	3	2	3	2	3	2	2	2	3	3
19	2	3	2	2	2	2	3	2	2	2	2
20	2	2	2	2	2	3	2	3	2	3	2
21	3	3	3	3	3	3	3	3	3	3	3
22	2	3	3	3	3	2	2	2	2	2	2
23	2	2	2	2	2	2	2	2	2	2	2

Status Flags

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