



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



Date 3/26/23

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
3/26/2023	0	0	20.9	IF	18	IF	7	IF	-718	IBF	0	IBF	0	IF			1		50		0.0	
3/26/2023	1	0	20.9	IF	19	IF	7	IF	-762	IBF	0	IBF	0	IF			1		51		0.0	
3/26/2023	2	0	20.9	IF	19	IF	7	IF	-768	IBF	0	IBF	0	IF			0		51		0.0	
3/26/2023	3	5	20.1	ICF	19	ICF	7	ICF	-808	IBF	0	IBCF	1	ICF	0	ICF	0		53	51	0.0	0.0
3/26/2023	4	12	17.4	IBCF	123	IBCF	62	IBCF	-822	IBF	0	IBCF	538	IBCF			0		53		0.0	
3/26/2023	5	0	20.9	IF	20	IF	7	IF	207	IBCF	96	IBCF	0	IF			3		54		0.0	
3/26/2023	6	0	20.9	IF	27	IF	7	IF	-793	IBF	0	IBF	0	IF			3		61		0.0	
3/26/2023	7	0	20.9	IF	29	IF	7	IF	-995	IBF	0	IBF	0	IF	134	IBCF	3	1	62	57	0.0	0.0
3/26/2023	8	0	20.9	IF	30	IF	7	IF	-1099	IBF	0	IBF	0	IF			1		62		0.0	
3/26/2023	9	0	20.9	IF	29	IF	7	IF	-1093	IBF	0	IBF	0	IF			0		62		0.0	
3/26/2023	10	0	20.9	IF	28	IF	7	IF	-1025	IBF	0	IBF	0	IF			0		63		0.0	
3/26/2023	11	0	20.9	IF	27	IF	8	IF	-992	IBF	0	IBF	0	IF	0	IF	0		64	63	0.0	0.0
3/26/2023	12	0	20.9	IF	25	IF	8	IF	-935	IBF	0	IBF	0	IF			0		64		0.0	
3/26/2023	13	0	20.9	IF	24	IF	8	IF	-1004	IBF	0	IBF	0	IF			0		65		0.0	
3/26/2023	14	0	20.9	IF	25	IF	8	IF	-1254	IBF	0	IBF	0	IF			0		66		0.0	
3/26/2023	15	0	20.9	IF	24	IF	8	IF	-1179	IBF	0	IBF	0	IF	0	IF	0	0	67	66	0.0	0.0
3/26/2023	16	0	20.9	IF	24	IF	8	IF	-1175	IBF	0	IBF	0	IF			3		68		0.0	
3/26/2023	17	0	20.9	IF	24	IF	8	IF	-1296	IBF	0	IBF	0	IF			0		68		0.0	
3/26/2023	18	0	20.9	IF	23	IF	8	IF	-1440	IBF	0	IBF	0	IF			1		68		0.0	
3/26/2023	19	0	20.8	IF	23	IF	8	IF	-1529	IBF	0	IBF	0	IF	0	IF	0		68	68	0.0	0.0
3/26/2023	20	0	20.9	IF	22	IF	7	IF	-1405	IBF	0	IBF	0	IF			1		67		0.0	
3/26/2023	21	0	20.9	IF	22	IF	7	IF	-1399	IBF	0	IBF	0	IF			0		65		0.0	
3/26/2023	22	0	20.9	IF	22	IF	8	IF	-1418	IBF	0	IBF	0	IF			0		64		0.0	
3/26/2023	23	0	20.9	IF	22	IF	8	IF	-1370	IBF	0	IBF	0	IF	0	IF	0	1	63	65	0.0	0.0

Average:
Geometric Mean Average:

Limit:

Average: Geometric Mean Average:	28 IBCF	8 IBCF
Limit:	≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

Average: Geometric Mean Average:	0 IBCF
Limit:	≥ 75% Removal Efficiency

Average: Geometric Mean Average:	see above
Limit:	≤ 69 ppmc 4-HR Block Average

Average: Geometric Mean Average:	see above
Limit:	≥ 12 lb/hr 8-HR. Block Average

Average: Geometric Mean Average:	see above
Limit:	≤ 345 °F 4-HR Block Average

Average: Geometric Mean Average:	see above
Limit:	≤ 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 3/26/23

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.
3/26/2023	0	60	11.3		176		22		74		70		1			14		310		166.3	
3/26/2023	1	60	11.4		172		14		53		73		1			14		310		166.3	
3/26/2023	2	60	11.3		159		22		66		66		2			14		310		166.8	
3/26/2023	3	60	11.3		163		15		55		72		2	1		14		310	310	166.9	166.6
3/26/2023	4	60	11.4		188		32		88		64		3			14		310		167.0	
3/26/2023	5	60	11.3		196		20		66		70		2			15		310		166.5	
3/26/2023	6	60	11.1		198		16		54		70		2			13		310		169.8	
3/26/2023	7	60	10.9		199		16		63		74		2	2		13	14	310	310	164.4	166.9
3/26/2023	8	60	10.7		198		9		48		82		2			14		310		165.0	
3/26/2023	9	60	10.7		197		14		54		74		2			14		310		166.4	
3/26/2023	10	60	10.7		197		13		28		54		2			14		310		166.8	
3/26/2023	11	60	10.7		198		7		35		79		2	2		14		310	310	164.9	165.8
3/26/2023	12	60	10.7		198		8		38		80		2			12		310		168.3	
3/26/2023	13	60	10.7		198		7		44		84		2			12		310		166.3	
3/26/2023	14	60	10.7		198		7		44		85		1			7		310		166.9	
3/26/2023	15	60	10.7		196		6		45		87		1	2		12	12	310	310	165.0	166.6
3/26/2023	16	60	10.6		196		4		40		90		2			21		309		166.7	
3/26/2023	17	60	10.6		198		1		30		97		2			13		310		165.4	
3/26/2023	18	60	10.5		198		1		31		96		2			13		310		166.6	
3/26/2023	19	60	10.6		196		3		38		91		2	2		13		310	310	167.8	166.6
3/26/2023	20	60	10.8		198		12		59		79		1			13		310		166.1	
3/26/2023	21	60	10.9		197		6		42		86		2			13		310		167.1	
3/26/2023	22	60	10.8		198		5		40		87		2			13		310		166.1	
3/26/2023	23	60	10.8		199		14		62		78		2	2		13	14	310	310	166.3	166.4

Average:
Geometric Mean Average:

Limit:

192	9
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

82
≥ 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 26-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 26-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	1	2	2	2	1	1	1	1	1	1	2
1	1	1	1	2	2	2	1	1	1	2	1
2	1	1	1	1	2	2	2	2	2	2	2
3	2	2	2	2	2	2	2	2	2	2	2
4	2	2	2	2	1	2	2	2	2	2	2
5	2	2	1	2	1	2	1	1	1	2	2
6	3	IBC	5	IBC	1	1	1	2	2	1	2
7	1	1	2	2	1	2	2	2	1	2	1
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	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	2	2	2	2	2
13	2	2	2	2	2	2	2	2	2	2	2
14	2	2	2	2	2	3	3	2	3	3	2
15	2	2	2	2	2	2	3	3	3	2	2
16	2	2	2	2	2	2	3	3	2	2	2
17	2	2	2	3	2	2	2	2	2	2	2
18	2	2	2	2	2	2	2	2	2	2	2
19	2	2	2	2	2	3	3	2	2	3	2
20	2	2	3	3	3	3	3	3	3	3	3
21	2	2	3	3	3	3	2	3	3	3	3
22	3	3	3	3	2	3	3	3	3	3	3
23	3	3	3	3	3	3	3	3	3	3	3

Status Flags

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