



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



Date 3/27/23

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
3/27/2023	0	0	20.9	IF	22	IF	8	IF	-1268	IBF	0	IBF	0	IF			0		62		0.0	
3/27/2023	1	0	20.9	IF	21	IF	8	IF	-1230	IBF	0	IBF	0	IF			2		61		0.0	
3/27/2023	2	0	20.9	IF	21	IF	8	IF	-1188	IBF	0	IBF	0	IF			4		60		0.0	
3/27/2023	3	5	20.1	ICF	19	ICF	7	ICF	-1197	IBF	0	IBCF	1	ICF	0	ICF	1		59	61	0.0	0.0
3/27/2023	4	12	17.3	IBCF	132	IBCF	63	IBCF	-1199	IBF	0	IBCF	553	IBCF			5		59		0.0	
3/27/2023	5	0	20.9	IF	22	IF	8	IF	203	IBCF	96	IBCF	0	IF			5		57		0.0	
3/27/2023	6	0	20.9	IF	23	IF	8	IF	-953	IBF	0	IBF	0	IF			4		58		0.0	
3/27/2023	7	0	20.9	IF	22	IF	8	IF	-1130	IBF	0	IBF	0	IF	138	IBCF	3	3	56	57	0.0	0.0
3/27/2023	8	0	20.9	IF	20	IF	7	IF	-799	IBF	0	IBF	0	IF			0		52		0.0	
3/27/2023	9	0	20.9	IF	19	IF	7	IF	-731	IBF	0	IBF	0	IF			0		52		0.0	
3/27/2023	10	0	20.9	IF	18	IF	7	IF	-746	IBF	0	IBF	0	IF			0		53		0.0	
3/27/2023	11	0	20.9	IF	17	IF	7	IF	-704	IBF	0	IBF	0	IF	0	IF	0		55	53	0.0	0.0
3/27/2023	12	0	20.9	IF	17	IF	7	IF	-701	IBF	0	IBF	0	IF			0		56		0.0	
3/27/2023	13	0	20.9	IF	18	IF	7	IF	-691	IBF	0	IBF	0	IF			0		57		0.0	
3/27/2023	14	0	20.9	IF	18	IF	8	IF	-732	IBF	0	IBF	0	IF			0		58		0.0	
3/27/2023	15	0	20.9	IF	16	IF	7	IF	-727	IBF	0	IBF	0	IF	0	IF	0	0	59	57	0.0	0.0
3/27/2023	16	0	20.9	IF	19	IF	7	IF	-731	IBF	0	IBF	0	IF			1		59		0.0	
3/27/2023	17	0	20.9	IF	20	IF	7	IF	-705	IBF	0	IBF	0	IF			1		57		0.0	
3/27/2023	18	0	20.9	IF	19	IF	7	IF	-647	IBF	0	IBF	0	IF			1		56		0.0	
3/27/2023	19	0	20.9	IF	18	IF	7	IF	-621	IBF	0	IBF	0	IF	0	IF	1		55	57	0.0	0.0
3/27/2023	20	0	20.9	IF	18	IF	7	IF	-653	IBF	0	IBF	0	IF			1		55		0.0	
3/27/2023	21	0	20.9	IF	21	IF	7	IF	-644	IBF	0	IBF	0	IF			0		54		0.0	
3/27/2023	22	0	20.9	IF	23	IF	7	IF	-607	IBF	0	IBF	0	IF			0		53		0.0	
3/27/2023	23	0	20.9	IF	23	IF	7	IF	-569	IBF	0	IBF	0	IF	0	IF	0	1	52	53	0.0	0.0

Average:
Geometric Mean Average:

Limit:

24	IBCF
8	IBCF
≤ 205	≤ 29
24-HR Block Avg.	24-HR Geometric Mean

OR

0	IBCF
≥ 75%	Removal Efficiency

see above
≤ 69
4-HR Block Average
ppmc

see above
≥ 12
8-HR. Block Average
lb/hr

see above
≤ 345
4-HR Block Average
°F

see above
≤ 173
4-HR Block Average
klb/hr

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 3/27/23

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.
3/27/2023	0	60	10.9		197		10		48		80		2			13		310		166.1	
3/27/2023	1	60	10.9		197		7		42		82		2			14		310		165.0	
3/27/2023	2	60	10.8		199		7		37		81		2			13		310		165.7	
3/27/2023	3	60	10.9		196		3		24		88		2	2		13		310	310	165.9	165.7
3/27/2023	4	60	11.0		198		18		58		69		3			14		310		166.5	
3/27/2023	5	60	10.9		201		11		41		72		2			14		310		166.4	
3/27/2023	6	60	11.2		194		10		33		71		3			13		310		163.5	
3/27/2023	7	60	10.9		197		9		36		74		3	3		13	13	310	310	167.2	165.9
3/27/2023	8	60	10.8		199		14		53		73		1			13		310		166.7	
3/27/2023	9	60	10.8		199		5		35		86		2			13		310		166.2	
3/27/2023	10	60	11.0		226		9		40		79		2			13		310		164.6	
3/27/2023	11	60	11.0		294		5		37		86		1	1		13		310	310	166.2	165.9
3/27/2023	12	60	10.8		174		3		23		86		2			13		310		166.8	
3/27/2023	13	60	10.8		172		2		17		88		2			13		310		165.6	
3/27/2023	14	60	10.9		189		9		29		70		2			13		310		167.2	
3/27/2023	15	60	10.5		194		2		18		89		3	2		13	13	310	310	167.5	166.8
3/27/2023	16	60	10.4		179		4		24		81		2			13		310		167.3	
3/27/2023	17	60	10.5		178		4		19		76		3			13		310		166.0	
3/27/2023	18	60	10.6		180		4		19		79		2			12		310		164.9	
3/27/2023	19	60	10.6		181		4		24		83		2	2		13		310	310	167.4	166.4
3/27/2023	20	60	10.7		191		6		25		75		3			14		310		167.2	
3/27/2023	21	60	10.7		198		6		23		76		2			13		310		166.2	
3/27/2023	22	60	10.8		197		6		23		72		2			13		310		167.1	
3/27/2023	23	60	10.8		197		6		24		75		2	2		13	13	310	310	166.7	166.8

Average:
Geometric Mean Average:

Limit:

197	6
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

80
≥ 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

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WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 27-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 27-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	3	3	3	3	3	3	3	3	3	3	3
1	2	2	3	2	2	3	3	3	2	3	2
2	3	2	3	3	3	3	3	3	3	3	3
3	3	3	3	3	3	3	3	3	3	3	3
4	2	2	3	3	3	2	2	2	2	2	2
5	2	2	2	2	2	2	2	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	2	2	2	2	2	2	2	2
11	2	2	2	2	2	3	3	2	3	3	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	3	2	3	2
15	3	3	3	2	2	2	2	2	2	2	2
16	2	2	2	2	2	2	2	2	2	2	2
17	2	2	2	2	2	2	2	2	2	2	2
18	2	2	2	2	2	2	3	3	3	2	2
19	3	3	3	3	3	2	2	2	2	2	3
20	2	2	2	2	2	2	2	2	2	2	2
21	3	3	3	3	3	3	2	3	3	3	3
22	3	2	3	3	2	2	2	2	2	2	2
23	3	3	3	3	3	3	2	3	3	3	3

Status Flags

I - Invalid C - Calibration F - Offline T - Out of Control ^ - Startup
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