



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



Date 10/19/22

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
10/19/2022	0	0	20.8	IF	68	IF	8	IF	67	IBF	88	IBF	10	IF			0		191		0.4	
10/19/2022	1	0	20.8	IF	69	IF	8	IF	53	IBF	86	IBF	5	IF			0		154		0.0	
10/19/2022	2	0	20.9	IF	58	IF	8	IF	45	IBF	82	IBF	5	IF			0		127		0.0	
10/19/2022	3	5	20.1	ICF	30	ICF	9	ICF	34	IBF	74	IBCF	2	ICF	5	ICF	0		122	148	0.0	0.1
10/19/2022	4	12	17.3	IBCF	173	IBCF	74	IBCF	26	IBF	0	IBCF	565	IBCF			0		121		0.0	
10/19/2022	5	0	20.9	IF	35	IF	10	IF	132	IBCMF	93	IBCMF	0	IF			0		113		0.0	
10/19/2022	6	0	20.9	IF	34	IF	9	IF	37	IBMF	75	IBMF	0	IF			1		107		0.0	
10/19/2022	7	0	20.9	IF	34	IF	10	IF	12	IBF	17	IBF	0	IF	141	IBCF	0	0	103	111	0.0	0.0
10/19/2022	8	0	20.9	IF	37	IF	9	IF	7	IBF	0	IBF	0	IF			1		101		0.0	
10/19/2022	9	0	20.9	IF	45	IF	10	IF	11	IBF	10	IBF	0	IF			1		101		0.0	
10/19/2022	10	0	20.9	IF	43	IF	9	IF	12	IBF	24	IBF	0	IF			1		99		0.0	
10/19/2022	11	0	20.9	IF	41	IF	10	IF	13	IBF	26	IBF	0	IF	0	IF	1		93	99	0.0	0.0
10/19/2022	12	0	20.9	IF	35	IF	10	IF	12	IBF	22	IBF	0	IF			1		88		0.0	
10/19/2022	13	0	20.9	IF	33	IF	10	IF	8	IBF	0	IBF	0	IF			0		86		0.0	
10/19/2022	14	0	20.9	IF	31	IF	10	IF	5	IBF	0	IBF	0	IF			0		84		0.0	
10/19/2022	15	0	20.9	IF	30	IF	10	IF	3	IBF	0	IBF	0	IF	0	IF	0	1	84	85	0.0	0.0
10/19/2022	16	0	20.9	IF	28	IF	9	IF	2	IBF	0	IBF	0	IF			1		83		0.0	
10/19/2022	17	0	20.9	IF	27	IF	10	IF	0	IBF	0	IBF	0	IF			0		81		0.0	
10/19/2022	18	0	20.9	IF	26	IF	10	IF	0	IBF	0	IBF	0	IF			0		79		0.0	
10/19/2022	19	0	20.9	IF	26	IF	11	IF	0	IBF	0	IBF	0	IF	0	IF	0		77	80	0.0	0.0
10/19/2022	20	0	20.9	IF	26	IF	12	IF	0	IBF	0	IBF	0	IF			1		74		0.0	
10/19/2022	21	0	20.9	IF	25	IF	12	IF	0	IBF	0	IBF	0	IF			1		72		0.0	
10/19/2022	22	0	20.9	IF	25	IF	11	IF	0	IBF	0	IBF	0	IF			1		70		0.0	
10/19/2022	23	0	20.9	IF	25	IF	11	IF	0	IBF	0	IBF	0	IF	0	IF	1	1	68	71	0.0	0.0

Average:
Geometric Mean Average:

Limit:

Average: 42 IBCF	11 IBCF	0 IBCMF
Limit: ≤ 205 24-HR Block Avg.	Limit: ≤ 29 24-HR Geometric Mean	Limit: ≥ 75% Removal Efficiency

OR

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

see above	see above	see above
Limit: ≥ 12 lb/hr 8-HR. Block Average	Limit: ≤ 345 °F 4-HR Block Average	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 10/19/22

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.
10/19/2022	0	60	10.7		198		9		20		53		3			12		310		166.3	
10/19/2022	1	60	10.8		197		12		25		52		2			13		310		166.6	
10/19/2022	2	60	10.6		198		16		29		43		2			13		310		166.6	
10/19/2022	3	60	10.8		197		13		23		43		2	2		12		310	310	164.8	166.1
10/19/2022	4	60	10.7		197		17		26		33		3			9		310		163.8	
10/19/2022	5	60	10.7		197		21		33		38		4			13		310		165.7	
10/19/2022	6	60	11.0		197		18		46		61		3			12		310		165.3	
10/19/2022	7	60	11.0		197		10		46		78		3	3		11	12	310	310	165.3	165.0
10/19/2022	8	60	11.1		198		23		94		75		3			13		310		164.4	
10/19/2022	9	60	11.1		193		30		104		72		3			11		310		166.3	
10/19/2022	10	60	11.2		190		17		74		77		1			11		310		166.4	
10/19/2022	11	60	11.3		198		21		84		75		1	2		11		310	310	164.2	165.3
10/19/2022	12	60	10.9		198		16		66		76		2			12		310		165.5	
10/19/2022	13	60	10.8		197		19		70		73		5			12		310		165.0	
10/19/2022	14	60	10.8		197		28		107		74		3			12		310		165.9	
10/19/2022	15	60	10.8		197		22		87		75		2	3		12	12	310	310	165.8	165.6
10/19/2022	16	60	10.7		199		16		61		75		3			13		310		163.9	
10/19/2022	17	60	10.7		195		35		112		69		4			13		310		165.1	
10/19/2022	18	60	10.7		198		18		60		71		3			13		310		165.1	
10/19/2022	19	60	10.7		197		20		69		72		3	3		13		310	310	165.6	164.9
10/19/2022	20	60	10.7		198		19		59		69		2			13		310		165.5	
10/19/2022	21	60	10.7		197		20		64		68		2			12		310		165.5	
10/19/2022	22	60	10.8		198		21		63		67		2			13		310		165.3	
10/19/2022	23	60	10.8		198		26		80		68		2	2		12	13	310	310	165.9	165.6

Average:
Geometric Mean Average:

Limit:

197	19
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

67
≥ 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

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WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 19-Oct-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	IF	0	IF	1	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
1	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
2	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
3	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
4	0		0		0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
5	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
6	3	ICF	23	ICF	1	IF	0	IF	1	IF	0	IF	1	IF	1	IF	1	IF	0	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	0	IF	1	IF	1	IF	1	IF	0	IF	1	IF	1	IF	1	IF	0	IF	0
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	0	IF	1	IF	0	IF	1	IF	0	IF	0	IF	1	IF	1	IF	0
15	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	0	IF	0	IF	0	IF	1	IF	0
16	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
17	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
18	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
19	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
20	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
21	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
22	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
23	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0

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 19-Oct-2022

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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	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1	1	1	1
3	1	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	1	1	1	1	1	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	1	1	1	1	1	1
12	1	1	1	1	1	1	1	1	1	1	1
13	1	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	1	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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