



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



Date 11/13/23

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
11/13/2023	0	0	20.5	IF	9	IF	2	IF	43	IBF	95	IBF	48	IF			13		287		44.1	
11/13/2023	1	0	20.6	IF	0	IF	7	IF	31	IBF	77	IBF	10	IF			1		252		20.5	
11/13/2023	2	0	20.6	IF	0	IF	8	IF	14	IBF	46	IBF	9	IF			2		225		1.3	
11/13/2023	3	5	19.8	ICF	4	ICF	94	ICF	0	IBF	0	IBCF	102	ICF	42	ICF	0		181	236	0.0	16.5
11/13/2023	4	11	17.3	IBCF	62	IBCF	67	IBCF	0	IBF	0	IBCF	524	IBCF			0		176		0.0	
11/13/2023	5	0	20.6	IF	0	IF	10	IF	133	IBCF	93	IBCF	0	IF			0		148		0.0	
11/13/2023	6	0	20.6	IF	0	IF	10	IF	0	IBF	0	IBF	0	IF			0		138		0.0	
11/13/2023	7	0	20.6	IF	0	IF	9	IF	0	IBF	0	IBF	0	IF	131	IBCF	3	2	126	147	0.0	0.0
11/13/2023	8	0	20.6	IF	1	IF	9	IF	0	IBF	0	IBF	1	IF			0		112		0.0	
11/13/2023	9	0	20.6	IF	0	IF	9	IF	0	IBF	0	IBF	0	IF			0		104		0.0	
11/13/2023	10	0	20.6	IF	0	IF	9	IF	0	IBF	0	IBF	0	IF			0		98		0.0	
11/13/2023	11	0	20.6	IF	0	IF	9	IF	0	IBF	0	IBF	0	IF	1	IF	0		95	102	0.0	0.0
11/13/2023	12	0	20.6	IF	1	IF	9	IF	0	IBF	0	IBF	1	IF			0		92		0.0	
11/13/2023	13	0	20.6	IF	1	IF	9	IF	0	IBF	0	IBF	1	IF			0		89		0.0	
11/13/2023	14	0	20.6	IF	0	IF	9	IF	0	IBF	0	IBF	0	IF			0		87		5.3	
11/13/2023	15	0	20.6	IF	0	IF	9	IF	0	IBF	0	IBF	0	IF	0	IF	0	0	84	88	5.9	2.8
11/13/2023	16	0	20.6	IF	0	IF	9	IF	0	IBF	0	IBF	0	IF			0		81		5.6	
11/13/2023	17	0	20.6	IF	0	IF	9	IF	0	IBF	0	IBF	0	IF			0		77		5.3	
11/13/2023	18	0	20.6	IF	0	IF	9	IF	0	IBF	0	IBF	0	IF			0		74		5.1	
11/13/2023	19	0	20.6	IF	0	IF	9	IF	0	IBF	0	IBF	0	IF	0	IF	0		72	76	5.0	5.3
11/13/2023	20	0	20.6	IF	0	IF	9	IF	0	IBF	0	IBF	0	IF			0		71		5.1	
11/13/2023	21	0	20.7	IF	0	IF	9	IF	0	IBF	0	IBF	0	IF			0		69		5.2	
11/13/2023	22	0	20.6	IF	0	IF	9	IF	0	IBF	0	IBF	0	IF			0		68		5.2	
11/13/2023	23	0	20.6	IF	0	IF	9	IF	0	IBF	0	IBF	0	IF	0	IF	0	0	66	68	5.2	5.2

Average:
Geometric Mean Average:

Limit:

3 IBCF	10 IBCF
≤ 150 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

0 IBCF
≥ 80% 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

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 11/13/23

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.
11/13/2023	0	60	10.4		140		3		77		97		5			12		310		167.8	
11/13/2023	1	60	10.5		140		4		76		95		5			14		310		167.7	
11/13/2023	2	60	10.5		138		11		88		87		5			7		310		167.2	
11/13/2023	3	60	10.4		139		10		83		88		5	5		16		310	310	167.7	167.6
11/13/2023	4	60	10.4		141		7		62		89		6			25		310		167.6	
11/13/2023	5	60	10.2		141		7	IBCT	78	IBCT	91	IBCT	5			12		310		167.8	
11/13/2023	6	59	10.2		139		0	IBT	9	IBT	95	IBT	5			1		310		168.0	
11/13/2023	7	60	10.4		138		3	IBT	7	IBT	56	IBT	5	5		14	13	310	310	166.9	167.5
11/13/2023	8	60	10.3		142		0	IBMT	27	IBMT	100	IBMT	6			24		310		167.3	
11/13/2023	9	60	10.5		138		72	IBMT	0	IBMT	0	IBMT	7			18		310		166.6	
11/13/2023	10	60	10.5		138		20	IBMT	0	IBMT	0	IBMT	7			16		310		166.8	
11/13/2023	11	60	10.4		142		1	IBCMT	105	IBCMT	99	IBCMT	6	6		15		310	310	167.5	167.0
11/13/2023	12	60	10.2		138		0		36		99		6			16		310		167.2	
11/13/2023	13	60	10.3		140		9		50		82		6			17		310		167.8	
11/13/2023	14	60	10.5		140		7		39		83		4			17		310		167.7	
11/13/2023	15	60	10.3		140		3		46		94		3	5		17	17	310	310	168.2	167.7
11/13/2023	16	60	10.1		140		5		49		91		6			17		310		167.4	
11/13/2023	17	60	10.0		138		3		57		95		7			15		310		166.7	
11/13/2023	18	60	9.9		140		5		66		92		6			15		310		167.3	
11/13/2023	19	60	9.8		141		2		57		97		6	6		14		310	310	167.9	167.3
11/13/2023	20	60	9.9		139		1		50		99		6			14		310		166.9	
11/13/2023	21	60	9.9		139		2		58		97		5			13		310		166.9	
11/13/2023	22	60	10.2		140		18		73		75		5			13		310		167.7	
11/13/2023	23	60	10.3		140		0		44		99		5	5		13	14	310	310	167.4	167.2

Average:
Geometric Mean Average:

Limit:

140	3
≤ 150 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

94
≥ 80% 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

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 OPACITY REPORT



Date 13-Nov-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	0	IF	0	IF	0	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	1	IF	1	IF	0	IF	0
4	1		0	IF	0	IF	1	IF	0	IF	1	IF	1	IF	1	IF	0	IF	1	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	0	IF	0	IF	0	IF	1	IF	0	IF	0	IF	1	IF	1	IF	3
7	0	IF	1	IF	0	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	0
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 13-Nov-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	0	0	0	0	0	0	0	0	0	0	0	
1	0	0	0	0	0	0	0	0	0	0	0	
2	0	0	0	0	0	0	0	0	0	0	0	
3	0	0	0	0	0	0	0	0	0	0	0	
4	0	0	0	0	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	0	0	0	0	
6	3	IBC	5	IBC	0	0	0	0	0	I	0	1
7	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0

Status Flags

I - Invalid C - Calibration F - Offline T - Out of Control ^ - Startup
 B - Bad M - Maintenance P - Purge E - Excluded * - Shutdown