



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



Date 2/7/23

Wheel Plant Wheelabrator North Andover
Unit 1 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.
2/7/2023	0	60	11.0		198		8		17		53		6			14		309		164.5	
2/7/2023	1	60	11.2		192		6		19		69		5			13		309		166.7	
2/7/2023	2	60	11.2		193		13		22		40		5			14		313		165.9	
2/7/2023	3	60	11.1		201		10		13		23		5	5		13		323	314	166.1	165.8
2/7/2023	4	60	11.2		201		11		13		14		5			14		322		166.8	
2/7/2023	5	60	11.1		199		14		28		48		4			13		324		165.9	
2/7/2023	6	60	11.1		197		10		16		35		5			13		327		166.1	
2/7/2023	7	60	11.1		198		4		12		68		5	5		14	14	324	324	166.5	166.3
2/7/2023	8	60	11.2		196		5		12		57		6			13		320		165.6	
2/7/2023	9	60	11.5		172		23		16	IBMF	0	IBMF	8			14		309		85.2	
2/7/2023	10	60	11.5		190		35		-284	IBMF	0	IBMF	6			13		310		114.1	
2/7/2023	11	60	11.3		200		24		8	IBCM	0	IBCM	7	7		14		310	312	165.9	132.7
2/7/2023	12	60	11.3		195		30		146	IBCM	79	IBCM	7			14		309		164.1	
2/7/2023	13	60	11.2		198		14		86		84		7			14		309		164.9	
2/7/2023	14	60	10.9		200		9		64		87		7			13		310		167.4	
2/7/2023	15	60	11.1		198		0		34		100		8	7		14	14	309	309	166.1	165.6
2/7/2023	16	60	11.0		195		23		108		79		8			14		309		164.4	
2/7/2023	17	60	11.0		198		16		75		78		7			14		309		165.2	
2/7/2023	18	60	10.9		199		48		175		73		7			14		310		168.1	
2/7/2023	19	60	11.0		198		39		155		75		7	7		14		309	309	164.1	165.5
2/7/2023	20	60	10.8		196		24		97		75		7			14		309		165.8	
2/7/2023	21	60	10.9		198		18		70		74		7			13		309		166.2	
2/7/2023	22	60	11.0		197		18		64		72		7			14		310		164.1	
2/7/2023	23	60	10.9		199		17		61		72		6	7		14	14	309	309	166.5	165.6

Average:
Geometric Mean Average:

Limit:

196	12
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

74
≥ 75% Removal Efficiency

see above
≤ 69 4-HR Block Average

ppmc

see above
≥ 12 8-HR. Block Average

see above
≤ 345 °F 4-HR Block Average

see above
≤ 173 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 2/7/23

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
2/7/2023	0	60	10.8		194		3		5		45		6		14		310		166.0	
2/7/2023	1	60	10.8		188		3		5		45		5		14		310		166.8	
2/7/2023	2	60	11.0		185		4		7		48		6		14		313		166.7	
2/7/2023	3	60	11.0		180		4		10		60		6	6	14		311	311	165.7	166.3
2/7/2023	4	60	10.7		187		3		10		64		7		13		303		167.6	
2/7/2023	5	60	10.8		184		5		14		68		7		14		304		166.4	
2/7/2023	6	60	10.8		192		4		12		64		7		14		305		165.4	
2/7/2023	7	60	10.5		190		3		7		56		8	7	14	14	310	306	166.1	166.4
2/7/2023	8	60	10.5		188		3		4		22		8		13		311		166.4	
2/7/2023	9	60	10.6		183		4		8	IBM	42	IBM	9		14		310		167.2	
2/7/2023	10	60	11.0		180		6		17	IBM	67	IBM	8		13		310		162.0	
2/7/2023	11	60	11.6		180		21		117	IBCM	82	IBCM	9	9	14		310	310	75.1	142.7
2/7/2023	12	60	11.0		188		23		106	IBM	79	IBM	9		14		310		165.5	
2/7/2023	13	60	11.0		190		4		32		86		8		15		310		167.7	
2/7/2023	14	60	10.9		192		4		28		87		7		14		310		166.7	
2/7/2023	15	60	10.8		196		3		21		86		8	8	14	14	310	310	166.0	166.5
2/7/2023	16	60	10.9		192		16		91		82		9		13		310		166.7	
2/7/2023	17	60	10.9		192		26		122		79		9		14		310		165.9	
2/7/2023	18	60	10.9		188		18		87		79		7		14		310		166.5	
2/7/2023	19	60	10.9		193		41		162		75		7	8	14		310	310	166.4	166.4
2/7/2023	20	60	10.9		191		30		119		75		6		14		310		166.3	
2/7/2023	21	60	10.9		191		17		76		78		7		14		310		166.6	
2/7/2023	22	60	10.9		191		14		74		81		7		14		310		166.6	
2/7/2023	23	60	10.8		196		10		61		84		7	7	14	14	310	310	166.5	166.5

Average:	189	7	OR	72	see above	see above	see above
Geometric Mean Average:					≤ 69 ppmc	≥ 12 lb/hr	≤ 345 °F
Limit:	≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean		≥ 75% Removal Efficiency	4-HR Block Average	8-HR. Block Average	4-HR Block Average
							≤ 173 klb/hr

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WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 07-Feb-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	3	3	3	3	3	3	3	3	3	3	3
1	3	3	3	3	3	3	3	3	3	3	3
2	3	3	3	3	3	3	3	3	3	3	3
3	3	3	3	3	3	3	3	3	3	3	3
4	3	3	3	3	3	3	3	3	3	3	3
5	3	3	3	3	3	3	3	3	3	3	3
6	2	IC	7	IC	3	3	3	3	3	3	3
7	3	3	3	3	3	3	3	3	3	3	3
8	3	3	3	3	3	3	3	3	3	3	3
9	3	3	3	3	3	3	3	3	3	3	3
10	3	3	3	3	3	3	3	3	3	3	3
11	3	3	3	3	3	3	3	3	3	3	3
12	3	3	4	3	3	3	3	3	3	3	3
13	3	3	3	3	3	3	3	3	3	3	3
14	3	3	3	3	3	3	3	3	3	3	3
15	3	3	3	3	3	3	3	3	3	3	3
16	3	3	3	3	3	3	3	3	3	3	3
17	3	3	3	3	3	3	3	3	3	3	3
18	3	3	3	3	3	3	3	3	3	3	3
19	3	3	3	3	3	3	3	3	3	3	3
20	3	3	3	3	3	3	3	3	3	3	3
21	3	3	3	3	3	3	3	3	3	3	3
22	3	3	3	3	3	3	3	3	3	3	3
23	3	3	3	3	3	3	3	3	3	3	3

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 07-Feb-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	2	2	2	2	2	2	2	2	2
1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	2	2	2	2	2	1
3	2	2	1	0	0	0	0	0	0	0	1
4	0	0	0	1	1	1	1	1	1	1	0
5	1	1	1	1	1	1	1	1	1	1	1
6	2	IBC	5	IBC	1	0	1	0	0	1	1
7	0	1	1	1	1	1	1	1	1	1	0
8	0	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	2	1	2	1	2	1
17	2	2	2	1	1	1	1	1	1	1	1
18	1	1	1	1	1	1	1	1	1	1	1
19	1	2	2	2	2	2	2	1	1	2	2
20	1	1	1	1	1	1	1	1	1	1	1
21	1	1	1	1	1	1	2	1	2	1	1
22	2	1	2	1	1	1	2	2	2	1	1
23	2	2	1	1	1	1	1	1	1	1	1

Status Flags

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