



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



Date 1/20/23

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.
1/20/2023	0	60	10.5		197		4		30	IBF	85	IBF	3			13		309		164.8	
1/20/2023	1	60	10.4	IB	203	IB	2	IB					4	IB		13		309		165.6	
1/20/2023	2	60	10.4	IB	203	IB	2	IB					4	IB		13		310		166.6	
1/20/2023	3	60	18.7	IBM	202	IBM	3	IBM	23		89	IBM	22	IBM	3	13		310	309	165.9	165.7
1/20/2023	4	60	20.9	IBM	16	IBM	0	IBM	26		100	IBM	0	IBM		13		309		165.6	
1/20/2023	5	60	10.9	IBCM	240	IBCM	0	IBCM	48		100	IBCM	0	IBCM		13		309		165.3	
1/20/2023	6	60	10.4		199		15		58		73		5			13		310		166.7	
1/20/2023	7	60	10.5		197		23		81		72		6		6	13	13	309	309	165.9	165.9
1/20/2023	8	60	10.4		189		10		49		79		8			13		309		164.9	
1/20/2023	9	60	10.5		194		9		61		85		7			13		310		166.1	
1/20/2023	10	60	10.8		195		15		64		77		7			13		309		166.8	
1/20/2023	11	60	10.8		200		28		125		78		7		7	13		310	309	165.3	165.8
1/20/2023	12	60	10.3		194		10		61		83		8			13		310		165.0	
1/20/2023	13	60	10.3		186		15		59		75		10			13		310		161.6	
1/20/2023	14	60	11.0		192		13		60		78		10			13		309		158.2	
1/20/2023	15	60	10.3		193		3		36		92		9		9	14	13	309	309	157.0	160.5
1/20/2023	16	60	9.9		187		2		35		94		8			13		310		159.4	
1/20/2023	17	60	9.8		182		2		37		95		8			14		310		164.5	
1/20/2023	18	60	10.1		186		3		46		92		7			13		309		166.1	
1/20/2023	19	60	10.1		195		5		46		90		7		8	13		309	309	165.4	163.9
1/20/2023	20	60	10.1		193		6		48		87		8			13		309		165.5	
1/20/2023	21	60	10.0		193		5		43		89		8			14		310		165.0	
1/20/2023	22	60	10.1		195		7		52		86		7			14		309		165.3	
1/20/2023	23	60	10.3		198		11		54		80		7		8	13	13	309	309	165.8	165.4

Average:
Geometric Mean Average:

Limit:

193	8
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

85
≥ 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

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 1/20/23

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.
1/20/2023	0	60	10.8		197		0		13		98		3			13		310		166.4	
1/20/2023	1	60	10.9		196		0		10		99		4			13		310		166.1	
1/20/2023	2	60	10.7		195		0		12		100		3			13		310		166.5	
1/20/2023	3	60	10.6		193		0		17		99		2	3		12		310	310	166.3	166.3
1/20/2023	4	60	10.8		191		1		16		96		4			13		310		166.5	
1/20/2023	5	60	10.9		194		1		16		95		3			12		310		166.7	
1/20/2023	6	60	10.9		195		5		28		80		3			14		310		166.7	
1/20/2023	7	60	10.9		195		5		30		84		4	3		14	13	310	310	167.0	166.7
1/20/2023	8	60	10.8		196		3		36		92		4			14		310		165.5	
1/20/2023	9	60	11.1		197		3		41		93		3			14		310		166.3	
1/20/2023	10	60	11.2		192		2		42		95		1			14		310		165.9	
1/20/2023	11	60	10.9		200		0		24		98		5	3		14		310	310	165.6	165.8
1/20/2023	12	60	10.9		198		0		20		98		3			14		310		166.2	
1/20/2023	13	60	10.6		196		0		21		100		5			14		310		165.1	
1/20/2023	14	60	10.8		187		3		52		94		5			14		309		160.2	
1/20/2023	15	60	12.0		196		0		14		100		11	6		14	14	309	310	133.8	156.3
1/20/2023	16	60	11.6		198		0		15		97		10			14		311		134.1	
1/20/2023	17	60	10.7		199		0		21		99		4			14		310		166.1	
1/20/2023	18	60	11.0		197		0		32		99		3			14		310		166.9	
1/20/2023	19	60	10.9		198		1		22		96		4	5		14		310	310	166.6	158.4
1/20/2023	20	60	10.8		194		1		16		96		4			14		310		166.3	
1/20/2023	21	60	10.9		197		0		23		100		5			14		310		166.5	
1/20/2023	22	60	10.9		197		0		31		99		5			14		310		165.6	
1/20/2023	23	60	11.1		193		1		35		98		5	5		14	14	310	310	166.8	166.3

Average: Geometric Mean Average:	196	0	OR	98	see above	see above	see above	see above			
Limit:	≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean		≥ 75% Removal Efficiency	≤ 69 4-HR Block Average	ppmc	≥ 12 8-HR. Block Average	lb/hr	≤ 345 °F 4-HR Block Average	≤ 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 20-Jan-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	2	2	2	2	2	2	2	2	2	2	2
1	2	2	2	2	2	2	2	2	2	2	2
2	2	2	2	2	2	2	2	2	2	2	2
3	2	2	2	2	2	2	2	2	2	2	2
4	2	2	2	2	3	3	2	2	2	3	2
5	2	2	2	2	2	2	2	2	2	2	2
6	2	IC	6	IC	2	2	2	2	2	2	2
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	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	3	2	2	2	2	2	2	2	2
15	2	2	2	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	3	2	3	3	3	2	3	2
19	2	2	2	2	2	2	2	2	2	2	2
20	2	2	2	2	2	2	2	2	2	2	2
21	2	2	2	2	2	2	2	2	2	2	2
22	2	2	2	2	2	2	2	2	2	2	2
23	2	2	2	2	2	2	2	2	2	2	2

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 20-Jan-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	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	2
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	2	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

Status Flags

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