



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



Date 2/17/23

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
2/17/2023	0	0	20.9	IF	35	IF	9	IF	-110	IBF	0	IBF	0	IF		0		68		0.0		
2/17/2023	1	0	20.9	IF	34	IF	9	IF	-109	IBF	0	IBF	0	IF		0		67		0.0		
2/17/2023	2	0	20.6	IF	36	IF	10	IF	3	IBF	0	IBF	2	IF		0		68		3.1		
2/17/2023	3	0	17.0	ICF	351	ICF	16	ICF	4	IBF	0	IBCF	129	ICF	33	ICF	4	103	77	0.4	0.9	
2/17/2023	4	0	13.2	IBCF	209	IBCF	22	IBCF	2	IBF	0	IBCF	253	IBCF		13		125		9.2		
2/17/2023	5	0	15.5	IF	329	IF	7	IF	51	IBCF	86	IBCF	0	IF		14		151		34.2		
2/17/2023	6	0	15.0	IF	291	IF	7	IF	5	IBF	0	IBF	112	IF		16		177		41.9		
2/17/2023	7	0	13.3	IF	214	IF	4	IF	5	IBF	22	IBF	0	IF	91	IBCF	18	8	194	162	59.1	36.1
2/17/2023	8	60	9.8		156		19		108		82		749	IFE		18		283		131.3		
2/17/2023	9	60	10.1		187		7		73	IBM	90	IBM	16			14		311		166.3		
2/17/2023	10	60	10.0		197		10		68		85		3			13		310		165.5		
2/17/2023	11	60	10.0		198		12		88		87		4		8		13	309	303	165.4	157.2	
2/17/2023	12	60	9.6		197		7		73		91		4			13		310		164.4		
2/17/2023	13	60	9.3		191		10		85		88		5			13		310		167.2		
2/17/2023	14	60	9.5		194		3		38		93		4			13		309		165.5		
2/17/2023	15	60	9.3		189		0		41		99		3		4		13	14	308	309	166.2	165.8
2/17/2023	16	60	9.4		197		4		50		91		3			13		309		165.3		
2/17/2023	17	60	9.6		195		12		62		80		3			13		309		166.5		
2/17/2023	18	60	9.8		189		18		85		79		2			14		309		165.9		
2/17/2023	19	60	10.0		192		21		94		78		2		2		14	309	309	166.6	166.1	
2/17/2023	20	60	9.8		195		26		106		75		2			13		310		166.9		
2/17/2023	21	60	9.7		194		12		70		82		2			13		308		166.5		
2/17/2023	22	60	9.7		198		12		58		79		1			13		310		165.0		
2/17/2023	23	60	9.6		196		18		67		73		1		2		12	13	309	309	166.0	166.1

Average:
Geometric Mean Average:

Limit:

192	9
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

87
≥ 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 2/17/23

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.
2/17/2023	0	60	10.2		157		10		30		68		2			13		310		166.7	
2/17/2023	1	60	10.2		155		7		25		70		2			13		310		167.2	
2/17/2023	2	60	10.2		147		13		37		65		2			13		310		166.8	
2/17/2023	3	60	10.2		148		11		31		65		3	2		13		310	310	166.3	166.7
2/17/2023	4	60	10.3		147		19		47		58		4			13		310		166.1	
2/17/2023	5	60	10.4		178		21		56		62		2			13		309		166.1	
2/17/2023	6	60	10.5		181		19		50		61		2			13		310		166.4	
2/17/2023	7	60	10.7		159		17		37		53		3	3		13	13	310	310	166.4	166.3
2/17/2023	8	60	10.6		162		13		32		60		2			13		310		166.5	
2/17/2023	9	60	10.5		151		10		37	IBM	72	IBM	2			13		310		166.2	
2/17/2023	10	60	10.7		159		7		47		85		3			13		310		166.9	
2/17/2023	11	60	10.7		161		14		78		82		4	3		13		310	310	165.9	166.4
2/17/2023	12	60	10.4		157		13		72		82		3			14		310		166.0	
2/17/2023	13	60	9.9		171		9		70		88		3			15		310		167.5	
2/17/2023	14	60	10.1		164		25		100		74		2			13		309		166.5	
2/17/2023	15	60	10.2		164		2		38		96		2	2		13	13	310	310	166.9	166.7
2/17/2023	16	60	10.2		171		4		47		92		1			13		310		166.1	
2/17/2023	17	60	10.4		166		10		62		84		1			13		310		166.5	
2/17/2023	18	60	10.4		159		11		62		82		1			13		310		167.1	
2/17/2023	19	60	10.8		174		41		166		75		2	1		13		310	310	165.9	166.4
2/17/2023	20	60	10.6		167		30		112		74		2			13		311		166.5	
2/17/2023	21	60	10.7		167		9		61		86		1			14		309		166.7	
2/17/2023	22	60	10.7		170		16		64		76		1			13		310		166.4	
2/17/2023	23	60	10.7		179		15		64		77		1	1		12	13	310	310	166.6	166.6

Average: Geometric Mean Average:	163	12	OR	78	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 17-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	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	IF	1	IF	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	0	IF	0	IF	1	IF	1	IF	3
7	0	IF	0	IF	0	IF	0	IF	0	IF	1	IF	1	IF	1	IF	1	IF	1	IF	0
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	0		1		0		0		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	0		0		1		1		1		1		1		1		1		1		0
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



WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 17-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	1	0	0	0	1	1	0	0	0	1	0
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	0	1	1
5	0	0	0	0	1	1	0	0	0	1	0
6	2	IBC	5	IBC	0	0	0	0	0	0	1
7	0	0	0	0	1	1	1	1	1	1	1
8	1	1	1	1	1	1	1	0	0	1	1
9	0	0	0	0	0	0	0	0	0	0	0
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	0	1	1
13	0	1	1	1	1	1	1	0	0	1	1
14	0	0	0	0	0	0	0	0	0	0	0
15	0	0	1	1	1	1	1	1	1	1	1
16	1	1	1	1	1	1	1	0	0	1	1
17	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	1	1	1	1	1	1	1	1
19	1	1	1	1	1	1	1	0	1	1	1
20	1	0	1	0	0	1	1	1	1	1	1
21	1	1	1	1	1	1	1	1	1	1	1
22	0	0	0	0	0	0	0	0	0	0	0
23	0	0	1	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