



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



Date 7/20/22

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.
7/20/2022	0	60	9.9		198		17		48		64		6			13		312		165.3	
7/20/2022	1	60	10.1		198		18		55		67		7			13		311		165.0	
7/20/2022	2	60	10.0		196		17		56		70		7			13		308		166.4	
7/20/2022	3	60	10.2		191		11		53		79		6	7		13		305	309	165.3	165.5
7/20/2022	4	60	10.0		193		16		65		76		6			13		306		164.2	
7/20/2022	5	60	10.1		190		16		62		75		4			13		307		166.3	
7/20/2022	6	60	10.3		188		13		54		76		6			14		308		165.7	
7/20/2022	7	60	10.4		190		17		56		70		6	6		14	13	310	308	98.8	148.7
7/20/2022	8	60	10.1		189		19		62		69		6			14		313		165.2	
7/20/2022	9	60	10.3		191		22		67		67		8			14		313		162.5	
7/20/2022	10	60	10.1		183		23		78		70		7			14		319		167.2	
7/20/2022	11	60	10.5		191		18		74		76		7	7		13		313	314	162.8	164.4
7/20/2022	12	60	10.3		201		9		59		85		6			13		304		166.4	
7/20/2022	13	60	10.3		191		5		51		90		6			13		300		163.8	
7/20/2022	14	60	20.2	IBM	11	IBM	6	IBM	68		91	IBM	1	IBM		13		305		165.2	
7/20/2022	15	60	10.2		183		9		49		81		7	6		13	13	306	304	165.2	165.2
7/20/2022	16	60	10.4		190		13		58		78		12			13		308		160.9	
7/20/2022	17	60	10.3		189		12		77		85		7			14		302		165.3	
7/20/2022	18	60	10.2		195		7		57		87		6			13		298		165.8	
7/20/2022	19	60	10.3		196		16		59		73		5	7		13		303	303	163.7	163.9
7/20/2022	20	60	10.1		186		22		74		70		5			14		309		165.0	
7/20/2022	21	60	10.0		192		23		81		72		6			13		313		166.5	
7/20/2022	22	60	9.8		194		19		72		73		5			13		312		166.7	
7/20/2022	23	60	9.7		174		10		53		80		8	6		13	13	311	311	166.1	166.1

Average:
Geometric Mean Average:

Limit:

191	14
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

76
≥ 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 7/20/22

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.
7/20/2022	0	60	10.5		186		6		35		84		3			13		305		167.0	
7/20/2022	1	60	10.6		187		19		56		66		3			13		307		167.3	
7/20/2022	2	60	10.6		182		13		49		73		2			13		308		167.7	
7/20/2022	3	60	10.7		172		14		52		73		2	3		14		305	306	166.4	167.1
7/20/2022	4	60	10.6		169		8		40		81		5			13		300		164.1	
7/20/2022	5	60	10.5		170		9		43		78		5			13		304		164.8	
7/20/2022	6	60	10.6		174		12		57		78		5			13		307		163.7	
7/20/2022	7	60	11.0		188		14		36		61		4	5		13	13	303	304	127.2	154.9
7/20/2022	8	60	10.7		178		15		27		45		5			13		306		163.3	
7/20/2022	9	60	10.6		186		19		34		44		4			13		308		167.9	
7/20/2022	10	60	10.9		181		14		44		68		6			13		307		161.8	
7/20/2022	11	60	10.6		181		19		70		73		6	5		13		309	307	160.5	163.4
7/20/2022	12	60	10.1		178		9		31		71		4			13		319		166.6	
7/20/2022	13	60	10.3		162		9		33		74		3			13		317		166.3	
7/20/2022	14	60	10.4		164		11		50		77		4			13		306		166.2	
7/20/2022	15	60	10.4	IBM	168	IBM	7	IBM	45		85	IBM	4	IBM	4	14	13	307	312	170.4	167.4
7/20/2022	16	60	10.0		169		9		49		82		5			13		303		168.1	
7/20/2022	17	60	10.0		177		14		52		73		3			15		306		170.8	
7/20/2022	18	60	10.0		164		5		44		88		3			13		301		167.8	
7/20/2022	19	60	10.1		162		6		37		83		3	4		13		300	303	167.5	168.5
7/20/2022	20	60	10.0		170		11		44		76		3			13		307		167.0	
7/20/2022	21	60	10.0		166		14		48		71		2			14		309		165.8	
7/20/2022	22	60	10.0		162		10		50		79		2			13		308		163.1	
7/20/2022	23	60	9.5		168		9		45		81		2	2		13	13	311	309	167.6	165.9

Average: Geometric Mean Average:	174	11	OR	75	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

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WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 20-Jul-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	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	IC	5	IC	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

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-Jul-2022

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