



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



Date 7/27/22

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.
7/27/2022	0	60	9.4		189		41		169		76		3			13		309		165.8	
7/27/2022	1	60	9.1		189		15		72		78		3			13		309		165.1	
7/27/2022	2	60	9.0		188		7		47		86		3			13		309		164.2	
7/27/2022	3	60	8.9		182		15		69		78		3	3		13		309	309	168.1	165.8
7/27/2022	4	60	8.4		159		8		65		88		3			13		309		164.7	
7/27/2022	5	60	8.2		166		10		54		81		3			13		310		164.3	
7/27/2022	6	60	8.3		177		5		45		88		3			13		310		161.9	
7/27/2022	7	60	9.2		176		4		33		89		3	3		14	13	309	309	163.9	163.7
7/27/2022	8	60	9.5		171		2		30		93		2			13		309		163.3	
7/27/2022	9	60	9.5		188		4		37		88		5			13		309		165.2	
7/27/2022	10	60	9.3		186		7		44		84		4			13		309		165.7	
7/27/2022	11	60	9.1		191		11		67		83		6	4		13		310	309	166.8	165.2
7/27/2022	12	60	9.2		191		11		57		81		6			13		309		165.3	
7/27/2022	13	60	9.4		186		8		51		85		6			13		309		160.4	
7/27/2022	14	60	9.3		184		3		49		94		5			13		309		165.8	
7/27/2022	15	60	9.8		188		12		63		81		4	5		13	13	309	309	165.2	164.2
7/27/2022	16	60	9.6		198		14		57		75		4			13		310		165.2	
7/27/2022	17	60	9.5		194		12		52		78		5			13		309		164.1	
7/27/2022	18	60	9.6		195		21		89		76		4			13		309		165.6	
7/27/2022	19	60	9.3		194		19		89		79		4	4		13		310	309	166.6	165.4
7/27/2022	20	60	9.3		191		9		57		84		5			13		309		164.5	
7/27/2022	21	60	9.4		195		14		71		80		4			13		309		165.8	
7/27/2022	22	60	9.3		195		36		164		78		4			13		310		165.1	
7/27/2022	23	60	9.4		195		37		159		77		4	4		13	13	309	309	165.8	165.3

Average:
Geometric Mean Average:

Limit:

186	10
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

84
≥ 75% 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 COMPLIANCE SUMMARY REPORT



Date 7/27/22

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.
7/27/2022	0	60	9.8		178		50		154		68		4			14		322		165.0	
7/27/2022	1	60	9.7		176		22		59		63		3			13		324		165.8	
7/27/2022	2	60	9.7		167		15		36		57		3			14		323		167.1	
7/27/2022	3	60	10.2		171		9		25		63		4	3		13		319	322	157.8	163.9
7/27/2022	4	60	9.9		157		9		24		63		4			13		315		153.6	
7/27/2022	5	60	9.8		172		11		33		68		3			15		319		167.9	
7/27/2022	6	60	10.5		181		4		17		75		3			12		315		160.6	
7/27/2022	7	60	10.3		164		4		14		75		3	3		13	13	318	317	166.8	162.2
7/27/2022	8	60	10.6		165		2		16		85		5			13		315		164.8	
7/27/2022	9	60	10.5		170		9		21		57		7			13		312		165.6	
7/27/2022	10	60	10.0		172		4		17		74		8			13		316		166.0	
7/27/2022	11	60	9.9		167		4		29		87		4	6		14		314	314	167.6	166.0
7/27/2022	12	60	10.2		169		3		21		84		5			14		305		165.7	
7/27/2022	13	60	10.2		173		6		27		78		5			14		308		167.6	
7/27/2022	14	60	10.4		173		4		16		71		5			13		316		166.3	
7/27/2022	15	60	10.6		163		10		26		60		6	5		13	13	323	313	166.2	166.4
7/27/2022	16	60	10.2		166		6		15		61		5			13		325		167.2	
7/27/2022	17	60	10.3		174		10		18		47		7			13		327		166.4	
7/27/2022	18	60	10.5		171		9		17		46		6			13		327		166.5	
7/27/2022	19	60	10.2		172		12		22		47		5	6		13		328	327	167.2	166.8
7/27/2022	20	60	10.5		167		11		29		62		8			13		322		165.7	
7/27/2022	21	60	10.4		167		11		34		68		7			13		315		166.5	
7/27/2022	22	60	10.3		167		29		103		72		6			13		309		166.5	
7/27/2022	23	60	10.0		159		81		230		65		5	6		13	13	311	314	166.8	166.4

Average: Geometric Mean Average:	169	9	69	OR	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 4-HR Block Average	°F	≤ 173 4-HR Block Average	klb/hr

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WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 27-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 27-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	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	1	1	1	1	1	1	1	0
2	1	3	2	1	1	1	1	1	1	1	1
3	1	1	1	1	1	1	1	1	1	1	1
4	0	0	1	1	1	1	1	1	1	1	0
5	1	1	1	1	1	1	1	1	1	1	1
6	1	IBC	5	IBC	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	0	1	1	1	0	1	1	1	0	0
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