



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



Date 7/22/22

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.
7/22/2022	0	60	9.4		153		6		61		91		6			13		298		166.1	
7/22/2022	1	60	9.7		169		21		97		78		6			13		301		165.8	
7/22/2022	2	60	9.6		173		20		83		76		6			13		304		165.6	
7/22/2022	3	60	9.5		169		22		97		78		6	6		13		308	303	166.2	165.9
7/22/2022	4	60	9.7		158		20		82		76		6			13		304		163.7	
7/22/2022	5	60	9.5		158		21		78		73		6			13		308		164.7	
7/22/2022	6	60	9.3		163		15		58		74		6			13		315		165.7	
7/22/2022	7	60	9.7		156		6		72		91		5	6		13	13	305	308	164.7	164.7
7/22/2022	8	60	9.8		155		3		71		96		5			13		301		163.6	
7/22/2022	9	60	9.9		173		20		75		74		5			13		310		170.0	
7/22/2022	10	60	9.9		155		9		62		85		6			13		302		161.0	
7/22/2022	11	60	9.7		160		18		56		69		5	5		13		315	307	166.7	165.3
7/22/2022	12	60	9.8		162		12		65		81		7			13		314		165.3	
7/22/2022	13	60	9.6		166		14		63		77		7			13		314		165.9	
7/22/2022	14	60	9.6		163		11		46		77		6			13		314		164.8	
7/22/2022	15	60	9.7		170		15		51		70		7	7		13	13	310	313	165.5	165.4
7/22/2022	16	60	9.6		151		7		51		86		6			13		309		165.4	
7/22/2022	17	60	10.0		159		7		78		91		6			13		301		165.0	
7/22/2022	18	60	10.0		167		17		78		78		5			13		298		165.8	
7/22/2022	19	60	9.7		160		20		76		74		7	6		13		304	303	165.1	165.3
7/22/2022	20	60	9.6		155		21		73		71		6			13		313		166.3	
7/22/2022	21	60	9.7		152		14		69		80		6			14		308		164.8	
7/22/2022	22	60	9.7		154		22		107		79		6			14		306		164.4	
7/22/2022	23	60	9.5		153		21		96		78		6	6		13	13	306	308	166.0	165.4

Average:
Geometric Mean Average:

Limit:

161	14
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

81
≥ 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 7/22/22

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.
7/22/2022	0	60	11.1		172		8		31		74		4			13		314		161.1	
7/22/2022	1	60	11.2		168		11		43		74		2			13		314		161.7	
7/22/2022	2	60	11.1		182		57		170		66		4			13		314		160.7	
7/22/2022	3	60	10.6		165		27		122		78		3	3		14		313	314	162.1	161.4
7/22/2022	4	60	10.3		170		9		51		82		3			13		304		161.7	
7/22/2022	5	60	10.1		166		6		42		86		3			13		308		162.9	
7/22/2022	6	60	10.1		162		21		63		67		2			13		309		166.9	
7/22/2022	7	60	10.4		160		4		51		92		3	3		13	13	308	307	162.1	163.4
7/22/2022	8	60	10.4		165		5		48		89		4			13		309		163.4	
7/22/2022	9	60	10.2		173		6		44		85		4			13		311		165.4	
7/22/2022	10	60	10.2		159		11		36		70		5			13		313		163.6	
7/22/2022	11	60	9.8		159		11		53		78		3	4		13		313	311	169.2	165.4
7/22/2022	12	60	10.2		163		2		37		95		5			14		305		163.4	
7/22/2022	13	60	9.8		170		8		53		86		3			14		308		168.0	
7/22/2022	14	60	9.9		181		9		40		77		2			13		309		165.9	
7/22/2022	15	60	10.3		185		9		45		79		3	4		13	13	309	308	164.2	165.4
7/22/2022	16	60	9.9		188		6		38		84		3			13		312		164.9	
7/22/2022	17	60	10.1		190		6		42		85		2			13		312		166.8	
7/22/2022	18	60	10.0		183		10		54		82		3			14		313		167.0	
7/22/2022	19	60	10.2		182		7		50		85		3	3		13		313	313	164.2	165.7
7/22/2022	20	60	10.3		183		10		52		80		3			13		307		164.3	
7/22/2022	21	60	10.5		184		7		47		84		3			14		306		162.3	
7/22/2022	22	60	10.3		174		11		56		81		3			14		308		165.6	
7/22/2022	23	60	10.4		171		8		45		82		3	3		13	13	308	307	164.2	164.1

Average:
Geometric Mean Average:

Limit:

173	9
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

82
≥ 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

see above
≤ 173 4-HR Block Average klb/hr

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WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 22-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 22-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	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	2	2	2	2	2	2	2	2
3	2	2	2	2	2	2	2	1	1	2	2
4	1	1	1	1	1	1	1	1	2	1	1
5	1	1	1	1	1	2	2	2	2	2	1
6	1	IBC	6	IBC	2	2	2	2	2	2	2
7	2	2	2	2	2	2	2	2	2	2	2
8	2	2	2	2	1	1	2	2	2	1	1
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	2	2	2	2	1	1	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	1	1	1	2	1	2	2	1	1	1
19	2	2	1	2	2	2	2	2	2	2	2
20	2	2	2	2	1	2	2	2	2	2	2
21	2	2	2	2	2	1	1	1	1	1	1
22	2	1	1	1	2	2	2	1	1	2	1
23	2	2	2	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