



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



Date 2/18/22

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.
2/18/2022	0	60	9.9		186		8		23		64		7			12		309		168.4	
2/18/2022	1	60	10.0		192		15		35		57		6			12		309		166.6	
2/18/2022	2	60	10.1		198		11		30		64		5			14		309		167.3	
2/18/2022	3	60	10.0		199		7		33		77		6	6		12		309	309	165.3	166.9
2/18/2022	4	60	9.9		198		9		35		73		5			13		309		166.7	
2/18/2022	5	60	9.9		198		14		41		65		5			14		309		168.2	
2/18/2022	6	60	9.7		199		21		45		54		5			13		310		167.5	
2/18/2022	7	60	9.8		193		17		50		67		16	8		12	13	309	309	165.9	167.1
2/18/2022	8	60	10.2		194		26		24	IBM	0	IBM	7			15		309		166.7	
2/18/2022	9	60	10.3		192		17		52		67		7			13		309		165.6	
2/18/2022	10	60	10.4		199		17		59		71		6			15		309		165.6	
2/18/2022	11	60	10.2		196		24		107		77		6	6		15		309	309	163.8	165.4
2/18/2022	12	60	10.4		196		14		55		74		5			15		310		166.7	
2/18/2022	13	60	10.4		199		23		94		75		6			14		309		165.4	
2/18/2022	14	60	10.2		199		23		110		79		7			15		310		165.5	
2/18/2022	15	60	10.0		188		8		63		87		6	6		15	14	310	309	161.5	164.8
2/18/2022	16	60	9.8		196		4		46		92		5			14		309		167.8	
2/18/2022	17	60	10.2		191		11		57		80		5			13		309		165.6	
2/18/2022	18	60	10.1		197		6		43		85		5			13		310		167.5	
2/18/2022	19	60	10.1		196		13		62		78		6	5		13		309	309	166.2	166.8
2/18/2022	20	60	10.2		197		15		52		70		5			14		310		163.4	
2/18/2022	21	60	10.0		198		19		64		70		5			14		309		168.0	
2/18/2022	22	60	9.9		196		14		53		73		6			13		309		166.9	
2/18/2022	23	60	9.9		196		8		32		74		6	5		14	14	309	309	166.0	166.1

Average:
Geometric Mean Average:

Limit:

195	13
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

74
≥ 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 2/18/22

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.
2/18/2022	0	60	8.6		186		3		35		92		2			13		310		166.5	
2/18/2022	1	60	8.8		175		9		46		81		1			11		310		165.8	
2/18/2022	2	60	8.6		174		4		33		87		1			13		310		166.9	
2/18/2022	3	60	8.6		186		9		56		84		2	1		12		310	310	166.8	166.5
2/18/2022	4	60	8.6		182		5		33		86		1			13		310		166.8	
2/18/2022	5	60	8.6		175		5		37		87		1			13		310		166.6	
2/18/2022	6	60	8.6		192		5		37		86		2			13		310		166.7	
2/18/2022	7	60	8.5		192		7		37		83		2	1		12	13	310	310	166.4	166.6
2/18/2022	8	60	8.8		185		22		107	IBM	80	IBM	3			13		310		167.5	
2/18/2022	9	60	8.8		185		16		67		76		3			13		310		166.4	
2/18/2022	10	60	9.0		192		18		75		76		3			13		310		166.0	
2/18/2022	11	60	9.1		183		26		109		76		2	3		13		310	310	166.6	166.6
2/18/2022	12	60	9.1		176		17		81		79		4			14		310		166.1	
2/18/2022	13	60	9.1		190		21		102		79		3			14		310		167.2	
2/18/2022	14	60	9.2		192		9		61		85		3			14		310		166.3	
2/18/2022	15	60	9.1		190		5		54		90		3	3		13	13	310	310	166.3	166.5
2/18/2022	16	60	9.0		189		4		48		91		3			12		310		167.4	
2/18/2022	17	60	9.3		179		6		48		88		3			13		310		166.3	
2/18/2022	18	60	9.2		183		3		45		94		3			13		310		167.0	
2/18/2022	19	60	9.4		185		5		49		89		2	3		14		310	310	166.5	166.8
2/18/2022	20	60	9.2		180		9		49		82		2			14		310		167.2	
2/18/2022	21	60	9.3		185		14		58		75		2			13		310		167.2	
2/18/2022	22	60	9.4		186		13		53		76		2			13		310		166.1	
2/18/2022	23	60	9.3		182		5		34		86		2	2		14	13	309	310	166.6	166.8

Average: Geometric Mean Average:	184	8	OR	85	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

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WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 18-Feb-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	6	IC	1	2	2	2	2	1	2
7	2		2		2	1	2	2	2	2	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 18-Feb-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	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	2	2	2	2	2	2	2
5	2	2	2	2	2	2	2	2	2	2	2
6	2	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	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	2	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	2	2	2	2	2	2	2	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