



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



Date 3/14/23

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.
3/14/2023	0	60	10.4		195		13		56		76		3			13		308		167.7	
3/14/2023	1	60	9.3		172		14		85		84		82			13		311		170.5	
3/14/2023	2	60	10.0		197		13		83		84		2			13		300		164.5	
3/14/2023	3	60	10.2		193		10		71		86		2	22		13		310	307	165.0	166.9
3/14/2023	4	60	9.7		195		13		74		82		4			13		310		168.8	
3/14/2023	5	60	10.4		194		8		55		85		2			13		308		166.2	
3/14/2023	6	60	10.1		200		9		54		83		3			13		310		165.4	
3/14/2023	7	60	11.3		191		6		51		88		4	3		12	13	310	309	159.5	165.0
3/14/2023	8	60	10.4		197		1		53		97		4			13		309		164.3	
3/14/2023	9	60	10.3		195		4		55		93		3			13		309		163.7	
3/14/2023	10	60	9.8		197		0		45		100		4			13		310		166.0	
3/14/2023	11	60	9.7		198		0		42		100		5	4		13		309	309	166.4	165.1
3/14/2023	12	60	10.0		200		2		41		94		5			13		309		162.6	
3/14/2023	13	60	9.7		176		1		36		98		8			13		310		158.5	
3/14/2023	14	60	9.6		197		1		40		98		6			13		310		163.7	
3/14/2023	15	60	9.4		165		1		49		98		13	8		13	13	309	310	160.1	161.3
3/14/2023	16	60	9.9		198		5		65		93		5			13		309		169.7	
3/14/2023	17	60	9.3		184		1		55		98		7			13		309		166.8	
3/14/2023	18	60	9.6		188		1		57		98		5			13		309		169.8	
3/14/2023	19	60	10.2		186		0		53		100		4	5		13		309	309	161.2	166.9
3/14/2023	20	60	10.0		198		0		50		100		4			13		310		165.0	
3/14/2023	21	60	10.5		194		0		57		99		5			13		308		162.4	
3/14/2023	22	60	9.9		189		0		53		100		4			13		311		165.4	
3/14/2023	23	60	10.3		198		1		54		98		4	4		13	13	309	310	163.5	164.1

Average:
Geometric Mean Average:

Limit:

192	2
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

97
≥ 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 3/14/23

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.
3/14/2023	0	60	10.8		199		5		43		89		2			16		310		167.5	
3/14/2023	1	60	11.2		197		7		49		87		2			12		311		167.9	
3/14/2023	2	60	11.3		197		6		49		88		3			11		310		164.6	
3/14/2023	3	60	11.4		195		7		58		87		2	2		17		310	310	164.9	166.3
3/14/2023	4	60	11.5		199		7		52		86		4			17		310		164.7	
3/14/2023	5	60	11.3		197		2		34		93		2			17		310		164.3	
3/14/2023	6	60	11.4		197		4		40		89		3			16		310		165.6	
3/14/2023	7	60	11.5		198		5		54		91		4	3		18	16	310	310	164.4	164.7
3/14/2023	8	60	11.5		197		13		70		82		5			17		310		165.0	
3/14/2023	9	60	11.4		196		2		51		96		4			15		310		164.2	
3/14/2023	10	60	11.2		200		1		50		98		3			15		310		166.0	
3/14/2023	11	60	11.2		198		0		41		100		4	4		17		310	310	163.2	164.6
3/14/2023	12	60	10.9		196		1		47		98		5			16		310		165.9	
3/14/2023	13	60	10.9		197		0		40		100		4			12		310		164.0	
3/14/2023	14	60	10.7		199		0		38		100		3			14		310		165.0	
3/14/2023	15	60	10.8		195		0		40		100		4	4		13	15	310	310	164.5	164.8
3/14/2023	16	60	10.8		197		0		43		100		3			14		310		165.8	
3/14/2023	17	60	11.0		198		0		49		100		3			13		310		165.4	
3/14/2023	18	60	11.1		198		0		40		100		4			13		310		163.6	
3/14/2023	19	60	10.8		196		0		44		100		3	3		13		310	310	165.8	165.1
3/14/2023	20	60	10.9		198		0		41		100		3			13		310		166.2	
3/14/2023	21	60	11.0		197		0		38		100		2			13		310		163.8	
3/14/2023	22	60	11.0		194		0		41		100		1			13		310		165.4	
3/14/2023	23	60	11.1		199		0		46		100		2	2		13	13	310	310	165.4	165.2

Average: Geometric Mean Average:	197	1	OR	99	see above	see above	see above	see above
Limit:	≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean		≥ 75% Removal Efficiency	≤ 69 ppmc 4-HR Block Average	≥ 12 lb/hr 8-HR. Block Average	≤ 345 °F 4-HR Block Average	≤ 173 klb/hr 4-HR Block Average

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WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 14-Mar-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	2	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	2	2	2	1	1
2	2	2	2	2	2	2	2	2	1	2	2
3	1	2	1	1	2	1	1	1	1	1	1
4	2	2	2	2	1	2	1	1	2	2	2
5	2	2	2	2	2	2	2	2	2	2	2
6	2	IC	6	IC	2	1	1	2	2	1	2
7	2		1		1	1	1	1	1	1	1
8	1	2	1	2	2	2	1	1	1	2	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	2	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	2	2	2	2	2	2	1	2	2	2
20	1	1	1	1	1	2	2	1	1	2	1
21	1	1	1	2	2	1	1	1	1	1	1
22	1	1	1	1	1	1	1	1	1	1	1
23	1	1	1	1	2	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 14-Mar-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	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	IBC	6	IBC	1	1	1	1	1	1	2
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	2	1	3	2	1	1	1
19	2	1	1	1	1	1	2	1	1	1	1
20	1	1	2	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