



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



Date 3/19/23

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.
3/19/2023	0	60	9.5		175		0		32		99		6			14		313		165.9	
3/19/2023	1	60	9.4		171		0		28		100		6			13		313		165.0	
3/19/2023	2	60	9.2		169		3		29		91		6			13		315		165.7	
3/19/2023	3	60	9.5		178		11		31		65		6	6		13		313	313	165.8	165.6
3/19/2023	4	60	9.3		170		11		27		58		5			13		312		166.1	
3/19/2023	5	60	9.5		166		17		24		28		5			13		313		166.3	
3/19/2023	6	60	9.8		167		23		28		18		5			13		314		165.5	
3/19/2023	7	60	10.0		164		22		29		22		5	5		13	13	312	313	165.1	165.7
3/19/2023	8	60	9.8		165		50		53		7		5			13		312		165.6	
3/19/2023	9	60	9.9		163		34		43		22		5			13		304		166.9	
3/19/2023	10	60	10.0		168		27		47		43		5			13		300		166.0	
3/19/2023	11	60	9.8		169		27		63		57		6	5		13		300	304	166.2	166.2
3/19/2023	12	60	9.5		153		6		36		82		5			13		302		167.6	
3/19/2023	13	60	9.9		155		4		29		87		5			13		300		165.6	
3/19/2023	14	60	9.7		155		2		26		92		6			13		300		166.4	
3/19/2023	15	60	9.7		154		8		30		74		6	6		13	13	302	301	165.6	166.3
3/19/2023	16	60	9.6		149		12		29		61		6			13		304		166.2	
3/19/2023	17	60	9.6		150		6		22		71		6			13		304		166.4	
3/19/2023	18	60	9.8		157		10		21		50		6			13		308		166.4	
3/19/2023	19	60	9.8		159		12		18		34		5	6		13		309	306	165.1	166.0
3/19/2023	20	60	9.7		152		9		20		52		5			13		310		165.5	
3/19/2023	21	60	9.8		159		8		19		59		6			14		312		165.6	
3/19/2023	22	24	13.9	IF	227	IF	6	IF	15	IBF	60	IBF	245	IF		13		309		119.7	
3/19/2023	23	0	20.8	IF	59	IF	7	IF	957	IBF	99	IBF	33	IF	5	4	13	280	311	18.3	165.5

Average: Geometric Mean Average:	162	7	OR	76	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

- 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 3/19/23

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.
3/19/2023	0	60	10.9		197		2		32		94		3			14		310		167.3	
3/19/2023	1	60	10.8		198		1		32		95		3			14		310		164.8	
3/19/2023	2	60	10.8		197		3		40		92		3			13		310		166.8	
3/19/2023	3	60	11.0		197		5		41		88		2	3		14		310	310	166.8	166.4
3/19/2023	4	60	11.0		194		3		32		91		2			13		310		166.8	
3/19/2023	5	60	10.9		198		2		27		93		2			13		310		165.7	
3/19/2023	6	60	11.0		197		4		31		88		2			14		310		166.2	
3/19/2023	7	60	11.2		198		6		39		85		2	2		13	14	310	310	165.9	166.2
3/19/2023	8	60	11.2		198		17		74		77		2			13		310		167.2	
3/19/2023	9	60	11.3		197		12		56		78		2			13		310		165.5	
3/19/2023	10	60	11.2		198		5		37		87		2			13		310		166.6	
3/19/2023	11	60	11.1		197		8		58		86		2	2		13		310	310	165.4	166.1
3/19/2023	12	60	11.2		199		5		44		88		2			13		310		166.8	
3/19/2023	13	60	11.3		197		5		42		89		2			13		310		166.6	
3/19/2023	14	60	11.2		197		5		44		89		2			13		310		166.1	
3/19/2023	15	60	11.1		199		5		40		89		2	2		13	13	310	310	166.4	166.5
3/19/2023	16	60	11.1		196		3		34		91		2			13		310		166.8	
3/19/2023	17	60	11.2		199		2		27		93		3			14		310		166.9	
3/19/2023	18	60	11.3		194		2		22		92		2			13		310		165.9	
3/19/2023	19	60	11.3		198		2		28		92		2	2		14		310	310	168.0	166.9
3/19/2023	20	60	11.5		198		4		32		86		1			13		310		165.9	
3/19/2023	21	60	11.3		197		5		33		86		2			13		310		167.3	
3/19/2023	22	60	11.5		252		3		30		88		1			13		310		166.5	
3/19/2023	23	60	11.6		300		4		38		90		1	1		14	13	310	310	165.5	166.3

Average:
Geometric Mean Average:

Limit:

204	4
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

89
≥ 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

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WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 19-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	IF	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
3	2		2	1	1	2	2	2	1	2	2
4	1	1	1	2	2	2	2	2	2	2	1
5	2	2	2	2	2	2	2	2	2	2	2
6	2	6	2	2	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	1	1	2	2	1	2	2	2
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 19-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	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0
3	1	0	1	0	0	0	0	0	1	0	0
4	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0
6	2	IBC	5	IBC	0	0	0	0	0	0	1
7	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	1	0	0	0	1	0
9	0	0	1	0	1	1	0	1	0	1	0
10	1	0	0	0	0	0	1	0	0	0	0
11	0	0	0	1	1	1	1	1	1	1	0
12	1	0	1	1	1	1	0	0	0	1	1
13	0	0	0	0	0	0	0	1	0	0	0
14	1	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	1	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	1	0	0	0	0
23	0	0	0	0	1	0	0	0	1	0	0

Status Flags

I - Invalid C - Calibration F - Offline T - Out of Control ^ - Startup
 B - Bad M - Maintenance P - Purge E - Excluded * - Shutdown