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

Wheelabrator Technologies

WIN Waste Innovations — Performance for the Planet

Date 1/22/23

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.	4 Hr Block
1/22/2023	0	60	10.2		182		4		53		93		2				14		310		166.2	
1/22/2023	1	60	10.3		186		16		87		82		4				14		309		172.7	
1/22/2023	2	60	10.7		195		20		110		81		3				14		309		166.1	
1/22/2023	3	60	10.7		197		18		96		81		3		3		15		309	309	166.1	167.8
1/22/2023	4	60	10.2		193		19		99		81		3				14		310		168.2	
1/22/2023	5	60	10.4		196		4		60		94		2				15		309		166.8	
1/22/2023	6	60	10.3		198		0		42		100		4				14		310		164.6	
1/22/2023	7	60	10.3		192		1		48		98		4		3		13	14	309	309	168.5	167.0
1/22/2023	8	60	10.4		195		5		48		89		4				14		309		166.0	
1/22/2023	9	60	10.7		197		11		53		79		4				14		310		165.4	
1/22/2023	10	60	10.5		189		12		50		76		3				13		309		167.4	
1/22/2023	11	60	10.2		182		7		38		83		4		4		10		309	309	168.4	166.8
1/22/2023	12	60	10.6		190		4		28		86		4				18		310		163.9	
1/22/2023	13	60	10.0		180		10		43		78		5				17		309		169.1	
1/22/2023	14	60	10.7		196		8		28		72		5				16		311		165.2	
1/22/2023	15	60	10.7		194		9		27		68		5		5		15	15	309	310	164.6	165.7
1/22/2023	16	60	10.7		198		11		33		66		5				14		309		168.0	
1/22/2023	17	60	10.9		195		13		38		66		5				14		309		165.1	
1/22/2023	18	60	10.8		199		8		30		75		5				14		309		166.4	
1/22/2023	19	60	10.7		200		8		31		75		5		5		13		310	309	166.4	166.5
1/22/2023	20	60	11.0		199		7		40		83		4				13		309		165.3	
1/22/2023	21	60	11.0		199		9		46		80		3				14		309		166.2	
1/22/2023	22	60	10.9		198		4		37		89		4				13		310		165.4	
1/22/2023	23	60	11.1		199		8		43		81		4		4		14	14	309	309	163.3	165.0
Average:					194										see above		see above		see above		see above	
Geometric Mean Average:							7				86											
Limit:					≤ 205 24-HR Block Avg.		≤ 29 24-HR Geometric Mean		OR		≥ 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	

Status Flags

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

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Date 1/22/23

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.	4 Hr Block
1/22/2023	0	60	11.2		194		0		25		100		3				14		310		165.8	
1/22/2023	1	60	11.3		195		0		32		100		3				14		310		165.5	
1/22/2023	2	60	11.3		193		4		69		94		3				14		310		166.6	
1/22/2023	3	60	11.1		197		1		43		99		3		3		15		310	310	166.1	166.0
1/22/2023	4	60	11.4		198		0		33		99		4				14		310		162.1	
1/22/2023	5	60	11.2		187		0		31		99		4				15		310		161.9	
1/22/2023	6	60	11.6		186		2		21		88		67				15		310		145.5	
1/22/2023	7	60	10.8		188		0		24		100		4		20		14	14	310	310	162.4	158.0
1/22/2023	8	60	10.8		193		0		25		100		3				15		310		167.0	
1/22/2023	9	60	10.7		192		0		17		99		3				15		310		166.7	
1/22/2023	10	60	10.9		195		0		24		100		2				14		310		166.3	
1/22/2023	11	60	10.9		197		0		16		100		3		3		14		310	310	163.7	165.9
1/22/2023	12	60	10.8		192		0		15		100		3				14		310		166.5	
1/22/2023	13	60	10.9		195		0		15		100		3				13		310		167.1	
1/22/2023	14	60	10.9		195		0		15		100		4				13		310		165.5	
1/22/2023	15	60	10.9		197		0		18		100		4		3		14	14	310	310	166.5	166.4
1/22/2023	16	60	10.8		197		0		12		100		4				14		310		166.5	
1/22/2023	17	60	11.0		199		0		13		99		4				13		310		165.2	
1/22/2023	18	60	10.6		189		0		17		100		3				13		310		166.5	
1/22/2023	19	60	11.0		196		0		16		100		4		4		13		310	310	166.5	166.2
1/22/2023	20	60	11.1		196		0		14		99		4				13		310		166.5	
1/22/2023	21	60	11.1		192		0		21		100		4				13		310		166.6	
1/22/2023	22	60	11.1		194		0		25		100		3				13		310		166.8	
1/22/2023	23	60	10.6		197		0		20		99		2		3		14	13	310	310	166.3	166.6
Average:					**194**										see above		see above	see above	see above	see above	see above	see above
Geometric Mean Average:							**0**															
Limit:					**≤ 205** 24-HR Block Avg.		**≤ 29** 24-HR Geometric Mean		**OR**		**≥ 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 22-Jan-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	3		3		3	3	3	3	3	3	3	3	3
1	3		2		3	2	2	3	3	3	2	3	2
2	2		3		3	3	3	2	2	3	2	2	2
3	2		2		2	3	3	3	3	3	3	3	3
4	3		3		3	3	3	3	2	2	2	3	3
5	2		2		2	2	2	2	2	3	3	2	2
6	2	IC	7	IC	3	3	3	3	3	3	3	3	3
7	3		3		3	3	3	3	3	3	3	3	3
8	3		3		2	2	3	3	2	3	3	3	3
9	2		2		2	3	3	3	3	3	3	3	3
10	3		3		3	3	3	3	3	3	4	3	3
11	4		4		4	3	3	3	3	3	3	3	3
12	3		3		3	3	3	3	2	3	3	3	3
13	3		3		3	3	3	3	3	3	3	3	3
14	4		3		3	3	3	3	3	3	3	3	3
15	3		3		3	3	3	3	3	3	3	3	3
16	3		3		3	3	3	3	3	3	3	3	3
17	3		3		3	3	3	3	3	3	3	3	3
18	3		2		2	3	3	2	3	2	2	2	2
19	2		2		2	2	2	2	2	2	2	2	2
20	3		3		3	3	3	3	3	3	3	3	3
21	3		3		3	2	3	3	3	3	3	3	3
22	2		3		3	3	3	3	3	3	3	3	3
23	3		3		3	3	3	3	3	3	3	3	3

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OPACITY REPORT

Date 22-Jan-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	2	1	1	2	2	2	1	1
1	1	1	1	2	1	1	1	1	1	1	1
2	2	1	1	1	1	1	1	1	1	1	1
3	1	1	1	1	1	1	1	1	2	1	1
4	1	1	2	2	2	2	2	2	2	2	2
5	2	1	1	2	2	2	2	2	2	2	1
6	2 IBC	6 IBC	2	2	2	2	2	2	2	2	2
7	2	2	2	2	2	2	2	2	2	2	2
8	1	2	2	2	2	2	2	2	2	2	2
9	2	2	2	1	1	2	2	2	1	2	1
10	2	2	1	1	1	2	2	1	2	2	1
11	2	1	2	2	2	2	2	1	1	2	2
12	2	2	2	2	2	2	2	2	2	2	2
13	1	2	2	2	2	2	2	2	2	2	2
14	2	2	1	1	2	2	2	2	2	2	1
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	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

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