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

Wheelabrator Technologies

WIN Waste Innovations — Performance for the Planet

Date 9/18/23

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
9/18/2023	0	60	9.9		143		8		64		88		0				12		308		168.1	
9/18/2023	1	60	10.0		142		12		74		83		0				15		309		168.6	
9/18/2023	2	60	9.6		138		10		70		86		0				13		309		167.7	
9/18/2023	3	60	10.0		140		2		47		97		0		0		15		309	309	164.1	167.1
9/18/2023	4	60	10.0		141		2		43		96		0				14		310		166.7	
9/18/2023	5	60	10.1		143		2		38		96		0				14		310		166.5	
9/18/2023	6	60	9.7		142		2		40		95		0				14		309		169.7	
9/18/2023	7	60	10.1		138		6		47		86		0		0		12	14	309	309	161.6	166.1
9/18/2023	8	60	9.7		142		13		60		78		0				10		310		168.8	
9/18/2023	9	60	10.3		139		23		90		74		0				14		309		160.3	
9/18/2023	10	60	9.9		143		20		72		72		0				14		311		165.2	
9/18/2023	11	60	9.9		142		13		54		76		0		0		15		310	310	167.0	165.3
9/18/2023	12	60	10.4		140		6		32		82		0				14		308		168.4	
9/18/2023	13	60	10.1		140		1		23		97		0				15		310		166.1	
9/18/2023	14	60	10.0		145		0		19		99		0				14		310		167.9	
9/18/2023	15	60	10.2		137		1		24		97		0		0		14	14	309	309	166.5	167.2
9/18/2023	16	60	9.9		142		12		58		79		0				14		309		167.6	
9/18/2023	17	60	10.1		140		16		55		72		0				14		310		167.3	
9/18/2023	18	60	9.9		140		1		29		97		0				7		309		166.8	
9/18/2023	19	60	10.0		142		2		36		93		0		0		14		309	309	167.5	167.3
9/18/2023	20	60	10.0		139		2		33		95		0				15		310		166.4	
9/18/2023	21	60	9.9		143		4		41		89		0				14		309		167.9	
9/18/2023	22	60	9.8		143		8		40		79		2				11		310		169.3	
9/18/2023	23	60	10.1		137		9		41		78		0		1		12	13	309	309	162.0	166.4

Average:	**141**				**91**	see above	see above	see above	see above	
Geometric Mean Average:		**4**								
Limit:	**≤ 150** **24-HR Block Avg.**	**≤ 29** **24-HR Geometric Mean**	**OR**		**≥ 80%** **Removal Efficiency**	**≤ 69** **4-HR Block Average**	**ppmc**	**≥ 12** **8-HR. Block Average**	**lb/hr**	**≤ 345** **4-HR Block Average**	**°F**	**≤ 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

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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
9/18/2023	0	60	9.3		134		0		37		100		18				15		310		167.1	
9/18/2023	1	60	9.2		135		0		35		100		9				15		310		160.1	
9/18/2023	2	60	8.8		130		0		33		100		10				15		311		165.6	
9/18/2023	3	60	8.9		136		0		30		100		7		11		15		310	310	166.4	164.8
9/18/2023	4	60	9.0		135		2		57		97		8				15		310		167.8	
9/18/2023	5	60	8.9		139		0		29		100		8				15		310		167.4	
9/18/2023	6	60	8.8		133		0		30		100		18				15		310		165.2	
9/18/2023	7	60	8.7		131		0		29		100		9		11		16	15	310	310	166.3	166.7
9/18/2023	8	60	8.6		133		0		20		98		111				15		311		161.6	
9/18/2023	9	60	9.0		136		0		30		100		11				14		306		154.9	
9/18/2023	10	60	9.3		140		0		29		100		10				14		306		155.5	
9/18/2023	11	60	9.2		138		0		16		100		9		35		14		315	310	159.0	157.8
9/18/2023	12	60	9.5		141		0		14		100		9				15		309		158.6	
9/18/2023	13	60	9.2		138		0		17		100		9				15		310		159.3	
9/18/2023	14	60	9.2		140		0		15		100		9				14		310		161.1	
9/18/2023	15	60	9.2		140		0		16		100		9		9		15	14	310	310	159.8	159.7
9/18/2023	16	60	9.2		139		0		29		100		9				14		310		160.4	
9/18/2023	17	60	9.2		139		0		14		100		10				15		311		159.3	
9/18/2023	18	60	9.2		141		0		23		100		10				14		310		163.3	
9/18/2023	19	60	9.2		139		0		21		100		10		10		14		310	310	162.2	161.3
9/18/2023	20	60	9.1		140		0		21		100		9				15		310		162.7	
9/18/2023	21	60	9.3		142		2		51		97		10				15		310		162.1	
9/18/2023	22	19	13.6	IF	144	IF	0	IF	21	IBF	100	IBF	201	IF			14		309		115.3	
9/18/2023	23	0	20.2	IF	15	IF	0	IF	-281	IBF	0	IBF	37	IF	9		10	15	279	310	19.8	162.4

Average:	137			see above	see above	see above	see above	
Geometric Mean Average:		0						
Limit:	≤ 150 24-HR Block Avg.	≤ 29 24-HR Geometric Mean	**OR**	100 ≥ 80% 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 18-Sep-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	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	3	IC	5	IC	1	1	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

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OPACITY REPORT

Date 18-Sep-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	0		0		0		0		0		0		0		0		0		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	4	IBC	0		0		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		0		0		0		0		0		0
9	0		0		0		0		0		0		0		0		0		0		0
10	0		0		0		0		0		0		0		0		0		0		0
11	0		0		0		0		0		0		0		0		0		0		0
12	0		0		0		0		0		0		0		0		0		0		0
13	0		0		0		0		0		0		0		0		0		0		0
14	0		0		0		0		0		0		0		0		0		0		0
15	0		0		0		0		0		0		0		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		1		0		0
22	0		0		0		0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
23	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0

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