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

Wheelabrator Technologies

WIN Waste Innovations — Performance for the Planet

Date 5/18/23

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
5/18/2023	0	60	9.7		137		10		89		89		3				13		310		166.1	
5/18/2023	1	60	9.7		140		15		90		83		3				13		309		167.6	
5/18/2023	2	60	9.7		140		8		74		89		3				13		309		166.0	
5/18/2023	3	60	9.8		141		12		77		85		3		3		13		310	310	167.3	166.8
5/18/2023	4	60	9.8		140		18		82		79		4				13		309		168.5	
5/18/2023	5	60	10.0		139		17		91		81		4				14		309		166.0	
5/18/2023	6	60	10.0		140		18		72		75		5				13		309		165.5	
5/18/2023	7	60	9.9		139		12		54		78		4		4		13	13	309	309	166.4	166.6
5/18/2023	8	60	9.9		137		8		47		82		4				13		309		168.6	
5/18/2023	9	60	10.1		140		2		47		96		7				13		309		164.6	
5/18/2023	10	60	10.2		139		5		62		93		6				13		309		166.0	
5/18/2023	11	60	10.0		139		0		46		100		5		6		13		310	309	165.1	166.1
5/18/2023	12	60	10.2		138		5		58		92		5				13		309		164.9	
5/18/2023	13	60	9.9		136		3		64		96		5				13		310		165.8	
5/18/2023	14	60	10.0		139		1		30		98		5				13		309		165.5	
5/18/2023	15	60	10.1		138		0		40		100		5		5		13	13	309	309	165.8	165.5
5/18/2023	16	60	9.9		136		0		39		100		5				13		309		164.7	
5/18/2023	17	60	10.0		145		0		36		99		4				13		309		167.0	
5/18/2023	18	60	10.2		136		0		29		99		5				13		310		166.3	
5/18/2023	19	60	10.3		143		0		34		100		5		5		14		309	309	166.6	166.2
5/18/2023	20	60	10.1		139		2		39		95		5				13		309		166.4	
5/18/2023	21	60	10.0		139		1		41		97		5				13		310		166.2	
5/18/2023	22	60	9.9		137		3		53		94		4				13		309		166.4	
5/18/2023	23	60	10.1		141		2		42		95		5		5		13	13	309	309	164.5	165.8
Average:					139										see above			see above		see above		see above
Geometric Mean Average:							2															
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 5/18/23

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
5/18/2023	0	60	11.1		139		12		42		70		1				11		310		166.2	
5/18/2023	1	60	11.0		140		12		39		69		1				12		310		167.2	
5/18/2023	2	60	11.0		138		13		37		65		1				14		310		166.3	
5/18/2023	3	60	10.9		141		13		34		62		1		1		13		310	310	167.1	166.7
5/18/2023	4	60	11.0		145		18		43		59		2				13		310		165.6	
5/18/2023	5	60	11.2		137		17		34		51		2				14		310		165.8	
5/18/2023	6	60	11.1		140		20		24		14		3				15		310		167.0	
5/18/2023	7	60	11.1		139		7		18		59		1		2		12	13	310	310	166.3	166.2
5/18/2023	8	60	11.2		142		10		18		46		0				13		310		167.4	
5/18/2023	9	60	11.3		138		16		19		16		1				13		311		167.7	
5/18/2023	10	60	10.8		139		4		23		85		3				14		310		164.8	
5/18/2023	11	60	10.4		143		0		16		98		1		1		14		310	310	167.7	166.9
5/18/2023	12	60	10.7		137		6		36		84		2				14		310		166.9	
5/18/2023	13	60	10.5		141		9		42		79		2				14		310		165.8	
5/18/2023	14	60	10.7		139		2		12		87		2				13		310		167.0	
5/18/2023	15	60	10.7		141		2		15		90		3		2		15	14	310	310	166.6	166.6
5/18/2023	16	60	10.7		131		1		10		95		1				15		310		168.2	
5/18/2023	17	60	11.0		125		0		4		99		0				14		310		168.0	
5/18/2023	18	60	10.8		142		0		8		99		0				14		310		166.8	
5/18/2023	19	60	11.0		140		1		14		95		2		1		15		310	310	165.6	167.1
5/18/2023	20	60	10.9		140		2		19		89		2				15		310		166.9	
5/18/2023	21	60	10.9		140		4		28		87		1				15		310		166.7	
5/18/2023	22	60	10.9		139		2		26		93		1				15		310		167.0	
5/18/2023	23	60	10.8		141		1		20		95		2		1		16	15	310	310	166.6	166.8
Average:					139										see above				see above	see above	see above	
Geometric Mean Average:							3				85											
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 18-May-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	2	IC	5	IC	1	1	2	2	1	1	1	2	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	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-May-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	3	IBC	5	IBC	1	1	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	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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