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

Wheelabrator Technologies

WIN Waste Innovations — Performance for the Planet

Date 12/12/22

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
12/12/2022	0	60	11.5		197		20		53		61		5				14		309		165.6	
12/12/2022	1	60	11.4		199		22		59		63		5				14		310		166.5	
12/12/2022	2	60	11.5		198		22		59		64		5				13		309		165.5	
12/12/2022	3	60	11.6		201		22		52		59		5		5		14		309	309	165.5	165.8
12/12/2022	4	60	11.5		202		26		67		62		5				14		310		166.7	
12/12/2022	5	60	11.7		200		24		67		65		5				14		309		165.8	
12/12/2022	6	60	11.5		194		18		39		53		8				15		309		162.5	
12/12/2022	7	60	11.4		194		16		38		58		6		6		13	14	309	309	166.3	165.3
12/12/2022	8	60	11.8		202		21		48		57		6				14		309		165.9	
12/12/2022	9	60	11.9		200		13		30		58		6				14		310		162.9	
12/12/2022	10	60	11.7		199		14		25		44		7				14		309		167.7	
12/12/2022	11	60	11.6		198		16		32		51		6		6		14		310	309	167.2	165.9
12/12/2022	12	60	11.8		199		21		35		42		7				14		309		164.4	
12/12/2022	13	60	11.4		198		15		26		44		7				14		309		167.3	
12/12/2022	14	60	11.6		200		14		22		35		5				14		309		165.5	
12/12/2022	15	60	11.6		200		18		26		32		8		7		14	14	309	309	163.7	165.2
12/12/2022	16	60	11.9		200		17		25		32		4				14		309		167.7	
12/12/2022	17	60	11.5		200		21		45		55		8				14		310		165.1	
12/12/2022	18	60	11.5		199		15		32		51		8				14		309		165.7	
12/12/2022	19	60	11.6		199		17		30		42		6		7		14		309	309	166.3	166.2
12/12/2022	20	60	11.6		198		21		35		40		7				14		309		164.8	
12/12/2022	21	60	11.6		199		17		28		40		6				14		309		165.0	
12/12/2022	22	60	11.6		198		12		24		51		5				13		309		166.3	
12/12/2022	23	60	11.7		198		12		23		48		5		6		14	14	309	309	164.8	165.2
Average:					**199**										see above		see above		see above		see above	
Geometric Mean Average:							**18**				**51**											
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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COMPLIANCE SUMMARY REPORT

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Date 12/12/22

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
12/12/2022	0	60	10.5		173		17		36		51		1				13		311		165.7	
12/12/2022	1	60	10.5		164		12		22		45		1				14		311		164.8	
12/12/2022	2	60	10.5		185		20		33		38		0				13		311		166.8	
12/12/2022	3	60	10.4		184		17		27		36		1		1		14		311	311	167.1	166.1
12/12/2022	4	60	10.6		186		18		34		46		3				14		311		166.0	
12/12/2022	5	60	10.5		191		14		27		48		2				14		311		166.0	
12/12/2022	6	60	10.4		185		11		16		32		4				14		311		165.8	
12/12/2022	7	60	10.4		180		8		11		29		2		3		14	14	311	311	166.8	166.2
12/12/2022	8	60	10.6		171		5		9		40		3				14		311		167.3	
12/12/2022	9	60	10.7		166		4		5		14		4				14		311		165.9	
12/12/2022	10	60	10.7		152		5		10		51		3				14		311		167.2	
12/12/2022	11	60	10.4		159		4		3		0		3		3		14		311	311	166.6	166.7
12/12/2022	12	60	10.2		175		3		2		0		3				14		311		166.0	
12/12/2022	13	60	10.1		183		3		1		0		3				14		311		167.2	
12/12/2022	14	60	10.4		168		3		3		0		2				14		310		166.1	
12/12/2022	15	60	10.4		184		5		6		25		3		3		14	14	311	311	167.2	166.6
12/12/2022	16	60	10.6		184		10		12		17		3				14		311		166.3	
12/12/2022	17	60	10.4		192		10		17		40		3				14		311		166.7	
12/12/2022	18	60	10.4		188		6		14		57		3				14		311		165.8	
12/12/2022	19	60	10.5		191		8		15		49		3		3		14		311	311	166.4	166.3
12/12/2022	20	60	10.7		184		7		13		44		3				14		311		166.7	
12/12/2022	21	60	10.7		181		5		16		68		4				14		311		166.7	
12/12/2022	22	60	10.7		193		5		19		75		3				14		311		166.2	
12/12/2022	23	38	15.9		232		10		21		54		653		166		13	14	309	310	105.2	151.2
12/13/2022	0	0	20.6	IF	9.43325233	IF	5.88359261	IF	23.0240421	IBF	74.445877	IBF	39.2415199	IF			0.100724		272.3528		28.73015	
		Average:			**181**										see above			see above		see above		see above
		Geometric Mean Average:					**7**				**34**											
		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

PERFORMANCE FOR THE PLANET

Date 12-Dec-2022

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	2		2		1	1	1	1	1	1	1	1	1
3	1		1		1	2	2	1	1	1	1	1	1
4	1		2		1	1	1	2	1	1	1	2	1
5	1		1		1	1	1	1	1	1	1	1	1
6	2	IC	5	IC	1	1	1	1	1	2	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		2	1	1	1	1	1	1	1	1
10	1		1		2	2	2	2	1	1	1	2	1
11	1		1		2	1	2	2	2	1	1	2	1
12	1		1		1	1	1	1	1	1	1	1	1
13	1		1		1	1	1	1	1	2	2	1	1
14	2		2		1	1	1	1	1	1	1	1	1
15	1		1		1	1	2	1	1	1	1	1	1
16	1		2		2	2	1	1	1	1	1	1	1
17	1		1		1	2	1	2	1	1	1	2	1
18	1		1		1	1	1	2	2	1	1	2	1
19	1		1		1	1	1	1	2	2	1	1	1
20	1		1		1	1	1	1	1	1	2	1	1
21	2		2		1	1	1	1	1	1	1	1	1
22	1		1		2	1	1	1	1	1	1	1	1
23	1		1		2	2	2	2	1	1	1	2	1

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OPACITY REPORT

Date 12-Dec-2022

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	2	2	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	2	2
3	2	2	2	2	2	2	2	2	2	2	2
4	2	2	2	2	2	2	2	2	2	2	2
5	2	2	2	2	2	2	2	2	2	2	2
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	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	2	2	2	2	2	2	2	2
23	2	2	2	2 IF	2	2 IF	3 IF	3 IF	3 IF	2 IF	2

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