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

Wheelabrator Technologies

WIN Waste Innovations — Performance for the Planet

Date 12/11/23

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
12/11/2023	0	60	10.5		141		10		43		77		0				11		309		165.8	
12/11/2023	1	60	10.6		140		12		53		77		0				14		309		167.1	
12/11/2023	2	60	10.6		142		12		53		77		0				14		309		168.1	
12/11/2023	3	60	10.2		142		14		64		79		0		0		13		310	309	168.0	167.2
12/11/2023	4	60	10.0		138		17		69		76		0				14		309		166.8	
12/11/2023	5	60	10.2		142		11		44		75		0				14		309		166.2	
12/11/2023	6	60	10.3		140		10		41		76		0				15		309		165.7	
12/11/2023	7	60	10.2		142		15		61		75		0		0		9	13	310	309	165.4	166.0
12/11/2023	8	60	10.2		139		9		44		81		1				14		309		165.3	
12/11/2023	9	60	10.0		140		7		40		84		1				14		309		167.6	
12/11/2023	10	60	10.2		138		5		33		84		0				17		309		166.6	
12/11/2023	11	60	10.5		142		9		43		80		0		0		18		309	309	167.1	166.7
12/11/2023	12	60	10.1		142		4		32		89		0				10		310		168.2	
12/11/2023	13	60	10.0		139		9		42		78		1				21		309		166.9	
12/11/2023	14	60	9.9		143		7		41		83		1				19		309		166.4	
12/11/2023	15	60	10.0		139		1		28		97		1		1		13	16	309	309	158.4	165.0
12/11/2023	16	60	9.9		142		4		29		87		1				15		310		162.3	
12/11/2023	17	60	10.1		138		5		30		82		3				13		309		161.2	
12/11/2023	18	60	9.9		139		10		32		68		1				12		310		165.2	
12/11/2023	19	60	10.1		140		6		33		81		1		1		9		309	309	160.0	162.2
12/11/2023	20	60	10.2		137		4		36		89		20				9		310		154.2	
12/11/2023	21	60	10.1		142		6		33		82		0				14		310		166.3	
12/11/2023	22	60	10.2		139		7		35		80		0				14		309		164.2	
12/11/2023	23	60	10.2		143		9		37		76		0		5		13	13	310	310	166.6	162.8

Average:	**140**					see above	see above	see above	see above	see above
Geometric Mean Average:		**7**		**82**						
Limit:	**≤ 150** 24-HR Block Avg.	**≤ 29** 24-HR Geometric Mean	**OR**	**≥ 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

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
12/11/2023	0	60	10.0		139		9		59		84		5				13		310		166.6	
12/11/2023	1	60	10.1		140		6		52		88		5				14		310		167.1	
12/11/2023	2	60	10.1		143		4		48		92		5				13		310		167.7	
12/11/2023	3	60	10.1		142		1		37		96		5		5		14		310	310	167.5	167.2
12/11/2023	4	60	10.1		148		29		71		60		8				14		310		167.5	
12/11/2023	5	60	10.4		142		2		31		94		6				14		310		159.6	
12/11/2023	6	60	10.1		137		8		40		79		6				13		310		167.5	
12/11/2023	7	60	10.2		141		9		55		84		6		7		13	13	310	310	166.5	165.3
12/11/2023	8	60	10.0		140		4		44		90		8				12		310		167.1	
12/11/2023	9	60	9.9		137		8		62		86		8				14		310		167.7	
12/11/2023	10	60	10.3		140		2		38		96		7				15		310		167.5	
12/11/2023	11	60	10.5		144		12		69		82		6		7		13		310	310	167.3	167.4
12/11/2023	12	60	10.3		142		0		28		100		6				15		310		167.6	
12/11/2023	13	60	9.6		136		2		48		95		8				15		311		166.3	
12/11/2023	14	60	10.2		142		0		28		100		4				16		309		170.0	
12/11/2023	15	60	10.0		139		0		35		100		7		6		15	14	310	310	167.8	167.9
12/11/2023	16	60	9.7		142		8		71		89		8				15		310		167.2	
12/11/2023	17	60	9.7		139		1		29		97		8				13		310		164.2	
12/11/2023	18	60	9.8		149		3		34		92		8				13		310		164.0	
12/11/2023	19	60	9.7		137		10		65		84		8		8		13		310	310	164.3	164.9
12/11/2023	20	60	9.9		142		7		49		87		8				14		310		168.9	
12/11/2023	21	60	10.1		138		0		32		99		7				14		310		168.8	
12/11/2023	22	60	9.9		143		0		25		100		7				15		310		168.2	
12/11/2023	23	60	9.9		142		0		39		100		8		7		12	14	310	310	166.2	168.0
Average:					**141**										see above		see above		see above	see above	see above	
Geometric Mean Average:							**2**				**96**											
Limit:					**≤ 150** 24-HR Block Avg.		**≤ 29** 24-HR Geometric Mean		**OR**		**≥ 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 11-Dec-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	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	0	IC	5	IC	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	0	0	0
22	0		0		0	0	0	0	0	0	0	0	0
23	0		0		0	0	0	0	0	0	0	0	0

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OPACITY REPORT

Date 11-Dec-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	2	2	2	2	2	2	2	2	2	2	2
1	2	2	2	2	2	2	1	1	1	2	1
2	1	1	1	1	1	1	1	1	1	1	1
3	2	2	2	2	2	2	2	2	2	2	2
4	2	2	2	2	1	2	2	2	2	2	1
5	2	2	2	2	1	2	2	1	2	2	1
6	0 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	2	2	2	2	2	2	2

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