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

Wheelabrator Technologies

WIN Waste Innovations — Performance for the Planet

Date 4/27/23

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
4/27/2023	0	60	10.7		141		7		68		89		2				14		309		165.8	
4/27/2023	1	60	10.6		139		4		55		93		1				14		309		165.6	
4/27/2023	2	60	10.7		146		6		64		90		2				13		310		166.7	
4/27/2023	3	60	10.8		141		9		64		86		1		2		14		309	309	166.8	166.2
4/27/2023	4	60	10.9		140		18		94		81		1				14		310		165.2	
4/27/2023	5	60	10.8		142		10		66		85		2				14		309		166.8	
4/27/2023	6	60	10.7		139		11		77		86		3				14		309		164.5	
4/27/2023	7	60	10.8		142		6		53		89		2		2		15	14	310	309	166.3	165.7
4/27/2023	8	60	10.9		139		21		89		76		3				14		309		166.6	
4/27/2023	9	60	10.9		141		22		79	IBCM	72	IBCM	3				15		309		166.0	
4/27/2023	10	60	10.6		141		19		105		82		3				14		309		167.2	
4/27/2023	11	60	3.2	IBCM	81	IBCM	54	IBCM	132		59	IBCM	132	IBCM	3		15		310	309	165.9	166.4
4/27/2023	12	60	10.3		130		22		147		85		4				15		309		165.0	
4/27/2023	13	60	10.2		128		14		86		84		17				15		309		167.5	
4/27/2023	14	60	10.6		144		13		68		82		3				14		310		165.0	
4/27/2023	15	60	10.5		137		15		80		81		4		7		15	15	309	309	165.7	165.8
4/27/2023	16	60	10.4		138		15		75		79		3				15		309		168.5	
4/27/2023	17	60	10.5		143		15		75		80		3				13		309		165.2	
4/27/2023	18	60	10.5		138		17		76		78		3				13		309		166.1	
4/27/2023	19	60	10.4		140		13		77		83		4		3		13		309	309	166.2	166.5
4/27/2023	20	60	10.4		142		8		54		86		3				13		309		165.7	
4/27/2023	21	60	10.5		140		11		64		83		4				13		309		163.7	
4/27/2023	22	60	10.5		142		8		53		84		3				13		309		165.9	
4/27/2023	23	60	10.3		139		6		55		89		3		3		13	13	309	309	165.9	165.3

Average:	140			see above	see above	see above
Geometric Mean Average:		11				
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

WHEELABRATOR NORTH ANDOVER
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COMPLIANCE SUMMARY REPORT

Wheelabrator Technologies

WIN Waste Innovations — Performance for the Planet

Date 4/27/23

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
4/27/2023	0	60	10.6		141		1		14		92		0				14		310		166.5	
4/27/2023	1	60	10.6		138		0		5		100		0				13		310		165.7	
4/27/2023	2	60	10.6		142		1		16		96		0				14		310		166.9	
4/27/2023	3	60	10.7		140		3		24		88		0		0		13		310	310	167.5	166.6
4/27/2023	4	60	10.9		139		8		32		77		0				13		310		166.6	
4/27/2023	5	60	10.8		143		5		22		78		0				13		310		166.3	
4/27/2023	6	60	10.8		138		13		35		64		0				14		310		167.1	
4/27/2023	7	60	11.9		141		11		11		0		0		0		14	14	310	310	165.3	166.3
4/27/2023	8	60	12.1		140		8		13		39		0				13		310		167.6	
4/27/2023	9	60	12.3		140		16		47	IBCM	66	IBCM	0				14		310		166.6	
4/27/2023	10	60	11.9		134		15		33		56		0				13		310		165.4	
4/27/2023	11	60	3.4	IBCM	84	IBCM	46	IBCM	20		0	IBCM	128	IBCM	0		14		310	310	165.6	166.3
4/27/2023	12	60	11.4		140		1		34		98		5				14		310		167.5	
4/27/2023	13	60	11.6		138		1		36		97		2				13		310		165.8	
4/27/2023	14	60	11.8		140		3		39		92		2				14		310		165.3	
4/27/2023	15	60	11.9		141		10		63		84		3		3		14	14	310	310	165.6	166.0
4/27/2023	16	60	11.8		138		2		37		95		3				14		310		166.9	
4/27/2023	17	60	11.7		139		3		43		93		2				15		310		166.2	
4/27/2023	18	60	11.8		141		0		32		99		3				14		310		165.8	
4/27/2023	19	60	11.7		137		3		45		94		2		2		14		310	310	166.0	166.2
4/27/2023	20	60	11.7		142		2		40		96		2				14		310		166.5	
4/27/2023	21	60	11.7		138		0		34		100		2				15		310		165.0	
4/27/2023	22	60	11.8		140		0		32		99		2				14		310		166.7	
4/27/2023	23	60	11.8		140		0		31		100		2		2		14	14	310	310	166.1	166.1

Average:	**140**				see above	see above	see above	see above
Geometric Mean Average:		**2**		**94**				
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
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OPACITY REPORT

PERFORMANCE FOR THE PLANET

Date 27-Apr-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	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 IM	27 IM	4 IM	21 IM	4 IM	21 IM	3 IM	21 IM	4 IM	11
12	21 IM	4 IM	21 IM	4 IM	12 IM	1 IM	1	1	1	1	7
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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WHEELABRATOR NORTH ANDOVER
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OPACITY REPORT

Date 27-Apr-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	0	BC	0	BC	0		0		0		0		0		0		0		0		0
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	BM	0	BM	0	BM	0	BM	0	BM	0	BM	0	BM	0
10	0	BM	0	BM	0	BM	0	BM	0	BM	0	BM	0	IM	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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