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

Wheelabrator TECHNOLOGIES

WIN WASTE INNOVATIONS — PERFORMANCE FOR THE PLANET

Date 3/15/23

Wheel: **Plant** Wheelabrator North Andover
Unit 1 **Unit** **Unit 1**
Outlet **Source** Outlet

Date	Hour	On-Line Minutes	O2 Out Vol % Dry	O2 Status	NOx Outlet ppm 7%O2	NOx Status	SO2 Outlet ppm 7%O2	SO2 Status	SO2 Inlet ppm 7%O2	Status	Removal	Status	CO Outlet ppm 7%O2	CO Status	CO 4 Hr Block	Status	Carbon Feed Lbs/Hr Avg.	Carbon Feed 8 Hr Block	FF Temp (deg F) 1 Hr Avg.	FF Temp 4 Hr Block	Steam KLbs/Hr 1 Hr Avg.	Steam 4 Hr Block
3/15/2023	0	60	9.6		174		4		64		94		50				13		310		168.7	
3/15/2023	1	60	9.9		196		9		57		84		3				13		308		172.2	
3/15/2023	2	60	10.0		196		7		51		87		3				13		310		165.3	
3/15/2023	3	60	10.0		196		13		63		80		4		15		13		309	309	167.6	168.4
3/15/2023	4	60	10.1		195		10		47		79		4				13		310		164.5	
3/15/2023	5	60	10.1		197		9		47		81		4				13		309		162.8	
3/15/2023	6	60	10.5		188		7		50		86		4				13		309		156.5	
3/15/2023	7	60	10.5		198		7		46		85		3		4		13	13	309	309	156.8	160.1
3/15/2023	8	60	10.0		198		11		57		80		3				13		310		163.8	
3/15/2023	9	60	10.1		196		11		49		78		4				13		310		163.7	
3/15/2023	10	60	10.3		198		3		31		91		5				13		310		164.0	
3/15/2023	11	60	10.2		198		4		43		91		6		5		13		309	310	164.6	164.0
3/15/2023	12	60	10.1		197		2		34		94		4				13		310		166.1	
3/15/2023	13	60	10.1		197		2		35		93		5				13		309		164.1	
3/15/2023	14	60	10.3		209		0		24		98		3				13		309		166.1	
3/15/2023	15	60	10.2		191		0		25		98		4		4		13	13	310	309	162.4	164.7
3/15/2023	16	60	10.0		198		2		37		93		6				13		310		165.8	
3/15/2023	17	60	10.3		194		2		33		94		6				13		309		160.9	
3/15/2023	18	60	9.8		185		4		51		92		6				13		309		162.7	
3/15/2023	19	60	10.0		196		3		48		94		4		6		13		310	309	163.2	163.2
3/15/2023	20	60	10.1		197		2		44		95		4				13		309		164.8	
3/15/2023	21	60	10.0		193		1		42		98		4				13		309		161.8	
3/15/2023	22	60	10.4		197		0		39		100		4				13		308		160.3	
3/15/2023	23	60	10.0		199		7		66		89		4		4		13	13	311	309	164.0	162.7

	NOx	SO2 Outlet		SO2 Removal	CO	Carbon Feed	FF Temp	Steam
Average:	195				see above	see above	see above	see above
Geometric Mean Average:		3		93				
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

Date 3/15/23

Wheel: **Plant** Wheelabrator North Andover
Unit 2 **Unit** **Unit 1**
Outlet **Source** Outlet

			O2		NOx		SO2						CO				Carbon Feed		FF Temp (deg F)		Steam KLbs/Hr	
Date	Hour	On-Line Minutes	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
3/15/2023	0	60	11.2		194		0		43		100		2				13		310		162.7	
3/15/2023	1	60	11.1		200		0		48		99		2				14		310		165.5	
3/15/2023	2	60	11.2		196		3		61		96		2				14		310		164.8	
3/15/2023	3	60	11.1		198		1		51		98		2		2		14		310	310	165.1	164.5
3/15/2023	4	60	11.1		199		2		44		96		2				14		310		164.4	
3/15/2023	5	60	11.2		198		5		64		92		1				14		310		165.8	
3/15/2023	6	60	11.1		197		13		77		83		4				13		310		166.2	
3/15/2023	7	60	11.1		197		3		48		94		3		3		14	14	310	310	163.6	165.0
3/15/2023	8	60	10.7		200		0		28		99		3				14		310		166.4	
3/15/2023	9	60	10.9		196		1		32		98		4				13		310		163.6	
3/15/2023	10	60	10.9		194		2		34		95		5				13		310		159.8	
3/15/2023	11	60	10.8		192		5		50		90		5		4		13		310	310	163.4	163.3
3/15/2023	12	60	10.6		197		5		50		90		6				13		310		166.9	
3/15/2023	13	60	10.9		198		10		60		83		6				13		310		163.2	
3/15/2023	14	60	10.7		197		3		41		92		4				13		310		166.6	
3/15/2023	15	60	10.8		200		3		37		93		3		5		14	13	310	310	164.7	165.3
3/15/2023	16	60	10.9		198		3		40		92		4				13		310		165.0	
3/15/2023	17	60	10.9		195		17		78		78		3				14		310		165.6	
3/15/2023	18	60	10.9		197		12		61		80		2				13		310		166.1	
3/15/2023	19	60	11.0		198		5		46		89		1		3		14		310	310	166.6	165.8
3/15/2023	20	60	10.9		197		3		46		93		1				14		310		167.7	
3/15/2023	21	60	11.1		197		9		59		85		1				13		310		165.7	
3/15/2023	22	60	11.1		198		5		49		90		1				14		310		164.4	
3/15/2023	23	60	11.2		197		11		65		84		1		1		13	13	310	310	165.8	165.9

	NOx	SO2 Outlet		SO2 Removal	CO	Carbon Feed	FF Temp	Steam
Average:	197				see above	see above	see above	see above
Geometric Mean Average:		3		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
A WIN-WASTE INNOVATIONS COMPANY
OPACITY REPORT

Date 15-Mar-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		2	2	2	2	2	2	2	2	2
2	1		1		1	1	1	1	1	1	1	1	1
3	1		1		1	1	1	1	2	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	6	IC	2	2	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		2	2	2	2	1	2	2	2	1
12	1		1		1	1	1	1	1	1	1	1	1
13	1		1		1	1	2	2	1	1	1	2	1
14	1		1		1	1	1	1	2	1	1	1	1
15	1		1		1	1	1	1	1	1	1	1	1
16	1		1		1	1	1	1	2	1	1	1	1
17	2		1		1	1	1	1	2	2	1	1	1
18	1		1		2	2	2	2	1	2	2	2	2
19	1		1		1	1	1	1	1	1	1	1	1
20	2		2		1	2	2	2	2	2	2	2	2
21	2		2		2	2	1	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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WHEELABRATOR NORTH ANDOVER
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OPACITY REPORT

Date 15-Mar-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	0	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 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	2	1	1	1	1	1	1
17	1	1	1	0	0	1	1	0	0	1	0
18	1	0	1	0	1	1	0	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	0	1	1
23	0	0	0	0	0	0	0	0	0	0	0

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