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

Wheelabrator Technologies

WIN Waste Innovations — Performance for the Planet

Date 2/1/22

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
2/1/2022	0	60	10.1		198		6		31		81		9				14		299		164.0	
2/1/2022	1	60	9.8		198		5		30		84		8				14		299		166.2	
2/1/2022	2	60	10.2		199		9		42		78		8				14		299		162.9	
2/1/2022	3	60	10.0		197		7		31		76		9		8		15		299	299	165.0	164.5
2/1/2022	4	60	10.3		199		17		55		70		7				14		299		166.1	
2/1/2022	5	60	9.9		199		10		19		48		8				14		300		167.5	
2/1/2022	6	60	10.1		198		7		19		64		8				14		299		165.2	
2/1/2022	7	60	10.3		193		3		13		75		9		8		15	14	299	299	162.0	165.2
2/1/2022	8	60	10.2		198		13		32		59		9				15		299		165.5	
2/1/2022	9	60	10.1		198		3		16		80		8				14		300		166.3	
2/1/2022	10	60	10.0		199		3		18	IBM	84	IBM	9				14		299		166.5	
2/1/2022	11	60	10.1		193		4		51	IBCM	91	IBCM	9		9		14		299	299	165.5	165.9
2/1/2022	12	60	10.2		197		6		31		80		8				14		299		164.5	
2/1/2022	13	60	10.0		199		2		23		93		10				14		299		165.7	
2/1/2022	14	60	10.0		199		7		38		82		10				14		299		166.5	
2/1/2022	15	60	10.0		199		19		49		62		11		10		14	14	299	299	166.5	165.8
2/1/2022	16	60	10.2		198		3		29		91		10				14		299		165.2	
2/1/2022	17	60	10.4		198		10		36		73		8				14		299		163.2	
2/1/2022	18	60	10.3		199		10		32		70		10				14		300		164.1	
2/1/2022	19	60	10.3		199		17		62		73		10		10		14		300	299	165.4	164.5
2/1/2022	20	60	10.1		198		11		33		67		10				14		299		166.7	
2/1/2022	21	60	10.0		199		13		36		65		9				14		300		167.2	
2/1/2022	22	60	10.0		195		10		34		69		10				14		299		165.6	
2/1/2022	23	60	10.2		196		6		22		72		8		9		14	14	299	299	163.8	165.8
Average:					**198**										see above				see above	see above	see above	see above
Geometric Mean Average:							**7**				**76**											
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
A WIN-WASTE INNOVATIONS COMPANY
COMPLIANCE SUMMARY REPORT

Wheelabrator Technologies

WIN Waste Innovations — Performance for the Planet

Date 2/1/22

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
2/1/2022	0	60	8.4		194		0		15		99		2				13		310		165.5	
2/1/2022	1	60	8.5		183		0		12		97		2				13		310		164.5	
2/1/2022	2	60	8.7		181		1		14		95		2				13		310		164.3	
2/1/2022	3	60	8.3		181		0		14		98		3		2		14		310	310	164.8	164.8
2/1/2022	4	60	8.9		178		2		21		92		2				14		310		165.1	
2/1/2022	5	60	8.6		185		0		12		96		2				13		310		166.2	
2/1/2022	6	60	8.6		186		0		9		97		3				13		310		165.6	
2/1/2022	7	60	8.5		183		0		8		99		4		3		13	13	310	310	165.6	165.6
2/1/2022	8	60	8.4		177		0		7		99		4				14		310		166.0	
2/1/2022	9	60	8.5		176		0		6		98		3				13		310		165.8	
2/1/2022	10	60	8.5		176		0		18	IBM	99	IBM	3				14		310		165.7	
2/1/2022	11	60	8.5		177		0		24	IBCM	100	IBCM	3		3		13		310	310	165.7	165.8
2/1/2022	12	60	8.1		176		0		0		48		3				14		310		165.2	
2/1/2022	13	60	8.2		172		0		1		97		3				13		310		161.3	
2/1/2022	14	60	8.1		173		3		22		86		2				14		310		166.5	
2/1/2022	15	60	8.3		174		8		36		77		3		3		16	14	310	310	165.2	164.6
2/1/2022	16	60	8.3		182		0		11		96		2				14		310		164.9	
2/1/2022	17	60	8.2		168		0		11		99		4				14		310		166.7	
2/1/2022	18	60	8.3		173		0		18		100		2				14		310		165.6	
2/1/2022	19	60	8.3		169		0		15		100		3		3		14		310	310	165.3	165.6
2/1/2022	20	60	8.1		176		0		13		100		3				14		310		165.9	
2/1/2022	21	60	8.2		168		0		20		98		2				14		310		165.9	
2/1/2022	22	60	8.1		182		1		30		96		3				14		310		165.7	
2/1/2022	23	60	8.4		168		0		15		99		3		3		14	14	310	310	165.0	165.6
Average:					177										see above			see above		see above		see above
Geometric Mean Average:							0															
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
A WIN-WASTE INNOVATIONS COMPANY
OPACITY REPORT

PERFORMANCE FOR THE PLANET

Date 01-Feb-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	1		1		1	1	1	1	1	1	1	1	1
3	1		2		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	6	IC	2	1	1	1	1	1	1	1	2
7	1		1		1	1	1	1	1	1	2	1	1
8	1		1		2	2	1	1	1	2	2	1	1
9	2		2		2	2	2	2	2	2	2	2	2
10	2		2		1	1	1	1	1	1	1	1	1
11	1		1		2	2	2	2	1	2	2	2	1
12	2		2		2	2	2	2	2	2	2	2	2
13	2		2		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	2		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

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
A WIN-WASTE INNOVATIONS COMPANY
OPACITY REPORT

PERFORMANCE FOR THE PLANET

Date 01-Feb-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	2	2	2	2	2	2	2

Status Flags

I - Invalid
B - Bad
C - Calibration
M - Maintenance
F - Offline
P - Purge
T - Out of Control
E - Excluded
^ - Startup
* - Shutdown