



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



Date 7/31/22

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.
7/31/2022	0	60	9.8		170		8		56		86		3			13		309		168.1	
7/31/2022	1	60	9.7		171		5		59		91		3			13		310		166.6	
7/31/2022	2	60	9.7		159		10		78		87		4			13		309		166.5	
7/31/2022	3	60	9.6		175		10		64		84		3	3		13		309	309	167.6	167.2
7/31/2022	4	60	9.7		164		16		67		77		3			13		310		166.2	
7/31/2022	5	60	9.9		165		11		39		71		3			13		309		166.0	
7/31/2022	6	60	9.9		165		24		88		72		4			12		309		164.3	
7/31/2022	7	60	9.8		167		16		62		74		4	4		13	13	310	309	167.0	165.9
7/31/2022	8	60	9.9		167		21		74		71		4			13		309		167.3	
7/31/2022	9	60	9.8		160		14		72		81		3			13		309		166.5	
7/31/2022	10	60	9.9		164		16		62		75		3			13		310		164.7	
7/31/2022	11	60	9.8		160		14		56		75		3	3		13		313	310	165.5	166.0
7/31/2022	12	60	9.9		156		15		79		81		3			13		312		164.9	
7/31/2022	13	60	9.9		156		14		65		79		3			13		310		165.6	
7/31/2022	14	60	10.1		165		11		56		81		3			13		314		164.2	
7/31/2022	15	60	9.7		150		14		66		79		4	3		13	13	315	313	168.0	165.7
7/31/2022	16	60	10.1		155		11		73		85		3			14		309		164.6	
7/31/2022	17	60	10.0		166		7		64		88		3			13		310		166.7	
7/31/2022	18	60	10.5		168		4		59		94		4			13		310		157.0	
7/31/2022	19	60	10.2		161		8		60		87		3	4		13		319	312	160.1	162.1
7/31/2022	20	60	9.8		161		16		60		74		4			13		322		167.9	
7/31/2022	21	60	10.1		169		7		54		87		5			13		313		165.2	
7/31/2022	22	60	9.9		159		8		56		85		3			13		316		166.7	
7/31/2022	23	60	9.9		150		5		64		93		4	4		13	13	313	316	167.0	166.7

Average:
Geometric Mean Average:

Limit:

163	11
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

83
≥ 75% Removal Efficiency

see above
≤ 69 4-HR Block Average ppmc

see above
≥ 12 8-HR. Block Average lb/hr

see above
≤ 345 °F 4-HR Block Average

see above
≤ 173 4-HR Block Average klb/hr

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



Date 7/31/22

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.
7/31/2022	0	0	20.9	IF	8	IF	4	IF	-11	IBF	0	IBF	0	IF		0		96		0.0	
7/31/2022	1	0	20.9	IF	8	IF	4	IF	-14	IBF	0	IBF	0	IF		0		91		0.0	
7/31/2022	2	0	20.9	IF	8	IF	4	IF	-14	IBF	0	IBF	0	IF		0		89		0.0	
7/31/2022	3	5	19.7	ICF	124	ICF	43	ICF	15	IBF	0	IBCF	39	ICF	10	ICF	0	108	96	0.0	0.0
7/31/2022	4	12	15.9	IBCF	109	IBCF	31	IBCF	4	IBF	0	IBCF	396	IBCF		0		110		0.0	
7/31/2022	5	55	17.5		158		2		4		56		21			12		128		0.3	
7/31/2022	6	60	16.7		141		4		3		0		13		14	14	141		9.8		
7/31/2022	7	60	13.7		109		3		4		10		8	14		14	175	148	38.4	16.2	
7/31/2022	8	60	13.2		104		3		3		0		3		15		204		53.1		
7/31/2022	9	60	14.0		161		16		30		47		16		14		271		74.9		
7/31/2022	10	60	13.0		171		6		55		89		25		14		305		147.4		
7/31/2022	11	60	12.2		190		6		58		89		2	12		14	310	273	165.9	110.3	
7/31/2022	12	60	12.2		194		4		49		92		2			14	305		168.3		
7/31/2022	13	60	12.2		186		4		51		93		1			14	303		164.0		
7/31/2022	14	60	11.4		186		3		46		94		2			14	311		167.7		
7/31/2022	15	60	11.5		185		3		50		94		3	2		13	309	307	166.7	166.7	
7/31/2022	16	60	11.0		187		3		47		94		3			14	310		173.1		
7/31/2022	17	60	11.8		180		3		39		93		4			13	311		164.3		
7/31/2022	18	60	11.8		176		3		29		90		4			14	308		161.0		
7/31/2022	19	60	11.8		180		3		36		93		4	4		14	310	309	165.2	165.9	
7/31/2022	20	60	11.4		176		3		38		93		3			14	310		164.8		
7/31/2022	21	60	11.7		192		4		44		92		5			14	309		168.7		
7/31/2022	22	60	11.5		187		5		43		89		4			13	315		166.8		
7/31/2022	23	60	12.0		184		3		71		96		4	4		14	318	313	164.0	166.1	

Average: Geometric Mean Average:	171	4	OR	86	see above	see above	see above	see above			
Limit:	≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean		≥ 75% Removal Efficiency	≤ 69 4-HR Block Average	ppmc	≥ 12 8-HR. Block Average	lb/hr	≤ 345 °F 4-HR Block Average	≤ 173 4-HR Block Average	klb/hr

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



Date 31-Jul-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	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
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	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

Status Flags

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



WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 31-Jul-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	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
1	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
2	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
3	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
4	1		1		1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
5	1	IF	1		1		1		1		1		1		1		1		1		1
6	2	IBC	5	IBC	1		1		1		1		1		1		1		1		1
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		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		0		1		1		1
19	1		1		1		1		1		0		0		1		1		0		0
20	1		1		0		1		1		1		1		1		1		1		0
21	0		1		1		0		0		0		1		1		0		0		0
22	0		0		0		0		1		0		0		0		0		0		0
23	0		0		0		0		0		0		0		0		0		0		0

Status Flags

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