



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



Date 7/28/22

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
7/28/2022	0	60	9.0		182		48		198		76		4			13		309		164.8		
7/28/2022	1	60	9.3		189		22		104		79		3			13		309		167.0		
7/28/2022	2	60	9.2		189		22		111		81		2			13		310		167.1		
7/28/2022	3	60	9.2		189		22		95		76		2	3		13		309	309	166.3	166.3	
7/28/2022	4	60	9.0		185		17		70		75		3			13		310		164.8		
7/28/2022	5	60	9.3		192		17		36		54		4			13		310		165.5		
7/28/2022	6	60	9.6		176		11		36		70		3			13		309		166.8		
7/28/2022	7	60	9.5		178		15		39		62		2	3		13	13	309	309	165.9	165.8	
7/28/2022	8	60	9.5		176		5		29		83		4			13		309		165.6		
7/28/2022	9	60	9.7		189		21		78		74		5			13		309		166.2		
7/28/2022	10	60	9.7		191		20		81		76		5			13		309		168.2		
7/28/2022	11	60	9.6		185		16		45		64		4	4		13		309	309	168.9	167.2	
7/28/2022	12	60	9.6		194		9		38		75		4			13		309		166.5		
7/28/2022	13	60	9.4		193		10		38		75		4			13		310		165.7		
7/28/2022	14	60	9.7		195		28		94		70		4			13		309		166.5		
7/28/2022	15	60	9.3		185		16		90		82		5	4		13	13	309	309	167.6	166.6	
7/28/2022	16	60	9.2		186		21		87		76		46			13		309		166.2		
7/28/2022	17	60	8.7		133		19		95		80		3			13		309		166.4		
7/28/2022	18	60	8.7		143		23		100		77		3			13		310		167.0		
7/28/2022	19	50	8.6		138		14		65		78		3	14		13		309	309	166.5	166.5	
7/28/2022	20																					
7/28/2022	21																					
7/28/2022	22	4	19.8	IBF	1053	IBF	4	IBF	160	IBF	97	IBF	201	IBF		3		274		42.8		
7/28/2022	23	0	20.9	IBF	29	IBF	0	IBF	475	IBF	100	IBF	0	IBF	101	IBF	0	13	252	263	16.6	29.7

Average: Geometric Mean Average:	179	17	OR	75	see above	see above	see above	see above
Limit:	≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean		≥ 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



Date 7/28/22

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
7/28/2022	0	60	10.0		164		36		117		70		4			13		312		167.0		
7/28/2022	1	60	10.3		165		23		68		66		3			13		310		166.5		
7/28/2022	2	60	10.1		163		21		49		58		3			14		311		167.0		
7/28/2022	3	60	10.1		159		20		44		55		3	3		13		312	311	166.4	166.7	
7/28/2022	4	60	10.0		158		16		36		56		5			13		314		166.4		
7/28/2022	5	60	10.0		160		17		32		48		5			13		314		166.1		
7/28/2022	6	60	10.4		158		10		22		54		3			13		311		167.6		
7/28/2022	7	60	10.4		151		11		20		42		5	4		13	13	310	312	166.6	166.7	
7/28/2022	8	60	10.4		154		8		12		33		6			13		310		161.6		
7/28/2022	9	60	10.3		164		14		38		62		6			13		310		166.9		
7/28/2022	10	60	9.8		166		6		23		73		5			13		311		168.0		
7/28/2022	11	60	10.1		171		9		19		52		7	6		13		310	310	169.0	166.4	
7/28/2022	12	60	9.7		158		2		11		82		4			13		310		167.8		
7/28/2022	13	60	9.6		172		4		15		76		3			13		310		169.0		
7/28/2022	14	60	10.1		176		10		33		71		5			13		310		165.2		
7/28/2022	15	60	10.0		172		7		29		75		6	4		13	13	310	310	166.2	167.1	
7/28/2022	16	60	9.9		172		7		21		68		4			13		310		167.5		
7/28/2022	17	60	10.4		175		14		18		22		4			13		310		167.9		
7/28/2022	18	60	10.2		182		11		15		27		4			13		310		166.8		
7/28/2022	19	51	9.9		173		8		20		61		4	4		13		310	310	168.5	167.7	
7/28/2022	20																					
7/28/2022	21																					
7/28/2022	22	42	20.0	IB	26	IB	0	IB	244		100	IB	242	IB		14		309		163.6		
7/28/2022	23	60	21.0	IB	2	IB	0	IB	97		100	IB	0	IB	121	IB	14	14	309	309	163.6	163.6

Average:
Geometric Mean Average:

Limit:

166	10	60	see above	see above	see above	
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean	≥ 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



Date 28-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	I	1	1		
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	IF	0	IF	1	IF	1	IF	0	
23	0	IF	1	IF	0	IF	0	IF	1	IF	1	IF	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 28-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	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	1	IBC	5	IBC	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	2	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	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	1	1	1	1	1	1	1	0
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