



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



Date 3/1/22

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
3/1/2022	0	60	10.0		199		17		22		23		4			13		309		167.2		
3/1/2022	1	60	9.8		196		14		22		35		4			14		310		166.0		
3/1/2022	2	60	9.4		183		8		20		59		7			13		310		159.3		
3/1/2022	3	60	9.4		191		12		16		27		6	5		13		309	309	165.5	164.5	
3/1/2022	4	60	9.7		200		21		33		37		5			14		310		164.9		
3/1/2022	5	60	9.6		197		20		24		16		5			13		309		166.7		
3/1/2022	6	60	9.6		197		20		23		16		4			13		310		166.0		
3/1/2022	7	60	9.9		195		11		8		0		5	5		13	13	309	309	164.9	165.6	
3/1/2022	8	60	9.7		192		9		8		0		6			14		309		163.0		
3/1/2022	9	60	10.0		196		19		23		18		7			13		309		162.4		
3/1/2022	10	60	9.8		198		17		26	IBM	33	IBM	8			13		309		165.4		
3/1/2022	11	60	10.0		198		18		41	IBM	57	IBM	4			13		309	309	166.7	164.4	
3/1/2022	12	60	9.8		200		12		33		64		5			13		310		167.0		
3/1/2022	13	46	11.4		209		16		29		45		52			13		309		151.9		
3/1/2022	14	0	20.6	IF	93	IF	8	IF	102	IBF	92	IBF	125	IF		10		290		32.7		
3/1/2022	15	0	20.8	IF	48	IF	9	IF	102	IBF	91	IBF	17	IF	28	0	13	259	309	21.5	159.5	
3/1/2022	16	0	20.8	IF	34	IF	9	IF	91	IBF	90	IBF	7	IF		0		241		0.0		
3/1/2022	17	0	20.9	IF	31	IF	9	IF	91	IBF	90	IBF	5	IF		0		223		0.0		
3/1/2022	18	0	20.9	IF	32	IF	9	IF	94	IBF	91	IBF	4	IF		0		202		0.0		
3/1/2022	19	0	20.9	IF	39	IF	8	IF	105	IBF	92	IBF	5	IF	5	IF		186	213	0.0	0.0	
3/1/2022	20	0	20.9	IF	36	IF	8	IF	113	IBF	93	IBF	5	IF		0		174		0.0		
3/1/2022	21	0	20.9	IF	31	IF	9	IF	118	IBF	93	IBF	4	IF		0		162		0.0		
3/1/2022	22	0	20.9	IF	27	IF	9	IF	124	IBF	93	IBF	1	IF		0		144		0.0		
3/1/2022	23	0	20.9	IF	25	IF	9	IF	130	IBF	93	IBF	0	IF	2	IF	0	0	152	0.0	0.0	0.0

Average: Geometric Mean Average:	197	15	<b>OR</b>	29	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 3/1/22

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.
3/1/2022	0	60	9.2		183		13		27		50		3			14		305		167.1	
3/1/2022	1	60	9.0		177		9		22		61		2			13		306		166.8	
3/1/2022	2	60	8.8		174		22		30		25		2			14		323		165.3	
3/1/2022	3	60	9.2		195		17		24		29		2	2		13		313	311	165.3	166.1
3/1/2022	4	60	9.2		187		17		21		20		2			13		311		165.3	
3/1/2022	5	60	9.0		188		12		20		38		2			14		303		167.0	
3/1/2022	6	60	9.1		172		20		25		20		2			14		308		166.2	
3/1/2022	7	60	9.5		183		10		10		0		2	2		14	13	305	307	163.7	165.6
3/1/2022	8	60	9.3		181		9		8		0		4			13		312		164.9	
3/1/2022	9	60	9.2		187		15		13		0		4			13		315		166.9	
3/1/2022	10	60	9.4		174		14		15	IBM	8	IBM	4			13		299		166.6	
3/1/2022	11	60	9.2		184		5		15	IBM	68	IBM	3	4		14		303	307	166.8	166.3
3/1/2022	12	60	9.2		185		4		14		73		3			14		301		165.1	
3/1/2022	13	60	9.1		189		5		14		67		2			13		311		166.9	
3/1/2022	14	60	9.0		191		6		15		61		1			13		306		166.4	
3/1/2022	15	60	9.0		183		7		13		46		2	2		13	13	311	307	166.7	166.3
3/1/2022	16	60	8.9		188		5		10		44		2			13		311		167.1	
3/1/2022	17	60	8.8		192		8		12		31		2			13		311		166.3	
3/1/2022	18	60	8.9		184		14		18		21		2			13		312		166.7	
3/1/2022	19	60	8.9		185		17		20		14		2	2		13		314	312	166.2	166.6
3/1/2022	20	60	8.7		175		15		18		18		2			13		310		166.3	
3/1/2022	21	60	9.0		186		13		17		21		1			13		302		166.9	
3/1/2022	22	60	9.0		190		23		21		0		2			13		305		166.4	
3/1/2022	23	60	9.0		187		20		16		0		1	2		13	13	308	306	166.6	166.6

Average:  
Geometric Mean Average:

Limit:

184	11
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

32
≥ 75% Removal Efficiency

see above
≤ 69 4-HR Block Average

ppmc

see above
≤ 12 8-HR. Block Average

lb/hr

see above
≤ 345 4-HR Block Average

°F

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 OPACITY REPORT



Date 01-Mar-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	2		1		1		2		2		2		2		2		2		2		2	1
1	2		2		2		2		2		2		2		2		2		2		2	2
2	2		1		2		2		1		2		2		2		2		2		2	1
3	2		2		2		2		2		2		2		2		2		2		2	2
4	2		2		2		1		2		2		2		2		2		2		2	1
5	2		2		2		2		2		2		1		2		2		2		2	1
6	2	IC	6	IC	1		2		2		2		1		1		2		2		2	2
7	2		2		2		2		2		2		2		2		2		2		2	2
8	2		2		2		2		2		2		2		2		2		2		2	2
9	2		2		2		2		2		2		2		2		2		2		2	2
10	2		2		2		2		2		2		2		2		2		2		2	2
11	2		2		2		2		2		2		2		2		2		2		2	2
12	2		2		2		2		2		2		2		2		2		2		2	2
13	2		2		2		2		2		2		2		2	IF	2	IF	2	IF	2	2
14	2	IF	1	IF	1	IF	1	IF	1	IF	1	IF	2	IF	1	IF	2	IF	1	IF	1	1
15	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	1
16	1	IF	1	IF	1	IF	1	IF	2	IF	1	IF	1	IF	1	IF	2	IF	1	IF	1	1
17	1	IF	2	IF	1	IF	1	IF	1	IF	1	IF	2	IF	2	IF	2	IF	1	IF	1	1
18	1	IF	1	IF	1	IF	1	IF	1	IF	2	IF	1	IF	1	IF	1	IF	2	IF	1	1
19	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	1
20	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	1
21	1	IF	2	IF	2	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	1
22	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	2
23	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	2

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