



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



Date 3/14/22

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.
3/14/2022	0	60	10.2		199		25		87		71		4			13		309		166.8	
3/14/2022	1	60	10.0		196		32		121		74		5			13		309		167.5	
3/14/2022	2	60	10.0		195		21		75		73		4			14		310		166.1	
3/14/2022	3	60	10.0		199		16		60		73		4	5		14		309	309	165.6	166.5
3/14/2022	4	60	10.1		180		14		54		74		4			13		309		164.6	
3/14/2022	5	60	10.0		193		21		67		68		3			15		310		166.6	
3/14/2022	6	60	10.0		196		18		61		70		3			11		309		165.7	
3/14/2022	7	60	9.8		198		13		46		71		4	4		14	13	309	309	166.6	165.9
3/14/2022	8	60	10.1		182		16		46		65		4			15		309		166.6	
3/14/2022	9	60	10.1		194		20		62		68		4			13		309		163.7	
3/14/2022	10	60	10.4		201		21		56		63		4			13		309		164.8	
3/14/2022	11	60	10.2		196		15		39		61		3	4		14		310	309	167.1	165.5
3/14/2022	12	60	10.0		191		8		26		71		5			13		309		165.0	
3/14/2022	13	60	10.5		196		25		39		35		2			14		309		165.9	
3/14/2022	14	60	10.0		195		10		23		55		4			13		310		165.1	
3/14/2022	15	60	10.1		194		47		147		68		4	4		13	13	309	309	166.1	165.5
3/14/2022	16	60	9.9		196		15		54		72		5			14		310		165.7	
3/14/2022	17	60	10.1		193		28		93		70		5			14		310		167.1	
3/14/2022	18	60	10.0		194		28		100		72		4			14		309		168.2	
3/14/2022	19	60	10.0		197		31		103		70		5	5		12		310	310	165.8	166.7
3/14/2022	20	60	9.9		197		24		87		72		5			13		309		167.1	
3/14/2022	21	60	10.0		199		23		68		66		5			13		309		166.4	
3/14/2022	22	60	9.9		195		17		47		63		5			13		310		164.8	
3/14/2022	23	60	9.7		189		16		40		62		4	5		13	13	309	309	165.3	165.9

Average: Geometric Mean Average:	194	20	<b>OR</b>	68	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 COMPLIANCE SUMMARY REPORT



Date 3/14/22

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
3/14/2022	0	0	20.3	IF	12	IF	9	IF	0	IBF	0	IBF	148	IF		5		273		27.3		
3/14/2022	1	0	20.4	IF	1	IF	9	IF	0	IBF	0	IBF	38	IF		0		263		11.7		
3/14/2022	2	0	20.4	IF	0	IF	8	IF	0	IBF	0	IBF	22	IF		0		227		5.2		
3/14/2022	3	5	19.6	ICF	0	ICF	82	ICF	0	IBF	0	IBCF	233	ICF	110	ICF	0	195	240	0.0	11.1	
3/14/2022	4	12	16.8	IBCF	61	IBCF	61	IBCF	0	IBF	0	IBCF	633	IBCF		0		195		0.0		
3/14/2022	5	0	20.4	IF	0	IF	8	IF	127	IBCF	94	IBCF	24	IF		0		186		0.0		
3/14/2022	6	0	20.4	IF	0	IF	8	IF	0	IBF	0	IBF	15	IF		0		178		0.0		
3/14/2022	7	0	20.4	IF	1	IF	7	IF	0	IBF	0	IBF	12	IF	171	IBCF	0	1	170	182	0.0	0.0
3/14/2022	8	0	20.5	IF	4	IF	7	IF	0	IBF	0	IBF	8	IF		0		161		0.0		
3/14/2022	9	0	20.5	IF	4	IF	7	IF	0	IBF	0	IBF	5	IF		0		147		0.0		
3/14/2022	10	0	20.5	IF	1	IF	6	IF	0	IBF	0	IBF	2	IF		0		125		0.0		
3/14/2022	11	0	20.5	IF	1	IF	6	IF	0	IBF	0	IBF	1	IF	4	IF	0		107	135	0.0	0.0
3/14/2022	12	0	20.5	IF	2	IF	6	IF	0	IBF	0	IBF	1	IF		0		98		0.0		
3/14/2022	13	0	20.5	IF	0	IF	6	IF	0	IBF	0	IBF	0	IF		0		92		0.0		
3/14/2022	14	0	20.5	IF	0	IF	6	IF	0	IBF	0	IBF	0	IF		0		103		0.0		
3/14/2022	15	0	20.5	IF	0	IF	6	IF	0	IBF	0	IBF	0	IF	0	IF	0	0	97	98	0.0	0.0
3/14/2022	16	0	20.5	IF	0	IF	6	IF	0	IBF	0	IBF	0	IF		0		87		0.0		
3/14/2022	17	0	20.5	IF	0	IF	6	IF	0	IBF	0	IBF	0	IF		0		82		0.0		
3/14/2022	18	0	20.5	IF	0	IF	6	IF	0	IBF	0	IBF	0	IF		0		77		0.0		
3/14/2022	19	0	20.5	IF	0	IF	6	IF	0	IBF	0	IBF	0	IF	0	IF	0	0	76	81	0.0	0.0
3/14/2022	20	0	20.5	IF	0	IF	6	IF	0	IBF	0	IBF	0	IF		0		76		0.0		
3/14/2022	21	0	20.5	IF	0	IF	7	IF	0	IBF	0	IBF	0	IF		0		77		0.0		
3/14/2022	22	0	20.5	IF	0	IF	8	IF	0	IBF	0	IBF	0	IF		0		77		0.0		
3/14/2022	23	0	20.5	IF	0	IF	8	IF	0	IBF	0	IBF	0	IF	0	IF	0	0	76	76	0.0	0.0

Average:  
Geometric Mean Average:

Limit:

4 IBCF	8 IBCF
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

0 IBCF
≥ 75% Removal Efficiency

see above
≤ 69 ppmc 4-HR Block Average

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

see above
≤ 345 °F 4-HR Block Average

see above
≤ 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 14-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	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	IC	6	IC	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



# WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



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

**Status Flags**

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