



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



Date 3/1/23

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.
3/1/2023	0	60	10.1		195		1		18		93		6			13		309		159.5	
3/1/2023	1	60	10.2		191		2		20		88		6			14		309		163.4	
3/1/2023	2	60	10.2		200		4		21		81		6			14		309		163.7	
3/1/2023	3	60	9.9		196		1		20		94		6	6		14		310	309	165.3	163.0
3/1/2023	4	60	9.9		201		0		18		99		5			13		310		165.3	
3/1/2023	5	60	9.9		195		0		20		98		5			13		309		165.1	
3/1/2023	6	60	10.1		198		1		19		97		6			14		310		164.4	
3/1/2023	7	60	10.4		200		16		43		62		5	5		13	14	310	309	164.4	164.8
3/1/2023	8	60	10.3		198		16		40		60		4			13		309		168.5	
3/1/2023	9	60	10.4		196		10		28		66		6			13		309		167.9	
3/1/2023	10	60	10.7		199		10		31		69		6			13		310		169.5	
3/1/2023	11	60	10.6		196		9		33		72		6	6		13		309	309	166.6	168.1
3/1/2023	12	60	10.5		199		9		26		64		6			13		309		167.4	
3/1/2023	13	60	10.6		199		25		42		40		5			14		310		167.8	
3/1/2023	14	60	11.1		202		32		84		62		4			13		309		165.5	
3/1/2023	15	60	10.9		191		23		58		61		3	5		13	13	310	309	166.6	166.8
3/1/2023	16	60	11.0		196		28		85		67		3			14		309		169.3	
3/1/2023	17	60	10.8		196		2		29		94		5			14		309		163.1	
3/1/2023	18	60	10.5		199		2		25		92		5			13		310		166.0	
3/1/2023	19	60	10.8		198		14		28		49		3	4		14		309	309	167.2	166.4
3/1/2023	20	60	10.4		202		1		24		97		4			14		309		168.0	
3/1/2023	21	60	10.6		196		0		16		100		4			15		309		164.7	
3/1/2023	22	60	10.3		198		2		24		91		6			14		309		166.9	
3/1/2023	23	60	10.4		196		2		28		92		5	5		14	14	309	309	166.9	166.6

Average:  
Geometric Mean Average:

Limit:

197	3
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

89
≥ 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

°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 COMPLIANCE SUMMARY REPORT



Date 3/1/23

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
3/1/2023	0	0	20.8	IF	0	IF	6	IF	909	IBF	99	IBF	0	IF		0		59		0.2		
3/1/2023	1	0	20.8	IF	0	IF	6	IF	-1107	IBF	0	IBF	0	IF		0		59		0.2		
3/1/2023	2	0	20.8	IF	0	IF	6	IF	-268	IBF	0	IBF	0	IF		0		56		0.2		
3/1/2023	3	5	20.0	ICF	0	ICF	6	ICF	-151	IBF	0	IBCF	1	ICF	0	ICF	0	49	56	0.2	0.2	
3/1/2023	4	12	17.3	IBCF	65	IBCF	58	IBCF	-129	IBF	0	IBCF	539	IBCF		0		48		0.0		
3/1/2023	5	0	20.8	IF	0	IF	6	IF	151	IBCF	96	IBCF	0	IF		0		46		0.0		
3/1/2023	6	0	20.8	IF	0	IF	6	IF	0	IBF	0	IBF	0	IF		0		45		0.0		
3/1/2023	7	0	20.8	IF	0	IF	6	IF	0	IBF	0	IBF	0	IF	135	IBCF	0	0	45	46	0.0	0.0
3/1/2023	8	0	20.8	IF	0	IF	6	IF	0	IBF	0	IBF	0	IF		0		45		0.0		
3/1/2023	9	0	20.9	IF	0	IF	6	IF	0	IBF	0	IBF	0	IF		0		45		0.0		
3/1/2023	10	0	20.8	IF	0	IF	6	IF	0	IBF	0	IBF	0	IF		0		45		0.0		
3/1/2023	11	0	20.8	IF	0	IF	6	IF	0	IBF	0	IBF	0	IF	0	IF	0	53	47	0.0	0.0	
3/1/2023	12	0	20.8	IF	0	IF	6	IF	0	IBF	0	IBF	0	IF		0		56		0.0		
3/1/2023	13	0	20.8	IF	0	IF	6	IF	0	IBF	0	IBF	0	IF		0		58		0.0		
3/1/2023	14	0	20.8	IF	0	IF	6	IF	0	IBF	0	IBF	0	IF		0		59		0.0		
3/1/2023	15	0	20.8	IF	0	IF	6	IF	0	IBF	0	IBF	0	IF	0	IF	0	61	58	0.1	0.0	
3/1/2023	16	0	20.8	IF	0	IF	6	IF	0	IBF	0	IBF	0	IF		0		61		0.2		
3/1/2023	17	0	20.8	IF	0	IF	6	IF	0	IBF	0	IBF	0	IF		0		63		0.2		
3/1/2023	18	0	20.8	IF	0	IF	6	IF	0	IBF	0	IBF	0	IF		0		63		0.2		
3/1/2023	19	0	20.8	IF	0	IF	6	IF	0	IBF	0	IBF	0	IF	0	IF	0	63	63	0.1	0.2	
3/1/2023	20	0	20.8	IF	0	IF	6	IF	0	IBF	0	IBF	0	IF		0		64		0.0		
3/1/2023	21	0	20.8	IF	0	IF	6	IF	0	IBF	0	IBF	0	IF		0		63		0.0		
3/1/2023	22	0	20.8	IF	0	IF	6	IF	0	IBF	0	IBF	0	IF		0		64		0.0		
3/1/2023	23	0	20.8	IF	0	IF	6	IF	0	IBF	0	IBF	0	IF	0	IF	0	64	64	0.0	0.0	

Average: Geometric Mean Average:	<b>3</b> IBCF	<b>7</b> IBCF	OR	<b>0</b> IBCF	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	≥ 12 8-HR. Block Average	≤ 345 °F 4-HR Block Average	≤ 173 4-HR Block Average

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



Date 01-Mar-2023

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	1	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

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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-2023

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	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
1	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
2	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
3	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
4	0		0		0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
5	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
6	2	BCF	22	BCF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	3
7	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
8	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
9	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
10	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
11	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
12	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
13	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
14	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
15	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
16	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
17	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
18	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
19	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
20	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
21	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
22	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
23	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0

**Status Flags**

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