



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



Date 3/20/23

Wheel Plant Wheelabrator North Andover  
Unit 1 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
3/20/2023	0	0	20.8	IF	16	IF	9	IF	733	IBF	99	IBF	15	IF			3		268		13.3	
3/20/2023	1	0	20.8	IF	15	IF	9	IF	743	IBF	99	IBF	17	IF			3		232		2.7	
3/20/2023	2	0	20.8	IF	16	IF	8	IF	1124	IBF	99	IBF	17	IF			4		216		0.0	
3/20/2023	3	5	20.0	ICF	16	ICF	8	ICF	1244	IBF	99	IBCF	17	ICF	16	ICF	7		201	229	0.0	4.0
3/20/2023	4	12	17.3	IBCF	114	IBCF	65	IBCF	1697	IBF	96	IBCF	583	IBCF			3		199		0.0	
3/20/2023	5	0	20.8	IF	17	IF	8	IF	180	IBCF	95	IBCF	6	IF			3		174		0.0	
3/20/2023	6	0	20.8	IF	17	IF	8	IF	-4122	IBF	0	IBF	4	IF			3		154		0.0	
3/20/2023	7	0	20.9	IF	20	IF	9	IF	46908	IBF	100	IBF	6	IF	150	IBCF	4	4	141	167	0.0	0.0
3/20/2023	8	0	20.9	IF	21	IF	8	IF	-21914	IBF	0	IBF	7	IF			4		134		0.0	
3/20/2023	9	0	20.9	IF	19	IF	8	IF	-7496	IBF	0	IBF	3	IF			3		129		0.0	
3/20/2023	10	0	20.9	IF	17	IF	8	IF	-3130	IBF	0	IBF	1	IF			3		125		0.0	
3/20/2023	11	0	20.9	IF	19	IF	8	IF	-2281	IBF	0	IBF	2	IF	3	IF	1		122	127	0.0	0.0
3/20/2023	12	0	20.9	IF	16	IF	8	IF	-1176	IBF	0	IBF	1	IF			0		118		0.0	
3/20/2023	13	0	20.9	IF	15	IF	7	IF	-1068	IBF	0	IBF	0	IF			1		114		0.0	
3/20/2023	14	0	20.9	IF	13	IF	7	IF	-900	IBF	0	IBF	0	IF			1		106		0.0	
3/20/2023	15	0	20.9	IF	13	IF	7	IF	-871	IBF	0	IBF	0	IF	0	IF	0	2	103	110	0.0	0.0
3/20/2023	16	0	20.9	IF	13	IF	7	IF	-679	IBF	0	IBF	0	IF			0		100		0.0	
3/20/2023	17	0	20.9	IF	13	IF	7	IF	-720	IBF	0	IBF	0	IF			0		98		0.0	
3/20/2023	18	0	20.9	IF	13	IF	8	IF	-632	IBF	0	IBF	0	IF			0		95		0.0	
3/20/2023	19	0	20.9	IF	13	IF	8	IF	-624	IBF	0	IBF	0	IF	0	IF	0		92	96	0.0	0.0
3/20/2023	20	0	20.9	IF	13	IF	8	IF	-654	IBF	0	IBF	0	IF			0		90		0.0	
3/20/2023	21	0	20.9	IF	14	IF	9	IF	-737	IBF	0	IBF	0	IF			0		88		0.0	
3/20/2023	22	0	20.8	IF	22	IF	9	IF	-78701	IBF	0	IBF	0	IF			1		87		0.0	
3/20/2023	23	0	20.9	IF	19	IF	8	IF	-1333	IBF	0	IBF	0	IF	0	IF	1	0	82	86	0.0	0.0

Average:  
Geometric Mean Average:

Limit:

Average: 20 IBCF	9 IBCF
Limit: ≤ 205 24-HR Block Avg.	Limit: ≤ 29 24-HR Geometric Mean

OR

Average: 0 IBCF
Limit: ≥ 75% Removal Efficiency

see above
Limit: ≤ 69 4-HR Block Average ppmc

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

see above
Limit: ≤ 345 °F 4-HR Block Average

see above
Limit: ≤ 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 3/20/23

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.
3/20/2023	0	60	11.6		302		7		44		85		1			14		310		166.3	
3/20/2023	1	60	11.4		190		10		49		80		2			13		310		166.5	
3/20/2023	2	60	11.4		171		11		50		78		2			14		310		164.7	
3/20/2023	3	60	11.5		167		12		51		76		2	2		14		310	310	165.0	165.6
3/20/2023	4	60	11.1		173		8		42		82		3			14		310		163.5	
3/20/2023	5	60	11.1		181		4		24		82		3			13		310		164.9	
3/20/2023	6	60	11.3		172		1		15		91		3			13		310		166.4	
3/20/2023	7	60	11.3		196		7		28		76		3	3		14	14	310	310	166.4	165.3
3/20/2023	8	60	11.2		186		5		26		82		5			13		310		166.2	
3/20/2023	9	60	11.2		190		3		25		86		4			13		310		166.2	
3/20/2023	10	60	11.4		183		1		18		93		4			14		310		164.2	
3/20/2023	11	60	11.3		209		2		22		91		3	4		13		310	310	166.8	165.8
3/20/2023	12	60	11.1		191		2		20		88		4			13		310		165.1	
3/20/2023	13	60	10.9		199		3		23		88		4			14		310		164.8	
3/20/2023	14	60	11.1		198		3		22		86		3			13		310		164.5	
3/20/2023	15	60	11.2		206		14		45		69		5	4		13	13	310	310	165.3	164.9
3/20/2023	16	60	11.0		197		9		29		70		4			13		310		166.4	
3/20/2023	17	60	11.0		185		6		28		79		3			13		310		163.7	
3/20/2023	18	60	11.2		204		21		45		53		3			14		310		166.3	
3/20/2023	19	60	11.2		201		10		32		68		3	3		14		310	310	166.9	165.8
3/20/2023	20	60	11.2		189		2		31		92		3			13		310		165.7	
3/20/2023	21	60	11.1		185		6		38		84		2			14		310		166.0	
3/20/2023	22	60	11.0		185		2		28		92		3			14		310		166.8	
3/20/2023	23	60	11.1		191		4		32		89		3	3		13	13	310	310	165.3	166.0

Average:  
Geometric Mean Average:

Limit:

194	5
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

84
≥ 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

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



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

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