



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



Date 11/5/22

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
11/5/2022	0	0	20.8	IF	95	IF	9	IF	80	IBF	88	IBF	73	IF			13		267		36.7	
11/5/2022	1	0	20.9	IF	57	IF	12	IF	54	IBF	78	IBF	17	IF			1		231		7.4	
11/5/2022	2	0	21.0	IF	56	IF	13	IF	49	IBF	74	IBF	13	IF			0		208		0.6	
11/5/2022	3	5	20.1	ICF	52	ICF	11	ICF	44	IBF	75	IBCF	6	ICF	27	ICF	0		169	219	0.0	11.2
11/5/2022	4	12	17.4	IBCF	232	IBCF	71	IBCF	40	IBF	0	IBCF	562	IBCF			1		166		0.0	
11/5/2022	5	0	21.0	IF	54	IF	10	IF	145	IBCF	93	IBCF	4	IF			0		147		0.0	
11/5/2022	6	0	21.0	IF	57	IF	9	IF	48	IBF	81	IBF	0	IF			0		135		0.0	
11/5/2022	7	0	21.0	IF	54	IF	8	IF	48	IBF	83	IBF	0	IF	142	IBCF	0	2	124	143	0.0	0.0
11/5/2022	8	0	21.0	IF	55	IF	8	IF	55	IBF	85	IBF	0	IF			1		118		0.0	
11/5/2022	9	0	21.0	IF	56	IF	8	IF	68	IBF	88	IBF	0	IF			1		115		0.0	
11/5/2022	10	0	21.0	IF	58	IF	8	IF	97	IBF	91	IBF	0	IF			0		113		0.0	
11/5/2022	11	0	21.0	IF	57	IF	8	IF	115	IBF	93	IBF	0	IF	0	IF	1		110	114	0.0	0.0
11/5/2022	12	0	21.0	IF	57	IF	8	IF	127	IBF	94	IBF	0	IF			0		108		0.0	
11/5/2022	13	0	21.0	IF	56	IF	8	IF	131	IBF	94	IBF	0	IF			0		106		0.0	
11/5/2022	14	0	21.0	IF	56	IF	8	IF	136	IBF	94	IBF	0	IF			0		105		0.0	
11/5/2022	15	0	21.0	IF	55	IF	8	IF	138	IBF	94	IBF	0	IF	0	IF	0	0	103	105	0.0	0.0
11/5/2022	16	0	21.0	IF	54	IF	8	IF	137	IBF	94	IBF	0	IF			0		100		0.0	
11/5/2022	17	0	21.0	IF	53	IF	8	IF	134	IBF	94	IBF	0	IF			1		97		0.0	
11/5/2022	18	0	21.0	IF	56	IF	8	IF	133	IBF	94	IBF	0	IF			0		96		0.0	
11/5/2022	19	0	21.0	IF	57	IF	7	IF	137	IBF	95	IBF	0	IF	0	IF	0		98	98	0.0	0.0
11/5/2022	20	4	17.5	IF	396	IF	20	IF	8	IBF	0	IBF	44	IF			0		106		0.0	
11/5/2022	21	42	17.2		442		19		7		0		10				11		128		0.0	
11/5/2022	22	11	17.6	IF	517	IF	23	IF	12	IBF	0	IBF	420	IF			0		154		0.9	
11/5/2022	23	60	16.1		379		15		12		0		121		66		13	12	176	152	11.5	5.8

Average:  
Geometric Mean Average:

Limit:

<b>410</b>	<b>17</b>	<b>0</b>	<b>see above</b>	<b>see above</b>	<b>see above</b>
<b>≤ 205</b> 24-HR Block Avg.	<b>≤ 29</b> 24-HR Geometric Mean	<b>≥ 75%</b> Removal Efficiency	<b>≤ 69</b> ppmc 4-HR Block Average	<b>≥ 12</b> lb/hr 8-HR. Block Average	<b>≤ 345</b> °F 4-HR Block Average
<b>OR</b>					
				<b>≤ 173</b> 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 11/5/22

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.
11/5/2022	0	60	10.2		192		17		72		76		0			14		310		165.9	
11/5/2022	1	60	10.3		184		20		77		74		0			13		310		166.4	
11/5/2022	2	60	10.3		186		20		83		76		0			13		310		165.2	
11/5/2022	3	60	10.3		190		15		63		76		0	0		13		310	310	165.4	165.7
11/5/2022	4	60	10.3		192		15		60		75		2			13		310		162.0	
11/5/2022	5	60	10.3		197		20		69		71		0			13		310		167.9	
11/5/2022	6	60	10.4		185		23		73		68		0			13		310		168.0	
11/5/2022	7	60	10.3		172		19		62		69		0	1		13	13	310	310	168.3	166.6
11/5/2022	8	60	10.2		182		20		78		74		1			13		310		167.0	
11/5/2022	9	60	10.3		185		17		61		72		0			13		310		164.6	
11/5/2022	10	60	11.0		187		23		86		73		1			13		310		166.3	
11/5/2022	11	60	11.1		193		27		97		72		2	1		13		310	310	164.5	165.6
11/5/2022	12	60	11.0		185		22		58		62		2			13		310		167.3	
11/5/2022	13	60	11.0		191		25		67		63		2			13		310		167.7	
11/5/2022	14	60	11.0		191		23		64		64		1			13		310		167.6	
11/5/2022	15	60	10.9		180		23		69		67		1	2		13	13	310	310	166.7	167.3
11/5/2022	16	60	10.9		182		20		64		69		1			13		310		166.6	
11/5/2022	17	60	10.6		184		12		50		76		1			13		310		161.2	
11/5/2022	18	60	10.2		180		15		54		72		1			13		310		167.1	
11/5/2022	19	60	10.2		183		24		77		69		1	1		14		310	310	165.9	165.2
11/5/2022	20	60	10.2		187		24		77		69		1			13		310		167.4	
11/5/2022	21	60	10.3		189		25		75		67		1			13		310		166.4	
11/5/2022	22	60	10.3		179		25		89		71		1			13		310		165.7	
11/5/2022	23	60	10.4		183		24		85		72		0	1		13	13	310	310	167.3	166.7

Average: Geometric Mean Average:	186	20	<b>OR</b>	71	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

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



Date 05-Nov-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	0	MFT	0	MFT	0	MFT	0	MFT	0	MFT	0
1	0	MFT	0	MFT	0	MFT	0	MFT	0	MFT	0
2	0	MFT	0	MFT	0	MFT	0	MFT	0	MFT	0
3	0	MFT	0	MFT	0	MFT	0	MFT	0	MFT	0
4	0	MT	0	MT	0	MFT	0	MFT	0	MFT	0
5	0	MFT	0	MFT	0	MFT	0	MFT	0	MFT	0
6	0	CMF	0	CMF	0	MF	0	MF	0	MF	0
7	0	MF	0	MF	0	MF	0	MF	0	MF	0
8	0	MF	0	MF	0	MF	0	MF	0	MF	0
9	0	MF	0	MF	0	MF	0	MF	0	MF	0
10	0	MF	0	MF	0	MF	0	MF	0	MF	0
11	0	MF	0	MF	0	MF	0	MF	0	MF	0
12	0	MF	0	MF	0	MF	0	MF	0	MF	0
13	0	MF	0	MF	0	MF	0	MF	0	MF	0
14	0	MF	0	MF	0	MF	0	MF	0	MF	0
15	0	MF	0	MF	0	MF	0	MF	0	MF	0
16	0	MF	0	MF	0	MF	0	MF	0	MF	0
17	0	MF	0	MF	0	MF	0	MF	0	MF	0
18	0	MF	0	MF	0	MF	0	MF	0	MF	0
19	0	MF	0	MF	0	MF	0	MF	0	MF	0
20	0	MF	0	MF	0	MF	0	MF	0	MF	0
21	0	IM	0	IM	0	IM	0	IM	0	MF	0
22	0	MF	0	MF	0	MF	0	MF	0	MF	0
23	0	IM	0	IM	0	IM	0	IM	0	IM	0

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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 05-Nov-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	3	3	3	3	3	3	3	3	3	3	3
1	3	3	3	3	3	3	3	3	3	3	3
2	3	3	3	3	4	3	3	3	3	3	3
3	3	3	3	3	3	3	2	3	3	3	3
4	3	3	3	3	3	3	3	3	3	3	3
5	3	3	3	3	3	3	3	3	3	3	3
6	2	IBC	7	IBC	3	3	3	3	3	3	3
7	3	3	3	3	3	4	4	4	3	4	3
8	3	3	3	3	3	3	3	3	3	3	3
9	3	3	3	3	3	3	3	3	2	3	3
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	2	3	2	2	2	2	2	1	1	2	2
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	1	1	1	1	1	1	1	1	1	1	1
21	1	1	1	1	1	1	1	1	1	1	1
22	1	1	1	1	1	1	1	1	1	1	1
23	1	1	1	1	1	1	1	1	1	1	1

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