



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



Date 7/21/22

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.
7/21/2022	0	60	10.1		190		11		70		85		5			13		304		162.3	
7/21/2022	1	60	10.0		191		10		46		79		4			13		303		164.1	
7/21/2022	2	60	9.9		182		18		57		68		5			13		308		164.8	
7/21/2022	3	60	9.9		198		21		59		64		5	5		13		313	307	165.2	164.1
7/21/2022	4	60	10.0		193		20		48		58		6			13		316		164.3	
7/21/2022	5	60	10.0		193		21		57		63		6			14		320		165.7	
7/21/2022	6	60	10.0		192		20		52		62		6			13		320		166.3	
7/21/2022	7	60	9.9		173		15		52		70		6	6		13	13	310	317	165.7	165.5
7/21/2022	8	60	10.1		171		16		58		73		6			13		302		164.3	
7/21/2022	9	60	10.2		167		13		80		84		6			13		298		165.4	
7/21/2022	10	60	10.1		189		18		87		79		6			13		297		166.5	
7/21/2022	11	60	9.9		183		16		73		78		7	6		13		298	299	164.3	165.1
7/21/2022	12	60	10.2		171		5		37		86		4			13		299		166.9	
7/21/2022	13	60	10.3		182		16		77		79		5			13		306		166.4	
7/21/2022	14	60	9.7		165		7		38		82		7			14		315		165.1	
7/21/2022	15	60	10.0		171		10		51		80		7	6		13	13	310	308	163.6	165.5
7/21/2022	16	60	9.8		163		15		70		79		7			14		308		166.0	
7/21/2022	17	60	9.8		168		10		62		84		6			13		303		165.9	
7/21/2022	18	60	9.7		162		9		64		86		5			13		301		165.4	
7/21/2022	19	60	9.7		173		5		46		89		6	6		14		307	305	165.2	165.6
7/21/2022	20	60	9.7		176		13		49		73		6			13		312		165.5	
7/21/2022	21	60	9.7		178		12		50		77		6			13		312		164.7	
7/21/2022	22	60	9.5		171		14		65		78		6			13		310		166.4	
7/21/2022	23	60	9.4		153		3		65		95		6	6		13	13	300	309	164.8	165.4

<b>Average:</b> <b>Geometric Mean Average:</b>	<div style="background-color: yellow; padding: 5px; border: 1px solid black;">177</div>	<div style="background-color: green; padding: 5px; border: 1px solid black;">12</div>	<b>OR</b>	<div style="background-color: green; padding: 5px; border: 1px solid black;">79</div>	<div style="background-color: grey; padding: 5px; border: 1px solid black;">see above</div>	<div style="background-color: green; padding: 5px; border: 1px solid black;">see above</div>	<div style="background-color: purple; padding: 5px; border: 1px solid black;">see above</div>	<div style="background-color: grey; padding: 5px; border: 1px solid black;">see above</div>
<b>Limit:</b>	<div style="border: 1px solid black; padding: 5px;"> <math>\leq 205</math>            24-HR Block Avg.         </div>	<div style="border: 1px solid black; padding: 5px;"> <math>\leq 29</math>            24-HR Geometric Mean         </div>		<div style="border: 1px solid black; padding: 5px;"> <math>\geq 75\%</math>            Removal Efficiency         </div>	<div style="border: 1px solid black; padding: 5px;"> <math>\leq 69</math> ppmc            4-HR Block Average         </div>	<div style="border: 1px solid black; padding: 5px;"> <math>\geq 12</math> lb/hr            8-HR. Block Average         </div>	<div style="border: 1px solid black; padding: 5px;"> <math>\leq 345</math> °F            4-HR Block Average         </div>	<div style="border: 1px solid black; padding: 5px;"> <math>\leq 173</math> klb/hr            4-HR Block Average         </div>

**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 7/21/22

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.
7/21/2022	0	60	9.8		157		18		61		70		2			14		313		165.3	
7/21/2022	1	60	9.8		163		11		47		76		1			13		312		166.7	
7/21/2022	2	60	10.0		161		8		37		78		2			13		309		163.2	
7/21/2022	3	60	10.2		163		10		38		73		2	2		14		310	311	161.6	164.2
7/21/2022	4	60	10.2		173		20		52		61		4			13		307		164.0	
7/21/2022	5	60	10.1		170		11		38		71		3			13		309		163.8	
7/21/2022	6	60	10.2		167		7		31		79		2			13		310		161.6	
7/21/2022	7	60	10.4		169		8		34		78		4	3		13	13	308	309	163.9	163.3
7/21/2022	8	60	10.5		166		7		36		81		4			13		305		162.6	
7/21/2022	9	60	10.6		170		6		38		85		5			13		305		160.7	
7/21/2022	10	60	10.3		183		2		21		93		5			13		310		156.3	
7/21/2022	11	60	10.2		169		8		32		76		5	5		14		318	310	163.9	160.9
7/21/2022	12	60	10.2		155		5		27		80		3			14		319		164.2	
7/21/2022	13	60	10.2		172		8		47		84		52			14		307		163.4	
7/21/2022	14	60	11.0		170		3		29		89		16			14		294		161.0	
7/21/2022	15	60	11.2		171		6		36		82		4	19		14	14	305	306	160.8	162.4
7/21/2022	16	60	11.3		179		21		77		73		4			13		312		161.8	
7/21/2022	17	60	11.3		175		13		52		75		4			13		317		160.9	
7/21/2022	18	60	11.2		165		6		31		80		3			13		317		161.3	
7/21/2022	19	60	10.9		162		4		27		87		2	3		13		316	315	160.4	161.1
7/21/2022	20	60	11.2		179		7		33		80		2			13		311		162.0	
7/21/2022	21	60	11.1		173		8		35		77		3			14		310		161.4	
7/21/2022	22	60	11.0		173		18		69		73		3			13		311		160.2	
7/21/2022	23	60	11.1		173		26		98		74		3	3		13	13	314	312	162.0	161.4

Average: Geometric Mean Average:	169	8	<b>OR</b>	79	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

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



Date 21-Jul-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	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1	1	1	1
3	1	1	1	1	1	1	1	1	1	1	1
4	1	1	1	1	1	1	1	1	1	1	1
5	1	1	1	1	1	1	1	1	1	1	1
6	2	IC	5	IC	1	1	1	1	1	1	1
7	1	1	1	1	1	1	1	1	1	1	1
8	1	1	1	1	1	1	1	1	1	1	1
9	1	1	1	1	1	1	1	1	1	1	1
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	1	1	1	1	1	1	1	1	1	1	1
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

**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 21-Jul-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	1	2	2	2
2	2	2	2	1	1	1	1	2	2	1	1
3	2	2	2	2	2	2	2	2	2	2	2
4	2	2	2	1	1	1	1	1	2	1	1
5	2	2	1	1	1	2	2	1	2	2	2
6	1	IBC	6	IBC	2	2	2	2	2	2	2
7	1	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	1	2	2	2
10	1	1	1	1	2	1	1	1	2	1	1
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	1	1	2	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	2	2	1	1
17	2	1	1	1	1	1	1	1	1	1	1
18	2	1	1	1	1	1	1	1	1	1	1
19	1	2	2	2	1	1	2	2	2	1	1
20	1	1	2	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	2	2	1	1
23	2	2	2	2	2	2	1	1	1	2	2

**Status Flags**

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