



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



Date 1/20/22

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
1/20/2022	0	0	20.9	IF	19	IF	8	IF	57	IBF	86	IBF	0	IF		0		544		0.0		
1/20/2022	1	0	20.9	IF	19	IF	8	IF	56	IBF	86	IBF	0	IF		0		544		0.0		
1/20/2022	2	0	20.9	IF	19	IF	8	IF	59	IBF	86	IBF	0	IF		0		544		0.0		
1/20/2022	3	5	20.0	ICF	18	ICF	8	ICF	67	IBF	89	IBCF	0	ICF	0	0	ICF	544	544	0.0	0.0	
1/20/2022	4	13	17.1	IBCF	110	IBCF	61	IBCF	71	IBF	14	IBCF	506	IBCF		0		544		0.0		
1/20/2022	5	0	20.9	IF	18	IF	8	IF	146	IBCF	95	IBCF	0	IF		0		544		0.0		
1/20/2022	6	0	20.9	IF	18	IF	8	IF	87	IBF	91	IBF	0	IF		1		544		0.0		
1/20/2022	7	0	20.9	IF	19	IF	8	IF	79	IBF	90	IBF	0	IF	126	IBCF	0	0	544	544	0.0	0.0
1/20/2022	8	0	20.9	IF	18	IF	8	IF	61	IBF	87	IBF	0	IF		1		544		0.0		
1/20/2022	9	0	20.9	IF	20	IF	8	IF	76	IBF	89	IBF	0	IF		0		544		0.0		
1/20/2022	10	0	20.9	IF	19	IF	8	IF	81	IBF	90	IBF	0	IF		0		544		0.0		
1/20/2022	11	0	20.9	IF	17	IF	8	IF	76	IBF	90	IBF	0	IF	0	IF	1	544	544	0.0	0.0	
1/20/2022	12	0	20.9	IF	16	IF	8	IF	68	IBF	89	IBF	0	IF		0		544		0.0		
1/20/2022	13	0	20.9	IF	14	IF	8	IF	61	IBF	87	IBF	0	IF		0		544		0.0		
1/20/2022	14	0	20.9	IF	13	IF	8	IF	47	IBF	84	IBF	0	IF		1		544		0.0		
1/20/2022	15	0	20.9	IF	12	IF	7	IF	28	IBF	74	IBF	0	IF	0	IF	1	544	544	0.0	0.0	
1/20/2022	16	0	20.9	IF	11	IF	7	IF	16	IBF	56	IBF	0	IF		1		544		0.0		
1/20/2022	17	0	20.9	IF	9	IF	7	IF	2	IBF	0	IBF	0	IF		0		544		0.0		
1/20/2022	18	0	20.9	IF	8	IF	7	IF	1	IBF	0	IBF	0	IF		0		544		0.0		
1/20/2022	19	0	20.9	IF	7	IF	6	IF	0	IBF	0	IBF	0	IF	0	IF	0	544	544	0.0	0.0	
1/20/2022	20	0	20.9	IF	6	IF	6	IF	0	IBF	0	IBF	0	IF		0		544		0.0		
1/20/2022	21	0	20.9	IF	5	IF	6	IF	0	IBF	0	IBF	0	IF		0		544		0.0		
1/20/2022	22	0	20.9	IF	5	IF	6	IF	0	IBF	0	IBF	0	IF		0		544		0.0		
1/20/2022	23	0	20.9	IF	5	IF	5	IF	0	IBF	0	IBF	0	IF	0	IF	0	0	544	544	0.0	0.0

<b>Average:</b> <b>Geometric Mean Average:</b>	<div style="border: 1px solid black; padding: 5px; background-color: #ffff00;"> <b>18</b> IBCF         </div>	<div style="border: 1px solid black; padding: 5px; background-color: #90ee90;"> <b>8</b> IBCF         </div>	<b>OR</b>	<div style="border: 1px solid black; padding: 5px; background-color: #90ee90;"> <b>0</b> IBCF         </div>	<div style="border: 1px solid black; padding: 5px; background-color: #d3d3d3;">           see above         </div>	<div style="border: 1px solid black; padding: 5px; background-color: #90ee90;">           see above         </div>	<div style="border: 1px solid black; padding: 5px; background-color: #800080;">           see above         </div>	<div style="border: 1px solid black; padding: 5px; background-color: #d3d3d3;">           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>	<b>OR</b>	<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>\leq 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 1/20/22

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.
1/20/2022	0	60	9.1		193		0		18		98		2			14		310		165.5	
1/20/2022	1	60	9.2		193		1		21		93		2			14		310		165.7	
1/20/2022	2	60	9.2		193		3		27		89		2			14		310		166.1	
1/20/2022	3	60	9.3		193		9		38		77		2	2		14		310	310	165.6	165.7
1/20/2022	4	60	9.3		180		4		28		86		1			14		310		166.0	
1/20/2022	5	60	9.2		193		8		27		70		1			13		310		165.6	
1/20/2022	6	60	9.2		195		3		21		84		2			14		310		165.2	
1/20/2022	7	60	9.1		193		0		13		96		1	2		14	14	310	310	166.1	165.7
1/20/2022	8	60	9.2		197		1		15		96		2			14		310		165.6	
1/20/2022	9	60	9.2		196		1		12		92		2			14		310		166.0	
1/20/2022	10	60	9.3		195		4		18		76		2			14		310		165.5	
1/20/2022	11	60	9.1		194		1		13		89		2	2		14		310	310	163.3	165.1
1/20/2022	12	60	9.2		191		0		15		97		3			14		310		164.2	
1/20/2022	13	60	9.3		191		2		21		91		2			15		310		165.4	
1/20/2022	14	60	9.4		193		5		29		83		2			14		310		164.8	
1/20/2022	15	60	9.6		186		7		31		78		2	2		14	14	310	310	162.9	164.3
1/20/2022	16	60	9.3		194		2		21		91		2			14		310		165.1	
1/20/2022	17	60	9.3		148		1		17		96		13			14		309		153.2	
1/20/2022	18	60	9.0		174		2		21		90		1			14		311		162.1	
1/20/2022	19	60	9.0		194		2		19		92		1	4		14		310	310	166.2	161.7
1/20/2022	20	60	9.1		185		1		20		96		1			14		310		166.0	
1/20/2022	21	60	9.2		189		1		19		96		1			14		310		165.5	
1/20/2022	22	60	9.3		188		1		21		94		2			13		310		165.8	
1/20/2022	23	60	9.4		192		2		23		90		1	1		14	14	310	310	165.7	165.8

Average:  
Geometric Mean Average:

Limit:

189	2
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

91
≥ 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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- ^ - Startup
- \* - Shutdown



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



Date 20-Jan-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	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
1	2	IF	1	IF	2	IF	2	IF	1	IF	2	IF	2	IF	2	IF	1	IF	2	IF	1
2	1	IF	1	IF	1	IF	1	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	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	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	1	IF	1	IF	1	IF	1	IF	1	IF	2	IF	1	IF	1
6	2	ICF	23	ICF	2	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	4
7	1	IF	1	IF	1	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	1
8	2	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	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	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-Jan-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	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	IBC	6	IBC	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

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