



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



Date 1/17/22

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
1/17/2022	0	0	20.7	IF	82	IF	9	IF	78	IBF	88	IBF	120	IF		8		301		31.8		
1/17/2022	1	0	20.8	IF	33	IF	10	IF	58	IBF	83	IBF	20	IF		1		272		21.1		
1/17/2022	2	0	20.8	IF	23	IF	10	IF	45	IBF	77	IBF	16	IF		0		245		3.9		
1/17/2022	3	5	20.0	ICF	26	ICF	9	ICF	1	IBF	0	IBCF	15	ICF	43	ICF	0	211	257	0.0	14.2	
1/17/2022	4	13	17.1	IBCF	151	IBCF	63	IBCF	0	IBF	0	IBCF	570	IBCF		0		210		0.0		
1/17/2022	5	0	20.9	IF	31	IF	9	IF	133	IBCF	93	IBCF	4	IF		0		197		0.0		
1/17/2022	6	0	20.9	IF	32	IF	9	IF	0	IBF	0	IBF	0	IF		0		300		0.0		
1/17/2022	7	0	20.9	IF	33	IF	9	IF	0	IBF	0	IBF	0	IF	144	IBCF	0	1	592	325	0.0	0.0
1/17/2022	8	0	20.9	IF	35	IF	9	IF	0	IBF	0	IBF	0	IF		1		592		0.0		
1/17/2022	9	0	20.9	IF	41	IF	9	IF	0	IBF	0	IBF	2	IF		0		592		0.0		
1/17/2022	10	0	20.9	IF	41	IF	8	IF	0	IBF	0	IBF	1	IF		0		592		0.0		
1/17/2022	11	0	20.9	IF	42	IF	8	IF	0	IBF	0	IBF	0	IF	1	IF	0		592	592	0.0	0.0
1/17/2022	12	0	20.9	IF	41	IF	8	IF	2	IBF	0	IBF	1	IF		0		592		0.0		
1/17/2022	13	0	20.9	IF	35	IF	8	IF	27	IBF	69	IBF	1	IF		0		592		0.0		
1/17/2022	14	0	20.9	IF	30	IF	9	IF	43	IBF	80	IBF	0	IF		0		592		0.0		
1/17/2022	15	0	20.9	IF	29	IF	9	IF	53	IBF	83	IBF	0	IF	0	IF	0	0	592	592	0.0	0.0
1/17/2022	16	0	20.9	IF	27	IF	9	IF	61	IBF	86	IBF	0	IF		0		592		0.0		
1/17/2022	17	0	20.9	IF	26	IF	9	IF	59	IBF	85	IBF	0	IF		0		592		0.0		
1/17/2022	18	0	20.9	IF	26	IF	8	IF	54	IBF	85	IBF	0	IF		0		592		0.0		
1/17/2022	19	0	20.9	IF	27	IF	8	IF	51	IBF	83	IBF	0	IF	0	IF	0	0	592	592	0.0	0.0
1/17/2022	20	0	20.9	IF	32	IF	8	IF	50	IBF	83	IBF	0	IF		1		592		0.0		
1/17/2022	21	0	20.9	IF	31	IF	9	IF	47	IBF	82	IBF	0	IF		0		592		0.0		
1/17/2022	22	0	20.9	IF	34	IF	9	IF	46	IBF	81	IBF	0	IF		0		592		0.0		
1/17/2022	23	0	20.9	IF	36	IF	8	IF	46	IBF	82	IBF	0	IF	0	IF	1	0	592	592	0.0	0.0

Average:
Geometric Mean Average:

Limit:

39 IBCF
9 IBCF
≤ 205 24-HR Block Avg.
≤ 29 24-HR Geometric Mean

OR

0 IBCF
≥ 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

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 1/17/22

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.
1/17/2022	0	60	9.6		145		2		29		94		3			15		309		150.4	
1/17/2022	1	60	8.8		156		2		35		94		2			15		311		165.0	
1/17/2022	2	60	9.0		167		1		25		98		2			15		310		166.3	
1/17/2022	3	60	8.9		153		1		20		94		1	2		14		310	310	166.6	162.1
1/17/2022	4	60	8.8		147		1		26		96		2			14		310		166.9	
1/17/2022	5	60	9.0		153		1		28		98		1			14		310		165.8	
1/17/2022	6	60	8.9		144		1		24		97		1			14		310		166.1	
1/17/2022	7	60	8.8		147		0		25		99		2	2		14	15	310	310	165.4	166.1
1/17/2022	8	60	8.8		165		0		20		99		3			14		310		165.5	
1/17/2022	9	60	8.8		182		0		18		100		3			14		310		164.1	
1/17/2022	10	60	8.9		172		0		27		99		3			14		310		165.4	
1/17/2022	11	60	8.6		152		0		22		98		6	4		14		310	310	166.1	165.3
1/17/2022	12	60	8.6		155		3		28		90		3			15		310		165.5	
1/17/2022	13	60	8.5		179		5		27		82		5			14		310		166.0	
1/17/2022	14	60	8.7		174		7		22		68		4			15		310		166.0	
1/17/2022	15	60	8.5		174		1		14		91		5	4		15	14	310	310	164.2	165.4
1/17/2022	16	60	8.6		167		2		15		90		5			15		310		166.2	
1/17/2022	17	60	8.5		181		5		30		85		5			14		310		165.8	
1/17/2022	18	60	8.4		176		10		47		79		6			15		310		166.4	
1/17/2022	19	60	8.7		171		2		19		89		4	5		14		310	310	165.4	166.0
1/17/2022	20	60	8.7		172		8		31		73		3			14		310		166.7	
1/17/2022	21	60	8.8		175		7		30		77		3			14		309		165.7	
1/17/2022	22	60	9.1		172		6		25		74		3			14		310		165.8	
1/17/2022	23	60	9.0		180		4		19		79		2	3		14	14	310	310	165.6	166.0

Average:
Geometric Mean Average:

Limit:

165	1
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

94
≥ 75% Removal Efficiency

see above
≤ 69 4-HR Block Average

ppmc

see above
≤ 12 8-HR. Block Average

lb/hr

see above
≤ 345 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 OPACITY REPORT



Date 17-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	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	22	ICF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	4
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 17-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

Status Flags

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