



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



Date 8/1/22

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.
8/1/2022	0	60	9.6		145		9		82		88		4			13		307		174.7	
8/1/2022	1	60	10.0		146		19		100		81		4			13		304		168.3	
8/1/2022	2	60	9.9		148		8		63		148		4			13		313		166.1	
8/1/2022	3	60	8.8		77		8		80		90		12	6		13		319	311	164.2	168.3
8/1/2022	4	60	9.1		35		0		75		100		74			13		305		137.9	
8/1/2022	5	60	11.9		103		1		48		99		140			13		295		111.1	
8/1/2022	6	6	17.8	IF	245	IF	16	IF	38	IBF	57	IBF	2758	IF		13		294		80.5	
8/1/2022	7	0	20.9	IF	94	IF	6	IF	-2275	IBF	0	IBF	23	IF	107	13		241	300	7.0	124.5
8/1/2022	8	0	20.9	IF	91	IF	5	IF	-1952	IBF	0	IBF	3	IF		0		200		0.1	
8/1/2022	9	0	20.9	IF	84	IF	5	IF	-1430	IBF	0	IBF	0	IF		0		174		0.0	
8/1/2022	10	0	20.9	IF	90	IF	5	IF	-1939	IBF	0	IBF	3	IF		0		170		0.0	
8/1/2022	11	0	20.9	IF	83	IF	5	IF	-1854	IBF	0	IBF	0	IF	1	IF		173	179	0.0	0.0
8/1/2022	12	0	20.9	IF	80	IF	5	IF	-2069	IBF	0	IBF	0	IF		0		172		0.0	
8/1/2022	13	0	20.9	IF	78	IF	5	IF	-1638	IBF	0	IBF	0	IF		0		169		0.0	
8/1/2022	14	0	20.9	IF	71	IF	6	IF	-1941	IBF	0	IBF	0	IF		0		162		0.0	
8/1/2022	15	0	20.9	IF	70	IF	6	IF	-2440	IBF	0	IBF	0	IF	0	IF	0	156	165	0.0	0.0
8/1/2022	16	0	20.9	IF	69	IF	6	IF	-1923	IBF	0	IBF	0	IF		0		150		0.0	
8/1/2022	17	0	20.9	IF	69	IF	5	IF	-1624	IBF	0	IBF	0	IF		0		144		0.0	
8/1/2022	18	0	20.9	IF	69	IF	5	IF	-1534	IBF	0	IBF	0	IF		0		139		0.0	
8/1/2022	19	0	20.9	IF	68	IF	7	IF	-1560	IBF	0	IBF	0	IF	0	IF		135	142	0.0	0.0
8/1/2022	20	0	21.0	IF	66	IF	6	IF	-1422	IBF	0	IBF	0	IF		0		131		0.0	
8/1/2022	21	0	21.0	IF	65	IF	6	IF	-1406	IBF	0	IBF	0	IF		0		127		0.0	
8/1/2022	22	0	21.0	IF	64	IF	5	IF	-1273	IBF	0	IBF	0	IF		0		125		0.0	
8/1/2022	23	0	21.0	IF	64	IF	5	IF	-1187	IBF	0	IBF	0	IF	0	IF	0	122	126	0.0	0.0

Average:
Geometric Mean Average:

Limit:

109	3
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

97
≥ 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 8/1/22

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.
8/1/2022	0	60	12.0		177		4		117		97		4			14		307		163.6	
8/1/2022	1	60	12.1		178		3		80		96		4			14		306		162.4	
8/1/2022	2	60	11.9		183		3		85		96		4			13		318		164.8	
8/1/2022	3	60	11.6		189		2		66		96		2	4		14		307	309	165.7	164.1
8/1/2022	4	60	11.5		189		3		74		96		4			14		306		168.7	
8/1/2022	5	60	11.8		184		3		29		91		4			13		305		163.8	
8/1/2022	6	60	11.8		184		3		10		75		3			14		311		165.3	
8/1/2022	7	60	11.8		176		3		10		73		4	4		13	13	310	308	162.0	164.9
8/1/2022	8	60	11.3		170		3		15		82		4			13		311		164.7	
8/1/2022	9	60	11.4		174		3		19		86		5			14		322		162.9	
8/1/2022	10	60	11.4		113		12		45		72		458			14		299		111.6	
8/1/2022	11	60	11.5		182		3		34		92		34	125		13		312	311	159.3	149.6
8/1/2022	12	60	11.2		163		3		16		83		4			13		310		164.0	
8/1/2022	13	60	11.0		165		3		13		79		4			13		310		161.3	
8/1/2022	14	60	11.0		179		2		14		83		4			13		310		164.6	
8/1/2022	15	60	11.1		182		11		24		56		4	4		14	13	310	310	161.3	162.8
8/1/2022	16	60	11.0		182		5		24		79		5			14		310		165.0	
8/1/2022	17	60	11.2		181		4		20		78		4			14		310		166.9	
8/1/2022	18	60	11.4		178		4		25		82		5			14		309		164.4	
8/1/2022	19	60	11.1		192		6		35		82		4	5		14		310	310	162.7	164.7
8/1/2022	20	60	11.1		190		6		27		77		4			14		310		165.3	
8/1/2022	21	60	10.7		188		5		23		77		3			12		310		170.5	
8/1/2022	22	60	11.3		180		6		27		77		3			14		310		165.0	
8/1/2022	23	60	10.9		185		48		103		53		4	4		12	13	310	310	167.6	167.1

Average: Geometric Mean Average:	178	4	OR	86	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 01-Aug-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		1	1	
2	1		1		1		1		1		1		1		1		1		1		1	1	
3	1		1		1		1		1		1		1		1		1		1		1	1	
4	1		1		1		1		1		1		1		1		1		1		1	1	
5	1		1		1		1		1		1		1		1		1		1		1	1	
6	2	IC	23	ICF	1	IF	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	IF	1
8	1	IF	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	IF	1
10	1	IF	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	IF	1
12	1	IF	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	IF	1
14	1	IF	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	IF	1
16	1	IF	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	IF	1
18	1	IF	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	IF	1
20	1	IF	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	IF	1
22	1	IF	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	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 01-Aug-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	0	0	0	0	0	0	0	0	1	0	0
1	1	1	1	1	0	0	1	1	0	1	0
2	0	0	1	0	0	0	0	0	0	0	0
3	0	0	0	0	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	IBC	5	IBC	0	0	1	1	1	1	1
7	1	1	1	1	1	1	1	1	1	1	1
8	0	0	2	1	1	1	1	1	1	1	1
9	1	1	1	1	1	1	1	1	1	1	1
10	1	1	0	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	0	0	0	0	0	0	0
17	1	1	0	0	0	0	0	0	0	0	0
18	1	1	1	1	1	0	0	1	1	0	0
19	1	1	1	1	1	1	1	1	0	1	0
20	0	0	0	0	1	1	1	0	1	1	0
21	1	0	1	1	0	0	0	0	1	0	0
22	1	1	1	1	1	1	1	1	1	1	1
23	0	0	1	1	1	1	1	1	1	1	1

Status Flags

I - Invalid C - Calibration F - Offline T - Out of Control ^ - Startup
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