



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



Date 3/25/22

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.
3/25/2022	0	60	9.7		165		7		52		88		5			15		304		169.8	
3/25/2022	1	60	10.1		176		13		61		78		4			14		304		165.7	
3/25/2022	2	60	10.1		177		20		77		74		4			15		304		167.1	
3/25/2022	3	60	10.1		165		18		71		74		5	5		14		304	304	168.2	167.7
3/25/2022	4	60	10.2		164		20		76		74		4			15		304		167.4	
3/25/2022	5	60	10.0		168		22		51		58		4			14		305		167.0	
3/25/2022	6	60	9.9		170		14		42		67		4			14		304		165.9	
3/25/2022	7	60	9.7		173		11		44		74		5	4		14	14	304	304	165.7	166.5
3/25/2022	8	60	9.6		165		14		58		75		6			14		304		165.9	
3/25/2022	9	60	9.6		155		18		53		67		5			14		304		167.5	
3/25/2022	10	60	10.1		177		17		49		65		4			14		304		165.6	
3/25/2022	11	60	9.7		169		11		53		79		5	5		14		305	304	166.6	166.4
3/25/2022	12	60	9.9		179		13		62		78		4			14		304		167.8	
3/25/2022	13	60	9.7		168		10		60		83		6			14		305		166.8	
3/25/2022	14	60	10.0		166		25		109		77		5			14		304		165.6	
3/25/2022	15	60	9.6		166		23		111		79		6	5		14	14	305	304	165.1	166.3
3/25/2022	16	60	9.8		164		27		125		78		5			14		304		165.2	
3/25/2022	17	60	9.7		164		22		96		77		5			14		304		165.7	
3/25/2022	18	60	9.8		163		23		99		77		5			14		304		165.9	
3/25/2022	19	60	9.8		165		38		184		79		5	5		14		304	304	166.0	165.7
3/25/2022	20	60	9.7		158		25		126		80		6			12		304		166.9	
3/25/2022	21	60	9.8		159		28		145		80		5			14		304		165.3	
3/25/2022	22	60	9.8		156		33		159		79		5			14		304		166.6	
3/25/2022	23	60	9.7		149		16		101		84		5	5		15	14	304	304	166.3	166.3

Average:
Geometric Mean Average:

Limit:

166	18
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

77
≥ 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 3/25/22

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.
3/25/2022	0	0	20.5	IF	6	IF	6	IF	0	IBF	0	IBF	23	IF		0		274		25.7	
3/25/2022	1	0	20.5	IF	3	IF	7	IF	0	IBF	0	IBF	10	IF		0		239		9.4	
3/25/2022	2	0	20.5	IF	3	IF	7	IF	0	IBF	0	IBF	16	IF		0		212		1.0	
3/25/2022	3	5	19.7	ICF	34	ICF	78	ICF	0	IBF	0	IBCF	182	ICF	58	ICF	0	199	231	0.4	9.1
3/25/2022	4	12	16.9	IBCF	62	IBCF	55	IBCF	0	IBF	0	IBCF	514	IBCF		0		197		0.4	
3/25/2022	5	0	20.5	IF	2	IF	6	IF	130	IBCF	95	IBCF	2	IF		0		185		0.3	
3/25/2022	6	0	20.5	IF	2	IF	6	IF	0	IBF	0	IBF	0	IF		0		169		0.3	
3/25/2022	7	0	20.5	IF	2	IF	6	IF	0	IBF	0	IBF	0	IF	129	IBCF	0	124	169	0.2	0.3
3/25/2022	8	0	20.5	IF	2	IF	6	IF	0	IBF	0	IBF	0	IF		0		109		0.2	
3/25/2022	9	0	20.5	IF	2	IF	6	IF	0	IBF	0	IBF	0	IF		0		112		0.2	
3/25/2022	10	0	20.5	IF	2	IF	5	IF	0	IBF	0	IBF	0	IF		0		118		0.3	
3/25/2022	11	22	16.4	IF	116	IF	5	IF	0	IBMF	0	IBMF	38	IF	10	IF	0	134	118	0.3	0.3
3/25/2022	12	60	15.9		128		0		0		0		21			11		153		2.1	
3/25/2022	13	60	14.2		133		1		0		0		9			13		181		20.6	
3/25/2022	14	60	11.3		105		1		0		0		1			13		219		36.8	
3/25/2022	15	60	9.9		108		13		24		44		79		28		12	263	204	65.3	31.2
3/25/2022	16	60	8.9		143		9		77		89		4			13		297		159.0	
3/25/2022	17	60	8.3		178		4		48		91		4			14		300		167.9	
3/25/2022	18	60	8.6		180		6		64		90		2			14		300		166.8	
3/25/2022	19	60	8.6		192		13		104		87		3		3	13		300	299	167.4	165.3
3/25/2022	20	60	8.7		186		15		100		85		2			9		300		167.4	
3/25/2022	21	60	8.7		177		8		99		92		2			14		300		168.5	
3/25/2022	22	60	8.9		185		10		103		90		2			15		300		166.5	
3/25/2022	23	60	8.6		189		8		88		91		3		2	17	14	300	300	167.8	167.6

Average:
Geometric Mean Average:

Limit:

159	4
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

69
≥ 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 OPACITY REPORT



Date 25-Mar-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	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	IC	6	IC	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



WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 25-Mar-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	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2
1	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2
2	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2
3	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2
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	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2
6	2	BCF	23	BCF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	4
7	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2
8	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	2
9	2	IF	2	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	2	IF	2	IF	2	IF	2	IF	2	IF	2	IF	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