



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



Date 8/30/22

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
8/30/2022	0	0	21.0	IF	68	IF	6	IF	-145	IBF	0	IBF	0	IF		0		101		0.0		
8/30/2022	1	0	21.0	IF	66	IF	6	IF	-138	IBF	0	IBF	0	IF		0		99		0.0		
8/30/2022	2	0	21.0	IF	66	IF	6	IF	-139	IBF	0	IBF	0	IF		0		98		0.0		
8/30/2022	3	0	20.1	ICF	62	ICF	6	ICF	-142	IBF	0	IBCF	0	ICF	0	ICF	0	97	98	0.0	0.0	
8/30/2022	4	0	17.4	IBCF	282	IBCF	61	IBCF	-149	IBF	0	IBCF	540	IBCF		0		95		0.0		
8/30/2022	5	0	20.9	IF	69	IF	6	IF	161	IBCF	96	IBCF	0	IF		0		95		0.0		
8/30/2022	6	0	20.9	IF	69	IF	6	IF	-130	IBF	0	IBF	0	IF		0		94		0.0		
8/30/2022	7	0	20.9	IF	70	IF	6	IF	-143	IBF	0	IBF	0	IF	135	IBCF	0	0	94	95	0.0	0.0
8/30/2022	8	0	21.0	IF	71	IF	6	IF	-168	IBF	0	IBF	0	IF		0		94		0.0		
8/30/2022	9	0	20.9	IF	72	IF	6	IF	-184	IBF	0	IBF	0	IF		0		96		0.0		
8/30/2022	10	0	20.9	IF	74	IF	6	IF	-204	IBF	0	IBF	0	IF		0		99		0.0		
8/30/2022	11	0	20.9	IF	74	IF	6	IF	-229	IBF	0	IBF	0	IF	0	IF	0	101	98	0.0	0.0	
8/30/2022	12	0	21.0	IF	73	IF	5	IF	-319	IBF	0	IBF	0	IF		0		99		0.0		
8/30/2022	13	0	21.0	IF	70	IF	5	IF	-220	IBMF	0	IBMF	0	IF		0		103		0.0		
8/30/2022	14	0	21.0	IF	66	IF	5	IF	-163	IBMF	0	IBMF	0	IF		0		103		0.0		
8/30/2022	15	0	21.0	IF	66	IF	5	IF	-137	IBF	0	IBF	0	IF	0	IF	0	103	102	0.0	0.0	
8/30/2022	16	0	21.0	IF	65	IF	6	IF	-138	IBF	0	IBF	0	IF		0		101		0.0		
8/30/2022	17	0	20.9	IF	68	IF	6	IF	-131	IBF	0	IBF	0	IF		0		101		0.0		
8/30/2022	18	0	20.9	IF	68	IF	6	IF	-125	IBF	0	IBF	0	IF		0		101		0.0		
8/30/2022	19	0	20.9	IF	67	IF	6	IF	-119	IBF	0	IBF	0	IF	0	IF	0	100	101	0.0	0.0	
8/30/2022	20	0	20.9	IF	67	IF	6	IF	-116	IBF	0	IBF	0	IF		0		99		0.0		
8/30/2022	21	0	20.9	IF	68	IF	6	IF	-115	IBF	0	IBF	0	IF		0		99		0.0		
8/30/2022	22	0	21.0	IF	69	IF	6	IF	-101	IBF	0	IBF	0	IF		0		98		0.0		
8/30/2022	23	0	21.0	IF	69	IF	6	IF	-104	IBF	0	IBF	0	IF	0	IF	0	96	98	0.0	0.0	

Average:
Geometric Mean Average:

Limit:

77 IBCF	6 IBCF	0 IBCMF
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean	≥ 75% Removal Efficiency

OR

see above
≤ 69 ppmc 4-HR Block Average

see above	see above	see above
≥ 12 lb/hr 8-HR. Block Average	≤ 345 °F 4-HR Block Average	≤ 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 8/30/22

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.
8/30/2022	0	60	11.3		167		9		17		46		6			14		306		165.0	
8/30/2022	1	60	11.2		172		16		18		14		7			12		311		166.2	
8/30/2022	2	60	11.2		179		37		54		32		7			14		311		165.6	
8/30/2022	3	60	11.2		174		23		26		10		8	7		12		312	310	165.6	165.6
8/30/2022	4	60	10.8		162		19		20		5		5			14		314		166.2	
8/30/2022	5	60	10.9		166		21		11		0		6			14		311		164.7	
8/30/2022	6	60	11.0		160		19		7		0		5			13		320		165.6	
8/30/2022	7	60	11.1		166		22		14		0		7	6		13	13	319	316	166.8	165.8
8/30/2022	8	60	11.0		164		19		8		0		5			15		318		164.4	
8/30/2022	9	60	11.1		155		16		6		0		5			12		319		165.5	
8/30/2022	10	60	11.4		149		9		3		0		3			15		313		167.4	
8/30/2022	11	60	11.1		180		16		6		0		7	5		13		323	318	165.6	165.7
8/30/2022	12	60	11.2		168		12		6		0		7			12		310		165.7	
8/30/2022	13	60	11.0		164		23		17	IBM	0	IBM	6			14		312		164.1	
8/30/2022	14	60	10.7		160		20		16		0		6			10		309		164.8	
8/30/2022	15	60	10.8		165		21		13		0		5	6		12	13	319	312	166.3	165.2
8/30/2022	16	60	11.0		163		25		38		33		5			13		316		165.0	
8/30/2022	17	60	11.0		166		18		14		0		4			10		309		165.8	
8/30/2022	18	60	10.9		158		21		20		0		3			14		313		166.0	
8/30/2022	19	60	11.0		175		30		53		43		4	4		11		317	314	165.8	165.7
8/30/2022	20	60	10.9		157		10		29		67		4			18		303		165.5	
8/30/2022	21	60	10.9		164		11		28		62		4			18		299		165.4	
8/30/2022	22	60	11.1		159		15		26		41		3			18		303		166.1	
8/30/2022	23	60	11.1		160		17		30		43		3	3		17	15	312	304	165.2	165.5

Average:
Geometric Mean Average:

Limit:

165	18
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

0
≥ 75% Removal Efficiency

see above
≤ 69 4-HR Block Average

ppmc

see above
≥ 12 8-HR. Block Average

lb/hr

see above
≤ 345 °F 4-HR Block Average

°F

see above
≤ 173 4-HR Block Average

klb/hr

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WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 30-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	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
1	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
2	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
3	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
4	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
5	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	1	IF	1	IF	1	IF	0	IF	0
6	3	ICF	23	ICF	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
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	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
18	1	IF	1	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
19	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
20	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0
21	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	1	IF	1	IF	0	IF	0	IF	0
22	0	IF	0	IF	0	IF	0	IF	0	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1
23	1	IF	1	IF	1	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0

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 30-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	3	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	3	3	3	3	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	7	IBC	2	2	2	2	2	2	3
7	2	3	3	3	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	3	3	2	3	3	3	3	2	2	3	3
15	3	3	3	2	3	3	2	3	2	3	2
16	2	3	3	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	3	3	3	3	3	2	2	3	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

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