



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



Date 7/25/22

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
7/25/2022	0	0	20.8	IF	92	IF	9	IF	1569	IBF	99	IBF	37	IF		0		239		12.4		
7/25/2022	1	0	20.8	IF	88	IF	9	IF	2359	IBF	100	IBF	19	IF		0		238		0.6		
7/25/2022	2	0	20.9	IF	84	IF	9	IF	3204	IBF	100	IBF	10	IF		0		215		0.0		
7/25/2022	3	5	20.1	ICF	76	ICF	9	ICF	4183	IBF	100	IBCF	5	ICF	18	ICF	0	189	220	0.0	3.3	
7/25/2022	4	12	17.3	IBCF	326	IBCF	68	IBCF	2384	IBF	97	IBCF	540	IBCF		0		187		0.0		
7/25/2022	5	0	20.9	IF	86	IF	8	IF	163	IBCF	95	IBCF	1	IF		0		167		0.0		
7/25/2022	6	0	20.9	IF	88	IF	8	IF	6900	IBF	100	IBF	0	IF		0		150		0.0		
7/25/2022	7	0	20.9	IF	89	IF	7	IF	5377	IBF	100	IBF	0	IF	135	IBCF	0	0	136	160	0.0	0.0
7/25/2022	8	0	20.9	IF	89	IF	6	IF	8872	IBF	100	IBF	0	IF		0		129		0.0		
7/25/2022	9	0	20.9	IF	88	IF	6	IF	7577	IBF	100	IBF	0	IF		0		123		0.0		
7/25/2022	10	0	20.9	IF	84	IF	7	IF	6938	IBF	100	IBF	0	IF		0		117		0.0		
7/25/2022	11	0	20.9	IF	86	IF	8	IF	4149	IBF	100	IBF	0	IF	0	IF	0	114	121	0.0	0.0	
7/25/2022	12	0	20.9	IF	88	IF	8	IF	264	IBCMF	97	IBCMF	0	IF		0		113		0.0		
7/25/2022	13	0	20.9	IF	88	IF	7	IF	182	IBCF	96	IBCF	0	IF		0		112		0.0		
7/25/2022	14	0	20.9	IF	82	IF	7	IF	-1395	IBF	0	IBF	0	IF		0		109		0.0		
7/25/2022	15	0	20.9	IF	78	IF	7	IF	-2582	IBF	0	IBF	0	IF	0	IF	0	107	110	0.0	0.0	
7/25/2022	16	0	20.9	IF	79	IF	9	IF	-4181	IBF	0	IBF	0	IF		0		104		0.0		
7/25/2022	17	0	20.9	IF	78	IF	10	IF	-7055	IBF	0	IBF	0	IF		0		100		0.0		
7/25/2022	18	0	20.9	IF	79	IF	8	IF	-5515	IBF	0	IBF	0	IF		0		97		0.0		
7/25/2022	19	0	20.9	IF	79	IF	8	IF	-14781	IBF	0	IBF	0	IF	0	IF	0	90	98	0.0	0.0	
7/25/2022	20	0	20.9	IF	78	IF	7	IF	-10235	IBF	0	IBF	0	IF		0		88		0.0		
7/25/2022	21	0	20.9	IF	75	IF	8	IF	-8714	IBF	0	IBF	0	IF		0		86		0.0		
7/25/2022	22	0	20.9	IF	72	IF	9	IF	-7538	IBF	0	IBF	0	IF		0		83		0.0		
7/25/2022	23	0	20.9	IF	69	IF	8	IF	-11304	IBF	0	IBF	0	IF	0	IF	0	83	85	0.0	0.0	

Average:
Geometric Mean Average:

Limit:

92 IBCF	9 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 7/25/22

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.
7/25/2022	0	60	9.6		160		26		58		56		2			13		322		172.2	
7/25/2022	1	60	10.0		158		7		60		88		2			13		309		164.7	
7/25/2022	2	60	9.8		156		13		85		85		1			13		302		165.5	
7/25/2022	3	60	9.8		159		19		67		72		2	2		13		306	310	167.6	167.5
7/25/2022	4	60	9.6		155		20		62		68		3			14		313		166.3	
7/25/2022	5	60	9.7		170		24		61		61		2			14		324		168.7	
7/25/2022	6	60	9.5		161		23		62		63		3			13		324		165.3	
7/25/2022	7	60	9.6		165		20		41		51		3	3		14	13	329	323	163.9	166.1
7/25/2022	8	60	9.7		175		20		47		58		3			14		331		162.6	
7/25/2022	9	60	10.2		176		20		84		76		4			13		324		161.4	
7/25/2022	10	60	11.1		181		22		68		68		3			13		319		167.6	
7/25/2022	11	60	10.4		169		2		24		91	IBCM	4	3		14		317	323	167.4	164.8
7/25/2022	12	60	10.7		174		12		29	IBCM	58	IBCM	4			14		312		168.0	
7/25/2022	13	60	10.8		175		9		31		70		4			14		312		164.6	
7/25/2022	14	60	11.1		169		5		22		78		8			13		310		167.3	
7/25/2022	15	60	10.9		175		9		38		76		5	5		14	14	315	312	167.0	166.7
7/25/2022	16	60	10.7		173		1		28		95		3			14		302		166.1	
7/25/2022	17	60	10.7		180		0		25		98		3			14		300		164.4	
7/25/2022	18	60	10.5		175		6		50		87		3			13		309		166.2	
7/25/2022	19	60	10.5		170		3		40		91		2	3		13		311	306	167.5	166.0
7/25/2022	20	60	10.9		177		11		58		81		3			14		305		167.2	
7/25/2022	21	60	11.1		186		19		62		69		4			13		303		166.3	
7/25/2022	22	60	11.2		180		17		65		73		4			13		321		166.0	
7/25/2022	23	60	10.9		175		2		52		97		3	4		13	14	299	307	164.2	165.9

Average: Geometric Mean Average:	170	9	OR	82	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 25-Jul-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	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	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

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WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 25-Jul-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	3	3	3	3	3	3	3	3	3	3
1	3	3	3	3	3	3	2	2	2	2	2
2	2	3	3	2	2	2	3	3	3	2	2
3	2	3	3	3	3	3	3	3	3	3	3
4	3	3	3	3	3	3	3	3	3	3	3
5	3	3	3	3	3	3	4	3	3	3	3
6	1	IBC	6	IBC	2	3	3	3	3	3	3
7	3	3	3	3	3	3	3	3	3	3	3
8	2	3	3	2	2	3	3	3	3	3	2
9	3	3	2	2	2	2	2	2	2	2	2
10	2	2	2	2	1	1	2	2	2	1	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	1	2	1	1	1	2
15	2	3	1	1	1	1	1	1	1	1	1
16	1	1	1	1	1	1	1	1	1	1	1
17	1	1	1	1	1	1	1	1	1	1	1
18	1	1	1	1	1	1	1	1	1	1	1
19	1	1	1	1	1	1	1	1	1	1	1
20	1	1	1	1	1	1	1	1	1	1	1
21	1	1	1	1	1	1	1	1	1	1	1
22	1	1	1	1	1	1	2	1	1	1	1
23	1	1	1	1	1	1	1	1	1	1	1

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