



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



Date 4/28/23

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
4/28/2023	0	60	14.5		205	IFE	5		24		79		120	IFE		13		301		11.4		
4/28/2023	1	22	16.4	IF	446	IF	5	IF	66	IBF	92	IBF	617	IF		13		252		17.4		
4/28/2023	2	0	15.8	IF	442	IF	15	IF	55	IBF	72	IBF	584	IF		13		323		62.5		
4/28/2023	3	0	19.6	ICF	828	ICF	96	ICF	328	IBF	71	IBCF	4179	ICF	1375	ICFE	13		248	301	20.9	11.4
4/28/2023	4	0	16.1	IBCF	274	IBCF	40	IBCF	39	IBF	0	IBCF	986	IBCF		13		239		0.2		
4/28/2023	5	0	19.1	IF	887	IF	26	IF	129	IBCF	80	IBCF	1725	IF		5		263		6.6		
4/28/2023	6	0	19.3	IF	943	IF	42	IF	117	IBF	65	IBF	999	IF		0		250		20.5		
4/28/2023	7	39	16.2		416		14		65		78		588		588		7	244	244	2.8	2.8	
4/28/2023	8	53	17.3		581		36		79		55		663			2		260		10.9		
4/28/2023	9	56	12.6		197		4		24		84		9			8		270		41.5		
4/28/2023	10	60	10.6		127		25		120		79		184			12		299		104.6		
4/28/2023	11	60	10.8		119		9		122		92		13		217	17		309	285	131.7	72.2	
4/28/2023	12	60	10.7		113		2		85		97		9			17		310		130.7		
4/28/2023	13	60	11.1		126		21		146		86		10			17		309		130.7		
4/28/2023	14	60	11.1		119		1		70		99		8			16		310		129.9		
4/28/2023	15	60	11.1		124		0		54		100		5		8	15	13	309	309	128.7	130.0	
4/28/2023	16	60	11.1		119		0		49		100		6			15		309		128.5		
4/28/2023	17	60	11.1		130		1		69		99		5			15		309		126.7		
4/28/2023	18	60	10.6		120		0		66		100		5			15		310		130.5		
4/28/2023	19	60	10.7		120		0		56		99		5		5	15		310	310	132.5	129.6	
4/28/2023	20	60	10.0		143		4		55		93		4			16		311		162.9		
4/28/2023	21	60	9.9		140		12		66		82		3			15		309		165.5		
4/28/2023	22	60	9.6		140		8		61		87		3			14		309		165.3		
4/28/2023	23	60	9.7		140		17		79		79		3		3	14	15	309	310	165.7	164.8	

Average:
Geometric Mean Average:

Limit:

175	3
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

96
≥ 75% Removal Efficiency

see above
≤ 69 4-HR Block Average

ppmc

see above
≥ 12 8-HR. Block Average

see above
≤ 345 °F 4-HR Block Average

see above
≤ 173 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 4/28/23

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.	4 Hr Block
4/28/2023	0	60	16.5		180	IFE	0		10		100		106	IFE		14		289		8.8		
4/28/2023	1	34	15.7		204	IFE	4		42		91		110	IFE		14		252		22.0		
4/28/2023	2	0	16.3	IF	237	IF	62	IF	29	IBF	0	IBF	568	IF		14		319		57.4		
4/28/2023	3	5	19.6	ICF	189	ICF	72	ICF	72	IBF	0	IBCF	2456	ICF	810	ICFE	13	227	270	24.8	15.4	
4/28/2023	4	12	17.1	IBCF	63	IBCF	68	IBCF	70	IBF	3	IBCF	714	IBCF		14		225		20.3		
4/28/2023	5	0	20.7	IF	2	IF	9	IF	125	IBCF	93	IBCF	47	IF		6		204		4.6		
4/28/2023	6	0	20.7	IF	1	IF	8	IF	66	IBF	88	IBF	36	IF		0		194		0.4		
4/28/2023	7	0	20.7	IF	2	IF	7	IF	66	IBF	89	IBF	29	IF	207	IBCF	0	14	186	202	0.0	6.3
4/28/2023	8	0	20.7	IF	3	IF	8	IF	65	IBF	88	IBF	24	IF		0		181		0.0		
4/28/2023	9	0	20.7	IF	1	IF	7	IF	69	IBMF	90	IBMF	26	IF		0		173		0.0		
4/28/2023	10	0	20.7	IF	1	IF	7	IF	70	IBF	90	IBF	20	IF		0		164		0.0		
4/28/2023	11	0	20.7	IF	1	IF	7	IF	69	IBF	90	IBF	15	IF	21	IF	0	156	168	0.0	0.0	
4/28/2023	12	0	20.7	IF	1	IF	7	IF	67	IBF	90	IBF	11	IF		0		149		0.0		
4/28/2023	13	0	20.7	IF	1	IF	6	IF	67	IBF	90	IBF	9	IF		0		144		0.0		
4/28/2023	14	0	20.7	IF	1	IF	7	IF	67	IBF	90	IBF	6	IF		0		139		0.0		
4/28/2023	15	0	20.7	IF	0	IF	7	IF	67	IBF	89	IBF	6	IF	8	IF	0	0	134	142	0.0	0.0
4/28/2023	16	0	20.7	IF	0	IF	6	IF	67	IBF	90	IBF	5	IF		0		130		0.0		
4/28/2023	17	0	20.7	IF	0	IF	6	IF	66	IBF	91	IBF	4	IF		0		126		0.0		
4/28/2023	18	0	20.7	IF	0	IF	6	IF	66	IBF	90	IBF	3	IF		0		123		0.0		
4/28/2023	19	0	20.8	IF	0	IF	7	IF	66	IBF	90	IBF	2	IF	4	IF	0	119	125	0.0	0.0	
4/28/2023	20	0	20.8	IF	0	IF	7	IF	66	IBF	90	IBF	2	IF		0		115		0.0		
4/28/2023	21	27	16.8	IF	129	IF	4	IF	15	IBF	72	IBF	76	IF		5		135		0.0		
4/28/2023	22	60	16.2		150		2		15		86		14			15		155		8.5		
4/28/2023	23	60	15.3		136		2		15		86		2		8		14	14	175	165	24.0	16.3

Average:
Geometric Mean Average:

Limit:

143	1
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

95
≥ 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

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WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 28-Apr-2023

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		0		0		0		0		0		0		0		0		0		0	0	
1	0		0		0		0	IF	0	IF	1	IF	1	IF	1	IF	1	IF	1	IF	1	IF	0
2	1	IF	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	IF	1
4	0	IF	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	0	IF	0	IF	0	IF	0	IF	0	IF	0
6	2	ICF	22	ICF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	3
7	0	IF	1	IF	1	IF	1	IF	1	IF	0		0		0		1		1		0		0
8	1		1		1		1		1		1		0		0		0	IF	0	IF	0	IF	0
9	0	IF	1		1		1		0		0		1		0		0		0		0		0
10	0		0		0		1		1		1		1		1		1		1		1		1
11	1		1		1		1		1		1		1		1		1		1		1		1
12	1		1		1		1		1		1		1		1		1		1		1		1
13	1		1		1		1		1		1		1		1		1		1		1		1
14	1		1		1		1		1		1		1		1		1		1		1		1
15	1		1		1		1		1		1		1		1		1		1		1		1
16	1		1		1		1		1		1		1		1		1		1		1		1
17	1		1		1		1		1		1		1		1		1		1		1		1
18	1		1		1		1		1		1		1		1		1		1		1		1
19	1		1		1		1		1		1		1		1		1		1		1		1
20	1		1		1		1		1		1		1		1		1		1		1		1
21	1		1		1		1		1		1		1		1		1		1		1		1
22	1		1		1		1		1		1		1		1		1		1		1		1
23	1		1		1		1		1		1		1		1		1		1		1		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 28-Apr-2023

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		0		0		0	0
1	0		0		1		1		0		0	IF	0	IF	1	IF	0	IF	0	IF	0	0
2	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	0
3	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	0
4	0		0		0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	0
5	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	0
6	3	BCF	22	BCF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	3
7	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	0
8	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	0
9	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	0
10	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	0
11	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	0
12	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	0
13	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	0
14	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	0
15	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	0
16	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	0
17	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	0
18	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	0
19	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	0
20	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0	0
21	0	IF	0	IF	0	IF	0	IF	0	IF	0	IF	0		0		0		0		0	0
22	0		0		0		0		0		0		0		0		0		0		0	0
23	0		0		0		0		0		0		0		0		0		0		0	0

Status Flags

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