



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



Date 3/25/23

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
3/25/2023	0	0	20.9	IF	12	IF	7	IF	-570	IBF	0	IBF	0	IF			3		48		0.0	
3/25/2023	1	0	20.9	IF	12	IF	7	IF	-556	IBF	0	IBF	0	IF			4		47		0.0	
3/25/2023	2	0	20.9	IF	12	IF	7	IF	-551	IBF	0	IBF	0	IF			3		45		0.0	
3/25/2023	3	5	20.1	ICF	12	ICF	7	ICF	-539	IBF	0	IBCF	2	ICF	0	ICF	1		44	46	0.0	0.0
3/25/2023	4	12	17.4	IBCF	109	IBCF	63	IBCF	-539	IBF	0	IBCF	561	IBCF			3		44		0.0	
3/25/2023	5	0	20.9	IF	15	IF	7	IF	205	IBCF	96	IBCF	0	IF			4		43		0.0	
3/25/2023	6	0	20.9	IF	14	IF	7	IF	-495	IBF	0	IBF	0	IF			3		42		0.0	
3/25/2023	7	0	20.9	IF	15	IF	7	IF	-537	IBF	0	IBF	0	IF	140	IBCF	4	3	43	43	0.0	0.0
3/25/2023	8	0	20.9	IF	15	IF	7	IF	-518	IBF	0	IBF	0	IF			3		44		0.0	
3/25/2023	9	0	20.9	IF	15	IF	7	IF	-546	IBF	0	IBF	0	IF			1		45		0.0	
3/25/2023	10	0	20.9	IF	15	IF	7	IF	-484	IBF	0	IBF	0	IF			0		45		0.0	
3/25/2023	11	0	20.9	IF	15	IF	7	IF	-482	IBF	0	IBF	0	IF	0	IF	0		45	44	0.0	0.0
3/25/2023	12	0	20.9	IF	16	IF	7	IF	-504	IBF	0	IBF	0	IF			1		44		0.0	
3/25/2023	13	0	20.9	IF	16	IF	7	IF	-488	IBF	0	IBF	0	IF			1		44		0.0	
3/25/2023	14	0	20.9	IF	16	IF	7	IF	-524	IBF	0	IBF	0	IF			1		44		0.0	
3/25/2023	15	0	20.9	IF	15	IF	7	IF	-473	IBF	0	IBF	0	IF	0	IF	0	1	46	44	0.0	0.0
3/25/2023	16	0	20.9	IF	15	IF	7	IF	-401	IBF	0	IBF	0	IF			0		44		0.0	
3/25/2023	17	0	20.9	IF	16	IF	7	IF	-407	IBF	0	IBF	0	IF			2		43		0.0	
3/25/2023	18	0	20.9	IF	16	IF	7	IF	-497	IBF	0	IBF	0	IF			2		43		0.0	
3/25/2023	19	0	20.9	IF	16	IF	7	IF	-521	IBF	0	IBF	0	IF	0	IF	2		43	43	0.0	0.0
3/25/2023	20	0	20.9	IF	16	IF	7	IF	-445	IBF	0	IBF	0	IF			1		43		0.0	
3/25/2023	21	0	20.9	IF	17	IF	7	IF	-445	IBF	0	IBF	0	IF			2		43		0.0	
3/25/2023	22	0	20.9	IF	16	IF	7	IF	-629	IBF	0	IBF	0	IF			1		46		0.0	
3/25/2023	23	0	20.9	IF	17	IF	7	IF	-725	IBF	0	IBF	0	IF	0	IF	1	2	48	45	0.0	0.0

Average:
Geometric Mean Average:

Limit:

19	IBCF
8	IBCF
≤ 205	≤ 29
24-HR Block Avg.	24-HR Geometric Mean

OR

0	IBCF
≥ 75%	Removal Efficiency

see above
≤ 69
4-HR Block Average
ppmc

see above
≥ 12
8-HR. Block Average
lb/hr

see above
≤ 345
4-HR Block Average
°F

see above
≤ 173
4-HR Block Average
klb/hr

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 3/25/23

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
3/25/2023	0	60	11.3		198		6		0		0		4		14		310		166.9	
3/25/2023	1	60	11.4		199		1		0		0		4		14		310		166.8	
3/25/2023	2	60	11.5		197		1		0		0		3		15		310		166.2	
3/25/2023	3	60	11.5		199		1		0		0		3	4	14		310	310	166.5	166.6
3/25/2023	4	60	11.6		195		8		0		0		3		14		310		166.5	
3/25/2023	5	60	11.5		199		3		0		0		3		14		310		166.0	
3/25/2023	6	60	11.4		197		5		0		0		2		14		310		166.5	
3/25/2023	7	60	11.5		198		14		30		55		2	3	12	14	310	310	167.0	166.5
3/25/2023	8	60	11.6		196		12		30		61		2		13		310		166.7	
3/25/2023	9	60	11.6		194		9		28		68		2		14		310		166.0	
3/25/2023	10	60	11.5		192		6		25		76		2		16		310		166.7	
3/25/2023	11	60	11.6		159		4		21		82		2	2	15		310	310	166.5	166.5
3/25/2023	12	60	11.4		178		4		24		84		2		15		310		166.8	
3/25/2023	13	60	11.6		167		16		48		66		3		15		310		166.2	
3/25/2023	14	60	11.6		168		10		36		73		2		16		310		167.2	
3/25/2023	15	60	11.4		172		18		53		66		3	2	16	15	310	310	166.2	166.6
3/25/2023	16	60	11.3		175		6		27		80		2		15		310		166.8	
3/25/2023	17	60	11.3		171		6		28		79		2		15		310		167.3	
3/25/2023	18	60	11.4		165		5		32		85		2		15		310		165.0	
3/25/2023	19	60	11.3		166		9		41		79		2	2	15		310	310	167.8	166.7
3/25/2023	20	60	11.4		169		17		56		69		3		16		310		165.8	
3/25/2023	21	60	11.3		172		17		61		73		2		15		310		167.1	
3/25/2023	22	60	11.3		174		13		57		77		1		15		310		166.4	
3/25/2023	23	60	11.3		176		10		49		80		1	2	15	15	310	310	167.0	166.6

Average: Geometric Mean Average:	182	6	OR	3	see above	see above	see above	see above
Limit:	≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean		≥ 75% Removal Efficiency	≤ 69 ppmc 4-HR Block Average	≥ 12 lb/hr 8-HR. Block Average	≤ 345 °F 4-HR Block Average	≤ 173 klb/hr 4-HR Block Average

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WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 25-Mar-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	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

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

Status Flags

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