



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



Date 2/20/20

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
2/20/2020	0	0	21.0	IF	0	IF	5	IF	6	IBF	24	IBF	2	IF		0		368		5.6		
2/20/2020	1	0	21.0	IF	0	IF	5	IF	6	IBF	22	IBF	2	IF		0		368		5.4		
2/20/2020	2	0	21.0	IF	0	IF	5	IF	5	IBF	4	IBF	3	IF		0		368		5.2		
2/20/2020	3	0	20.1	ICF	0	ICF	4	ICF	5	IBF	8	IBCF	3	ICF	2	ICF		368	368	5.1	5.3	
2/20/2020	4	0	17.5	IBCF	73	IBCF	58	IBCF	6	IBF	0	IBCF	523	IBCF		0		368		5.1		
2/20/2020	5	0	21.0	IF	1	IF	5	IF	22	IBCF	77	IBCF	2	IF		0		368		5.1		
2/20/2020	6	0	21.0	IF	1	IF	5	IF	7	IBF	27	IBF	1	IF		0		368		5.0		
2/20/2020	7	0	21.0	IF	1	IF	5	IF	4	IBF	0	IBF	1	IF	132	IBCF	0	0	368	368	4.9	5.0
2/20/2020	8	0	21.0	IF	1	IF	5	IF	4	IBF	0	IF	2	IF		0		368		2.0		
2/20/2020	9	0	21.0	IF	0	IF	5	IF	3	IBF	0	IF	1	IF		0		368		0.0		
2/20/2020	10	0	20.8	ICF	1	ICF	5	ICF	4	IBF	0	ICF	2	ICF		0		368		1.9		
2/20/2020	11	0	12.6	IBCF	57	IBCF	39	IBCF	3	IBF	0	IBCF	439	IBCF	111	IBCF	0		368	368	5.3	2.3
2/20/2020	12	0	10.6	IBCMF	69	IBCMF	44	IBCMF	7	IBF	0	IBCMF	261	IBCMF		0		368		5.3		
2/20/2020	13	0	19.9	IBCF	20	IBCF	87	IBCF	12	IBF	0	IBCF	1455	IBCF		0		368		5.3		
2/20/2020	14	0	20.9	IF	1	IF	7	IF	10	IBF	30	IF	0	IF		0		368		5.5		
2/20/2020	15	0	20.9	IF	1	IF	7	IF	10	IBF	30	IF	0	IF	429	IBCMF	0	0	368	368	5.5	5.4
2/20/2020	16	0	20.9	IF	2	IF	7	IF	10	IBF	27	IBF	0	IF		0		368		5.6		
2/20/2020	17	0	20.9	IF	1	IF	7	IF	9	IBF	26	IBF	0	IF		0		368		5.6		
2/20/2020	18	0	20.9	IF	1	IF	7	IF	9	IBF	24	IBF	0	IF		0		368		5.6		
2/20/2020	19	0	20.9	IF	2	IF	7	IF	8	IBF	11	IBF	0	IF	0	IF		368	368	5.6	5.6	
2/20/2020	20	0	20.9	IF	2	IF	7	IF	7	IBF	1	IBF	0	IF		0		368		5.6		
2/20/2020	21	0	20.9	IF	1	IF	7	IF	6	IBF	0	IBF	0	IF		0		368		5.6		
2/20/2020	22	0	20.9	IF	2	IF	7	IF	7	IBF	1	IBF	0	IF		0		368		5.6		
2/20/2020	23	0	20.9	IF	1	IF	7	IF	7	IBF	5	IBF	0	IF	0	IF	0	0	368	368	5.6	5.6

Average:
Geometric Mean Average:

Limit:

10 IBCMF	8 IBCMF	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



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Date 2/20/20

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.
2/20/2020	0	60	10.6		145		28		65		56		2			13		310		165.7	
2/20/2020	1	60	10.6		145		22		49		56		1			13		310		165.6	
2/20/2020	2	60	10.5		146		21		42		51		2			13		310		165.7	
2/20/2020	3	60	10.7		143		27		51		47		1	1		13		310	310	165.1	165.5
2/20/2020	4	60	10.6		144		26		54		52		2			13		310		165.4	
2/20/2020	5	60	10.5		146		26		56		54		1			13		310		165.0	
2/20/2020	6	60	10.6		144		26		66		61		1			13		310		166.6	
2/20/2020	7	60	10.6		145		16		49		67		1	1		14	13	310	310	166.1	165.8
2/20/2020	8	60	10.7		145		16		48		67		1			14		305		165.5	
2/20/2020	9	60	10.9		141		20		29		31		2			14		310		166.1	
2/20/2020	10	60	10.7		147		19		27		30		3			16		310		164.5	
2/20/2020	11	60	10.8		144		18		23		22		2	2		14		310	309	165.3	165.4
2/20/2020	12	60	10.7		145		17		22		20		2			14		310		165.5	
2/20/2020	13	60	10.4		146		5		20		77		2			14		310		164.8	
2/20/2020	14	60	10.5		142		7		20		65		1			14		310		160.2	
2/20/2020	15	60	10.7		144		5		14		64		2	2		14	14	310	310	163.5	163.5
2/20/2020	16	60	10.7		146		9		26		66		3			14		310		165.2	
2/20/2020	17	60	10.7		144		7		22		71		3			14		310		166.1	
2/20/2020	18	60	10.7		144		9		25		64		2			14		310		166.2	
2/20/2020	19	60	10.6		146		13		34		61		3	3		14		310	310	166.1	165.9
2/20/2020	20	60	10.7		144		15		33		54		3			14		310		165.7	
2/20/2020	21	60	10.6		145		13		25		48		2			14		310		166.1	
2/20/2020	22	60	10.4		143		11		26		57		2			14		310		165.7	
2/20/2020	23	60	10.5		146		17		35		52		2	2		14	14	310	310	165.0	165.6

Average:
Geometric Mean Average:

Limit:

145	15
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

56
≥ 75% Removal Efficiency

see above
≤ 69 ppmc 4-HR Block Average

see above
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see above
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WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 20-Feb-2020

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	IF	1	IF	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	4
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	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	1	IF	2	IF	2	IF	2
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

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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	2	2	2	2	2	1	1	1	2	1
1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	2	1	2	1	2	1
3	1	1	1	1	1	2	2	2	2	2	1
4	2	2	2	2	2	2	2	2	2	2	2
5	2	2	2	2	2	2	2	1	1	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

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