



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



Date 6/5/22

Wheel Plant Wheelabrator North Andover
Unit 1 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.
6/5/2022	0	60	10.2		192		14		40		64		3			13		304		165.3	
6/5/2022	1	60	10.3		189		16		55		70		3			14		304		169.2	
6/5/2022	2	60	10.6		194		9		35		74		3			13		304		160.6	
6/5/2022	3	60	9.8		184		17		67		74		96	26		14		305	304	170.8	166.5
6/5/2022	4	60	9.6		186		14		76		82		2			13		303		176.2	
6/5/2022	5	60	10.1		191		16		46		65		3			13		305		163.0	
6/5/2022	6	60	10.0		186		11		35		69		2			13		304		162.4	
6/5/2022	7	60	10.0		191		11		35		70		1	2		13	13	304	304	164.6	166.5
6/5/2022	8	60	9.9		188		6		34		83		2			13		305		163.7	
6/5/2022	9	60	9.8		187		12		41		71		1			13		304		166.7	
6/5/2022	10	60	9.9		175		11		41		72		2			13		304		167.0	
6/5/2022	11	60	10.0		189		15		42		66		1	2		13		305	304	165.6	165.8
6/5/2022	12	60	10.0		191		21		47		56		2			14		304		166.3	
6/5/2022	13	60	9.9		182		20		53		61		2			13		305		165.7	
6/5/2022	14	60	10.2		184		17		44		61		2			14		304		166.3	
6/5/2022	15	60	10.0		178		18		53		66		2	2		13	13	304	304	166.7	166.3
6/5/2022	16	60	10.1		175		16		44		64		2			13		304		165.8	
6/5/2022	17	60	10.2		190		18		47		62		2			14		305		165.0	
6/5/2022	18	60	10.2		186		17		40		59		3			13		304		165.7	
6/5/2022	19	60	10.3		194		13		32		59		2	2		13		304	304	166.1	165.6
6/5/2022	20	60	10.2		190		16		39		60		3			14		305		166.7	
6/5/2022	21	60	10.2		187		17		36		54		2			13		304		165.9	
6/5/2022	22	60	10.3		188		17		38		54		3			14		304		163.3	
6/5/2022	23	60	10.0		182		16		42		61		3	3		13	13	305	304	165.3	165.3

Average: Geometric Mean Average:	187	14	OR	67	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

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 6/5/22

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.
6/5/2022	0	60	9.9		198		32		42		25		0			14		312		170.7	
6/5/2022	1	60	10.0		189		21		39		45		1			14		315		171.4	
6/5/2022	2	60	10.0		192		6		26		78		1			14		310		167.5	
6/5/2022	3	60	9.3		185		15		39		61		1	I		14		319	314	173.0	170.7
6/5/2022	4	60	10.2		197		12		34		64		1			14		311		157.8	
6/5/2022	5	60	10.1		195		14		32		57		1			13		321		164.1	
6/5/2022	6	60	10.2		194		11		25		56		0			14		317		165.7	
6/5/2022	7	60	10.2		194		7		26		71		1	I		14	14	312	315	167.1	163.7
6/5/2022	8	60	10.2		188		13		30		57		1			14		316		165.4	
6/5/2022	9	60	10.1		191		13		26		48		1			14		317		168.3	
6/5/2022	10	60	10.2		194		9		22		59		0			14		316		165.9	
6/5/2022	11	60	10.0		192		12		26		53		0	I		14		317	317	166.9	166.6
6/5/2022	12	60	10.1		189		12		27		56		0			13		314		165.8	
6/5/2022	13	60	10.1		195		5		32		84		1			14		301		164.4	
6/5/2022	14	60	9.9		193		21		47		55		1			14		303		167.7	
6/5/2022	15	60	10.1		195		23		42		44		0	I		14	14	307	306	166.9	166.2
6/5/2022	16	60	10.1		193		13		29		57		1			14		308		164.7	
6/5/2022	17	60	10.2		196		16		29		44		1			14		314		165.1	
6/5/2022	18	60	9.9		192		15		23		35		1			14		319		169.4	
6/5/2022	19	60	9.9		190		15		30		51		1	I		14		307	312	168.3	166.9
6/5/2022	20	60	9.9		190		13		26		49		1			14		313		168.1	
6/5/2022	21	60	10.4		194		4		20		80		1			14		302		160.3	
6/5/2022	22	60	10.1		194		12		28		57		0			14		306		165.3	
6/5/2022	23	60	10.2		194		8		23		66		1	I		14	14	305	307	162.8	164.1

Average:
Geometric Mean Average:

Limit:

193	12
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

59
≥ 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

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

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WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 05-Jun-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	2	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	2	2	2	2	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	IC	6	IC	2	2	2	2	2	2	3
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

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 05-Jun-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	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1	1	1	1
3	1	1	1	1	1	1	1	1	1	1	1
4	1	1	1	1	1	1	1	1	1	1	1
5	1	1	1	1	1	1	1	1	1	1	1
6	2	IBC	5	IBC	1	1	1	1	1	1	1
7	1	1	1	1	1	1	1	1	1	1	1
8	1	1	1	1	1	1	1	1	1	1	1
9	1	1	1	1	1	1	1	1	1	1	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	1	1	1	1	1	1	1	1	1	1	1
13	1	1	1	1	1	1	1	1	1	1	1
14	1	1	1	1	1	1	1	1	1	1	1
15	1	1	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	1	1	1	1	1
23	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