



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



Date 8/15/22

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.
8/15/2022	0	60	9.7		166		13		55		76		3			14		313		165.1	
8/15/2022	1	60	9.7		169		10		52		81		3			13		314		162.5	
8/15/2022	2	60	9.7		176		12		42		71		2			14		318		165.1	
8/15/2022	3	60	9.5		167		13		49		73		4	3		13		320	316	166.7	164.8
8/15/2022	4	60	9.7		168		4		45		92		4			13		310		164.1	
8/15/2022	5	60	9.6		172		5		29		83		3			14		307		165.1	
8/15/2022	6	60	9.7		162		4		19		78		5			12		310		162.6	
8/15/2022	7	60	9.7		148		0		15		98		5	4		13	13	298	306	160.3	163.0
8/15/2022	8	60	9.4		161		0		17		98		4			13		292		166.0	
8/15/2022	9	60	9.7		182		17		70		75		5			14		305		165.5	
8/15/2022	10	60	9.4		163		10		51		80		4			13		308		166.8	
8/15/2022	11	60	9.6		167		11		51		77		4	4		13		309	303	164.3	165.7
8/15/2022	12	60	9.5		170		6		29		80		4			13		317		165.4	
8/15/2022	13	60	9.7		181		10		54		81		4			14		311		165.2	
8/15/2022	14	60	9.8		177		16		72		78		4			14		307		165.3	
8/15/2022	15	60	9.7		180		20		68		71		4	4		14	14	308	311	165.1	165.2
8/15/2022	16	60	9.8		175		20		69		71		4			14		314		166.3	
8/15/2022	17	60	9.5		162		19		66		70		4			14		313		166.0	
8/15/2022	18	60	9.6		170		4		53		92		4			14		306		164.4	
8/15/2022	19	60	9.6		189		12		66		81		4	4		14		301	309	166.0	165.7
8/15/2022	20	60	9.7		184		4		41		90		3			14		302		164.0	
8/15/2022	21	60	9.5		175		7		53		87		4			14		302		165.8	
8/15/2022	22	60	9.7		178		12		64		82		3			13		304		165.4	
8/15/2022	23	60	9.7		184		3		32		89		4	3		13	14	307	304	163.0	164.5

Average: Geometric Mean Average:	172	7	OR	85	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 8/15/22

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.
8/15/2022	0	60	10.3		165		16		58		73		2			15		310		167.8	
8/15/2022	1	60	10.4		166		12		52		76		2			15		311		165.8	
8/15/2022	2	60	10.5		168		10		46		79		2			12		315		165.3	
8/15/2022	3	60	10.3		162		12		45		74		2	2		5		319	314	167.6	166.6
8/15/2022	4	60	10.4		164		4		46		92		3			19		307		166.5	
8/15/2022	5	60	10.5		162		6		48		88		3			23		302		166.0	
8/15/2022	6	60	10.5		173		6		27		78		3			19		313		164.2	
8/15/2022	7	60	10.6		170		3		16		83		4	3		17	16	312	308	164.4	165.3
8/15/2022	8	60	10.6		163		3		16		82		5			19		311		166.6	
8/15/2022	9	60	10.8		166		6		58		89		4			13		303		165.4	
8/15/2022	10	60	10.6		167		13		64		79		4			14		310		166.2	
8/15/2022	11	60	11.1		175		7		43		85		5	4		14		306	307	165.1	165.8
8/15/2022	12	60	10.7		171		3		28		89		3			14		308		164.6	
8/15/2022	13	60	10.7		171		5		40		88		4			14		301		165.7	
8/15/2022	14	60	10.7		167		5		37		86		3			14		302		165.4	
8/15/2022	15	60	10.5		176		11		48		77		4	3		14	15	312	306	165.7	165.4
8/15/2022	16	60	10.5		176		11		45		75		5			14		314		165.6	
8/15/2022	17	60	10.4		171		8		31		76		4			14		316		165.3	
8/15/2022	18	60	10.5		170		10		40		76		4			14		318		166.8	
8/15/2022	19	60	10.4		160		6		35		82		3	4		14		317	316	165.2	165.7
8/15/2022	20	60	10.3		160		4		29		85		3			14		318		165.9	
8/15/2022	21	60	10.4		163		7		45		84		2			14		315		167.8	
8/15/2022	22	60	10.7		164		5		34		87		3			14		310		165.5	
8/15/2022	23	60	10.5		166		4		27		87		3	3		14	14	312	314	165.7	166.2

Average: Geometric Mean Average:	167	6	OR	83	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 15-Aug-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	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	IC	5	IC	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



WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 15-Aug-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