

Correcting the Record
on
NESCAUM's ALLEGATIONS and MISSTATEMENTS of FACTS
In it's Response to Comments by Thomas Morrissey

Reviewed by:
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On approximately June 18, 2021, NESCAUM replied to my initial review of its “ASSESSMENT.” Clearly we have some differences of opinion, and I am willing to let those differences stand, for now. However, NESCAUM also makes allegations and statements of fact that are simply not true. It alleges that two test reports for Model 210 and Model 210a are the same, or at least are for the same stove.¹ This is incorrect, as a matter of fact. It also alleges that it did not review the same report twice, which is also factually incorrect, because all the numbers on their Summary Sheets are identical, but the test reports are significantly different.

Model 210 was tested in January 2020. It was exactly the same stove tested and certified by EPA in 2014 (using the crib method), with no changes. We filed a 30-day notice with EPA and followed all the requisite procedures to test this stove. The stove passed the ASTM E-3053 cordwood test, as we expected it would, but with results that were not up to our standards, also as we expected.

This test was conducted to gather thorough baseline ASTM cordwood test results from an official lab, and to get sufficient data to redesign the air intake systems for cordwood, for Models 202/204, Model 205, Model 209a, and finally Model 210a (new version of Model 210). All of these stoves were scheduled for EPA testing in the spring of 2020. All four of these models (each with redesigned air intakes) were tested and certified between the end of January 2020 and the middle of June 2020.

We used the *data from January 2020 Model 210 cordwood testing to calculate the*

¹ From NESCAUM Response, emphasis added: “Mr. Morrissey comments that NESCAUM reviewed the same test report twice. This is not correct. There are two different test reports that appear to test the same stove twice, as highlighted from the Woodstock Soapstone website (see the screenshot below).¹¹ In the initial review provided to the manufacturers in September 2020, it was noted that the test report for the Ideal Steel 210a could not be located. In Mr. Morrissey’s letter to ADEC dated October 28,2020, a link to the Ideal Steel 210a stove report was provided. In reviewing the second test report, the reviewer noted that the Ideal Steel 210a and 210 models appeared to be the same stove, raising questions about why testing on what appeared to be the same model was done within a relatively short time period(six months). The testing also indicated that one model might meet ADEC’s emission standards, while the other did not. The similarity in the appliances and their close proximity in test dates caused significant confusion for the reviewers.”

requisite changes to the air delivery systems for all 4 of these stoves. I explained to EPA that we didn't intend to actually manufacture Model 210, but Rafael Sanchez at EPA wisely and sensibly counseled me to submit the January results for certification in case there were any delays to the certification of Model 210a later in the spring, or in case there were unexpectedly poor results in testing the new Model 210a. The certification of Model 210 basically gave us additional sell-through time for Model 210 in case of delays with Model 210a. EPA was informed and "in the loop" from the beginning to the end of re-certifying these stoves. One of the distinct advantages in working with EPA as opposed to NESCAUM/ADEC is that when EPA has a question, they usually pick up the phone and make a call to talk about it.

The chart on the next page shows the improvements in Model 210a performance generated by spring 2020 redesign. Our redesign goals were to boost HHV efficiency to over 75%, to extend the burn time as much as possible,² and to reduce low burn emissions. The previous air delivery strategy was designed for crib testing, and the damper was not designed to be operated "at the lowest possible position" among other things.

I have no desire to walk NESCAUM/ADEC through the details of our test reports and how design changes influence results, but I am trying to help them correct their errors in this case. NESCAUM's allegations that the two stoves or the two test reports are the same is factually incorrect. None of the numbers from the two test report summaries on the next page are the same (not one!), and if the "reviewer" could sit still long enough to read the actual reports, he/she would have realized that.

NESCAUM claims that it did not review the same report twice, but the data on its two Summary Sheets are identical, and all came from one test report: the report for Model 210. NESCAUM still cannot explain how they managed to generate approximately 25 discrepancies between their two reviews of the same Model 210 report. Apparently there is no explanation.

² In this case the low burn was over 24 hours, and at the end of the burn cycle the catalyst was still active and engaged, and the coal-bed was sufficient to easily re-load. The extended burn time is not designed to lower emissions, but to satisfy consumer demand. Emissions – no matter how they are calculated - on an absolute basis or g/kg or g/hr are all excellent regardless of the burn time. The idea that every design that extends burn time is simply designed to lower emissions is bunk.

DIFFERENCES BETWEEN MODEL 210 AND MODEL 210a

	Model 210 Report			Model 210a Report		
Test Date	Jan 6-9, 2020			June 8-10, 2020		
Burn	High	Low	Medium	High	Low	Medium
Piece Length	20"	20"	20"	20"	20"	20"
Test Load	31.73	37.69	38.3	31.46	38.11	38.2
Density	9.85	11.7	11.89	11.8	11.84	11.86
Moisture DB	23.13	21.93	23.76	20.91	20.53	21.17
Duration/Min	242	1,162	818	258	1,485	968
Duration/Hr	4.03	19.37	13.63	4.3	24.75	16.13
Burn Rate Kg/	3.3	0.64	1.03	3.35	0.58	0.89
Output BTU/h	42,360	9,465	15,121	43,263	9,324	13,203
PM g/kg	1.9	3.86	0.4	0.82	0.65	0.55
PM g/hr	6.74	2.46	0.41	2.7	0.38	0.49
PM 1st hout	7.3	2.3	1.3	1.7	3.1	3.6
EFF %HHV	65.62	75.6	76.59	66.24	81.11	78.11
EFF %LHV	70.61	81.35	82.41	71.28	87.28	84.05
CO Tot G	118.9	1132.9	244.7	21.3	465	365
CO G/hr	38	58.5	18	7	19.4	22.6
Wtd Averages						
Emissions	2.14			0.89		
CO g/h	35.5			18.2		
EFF HHV	73.7			76.94		
EFF LHV	79.3			82.79		
CO g/m	0.56			0.27		

CELLS IN GREEN ARE IMPROVEMENTS

Model 210 Air Introduction

AIR INTRODUCTION SYSTEM		INLET (1) sq. in.			OUTLET
Identification	Type	Imin	Imax	Controlled	(sq. in.)
A *	Primary nozzles	0.500	0.500	no	0.027 (2 holes of 0.187 dia.)
B *	Primary Airwash	0.000	3.820	Manual adjustment	5.313 (0.3125" X 17")
C *	Secondary fireback	0.175	4.064	Manual adjustment	3.655 (113 holes of 0.203" dia.)
D *	Catalyst Air	0.000	1.790	Automatic adjustment (Bimetal coil)	1.533 (20 Holes of 0.3125" dia.)

Model 210a Air Introduction

AIR INTRODUCTION SYSTEM		INLET (1) sq. in.			OUTLET
Identification	Type	Imin	Imax	Controlled	(sq. in.)
A *	Primary nozzles	0.500	0.500	no	0.027 (2 holes of 0.187 dia.)
B *	Primary Airwash	0.071	3.824	Manual adjustment	5.313 (0.3125" X 17")
C *	Secondary fireback	0.257	4.126	Manual adjustment	3.655 (113 holes of 0.203" dia.)
D *	Catalyst Air	0.000	1.790	Automatic adjustment (Bimetal coil)	1.533 (20 Holes of 0.3125" dia.)