Dear Examiner,

At the last meeting I made representation that I think that the emissions from the potential Plant that you are considering have been under estimated and that this as a consequence means that the stack height calculation has been underestimated.

I contacted both the Environment Agency and Natural Resources Wales (emissions Regulators) and asked for start up and shutdown emissions data from any Plant that are of either of the two specifications that WPL have listed in their application.

I requested the data to be in raw format. I also requested that the both the units and measurement basis be recorded. I also asked for raw oxygen data again with measurement basis. I asked for range of the continuous emissions monitoring system (CEMS) that they were measured by.

The data I got back from one of the Regulators was as mg/Nm^3. The "N" is an abbreviation for "Normalised", which effectively means that the data is at 101.3kPa, 273k, on a dry gas basis and corrected to 15% oxygen. These are the reporting conditions for this type of Plant. However, it means that I cannot check if the CEMS has maxed out during the measurement of these emissions.

For the purpose of this representation I have made the data anonymous. It is shown in the tables below:

Table 1 – Plant Start Up Data.

Time	NO_x as NO_2	CO
05:30	0	0
05:31	0	0
05:32	0	0
05:33	0	0
05:34	0	0
05:35	0	0
05:36	0	0
05:37	0	0
05:38	0	0
05:39	0	0
05:40	0	0
05:41	0	0
05:42	0	0
05:43	0	0
05:44	0	0
05:45	0	0
05:46	0	0
05:47	0	0
05:48	0	0
05:49	0	0
05:50	0	0
05:51	0	0

05:52	0	0
05:53	0	0
05:54	0	0
05:55	0	0
05:56	0	99.9
05:57	16.5	2130.4
05:58	33.1	2401.5
05:59	59.2	2555.9
06:00	96.9	2762.2
06:01	121.1	3468.9
06:02	123.3	3449.1
06:03	128.4	3408.7
06:04	128.1	3366.6
06:05	127.3	3337.1
06:06	132.9	3360.7
06:07	134.8	3106.4
06:08	136.8	3610.6
06:09	117.8	2684.5
06:10	102.2	908.3
06:11	111.1	149.7
06:12	138.9	32.6
06:13	148.9	7.8
06:14	92.2	2.1
06:15	57.9	0.3
06:16	61.4	0
06:17	57.2	0
06:18	56.9	0
06:19	60.9	0
06:20	63.7	0
06:21	64.4	0
06:22	64.6	0
06:23	64.3	0
06:24	63.5	0
06:25	62.8	0
06:26	62.2	0
06:27	61.5	0
06:28	60.9	0
06:29	62	0
06:30	61.2	0

Table 2 – Plant Shutdown Data.

Time	NO_x as NO_2	CO
20:00	55.6	0
20:01	55.9	0
20:02	57.5	0
20:03	57.8	0
20:04	57.3	0
20:05	56.8	0
20:06	56.4	0
20:07	55.9	0
20:08	55.4	0
20:09	55.1	0
20:10	54.8	0
20:11	54.6	0
20:12	54.3	0
20:13	54.1	0
20:14	55	0
20:15	55.6	0
20:16	54.8	0
20:17	53.8	0
20:18	53.5	0
20:19	56.9	0
20:20	56.3	0
20:21	54.4	0
20:22	56.8	0
20:23	57.9	0
20:24	59.8	2.3
20:25	88.4	23.2
20:26	134.7	94.2
20:27	113.4	561.2
20:28	112.2	2176.8
20:29	141	3758.8
20:30	192.7	3301.1
20:31	210.2	3588.8
20:32	215.2	3728.6
20:33	202.8	3456.2
20:34	177.2	3333.2
20:35	174.3	3347.3
20:36	175	3364.7
20:37	177.5	3389.6
20:38	165.2	2831.1
20:39	44.5	228.7
20:40	0	16.1
20:41	0	3.8

20:42	0	0.6
20:43	0	0
20:44	0	0
20:45	0	0
20:46	0	0
20:47	0	0
20:48	3.4	0
20:49	4.4	0
20:50	0	0
20:51	0	0
20:52	2.4	0
20:53	2.7	0.2
20:54	2.8	1
20:55	3	1.8
20:56	3.2	2.6
20:57	3.4	3.4
20:58	3.5	6
20:59	3.7	10.1
21:00	3.9	11.2

The limit for emissions from these type of Plant for NO_x are 50mg/Nm^3 and for CO are 100mg/Nm^3.

I have graphed the data below and included the limit for each compound.

Chart 1 – NOx Start Up Emissions

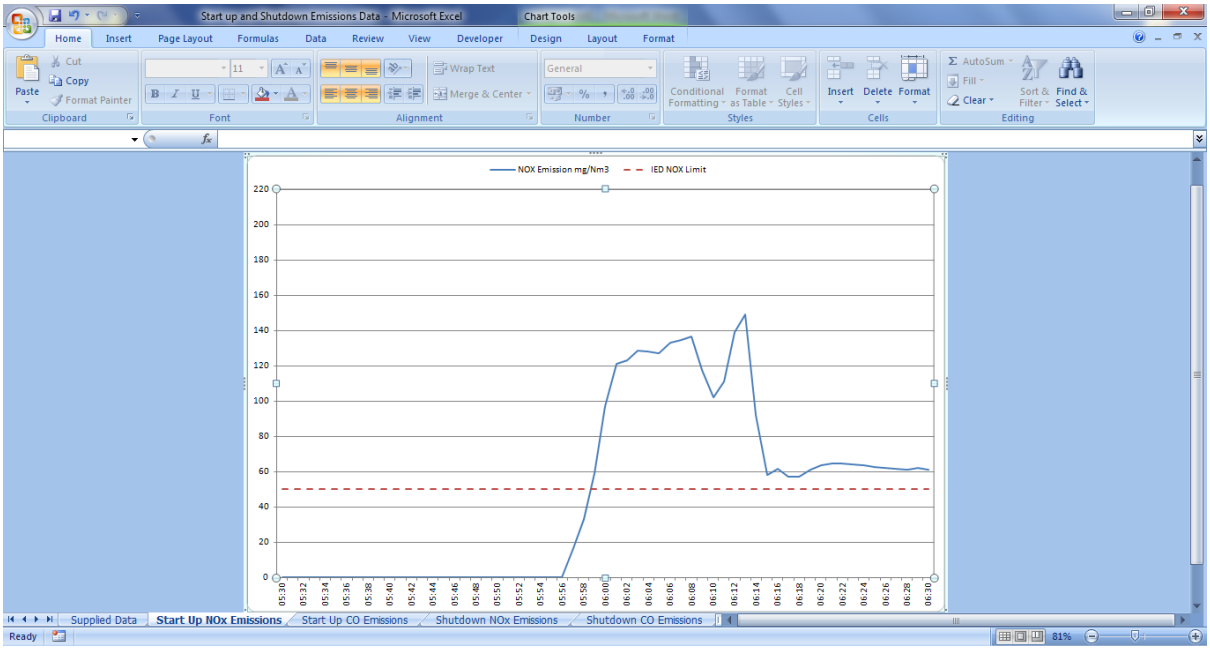


Chart 2 – CO Start Up Emissions

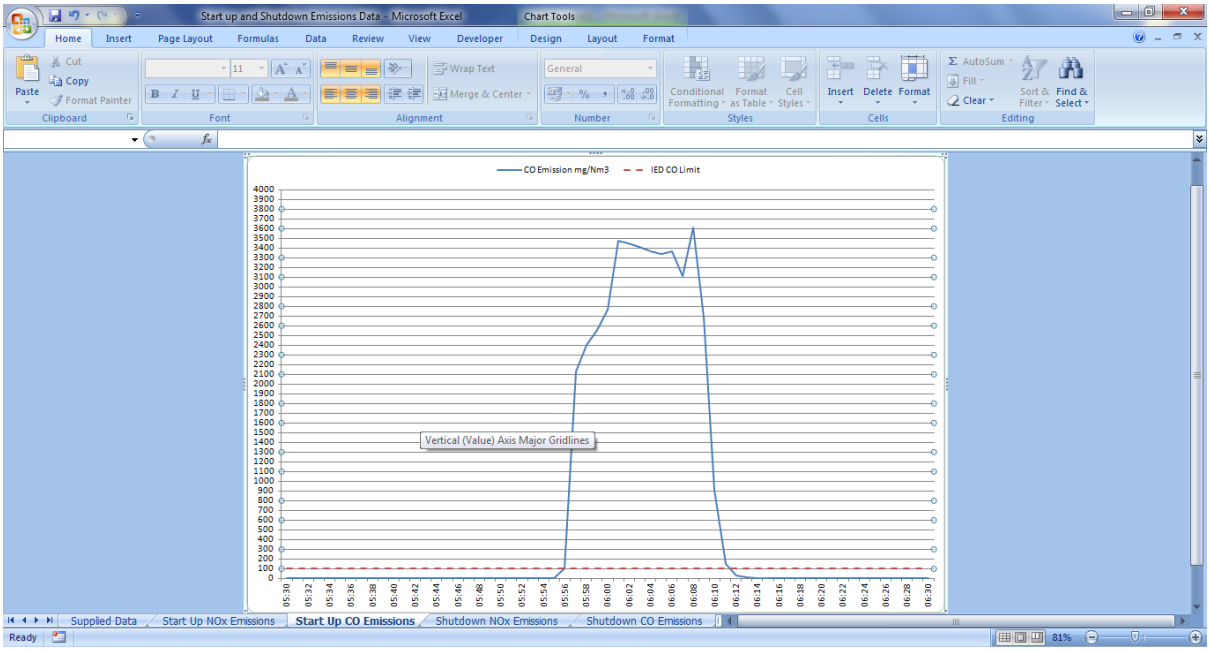


Chart 3 – NOx Shutdown Emissions

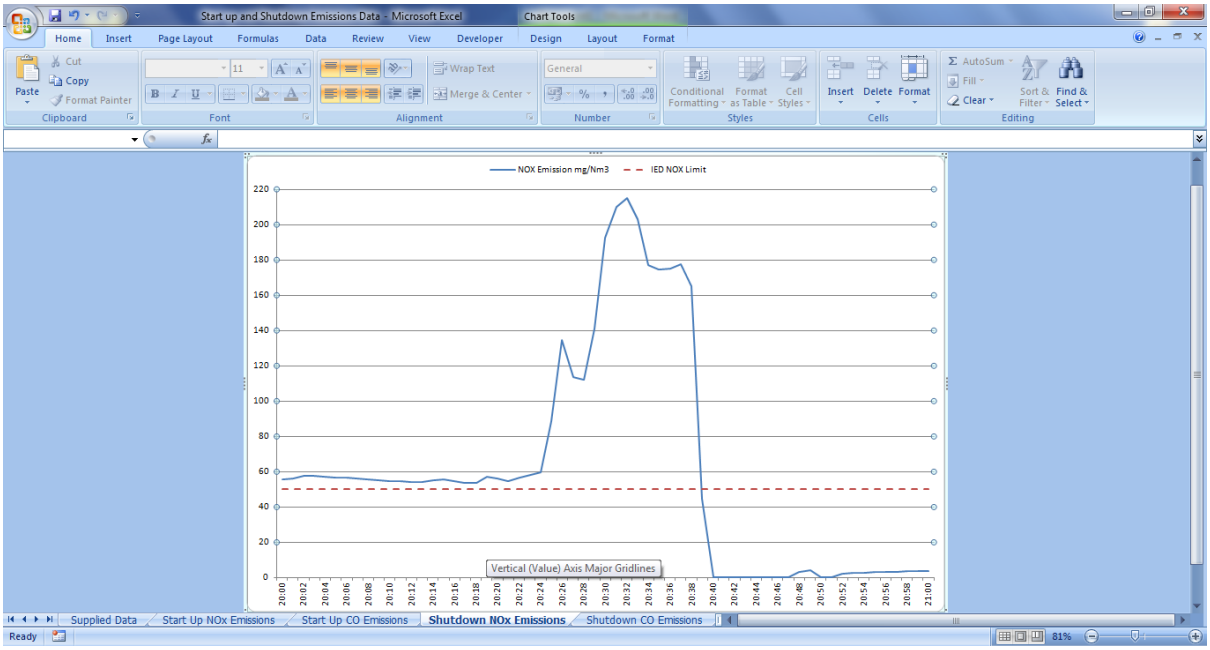
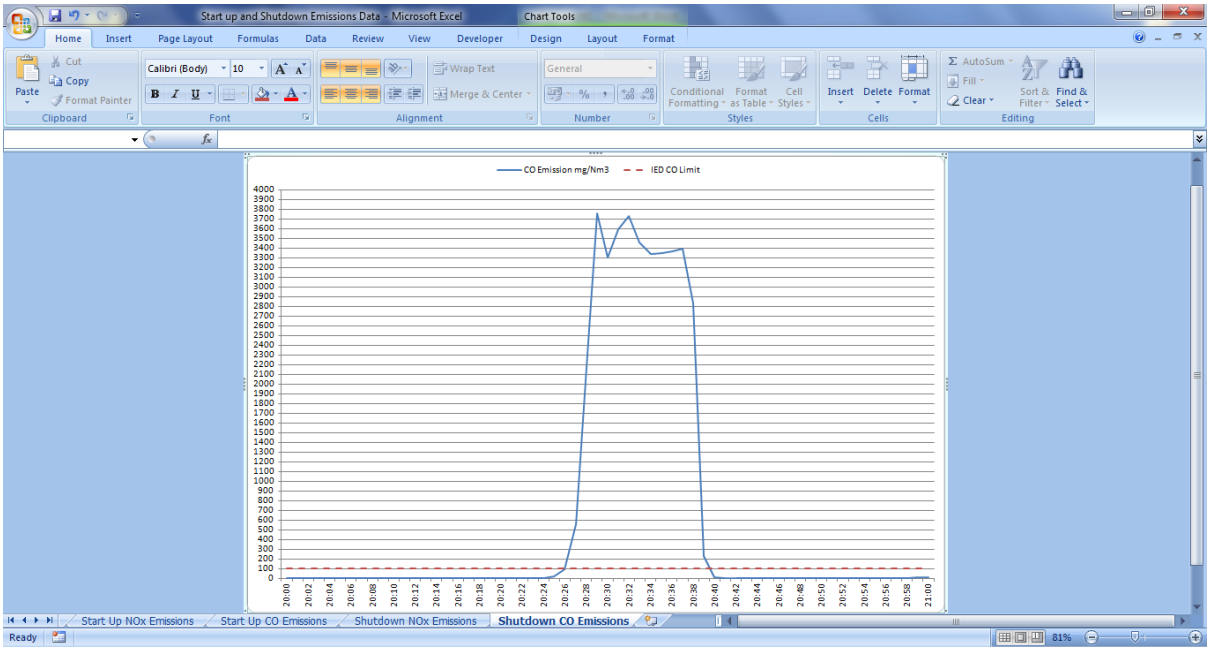


Chart 4 – CO Shutdown Emissions



You can clearly see that during both of these periods that both compounds exceed their respective emission limits, CO quite considerably.

You may also note that after the start up and prior to the shutdown periods the NOx emissions are constantly above the Plant limit.

You may remember that I told you in the last meeting that these type of Plant are legally allowed to remove the respective confidence interval (measurement uncertainty) prior to reporting their emissions to the Regulator. For NOx the C.I. is 20%, for CO the C.I. is 10%. Again due to not having the actual raw data, it is unclear if the C.I. has been removed, but given that the data is what has been reported to the Regulator, I have assumed that the C.I. has been removed.

However, I would argue that measurement uncertainty is a double edged sword and it is entirely feasible that the measured value for NOx could easily be under estimated by a further 20%.

The maximum value for NOx in the start up data is 148.9mg/Nm^3. However it is feasible that this value once the C.I. has been returned then it is 186.1mg/Nm^3. However, if this value with the C.I. returned was under estimated by 20%, for reasons previously explained, then this maximum value could conceivably be 232.6mg/Nm^3.

The maximum value in the CO start up period is 3610mg/Nm^3. When both 10% reductions have been returned, then this value is 4455mg/Nm^3.

The maximum value for NOx during the shutdown period is 215.2mg/Nm^3. When both 20% are returned to this figure, then it becomes 336.2mg/Nm^3.

It should be noted that the emission limit is actually only applied to hourly averages, and only when the Plant is operating at between 70 to 100% of load.

There isn't a scientific reason for the load status, nor the hourly averaging period. The load status is purely to exclude the start up and shutdown emissions from being reported. Traditionally the main reason for excluding start up and shutdown emissions is that it was always argued that they are periods of "abnormal" operation.

Traditionally Power Plant were Base Load Plant, i.e. operational for 24 hours a day, 7 days a week and on for months at a time, and so it was acceptable to exclude 15 minutes or so of high emissions at the start and end of a period of 6 to 9 months continuous operation. However, in today's changing energy market it is known that this type of Plant will only be operational for short periods during each day.

In the winter time is entirely feasible that this type of Plant could be starting up around 05:30 to be on grid for 06:00, off grid by 09:00, start up again around 16:00 and be off grid by 20:00. In other words only be generating during both peak demand periods in any given day.

I would then argue that the start up and shutdown periods become normal operation periods as they are a daily occurrence.

I note that the application considers 2 Plant into a single emission source and so depending upon demand from the grid / nomination by the supplier, then it is not necessarily so that both Plant will start up at the same time and so we could easily see 4 peaks in a single day, or an extended start up and shutdown period if the load has to change.

I would therefore argue that the stack height calculation has been seriously underestimated as the NOx has been input into the calculation at a level of 100mg/Nm^3 and so too has the CO. If the higher figures are put into the stack height calculation then I wouldn't be surprised to see the calculated stack height to rise beyond 60 and even get close to 70m. This I would suggest is beyond the current Rochdale Envelope.

I note that during one of the earlier meetings at Redwither Tower that one of my neighbours made the comment that "you guys live and breathe this process, we simply live and breathe what you leave us with".

Once the higher stack height calculation has been evaluated, then I would like to know if this brings other emission sources on the Industrial Estate into the calculation? Namely any NOx emission sources that other Part A Processes such as Kellogg's and Tradebe may have. Furthermore, does this potential emission source affect the dispersion of those existing stacks?

I note that this week that Environmental Lawyers, Client Earth have successfully brought the UK Government to task over the Public Health Crisis in air pollution. It is my understanding that it mainly centred around NOx levels. Perhaps this is a further battle that they may be interested in?

If I'm honest, I think, based on my experience of UK emission testing, that the CO emissions data supplied is on the tame side. I regularly see start emissions top 6000mg/Nm^3, but as previously explained I cannot prove this as I don't own any data that I may have gathered.

You may remember that I said that I would ask for this potential Plant's start up and shutdown emissions and reportable data be made public. I would like to re-iterate my request that the CEMS

data be disclosed, but under the conditions that are “raw, or as measured” and that the measurement basis and range of the CEMS be stated. That way the reporting package final output file can be readily checked and CEMS maxing out can also be checked.

Noise

As previously stated we are in contact with NRW about noise emissions from WIE and their effect on Is y Coed. We are informed that there is on-going remedial work on Plant on the Estate and that some emission sources have been significantly reduced, by up to 20dB(A) using temporary fixes. It is our further understanding that a local Operator has engaged a noise and engineering consultancy to look at more permanent measures to further reduce the noise emissions.

You may also remember that I stated that we were expecting a visit from Wrexham County Borough Council’s Environmental Health Department to discuss other noise sources / emissions that they regulate on Wrexham Industrial Estate. So far, under circumstances that they refuse discuss, WCBC have cancelled that appointment. It has been left that they would re-contact us when they can make that visit happen. It has been over two weeks since they cancelled the appointment, at very short notice, and so I will escalate our request within WCBC next week. I will keep you informed of the outcome.

We feel that with the ongoing temporary fixes and more long term solutions, that the survey that WPL’s consultants conducted in July 2014 is now out of date. You may remember that I stated that we contacted NRW in September 2014 to start to get the noise emissions reduced.

We feel that if the DCO is granted and this Plant gets built that this Plant will become the “stand out” noise on the Industrial Estate. Furthermore if this Plant gets granted, then we feel that it will undoubtedly be a backward step on the local noise levels. If the noise emissions start to impact on our well being and lives, then we will simply request a prohibition notice be granted.

Kind regards,

Chris Briggs