Comhairle Cathrach
Bhaile Átha Cliath
Dublin City Council

MINUTES OF THE SPECIAL ENVIRONMENT STRATEGIC POLICY COMMITTEE MEETING HELD ON 24th MAY 2018
DUBLIN WASTE TO ENERGY – TESTING AND COMMSISSIONING

1. CDM Smith Presentation

Members raised the following questions / issues in relation to the presentation that was delivered

- In relation to the power output- The graph states that the gross output of the turbine power generator is 55 -58MW, can it be clarified if that is the gross output at the terminals of the turbine, is there separately an assessment of the parasitic power consumption at the plant and a net value that is exported from the plant. (JMcC)
- The gross output of the turbine is according to the graph is 58-59 yet it is stated that the gross output is 70MW, can this be clarified (JMcC)

Bill Crellin (BC), Tony LeRo (TL) and James Nolan (JN) responded.

- At all times there is a measure of the power exported to the grid, a measurement of the total amount of power generated and the difference between the two is the parasitic power value (BC)
- At full load the plant generates 70 MW gross, the plant consume c.6 MW with 64 MW exported. (TL)
- The 59MW on the graph is associated with the pre-commissioning test, 70MW is when the plant is fully operational (JN)
- The loads were not constantly at 100% during pre- commissioning testing (BC)

Members raised the following questions / issues in relation to the presentation and report

- The stoppage that occurred in relation to plastic; are there preventative measures in place to stop this recurring (COM)
- Can it be confirmed that in relation to the residue warranty, will it be continuous testing or is it limited to the testing period (RM)
- Is the CEMS in real-time and why is it not on the Covanta website. (RM)
- The performance demonstration cert was issued on 24th November why was there a delay in getting the reports to the Committee (NOM)
- The first HZI PDT report issued in September17 and updated in October 17. The CDM PDT report adds little to the HZI PDT report; I restate that the committee is being delayed in getting the materials requested. (JMcC)
- I sought for all the information relating to this meeting be made public, will this information be made public (JMcC)

- A sub-chapter in the PDT report on powdered activated carbon was not included in the presentation (JMcC)
- The required R1 calculation which the EPA required to give a certain level of efficiency has not been mentioned at all (JMcC)

Bill Crellin (BC), Tony LeRo (TL, Ciaran McGoldrick (CMcG) and James Nolan (JN) responded

- The plastic stoppage was owing to the one type of material being fed, the proper procedure would be to spread the material throughout the pit (TL)
- The CEMS data is expressed in real time (BC)
- Why the CEMS data is not on Covanta's website is a matter for Covanta. (BC)
- The residue warranty is specific to the project agreement it deals solely with the combustible content of the residue. (TL)
- Separate testing is being carried out by Covanta on the bottom & fly ash for the purposes of characterising if it is hazardous / non hazardous (TL)
- We have been in discussions with DWtE Ltd and it is expected that the CEMS data will be on the website in the next few weeks (JN)
- Since the performance demonstration certificate issued the data has been collated, put together and reviewed, it took this long to put it in report format (JN)
- Mod.gov can handle 60MB of data and this meetings documentation amounted to c.130mb. We will put the information on the Council's website. (CMcG)
- Powdered Activated Carbon was not included in the presentation as we didn't want to just re-read the report. (BC)
- DCC & CDM Smith have been in discussions with Covanta on carbon usage and the use of gravimetric feeders which will provide a very exact reading on carbon usage. Covanta have agreed to install these feeders in August. (TL)
- The R1 calculation is not a provision of the project agreement, but there is a requirement in the licence to calculate the R1 efficiency (TL)

Order: Noted. All documentation to be place on the City Council website

Order: Noted

2. Pre- Commissioning Detailed Report

No questions

Order: Noted

3. Performance Demonstration Test report

Members raised the following question / issues in relation to the report that was circulated

- The performance acceptance test is due after 4000 hours of operation, it seems that we are now 3 months past this, when can we expect the PAT to be carried and the subsequent report. (JMcC)
- Will the PAT be a full suite (of tests) or just an analysis of the existing data from the system (JMcC)

- The nominal input capacity is stated to be 32 tonnes of waste per line per hour at an average calorific value of 11.5Gjoules per tonne. This is at variance of what is in the EIS. The EIS said it would be 35 tonnes per line per hour at 10.5Gjoules which amounts the same amount of steam per hour. – Where does this line come from (in the report) is it a redefinition at odds with the EIS (JMcC)
- What doe LPN on the diagram stand for (JMcC)
- The Indaver Plant at Duleek could not get 11.5 Gjoules (only 10.5 could be reached) and Indaver were permitted to increase the annual tonnage to 200,000 tonnes. The same recalculation cannot apply the Poolbeg facility as the permission allows for 600,000 tonnes pa. During the 30 day test waste processed was 6% over the permitted level. The plant cannot be allowed to continue at this level. Can this be clarified (JMcC)
- Can we have a copy of the HZI document, Function and Design Specification on the Net Calorific Value (NCV) calculation (JMcC)
- The performance of the plant was of serious contention at the Bord Pleanala hearing. The DCS (Distributive Control System), a piece of software has had significant consequences at the plant thus far. The software has been reloaded on a few occasions. (JMcC)
- The EPA wants to know why the plants weather station data is not being used instead of Dublin's Weather Station data. It transpires that the meteorological data in the plant was lost by down loading a new version of the DCS software. (JMcC)
- Who wrote the DCS software, how many other installations in the EU are running this software. (JMcC)
- How is the software tested (JMcC)
- Are there redundancy engines whereby the software is running on a principal machine or server and is backed up on another (machine / server) with real-time information exchanged between the two (JMcC)
- Who maintains the software(JMcC)
- There have been circa 48 incidents at the facility with half a dozen being attributed to software(JMcC)
- Where is the loop being closed in relation to managing the injection of carbon, I'd like to see a paper on this (JMcC)
- I would like a report from CDM Smith on the software failings at the plant (JMcC)
- The carbon paper was not authored or dated. (JMcC)
- A statement by Covanta (J.Daly) on 19th September sad that 90 – 100 milligrams of carbon per cubic metre of flue gas will be metered in. The volumetric flow is measured all the time; it is in the DCS data. Is there software which records the adjusting of the PAC feed rate in line with the flow of flue gas or with some other surrogate which is measured in the CEMS to try to get at the right amount to capture the dioxins (JMcC)
- In the table on usage there are 3 measurements. How does DWtE assess the dioxin that occurred when a certain amount of carbon is injected? (JMcC)
- The list of parameters which were measured for mercury and list of parameters and results for dioxins and the corresponding amount of injected carbon are missing from the report (JMcC)
- The graph which shows an average of 18kg of PAC / hr is clearly inadequate. On the face of figures published by CDM the dosage rate should be running 50% higher and not at 18kg (JMcC)
- Can we have a general comment on who is assessing the PAC in Poolbeg (JMcC)

- The re-circulated carbon is not measured and the extent of un-reacted carbon is unknown which is essential for dioxin removal (JMcC)
- The fly ash not being measured is what caused 11 injuries (JMcC)
- Will the recycling carbon levels be measured (JMcC)
- We will get the recirculation figure (JN)
- The data acquisition handling software and CEMS calibration was not quite correct calibration adjustments were loaded into the software 2 weeks after the PDT was completed. In the CR's opinion the data was fine has EPA reviewed and agreed this (JMcC)
- CDM Smith does not draw any conclusions at the end of the report, what are the conclusions (JMcC)
- Are the calibration corrections now in place (RM)
- What is the exact gross power and is it in the gross power that is recorded in the DCS data (JMcC)
- Clarification on the Gross / Nett power of the plant is required. (NOM)

Bill Crellin (BC), Tony LeRo (TL) and James Nolan (JN) responded

- The higher the heat – less waste can be processed, the lower the heat – more waste can be processed. The heat input, the product of the numbers amount to the same (TL)
- Hitachi produced a design diagram, LPN is the same as ABC in the EIS (TL)
- The performance acceptance test has been completed, data is still outstanding and remains to be reviewed and we expect to have report to the City Council within 2 months. (BC)
- The PDT does not give assurances on the software, there were no issues with the software during the 30 day test period (JN)
- Carbon usage is not one of the PDT criteria but we do agree that it is an important parameter (TL)
- The plant uses a volumetric screw feeder to inject carbon into the units. We observed at a specific speed set point, feed rates varied meaning at some point there was an interruption in the amount of carbon in the screw (TL)
- We examined 2 sets of data (Section 4.3 in the report); we looked at the average daily carbon usage and during mercury / dioxin stack testing. Using volumetric screw feeders is not a reliable way to ensure there is a constant carbon feed. It has been agreed that gravimetric feeders will be installed (TL)
- The gravimetric feeders will speed up / slow down the feed rates to ensure the desired feed rates are maintained. (TL)
- The Carbon paper was written by Covanta and not CDM smith (BC)
- Table 9 referenced, does show that carbon usage did vary but for the most part more than 18kgs was injected. (BC)
- The results for carbon use rates for mercury & dioxins were extremely good, they are running of orders of magnitude below the emissions limits (BC)
- CDM Smith is not happy with the varying carbon rates and Covanta will be installing the gravimetric feeders (BC)
- DWtE, in addition to the carbon feed also has recirculated carbon, so there are 2 components to the carbon levels. Not just the fresh carbon shown on table 9 but also the recirculated carbon.(BC)
- The amount of carbon recycled isn't known that is why it has been recommended that the carbon feed is consistent. (TL)
- Subsequent test data (after the PDT) show dioxins below the limits values at carbon rates of 15kgs (TL)

- The CEMS has to pass a qual1 which confirms that the system is complete and installed properly, Qual2 looks at the accuracy of the system and as part of that a calibration function is derived, this essentially corrected the measured value to a more accurate number based on the procedures (TL)
- The calibration functions are displayed in Table 11 of the report. CDM Smith looked at the calibration functions and determined that they still would have passed the PDT test (TL)
- A full Qual2 report issued with the Agenda documentation and the EPA acceptance of the Qual2 also issued.(JN)
- The calibration corrections are now in place (since October) (TL)
- The gross output of the plant 70MW at full load. The in plant use would typically be around 6 MW with the net being 64 MW. Earlier I misspoke I quoted the gross figure which was in fact the net figure (TL)
- There is a megawatt meter at the generator which measures the gross output and there is a megawatt meter on the line going to the grid measuring the net output. (BC)
- I will come back what the cell values are (JN)

Order: Report noted. Clarification on net / gross power output of the plant to issue

4. Incident report to EPA

   Order: Noted

5. Motion in the name of Councillor Claire Byrne

   'That in light of the very serous amount of litter and waste that was left along the Grand Canal and other parts of the city during the good weather last weekend, this Environment SPC calls on Dublin City Council to explore ways of improving the litter and waste management systems during the good weather, such as increasing the number of large bins available, and investing in an awareness campaign to encourage personable responsibility so people clean up after themselves, bring their waste home, and leave no trace

   Order: Agreed

6. A.O.B

   The HSA investigation in to the Lime still incident is still ongoing according to correspondence received from the HSA

   Order: Noted

<u>In attendance</u>

Members

Joe McCarthy
Cllr. Tina MacVeigh
Robert Moss

Cllr. Michael Mullooly
Cllr. Michael O'Brien
Cllr. Ciaran O'Moore
Cllr. Naoise O'Muiri (Chairperson)

Officials

Dick Brady, Assistant Chief Executive
Céline Reilly, Executive Manager
James Nolan, Senior Executive Officer
Ciaran McGoldrick, A/Senior Staff Officer
Ian Boggans, Assistant Staff Officer

Outside Organisations

Bill Crellin, CDM Smith
Tony LeRo, CDM Smith
Rúairí O'Carroll, CDM Smith

Naoise Ó'Muirí- Chairperson
25th May 2018