Comhairle Cathrach Bhaile Átha Cliath
Dublin City Council

**NOTIFICATION TO ATTEND MEETING OF THE ENVIRONMENT SPC**

**TO BE HELD IN THE COUNCIL CHAMBER, CITY HALL, DAME STREET, DUBLIN 2.**

**ON WEDNESDAY 27 SEPTEMBER 2017 AT 3.30 PM**

## AGENDA

## WEDNESDAY 27 SEPTEMBER 2017

Comhairle Cathrach Bhaile Átha Cliath
Dublin City Council

**MINUTES OF THE ENVIRONMENT STRATEGIC POLICY COMMITTEE MEETING HELD ON 28th June 2017**

1. Minutes of the meeting held on 26th April 2017.

   **Order: Agreed**

2. Matters Arising

   The Chairperson advised the Committee that he has written to the Waste Operators to present at this meeting and a number of responses were received which were circulated to the members.

   The Operators are not in a position to attend the meeting but Greyhound recycling offered to meet the Chair.

   **Order: Noted**

3. Correspondence

   **None.**

4. Chairperson's Business

   **None.**

5. Minutes of the Litter Subcommittee held on 19th May 2017

   **Order: Agreed**

6. To fill a Sectoral vacancy on the Climate Change Subcommittee.

   **Order: Defer to September meeting**

7. Report on incident on 7th June 2017 at the Dublin Waste to Energy facility

   Mr. Dick Brady, Assistant Chief Executive referred to the report that was circulated and made the following points.

   - On 7th into 8th June there was an incident at the facility involving lime leakage
   - 11 individuals were taken to hospital as a precaution
   - The Health and Safety Authority and the Environment Protection Agency were informed of the incident
   - The process was shut down in an orderly fashion after the incident.
   - The HSA issued a notice that no further hot commissioning could take place until investigations are complete.

- We are waiting for the HSA to report.

Members raised the following questions / issues

- When will the hot testing recommence and when will reports issue from the EPA / HSA (CO'M)
- Has DCC received feedback from the EPA / HSA on what happened (AK)
- The EPA was previously requested to present to this Committee and this request was declined. The EPA should be asked to attend the next meeting to report on this incident (MM)
- Will the EPA & HSA as the statutory authorities write separate reports (NO'M)
- Members should be appraised of correspondence from the EPA / HSA (CC)

Mr. Dick Brady responded

- DCC does not know when the EPA / HSA reports will be completed.
- Separate reports will be written by the EPA/HSA

**Order: Report Noted. The Environment Protection Agency and the Health and Safety Authority to be invited to the September meeting to present reports on the June 7th incident and subsequent findings.**

8. Covanta's response to issues raised by the Committee.

The Chair referred to the response that was circulated, albeit with little time for consideration.

The Assistant Chief Executive requested that any technical questions that Members may have are submitted in writing.

Members raised the following points / questions.

- Raising the Newstalk interview in the body of a response to questions raised is muddying the water somewhat and this issue should have been dealt with (by Covanta) under separate cover (AK)
- Joe McCarthy stated that he was the individual in the Newstalk interview.
- All his opinions are based on scientific research (JMcC)
- Communication was not received by him from Mr. Erikson or Covanta(JMcC)
- There is no further information offered in this report with the exception of a reference to .44kgs of carbon per tonne of waste in the other Irish incinerator. (JMcC)
- Industry norms found in the BAT reference sets the range between .35kgs – 3kgs per tonne depending on the makeup of the waste. (JMcC)
- Several elements of fact have not been given by Covanta (JMcC)
- The actual amount of carbon used, this information is to hand, the difference in carbon usage for line 1 & 2 is required (JMcC)
- 100% of the flue gas residue was recirculated in Poolbeg which is wrong (JMcC)
- What % will be recirculated, the reply that it will be set in accordance with BAT is not what the Committee requested, exact figures are required (JMcC)

- The 100 % recirculation is probably why the flu gas ash burst out of the hopper. I have asked the EPA & HSA to investigate this. (JMcC)
- The figures on the amounts of carbon used in the plant should be on record.(JMcC)

The Assistant Chief Executive responded.

- This Committee does not have parliamentary privilege and we must be careful in what is said.
- Any questions members may have should be submitted in writing and response will be sought from Covanta.
- Could Mr McCarthy forward the details of his research into Carbon usage.
- Could Mr McCarthy set out clearly his questions are and set out what he believes to be industry norms.
- Restated his request for Mr. McCarthy's references to be submitted for consideration this will help the Committee to understand the points that are being raised.

**Order: Figures on how much carbon is being used per tonne on a daily basis, the Percentage of flue gas residue that is being recirculated & how much carbon has been used to date**.

9. Site Specific Major emergency Plan

Mr. Dick Brady advised the Committee that this document which has been agreed between Covanta and the EPA is for noting. As the Plan was agreed between the EPA and Covanta the Committee has no influence in relation to what has been agreed.

Members raised the following issues.

- The document is terrible, it is not possible to search in the format that it is presented , the pagination is different to the index making it hard to read (JMcC)
- There are 13 emergency response procedures in the plan (JMcC)
- This is an aspiration document that describes what an emergency response might be. (JMcC)
- Would like to see the approval granted by the EPA (JMcC)
- Was the fire brigade called when the lime leak occurred (JMcC)
- The emergency response procedure was not followed when the lime leak occurred. What was the sequence of events from when the leak occurred until the individuals concerned presented at St. Vincent's Hospital. (JMcC)
- We need to see a practical document to see what the procedure is when an emergency arises (CC)
- Could we have some details on the cladding on the building (CC)
- The date on the Emergency Plan is 25th April, is there an explanation why it did not issue to the Committee until 24th June (JMcC)

James Nolan & Dick Brady responded

- It is our understanding the Major Emergency plan has been approved as drafted (JN)

- It is not for DCC to comment on the formatting of documents that have been agreed with a statutory body (JN)
- There is currently a HSA investigation in relation to the incident on 7th / 8th June (DB)
- The HSA's report should cover all aspects of the incident and the incident handling (DB)
- It would be premature for DCC to make any comment in relation to the incident in advance of the HSA's report issuing. (DB)
- The plan was submitted to the EPA on 25th April (JN)
- The detail in relation to the cladding has been requested and we await a reply. (DB)

**Order: Noted. Issues raised to be followed up, approval from the EPA in relation to Emergency response plan, the HSA's report, report on the cladding**

10. Dublin Waste to Energy Project update report

James Nolan updated the members that

- Responsibility for the management of the website has transferred to Dublin Waste to Energy Limited.
- There is an error in the report, construction phase monitoring reports are not on the website but we are working to restore them.
- Construction work is ongoing but commissioning has ceased until the EPA & HSA complete their investigations
- Operation commenced on 1st June and ceased on 7th June. The EPA is undertaking a review of the processing of material during the first week.
- There have been a number of submissions to the EPA, one in relation to the temperature calibration, the EPA has asked for a review of this.
- The EPA sought an explanation in relation to interruptions at the facility.

Members raised the following issues.

- Information that is publically available on the EPA portal gives a root cause analysis of 3 events, event 3 was the major one (JMcC)
- The cause of the incident that resulted in casualties was the release of lime ash from the bottom of the bag house filter (JMcC)
- This committee requested that all reports / exchanges between the EPA and Covanta be made available on the DWtE website. (JMcC)
- Any documents sent to the EPA from Covanta should be circulated to the committee immediately (JMcC)
- Covanta have been found non compliant in 3 respects and the EPA has issued 3 non compliance notices (JMcC)
- Problems in relation to temperature, bag house filter problems and lime leak were not reported to the EPA in a timely manner (JMcC)
- Covanta produced a root cause analysis of the problems from 1st to 8th June which is a public document. (JMcC)

**Event 1**

- On 1st June between 7pm and 12.00 midnight 109 tonnes of waste was burned (JMcC)

- There was a boiler drum alarm at 9.20 because the water had run out from the feedstock; it was restarted 2 hours later and the drum level control failed at 12.30. The bag house pressure dropped at 2.53 and the plant was shut down (JMcC)
- A non compliance notice issued, this should be listed in the DWtE update report (JMcC)

**Event 2**

- On Monday 5th through 6th June 144 tonnes of waste was fired from 4.31am – 11.00 am. At 11.00 am the bag house pressure dropped because there was visual lime on the ground in the vicinity of bag house. At 12.12 burner control was adjusted which cause a dip in temperature. A non compliance has issued by the EPA for not advising that the temperature dipped below 850C. A requirement of the licence is that temperature must not be below 850C while waste is being burned. (JMcC)

**Event 3**

- On 7th June waste firing commenced at 16.10, 104 tonnes of waste was burned. (JMcC)
- At 20.43 the bag house pressure failed again. (JMcC)

- At 22.30 incineration resumed and at 22.39 the line stopped due to a major release of lime which caused the casualties. (JMcC)

- Taking all 3 incidents together we find the operation of the plant was under reasonable control, the bag house had repeated failings; repairs were made which were not sufficient. (JMcC)
- 1-2 cubic metres of lime ash were released which equates to 3.5 – 4 tonnes of lime ash. (JMcC)
- We cannot conclude anything, this is a matter for the EPA / HSA & this committee has no role in terms of compliance (NOM)
- Mr. McCarthy is raising issues which he is entitled to do (MM)
- Can the events logs and non compliance notices issue to the Committee (RM)
- I have made no conclusions whatsoever, I've been putting fact before the Committee (JMcC)
- John Daly is the source on the quantum of lime released, he did so in an interview with RTE (JMcC)
- What is not mentioned is that the release was in fact fly ash; fly ash contains lime and powdered activated carbon, the PAC had been absorbing dioxins and mercury (JMcC)
- The standard procedure for reporting major incidents did not take place, staff drove in their cars or other cars to St. Vincent's some 5 hours after the incident. (JMcC)
- The expected emergency procedure was not followed by the staff. (JMcC)
- Waste remained on the grate while the plant was closed (JMcC)
- Was DCC aware that the non compliance notices issued & how are non compliance notices published. The non compliance notices should have been brought to the attention of the Committee by DCC. This committee needs to hear what Mr. McCarthy has to say on these issues (events) (MM)
- What was the client representative observing during these failings / non compliances during start up. (JMcC)

- Where are the reports from Covanta, DCC Management, CDM Smith and Exova on commissioning / start up. (JMcC)

James Nolan and Dick Brady responded

- The statutory body (EPA) has not responded in relation to the 3 events (JN)
- We are drawing conclusions from submissions made to the EPA, the EPA has not responded to the submissions yet (DB)
- The documents are with the statutory authorities who will be examining all of the issues. (DB)
- It is premature for this committee to arrive at a conclusion before the statutory authorities issue their reports (DB)
- DCC was aware of the root cause analysis report but not aware of the non compliance notices that issued (JN)
- James Nolan to revert on how non compliance notices are published
- There are time frames for the CDM etc, reports. This has been discussed previously. CR report is based on a performance demonstration test which is to be carried out over a 30 day period. The 30 day period has not commenced. The report will issue to the committee when completed. (JN)
- In relation to the Exova report there is a commissioning process with the CEMS system in the plant. There are guidelines from the EPA in respect of the CEMS. The facility has to be operational for a period of time and then the in stack testing is undertaken by Exova, this has not taken place yet so the report can't issue. (JN)

Mr. Brady referred to the email from Mr. McCarthy in relation to outstanding items.

- Report on CEMS commissioning process – This process is set out in the document that was sent to members
- Copy of Departmental Guidelines on the payment to the Chair of the CGF Committee. – A report issued the meeting held on 5th April 2017.
- Detailed technical commissioning plan for the incinerator – A report issued the meeting held on 5th April 2017.
- Paper on how powdered activated carbon is managed, monitored and controlled to include the planned dosages – Dealt with earlier on at this meeting, for further report.
- Client representatives report – James covered this at this meeting
- Laboratory Testing protocol – Explanation given earlier
- Exova Protocol – Issued at the meeting held on 26th April 2017. This document was not finalised and agreed with the EPA. Procotol will issue to the committee when completed
- Covanta website to make available all correspondence with the EPA – This is not a requirement of the licence granted.
- Single timeline of the phases of commissioning for all audiences – DCC has specific requirement for the CR team to report on. In relation to the phases and timelines, the commissioning plan was issued to the committee in February 2017
- A clear and unambiguous report on the handling and storage of fly / bottom ash - A report issued at the meeting held on 5th April 2017.
- Copy of the fire safety plan for the incinerator – This was dealt with earlier

Mr. Joe McCarthy responded

- The Environment SPC is charged with oversight of the project and sufficiently detailed information should be provided to fulfil this role.
- The Capita report recommended that there should be frank disclosure of project information, interaction between CDM smith & Management, Covanta and the EPA, this is not being provided.
- For example the fire safety plan, what was issued to the Committee was a copy of a generic fire safety plan for Dublin and not the fire safety plan for the incinerator.
- The Exova protocol was a generic protocol and not specific to the plant
- The material that the committee is given is not issued with a reasonable time for consideration.

Councillor Naoise Ó'Muirí advised that all material is being pursued and it distributed when as soon as it arrives in all cases.

Mr. Brady responded

- There is an impression being given that information is not being given to the committee. He read through a list of 10 or 12 items outstanding and the vast majority of what was sought issued to in report form, in some instances a number of months ago.
- Other elements of reports sought, explanations have been given as to why reports are not available.
- It is not DCC's intention to withhold information from this committee.

**Order: Noted –Follow up actions – Details of non compliance notices and how they are published. Sequence of events when the lime leak occurred. The EPA to be invited to present on the 3 non compliance events.**

11. Community Gain Grant information and report

Mr. Vincent advised the committee that the Community Gain Liaison Committee agreed to furnish details of grants awarded as set out in the report that was circulated.

**Order: Report Noted.**

12. Draft River Basement Management Plan 2018-2021

Gerry O'Connell, Engineer in charge, Flood Defence Unit, presented to the Committee on the Draft River Basement Management Plan 2018-2021 and outlined the purpose of the plan and made the following points

- Bring rivers, lakes & tidal estuaries to a good ecological status
- Address pressures on Water Quality
- There will be significant public consultation
- Despite significant investment there is still some way to go to achieve a good ecological status
- 45% of rivers & 55% of lakes are less than good status
- Pressures on achieving good status include Agriculture, Forestry, and Industry etc.
- The quality in Ireland is comparable with other EU members
- It is hoped that the RBMP will be adopted by December 2017.

The role of the Local Authority (DCC) is

- Coordinate delivery of measures at regional and local level
- Tracking progress and effectiveness of measures
- Annual reporting of progress
- Ensuring public and stakeholder engagement in implementation
- Integrated approach across functional areas
- Supporting national policy development and implementation

Gerry further explained

- Gerry's office will be making submissions on the plan.
- 7 rivers are in DCC's administrative area with most being of moderate to poor status
- Most of the coastal areas in DCC's area are of good status.
- Estuaries are of moderate status
- Ground waters are of good status

Members thanked Gerry for his presentation and raised the following questions

- Is Dublin City Council the lead Authority in relation to the Liffey, what can be done in terms of its perceived low quality. (NOM)
- Can we have more information on LAWCO, what do they actually do and how would community groups engage with LAWCO (RM)
- In relation to the Poddle river, could we have an overview on what is planned (MM)

Gerry O'Connell responded

- Each Local Authority is responsible for its own area; the problem with the Liffey is that much of the damage occurs upstream.
- The major threats on the Liffey are agriculture, discharges from wastewater treatment plants and combined sewer overflows it is hoped a reasonable standard will be reached by 2020
- LAWCO will be in contact with the Area Offices to get details of residents associations with a view to bringing an awareness of the plan and to try to get linkages between various bodies (state) and people
- Each river will have a plan and as the plan is developed LAWCO will endeavour to keep community involvement.
- LAWCO can advise on sourcing funding.
- The Poddle is generally underground in the City, the will be a plan for the river that will focus on the parts of the river that are visible which are mainly in the administrative area of South Dublin. The plan is to get the water quality up to good status.

**Order: Presentation Noted**

13. Naniken River Flooding Event report

Cllr O'Moore queried if any measures have been explored to avoid / reduce the risk of the flooding on the Clontarf Road

Gerry O'Connell advised that meetings will be held with the Parks Department to explore options to reduce the risk of flooding.

**Order: Report Noted**

14. Climate Change Strategy update report.

Dr. Gerry Wardell gave a verbal update to the Committee on the progress of the Climate Change Strategy for Dublin

- The Strategy will cover the 4 Dublin Local Authorities
- The strategy was agreed by the SPC and the City Council in 2016.
- 4 Action Plans are currently being developed
- CODEMA has recruited an additional 3 staff to assist the action plan preparation
- Local Authority staff from the various disciplines in partnership with CODEMA is developing actions that are currently being carried out.
- The technical staff for the 4 DLA's are having a workshop (tomorrow) to share expertise and identify gaps. A further workshop will be held in September.
- The staff in Dublin City Council are putting in a huge effort.
- A skeleton action plan should be ready for the November SPC.
- A joint meeting of the 4 DLA's Environment SPC is to be held

**Order: Report Noted.**

15. A.O.B.

Councillor O'Moore raised the issue of the introduction of the pay by weight waste charges and made the following points.

- The previous government committed to introducing a waiver scheme for low income families/ families with disabilities – This did not happen
- The Minister does have the authority to set prices as the industry has been privatised
- We need to see a reduction in waste produced by industry
- Elderly people are being forced by waste operators to conduct their business on line.
- Something will have to be done such as a waiver for those on medical cards.

**Order: Noted**

**In attendance**

**Members**
Councillor Claire Byrne

Councillor Ciaran Cuffe
Councillor Andrew Keegan
Joe McCarthy, An Taisce
Robert Moss, Dublin City PPN
Councillor Michael Mullooly
Councillor Ciaran O'Moore

Councillor Naoise Ó'Muirí

**Apologies**
Robert Colleran, Dublin Docklands Business Forum
William Brennan, Dublin City PPN
Councillor Mannix Flynn
Councillor Edel Moran

**Absent**

Councillor Declan Flanagan
Councillor Michael O'Brien

**Outside bodies**

Dr. Gerry Wardell, CODEMA

**Officials**
Dick Brady, Assistant Chief Executive
Vincent Norton, Executive Manager
James Nolan, Project Engineer
Gerry O'Connell, Senior executive Engineer
Ciaran McGoldrick, A/Senior Staff Officer
Mary O'Meara, Staff Officer
Owen Sweeney, Staff Officer

**Councillor Naoise Ó'Muirí**
**Chairperson, 29th June 2017.**

# Dublin Region Environment SPCs Meeting

## Follow-up Report

**Date:** 5th July 2017 | 4pm

**Location:** Dublin City Council, Wood Quay Venue

**Aim:** Update and Progress on Climate Change Action Plans

**Attendees:**

**DCC:**
Naoise Ó Murí (Fine Gael)
Ciaran Cuffe (Green Party)
Claire Byrne (Green Party)
Robert Moss (PPN)
Robert Colleran (Dublin Docklands Business Forum)

**DLRCC:**
Ossian Smyth (Green Party)
Alex White (Labour Party)
Seamus O'Neill
Sorcha Nic Cormaic
Elizabeth Swan Wick
Diarmud McAree (Sectoral Rep)

**FCC:**
David Healy (Green Party)
Paul Donnelly (Sinn Féin)
Seamus McGrath
Charles Sargent
Mary McCambley (Labour Party)
**Angela O'Flynn Bury**

**SDCC:**
Pamela Kearns (Labour; SPC Chairperson)
Enda Fanning (Sinn Féin)
Ed O'Brien (Fianna Fail)
Dominic Anderson (Sectoral rep IFA)

**Officials:**
Vincent Norton (DCC)
Ciaran McGoldrick (DCC)
Austin Baines (DLRCC)
Gilbert Power (FCC)
Teresa Walsh (SDCC)
Chris Galvin (SDCC)
Stephen Byrne (SDCC)

**Codema:**
Gerry Wardell (Codema)
Sabrina Dekker (Codema)
Verena Brennan (Codema)

### *Presentations*

- Welcome, introduction and MC by Vincent Norton, Executive Manager, Environment and Transport, Dublin City Council
- '*Codema's Focus on Climate Change*' presentation by Gerry Wardell, Director of Codema
- *'Climate Action Plans'* presentation by Sabrina Dekker, Climate Change Researcher of Codema
- *'1st Climate Change Workshop'* presentation by Verena Brennan, Energy Awareness Manager of Codema

## *OUTCOMES*

- Move away from Diesel cars
- Building standards/ quality of life/ health & safety following fire in London's Grenfell Tower
- Joint workshop with members of SPC proposed
- Clear reduction targets are needed – what does the council control? Role of council to showcase/pioneer → communicating successes
- We should be aiming for higher targets in line with 40% reductions by 2030 as part of Covenant of Mayors
- Regular progress reports on climate change action needed
- Claire Byrne suggested public event in Oct e.g. in the Mansion House which would be open to all age groups
- David Healy proposed high public engagement at an early stage of the action plans, communicating via a dedicated website and social media
- City of Vancouver a good example for public engagement; however additional funding required to implement this
- Diarmuid McAree, Vice Chairman of a UN/ECE/ILO Team of Specialists on Green Jobs in the Forest Sector and part of the SAGE (Shankill Action for a Green Earth) community group, highlighted the role of trees as the key to reducing $CO_2$ emissions and recited his recent initiative in Shankill, where the residents had planted xx trees for each citizen
- There needs to be a more permanent governance structure put in place and resources must be pooled more formally
- Link in with Tidy Towns to encourage tree planting, biodiversity and education on LEDS
- Electric car points should be mandatory
- We need a bottom-up approach to climate action and involve the children/ Green Schools
- Can we utilise unused land for additional tree planting to reduce flooding? Vacant site levy coming into effect
- Grey water recycling for municipal buildings
- Learnings should be taken from PURE Mile – an environmental initiative to protect uplands and rural environment
- Localised flooding can often be solved through local involvement of the community and awareness raising e.g. plastic bags obstructing overflow pipes
- Dundalk Blackrock Park is 50% managed by the community; Limerick Community Park another successful example
- Engagement with governmental departments needed
- LAs have increased responsibility in waste management
- Compliance is a big issue (e.g. illegal dumping, littering etc)

## *NEXT STEPS*

- Send out report from 1st Climate Change workshop to SPC members
- Decide on next date and venue for SPC meeting
- Send out soft copy of existing *Draft Strategy for Climate Change*
- Provide date for joint workshop with DLA members
- Check possibility for public event with CEOs/budget/existing structures

# MINUTES OF MEETING OF SPECIAL COMMITTEE ON WASTE REGULATIONS 19th JULY 2017

1. Minutes of meeting held on 21st June were agreed.

   Cllr Eilis Ryan chaired the meeting in the absence of Cllr Tina McVeigh

   Query raised re draft correspondence to IWMA

   **Order: circulate draft correspondence to committee**

2. Review of Report on Bag to Bin Derogation Surveys (83 Street Trial)

   Simon Brock outlined that the report had been received and distributed to the members of the committee as agreed. As the report had been only recently been received no detailed analysis of the report had been undertaken and no decision as to any implementation based on the contents of the report had been finalised.

   A discussion was held in relation to the report. The following points were raised by members of the committee.

   - Methodology of report - were Tobins Engineering requested to carry out any interpretation of the criteria
   - Whether an exact square footage measurement for storage of bins was contained in the regulations issued by the then dept of the environment
   - Whether bins should be stored directly below front windows of properties if this was the only space available
   - That any recommendation on implementation following analysis of the report be brought to the committee for comment prior to approval by executive manager

   Simon Brock responded

   - The contractor was not requested to interpret the criteria but to simply assess the selected streets based on the criteria as stated in the regulations
   - Regulations do not specify an exact measurement. They simply specify adequate space for storage of 3 bins within the boundary of the property to the front, side or rear of.
   - The regulations make no reference to proximity to windows or any other physical feature of a property
   - That any proposed implementation of the report would be brought to the committee for comment prior to executive manager approval

**Order: Report on implementation be brought to committee for comment prior to executive manager approval**

**A.O.B.**

Members raised the following issues

- The matter of fines or charges being issued to customers by waste collectors for contamination of recycling bins
- Noise created by, size of, and odour emanating from waste collection vehicles and whether existing permits stipulated any restrictions or procedures that should be in place
- Is there a process available to include such restrictions or conditions through waste permits or bye laws

Simon Brock responded

- The matter of charges being issued by waste collectors to their customers is a contractual matter and not within the remit of the local Authority

- That it would be investigated whether any conditions existed or could be introduced in respect of waste permits to the issues raised

**Order: Investigate and report back on conditions in place or capacity to place conditions on waste collection permits regarding condition and size of vehicles and whether Bye Laws could be amended if required to restrict vehicle sizes**

**Actions**

- **Circulate draft correspondence to IWMA – Simon Brock**
- **Circulate report on implementation to committee for comment prior to executive manager approval - Simon Brock**
- **Investigate and report back on issues raised regarding waste permits and bye laws – Simon Brock**

**Date of next meeting:**

**In attendance.**

**Members.**
**Councillor Éilis Ryan.**
**Councillor Ray McAdam.**
**Councillor Mannix Flynn.**

**Officials:**
**Simon Brock, Administrative Officer.**
**Daragh Jacques, Staff Officer**

**Apologies.**
**Councillor Tina MacVeigh, Chairperson.**
**Councillor Mary Freehill.**

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Cllr Eilis Ryan
Chairperson

Comhairle Cathrach Bhaile Átha Cliath
Dublin City Council

**Minutes of the Litter Management Subcommittee Meeting held on 21st July 2017, Richard O' Carroll Room, City Hall at 11.00am**

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Minutes of meeting held on the 19th May were agreed

**Over flowing litter bins**

A report on new bin technology was prepared and presented to the committee.

- This outlined the type of bins currently in use in the Dublin City Council administrative area and highlights the introduction of solar compacting bins and bin sensor technology, relaying up-to-date information on the status of these bins.

- QR code tags are currently being attached to DCC bins, and all bins should be "tagged" by mid-2018.These QR codes will allow the public to report any issues via a simple 2-step process.
  The possibility of advertising the code objectives on the bins was discussed.

- It was suggested that a media campaign be put in place and the possibility of an advisory notice being highlighted on the bins investigated.

- Public Domain shifts will change in the near future, with a re-structure of area depots on-going. This should mean that a "7 over 7" roster would ensure that the frequency of the emptying of bins will improve, and that it should be possible to ensure service to all high priority areas 7 days a week.

**Order: Implement media launch to promote use of QR Codes on bins and use advertising space on bins to highlight facility.**

**Multi Occupancy Dwellings**

Simon stated that legal advice obtained by DCC in relation to the issuing of fines or prosecutions to landlords of Multi occupancy dwellings under the Waste Management Act and Litter Pollutions Acts are not currently likely to succeed.

- Regional Bye-Laws proposed for introduction in 2018 attempt to address the issue of responsibility of multi let and similar properties.

**Order: representative of Regional Waste Management office to be invited to next meeting to discuss proposed regional bye laws.**

**Cigarette Litter**

A discussion was held around the issue of cigarette litter outside commercial premises, in particular, pubs, bookmakers and restaurants.

- An awareness campaign comprising of installation, Digital and Out-Of-Home (traditional advertising i.e bus and poster advertising spaces) advertising is being developed to highlight cigarette butts as a litter problem.
- An enforcement campaign will work side-by-side with this, with litter wardens to target enforcement of the litter prevention bye laws and raise awareness of businesses of their responsibilities.

**Street Cleaning**

It was agreed that street cleaning would work better alongside integration with the local areas/community groups.

- North Central Area is agreeable to take on a pilot scheme
- Simon Brock is to meet with area inspectors and public domain officers to discuss further.
- Robert Moss highlighted the 2 minute beach clean being so successful that it was being advertised through An Taisce's website, and that 2 minute street clean had also been promoted; it was suggested that a 2 minute street clean could be promoted in association with City Neighbourhoods.

The meeting concluded with a site visit to Cow's Lane where the dynamics of a big belly bin were explained by Mark O Hara, Supervisor.

Actions:

- **Implement media launch to highlight QR codes on bins and use advertising space on bins to promote same – Simon Brock**
- **Invite representative of Regional Waste Management office to next meeting to discuss regional bye laws – Simon Brock**

In attendance:

Members:
Cllr Naoise Ó'Muirí (Chair)
Robert Moss (SPC Sectoral Member PPN)

Officials:
Frank Lambe (Senior Executive Officer)
Simon Brock (Administrative Officer)
Tony Gorman (Staff Officer)

Next meeting 20th October 2017

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**Councillor Naoise Ó'Muirí**
**Chairperson.**

Comhairle Cathrach
Bhaile Átha Cliath
Dublin City Council

**Environment and Transportation Department,**
**Block 2, Floor 6,**
**Civic Offices,**
**Dublin 8.**
**20th September 2017**

**To Each Member of the**
**Environment Strategic Policy Committee**

# Environment & Transportation Department. Rainfall Monitoring.

Since 2000 there have been a number of very significant weather events which have resulted in extensive flooding throughout the city ranging from tidal, to river flooding and pluvial flooding where the capacity of the drainage network cannot cope with the sheer scale of rainfall. There was extensive flooding in October 2011 when over 1,000 houses and over 100 businesses were flooded. On 1st February 2002, the highest tide on record at that time flooded over 1,250 buildings in Dublin City. An even higher tide occurred on 3rd January 2014 and had this record high tide been accompanied by strong easterly winds there would have been extensive flooding at Clontarf and Sandymount. These areas remain extremely vulnerable to future flooding.

Since 2000 there has been a rise of 120 millimetres in sea level in Dublin Bay. There has also been an increasing level of very high intensity rainfall and increased thunderstorm activity over the City in the last 10 years with rainfall intensities of up to 8 millimetres being recorded in a five minute period.

Against this background of flooding Dublin City Council in conjunction with the OPW and others is continuing to carry out extensive flood alleviation works throughout the City. These have included:

- Significant flood protection measures have been constructed along the length of the River Dodder and River Tolka costing around €50m to date.
- Spencer Dock Flood gate has been constructed at a cost of €6m.
- The River Wad/Clanmoyle Road Flood Alleviation scheme has been completed (€4m).
- Swales have been constructed at Glendhu Park, Park Road, Killala Road, Drumcliffe Road and Glasanaon Road. (€0.7m).
- The South Campshire flood alleviation Scheme is at substantial completion stage (€5m).
- A large number of upgrades have been carried out to the surface water drainage system (€5m).
- On average 2 or 3 river bank collapses have been repaired every year.

Dublin City Council has in place a Flooding Advisory Group (FLAG) who meet following weather warnings from Met Éireann and other sources to risk assess these forecasts from a flooding viewpoint. High tides, when taken in conjunction with high wind speeds and wind directions, are also assessed. The outcomes of these risk assessments can be the deployment of Dublin City Council's limited staff resources and equipment at various key locations throughout the city, media releases where necessary, the update of the City Council website and activation of the Councillors Communications Plan and information to the Local Area Managers and others. These deployments

have significantly reduced the potential detrimental effect of flooding in Dublin City over the last 15 years.

Historically Dublin City Council has used a number of different monitoring systems and is currently installing a new system called Dublin City Rainfall which has amalgamated these real time rainfall and water level monitoring systems together on one web based digital platform. This enables Dublin City Council to monitor rainfall events in a much more efficient manner. The number of monitors has also being expanded upon with currently 32 monitors in the City, 14 outside of it and another 25 monitors planned for installation over the next year.

In addition to the construction of Flood Alleviation Schemes and reactive responses Dublin City Council has in place a Sustainable Urban Drainage Systems (SuDS) policy for new and existing developments. Dublin City Council's SuDS policy allows for continued residential and commercial developments in city while minimising the risk of flooding occurring. SuDS are a suite of alternative drainage systems to the traditional system of catching rainfall as quickly as possible and carrying it to the nearest open river or tidal area. It is not feasible to design drainage networks for the increased rainfall intensities that currently happen making an alternative means of dealing with rainfall essential. These systems are implemented to reduce local flooding and reduce dilute combined sewerage discharges to nearby watercourses. There are many different types of SuDS, the most common being:-

- Flood detention basins, water butts, Swales, Retention Ponds, Permeable paving, Filter drains, Infiltration trenches/Soakaways, Bio-retention, Stormwater wetlands, green roofs and modifications to the existing drainage network. SuDS are part of the Greater Dublin Strategic Drainage Study (GDSDS) outcomes of 2005 which form part of the City Councils Development Plan.
- Many of these systems can be installed with new development where the 100 year flood event, except for existing green field discharges, has to be retained within the development boundary. Retro fitting is usually more difficult and can usually only be carried out in public areas.

In October 2011 there was widespread flooding across the Dublin City region which arose from very intense rainfall in a relatively short period of time. This intense rainfall caused rivers to flood and the drainage systems to become inundated to such an extent that they overflowed, causing flooding to streets, properties and to basements with shallow sewer connections. Over 1,000 homes and premises in Dublin City flooded and many more gardens (estimated 10,000), car parks, streets and roads were also flooded. Should this type of rainfall event occur again, a high proportion of these same homes and premises would most likely flood again. While the City Council continuously works to maintain and improve the existing drainage infrastructure, the householders and basement property owners in particular must also play a key role in protecting themselves and their property from flooding. In the event of a major flooding incident occurring citywide access for emergency staff throughout the City is inevitably difficult, highlighting the onus on property owners to protect their own property.

Dublin City Council has prepared a guidance document on Individual property protection and is available online at:

http://www.dublincity.ie/sites/default/files/content//WaterWasteEnvironment/WasteWater/Documents/Flood%20Product%20Guide%20rev%201%20aug%202013.pdf

In conclusion since the tidal and fluvial flooding events of 2002 much has been done to reduce the flood risk to people, property and infrastructure in Dublin City. With rising sea level and more intense rainfall events inevitably there will be occasions when there will be resulting flooding.

There is a Memorandum of Understanding at an advanced stage in place with Irish Water that deals with flooding, whether from the drainage network or from the rivers and streams. This Memorandum of Understanding gives clarity on the roles of both Dublin City Council and Irish Water and allows for the expansion of the role of Dublin City Council's Surface Water and Flood Management Services Division. Individual property protection is the key to the successful preparation for the inevitable flooding.

**Pat Cronin**
**Executive Manager (Engineering)**

**Dublin Waste to Energy Limited,**
**Pigeon House Road,**
**Poolbeg,**
**Dublin 4.**

**Tel: +353 1 603 2100**

**Mr James Nolan,**
**Executive Engineer,**
**Dublin City Council,**
**Environment & Transportation Department,**
**Block 1, Floor 6, Civic Offices,**
**Fishamble Street,**
**Dublin 8.**

**19th September 2017.**

**Re: Environment SPC Committee.**

**Dear James**

I am in receipt of your questions from Mr Moss and Mr McCarthy of the SPC with regard to carbon usage forwarded in August and September.

Firstly, I intend to address the questions raised by Mr Moss in his email.

**How is the PAC dosage rate adjusted to remove varying levels of Dioxin (PCDD/F) and Mercury from the Flue Gas?**

*Dosage rates are based on in-depth chemical analysis of the absorption of the compounds by the activated carbon. Such research and analysis has been carried out by doctorate level scientists at multiple universities across the world. This research is coupled with the experience of Hitachi Zosen Inova (HZI) – the technology provider, and by Covanta's own experience and has resulted in the carbon dosage rate of 90 – 100 mg/Nm$^3$ being set. This is approximately twice the rate required to ensure the levels of dioxins and mercury remain within the emission limit values. This will be reviewed on a quarterly basis initially post in-stack sampling and analysis.*

**What happens to the saturated PAC (powdered activated carbon)?**

*This is collected as part of the flue gas treatment residue and is exported to Europe for recovery there.*

**Are wet scrubbers used at Poolbeg?**

*Yes. As previously outlined to the committee by Covanta and explained in detail by the CDM Smith document 'Report on Flue Gas Treatment System' dated March 2017, there are several different processes within the*

*system including Selective Non-Catlytic Reaction System (SNCR), Semi-Dry Reactor, Fabric Filter Baghouse and finally the Wet Scrubber.*

**What is the source of the PAC?**

*Firstly, please note the experiments referred to in a 'footnote' to the question were at a hazardous waste incinerator and not an MSW facility. The activated carbon used in DWtE is made of a random structure of graphite platelets, formed from carbonaceous materials such as coal. It is produced by high temperature steam activation giving it a very large surface area and porosity. The particular material used has a surface area (using the $N_2$BET method) of 800 $m^2/g$.*

Three main questions were raised by Mr McCarthy and I now address these questions.

**Steady rate, how much carbon will be used?**

*Firstly, the plant is still in the Testing & Commissioning Phase and is only now reaching a steady state to allow optimisation of emission levels. That being said, the carbon usage for each line will be the same and the dosage rate is planned at 90 – 100 mg/$Nm^3$ for each line. Current normal practice within the industry is for carbon volumes used to be calculated as the concentration in the volumetric flow in the exhaust gasses and not based on per tonne of MSW processed.*

**How much carbon has been used so far?**

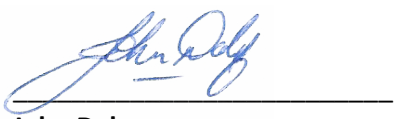
*28,780 Kg.*

**What is the percentage recirculation?**

*The current dosage rate mentioned above (90 – 100 mg/$Nm^3$ for each line) are for 'fresh feed' in and therefore does not take into account any material recirculated. Therefore the quantity recirculated is an adjunct to the amount of fresh carbon continuously dosed to enable emission limit values to be met. The quantity recirculated is based on the differential pressure determination across the filters in the baghouse and current recirculation rates are between 80 – 90%.*

Hoping that our comments and responses will be to the satisfaction of the Committee. Finally, I attach a spreadsheet of the EPA emission limit values performance on the two lines to date since Testing & Commissioning resumption in mid-July, and covering the period of turbine synchronisation and Eirgrid Code testing. These figures have been posted to the Covanta Dublin website on a weekly basis together with daily real-time figures on the half hour for furnace temperatures.

**Yours sincerely,**



**John Daly**
**General Manager**
**Dublin Waste to Energy Limited**

## Commissioning & Testing Update

**Stable* Operations has been defined as operating satisfactorily for at least 90% of the 24 hour day and without auxillary oil burners**

| | | | BOILER ONE | | | | | | | | | | | BOILER TWO | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Week No | Day | Date | Stable* Operations | Non-stable Operations | Not Operating | Maximum Continuous Rating | HCL Max 10 mg/Nm3 | SO2 Max 50 mg/Nm3 | CO Max 50 mg/Nm3 | Nox Max 200 mg/Nm3 | TOC Max 10 mg/Nm3 | Dust Max 10 mg/Nm3 | | Stable* Operations | Non-stable Operations | Not Operating | Maximum Continuous Rating | HCL Max 10 mg/Nm3 | SO2 Max 50 mg/Nm3 | CO Max 50 mg/Nm3 | Nox Max 200 mg/Nm3 | TOC Max 10 mg/Nm3 | Dust Max 10 mg/Nm3 | |
| | Mon | 10-Jul | | | ✓ | 0.0% | x | x | x | x | x | x | | | | ✓ | 0.0% | x | x | x | x | x | x | |
| | Tues | 11-Jul | | | ✓ | 0.0% | x | x | x | x | x | x | | | | ✓ | 0.0% | x | x | x | x | x | x | |
| | Wed | 12-Jul | | | ✓ | 0.0% | x | x | x | x | x | x | | | | ✓ | 0.0% | x | x | x | x | x | x | |
| 28 | Thurs | 13-Jul | | | ✓ | 0.0% | x | x | x | x | x | x | | | | ✓ | 0.0% | x | x | x | x | x | x | |
| | Fri | 14-Jul | | ✓ | | 49.6% | 0.00 | 7.08 | 55.99 | 159.43 | 10.81 | 3.82 | | | | ✓ | 0.0% | x | x | x | x | x | x | |
| | Sat | 15-Jul | | | ✓ | 0.0% | 0.00 | 7.93 | 25.91 | 142.94 | 6.66 | 3.27 | | | | ✓ | 0.0% | x | x | x | x | x | x | |
| | Sun | 16-Jul | ✓ | | | 89.6% | 0.00 | 10.32 | 5.77 | 131.54 | 2.78 | 3.24 | | | | ✓ | 0.0% | x | x | x | x | x | x | |
| | Mon | 17-Jul | ✓ | | | 96.8% | 0.00 | 9.86 | 2.25 | 149.60 | 1.45 | 3.47 | | | | ✓ | 0.0% | x | x | x | x | x | x | |
| | Tues | 18-Jul | ✓ | | | 92.2% | 0.00 | 5.87 | 2.30 | 153.52 | 1.03 | 3.79 | | | | ✓ | 0.0% | x | x | x | x | x | x | |
| | Wed | 19-Jul | ✓ | | | 85.2% | 0.01 | 4.33 | 2.83 | 156.60 | 0.76 | 3.99 | | | | ✓ | 0.0% | x | x | x | x | x | x | |
| 29 | Thurs | 20-Jul | | ✓ | | 47.0% | 0.00 | 3.78 | 4.05 | 147.47 | 0.61 | 4.38 | | | | ✓ | 0.0% | x | x | x | x | x | x | |
| | Fri | 21-Jul | | | ✓ | 0.0% | x | x | x | x | x | x | | | | ✓ | 0.0% | x | x | x | x | x | x | |
| | Sat | 22-Jul | | | ✓ | 0.0% | x | x | x | x | x | x | | | ✓ | | 54.4% | 0.01 | 3.78 | 89.39 | 150.56 | 6.55 | 2.02 | |
| | Sun | 23-Jul | | ✓ | | 84.8% | x | x | x | x | x | x | | | | ✓ | 0.0% | x | x | x | x | x | x | |
| | Mon | 24-Jul | ✓ | | | 77.8% | 0.00 | 3.20 | 3.09 | 145.55 | 0.80 | 2.82 | | | | ✓ | 0.0% | x | x | x | x | x | x | |
| | Tues | 25-Jul | ✓ | | | 87.8% | 0.00 | 3.60 | 3.34 | 155.31 | 0.39 | 2.99 | | | | ✓ | 0.0% | x | x | x | x | x | x | |
| | Wed | 26-Jul | ✓ | | | 79.8% | 0.00 | 4.55 | 2.59 | 146.77 | 0.28 | 3.49 | | | | ✓ | 0.0% | x | x | x | x | x | x | |
| 30 | Thurs | 27-Jul | ✓ | | | 85.6% | 0.00 | 5.29 | 2.84 | 147.77 | 0.23 | 3.82 | | | | ✓ | 0.0% | x | x | x | x | x | x | |
| | Fri | 28-Jul | ✓ | | | 90.5% | 0.00 | 3.95 | 2.33 | 162.58 | 0.21 | 4.18 | | | | ✓ | 0.0% | x | x | x | x | x | x | |
| | Sat | 29-Jul | | ✓ | | 18.3% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | ✓ | | 33.6% | x | x | x | x | x | x | |
| | Sun | 30-Jul | | | ✓ | 0.0% | x | x | x | x | x | x | | ✓ | | | 81.6% | 0.03 | 4.12 | 5.23 | 155.07 | 0.45 | 1.86 | |
| | Mon | 31-Jul | | | ✓ | 0.0% | x | x | x | x | x | x | | | ✓ | | 55.2% | 0.12 | 3.06 | 30.60 | 137.42 | 0.81 | 2.66 | |
| | Tues | 01-Aug | | | ✓ | 0.0% | x | x | x | x | x | x | | | ✓ | | 91.1% | 0.08 | 6.68 | 319.72 | 163.05 | 40.62 | 4.51 | |
| | Wed | 02-Aug | | | ✓ | 0.0% | x | x | x | x | x | x | | ✓ | | | 88.0% | 0.01 | 5.10 | 3.58 | 150.95 | 0.07 | 2.98 | |
| 31 | Thurs | 03-Aug | | | ✓ | 0.0% | x | x | x | x | x | x | | ✓ | | | 88.8% | 0.03 | 4.78 | 3.45 | 148.80 | 0.02 | 3.13 | |
| | Fri | 04-Aug | | | ✓ | 0.0% | x | x | x | x | x | x | | ✓ | | | 98.4% | 0.02 | 4.20 | 2.97 | 153.43 | 0.00 | 4.29 | |
| | Sat | 05-Aug | | | ✓ | 0.0% | x | x | x | x | x | x | | ✓ | | | 96.8% | 0.04 | 3.63 | 1.92 | 155.27 | 0.00 | 4.37 | |
| | Sun | 06-Aug | | | ✓ | 0.0% | x | x | x | x | x | x | | ✓ | | | 101.6% | 0.03 | 3.82 | 7.28 | 158.80 | 0.03 | 3.15 | |
| | Mon | 07-Aug | | ✓ | | 89.7% | 0.00 | 1.87 | 4.99 | 156.88 | 0.40 | 3.80 | | ✓ | | | 81.4% | 0.00 | 3.06 | 3.93 | 154.52 | 0.00 | 3.60 | |
| | Tues | 08-Aug | | ✓ | | 95.8% | 0.00 | 2.58 | 1.89 | 162.83 | 0.10 | 2.89 | | | ✓ | | 95.9% | 0.00 | 3.82 | 7.28 | 158.80 | 0.00 | 3.15 | |
| | Wed | 09-Aug | | ✓ | | 81.6% | 0.00 | 2.63 | 2.23 | 159.43 | 0.12 | 2.18 | | | ✓ | | 93.2% | 0.00 | 3.25 | 2.91 | 145.69 | 0.00 | 2.75 | |
| 32 | Thurs | 10-Aug | ✓ | | | 82.4% | 0.00 | 3.94 | 1.93 | 159.89 | 0.00 | 1.72 | | ✓ | | | 79.6% | 0.00 | 3.04 | 0.93 | 156.28 | 0.00 | 1.62 | |
| | Fri | 11-Aug | ✓ | | | 88.0% | 0.00 | 3.85 | 2.37 | 159.81 | 0.00 | 1.64 | | ✓ | | | 83.6% | 0.00 | 3.63 | 1.04 | 159.33 | 0.00 | 1.15 | |
| | Sat | 12-Aug | ✓ | | | 83.2% | 0.00 | 3.27 | 2.47 | 159.94 | 0.00 | 1.06 | | ✓ | | | 83.2% | 0.00 | 4.05 | 1.38 | 159.55 | 0.00 | 0.94 | |
| | Sun | 13-Aug | ✓ | | | 84.3% | 0.00 | 3.39 | 1.53 | 159.65 | 0.00 | 0.89 | | ✓ | | | 83.8% | 0.00 | 4.37 | 45.25 | 160.90 | 2.13 | 0.83 | |
| | Mon | 14-Aug | ✓ | | | 80.9% | 0.01 | 2.21 | 1.00 | 160.47 | 0.01 | 0.66 | | ✓ | | | 81.3% | 0.03 | 3.60 | 0.79 | 158.48 | 0.01 | 0.70 | |
| | Tues | 15-Aug | ✓ | | | 84.1% | 0.01 | 3.03 | 1.76 | 159.25 | 0.01 | 0.58 | | ✓ | | | 84.0% | 0.04 | 3.99 | 1.39 | 158.81 | 0.00 | 0.69 | |
| | Wed | 16-Aug | ✓ | | | 82.4% | 0.00 | 2.88 | 1.50 | 158.77 | 0.00 | 0.58 | | ✓ | | | 82.4% | 0.04 | 4.29 | 1.17 | 157.45 | 0.00 | 0.65 | |
| 33 | Thurs | 17-Aug | ✓ | | | 80.5% | 0.00 | 6.70 | 1.27 | 160.11 | 0.00 | 0.61 | | ✓ | | | 83.0% | 0.04 | 13.86 | 1.25 | 159.21 | 0.00 | 1.03 | |
| | Fri | 18-Aug | ✓ | | | 83.7% | 0.00 | 4.67 | 1.45 | 157.58 | 0.00 | 0.63 | | ✓ | | | 84.1% | 0.03 | 5.91 | 0.63 | 159.48 | 0.00 | 1.58 | |
| | Sat | 19-Aug | ✓ | | | 84.1% | 0.00 | 4.02 | 0.89 | 160.06 | 0.00 | 0.58 | | ✓ | | | 84.2% | 0.01 | 5.44 | 0.52 | 160.34 | 0.00 | 1.04 | |
| | Sun | 20-Aug | ✓ | | | 84.0% | 0.00 | 3.52 | 0.89 | 158.86 | 0.00 | 0.52 | | ✓ | | | 83.9% | 0.01 | 4.36 | 0.40 | 159.17 | 0.00 | 0.74 | |
| | Mon | 21-Aug | ✓ | | | 83.8% | 0.00 | 3.50 | 0.87 | 160.50 | 0.02 | 0.49 | | ✓ | | | 83.9% | 0.02 | 3.94 | 0.34 | 159.63 | 0.02 | 0.62 | |
| | Tues | 22-Aug | ✓ | | | 83.6% | 0.00 | 4.33 | 0.90 | 159.95 | 0.00 | 0.51 | | ✓ | | | 81.6% | 0.03 | 4.30 | 0.48 | 159.36 | 0.00 | 0.63 | |
| | Wed | 23-Aug | | ✓ | | 80.5% | 0.00 | 4.30 | 7.02 | 161.49 | 3.21 | 0.61 | | | ✓ | | 75.2% | 0.03 | 4.47 | 10.30 | 144.89 | 0.18 | 0.65 | |
| 34 | Thurs | 24-Aug | ✓ | | | 81.9% | 0.00 | 3.09 | 1.08 | 160.63 | 0.02 | 0.56 | | ✓ | | | 78.5% | 0.03 | 4.17 | 0.51 | 157.14 | 0.04 | 0.52 | |
| | Fri | 25-Aug | | ✓ | | 98.8% | 0.03 | 2.73 | 2.59 | 156.74 | 0.01 | 0.71 | | | ✓ | | 91.6% | 0.02 | 4.79 | 3.03 | 149.98 | 0.00 | 0.61 | |
| | Sat | 26-Aug | ✓ | | | 78.6% | 0.00 | 4.30 | 1.29 | 165.05 | 0.14 | 0.66 | | | ✓ | | 69.0% | 0.02 | 4.07 | 3.75 | 152.16 | 0.08 | 0.72 | |
| | Sun | 27-Aug | ✓ | | | 79.2% | 0.00 | 5.49 | 0.78 | 163.43 | 0.01 | 0.56 | | ✓ | | | 81.6% | 0.02 | 4.41 | 0.38 | 157.72 | 0.00 | 0.61 | |
| | Mon | 28-Aug | ✓ | | | 77.2% | 0.00 | 4.87 | 0.68 | 164.25 | 0.01 | 0.61 | | ✓ | | | 78.5% | 0.01 | 4.75 | 0.35 | 155.11 | 0.00 | 0.58 | |
| | Tues | 29-Aug | ✓ | | | 84.4% | 0.01 | 3.09 | 7.08 | 166.70 | 0.21 | 0.70 | | ✓ | | | 85.7% | 0.01 | 4.62 | 0.65 | 159.48 | 0.00 | 0.65 | |
| | Wed | 30-Aug | ✓ | | | 76.4% | 0.01 | 3.17 | 1.29 | 147.46 | 0.07 | 0.57 | | ✓ | | | 77.9% | 0.02 | 4.28 | 1.01 | 144.17 | 0.00 | 0.53 | |
| 35 | Thurs | 31-Aug | ✓ | | | 85.3% | 0.02 | 4.42 | 1.09 | 167.17 | 0.04 | 0.61 | | ✓ | | | 87.2% | 0.01 | 4.07 | 0.73 | 161.67 | 0.00 | 0.82 | |
| | Fri | 01-Sep | ✓ | | | 90.0% | 0.00 | 4.01 | 1.28 | 174.71 | 0.04 | 0.63 | | ✓ | | | 90.4% | 0.04 | 5.13 | 0.60 | 170.70 | 0.00 | 0.91 | |
| | Sat | 02-Sep | | ✓ | | 96.5% | 0.00 | 4.59 | 1.71 | 157.54 | 0.04 | 0.66 | | | ✓ | | 95.5% | 0.02 | 4.38 | 1.38 | 154.29 | 0.02 | 0.66 | |
| | Sun | 03-Sep | | ✓ | | 95.0% | 0.00 | 3.05 | 1.16 | 150.66 | 0.09 | 0.84 | | | ✓ | | 95.2% | 0.03 | 3.75 | 3.86 | 141.35 | 0.15 | 0.76 | |
| | Mon | 04-Sep | ✓ | | | 98.0% | 0.00 | 3.40 | 0.91 | 164.92 | 0.11 | 1.00 | | ✓ | | | 97.6% | 0.03 | 4.38 | 0.43 | 162.62 | 0.01 | 1.38 | |
| | Tues | 05-Sep | ✓ | | | 91.4% | 0.00 | 3.93 | 2.18 | 166.62 | 0.14 | 0.87 | | ✓ | | | 91.2% | 0.05 | 3.76 | 0.52 | 165.98 | 0.01 | 1.15 | |
| | Wed | 06-Sep | | ✓ | | 80.4% | 0.00 | 5.13 | 240.54 | 190.20 | 21.48 | 1.45 | | | ✓ | | 80.4% | 0.04 | 3.19 | 241.00 | 176.18 | 17.54 | 1.66 | |
| 36 | Thurs | 07-Sep | | ✓ | | 77.1% | 0.00 | 2.88 | 22.51 | 157.69 | 0.94 | 0.80 | | | ✓ | | 80.8% | 0.03 | 4.11 | 40.03 | 153.28 | 1.51 | 0.85 | |
| | Fri | 08-Sep | ✓ | | | 88.9% | 0.00 | 4.75 | 1.54 | 156.05 | 0.06 | 0.74 | | ✓ | | | 86.4% | 0.02 | 7.27 | 1.36 | 152.03 | 0.02 | 0.87 | |
| | Sat | 09-Sep | ✓ | | | 88.3% | 0.00 | 5.00 | 2.37 | 152.80 | 0.04 | 0.65 | | ✓ | | | 88.0% | 0.02 | 4.68 | 2.07 | 149.58 | 0.01 | 0.88 | |
| | Sun | 10-Sep | ✓ | | | 95.9% | 0.00 | 3.76 | 1.83 | 155.14 | 0.04 | 0.70 | | ✓ | | | 96.0% | 0.06 | 4.68 | 1.47 | 155.87 | 0.00 | 1.02 | |

# Licensing Notice Details

**Subject**
Licence Return Approval Notice

**Created Date**
29/08/2017

Dear Mr. Heffernan,

The Agency has reviewed your submission LR030379 in relation to in stack analysis methods and techniques for agreement.

This proposal has been submitted in accordance with Industrial Emission Licence Reg. No. W0232-01 and *Schedule C.1.2 Monitoring of Emission to Air.*

Based on the information provided, the proposed analysis methods and techniques are approved.

You are reminded of the requirement to comply with the Conditions of IE Licence Reg. No. W0232-01 at all times.

Yours sincerely,

Thomas Sexton

Inspector

Office of Environmental Enforcement, Dublin

FAO: **Mr. Victor Olmos,**
**Office of Environmental Enforcement,**
**Environment Protection Agency,**
**Richview,**
**McCumisky House,**
**Clonskeagh**
**Dublin 14.**

**10th August 2017**

**Ref: W0232-01: Twin Stack Emissions Monitoring Techniques and Analysis methods as required in Schedule C.1.2**

Dear Mr. Olmos,

Under the terms of IE License W0232-01 schedule C.1.2, please find attached the analysis methods and techniques that will be employed by EXOVA for twin stack monitoring at emissions monitoring points A2-1 and A2-2.

I trust the attached meets your approval.

If you require anything further, please do not hesitate to contact the undersigned.

Yours Sincerely,

Mark Heffernan
Environmental Manager.

Exova Catalyst Ireland, Unit D8 North City Business Park, North Road, Finglas, Dublin 11
T: +353 86 853 8247
E: nick.kenny@exova.com
Your Exova Catalyst Contact: Nick Kenny (+353 86 853 8247)

**Site Specific Protocol (SSP) Commissioned by**
Covanta

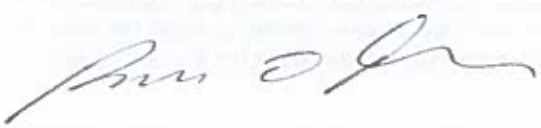
**Installation Name & Address**
Covanta
Dublin Waste-to-Energy Ltd
Shellybanks Road
Off Pigeon House Road
Dublin 4

Industrial Emissions Licence: W0232-01

**Dates of the Proposed Monitoring Campaign**
TBC

**SSP Reference Number**
CDU-SSP

| Release Point References | |
|---|---|
| A2-1 - Line 1 | A2-1 - Line 2 |

| Report Written by | Version |
|---|---|
| Patrick O'Brien, MCERTS Level 2 | Version 1 |
| **Report Date** | **Name of Client** |
| 4th April 2017 | Kieran Mullins |
| **Report Approved by** | **Date of Client Approval** |
| Patrick O'Brien<br>Deputy Regional Manager<br>MCERTS Level 2<br>MM 08 922<br>TE1 TE2 TE3 TE4 | I confirm that I have read and understood the sampling protocol contained in this report and I am happy for the sampling to proceed |
| **Signature of Report Approver (Catalyst)** | **Signature of Client (for SSP Approval)** |
|  | |

# SSP Part 1

## CONTACT DETAILS, MONITORING DATES & PERSONNEL

This SSP (Site Specific Protocol) will be updated, if required to include feedback from each visit.

### Operator Contact Details

| | |
|---|---|
| Operator Name | Covanta |
| Site Location | Dublin 4 |
| Full Installation Address | Dublin Waste-to-Energy Ltd<br>Shellybanks Road<br>Off Pigeon House Road<br>Dublin 4 |
| Industrial Emissions Licence | W0232-01 |

| | Primary Site Contact | Alternative Site Contact |
|---|---|---|
| Contact Name | Kieran Mullins | N/A |
| Telephone Number | 00353 (0)1 690 9735 | N/A |
| Fax Number | 00353 (0)1 690 9041 | N/A |
| Mobile Phone Number | 00353 (0) 86 858 2469 | N/A |
| Email Address | kmullins@covanta.com | N/A |

### Monitoring Dates

| | |
|---|---|
| Dates of Previous Campaign | N/A - Not Performed by Catalyst |
| Job No. of Previous Campaign | N/A - Not Performed by Catalyst |
| Planned Dates of Campaign | TBC |

*(If the Planned Dates of the Campaign change at late notice, the SSP will not be re-issued. The final test report will detail the actual monitoring dates.)*

### Analysis Laboratories (with short name reference as referenced in Part 2 of the SSP)

| | |
|---|---|
| Exova Catalyst (CAT) | ISO17025 Accreditation Number: 4279 |
| Scientific Analysis Laboratories Ltd (SAL) | ISO17025 Accreditation Number: 1549 |
| RPS Laboratories Ltd (RPS) | ISO17025 Accreditation Number: 0605 |

### Stack Emissions Monitoring Personnel

*where SCM = Site Campaign Manager*

| | Position | Name | MCERTS Accreditation | MCERTS Number & Expiry Date | Technical Endorsements |
|---|---|---|---|---|---|
| SCM | Team Leader | Conor Cooney | MCERTS Level 2 | MM 12 1194, April 2018 | TE1 TE2 TE3 TE4 |
| | Technician | Neil Kelly | MCERTS Level 1 | MM 16 1390, August 2021 | None |

### Exova Catalyst Site Campaign Manager Contact Details

| Name | Mobile Phone Number | Email Address |
|---|---|---|
| Conor Cooney | 00353 87 147 3283 | conor.cooney@exova.com |

### Further Notes on Stack Emissions Monitoring Personnel

There may be, in exceptional circumstances, a need to change the personnel who will be performing the monitoring. If this was to occur, the sampling team sent to site will hold all the necessary MCERTS Technical Endorsements for the required tests. As this scenario would most likely happen at late notice, the SSP will not be re-issued. The names of the monitoring personnel will be available to the client on the day of sampling (or before if required for inductions / site security / permits to work). The names of the monitoring personnel along with their personal MCERTS accreditation details will also be detailed in the final test report.

## DETAILS OF MONITORING: STACK AND LOCATION DETAILS

| Release Point Reference | A2-1 Line 1 |
|---|---|

**Sampling Location and Stack Photos**

| Operating & Process Information | Details |
|---|---|
| Type of Process | Waste Incineration |
| Batch or Continuous Process | Continuous |
| Feedstock / Fuel Type | Residual Municipal Waste |
| Load / Throughput / Continuous Rating of Plant | 35 Tonnes / Hour |
| Expected Velocity, Temperature & Moisture | TBC m/s \| 90 °C \| 25 % v/v |
| Details of Abatement System | Selective non-catalytic reduction/semi-dry scrubber/bag filter/wet scrubber |
| Details of any CEMS Installed (including DCS) | SICK |
| Process Details Required | Operating conditions to be Provided by Site Contact |
| Reference Conditions 1 | 273K, 101.3kPa, dry gas, 11% oxygen. |
| Reference Conditions 2 | N/A |

| Sampling Location Details | Value | Details |
|---|---|---|
| Stack Type / Shape | Square | |
| Diameter / Dimensions (m) | 2 x 2 | |
| Access | Stairs | mechanical hoist to lift equipment |
| Platform Type and Location | Permanent | Inside Plant building |
| Orientation of Duct | Horizontal | |
| Sample Port Size / Diameter | 4" Flange | |
| Sample Port Depth (cm) | TBC | |
| Sample Ports Correctly Located? | Yes | |
| Number of Sampling Lines Available | 4 | |
| Number of Sampling Lines to be Used | 4 | |
| Number of Sample Points to be Used (per line) | 4 | |
| Total Number of Sample Points to be Used | 16 | |
| EN 15259 / Homogeneity Representative Point/s | - | To be determined at this visit |

| Availability of Utilities | Power | 110V | Lighting | Yes | Water | No |
|---|---|---|---|---|---|---|

| Irish EPA Technical Guidance Note AG1 / EN 15259 Platform Requirements | Value |
|---|---|
| Sufficient working area to manipulate probe and operate the measuring instruments | Yes |
| Platform has 2 levels of handrails (approx. 0.5m & 1.0m high) | Yes |
| Platform has vertical base boards (approx. 0.25m high) | Yes |
| Platform has chains / self closing gates at top of ladders | Yes |
| There are no obstructions present which hamper insertion of sampling equipment | No |
| Safe Access Available | Yes |
| Easy Access Available | Yes |

| Sampling Plane Validation Criteria | | |
|---|---|---|
| Requirement | Value | Compliant |
| Lowest Differential Pressure (Pa) | TBC | TBC |
| Ratio of Gas Velocities (:1) | TBC | TBC |
| Maximum Angle of Swirl (°) | TBC | TBC |
| No Local Negative Flow | TBC | |

| Sampling Platform / Improvement Recommendations: |
|---|
| The sampling location meets all the requirements specified in Irish EPA Guidance Note AG1 and EN 15259, and therefore there are no improvement recommendations. |

## DETAILS OF MONITORING: SAMPLING METHOD INFORMATION

| Release Point Reference | A2-1 Line 1 | (continued) |
|---|---|---|

In the "Units" column, [1] = Reference Conditions 1, [2] = Reference Conditions 2

### PERIODIC SAMPLING: MANUAL METHODS

| Determinand | Number of Runs \| Blanks | | Units | Emission Limit | Expected Emission | Projected LOD | Standard Reference Method | Catalyst Technical Procedure | Absorption Media / Analysis Technique | Analysis Lab \| ISO17025Status | Sample Duration (mins) | Sample Flowrate (ACTUAL) (l/min) | Sample Volume (REF) ($m^3$) | Projected MU (%) | Status of Testing |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Particulate Matter | 1 | 1 | [1] $mg/m^3$ | 30 | < 30 | 0.150 | EN 13284-1 | CAT-TP-01 / 03 | Filter / Gravimetric | CAT 17025 | 60 | 15 | 0.839 | 30% | MCERTS |
| Cadmium & Thallium | 1 | 1 | [1] $mg/m^3$ | 0.05 | < 0.05 | 0.0013 | EN 14385 | CAT-TP-06 | $HNO_3$ & $H_2O_2$ / ICPMS | RPS 17025 | 60 | 15 | 0.839 | 15% | MCERTS |
| Heavy Metals | 1 | 1 | [1] $mg/m^3$ | 0.50 | < 0.5 | 0.0067 | EN 14385 | CAT-TP-06 | $HNO_3$ & $H_2O_2$ / ICPMS | RPS 17025 | 60 | 15 | 0.839 | 15% | MCERTS |
| Mercury (MID 14385) | 1 | 1 | [1] $mg/m^3$ | 0.05 | < 0.05 | 0.0005 | EN 13211 | CAT-TP-06 | $K_2Cr_2O_7$ / CVAFS | RPS 17025 | 60 | 15 | 0.839 | 15% | MCERTS |
| Dioxins & Furans | 1 | 1 | [1] $ng/m^3$ | 0.10 | < 0.1 | 0.0030 | EN 1948 | CAT-TP-07 | XAD-2 / GC-HRMS | SAL 17025 | 360 | 15 | 5.031 | 25% | MCERTS |
| Hydrogen Fluoride | 1 | 1 | [1] $mg/m^3$ | 4 | < 4 | 0.089 | ISO 15713 | CAT-TP-10 | NaOH / IC | CAT 17025 | 30 | 10 | 0.280 | 15% | MCERTS |
| $PM_{10}$ | 1 | 1 | [1] $mg/m^3$ | - | <10 | 0.286 | EN ISO 23210 | CAT-TP-18 / 03 | Cascade Impactor | CAT 17025 | 60 | 25 | 1.398 | 30% | MCERTS |
| $PM_{2.5}$ | 1 | 1 | [1] $mg/m^3$ | - | < 10 | 0.215 | EN ISO 23210 | CAT-TP-18 / 03 | Cascade Impactor | CAT 17025 | 60 | 25 | 1.398 | 30% | MCERTS |
| Water Vapour | 5 | - | [1] % v/v | - | 25.00 | 0.100 | EN 14790 | CAT-TP-05 | Gravimetric | CAT 17025 | various | various | N/A | 5% | MCERTS |
| Volume emitted (per hour) | 1 | - | [1] $m^3/hr$ | 275000 | < 275000 | - | EN ISO 16911-1 | CAT-TP-41 | Pressure & Temp | CAT 17025 | N/A | N/A | N/A | 10% | MCERTS |
| Velocity | 1 | - | [1] m/s | - | 10.00 | 3.000 | EN ISO 16911-1 | CAT-TP-41 | Pressure & Temp | CAT 17025 | N/A | N/A | N/A | 10% | MCERTS |

### PERIODIC SAMPLING: INSTRUMENTAL METHODS

| Determinand | Number of Runs | Units | Emission Limit | Expected Emission | Projected LOD | Standard Reference Method | Catalyst Technical Procedure | Equipment Used | Measurement Technique | Sample Duration (mins) \| Logging Interval (s) | Span / Check Gas Type & Conc. | Range During Testing | Projected MU (%) | Status of Testing |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nitrous Oxide | 1 | [1] $mg/m^3$ | N/A | TBC | 1.00 | TGN M22 | CAT-TP-22(b) | Gasmet DX4000 | FTIR | 30 \| 60 | 400ppm NO | 500 ppm | 20% | MCERTS |
| Oxygen | 1 | [1] % v/v | N/A | 11.0 | 0.10 | EN 14789 | CAT-TP-39 | Horiba PG-350E | Paramagnetism | 30 \| 60 | 11% v/v | 25% v/v | 5% | MCERTS |

The check gas that will be used for the reactivity test will be 100ppm $SO_2$

## EN 14181 CEMS CALIBRATIONS: MANUAL METHODS

| Determinand | QAL2 or AST | Number of Runs \| Blanks | | Units | ELVs (Daily \| Short Term) | | Expected Emission | Projected LOD | Standard Reference Method | Catalyst Technical Procedure | Absorption Media / Analysis Technique | Analysis Lab \| ISO17025 Status | Sample Duration (mins) | Sample Flowrate (ACTUAL) (l/min) | Projected MU (%) | Status of Testing |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Particulate Matter | QAL2 | >15 | 3 | $^{1}mg/m^{3}$ | 10 | 30 | < 30 | 0.15 | EN 13284-1 | CAT-TP-01 / 03 | Filter / Gravimetric | CAT 17025 | 60 | 15 | 30.00% | MCERTS |
| Hydrogen Chloride | QAL2 | >15 | 1 | $^{1}mg/m^{3}$ | 10 | 60 | < 60 | 0.03 | EN 1911 | CAT-TP-11 | $H_2O$ / IC | CAT 17025 | 60 | 15 | 15.00% | MCERTS |

## EN 14181 CEMS CALIBRATIONS: INSTRUMENTAL METHODS

| Determinand | QAL2 or AST | Number of Runs | Units | ELVs (Daily \| Short Term) | | Expected Emission | Projected LOD | Standard Reference Method | Catalyst Technical Procedure | Equipment Used | Measurement Technique | Averaging Times (mins) \| Logging Interval (s) | Span / Check Gas Type & Conc. | Projected MU (%) | Status of Testing |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total VOCs | QAL2 | > 15 | $^{1}mg/m^{3}$ | 10 | 20 | < 20 | 0.17 | EN 12619:2013 | CAT-TP-20 | Sick 3006 | FID | 30 \| 60 | 80 ppm | 5% | MCERTS |
| Nitrogen Monoxide | QAL2 | > 15 | $^{1}mg/m^{3}$ | - | - | < 400 | 0.50 | TGN M22 | CAT-TP-22(b) | Gasmet DX4000 | FTIR | 30 \| 60 | 400ppm NO | 10% | MCERTS |
| Nitrogen Dioxide | QAL2 | > 15 | $^{1}mg/m^{3}$ | - | - | < 100 | 1.10 | TGN M22 | CAT-TP-22(b) | Gasmet DX4000 | FTIR | 30 \| 60 | 400ppm NO | 10% | MCERTS |
| Oxides of Nitrogen | QAL2 | > 15 | $^{1}mg/m^{3}$ | 200 | 400 | <400 | 1.10 | TGN M22 | CAT-TP-22(b) | Gasmet DX4000 | FTIR | 30 \| 60 | 400ppm NO | 10% | MCERTS |
| Sulphur Dioxide | QAL2 | > 15 | $^{1}mg/m^{3}$ | 50 | 200 | < 200 | 2.20 | TGN M22 | CAT-TP-22(b) | Gasmet DX4000 | FTIR | 30 \| 60 | 100ppm $SO_2$ | 20% | MCERTS |
| Carbon Monoxide | QAL2 | > 15 | $^{1}mg/m^{3}$ | 150 | 100 | < 100 | 0.70 | TGN M22 | CAT-TP-22(b) | Gasmet DX4000 | FTIR | 30 \| 60 | 100ppm CO | 5% | MCERTS |

The check gas that will be used for the reactivity test will be 100ppm $SO_2$

## EN 14181 CEMS CALIBRATIONS: EXISTING CALIBRATION FUNCTIONS

| Parameter | Existing Calibration Function | Existing $R^2$ |
|---|---|---|
| Total Particulate Matter | N/A | N/A |
| Total VOCs | N/A | N/A |
| Nitrogen Monoxide | N/A | N/A |
| Nitrogen Dioxide | N/A | N/A |
| Oxides of Nitrogen | N/A | N/A |
| Sulphur Dioxide | N/A | N/A |
| Carbon Monoxide | N/A | N/A |
| Hydrogen Chloride | N/A | N/A |

## EN 14181 CEMS CALIBRATIONS: FURTHER INFORMATION

| Parameter | Details |
|---|---|
| Who will perform the Functional Checks? | TBC |
| When will Functional Checks be Performed? | TBC |
| Is Linearity Testing to be Performed | Yes |
| If Yes, which Parameters? | CO, NO, NO2, TOC, SO2 & HCl |
| How many days will the testing be performed over? | At least 3 days |
| Will any emissions be at or near Zero? | TBC |
| Is there easy and safe access to the CEMS? | Yes |

## EN 15259 ASSESSMENT OF HOMOGENEITY: SAMPLING POINTS INFORMATION

| Parameter | Value | Details | | Parameter | Value | Details |
|---|---|---|---|---|---|---|
| No. of Sampling Lines Available | 4 | | | No. of Sample Points to be Used (per line) | 4 | |
| No. of Sampling Lines to be Used | 4 | | | Total No. of Sample Points to be Used | 16 | |

## INSTRUMENTAL METHODS

| Determinand | Units | Emission Limit | Expected Emission | Standard Reference Method | Catalyst Technical Procedure | Equipment Used (FIXED) | Measurement Technique (FIXED) | Equipment Used (GRID) | Measurement Technique (GRID) | Span / Check Gas Type & Conc. | Range During Testing | Projected MU (%) | Status of Testing |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total VOCs | [1] mg/m³ | 20 | < 20 | EN 12619:2013 | CAT-TP-20 | Sick 3006 | FID | Sick 3006 | FID | 80 ppm | 100 ppm | 5% | MCERTS |
| Oxides of Nitrogen | [1] mg/m³ | 400 | <400 | TGN M22 | CAT-TP-22(b) | Gasmet DX4000 | FTIR | Gasmet DX4000 | FTIR | 400ppm NO | 500 ppm | 10% | MCERTS |
| Carbon Monoxide | [1] mg/m³ | 100 | < 100 | TGN M22 | CAT-TP-22(b) | Gasmet DX4000 | FTIR | Gasmet DX4000 | FTIR | 100ppm CO | 250 ppm | 5% | MCERTS |
| Oxygen | [1] % v/v | N/A | 11.0 | EN 14789 | CAT-TP-39 | Horiba PG-350E | Paramagnetism | Horiba PG-350E | Paramagnetism | 11% v/v | 25% v/v | 5% | MCERTS |
| Sulphur Dioxide | [1] mg/m³ | 200 | < 200 | TGN M22 | CAT-TP-22(b) | Gasmet DX4000 | FTIR | Gasmet DX4000 | FTIR | 100ppm $SO_2$ | 250 ppm | 20% | MCERTS |

The check gas that will be used for the reactivity test will be 100ppm $SO_2$

| Is the CEMS Representative Point Homogeneity Test to be performed? | Yes |
|---|---|

### Velocity Profile - No Traverse Data Available

| Pt |
|---|
| 1 |
| 2 |
| 3 |
| 4 |
| 5 |
| 6 |
| 7 |
| 8 |
| 9 |
| 10 |

where U stands for 'Unknown' due to there being no traverse data available

### Monitoring Objectives / Unusual Occurrences / Comments / Health & Safety / Expected Deviations from Standard Reference Methods

| | |
|---|---|
| 1 | Demonstrate compliance with a set of emission limit values (ELVs) as specified in the Site's Permit |
| 2 | N/A |
| 3 | N/A |
| 4 | N/A |

## DETAILS OF MONITORING: STACK AND LOCATION DETAILS

| Release Point Reference | A2-1 Line 2 |
|---|---|

**Sampling Location and Stack Photos**

| Operating & Process Information | Details |
|---|---|
| Type of Process | Waste Incineration |
| Batch or Continuous Process | Continuous |
| Feedstock / Fuel Type | Residual Municipal Waste |
| Load / Throughput / Continuous Rating of Plant | 35 Tonnes / Hour |
| Expected Velocity, Temperature & Moisture | TBC m/s \| 90 °C \| 25 % v/v |
| Details of Abatement System | Selective non-catalytic reduction/semi-dry scrubber/bag filter/wet scrubber |
| Details of any CEMS Installed (including DCS) | SICK |
| Process Details Required | Operating conditions to be Provided by Site Contact |
| Reference Conditions 1 | 273K, 101.3kPa, dry gas, 11% oxygen. |
| Reference Conditions 2 | N/A |

| Sampling Location Details | Value | Details |
|---|---|---|
| Stack Type / Shape | Square | |
| Diameter / Dimensions (m) | 2 x 2 | |
| Access | Stairs | mechanical hoist to lift equipment |
| Platform Type and Location | Permanent | Inside Plant building |
| Orientation of Duct | Horizontal | |
| Sample Port Size / Diameter | 4" Flange | |
| Sample Port Depth (cm) | TBC | |
| Sample Ports Correctly Located? | Yes | |
| Number of Sampling Lines Available | 4 | |
| Number of Sampling Lines to be Used | 4 | |
| Number of Sample Points to be Used (per line) | 4 | |
| Total Number of Sample Points to be Used | 16 | |
| EN 15259 / Homogeneity Representative Point/s | - | To be determined at this visit |

| Availability of Utilities | Power | 110V | Lighting | Yes | Water | No |
|---|---|---|---|---|---|---|

| Irish EPA Technical Guidance Note AG1 / EN 15259 Platform Requirements | Value |
|---|---|
| Sufficient working area to manipulate probe and operate the measuring instruments | Yes |
| Platform has 2 levels of handrails (approx. 0.5m & 1.0m high) | Yes |
| Platform has vertical base boards (approx. 0.25m high) | Yes |
| Platform has chains / self closing gates at top of ladders | Yes |
| There are no obstructions present which hamper insertion of sampling equipment | No |
| Safe Access Available | Yes |
| Easy Access Available | Yes |

| Sampling Plane Validation Criteria | | |
|---|---|---|
| Requirement | Value | Compliant |
| Lowest Differential Pressure (Pa) | TBC | TBC |
| Ratio of Gas Velocities (:1) | TBC | TBC |
| Maximum Angle of Swirl (°) | TBC | TBC |
| No Local Negative Flow | TBC | |

| Sampling Platform / Improvement Recommendations: |
|---|
| The sampling location meets all the requirements specified in Irish EPA Guidance Note AG1 and EN 15259, and therefore there are no improvement recommendations. |

## DETAILS OF MONITORING: SAMPLING METHOD INFORMATION

| Release Point Reference | A2-1 Line 2 | (continued) |
|---|---|---|

In the "Units" column, [1] = Reference Conditions 1, [2] = Reference Conditions 2

### PERIODIC SAMPLING: MANUAL METHODS

| Determinand | Number of Runs | Blanks | Units | Emission Limit | Expected Emission | Projected LOD | Standard Reference Method | Catalyst Technical Procedure | Absorption Media / Analysis Technique | Analysis Lab \| ISO170255 tatus | Sample Duration (mins) | Sample Flowrate (ACTUAL) (l/min) | Sample Volume (REF) ($m^3$) | Projected MU (%) | Status of Testing |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Particulate Matter | 1 | 1 | [1] $mg/m^3$ | 30 | < 30 | 0.150 | EN 13284-1 | CAT-TP-01 / 03 | Filter / Gravimetric | CAT 17025 | 60 | 15 | 0.839 | 30% | MCERTS |
| Cadmium & Thallium | 1 | 1 | [1] $mg/m^3$ | 0.05 | < 0.05 | 0.0013 | EN 14385 | CAT-TP-06 | $HNO_3$ & $H_2O_2$ / ICPMS | RPS 17025 | 60 | 15 | 0.839 | 15% | MCERTS |
| Heavy Metals | 1 | 1 | [1] $mg/m^3$ | 0.50 | < 0.5 | 0.0067 | EN 14385 | CAT-TP-06 | $HNO_3$ & $H_2O_2$ / ICPMS | RPS 17025 | 60 | 15 | 0.839 | 15% | MCERTS |
| Mercury (MID 14385) | 1 | 1 | [1] $mg/m^3$ | 0.05 | < 0.05 | 0.0005 | EN 13211 | CAT-TP-06 | $K_2Cr_2O_7$ / CVAFS | RPS 17025 | 60 | 15 | 0.839 | 15% | MCERTS |
| Dioxins & Furans | 1 | 1 | [1] $ng/m^3$ | 0.10 | < 0.1 | 0.0030 | EN 1948 | CAT-TP-07 | XAD-2 / GC-HRMS | SAL 17025 | 360 | 15 | 5.031 | 25% | MCERTS |
| Hydrogen Fluoride | 1 | 1 | [1] $mg/m^3$ | 4.0 | < 4 | 0.089 | ISO 15713 | CAT-TP-10 | NaOH / IC | CAT 17025 | 30 | 10 | 0.280 | 15% | MCERTS |
| $PM_{10}$ | 1 | 1 | [1] $mg/m^3$ | - | <10 | 0.286 | EN ISO 23210 | CAT-TP-18 / 03 | Cascade Impactor | CAT 17025 | 60 | 25 | 1.398 | 30% | MCERTS |
| $PM_{2.5}$ | 1 | 1 | [1] $mg/m^3$ | - | < 10 | 0.215 | EN ISO 23210 | CAT-TP-18 / 03 | Cascade Impactor | CAT 17025 | 60 | 25 | 1.398 | 30% | MCERTS |
| Water Vapour | 5 | - | [1] % v/v | - | 25.00 | 0.100 | EN 14790 | CAT-TP-05 | Gravimetric | CAT 17025 | various | various | N/A | 5% | MCERTS |
| Volume emitted (per hour) | 1 | - | [1] $m^3/hr$ | 275000 | < 275000 | - | EN ISO 16911-1 | CAT-TP-41 | Pressure & Temp | CAT 17025 | N/A | N/A | N/A | 10% | MCERTS |
| Velocity | 1 | - | [1] m/s | - | 10.00 | 3.000 | EN ISO 16911-1 | CAT-TP-41 | Pressure & Temp | CAT 17025 | N/A | N/A | N/A | 10% | MCERTS |

### PERIODIC SAMPLING: INSTRUMENTAL METHODS

| Determinand | Number of Runs | Units | Emission Limit | Expected Emission | Projected LOD | Standard Reference Method | Catalyst Technical Procedure | Equipment Used | Measurement Technique | Sample Duration (mins) \| Logging Interval (s) | Span / Check Gas Type & Conc. | Range During Testing | Projected MU (%) | Status of Testing |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nitrous Oxide | 1 | [1] $mg/m^3$ | N/A | TBC | 1.00 | TGN M22 | CAT-TP-22(b) | Gasmet DX4000 | FTIR | 30 \| 60 | 400ppm NO | 500 ppm | 20% | MCERTS |
| Oxygen | 1 | [1] % v/v | N/A | 11.0 | 0.10 | EN 14789 | CAT-TP-39 | Horiba PG-350E | Paramagnetism | continuous \| 60 | 11% v/v | 25% v/v | 5% | MCERTS |

The check gas that will be used for the reactivity test will be 100ppm $SO_2$

## EN 14181 CEMS CALIBRATIONS: MANUAL METHODS

| Determinand | QAL2 or AST | Number of Runs \| Blanks | | Units | ELVs (Daily \| Short Term) | | Expected Emission | Projected LOD | Standard Reference Method | Catalyst Technical Procedure | Absorption Media / Analysis Technique | Analysis Lab \| ISO17025 Status | Sample Duration (mins) | Sample Flowrate (ACTUAL) (l/min) | Projected MU (%) | Status of Testing |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Particulate Matter | QAL2 | >15 | 3 | $^1$mg/m$^3$ | 10 | 30 | < 30 | 0.15 | EN 13284-1 | CAT-TP-01 / 03 | Filter / Gravimetric | CAT 17025 | 60 | 15 | 30.00% | MCERTS |
| Hydrogen Chloride | QAL2 | >15 | 1 | $^1$mg/m$^3$ | 10 | 60 | < 60 | 0.03 | EN 1911 | CAT-TP-11 | $H_2O$ / IC | CAT 17025 | 60 | 15 | 15.00% | MCERTS |

## EN 14181 CEMS CALIBRATIONS: INSTRUMENTAL METHODS

| Determinand | QAL2 or AST | Number of Runs | Units | ELVs (Daily \| Short Term) | | Expected Emission | Projected LOD | Standard Reference Method | Catalyst Technical Procedure | Equipment Used | Measurement Technique | Averaging Times (mins) \| Logging Interval (s) | Span / Check Gas Type & Conc. | Projected MU (%) | Status of Testing |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total VOCs | QAL2 | > 15 | $^1$mg/m$^3$ | 10 | 20 | < 20 | 0.17 | EN 12619:2013 | CAT-TP-20 | Sick 3006 | FID | 30 \| 60 | 80 ppm | 5% | MCERTS |
| Nitrogen Monoxide | QAL2 | > 15 | $^1$mg/m$^3$ | - | - | < 400 | 0.50 | TGN M22 | CAT-TP-22(b) | Gasmet DX4000 | FTIR | 30 \| 60 | 400ppm NO | 10% | MCERTS |
| Nitrogen Dioxide | QAL2 | > 15 | $^1$mg/m$^3$ | - | - | < 100 | 1.10 | TGN M22 | CAT-TP-22(b) | Gasmet DX4000 | FTIR | 30 \| 60 | 400ppm NO | 10% | MCERTS |
| Oxides of Nitrogen | QAL2 | > 15 | $^1$mg/m$^3$ | 200 | 400 | <400 | 1.10 | TGN M22 | CAT-TP-22(b) | Gasmet DX4000 | FTIR | 30 \| 60 | 400ppm NO | 10% | MCERTS |
| Sulphur Dioxide | QAL2 | > 15 | $^1$mg/m$^3$ | 50 | 200 | < 200 | 2.20 | TGN M22 | CAT-TP-22(b) | Gasmet DX4000 | FTIR | 30 \| 60 | 100ppm $SO_2$ | 20% | MCERTS |
| Carbon Monoxide | QAL2 | > 15 | $^1$mg/m$^3$ | 150 | 100 | < 100 | 0.70 | TGN M22 | CAT-TP-22(b) | Gasmet DX4000 | FTIR | 30 \| 60 | 100ppm CO | 5% | MCERTS |

The check gas that will be used for the reactivity test will be 100ppm $SO_2$

## EN 14181 CEMS CALIBRATIONS: EXISTING CALIBRATION FUNCTIONS

| Parameter | Existing Calibration Function | Existing $R^2$ |
|---|---|---|
| Total Particulate Matter | N/A | N/A |
| Total VOCs | N/A | N/A |
| Nitrogen Monoxide | N/A | N/A |
| Nitrogen Dioxide | N/A | N/A |
| Oxides of Nitrogen | N/A | N/A |
| Sulphur Dioxide | N/A | N/A |
| Carbon Monoxide | N/A | N/A |
| Hydrogen Chloride | N/A | N/A |

## EN 14181 CEMS CALIBRATIONS: FURTHER INFORMATION

| Parameter | Details |
|---|---|
| Who will perform the Functional Checks? | TBC |
| When will Functional Checks be Performed? | TBC |
| Is Linearity Testing to be Performed | Yes |
| If Yes, which Parameters? | CO, NO, NO2, TOC, SO2 & HCl |
| How many days will the testing be performed over? | At least 3 days |
| Will any emissions be at or near Zero? | TBC |
| Is there easy and safe access to the CEMS? | Yes |

| EN 15259 ASSESSMENT OF HOMOGENEITY: SAMPLING POINTS INFORMATION | | | | | |
|---|---|---|---|---|---|
| Parameter | Value | Details | Parameter | Value | Details |
| No. of Sampling Lines Available | 4 | | No. of Sample Points to be Used (per line) | 4 | |
| No. of Sampling Lines to be Used | 4 | | Total No. of Sample Points to be Used | 16 | |

**INSTRUMENTAL METHODS**

| Determinand | Units | Emission Limit | Expected Emission | Standard Reference Method | Catalyst Technical Procedure | Equipment Used (FIXED) | Measurement Technique (FIXED) | Equipment Used (GRID) | Measurement Technique (GRID) | Span / Check Gas Type & Conc. | Range During Testing | Projected MU (%) | Status of Testing |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total VOCs | [1] mg/m³ | 20 | < 20 | EN 12619:2013 | CAT-TP-20 | Sick 3006 | FID | Sick 3006 | FID | 80 ppm | 100 ppm | 5% | MCERTS |
| Oxides of Nitrogen | [1] mg/m³ | 400 | <400 | TGN M22 | CAT-TP-22(b) | Gasmet DX4000 | FTIR | Gasmet DX4000 | FTIR | 400ppm NO | 500 ppm | 10% | MCERTS |
| Carbon Monoxide | [1] mg/m³ | 100 | < 100 | TGN M22 | CAT-TP-22(b) | Gasmet DX4000 | FTIR | Gasmet DX4000 | FTIR | 100ppm CO | 250 ppm | 5% | MCERTS |
| Oxygen | [1] % v/v | N/A | 11.0 | EN 14789 | CAT-TP-39 | Horiba PG-350E | Paramagnetism | Horiba PG-350E | Paramagnetism | 11% v/v | 25% v/v | 5% | MCERTS |
| Sulphur Dioxide | [1] mg/m³ | 200 | < 200 | TGN M22 | CAT-TP-22(b) | Gasmet DX4000 | FTIR | Gasmet DX4000 | FTIR | 100ppm $SO_2$ | 250 ppm | 20% | MCERTS |

The check gas that will be used for the reactivity test will be 100ppm $SO_2$

| Is the CEMS Representative Point Homogeneity Test to be performed? | Yes |
|---|---|

**Velocity Profile - No Traverse Data Available**

| Pt |
|---|
| 1 |
| 2 |
| 3 |
| 4 |
| 5 |
| 6 |
| 7 |
| 8 |
| 9 |
| 10 |

where U stands for 'Unknown' due to there being no traverse data available

## Monitoring Objectives / Unusual Occurrences / Comments / Health & Safety / Expected Deviations from Standard Reference Methods

| | |
|---|---|
| 1 | Demonstrate compliance with a set of emission limit values (ELVs) as specified in the Site' s Permit |
| 2 | N/A |
| 3 | N/A |
| 4 | N/A |

## DEVIATIONS FROM THE SSP THAT MAY HAVE OCCURED ON SITE DURING THE SAMPLING CAMPAIGN

Make a note of any deviations from this SSP below:

*(Deviations may include: modification to a sampling duration, removal of a test, change to the number of sampling runs etc.)*

At the end of the sampling campaign, the Team Leader must select one of the statements below and complete the required boxes:

(1) I certify that all testing performed for this sampling campaign followed the testing programme as detailed in this SSP, and no deviations (unless specified in the original SSP and approved by the client) were required.

| | Signature of Team Leader | Date of Signature |
|---|---|---|
| (tick) | | |

(2) It was necessary to deviate from the testing programme as detailed in this SSP. All deviations are listed above. The client was informed of the deviations and was happy for the testing to proceed / continue on this basis.

*(A client signature MUST be obtained for Contract Review purposes)*

| | Signature of Team Leader | Date of Signature | Signature of Client | Date of Signature |
|---|---|---|---|---|
| (tick) | | | | |

# Leakage Reduction Programme

DCC Environment SPC

Overview Briefing

# Agenda

- Benefits
- Background & overview
- Objectives
- Role of DCC
- Delivery of works
- Customer communications
- Customer care

# What works will be delivered under the National Programme?

- District Metering Area (DMA) Establishment
- Find & Fix
- First Fix Free
- Water Mains Renewal
- Lead Services
- Non-Domestic Metering
- Pressure Management

# What works are involved in Dublin City?

- Watermains renewal
- Lead services
- Pressure management



It is proposed to commence these works in the Sandymount area. These works, as part of an overall strategic programme, will result in savings of almost 15 million litres of water a day in Dublin City – that's enough water to fill 6 Olympic-size swimming pools each day.

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# What are the benefits to Dublin City and the wider region?

- ✓ Reduced water mains burst frequency
- ✓ More reliable water supply
- ✓ Improved water quality
- ✓ Reduced leakage
- ✓ Improved supply connections
- ✓ Increased system capacity
- ✓ Improved customer experience

A safe, reliable water supply is important for our health, our environment and to meet the future demands of our growing population and economy



UISCE ÉIREANN : IRISH WATER

# Background & overview

Dublin City has approximately 2,300kms of underground water network. Almost half of these pipes are over 60 years old many are made of cast iron, which is prone to rusting. This rust is a key contributor to leakage within the pipes. The rust causes encrustation inside the pipes, reducing the area through which the water can flow. This degradation of the pipe system results in reduced water flow to homes and businesses.  It will build on the successes previously carried out under the supervision of Dublin City Council.

# Background & overview

- Every day over 233 million litres of water is distributed through the Dublin City network but much of this clean water is lost through leaks in old, damaged pipes.

- Leakage Reduction Programme sets out to reduce leakage by replacing badly encrusted pipes within the distribution network. The Programme also removes public side lead pipes and replace shared service connections. This will help to ensure that we have a clean, safe and reliable public water supply now and into the future to support our growing population and economy.





UISCE ÉIREANN : IRISH WATER

# Summary objectives

Reduction of leakage in the Dublin City region

The replacement of over 72 km of water mains in Dublin



€28 million investment in the Dublin region to replace problematic pipes over the next four years, and an investment of over €500 million across the country

Target savings of approximately 15 million litres of water a day in Dublin City through leakage reduction from the complete programme of works

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Over the course of this 4-year programme, Irish Water will be working in collaboration with Dublin City Council on an ongoing basis to identify and prioritise problem pipework for repair and replacement. This iterative process will combine burst reports, leakage data and pipework records to identify priority areas for investigation and detailed survey works. This information will then be used to prepare a planned programme of works in conjunction with Dublin City Council to utilise the full delivery capacity to ensure water supplies are safeguarded.

Where technically possible, the replacement of public water mains will be carried out using innovative technology and trenchless methods of pipe replacement. This will help to reduce the number of supply interruptions to customers and will also minimise the level of disruption on local roads. We understand that there will be some level of disruption to customers but we will endeavour to keep this to a minimum.



UISCE ÉIREANN : IRISH WATER

# Role of Dublin City Council

DCC will be working with Irish Water to successfully deliver the Leakage Reduction Programme works in the Dublin City region. The roles of DCC are as follows:

- **Senior Management & SLA Unit (DCC) –** will assist in the identification, planning, supervision and delivery of works and communications processes associated with the Leakage Reduction Programme works in the Dublin City region.

- **Elected Representatives –** a key stakeholder and an important communications channel to inform the general public, whom they represent.

- **Operations (Water Division) –** DCC (Direct Labour crews) will be delivering work packages planned for Dublin City, in partnership with Irish Water.

- **Roads & Traffic Department -** will be responsible for issuing road opening licences to facilitate works and road closure licences, where necessary. They will also assist Irish Water by implementing various policies and traffic measures, relating to any roads and traffic issues that may arise as a result of the works.



UISCE ÉIREANN : IRISH WATER

# How will the works be rolled out?

The first step is to carry out surveys in areas of Dublin where we know there may be issues with the water supply network.

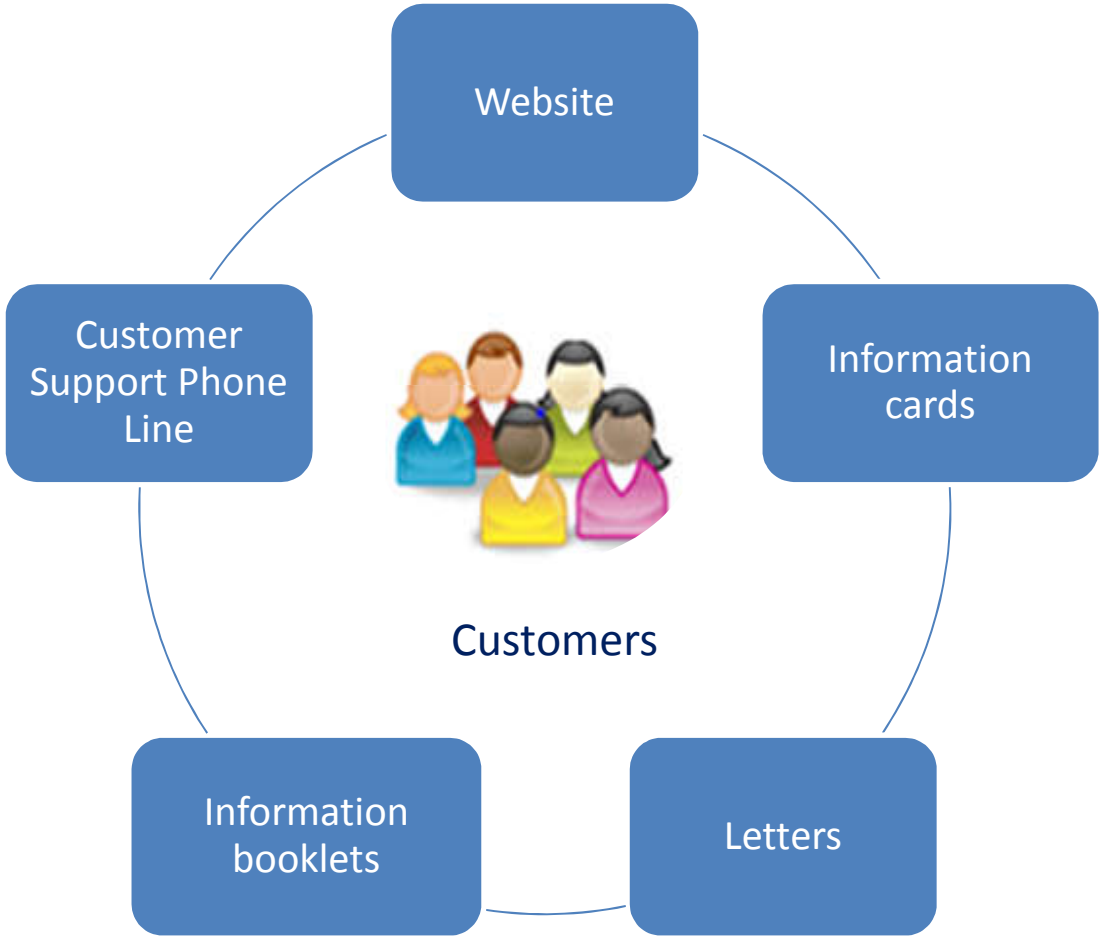
The work will then be carefully planned and replacement of the problematic pipework will begin. Work in this area will be supported by a Contractor similar to what was carried out previously by Dublin City Council and fully supervised to ensure that quality and standards are maintained. DCC Direct Labour will be delivering (in partnership) a number of the packages.

Customers will be notified if works are required at their property and all customers who may be impacted by water outages will be notified in advance with a 14-day information booklet and a 2-day reminder notice.

If there are road works on the road near you, a traffic management plan will be put in place to minimise disruption.

All paths or roads will be reinstated following the works. Where full reinstatement is not possible directly after the works, some surfaces may be covered with temporary materials until full reinstatement can take place.

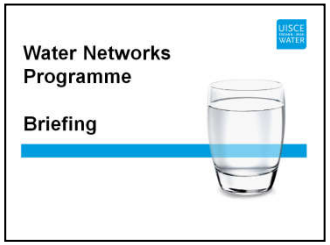
# Customer Communications



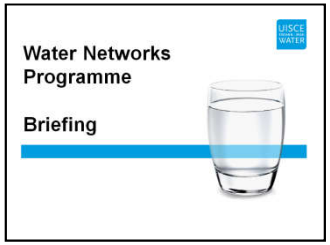
# Customer Communications Protocol

## *Water mains survey & renewal works*

### Local Authority

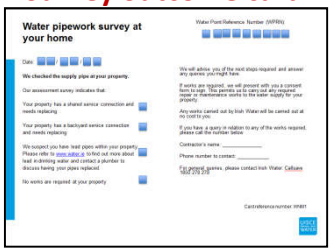



### Elected Reps

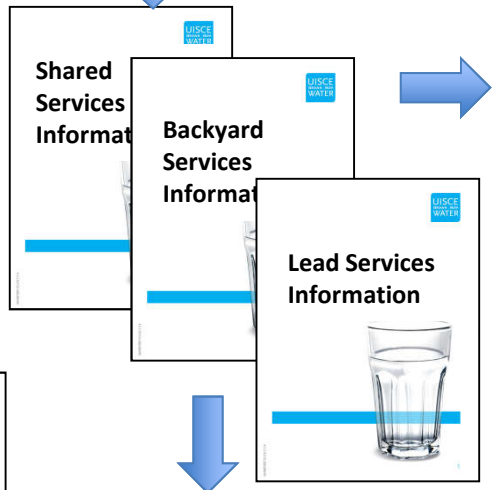



### Overview card

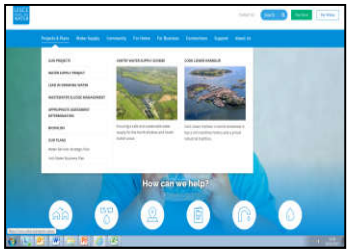

### Survey outcome card




### Shared Services Information / Backyard Services Information / Lead Services Information

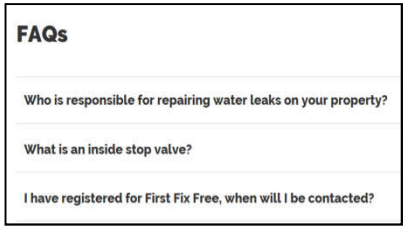



### Website

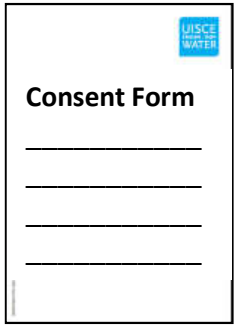



### Contact card


### FAQs

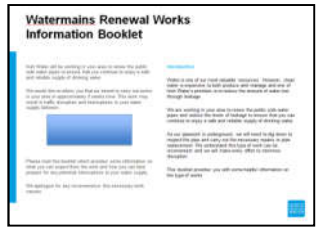



### Consent Form

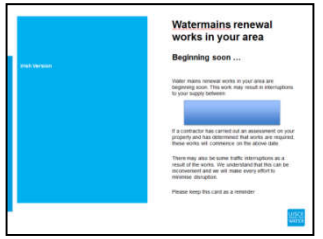



### Missed You Card

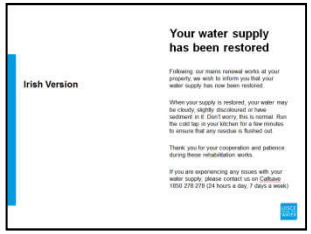

### 14 day booklet




### 2 day notice




### Supply Restored card



# Customer Care

We are committed to delivering excellent customer service and customers can contact us in any of the following ways:

Web: **www.water.ie**

Twitter: **@IWCare**

Telephone: **Callsave 1850 278 278**
**+353 1 707 2828**
24 hours a day, 7 days week

Minicom: **LoCall 1890 378 378**
(for hearing impaired customers with their own minicom equipment)

Post: **P.O. Box 860, South City Delivery Office, Cork City, Cork**

Elected representatives can contact our dedicated Local Representative Support Desk (LRSD) by:

Email: **localrepsupportdesk@water.ie**
Phone: **Callsave 1850 178 178**



UISCE ÉIREANN : IRISH WATER

Comhairle Bhaile Átha Cliath
Dublin City

Seirbhísí Bainistíocha Dramhaíola
An Roinn Comhshaoil agus Iompair

Waste Management Services
Environment and Transportation Department

**To Each Member of the**
**Environment Strategic Policy Committee**

**20th September 2017.**

**Update on Litter Management Plan 2016 – 2018**

The Litter Management Plan adopted in March 2016 contains four key themes

- To reduce litter by working with our citizens to make Dublin a welcoming environment for all who live in, work in and visit the City.
- To communicate the litter prevention message throughout Dublin City.
- To ensure that there is an effective and efficient street cleaning operation in place throughout the City.
- To use all available enforcement options under the Litter Pollution Acts 1997-2009 and the Bye Laws to prosecute litter offenders whenever possible.

31 objectives are set out to be delivered over the lifetime of the plan. The plan also references the Key Performance Indicators to be used over the lifetime of the plan that include enforcement data annually and performance in national surveys.

**Enforcement Data**

**2017 Enforcement Statistics to date**

| | |
|---|---|
| **1068** | **Litter Pollution Act Fines Issued** |
| **281** | **Waste Bye Law Fines Issued** |

**2016 Enforcement Statistics and outcomes**

| | |
|---|---|
| **1666** | **Litter Pollution Act Fines Issued*** |
| 656 | Paid |
| 268 | Successfully Appealed |
| 53 | Out of Court Settlements |
| 78 | Successful Convictions |
| 3 | Dismissed |
| 608 | Did not proceed to court** |

| | |
|---|---|
| **191** | **Waste Bye Law fines Issued** |
| 129 | Paid |
| 21 | Successfully Appealed |
| 6 | Out of Court Settlements |
| 2 | Successful convictions |
| 33 | Did not proceed to court** |

*Of the fines issued 84 fines were for dog fouling offences

*the largest single reason for not proceeding to court is the inability to successfully serve summons on offenders. Other reasons include unavailability of witnesses, errors in process, quality of evidence.

**National Surveys**

The most recent data available from national surveys is summarised below.

**National Litter Pollution Monitoring Survey (NLPMS)**

**NLPMS Results 2015**

| | |
|---|---|
| Percentage of area unpolluted by litter | **18 %** |
| Percentage of area slightly polluted by litter | **45 %** |
| Percentage of area moderately polluted by litter | **25 %** |
| Percentage of area significantly polluted by litter | **11 %** |
| Percentage of area grossly polluted by litter | **1 %** |

**NLPMS Results 2016**

| | |
|---|---|
| Percentage of area unpolluted by litter | **10.7%** |
| Percentage of area slightly polluted by litter | **55.35%** |
| Percentage of area moderately polluted by litter | **26.47%** |
| Percentage of area significantly polluted by litter | **7.22%** |
| Percentage of area grossly polluted by litter | **.26%** |

**Irish Business Against Litter (IBAL)**

The Waste Management Department Closely monitors the outcomes of the 2 Litter surveys undertaken by IBAL annually.

The most recent results state that Dublin City continues to make some improvements and progress in the North Inner City and that there has been considerable improvement in the results of areas surveyed in the Ballymun Area. The City Centre has been returned to the Clean To European Norms standard and that there are no litter blackspots or heavily littered sites in the City Centre area surveyed.

Working in cooperation with the Area Depts an analysis is carried out of all sites highlighted by the surveys that fail to meet a minimum standard of Grade B and efforts are made to improve these sites. This is an ongoing process in the North Inner City and in the Ballymun area.

**Customer relations Management (CRM) Data**

2016: 14,000 complaints relating to waste/litter issues were recorded on Dublin City Councils CRM system.
A 100% completion rate has been reported in respect of responding to these complaints.

2017: 11,000 complaints relating to waste/litter issues have been recorded to date.

The accompanying pages of this report provide an update on each of the objectives outlined in the plan and a revised timeline of implementation for those objectives not yet implemented.

**Simon Brock**
**Administrative Officer**

| Objective | Overall objective is to ensure the provision of an effective and efficient street cleaning operation. | Measurement | Introduction Timeframe (2016-2018) | Status | Revised Timeframe (2016 - 2018 |
|---|---|---|---|---|---|
| 1 | Develop a cleaning strategy for suburban villages, including provision for weekend/out of hours service schedule. | Achieved/Not Achieved. | Q2, 2016 | North and Southside crews now assigned and scheduled cleaning / power washing of areas prioritised in conjunction with Area Depts is ongoing on a quarterly basis | |
| 2 | Roll out of Cleaning Standards booklet to all Street Cleaning Staff. | No. of cleaning staff who received booklet. | Q2, 2016 | Delayed until full implementation of Waste Management operations review | **Q4 2017** |
| 3 | Intensive street washing programme from April to October each year. | Achieved/Not Achieved. | Q2 – Q3, 2016 -2018 | street washing programme in City Centre implemented on Night Shift | |
| 4 | Update and maintain accurate street cleaning and road sweeping schedule on Dublin City Council website. | No. of unique webpage visits. | Q2 – Q3, 2016 | Not yet implemented due to reorganisation of cleaning routes and schedules on an area basis | **Q2 2018** |
| 5 | Introduce street sweeping request facility for City residents. Parking restrictions will be sought to be put in place in cooperation with residents to facilitate this. | No. of requests received per year and actioned. | Q2 – Q3, 2016 | Facility is available in conjunction with local area offices. | |

| | | | | | |
|---|---|---|---|---|---|
| 6 | Introduction of on line Bulky Waste Collection service. Request via Dublin City Council website. | Tonnage of material collected. | Q2 – Q3, 2016 | Online bulky waste collection service in place<br>Approximately 1000 service requests per annum at current levels of demand | |
| 7 | Implement Halloween Plan to combat social and environmental consequences of Bonfires. | Plan in place.<br><br>Tonnage of materials collected | Q3-Q4 2016 - 2018 | Halloween Plan successfully implemented in 2016.<br><br>420 tonnes of material removed<br><br>Planning underway in conjunction with other depts. and stakeholders for 2017 | |
| 8 | Organise Christmas tree collection service. | Tonnage of material collected. | Q1, 2016 to 2018 | Christmas Tree Collection in place annually.<br><br>150 tonnes of trees collected in 2016/17 | |
| 9 | Expansion in the use of the GIS system to manage illegal dumping incidents. | No of reports for illegal dumping incidences. | Q1, 2016 | CRM Mapping facility in place | |
| 10 | Increase the number of handcarts to 10 in use in City Centre Streets (e.g. O'Connell St., Grafton St. and Henry St.) | No. in use by end 2016 versus 2015 figures. | 2016 to 2018 | Number of handcarts currently in use - 17 | |

| | | | | | |
|---|---|---|---|---|---|
| 11 | Develop Litter Bin Policy including requirements for siting of bins and criteria for bin removal. | Achieved/Not Achieved. | Q4, 2016 | Litter Bin Policy developed and reported to Litter Sub Committee. Criteria for siting and removal/relocation to be based on levels of demand and proximity to litter generators. | |
| 12 | Updated bin survey, including bins in parks to be completed. | Survey completed. | Q3, 2016 | Updated bin survey underway in conjunction with Implementation of unique Identifier system for bins. North City Completed | |
| 13 | Installation of additional litter bins/dog fouling bins in or in close proximity to every enclosed Park within the City. | No. of bins installed. | Completed by Q2, 2016 | Dog Fouling bins installed across city at green spaces, park entrances and high footfall dogwalking locations. 105 units installed to date | |
| 14 | Unique identifier placed on every litter bin in Dublin City Council area. To be updated on IT System, including removal or addition of new bin. | Achieved/Not Achieved. | 2016-2018 | Identifier tags designed and tested including QR code for customer reporting to CRM system.<br><br>Installation underway. North City and City Centre Completed. QR codes active on all tagged bins. All tagged bins mapped and active on IT system. | |
| 15 | Bin maintenance regime to be developed for cleaning and painting of bins. | No. of bins cleaned per annum.<br><br>No. of bins painted per annum. | Q3, 2016 | Bin washing programme in place. | |

| | | | | | |
|---|---|---|---|---|---|
| 16 | Use advertising space on litter bins for anti-littering messages. | No. of bins displaying anti-littering messages. | Roll out Q3, 2016.Message changed every quarter | Signage developed on theme of illegal dumping to be rolled out to Central Area initially | |
| 17 | Continue maintenance programme for Bottle Banks. | Achieved/Not Achieved. | Q1, 2016 | Enhanced programme in place with closer coordination between Waste Management and service provider.<br><br>Decorative wrapping of bottle banks to be trialled in 4 locations | |

| | | | | | |
|---|---|---|---|---|---|
| **Area : Partnership - To reduce litter by working with our citizens and communicate the litter prevention message.** | | | | | |
| 18 | Implement Team Dublin Clean-up on Saturday 26th March. | No. of volunteers. Tonnage of litter collected.<br><br>No. of clean-ups held in subsequent years. | 26th March 2016 2017 & 2018 | Team Dublin Clean Up event held in 2016/2017.<br><br>Planning for 2018 event to commence in Q4 2017 | |
| 19 | Dublin City Council will facilitate community clean-ups with Residents Associations and community groups. | No. of clean-ups held. | Q2, 2016, 2017, 2018 | Community Clean Up support is ongoing in conjunction with Area Depts.<br><br>614 clean ups supported to date in 2017 | |
| 20 | Dublin City Council will continue to assist in the organisation and support of the City Neighbourhoods Awards. | No. of entries to City Neighbourhood Awards. | Q2, 2016, 2017, 2018 | City Neighbourhoods Awards 2017 to took place on 21st Sept<br><br>Number of entries in 2017 - 287 | |
| 21 | Continue to develop and roll out the Green Schools Programme to primary, post primary and third level institutions. | No. schools visited. No. of Green Schools | 2016-2018 | 284 schools are taking part in the programme.<br><br>70 school visits completed in 2016. | |

| | | | | | |
|---|---|---|---|---|---|
| 22 | Greater engagement on social media regarding litter management issues. Greater use of social media to provide information about street cleaning across the city | No. of litter incidences reported via social media channels. | Q3, 2016 | Not Yet Implemented | **Q1 2018** |
| 23 | Development of policy on responsible dog ownership. | Achieved/Not Achieved. | Q4, 2016 | Policy is in place – Green Dog Walkers scheme is promoted at relevant events | |
| 24 | Introduce pre-programmed anti dog fouling audio messages at dog fouling blackspots and bring centres. | Dog foul survey before and after messages introduced. | Q3, 2016 | Systems trialled at 3 locations | |
| 25 | Run local cinema and radio advertising on litter, dog fouling and Christmas tree campaigns. | No of campaigns rolled out. | Q2, 2016 | Cinema Campaign run on Theme of Food Waste and Dog Litter in Q1 2016.<br><br>Shopping centre Radio campaign run on theme of litter in Q1 2016 | |

| | | | | | |
|---|---|---|---|---|---|
| **Area : Enforcement – To use legislative framework to support the anti-litter campaign** | | | | | |
| 26 | Dublin City Council will review the Litter Wardens duties in order to meet the requirements of the new Litter Management Plan. | Review completed. | 2016-2018 | Ongoing. | |
| | Continued use of CCTV surveillance and associated signage. | No. of locations CCTV units used at.<br><br>No. of fines secured.<br><br>No. of prosecutions secured. | 2016-2018 | CCTV in use in several community bring centres and illegal dumping locations.<br><br>284 Fines issued in 2016<br><br>138 fines issued to date in 2017 | |
| 28 | Expansion of door to door enforcement campaigns across the city. | No. of campaigns completed. | 2016-2018 | Pilot projects in North Inner City and South Central Area completed. | |

| | | | | | |
|---|---|---|---|---|---|
| 29 | In conjunction with WEEE Ireland, Dublin City Council will facilitate WEEE collection days at specific locations across the City. | No. of days organised.<br><br>Tonnage of waste collected. | Q3, 2016, 2017, 2018 | WEEE Ireland no longer carry out collection days as all electronic retailers must now accept WEEE items for recycling.<br><br>RecycleIT carry out door to door collections in the Dublin City area in cooperation with DCC | |
| 30 | Formulate and implement Citywide enforcement policy including the establishment of a citywide enforcement team. | Policy Implemented.<br><br>Team Established | Q4, 2016 | Policy has been formulated including step by step approach to establishing compliance levels | |
| | Prepare submission on legislative requirements to support enforcement activities. | Submission Prepared | Q3, 2016 | Discussion document prepared.<br><br>Proposed Introduction of Regional Waste Bye Laws to enhance enforcement activities in 2018<br><br>Feedback on draft bye laws provided to Eastern Midland Waste Region | |