ROOKERY SOUTH RRF COMMUNITY LIAISON PANEL

NOTE ON ENVIRONMENTAL COMPLIANCE

Introduction

At the 20 October meeting of the Community Liaison Panel (CLP) members' attention was drawn to two documents that included references to breaches of environmental controls at Covanta plants in the United States. A verbal response was given to the CLP at its meeting on 16 November.

After some discussion, Covanta undertook to provide a short written brief on the company's environmental record.

Covanta's environmental commitment

Covanta takes its role as an environmental steward and global citizen very seriously. Protecting our natural resources for future generations is a fundamental principle of Covanta's mission.

In line with this, Covanta is engaged in a process of continuous improvement with a focus on reducing the company's environmental impact. Covanta employs "best practice" in environmental monitoring and management and our corporate mandate is to operate with zero emissions exceedances. While we have not always achieved this objective, deviations from permit limits typically are short-lived.

Test failures are unacceptable and represent a significant departure from our normal operations and performance expectations.

Overall environmental record

Covanta's pursuit of zero emissions exceedances has resulted in outstanding, and improving, environmental performance in recent years. Table 1 below shows that over the last eight years, we have achieved 99.9% compliance. The table shows for each year the total number of hours operated by our fleet of plants in the United States and the proportion of time in each year that the plants were complaint with their environmental licences. Typically, actual emissions fall 60% to 80% below permitted levels.

Table 2 provides data from over 3,500 stack tests over the last nine years. It shows the number of occasions in each year when stack tests recorded an exeedance of the permitted levels of emissions of the most significant substances. The data is divided to show in addition the number of such incidents recorded at plants using the same technology that Covanta proposes to use in its future plants in the UK. It highlights that of 20 incidents in total over the nine years, just four were recorded in plants using the technology proposed for the UK.

Table 1: Percent of time compliant

Year	Operating hours	Compliance (%)
2001	612,739	99.8
2002	628,035	99.8
2003	628,775	99.8
2004	637,868	99.9
2005	630.228	99.9
2006	631,214	99.9
2007	653,995	99.9
2008	705,217	99.9
8 year average	**643,891**	**99.9**

Table 2: Number of stack test exceedances

Year	PCDD[i]	Hg	HCl	Pb	Ni	H_2SO_4	PM	Sum
2001	0	1	0	0	0	0	0	**1**
2002	0	0	0	0	0	0	0	**0**
2003	0	0	0	0	0	0	0	**0**
2004	0	0	0	0	0	0	0	**0**
2005	0	0	0	0	0	0	0	**0**
2006	1	0	0	1	1	0	0	**3**
2007	2	0	0	0	0	1	1	**4**
2008	1	0	0	0	2	0	6	**9**
2009	0	0	0	0	0	0	3	**3**
Non UK	3	0	0	1	3	0	9	**16**
UK	**1**	**1**	**0**	**0**	**0**	**1**	**1**	**4**

Commentary on exceedences highlighted in documents circulated to CLP

Documents circulated to the CLP at its meeting on refer to a number of specific instances in which regulators imposed some form of penalty upon Covanta in response to a breach of environmental controls at company plants. All of these are covered by data provided in Table 2 above.

As CLP members commented the most potentially serious of these relate to releases of dioxins (PCDDs) at levels above those permitted. This is of concern, to regulators and operators alike, because of the known carcinogenic properties of dioxins. It will be seen from Table 2, that between 2001 and 2009, Covanta has suffered very few dioxin exceedences. Only one instance is recorded of a dioxin exceedance at a plant using the type of technology that the company proposes to utilise in the UK. It should be noted also that the majority of exccedences recorded were in plants that were not designed and built by Covanta, but acquired by it subsequent to development by other operators. Covanta has invested heavily to bring these plants up to its own very high standards.

Both in the US and the UK it will be a condition of obtaining the appropriate operating licence from the relevant environmental regulator that all emissions are continuously monitored with the exception of dioxins for which the technology does not exist for continuous monitoring. Any breach of a continuously monitored emission automatically raises an alarm and is brought to the plant operator's attention. The operator may decide to take manual remedial

action, but in most cases the plant will quickly revert to the desired level automatically. If the operator identifies a plant failure that will not correct itself he will close the plant down and arrange for the necessary repairs to be carried out.

In the UK, the continuous monitoring equipment will record throughout this period and the readings are sent to the Environment Agency (EA). The EA will determine if any fine or other action is appropriate. For emissions that cannot be continuously monitored the EA will require a 6 monthly independent test to be carried out. Over time the EA may reduce the frequency to once per year.

In setting emissions limits for licensing purposes, the EA is guided by expert advice from a range of bodies and, with regard to dioxins, from the Committee on the Toxicity of Chemicals in Food, Consumer products and the Environment (COT). On COT's advice the current limit for emissions of dioxins and furans from municipal waste incinerators is 0.1 nanogram per cubic metre of emitted gases. (A nanogram is one billionth of a gram.).

Taking this limit as a starting point, the Health Protection Agency (HPA) recently carried out a review of research undertaken to examine the suggested links between emissions form municipal waste incinerators and effects on health. This was published by the HPA in September 2009 as a position statement on "The impact on health of emissions to air form municipal waste incinerators". It concluded that:

> "Modern, well managed incinerators make only a small contribution to local concentrations of air pollutants. It is possible that such small additions could have an impact on health but such effects, if they exist, are likely to be very small and not detectable."

A further study by the equivalent agency in Scotland, Health Protection Scotland (HPS) noted that most of the epidemiological studies carried out to date in this field related to the historic performance of incinerators designed, constructed and operated before the more stringent emission limits that apply today came into effect. The HPS report "Incineration of waste and reported human health effects" published in October 2009 concluded that:

> It must be emphasised, however, that the majority of epidemiological studies to date related to incinerators operating before introduction (in Europe) of the waste Incineration Directive and associated domestic (UK) legislation. Hence emissions in the past were likely to have been higher than at present. Consequently, any associations identified with adverse health effects and incineration in the past cannot be extrapolated automatically to the present."

The significance of this can be seen in the context of the reported 2007 dioxin exceedance at Covanta's Wallingford plant, the subject of one of the breaches reported in the materials seen by the CLP. In that case, dioxin emissions from one of three units were found to exceed the permitted limit by around 4%, as indicated in Table 3 below.

At the same time, emissions from the two compliant units were substantially below permitted levels, and the plant's overall level of dioxin emissions at no point exceed a level around below 50% of that permitted.

Table 3: 2007 Dioxin exceedance, Wallingford

Unit	Permitted concentration	Actual concentration	Actual concentration as % of permitted
1	30	31.2	104
2	30	3.1	10.33
3	30	11.8	39.33
Total	90	46.1	51

External recognition

Covanta's efforts in pursuing environmental excellence have been widely recognized. In recent years, the company has been honoured to receive many awards for its contribution to a range of important environmental objectives and for exemplary operational standards. These have included:

- Covanta Energy received the Energy Innovator Award from the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy.
- Covanta U.S. facilities have consistently been recognized by the American Society of Mechanical Engineers for excellence in plant operations.
- Covanta Alexandria admitted to the Virginia Environmental Excellence Program.
- Covanta Honolulu received the KOA Community Environmental Achievement Award
- Covanta Kent received the Michigan Clean Corporate Citizen designation
- Covanta Lake received the Council for Sustainable Florida's "Sustainable Florida Promising Practices for Outstanding Achievement" award
- Covanta Mid-Connecticut received a U.S. EPA New England Environmental Merit Award
- Covanta Montgomery received the SWANA Waste-to-Energy Excellence Award
- Covanta SECONN received an EPA Environmental Merit Award.

[i] The substances identified in the table are:

- PCDD: polychlorinated dibenzo-p-dioxin (generally shortened to dioxin)
- Hg: mercury
- HCl: hydrochloric acid
- Pb: lead
- Ni: nickel
- H_2SO_4: sulphuric acid
- PM: particulate matter