WRITTEN QUESTION TO THE MINISTER FOR TRANSPORT AND TECHNICAL SERVICES BY THE DEPUTY OF ST. MARY
ANSWER TO BE TABLED ON TUESDAY 22nd JUNE 2010

Question

"Can the Minister give a date for the first use of the Energy from Waste plant at La Collette?

Mindful of the critical importance of keeping emissions to the minimum, can the Minister advise the Assembly exactly how the emissions will be monitored?

Would the Minister detail which substances will be monitored and explain why these substances were selected and all others omitted?

For each substance can the Minister explain –

(a) the time interval of the monitoring
(b) the methods to be used
(c) to what level of accuracy

Will monitoring take place outside the plant, and, If so –

(i) for which substances
(ii) what will be the time interval of the monitoring
(iii) what methods are to be used
(iv) to what level of accuracy

In all cases, who will carry out the monitoring, when and how will it be checked and by whom?"

Answer

The first use of the Energy from Waste plant for treating waste, is expected to be 1st November 2010. This date may be subject to change due to the complexity of the construction and project management process on site.

Oxygen; Carbon Monoxide; Hydrogen Chloride; Hydrogen Fluoride; Sulphur Dioxide; Nitrogen Oxides; Ammonia; Volatile Organic Compounds (VOCs); and Particulates will be monitored and recorded continuously using a Continuous Emissions Monitoring System (CEMS) within the Energy from Waste plant.

In addition, the water vapour content, temperature and the pressure of the flue gases will be monitored so that the emission concentrations can be reported at the reference conditions required by the European Waste Incineration Directive 2000/76/EU.

Heavy Metals; Dioxins and Furans and Organic Compounds will also be monitored by means of spot sampling at frequencies agreed with the Regulator of the Waste Management (Jersey) Law 2005 and the States Health Protection Service, The frequencies are proposed to be quarterly for the first year and semi-annually thereafter:

These substances are those required to be monitored by the European Waste Incineration Directive (2000/76/EC). This is the recognised European standard for waste combustion. Meeting the standard has been accepted by the relevant Regulators in Jersey as the appropriate way to demonstrate that the Energy from Waste plant will meet best practice internationally for health and environmental protection.

Table 1 below sets out the proposed emission limits for the substances to be monitored.

Table 1 – Proposed Emission Limits				
Parameter	**Units**	**Half Hour Average**	**Daily Average**	**Periodic Limit**
Particulate matter	mg/Nm^3	30	10	-
Volatile Organic Compounds (VOCs) as Total Organic Carbon (TOC)	mg/Nm^3	20	10	-
Hydrogen Chloride	mg/Nm^3	60	10	-
Hydrogen Fluoride	mg/Nm^3	4	1	-
Carbon Monoxide	mg/Nm^3	100	50	-
Sulphur Dioxide	mg/Nm^3	200	50	-
Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	mg/Nm^3	400	200	-
Cadmium & Thallium and their compounds (total)	mg/Nm^3	-	-	0.05
Mercury and its compounds	mg/Nm^3	-	-	0.05
Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	mg/Nm^3	-	-	0.5
Dioxins and Furans as International Toxicity Equivalents (ITEQ)	ng/Nm^3	-	-	0.1
All expressed at 11% oxygen in dry flue gas at 0°C and 1 bar-a. *Periodic measurements are carried out over a period of 6-8 hours.*				

The Continuous Emissions Monitoring System will be equipped so that:

- HCl, CO, SO2, NOx (NO+NO2), HF and NH3 will be measured by a Fourier Transform Infrared Spectroscopy (FTIR) type multi-gas analyser;
- Volatile Organic Compounds (VOC) will be measured by a Flame Ionisation Detector (FID) type analyser;
- Particulate matter (PM) will be measured by an opacimeter; and
- Oxygen (O2) will be monitored by a zirconium probe

The frequency of periodic measurements will comply with the European Waste Incineration Directive. The flue gas sampling techniques and the sampling platform will comply with the UK's Environment Agency Technical Guidance Notes M1 and M2. The methods and standards used for emissions monitoring will be in compliance with the UK's Environment Agency's Sector Guidance Note S5.01 and the European Waste Incineration Directive requirements. The Continuous Emissions Monitoring System equipment will be certified to the UK's Environment Agency's Monitoring Certification Scheme (MCertS) standard.

The continuously monitored emissions concentrations will be undertaken by the plant operational staff using an automated and certified system. This will be checked by an independent testing company at frequencies agreed with the States Health Protection Service and the Regulator of the Waste Management (Jersey) Law 2005. Periodic monitoring will be undertaken by an accredited independent laboratory.

The Planning Consent for the Energy from Waste plant (planning application reference PP/2007/0050) required a Strategy for the monitoring of vehicular generated air pollution in the vicinity during the construction, commissioning and initial operation of the plant. The Strategy was developed and accepted as appropriate by the Health Protection Service. Nitrogen Oxides (NO_X) and Particulate Matter (PM) are monitored in accordance with this Strategy.

Oxides of Nitrogen are monitored using two separate methods; diffusion tubes and continuous monitoring using equipment operating on a chemi-luminescence principal, which is recognised as the reference method in Europe.

Particulate matter (PM_{10} and $PM_{2.5}$) measurements are conducted continuously using a BAM (Beta Attenuation Monitor) which has been shown to be equivalent to the EU reference method. Data logging occurs at hourly

intervals for Particulate matter and every 15 minutes for Nitrogen Oxides.

The diffusion tube monitoring will take place prior to and throughout the entire construction period and through the commissioning period; that is from January 2009 to June 2011. Continuous monitoring took place from January 2009 to January 2010 (prior to and during when the heavy construction took place including piling, excavation and concrete works) and will recommence for a further year once the plant is fully commissioned and operational. This further monitoring is expected to take place between March 2011 and March 2012.

The analysis of the air quality monitoring external to the plant is carried out by an independent accredited consultant.