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Bulletin

Development of SME EMS

The Company has been retained by an SME that provides and administers specialist insurance products to the retail, manufacturer and bank sectors and the telecommunications industry from a call centre based in a listed Victorian building in Hampshire. The tasks to date have involved finalising the company environmental policy and writing the company environmental manual. Information required for the environmental review was gathered during a half-day site visit.

IRCA Certification

With the increasing globalization and competitiveness of business, it is more important than ever that organizations benefit from using competent, certified auditors. The company is therefore pleased to report that during 2009 WISenvironmental Principal Rob Holmes has registered with the International Register of Certificated Auditors (IRCA) as an environmental management system Principal Auditor. See *Find an Auditor* IRCA website at www.irca.org.

Remote Monitoring of EfW

In January 2010 WISenvironmental has successfully set up a remote access to the process parameters of a major Energy-from-Waste plant on behalf of

KRR (UK). Key parameters are now accessible on a daily basis from our offices and the analysis of the on-line boiler cleaning benefits for the plant operator is now achievable. The operators will be informed of its boiler fouling situation and be able to plan ahead necessary cleaning actions.

EBW Exhibition

WISenvironmental exhibited at the first international exhibition and conference *Energy from Biomass and Waste UK* at the Royal Horticultural Halls in Victoria London at the end of January 2010. Some 600 delegates came to the Royal Horticultural Halls to see exhibits from 60 companies showcasing the latest in waste treatment and bio-

energy production. The conference currently held was also well attended. More than 40 UK and international experts speakers presented papers on market trends and both the latest and best practices. EBW UK proved to be a timely and excellent opportunity for the company to offer services to support new Energy-from-Waste technologies in the UK.



EBW Exhibition Stand

“The new offices provide a working example of sustainability in practice.”

Green Offices Opened

In September 2009 WISenvironmental moved to a new office conversion at Home Farm Business Unit 7 in Loseley Park, near Guildford in the Surrey countryside. The conversion was of a former warehouse and cold store built between 1960 and 1970 and has been designed with environmental performance in mind. Two floors of new offices were constructed in half the internal space with the original building façade wholly retained. A post-construction Building Research Establishment's Environmental Assessment Method (BREEAM) assessment will be carried out

on the 'as built' premises. BREEAM was first developed for the assessment of offices in 1990 closely followed by a method to assess industrial units. The method was developed to reduce the impacts of buildings on the environment. The company hopes that this will lead to the award of a BREEAM certificate. The BREEAM certificate provides a credible environmental 'label' for buildings and ensures that best environmental practice is incorporated in buildings. Innovative elements in the design to date include the installation of a biomass-fuelled heating system with



Loseley Park offices under construction

wood log fuel supplied from local estates. The heating system was designed by WISenvironmental. There are plans to install solar panels and a rain-water collection and utilisation scheme following removal and replacement of the existing asbestos-containing roof tiles. Infrastructure for both en-

hancements has been installed and is available for connection when required. Again the upgrades are to be designed by WISenvironmental. The upgrades are expected to be operational by summer 2010. The new offices provide a working example of sustainability in practice.

UNEP Oil-Field Remediation Mission

WISenvironmental recently participated in the United Nations Environment Programme (UNEP) programme to independently assess the environmental impact of oil-field contamination in the Ogoni Region of south-west Nigeria. UNEP plans to achieve this by undertaking an extensive environmental assessment of sites in the Ogoni region of the Niger Delta impacted by oil spilled in the process of oil exploration and production. The region has been producing oil since 1958 and has suffered extensively from oil spills caused by equipment failure, human error and a combina-

tion of sabotage and criminal damage.

The assessment was initiated at the request of the government of the Federal Republic of Nigeria and in collaboration with the United Nations Development Programme (UNDP). On the basis of the assessment findings, UNEP will make recommendations for appropriate remediation activities.

The over-riding objective of WISenvironmental's task was to identify the range of possible full-scale remediation technologies available commercially for oil-contaminated soils and sediments and to

present their indicative costs, resource requirements, operational footprint and possible output specifications. A visit to representative contaminated sites in Ogoniland did not take place because of the lack of permission to visit the region from the Ogoni authorities and concerns regarding security. As an alternative site visits were carried out at the invitation of the operators by the project team process engineers to three locations in Belgium to witness and assess the suitability of soil washing, biore-

mediation and thermal desorption operations. The final research report was submitted to UNEP in early 2010.

Presently, at the beginning of 2010, negotiations with key local stakeholders for permissions to commence the assessment are ongoing, and once project activities commence they are anticipated to last for approximately two years. Project progress reports will be posted regularly on the 'Mission in Ogoniland' pages of the UNEP website. We anticipate providing further technical input to the project once fieldwork commences.

Heat Balance Demonstration

The combustion of municipal solid waste (MSW) with energy recovery is becoming an increasingly prevalent waste management technique in the UK. The more efficiently that energy can be recovered from this activity then the more environmentally beneficial the process will be from the point of view of global warming and resource efficiency. On a large Energy-from-Waste (EfW) plant a high level of efficiency is achieved through good process control and keeping steam production and the main combustion parameters as steady as possible. The plant automatic combustion control system assists in this process. Often however large problematic variations in temperatures and flue gas flow rates are experienced demonstrating that combustion controls are not optimised. One major challenge in the task of improving combustion control

however is that the net calorific value (CV_{net}) of the MSW feed material combusted at a EfW plant is notoriously difficult to determine. The results obtained through programmes of waste sampling and analysis can vary widely and give very unreliable results, depending on the day of the week, season and prevailing weather conditions when the exercise is carried out. Other techniques to estimate the variability of feed CV_{net} and to provide the opportunity to adjust combustion controls do exist however with some agreement amongst experts that the most representative way to assess the CV_{net} of MSW is by means of the Heat Balance method. This method is routinely used to demonstrate contractually required performance in EfW and power plants. This is normally done only once at the hand-over stage of the new plant.



Thermal Desorption Plant, Belgium

With this approach the WtoE boiler is considered conceptually like a calorific bomb, with all energy inputs and outputs carefully monitored and measured using calibrated instruments. Recently WISenvironmental successfully completed a project for a large EfW operator for two boilers where the CV_{net} was determined, based on this principle and automated by using a software program to output this value in real time. In other words, the CV_{net} is available and displayed on a continuous basis.

WISenvironmental's study provides a basis for creating an on-line CV calculator which in turn can be integrated into the operator's Process Parameter Control System. Knowing the CV variations the plant operators will be able to optimise the combustion parameters accordingly and obtain a better process efficiency. The plant could then run with a higher steam production set point and could increase its electricity production capacity.

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