

RESUMEN

CONFERENCIA SOBRE OLORES EN EL MEDIO AMBIENTE, 23-24 NOVIEMBRE BILBAO 2015

ODOUR CONTROL AT A WASTE TO ENERGY ANAEROBIC DIGESTION PLANT BY A FULL SCALE BIOFILTER

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A waste facility near Bicester (UK) processes food waste via anaerobic digestion. The site is in a mainly rural location with a number of isolated properties at least 500 m from the site boundary, so odour control is mandatory to protect harmful conditions to the environment and avoid odour nuisances. The plant was commissioned using an ORGUS® double stage biofilter system (Pure Air Solutions, The Netherlands) with coconut fibre as packing material. The slab footprint of the complete system including a pre-humidifier unit and an 8 m stack is only 495 m². The ORGUS® treats 60000 m³/h of odorous air coming from the food reception hall, processing plant room, and from all process tanks except the digesters.

Inoculation with activated sludge from a nearby WWTP was done in June 2013 to speed up the start-up period, and to date there have been no recorded odour nuisance complaints. The performance of the system was measured during three days in February 2014. Olfactometric samples were undertaken using the lung method, and submitted within 24 hours of collection for analysis at accredited laboratory in accordance with BSEN13725, obtaining an average outlet odour concentration of 327 OUe/m³, considerably lower than the discharge emission limit of 1500 OUe/m³ stipulated by the Environment Agency. Pollutant concentrations showed a removal efficiency greater than 92% of volatile organic compounds, NH₃ concentrations below 0.1 ppm and 1 ppb H₂S were obtained in the discharge, demonstrating the suitability of the system to remove odour coming from municipal waste facilities.

Indicar la preferencia de tipo de presentación

☒ Comunicación oral

☐ Póster

Indicar la sesión en la que los autores proponen presentar su trabajo:

☐ Sesión I. Formación de olores en el medio ambiente y emisión.

- ☐ Sesión II. Legislación sobre olores y Autorizaciones Ambientales Integradas.
- ☐ Sesión III. COVs y medidas de olor.
- ☐ Sesión IV. Sensores electrónicos para la detección de gases y olores. Modelos de dispersión de olores.
- ☐ Sesión V. Percepción de olores e impacto por olores. Olfatometría.
- ☒ Sesión VI. Técnicas para el control de olores.

El comité científico podrá revisar el tipo de presentación y la sesión en la que los autores proponen incluir su trabajo.

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