

Memorandum of Understanding

on

Coordination of Activities to Promote Energy Efficiency and Associated Reduction of Greenhouse Gas Emissions at Publicly Owned Treatment Works and Public Drinking Water Systems, and Biogas Use at Publicly Owned Treatment Works

Purpose

This Memorandum of Understanding is between EPA's Office of Air and Radiation (OAR) and EPA's Office of Water (OW). It outlines areas of mutual interest and collaboration that will help EPA pursue activities related to energy conservation and biogas use at publicly owned treatment works (POTWs), the reduction or offsetting of greenhouse gas (GHG) emissions from POTWs, and water efficiency and energy reductions at water utilities where possible. The goals of the OAR-OW cooperation are to significantly improve energy use efficiency, expand onsite methane to energy production, and reduce and offset GHG emissions.

Background

OAR has a number of successful voluntary public/private partnership programs that bring key market players together to improve energy efficiency and expand onsite methane to energy production practices (e.g., ENERGY STAR, Combined Heat and Power Partnership (CHPP), and Landfill Methane Outreach Program (LMOP)). Each of these programs can contribute to achieving the goals of the OAR-OW cooperation as evidenced in the following examples:

- The ENERGY STAR program's performance rating capability for POTWs offers an opportunity for establishing an external benchmark that will help POTW managers to assess how efficient their facilities use energy relative to other similar facilities nationwide.
- The outreach and education efforts of the CHPP and LMOP are aimed at expanding knowledge of the benefits and applications of CHP and methane use which may offer current and/or future opportunities for enhanced onsite power production at POTWs from biogas produced by anaerobic digestion of sewage sludge or from landfills and reductions in GHG emissions.

The National Water Program is committed to working in cooperation with national partners, State and local government, and public and private stakeholders to understand the science, develop tools, and implement actions to address the impacts of climate change on water resources. OW has a number of current or planned voluntary activities and efforts aimed at improving energy efficiency and offsetting power consumption at water and wastewater conveyance and treatment facilities. These include promoting energy conservation and the use of combined heat and power technologies at wastewater

treatment plants. Each of these efforts can contribute to meeting the goals of the OAR-OW cooperation as evidenced in the following:

- The technical assistance efforts of OW's Municipal Technology Team in the Office of Wastewater Management (OWM) are aimed at promoting the use of efficient and sustainable wastewater treatment and solids processing technologies by providing technical support and independent peer-reviewed resources on technology performance, costs, and design limitations. These efforts will help POTWs in understanding the opportunities available and effective technologies used for energy conservation and biogas use at wastewater treatment facilities, including the onsite power production at POTWs from biogas produced by anaerobic digestion of sewage sludge.
- OW's Sustainable Infrastructure Program focuses on promoting effective water and wastewater utility management as one of its four main pillars. OW is promoting energy management at utilities based on the Plan-Do-Check-Act management systems approach. An Energy Management Guidebook has been developed and Regional workshops are being held to promote energy management and planning and provide follow up assistance.
- OW's Office of Groundwater and Drinking Water (OGWDW) is involved in promoting water efficiency that may lead to reduced energy consumption and assisting public water systems and States with issues related to water availability and alternative supplies. These efforts encourage public water systems and State drinking water programs to integrate a water loss management program into their standard operating practices by showing the business case for such a program. Through a water loss management program, public water systems are encouraged to perform water audits, designate metering areas to account for water, and run a proactive repair and replacement program.

Areas of Mutual Interest

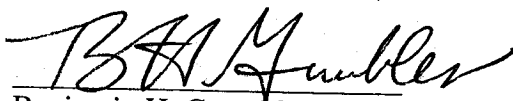
OW and OAR intend to coordinate current and future efforts to promote energy efficiency, biogas use, and GHG emission reductions at POTWs, and water efficiency and energy reductions at water utilities where possible. It is expected that this coordination may include the following:

- Promote effective energy management programs and benchmarking of energy use to assist POTWs and drinking water treatment plants with improving energy performance.
- Encourage the use and document the effectiveness of energy efficient and recovery technologies by POTWs.
- Encourage the use of sustainable and water-efficient technologies by drinking water treatment plants.

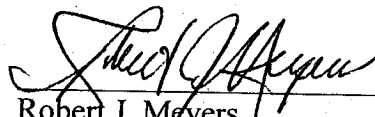
- Encourage more POTWs to utilize biogas as a fuel and for energy production, and to adopt sustainable technologies and practices such as CHP.
- Support protocols for calculating the carbon footprint of POTWs and drinking water treatment plants and to evaluate options to reduce or offset GHG emissions.
- Assess cost-effective technical options, identify financial opportunities and barriers, and provide information about best practices and technologies.
- Explore ways to influence public and private research efforts to find new technological and practical approaches to promote energy efficiency and biogas use.

THIS AGREEMENT IS EXECUTED ON THIS 24th Day of November, 2008

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