



Metropolitan Water Reclamation District of Greater Chicago

100 East Erie Street
Chicago, IL 60611

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Title: Issue purchase order and enter into an agreement with the University of Illinois at Chicago, for a Greenhouse Gas Monitoring Study, in an amount not to exceed \$50,000.00, Account 101-16000-601170, Requisition 1307587

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7/8/2010	1	Committee of the Whole	Recommended	Pass
7/8/2010	1	Board of Commissioners	Approved	Pass

TRANSMITTAL LETTER FOR BOARD MEETING OF JULY 8, 2010

COMMITTEE ON PROCUREMENT

Mr. Richard Lanyon, Executive Director

Issue purchase order and enter into an agreement with the University of Illinois at Chicago, for a Greenhouse Gas Monitoring Study, in an amount not to exceed \$50,000.00, Account 101-16000-601170, Requisition 1307587

Dear Sir:

Authorization is requested to issue a purchase order and enter into an agreement with the University of Illinois at Chicago (UIC), for a greenhouse gas (GHG) monitoring study at the Egan, North Side and Stickney Water Reclamation Plants (WRPs), which will be conducted according to the terms and conditions of the Master Agreement between the District and UIC. This purchase order will expire on December 31, 2010.

The principal investigator for this project will be Neil C. Sturchio, Ph.D., who is a professor in the Department of Environmental and Earth Sciences at the UIC. Dr. Sturchio is a reputable scientific investigator and researcher in the field of environmental pollutant source tracking and his laboratory is well equipped to analyze gas samples in a timely manner, using gas chromatographic techniques.

The purpose of this study is to determine the levels of methane, nitrous oxide, carbon dioxide, nitrogen, oxygen and argon in air samples at the Stickney WRP and to determine the sources of high emissions at the Egan and North Side WRPs. Dr. Sturchio will participate in field work, sampling method optimization, data analysis, interpretation, and reporting. The results of the air sampling and gas analyses, along with quality assurance and quality control data, will be compiled, analyzed, and reported by the UIC to the District by the end of the project period. This production of gases from the wastewater treatment process is thought to contribute to the phenomenon known as GHG effect, which is considered a driver for global warming and overall climate change in the environment.

In 2009, the Monitoring and Research Department, in collaboration with Dr. Sturchio's research team, performed comprehensive monitoring of GHG emissions from the Stickney WRP and exploratory monitoring from the North Side and Egan WRPs. A total of 494, 159 and 190 off-gas samples were collected and analyzed from the Stickney, North Side and Egan WRPs, respectively. Additionally, 74 water quality samples were collected and analyzed from the Stickney aerated grit chambers and aeration batteries.

In 2010, additional monitoring is planned with greater focus on the Stickney aeration batteries and the biological mechanisms that produce both CH₄ and N₂O. The isotopic signatures of the off-gases and mixed liquor samples will be characterized and evaluated, which will give insight into the mode of production of N₂O. Furthermore, the increased sampling efforts may provide insights into relationships between the gas and water chemical signatures, such as total Kjeldahl nitrogen with respect to N₂O and biochemical oxygen demand with respect to CH₄. These relationships may help develop more specific plant GHG emissions models beyond the USEPA methodologies. Additionally increased focus will be placed on measuring the off-gas fluxes from the settling tanks, biosolid drying beds, and lagoons. Once this study is completed, the collected data will enable the District to more accurately quantify and predict its GHG emissions.

UIC, the expert provider to conduct a GHG study, has submitted pricing for the services required. Inasmuch as UIC is the expert provider for the services required, nothing would be gained by advertising for bids (Section 11.4 of the Purchasing Act).

UIC is a non-profit educational institution and is therefore not required to register with the State of Illinois.

The Multi-Project Labor Agreement is not applicable due to the specialized nature of the services required.

In view of the foregoing, it is recommended that the Director of Procurement and Materials Management be authorized to issue a purchase order and enter into an agreement with UIC, in an amount not to exceed \$50,000.00.

Funds are available in Account 101-16000-601170.

Requested, Louis Kollias, Director of Monitoring and Research, LK:TG:MPC:KB:op

Recommended, Darlene A. LoCascio, Director of Procurement and Materials Management

Respectfully Submitted, Barbara J. McGowan, Chairman Committee on Procurement

Disposition of this agenda item will be documented in the official Regular Board Meeting Minutes of the Board of Commissioners for July 8, 2010