

## **Collaborative atmospheric measurement program**

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In response to the FY2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110-161), EPA issued the Mandatory Reporting of Greenhouse Gases Rule (74 FR 5620) which requires annual reporting of greenhouse gas (GHG) data and other relevant information from large sources and suppliers in the United States. The purpose of the rule is to collect accurate and timely GHG data to inform future policy decisions. Suppliers of certain products that would result in GHG emissions if released, combusted or oxidized; direct emitting source categories; and facilities that inject CO<sub>2</sub> underground for geologic sequestration or any purpose other than geologic sequestration, are covered in 40 CFR Part 98. In general, facilities that emit 25,000 metric tons or more per year of GHGs are required to submit annual reports to EPA. The gases covered by the proposed rule are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), sulfur hexafluoride (SF<sub>6</sub>), and other fluorinated gases including nitrogen trifluoride (NF<sub>3</sub>) and hydrofluorinated ethers (HFE). The explicit objective for the US-EPA Mandatory Reporting of GHG Rule is to collect accurate and timely emissions data to inform future policy decisions. This objective is considered by the NGA to be an essential and responsible approach to addressing the issue of global warming associated with GHG emissions. NGA anticipates that it will be requested to play a collaborative monitoring and verification role in future "Green House Gas" emission related treaties between the United States of America and other participating countries. It is not clear at this time if or in what form monitoring and verification will be specified as part of a treaty. NGA anticipates that remotely sensed measurements of GHG emissions from ground based, airborne, and space based CIVIL platforms will be proposed as future measurement sources for the monitoring of GHG emissions from point sources and to augment the global physical measurement grid. To this end, NGA and its CIVIL Committee Program participants will endeavor to obtain a thorough understanding of the accuracy of remotely sensed methods for quantitative measurement of GHG. This endeavor will focus on the following areas of research: Identify the parametric variables associated with laboratory and field (i.e., ground, airborne, and eventually space) remotely sensed quantitative GHG measurements. Assess the magnitude of individual and cumulative errors associated with these parametric variables on the quantitative accuracy associated with remotely sensed laboratory and field (i.e., ground, airborne, and eventually space) GHG measurements. Determine a quantitative accuracy range associated with remotely sensed laboratory and field (i.e., ground, airborne, and eventually space) GHG measurements through careful experimental designs, in which remotely sensed quantitative measurement estimations in ppm are compared to physical sample measurements taken concurrently and converted to ppm.