

## Statement of Work for CO/CO2 Analyzer purchase

### A. Background/History of requirement

This statement of work is for the delivery of CO/CO2 Analyzer and the accompanying accessories. The instrument and the accompanying accessories are for the measurement of atmospheric carbon monoxide, carbon dioxide, and water vapor from the NASA P-3B for the ORACLES project. The actual aircraft measurement period is from June 2016 through October 2018. This Statement of Work is intended to substantially contribute to the ObseRvations of Aerosols above CLouds and their intEractionS (ORACLES), detection capability for biomass burning plumes.

### B. Requirement Specifications: A description of the technical requirements for a material, product, and unit production inherent services.

- Measurement precision for the three gases in one second of: 0.1 ppbv (CO), 0.2 ppmv (CO2), 3.0 ppmv (H2O)
- Capability of measurement rate up to 10 per second with external pump
- Ethernet and USB interfaces for data output
- Software for analysis and an internal 2-head diaphragm vacuum pump for 10-seconds sample turnover time (1/e)
- Engineering of all components and design of all hardware and software to produce calibrated data prior to delivery
- Calibration of sensors to gas phase mixing ratio units prior to delivery
- (If necessary) Participation in an ORACLES Project telecon to report interim progress and any issues due no later than 6 months after receipt of order prior to delivery.
- Final engineering, development, and testing of all software and hardware components prior to delivery
- (1) Included Monitor, keyboard, and mouse required for CO2 Analyzer operations
- (1) Software for system control (GUI) and fast data analysis (no licenses required)
- (1) User Manual (in English)
- (1) Remote access and control capability via the internet
- (1) Certificate of Compliance that guarantees performance specifications

- (1) Power Cable
- (1) One year Manufacturer technical support (via email/phone)
- (1) One year warranty per manufacturer warranty policy as is industry standard

**C. Deliverable including acceptance criteria**

Delivery of complete and finalized system and engineering/ calibration documentation per specifications cited above.

**D. Period of performance (service) or desired delivery date**

Delivery is no later than 6 months from date of award.