



ID: P4.4-382

Type: e-Poster

## Revalidation Improvements using the Rig for Automated Flow Testing (RAFT) System

*Friday, 2 July 2021 10:30 (15 minutes)*

Expanding upon flow analysis efforts presented in SnT 2019, General Dynamics Mission Systems (GDMS) has developed a field deployable system to validate the performance of mass flow meters at International Monitoring System (IMS) radionuclide stations with Radionuclide Aerosol Sampler/Analyzer (RASA) systems. The Rig for Automated Flow Testing (RAFT) system can validate the factory calibrations of the Sierra 620S mass flow meters, characterize the RASA ductwork's impacts to flow-rate measurements at various operating ranges, and perform flow validation measurements in line with CTBT certification/re-validation procedures for particulate systems. The RAFT system collects and compares measurements from the Sierra 620S flow meter, the RASA system, and the Senya VM700 flow meter in near real-time, minimizing testing errors from manual data acquisition. Using the RAFT system, GDMS can characterize station specific duct work configurations to minimize air volume measurement deviations between the RASA and the Senya VM700 flow meter.

### Promotional text

The RAFT system is designed to optimize the flow rate certification efforts for RASA systems. In addition, the RAFT system allows users to field validate existing flow meter installations to ensure they continue to meet CTBT requirements. This effort aligns with Theme 4.2.

**Primary author:** Mr KLINE, Gregory Michael (General Dynamics Mission Systems (GDMS), Chantilly, VA, USA)

**Presenter:** Mr KLINE, Gregory Michael (General Dynamics Mission Systems (GDMS), Chantilly, VA, USA)

**Session Classification:** T4.4 e-poster session

**Track Classification:** Theme 4. Performance Evaluation and Optimization: T4.4 - Network Sustainability and systems engineering for CTBT Verification