2019 PEMS Conference – Proposed Presentation Abstract

*\*\*\*\*\*CE-CERT Submittal Deadline = Friday, January 25, 2019\*\*\*\*\**

**California’s Real Emissions Assessment Logging (REAL) Initiative:**

**On-road Vehicles Will Track Their Own NOx and GHG Emissions**

A new California Air Resources Board (CARB) initiative called Real Emissions Assessment Logging (REAL) will require on-road vehicles to track their own emissions of oxides of nitrogen (NOx) and greenhouse gases (GHG) for as long as they are in service. REAL is motivated by CARB’s fundamental goal to control real-world emissions, and not just test cell emissions. In-use data suggest that diesel emission controls in particular are falling short of CARB’s expectations. Real-world emission performance needs to be better monitored so that problems can be identified sooner than they are today.

CARB’s NOx emission tracking applies to medium and heavy-duty diesel engines beginning in the 2022 model year. Using existing technology and hardware, like the NOx sensors already on trucks, these engines will estimate and track their own NOx emissions in the real world along with several other engine activity parameters. These data will be used as a quick screening tool for flagging potential high-emitters in the field. The data will also improve CARB’s emissions inventory and serve as a new tool in the evolution of future regulations. NOx tracking data will be stored in different bins defined by vehicle speed and engine power output with recent and lifetime data being stored separately.

CARB’s GHG emission tracking is being phased in for all light and medium duty vehicles beginning in the 2019 model year, and all heavy-duty vehicles beginning in the 2022 model year. As with NOx tracking, GHG tracking would rely on technology and hardware that is already on the engine to estimate and track emissions of carbon dioxide as well as the activity of new technologies for reducing GHG emissions. These data are critical for determining the actual benefits of GHG technologies that are used for compliance with the Phase 2 GHG rule, and provide valuable data for future rule development. As with NOx tracking, recent and lifetime GHG data will be stored separately.