Effect on Ultrasonic Gas Flow meters due to Operating Conditions of Natural Gas Metering Station

**S.J. Lee1, M.S. Kwak1, Y.C. Ha1,**

**W. Kang2, S.H. Lee2, S.S. Jung2**

*1Technology Support Center, Korea Gas Corporation,*

*1248, Suin-Ro, Sangrok-Gu, Ansan-City, Gyeonggi-Do, 15328, Korea*

*2Center for Fluid Flow and Acoustics, Korea Research Institute of Standards and Science, Daejeon-City,Korea*

*E-mail: suji@kogas.or.kr*

Preliminary study for applying ultrasonic flow meters to KOGAS(Korea Gas Corporation)’s city-gas metering station is on-going. Presently orifice and turbine flow meters are operating at city-gas metering station following PCV(Pressure Control Valve). PCV regulates high transmission line pressure(7 MPa) to aimed city-gas supply pressure(1 MPa), and it leads to 2 disadvantages(low operating pressure, high noise) for ultrasonic flow meter application.

In order to investigate characteristics of ultrasonic flow meter under such pressure and noise conditions, sets of experiments are designed including 2 types of PCV(axial, globe) and several pressure conditions. These experiments are conducted at high pressure air flow standard system of KRISS(Korea Research Institute of Standards and Science), and natural gas calibration facility of KOGAS.