

# Quality Control of Calorific Value and Relative Density of Natural Gas in the Slovenian Transmission System

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The company Plinovodi d.o.o. is the gas transmission system operator in the Republic of Slovenia. The main business objective and activity of the company Plinovodi d.o.o. is providing long-term, reliable, high-quality, cost-competitive and environmentally acceptable transmission of natural gas. The company is particularly committed to operational excellence in the energy sector and on the national gas market in relation to the regional and Union international gas market. Therefore, one of its main goals is to promote the quality of the company's core activities, which include transmission of natural gas through the Slovenian transmission system, measurement of transmitted volumes and energy of natural gas, and measurement of quality parameters of natural gas. Based on the guidelines and recommendations of the European association for gas (EASEE-gas) and the natural gas quality standard (SIST EN 16726), as well as the national Gas network codes (SON), the natural gas quality parameters must be monitored continuously and cyclically. Calorific value and relative density of natural gas are important parameters that define the quality of natural gas in the transmission system and can be measured indirectly. The article presents the quality control of calorific value and relative density of natural gas upon entry of individual natural gas sources into the Slovenian transmission system. Comparative measurements of transmitted volumes and transmitted energy of natural gas must be ensured as well. The measured values for relative density and calorific value must be compared with the values measured by the neighbouring transmission system operators. When assessing the results of comparative measurements, we use the criteria and statistical estimators employed in interlaboratory comparisons in the EU. Real-time quality control of natural gas has a significant impact on the operational excellence of the company.