**Metrological support of petroleum and gas flowrate measurements in the Russian Federation**

**Viktor Fafurin1, Ilya Isaev2,**

*1FGUP VNIIR,,fafurin.viktor@yandex.ru, Kazan, Russian Federation*

*1FGUP VNIIR, ilya.isaev@mail.ru, Kazan, Russian Federation*

*E-mail (corresponding author): office@vniir.org*

The key objective of this report is to familiarize the audience with the contemporary state of the metrological base in the field of natural gas and petroleum flowrate measurement in the Russian Federation and invite the conference members to cooperate in the specified field. The report consists of four major sections:

1. Metrological legislation.

The fundamental law is FZ 102 "On ensuring the uniformity of measurements". The law establishes the "Scope of state regulation of ensuring the uniformity of measurements". For instance, this scope includes commercial activities, measurements in health care, environmental protection, and other fields. Measurement requirements are determined. The following concepts are introduced: "pattern approval of measuring instruments", "calibration of measuring instruments", "attestation of measurement techniques".

FZ 184 "On technical regulation". The law establishes a hierarchy of technical regulations comprising measurement requirements, and determines the advisory nature of national standards.

1. Traceability of measurement results: standard base, national measurement chains

The contemporary state of the Russian standard base in the field of flowrate measurement. State primary standards: volumetric and mass flowrate of gas GET 118, volumetric and mass flowrate of liquid GET 63, special standard of the unit of mass flowrate of gas-liquid mixtures GET 195.

1. Normative documents regulating the measurements of natural gas and petroleum flowrate

Fundamental standards establishing the principles of natural gas and petroleum flowrate measurements in the Russian Federation

1. International recognition: cooperation with regional metrology organisations, international comparisons

Finished comparison projects. Approval of CMCs. Current comparison projects.