

**Organization of Verification and Testing of Instruments
for Metering of Power Resources in the Main Chamber of Weights and Measures
(the end of the 19th century – the beginning of the 20th century)**

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The task of organizing the verification and testing of instruments for metering of electrical power, water, heat and gas was put before the Main Chamber of Weights and Measures due to the beginning of wide usage of electrical power in industry and in private life, the development of city water pipe-lines and gas lighting. This work demanded for building new laboratories, supplying them with necessary equipment and inviting specialists.

The production of home electrical measuring instruments had not been put right by that time yet. Austria and Germany, where the mandatory verification had been already introduced, became the main suppliers of this equipment on the Russian market. An apprehension was excited that German and Austrian electricity meters not complying with the requirement of those countries, would be sold off in Russia unless the corresponding measures were taken. On D.I.Mendeleyev's initiative an electrical division was established in the Main Chamber in 1900, where the Latimer Clark standard cells were used as an electromotive force standard, several manganine resistances acquired and standardized at the Physical-Technical Institute (PTB) in Germany, served as resistance standards. It made it possible to organize the verification and testing of all electricity meter types coming to the Russian market. The test results were published in the journal of the Main Chamber of Weights and Measures" in 1909. The electricity meters produced by the Universal Electricity Company in Berlin, "Siemens and Halske" and some French electricity companies were recognized to be the most reliable and of high quality.

At the end of the 19th century Russia fell far behind some European countries in the development of gas industry. The programme of industrial development presupposed a significant increase of the gas production volume, which required for organization of verification of gas meters.

In 1902 a "special" building was erected to the design of D.I.Mendeleyev on the territory of the Main Chamber, where a water-metering division, a gas-metering division and a chemical laboratory were arranged. Since then the Main Chamber became the place, where gas meters and water meters of different designs were verified and tested, and physical and chemical investigations were conducted.

Thus, by the beginning of the 20th century a wide range of measuring instruments applied in industry and private life, had been tested and verified at the Main Chamber, and the foundations for introducing the mandatory verification of these instruments in Russia had been laid down.

Appointment of D.I.Mendeleyev to the post of the Director of the Main Chamber coincided with the beginning of unprecedented industrial upsurge in Russia. The volume of industrial production doubled for less than a decade. The activities of the central metrological and verification office of the State corresponded to both demands of the fast developing Russian industry and world level of the development of science and technology.