

3.21. EXPERIENCE IN OPERATION OF MOBILE LABORATORIES FOR HIGH-VOLTAGE TESTS AND SEARCH FOR DAMAGES IN POWER CABLES OF MOSCOW CITY

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First measuring laboratory of the “Seba Dynatronic” Company for detection of damages in power cable lines of 1 – 35 kV voltage was purchased in 1972 by the Moscow cable network (MKS), the branch of “Mosenergo” and was in operation until the last time.

Currently, 24 laboratories of the “Seba KMT” Company, including 4 ones produced in 1994 and others – within 2007 – 2009, are on the balance sheet of MKS, the branch of OJSC “MOESK”.

Laboratories purchased within 2007 – 2009 are featured by computer system. Distance to the place of cable line damage is measured by means of this system. It implements all methods used for measuring distance to damages of any types with any transit resistance in the point of damage. This makes it possible to avoid the traditional inductive method for detection of damaged points along the cable line route, which use burning through of the damaged point, and to use more accurate acoustic method, which does not require damaged point burning through even with damp cable line. For implementation of acoustic method, instruments are used along the cable line route allowing damaged point to be determined with higher accuracy.

Operation of laboratories of the “Seba KMT” Company purchased from 1972 to 2009 has shown their high reliability (two damages per day with operation during 8 hours), simplicity and convenience of control, high accuracy of the damaged point detection along the cable line route by both relative and absolute methods.

These laboratories are repaired by own forces within the measurement and testing service (drawings for all laboratory units and searching devices are presented by the “Seba Spectrum” Company). It results in quick repairs in the event of faults (when replacement parts are not available on site, they are bought in the electronics shops).