The Analysis of Electromagnetic Ecology at an Electric Power Facility

A. S. Sidorenko, N. V. Silin

Far Eastern Federal University, Vladivostok, Russia

Keywords: high-voltage equipment; high-frequency electromagnetic fields; electromagnetic environment; electrical substation.

Abstract: The article discusses the issues of electromagnetic ecology at an electric power facility where high-voltage equipment is located. Information is provided on regulatory documents regulating the electromagnetic environment; the most powerful sources of the electromagnetic field at an electric substation are indicated. A method for calculating the spatial and amplitude distribution of electromagnetic fieldshas been developed. To test the calculation, computer simulation of the spatial and frequency distribution of the electromagnetic field near a 500 kV power autotransformer was performed. It is shown that it is advisable to solve the issues of electromagnetic ecology at electric power facilities at the design stage, taking into account the power and intensity of possible sources.

© А. С. Сидоренко, Н. В. Силин, 2024