

METHODS FOR RADIATION AND ECOLOGICAL RESEARCH OF BUILDING LANDS AND ANALYSIS

NADEZHDA K. RYZHAKOVA, **KSENIYA O. SHILOVA**, ANDREY A. UDALOV
AND EKATERINA V. LEMZA

Tomsk Polytechnic University, Russia
nkryzh@tpu.ru

It's known that radon and its radioactive decay products are major cause of background radiation in houses and industrial buildings. Therefore, before the construction process it's necessary to make an investigation. However, at present time, there is no uniform method for estimation of the radon risk of territories. Abroad as a criterion of radon risk is widely used «geogenic radon potential» (GRP). The determination of the value of GRP requires different sets of input values (such as concentration of radium in the soil, radon porous activity, gas permeability of soils, soil geological properties) and different measurement methods. In Russia, radon risk of building lands is estimated by measuring the value of radon flux density (RFD) by using storage chamber method. This paper presents an analysis of different methods for estimating radon risk of territories, also presents the result of measurements of RFD by different methods. Researches have shown that the existing approaches to the assessment of radon risk have significant drawbacks, because it does not allow to reliably determine the amount of radon coming from the soil surface.

Keywords: *Radon, Radon flux density, Radon porous activity.*