

NATURAL RADIOACTIVITY MEASUREMENTS OF COALS AND ASHES FROM ÇAN COAL-FIRED POWER PLANT AND RADIOACTIVITY CONTAMINATION OF SOILS IN ITS VICINITY

F. GÜR¹, G. YAPRAK¹, F. ÇAM², O. CANDAN³

1Ege University, Institute of Nuclear Sciences, 35100 Bornova-Izmir-TURKIYE

2Ege University, Faculty of Science, 35100 Bornova-Izmir-TURKIYE

3 Dokuz Eylül University, Faculty of Engineering, Department of Geology, Buca-Izmir-TURKIYE

e-mail: filiz.gur@ege.edu.tr

Combustion of fossil fuel containing naturally occurring radionuclides from the uranium and thorium series as well as ^{40}K may have an impact on environmental radioactivity level in the vicinity of power plants. Fly ashes escaping from stacks contain these radionuclides concentrated a few times in comparison with their content in coal or surface soil.

In this study, Çan (Çanakkale, Türkiye) coal-fired power plant; that use young lignite, started early 2000' and has a fluidized bed system, was investigated for the natural radioactivity of the coal and the bottom-ash. Twenty soil samples in the vicinity of Çan coal-fired power plant were collected and natural radioactivity concentrations were analyzed. And than, the absorbed dose rates in air from gamma radiation 1 m above ground level were calculated.

Keywords: *Coal, natural radioactivity, soil, absorbed dose, Çan.*