

Title of Article: Modeling Of Particulate Radionuclide Dispersion And Deposition From A Cement Factory

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Outlet: Annals of Environmental Science,7(6) 71-77(2013)

Abstract: Particulate dispersions from industrial stacks are referred to as pollutants - chemical components that portend threats to life forms. Based on research work around a known cement factory, the model described in this paper is a holistic analysis of dispersion and deposition of radionuclide and non-radionuclide particulates. A virtual mathematical experimentation laboratory was used to simulate different possibilities in this indigenous model. The 3D model showed a good level of accuracy by determining field values of air deposited pollutants. The highest chemical transformation and air transport path was seen in the mild diffusion region. The radionuclide dispersion from the cement factory could be controlled by building very high wind breakers 50m to 500m along the horizontal location of the factory.