AIR POLLUTION MODELING FOR THE IMPLEMENTATION OF THE IPPC DIRECTIVE IN SLOVENIA

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Air pollution around industrial facilities is one of the problems that the IPPC directive is taken care of. The basic aim of the directive (concerning this problem) is to prevent and control the pollution of the atmosphere in the industrial facilities surroundings in such a way to ensure that the air is not polluted over the limits.

Slovenia became an EU member state in May 2004. October 2007 is the deadline for our IPPC existing installations to obtain the permits.

This paper will discuss the air pollution problem of our big thermal power plants. They are all placed in extremely complex terrain. In the past there were Environmental information systems built to measure emission and ambient concentrations on several points in the surroundings. The air pollution measurements give partial information about the pollution patterns. To obtain the whole picture, models should be used. Due to complex terrain only Lagrangean particle models based on mass consistent wind fields reconstruction could be used. In the past years there was research implementation of Lagrangean models for industrial pollution and only one on-line implementation at the nuclear power plant in Slovenia. This is the reason why the industry has several problems in adopting the modeling as a relevant tool for assessment of their air emission's impact on the environment. The second problem is the lack of suitable meteorological data. Ground level meteorological measurements are available, but SODAR measurements are essential when complex situations including low wind and thermal inversions are modeled.

The paper will summarize the problems and experiences with modeling air pollution around three thermal power plants. It will critically present the problems with meteorological data collecting, models implementation and results interpretation in the view of the IPPC directive.