

Validation and Verification of Emission Factors in the Heavy Metal Emission Determination for the Slovenian Thermal Power Plants (TPP) and a Comparison of the Metal Content in Flue Gases and Ambient Air

By

Andrej Šušteršič, Jaroslav Škantar**, Anuška Bole**, Bojan Rode***

(Milan Vidmar Electric Power Research Institute, Ljubljana**

***Environmental Agency of the Republic of Slovenia, Ljubljana)**

By signing in 1998 the Protocol On Heavy Metals (HM), Slovenia committed itself towards HM emission reduction. Apart from targeting on HM emission reduction, the Protocol binds its member countries to report on their HM emission rates, too. In Slovenia, the responsibility for the HM emission registering and reporting is with the Environmental Agency of the Republic of Slovenia. For that purpose, preliminary estimates of the Pb, Cd and Hg emission rates have been made in compliance with the »OSPARCOM – HELCOM UNECE Emission Inventory of Heavy Metals and Persistent Organic Pollutants«.

In 2000 the Milan Vidmar Electric Power Research Institute began monitoring HM emissions which are together with dust emitted from the TPP. Last year, our measurements of the dust concentrations were made with a cascade impactor to determine the HM concentrations for individual granulation. In 2003, our monitoring of the HM concentrations was expanded to include also ambient air measurements in the surrounding of the TPP.

While monitoring the HM concentrations for individual granulation, which we performed in compliance with the national as well as the European legislation, our emphasis was on the PM10 and PM2,5.

We follow two objectives. The first one is validation and verification of emission factors that we use for HM emission calculations. The second one is to detect the influence of the emitted ash on the particle concentration in the surrounding ambient air, on their granulation and HM content.