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Assessment and Inventorisation of Mercury Emission from Coal fired Power Plants in view of Minimata Convention and New Emission Norms in India

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The new emission norms has been notified by Ministry of environment, forest and Climate change (MoEF&CC) Government of India for thermal power plants with the objective of minimising pollution, especially from coal based power generation plants. The new revised norms also aim not only to reduce the emissions of particulate matter but also the emissions of sulphur dioxide, oxides of nitrogen and mercury. While the baseline data are being generated for the conventional pollutants such as particulate matter, sulphur dioxide and oxides of nitrogen emissions, it has been felt that baseline emissions data for mercury is need to be established to assess and determine the need of technologies to curb (if required) the mercury pollution level within the new emission norms. Moreover, Indian being a signatory of the Minimata Convention and Article 8 of the convention concerns controlling and, where feasible, reducing emissions of mercury and mercury compounds, often expressed as “total mercury”, to the atmosphere through measures to control emissions from the point sources falling within the source categories including coal-fired power plants.

In this regard, NTPC being the premier utility company of the country having total installed capacity of NTPC is 48,028 MW (including 6,966 MW through JVs/Subsidiaries) comprising of 45 NTPC Stations (19 Coal based stations, 7 combined cycle gas/liquid fuel based stations, 1 Hydro based station), 9 Joint Venture stations (8 coal based and one gas based) and 9 renewable energy projects, has taken a proactive action to establish the inventory of the mercury emissions from its coal based power plants being operated across the country. This paper discusses the methodology being adopted for sampling the analysis of the mercury emissions of the generating units of different capacities 110 MW, 200 MW, 500 MW and 660 MW. Results of the simultaneous measurements carried out in determining the mercury levels in feeder coal, fly ash and flue gas etc. are also discussed. The presentation will include discussions on evaluating, understanding and controlling emissions of mercury from the coal combustion at Power stations.