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EVALUATION OF AIR POLLUTION SOURCES IN SELECTED ZONE OF TEXTILE INDUSTRIES IN PAKISTAN

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Abstract

The present work reports the gaseous emissions of the following industries, Interloop Textile (IP Tex), Crescent Textile (CT Tex), Kalash Textile (KH Tex), Noor Fatima Textile (NF Tex), Bashir Textile (BP Tex) and Hina Sana Textile (HS Tex), which are located in Faisalabad, Pakistan. Industries were tested for the mixture of gases containing carbon monoxide (CO), nitrogen oxides (NO_x), sulphur oxides (SO_x), carbon dioxide (CO₂) and hydrogen (H₂) emitting from these industries. The maximum amounts of CO, NO_x and SO₂ were found as 4903 mg/Nm³, 437 mg/Nm³ and 3383 mg/Nm³ in boilers and 1927 mg/Nm³, 2297 mg/Nm³ and 0 mg/Nm³ in generators. Similarly concentrations of CO₂ and H₂ were found in the range of 58732-221964 mg/Nm³ and 0-174 mg/Nm³ in boilers and 21714-131429 mg/Nm³ and 0-174 mg/Nm³ in generators. The other factors of pollution in industries are temperature and noise whose values were found to be 521°C and 97 dB respectively. Smoke opacity of oil generators was found to be exceeding NEQS at 40%. Overall, the combustion efficiency of gas boilers is better than oil boilers and which is found better than generators up to 30%. On the basis of results found it can be concluded that natural gas is better fuel as compared to diesel oil and furnace oil and low state of combustion is unfavorable for use due to low oxidation of fuel.

Key words: boilers, emissions, generators, industries, opacity, pollutants

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