

**AIR POLLUTION DUE TO NOX EMISSIONS IN AN IRON-STEEL INDUSTRY REGION IN SOUTH-EASTERN TURKEY AND EMISSION REDUCTION STRATEGIES****A.T. Atımtay, M.T. Chaudhary***Department of Environmental Engineering, Middle East Technical University, Ankara, Turkey*

The most industrialized region on the Eastern Mediterranean Coast of Turkey is the Gulf of Iskenderun. This region contains Isdemir, the 2nd largest integrated iron and steel plant of Turkey, and a number of foundries and steel re-rolling mills. Most of these industries does not have emission control systems, or if there is they are not working properly. As a result of uncontrolled emissions from steel industries in this region the air pollution level is high. The population of this area is under risk of poor air quality. Emission measurements exposed Isdemir as the largest source of NO<sub>x</sub> emissions with 6490 tons/yr followed by all other steel industries emitting 804 tons/yr of NO<sub>x</sub>. Contribution of industrial, domestic heating and traffic sources in the annual NO<sub>x</sub> emissions was found to be 67.7%, 1.3% and 31%, respectively. In this study the ground level concentrations of NO<sub>x</sub> were estimated by using the US EPA's ISCST3 Model. This study has been carried out for the first time and is important for the region. The results of dispersion modeling showed that the maximum ground level NO<sub>x</sub> concentrations due to Isdemir, is surprisingly low due to tall stacks of Isdemir and the wind condition. The NO<sub>x</sub> concentrations due to domestic heating were very low, well below the National and EC limits. However, the NO<sub>x</sub> emissions from traffic are found to pose an air pollution problem in the urban areas. The strategies for reducing NO<sub>x</sub> pollution in the industries and the city has been discussed.