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DISPERSION OF POLLUTANTS FROM STACKS METHODS METHODS OF CALCULATION

O U T L I N E

by

Prof. M. Katz*

1. Factors influencing the rise of stack plumes

   a. Influence of momentum and buoyancy

   b. Influence of wind speed, turbulence and other meteorological factors

   c. Effects of buildings and topography

2. Plume rise estimation methods

   a. Bosanquet, Carey and Halton Method

   b. Holland Method

   c. Briggs Method

   d. Lucas, Moore and Spurr Method

   e. Carson and Moses Method

   f. CONCAWE Method

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* Professor, Department of Civil Engineering, Syracuse University, USA

3. Methods for estimating dispersion of gaseous pollutants downwind from stack sources

   a. Sutton diffusion equations for point source and line source

   b. Gaussian model of Sutton diffusion equation

   c. Pasquill diffusion equations for point source

   d. Other dispersion methods

4. Dispersion and deposition of particulate matter

   a. Settling velocity of particles in relation to size, density and other parameters

   b. Procedure of Bosanquet, Carey and Halton

   c. U.S. Atomic Energy Commission Method

5. Comparison of dispersion estimates with actual measurements of gas concentrations

   a. Influence of sampling time

   b. Relation between peak and mean concentrations in terms of averaging time

   c. Special problems, including aerodynamic downwash of gas plumes

   d. Example calculations