605 The Bag Filterhouse for Oil-Fired Power Plants. TI-5, Public Utilities Committee. A.E. Gosselin, Jr. J. Air Poll. Control Assn. 15, 179-180 (April, 1965).

The authors believe that analysis of extended pilot scale operation at the El Segundo Steam Station pilot plant has indicated that a baghouse, using solid alkaline additives, is effective in controlling visible stack contaminants. It is not the intent of this paper to present a detailed analysis of pilot bag filterhouse operation as a set of parameters for adoption to commercial application. Rather, the general and brief description of the Southern California Edison Company bag filterhouse investigations is intended to stimulate interest in this type of equipment for thermal electric plant considerations in general. This system has no commercial equal in collection efficiency. It is established that reaction of the additive with sulfur trioxide will reduce the acid dewpoint value of oil-fired flue gases to less than 125°F., and that an overall particulate collection efficiency (including the submicron range) of 99.9% can be consistently expected. The present economic advantage which can normally be gained by substituting residual fuel oils for natural gas makes the use of a baghouse, as a corrosion (sulfur trioxide) and plume opacity control device, particularly attractive. The economy derived from burning residual fuel oils instead of natural gas is reflected in increased boiler efficiency and lower costs per Btu. The possibility exists in baghouse filtration, of perhaps realizing economic gains from the air pollution control burden. -- Author's summary

606 History of Fly Ash Collection at the South Charleston Plant Union Carbide Corporation - Chemicals Division. M.N. Magnus. J. Air Poll. Control Assn. 15, 149-154 (April, 1965).

This report summarizes the installation and operation of fly ash collection and disposal equipment at the South Charleston Plant and includes installation costs, replacement costs based on present-day cost factors, as well as performance data, and maintenance and operating costs. -- Author's abst.

607 Studies on the Carcinogenicity of Gasoline Exhaust. D. Hoffmann, E. Theiss, and E.L. Wynder. J. Air Poll. Control Assn. 15, 162-165 (April, 1965).

Gasoline engine exhaust tar was demonstrated to be carcinogenic to the experimental animal. The acitivity of exhaust tars is to a major extent due to the presence of 4, 5, and 6 ring condensed, aromatic hydrocarbons. This concept was confirmed by large-scale separations and mouse skin tests of 4 main fractions and 5 subfractions of the neutral portions of exhaust tar and by comparison with the activity of the whole tar. The emission of polynuclear aromatic hydrocarbons and phenols in gasoline engine exhaust depends on the fuel used. Other methods for the reduction of these agents in gasoline engine exhaust were discussed. Used crankcase oil and blowby tar were biologically inactive. The primary purpose of these investigations has been to study the carcinogenicity of gasoline engine exhaust in an experimental setting. The authors do not intend to draw conclusions on the basis of experimental data to the human setting. It is hoped, however, that these studies will contribute to the final goal of this Association, to ameliorate the air pollution problem. -- Authors' summary

608 The Relation of Chronic Lung Disease to Community Type Air Pollution. P. Gross. J. Air Poll. Control Assn. 15, 160-161 (April, 1965). Reprints Available From Industrial Hygiene Foundation Upon Request.

Long-term consequences to health of community-type air pollution are at present poorly understood. Uncertainties and conflicting claims have arisen because chronic obstructive bronchopulmonary disease and lung cancer have multiple etiologies and the various population groups studied are characterized by multiple factors, each potentially of etiologic significance. The results of epidemiologic investigations as well as of laboratory studies have been used to support the concept that chronic obstructive bronchopulmonary disease and lung cancer may result from polluted community air. However, epidemiologic studies do not refer specifically to air pollution, but to an "urban factor." The latter has not been defined nor has its relative magnitude been determined. It has multiple components of which air pollution is only one, and not necessarily the most significant one. It is pointed out that there are discrepancies in the results of epidemiological surveys of chronic bronchitis which indicate that, independent of air pollution and for reasons not yet understood, one population group may have a greater potential than another population to develop chronic bronchitis and that this greater potential underlies all of the other contributing factors. A recent laboratory study suggests that aerosols containing products of ozonized gasoline may play a role in the development of lung cancer when associated with disturbance of the lung clearance mechanism. There are 16 references.

25. 01 132 2680 -- Author's summary