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Intra Company

ENGINEERING STAFF

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Subject: Responsibilities Related to Program on Particulate Emissions

Pursuant to our meeting of members of Car Systems Research, Engine & Foundry, and Engineering Staff, the following tentative assignments have been drafted for your review and comments. Your suggestions for additional or revised functions and responsibilities will be appreciated. We propose to meet again the week of December 8 to discuss your comments prior to formal publication.

A. C. Bodeau, Manager
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FUNCTION	RESPONSIBILITY
1) Establish "need" for particulate control, and forecast government regulations for such control.	Engineering Staff: Summarize existing literature and maintain cognizance of new information by health authorities, government administrators, politicians, and others on the need for particulate controls. Include data on physiological, plant pathology, and esthetics, and information on the contribution of automotive, aircraft, stationary, etc., sources.
2) Summarize vehicle particulate emission characteristics.	Engineering Staff: Summarize existing technical literature and maintain cognizance on new information on the quantity and character of particulate emissions from gasoline, diesel, and gas turbine powered automotive sources.
3) Establish particulate measurement techniques and suitable instrumentation for product development, certification, and diagnostic testing.	Engineering Staff: Evaluate the suitability and develop the application of commercially available instruments and established techniques to automotive particulate emission measurements. Institute programs with outside activities to develop any new test equipment needed.
4) Develop baseline information on the particulate emission levels of Ford vehicles as a function of operating variables.	Engineering Staff: Determine particulate emission characteristics of current cars as a function of engine speed, load, prior service, etc.
5) Develop and provide a vehicle particulate test capability suitable for product development, certification, and diagnostic testing for the product development engineering offices.	Engineering Staff: Develop chassis dynamometer test procedures, sampling and analysis systems, and data processing procedures as required. Engine & Foundry Division: Develop engine dynamometer test procedures, etc. suitable for car and light truck development testing. Special procedures, etc. to be developed for heavy truck and turbine engines, if required.

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FUNCTION	RESPONSIBILITY
6) Develop basic design information on engine particulate emission characteristics related to engine variables and fuel composition.	Car Systems Research: Develop test instrumentation applications, techniques, and test procedures as required for engine and/or chassis dynamometer testing. Procure, analyze, and report test results recommending directions for particulate emission control.
7) Investigate and propose new concepts for particulate emission control.	Car Systems Research: Build and test prototype control systems and evaluate their performance with various types of particulates. Install most favorable concepts in a vehicle and evaluate their performance.
8) Develop advanced and production control systems to meet government regulations or standards forecast by Engineering Staff.	Engine & Foundry Division: Design, build and test prototypes. Engineer and release production designs.
9) Develop and/or evaluate new techniques and instrumentation for measuring exhaust particulates on a research basis.	Scientific Research Staff: Develop analytical procedures and the application of sophisticated instruments to determine the quantity and chemical composition of organic and inorganic exhaust particulates. Develop a suitable microscopic technique to characterize exhaust particulates by size and appearance. Assist Engineering Staff and Car Systems Research functions.
10) Characterize exhaust particulates.	Scientific Research Staff: Determine chemical composition, mode of formation, structure, size distribution and fate of particulates in the atmosphere.
11) Determine the magnitude and character of tire particulates and ascertain if they are a significant source of air pollution.	Scientific Research Staff: Summarize existing literature and maintain cognizance on new information on the quantity and character of particulate emissions from tires. Perform aerometric sampling to ascertain the significance of particulates generated by tire wear.
12) Determine the magnitude and character of asbestos particulates from brakes and clutch facings and ascertain their contribution to air pollution.	PRODUCED BY FORD Scientific Research Staff: Consult recognized experts on physiological aspects of problem. Conduct literature survey or initiate research to establish magnitude of automotive contribution to asbestos pollution relative to other sources. Examine structural and chemical characteristics of brake lining dust and determine its toxicity so as to weight the automotive contribution in terms of toxicity.