

in which it was noted that the Humble Oil & Refining Co.'s Baytown refinery received the Honor Roll Award from the Izaak Walton League for its outstanding air and water pollution control programs. The Baytown, Tex., refinery is one of the Nation's largest refineries.

In the area of air pollution, however, our problem is more complex, for science and technology are not yet available to help us solve all of our problems.

While there is considerable agreement on criteria for water quality, what constitutes reasonable criteria for air quality has not yet been determined.

In fact, sometimes I think we are coming up with solutions to problems that have not yet been defined.

We believe there is a vast amount of research that must be conducted before we can reach a sound understanding of the cause-and-effect relationship between air pollutants and their effects—an understanding which must be reached if we are to provide the basis for good pollution control legislation.

To help develop some of this understanding, API has budgeted some \$2 million for 29 air conservation research projects that will be sponsored at various industrial laboratories, universities, engineering firms, and Government agencies in 1966.

To save your time, I will file a separate list detailing the 29 API projects, covering the broad areas of technological and medical research.

(The list of API projects follows:)

SUMMARY OF 1966 AIR CONSERVATION RESEARCH PROJECTS OF THE AMERICAN PETROLEUM INSTITUTE

1. This study would determine the feasibility, cost, and effectiveness of an API-proposed fixed-instrument air monitoring system that would alert a population once sulfur oxide and particulate matter exceed certain levels. Contractor: Jackson & Moreland.

2. This study will evaluate air monitoring methods and meteorological forecasting by providing for actual air monitoring, using mobile equipment, in New York City. Data will be compared with data from fixed instruments. Project S-1. Contractor: New York University.

3. A study of oil companies, associated contractors, and petroleum-oriented development companies to learn past and present expenditures on research and development, facilities, etc. to reduce the sulfur content of fuels. Project S-2. Contractor: The Pace Company.

4. A study to learn the probable cost of reducing the sulfur content of residual oil supplied to our Eastern seaboard from the Caribbean area. Project S-3. Contractor: Bechtel Corporation.

5. This study will evaluate the present "state of the art" on methods to remove sulfur dioxide from stack gases. When this phase of the study is completed, a task force will attempt to cooperate with the Bureau of Mines and the coal industry on further research. Project S-4.

6. & 7. Two studies that will determine the possible chronic and/or acute health effects of sulfur oxides and particulates by correlating clinical data from health agencies with changing levels of these pollutants. These studies will require acceptable air monitoring systems. Projects S-5 and S-8.

8. A study to determine the possible chronic long-term effects of low dosages of air pollution by exposing test animals to controlled atmospheres. A cooperative project with five other organizations. Project S-6. Contractor: Industrial Hygiene Foundation of America.

9. The project will study the effect on laboratory animals of sulfur dioxide, sulfur dioxide plus particulates, nitrogen dioxide, and nitrogen dioxide plus particulates, both singly and in combination. The purpose is to determine long-