

**WHAT ESSO HAS DONE AND IS DOING TO MINIMIZE
 ATMOSPHERIC CONTAMINATION**

10/24/55
*Prepared
 for H.V.V.*

A. Program of Analysis

1. Exploratory Survey by EED and Stanford Research Institute in 1952.
 In addition to exploratory surveys made by the Baton Rouge Refinery and Esso Engineering Department, Stanford Research Institute was engaged in 1952 to make a survey of the area, to estimate the contribution of nearby industries to the local pollution problem, and to make a recommendation on the desirability of a cooperative industry survey of the industrial area. Conclusions were:
 - a. The principal contaminant from the Refinery is black smoke from flares and the burning pit, although occasionally alcohol and ether odors, acid fumes, hydrocarbon vapors, etc., are released but are usually contained within the Refinery.
 - b. Verbally and informally the representative indicated that he did not feel a cooperative survey of the area was warranted.
2. Daily Report by Dr. Miller. A record of atmospheric conditions around the Refinery is made each day from observations by three foremen in the Oil Conservation Department. These foremen live to the east, south, and west of the Refinery and record their observations of the presence of smoke, dust plumes, or other discharges as they come to work each morning. Observations of any unusual occurrence during the day is also recorded. Immediate attention is given to any abnormal occurrence within the Refinery in order to keep discharges to the atmosphere to a minimum.
3. Quarterly Botanical Surveys. Dr. Clair A. Brown of the L.S.U. Botany Department was engaged more than two years ago to make quarterly surveys of the vegetation grown in the Refinery to determine any ill effects of constituents in the atmosphere on plant life. We added a wide variety of shrubs and other plants to those already in the Refinery in order to obtain a more complete study. Over the more than two years we have found some damage to an estimated 2-4% of the plants, mostly in localized areas. These surveys are continuing.
4. Bi-monthly Atmospheric Analyses and Surveys. The Kem-Tech Laboratory (Drs. Choppin and West of L.S.U.) was engaged in April, 1953, to make chemical analyses and dust counts of the atmosphere within the Refinery, including Anchorage and Maryland Tank Farms. During the 2-1/2 years to date no significant concentrations of contaminants (originating in the Refinery) which would be injurious to health or property have been found. These surveys are continuing.

B. Additions to Physical Facilities

1. Flare Reduction and Smoke Control. Facilities have been installed to reduce the amount of hydrocarbons going to the flares by about 200 B/D. In addition facilities have been added to inject steam to the flares to eliminate black smoke. Cost of facilities - \$215,000. Operating cost - Steam injection - \$40,000/year.

2. Elimination of Acid Fumes, Including H₂S. We provided facilities to essentially eliminate acid fumes from the atmosphere. H₂S is being converted to sulfur by CGI. Esso's total cost of these facilities - \$265,000.
3. Reduction in Smoke from Oily Wastes. The amount of hydrocarbons and oily waste burned in our burning pit has been reduced from about 70 to about 12 B/D. Facilities to accomplish this cost - \$115,000.
4. Reduction of Hydrocarbon Vapors from Storage Tank. Hydrocarbon vapors to the atmosphere have been reduced from 1500 B/D in 1947 to 720 B/D by the installation of floating roof tanks and other facilities.
Total cost - \$820,000

Total	<u>\$1,415,000</u>
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of which approximately \$500,000 was justified solely for reduction in pollution.

EMHattori:jm
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