REPORT OF

THE

COMMITTEE ON PETROLEUM REFINING CAPACITY

TO THE

NATIONAL PETROLEUM COUNCIL

Washington, D. C.
July 8, 1947

(Corrected Copy)

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Soon after the appointment of this Committee, its Chairman appointed a Special Subcommittee on Development of a Program composed of Messrs. H. T. Ashton, Paul Blazer and W. T. Gunn, with himself as Chairman. Mr. Gunn acted as Secretary of the Subcommittee and was appointed Secretary of the main Committee. This group met in Chicago on May 21. Messrs. John W. Boatwright and Fred Van Covern were also present by request.

After lengthy discussion of all points the Subcommittee arrived at several unanimous conclusions and recommendations which may be summarized as follows:

1. That the assignment and responsibility of this Committee was clearly that of obtaining for, and reporting to, the Council factual data on the refining capacity of the country. The Committee should not recommend measures to balance supply with demand, nor should it analyze, except in a general way, the problems of production or transportation which will be reported on by other committees.

2. That to be fully useful, this refining capacity information should be supplied by PAW districts and cover not only present capacity but also estimated future capacity by

quarters for the next twelve months, in the light of the scheduled completion dates of projects under way.

It was therefore determined that the information to be developed should indicate the refining capacity of the country as of March 31 last and also the amount of new crude running capacity expected to be completed, including additions to present plants, for each of the five quarters ending June 30, 1948.

The work of securing this information was much simplified and expedited by the fact that the API had recently engaged in brining its refinery capacity information up to date and making a survey of the construction plans of a large cross section of the industry. The Committee also knew that the Bureau of Mines was making a resurvey of refining capacity as of January 1 of this year.

Because of substantial discrepancies which appeared to exist between the recent survey by the API and the most recent figures available from the Bureau, the Chairman of the Committee requested, through the Director of the Bureau of Mines, and received the Bureau's cooperation in checking the information refinery by refinery. In general, the figures shown in Table I and those which will later be released by the Bureau agree, except that the Bureau's survey will reflect capacities as of January 1, 1947, whereas those of your Subcommittee are as of March 31, 1947, and later dates. Also, the Bureau had not yet completed its tabulation of District V plants when the figures for the other districts were checked.

A meeting of the main Committee was called on June 24, which was attended as follows:

Robert E. Wilson, Chairman	Standard Oil Co.(Indiana)	Chicago
W. T. Gunn, Secretary	American Petroleum Institute	New York
H. T. Ashton	Western Petroleum Refiners' Association	St. Louis
H. G. Burks, Jr.	Standard Oil Co. (N.J.)	New York
A. P. Frame	Petroleum Advisers, Inc.	New York
C. L. Henderson	Vickers Petroleum Company	Wichita, Kan.
G. L. Rowsey	Taylor Refining Company	Taylor, Tex.
C. S. Teitsworth	Socony-Vacuum Oil Company	New York
Fred Van Covern	American Petroleum Institute	New York
J. S. Worden	The Texas Company	New York

The Committee discussed and approved the figures submitted by Mr. Van Covern in Table I below. In presenting these refining capacity figures the Committee desires to emphasize the fact that no single figure can accurately represent crude running capacity, because the latter varies over a rather wide range with change in the type of crude run and the yields of different products. The figures have been submitted as representing the average annual rate anticipated for refinery equipment installed on a given date, allowing for normal shut-down periods, and assuming normal yields from the crudes usually run. Shut-down capacity does not include dismantled capacity, but is supposed to represent capacity which is operable. However, equipment which has been shut down ill usually require time for repairs before it can be put into operation.

There was considerable discussion of whether or not any useful purpose would be served by attempting to make a segregation between skimming plants and plants which are equipped with both skimming and cracking facilities. It was decided that the information would not be of particular value because in many so-called "complete" refineries the skimming and cracking is not in balance and many skimming plants are closely affiliated with cracking operations in nearby refineries so that they can either sell gasoline for blending purposes or buy cracked stocks for blending with their own gasoline. As a result, many skimming plants are today operating successfully and contributing substantially to the fuel oil as well as to the gasoline demand.

Table I

Petroleum Refining Capacity of the United States March 31, 1947
Daily Crude Oil Throughput in 42-Gallon Barrels

District	Capacity Operating Refineries (1)	Capacity of Shutdown Refineries (2)	Total Capacity (3)
I	934,775	5,500	940,275
II	1,375,180	49,560	1,424,740
III	1,805,325	238,000	2,043,325
IV	175,617	3,595	179,212
E. of Calif.	4,290,897	296,655	4,587,552
V	964,950	35,900	1,000,850
United States	5,255,847	332,555	5,588,402

NOTE: On March 31, about 175,000 b/d of capacity was shut down on account of strikes. This is included under Column (2) as follows: District I - 5,500 bbls; II - 29,400 and III - 140,000.

For the week ended March 29, refinery runs were 4,843,000 barrels daily representing an operating rate of 86.7 percent based on the total capacity shown above. This is fairly typical of pre-war operating percentages, though much higher in barrels run.

Since the meeting of this Committee was held on June 24 accurate figures as of June 30 were not available. However, taking into account projected expansion of refinery capacity during the second quarter of this year, and making use of latest information as to refineries shut down due to strikes, the corresponding capacity figures as of June 30 are as follows:

Table II

Petroleum Refining Capacity of the United States June 30, 1947
Daily Crude Oil Throughput in 42-Gallon Barrels

District	Capacity of Operating Refineries (1)	Capacity of Shutdown Refineries (2)	Total Capacity (3)
I	936,275	5,500	941,775
II	1,406,880	49,560	1,456,440
III	1,928,825	133,000	2,061,825
IV	177,617	3,595	181,212
E. of Calif.	4,449,597	191,655	4,641,252
V	970,950	35,900	1,006,850
United States	5,420,547	227,555	5,648,102

For the three weeks ended June 21, refinery runs averaged 5,130,000 per day. This represents an operating rate of 91 percent based upon the total capacity shown in the above table. On June

30th about 85,000 b/d of refinery capacity was still shut down due to strikes.

These figures clearly show that from an over-all viewpoint there is no current shortage of refining facilities in this country. However, some of the shutdown capacity is badly located from a transportation viewpoint, or partially or wholly obsolete, or unable to handle the high-sulfur crudes which are available. Also an operating rate of 91 percent leaves very little flexibility or factor of safety. It tends to aggravate the shortage of transportation, and makes any major refinery strikes highly unfortunate for the industry and the consuming publid. Between January 1 and June 15 strikes have shut down refineries that otherwise would have run 13,100,000 barrels of crude. (See note). In addition, the Texas City disaster has prevented the refineries at that place from processing 1,900,000 barrels of crude that would have been normally run.

Note: Expressed in products 13,100,000 barrels of crude run to effineries in the areas affected on the basis of average yields would be equivalent to the following products:

	Barrels	Gallons
Gasoline	5,313,000	223,146,000
Kerosene	1,107,000	46,494,000
Gas Oil & Distillate Fuel	2,144,000	90,048,000
Residual Fuel Oil	2,688,000	112,896,000
Others and Gas	1,609,000	67,578,000

The Committee also availed itself of the work earlier done by the API in making a survey of new refinery construction. All refiners not included in that survey were asked to submit the same kind of information. Replies were received from companies owning slightly more than 90% of the total capacity shown in Table I including all those know to be expanding their capacity.

Following are the combined figures by districts and by quarters for the period from March 31 of this year to June 30, 1948

Table III

New Refinery Capacity as Reported by Companies Owning 90% of March 31, 1947, Capacity
(Daily Crude Oil Throughput Barrels 42)
Capacity Expected to Being Operating In:

District	1947			1948	
	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter
I	1,500	-	-	-	-
II	31,700	22,600	19,500	16,700	-
III	13,500	19,500	-	23,500	14,000
IV	2,000	7,000	-	-	-
E. of Calif.	48,700	49,100	19,500	40,200	14,000
V	6,000	*90,000	-	-	-
U. S.	54,700	*139,100	19,500	40,200	14,000

*85,000 b/d of this were originally intended for replacement. Because of existing conditions it is now planned to use only 4,000 b/d as replacement, the remaining 45,000 b/d which was to have been replaced is to continue in operation for an indefinite period because of the increased demand for crude running capacity.

This amount of increased capacity seems rather small in view of the large sums which are currently being expended in refinery construction. Much of this refinery construction is, however, of a character which improves gasoline yield and quality or permits the handling of a wider variety of crudes without substantially increasing crude running capacity. It is also probable that the figures for expansion of capacity do not include many minor projects involving bottle-neck elimination which will in the aggregate result in a substantial increase in capacity. Refinery capacity expansion has also been held back by materials shortages and by the general governmental policy both during and since the war of refusing or discouraging building projects whose primary purpose was that of expanding refining capacity.

While accurate figures are not yet available, it is known that a number of major refinery expansion projects already approved will come into operation after July 1, 1948, the exact date depending upon the availability of steel and other materials.

For the Committee:

ROBERT E. WILSON, Chairman
W. T. GUNN, Secretary