QUARTERLY ANALYSIS OF PETROLEUM
SUPPLY, DEMAND AND PRICES:

Fourth Quarter 1977

Prepared for the New York State
Energy Office

February, 1978
As part of our continuing series of reports to the New York State Energy Office, this memorandum presents an overview of the petroleum supply, demand and price situation in the fourth quarter 1977. Once again, pertinent data are tabularized at the end of the report. This is the first of our quarterly reports which can be compared to our own year-ago memorandum (i.e., a comparison of this with the 4th Q 1976 report). It should be noted, however, that in this report we have compared preliminary (API) data for 1977 with final (Bureau of Mines) figures for the 1976 (or earlier) period. Thus, the historic demand or supply data shown in this memorandum may differ from those previously reported.

Gasoline

In the 4th Q 1977, demand for gasoline was 7,136 M b/d. At this level, it was 1.4% higher than 1976 and 7.1% higher than 1975 volumes. Refinery output increased 1.7% from 1976 and imports increased 19.7%. However, in the 1977 period stocks were built up (in this context, removed from consumable supply) at a faster rate than in 4th Q 1976, thus reducing the overall demand growth. Although imports rose nearly 20%, they remained a small portion (approximately 2%) of total supply. These import figures of course include volumes shipped from the Virgin Islands or Puerto Rico.

Gasoline prices in New York Harbor dropped 1¢/gallon for contract volumes over the 4th Q, and averaged about 6% higher than 1976 prices for leaded regular and premium grades. (There was no posting for unleaded gasoline in 1976.) By contrast, spot prices in 1977 averaged only 3%
above 1976 levels (again only for leaded regular and premium). The spot market remained relatively steady over the 4th Q, with prices for unleaded gasoline approximately equal to prices for premium, which in turn ran about 2¢ above regular. In the contract market prices for unleaded product are posted 1.3¢ below premium with a 3.8¢ spread between leaded regular and premium.

Table IV is a compilation of retail gasoline prices from Platt's Oilgram Price Service's series "Gasoline Prices in 55 Key U.S. Cities." The absolute price levels are perhaps less interesting than the difference in the gross margins in Buffalo, New York City, and for the national average. In Buffalo, the difference between the service station price and the dealer tank wagon price (both ex tax) was about 7.2¢/gal, while in New York City the comparable margin was 4.8¢/gal, and for the total U.S. it was 8.6¢/gal. The larger tax in New York City brings the final retail prices in New York and Buffalo to approximately the same level. (New York is slightly lower than Buffalo; both are higher than the U.S. average.) However, the difference between the final retail price (i.e. service station price including the tax) and the dealer tank wagon price excluding the tax is 0.5¢ lower in New York City than in Buffalo.

Several observers familiar with these regional markets were unable to explain the wide range in margins. One possible explanation, proffered by more than one person, is that the New York City data are simply aberrant. However, although their accuracy has been confirmed by Platt's, Platt's has also confirmed that the New York City prices are not fully
representative of the market. The prices are for full-serve stations in Brooklyn and Queens only; thus, the necessity of competing with supplies from areas such as Nassau with lower taxes might force a lower margin for the sampled operations.

**Distillate Fuel Oil**

Demand for distillate fuel oil fell 9.7%, to 3,433 M b/d. In comparing 1977 with 1976 one must recall the severe cold and growing gas crisis of the earlier period which caused demand for distillate to soar. At 3.4 MM b/d demand was 14.3% above 4th Q 1975 levels, reflecting a healthy two-year growth of 7%/year. Refinery output of distillate rose 4.4% in 1977 over 1976; the distillate yield increased very slightly as well. The volume of product imported during the two periods was approximately equal. However, in the 4th Q 1976 inventory drawdowns were 500 M b/d, and accounted for over 13% of total supply, while in 1977 their contribution was negligible.

The posted price for contract volumes averaged just above 36¢/gal in the October-December 1977 period, 11.6% higher than year-ago levels. The spread between the contract price and the spot prices quoted in Oil Buyers' Guide narrowed in 1977, although almost all spot listings were characterized as "theoretical" -- a cost-plus calculation based on a hypothetical area of origin, and not a report of actual transactions. Over the period the prices rose, as might be anticipated given the onset of the heating season, but showed a good deal less upward movement than in 1976. For instance, in 1977 the contract posting for No. 2 oil in New York Harbor was 36¢/gal in October and 36.5¢/gal in
December; the comparable prices in 1976 were 31.2¢/gal and 33.4¢/gal.

**Residual Fuel Oil**

Demand for residual fuel oil also dropped in the 4th Q from year-ago levels. The decrease of 7.9% brought demand to 2,885 M b/d. Once again, however, we must note the extraordinary growth between 1975 and 1976 caused by abnormal conditions. Using 1975 as a base, residual demand has increased by 18.3% in two years—a rate well in excess of those for total petroleum or total energy use.

Nationwide, refinery output of residual rose approximately 9% and the yield increased by a percentage point—from 10.8% to 11.8%. Imports fell in 1977, both volumetrically (down 13%) and as a percentage of residual fuel oil supply (from 48% to 45%). As with distillate, the resid inventory situation was substantially different in the two years. In 1976 stocks were drawndown at an average rate of 45 M b/d while in 1977 they were increased at a rate of 134 M b/d.

Prices for residual oil in New York Harbor reflected the softness of the market. Contract postings* for 0.3% sulfur oil fell by about $1.00/bbl over the period, while prices for 1.0%S and 2.8%S product dropped by 94¢/bbl and 69¢/bbl respectively. According to *Oil Buyers' Guide*, prices for foreign product with 0.3% and 1.0% sulfur in the spot market ran below comparable contract prices as a period average, although spot prices surpassed contract postings in mid to late December. The period average prices for foreign spot and contract volumes of

*All contract prices are net of the entitlement benefit.
2.8%S oil were approximately equal, with spot prices higher than contract both at the beginning and end of the 4th Q. Spot prices for 0.3%S and 1.0%S product were lower than year-ago levels. However, prices for foreign 2.8%S oil in the spot market were very close in the two periods and for domestic product the price in 1977 exceeded the 1976 price. The 1977 quotations, however, were theoretical only.

All Products and Crude Oil

Domestic demand for all petroleum products in the 4th Q, at 18.4 MM b/d, was about 2% lower than in 1976, but over 10% higher than in 1975. Product imports fell about 7% between 1976 and 1977, to 1.9 MM b/d. Combining this figure with crude oil imports of 6.1 MM b/d brings total dependency on imports in the 4th Q to 43% of domestic demand. Total imports increased by about 100 M b/d.

According to API data, crude oil runs to stills increased by 5.9% to 14.5 MM b/d. Refinery capacity utilization remained approximately the same because of expanded capacity.

Self-explanatory tables on crude oil prices, refiner acquisition costs and production volumes by price classification are attached at the end of this memorandum.