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Residual (Industrial) Fuel Oil Supply and Demand for the Current Import Quota Year

Government statistics for the first seven months of the U.S. Interior Department's "Oil Import Quota Year" (April 1, 1963 - March 31, 1964) indicate clearly that in setting the imports quota for residual fuel oil last March the Department has greatly over-estimated the availability of residual fuel oil from U.S. domestic sources in District I (U.S. East Coast) and has somewhat under-estimated the level of demand in that region. In consequence, the import quota, whose stated purpose is to fill the gap between demand for and domestic supply of residual fuel oil in the 17 East Coast states, was set too low. Unless an adjustment in form of a supplementary import quota is made early in the first quarter of 1964, a shortage of this vital oil product, which is used widely in industrial plants, electric utilities, apartment houses and public buildings, is likely to occur on the East Coast.

East Coast Refinery Output

The principal error in the Interior Department's forecast of residual fuel oil supplies for the period April 1, 1963 - March 31, 1964 occurred in the area of East Coast refinery production. According to the trade press, the Department assumed a local production level of 157,000 b/d of residual fuel oil in District I and a yield of 11.4 per cent residual fuel oil from each barrel of crude oil processed. This would have been approximately 8,000 b/d above the output and fractionally below the yield of the previous import quota year (April 1962 - March 1963).

However, in the first seven months (April through October, 1963) of the current quota year the actual production level of residual fuel oil at East Coast refineries averaged no more than 110,700 b/d and the yield was on the order of only 8.2 per cent. This was 38,500 b/d, or 25.4 per cent, less than during the same period of last year. According to preliminary API statistics the low level of District I refinery production, relative to last year, has continued throughout November and the first half of December 1963.

In previous years East Coast refinery production of residual fuel oil during the first quarter of the year was frequently 10 to 20 per cent above the average of the previous nine months. However, this development did not occur in the first quarter of 1963 when production declined further. Even if we assume that the first quarter of 1964 will again follow the earlier pattern, the increase could not possibly be sufficient to bring total East Coast residual fuel oil production for the entire quota year anywhere close to the forecast target of 157,000 b/d nor to the 149,000 b/d actual production level of the previous quota year.

An optimistic estimate would be an actual production level of approximately 120,000 b/d for the total current quota year. Hence, there will be a shortfall of at least 37,000 b/d in East Coast residual fuel oil production from that assumed by the Interior Department in setting its import quota.

Deliveries from Other U.S. Areas

A small part of the above cited shortfall may be offset by higher shipments of residual fuel oil from domestic supply sources outside District I. The Interior Department forecast the level of these shipments at 121,000 b/d for the entire current quota year. In the first seven months it has been about 124,000 b/d, as the following figures show:

Domestic Residual Fuel Oil Deliveries Into District I

From:	April - October (in bbls. daily) 1963	1962
Gulf Coast	80,920	103,864
West Coast	21,220	10,635
District III(by barge)	1,752	925
District II and Canada (est'd.)	9,000	9,000
Puerto Rico	11,000	8,000
	123,892	132,424

If we assume that these shipments will rise somewhat during the remainder of the quota year for an annual level of 128,000 b/d, total actual domestic supplies from all sources are likely to be about 29,000 - 30,000 b/d below the level estimated by the Interior

Department (the 37,000 b/d shortage in East Coast production less the 7,000 b/d excess in deliveries from other areas).

Consumption (Demand)

Since the bulk of all residual fuel oil supplies are imported from abroad, actual consumption of this product on the East Coast is determined not so much by market conditions as by the authorized level of imports. However, the Interior Department has frequently stated that this level would be maintained high enough to meet all normal demand requirements. On the basis of this criterion, the Department's demand projection for the current quota year, issued last March, may require some adjustment. The Department assumed that demand in the current quota year would show a fractional decline from the previous year to a level of 838,000 b/d, exclusive of required stock increases which were estimated at 15,000 b/d. However, it now appears that real demand in the current quota year will be slightly higher than in the previous one, for the following reasons:

(1) The level of industrial fuel oil consumption usually moves in accordance with the Federal Reserve Board Index of Industrial Production. For the first eight months of the current quota year the seasonally adjusted FRB Index averaged 126, compared to 119 for the same period of last year. For the full quota year the Index will probably average 127, compared to 119.6 for the previous period. Obviously, then, industrial demand, which accounts for over 30 per cent of the total demand for this product, will be above last year's.

(2) Space heating demand is showing divergent trends this year. Assuming normal weather - a correct assumption up to the end of December - the demand of existing users will be somewhat lower than in the last quota year when degree days were 7 per cent above normal. On the other hand, the sharp increase in the construction of office and apartment buildings, many of which are only equipped to use residual fuel oil, should add to last year's level of consumption. Hence, altogether, consumption for space heating - which accounts for over 27 per cent of total consumption - should be only slightly lower than last year under normal weather conditions.

(3) Electric utility consumption of residual fuel oil - which accounts for about 20 per cent of total residual fuel oil demand - is bound to be substantially higher than last year, both because of the regular annual increase of about 7 per cent in power requirements and the fact that several large new oil-fueled power installations are coming into operation in the last half of the current quota year. For the first seven months utility consumption of residual fuel oil

was 9.2 per cent above last year. However, the increase would probably have been higher if the unseasonably warm October weather had not permitted East Coast power plants to use more interruptible gas than they normally do at this time of the year. For the full quota year the increase is likely to be on the order of 13 to 15 per cent.

Since the three above markets account for approximately four-fifths of total East Coast residual fuel oil consumption it is reasonable to expect total real demand in the current quota year to be slightly above the level of 838,000 b/d projected by the Interior Department last March.

Imports and Stock Levels

Evidence of the errors in the Department's estimate of domestic residual fuel oil supply and demand is seen in the movements of imports and stocks. Total imports for the 12 month quota period were set at 575,000 b/d, or 209.86 million barrels. This was a 9.5 per cent increase above last year's quota. During the first 7 months of the current quota year actual imports were 11.2 per cent above the comparable period of last year. In addition 1.5 million barrels or 0.7 per cent of the total import quota, had been drawn in advance in the last month of the previous quota year. Thus, the balance of imports for the remaining 5 months (November 1963-March 1964) is 115.2 million barrels which is only 5.4 per cent above the level of the comparable previous period. Thus, the increase during the principal oil consuming season will be much less than that planned by the Interior Department for the whole quota year. Yet, even the higher imports in the April - October period did not result in an increase in East and Gulf Coast stocks, as reported by the Oil Imports Administration. On the contrary, as the following statistics show, stocks in every month were lower than in the previous year or in any earlier year.

East and Gulf Coast Stocks of Residual Fuel Oil
(in millions of bbls.)

End of Month	1963	1962	1961	1960	1959
October	23.59	27.30	25.19	25.12	32.11
September	23.03	26.42	24.96	24.65	32.57
August	24.91	24.92	25.29	24.58	32.31
July	22.94	25.16	26.20	23.98	30.17
June	20.10	21.60	20.78	22.22	32.57
May	19.45	21.07	21.68	21.46	31.74
April	18.50	21.09	22.53	19.87	29.20
March	16.68	20.33	21.39	18.86	32.86

Source: Oil Imports Administration

End-October stocks were 2.3 million barrels below the average of the three previous October figures, despite the fact that both September and October were considerably warmer than normal this year and, hence, required less oil for heating. Thus, even the increased level of imports during the April - October period was clearly too low to permit a build-up of stocks, though Department officials explained last March that part of the imports quota was to be used to "rebuild stocks". Preliminary API data show that at the end of December residual fuel oil stocks in District I were 12.7 per cent below last year and 22.6 per cent below the previous year.

Recommendations

The absolute minimum supplementary import quota necessary to prevent a physical shortage of residual fuel oil and to avoid forcing end-users in some sectors to switch to other fuels would be 29,000 b/d, or 10.6 million barrels, the amount by which the Interior Department overestimated East Coast domestic supply of residual fuel oil. A somewhat safer level would also include at least 2.6 million varrels for the rebuilding of stocks for a total of 13.2 million barrels, or 36,000 barrels daily.

Neither of these recommendations take into account the eventuality of colder-than-normal weather nor the requirements of the new oil-fueled utility plants going into operation in the second half of the current quota year nor any other factors which may cause an increase in demand above that estimated by the Interior Department.