SUPPLEMENTAL

REPORT

OF

THE OIL PRICES COMMITTEE

JULY, 1970

GOVERNMENT OF INDIA
MINISTRY OF PETROLEUM AND CHEMICALS AND
MINES AND METALS
DEPARTMENT OF PETROLEUM

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CHAPTER 1

Introduction

1.1 This is a supplement to our main Report of the 31st October, 1969 submitted to the Government of India in terms of its Resolution No. 101(22)/68-PPD, dated the 14th June 1968, as amended from time to time, and contains our recommendations on certain items left over for later consideration or subsequently added to our terms of reference.

1.2 The Committee visited Lube India Ltd., Madras Refineries Ltd. and Indian Oil Blending Ltd. and held discussions with their managements. It also held discussions in Bombay with the representatives of the first two companies and those of the Indian Oil Corporation Ltd. and the Assam Oil Company Ltd., on the proposed constituents of the price formula. The names of the companies to whom questionnaires were issued and the names of the individuals with whom discussions were held are given in Appendices I and II. The relevant cost data were examined by the Cost Accounts Branch of the Ministry of Finance under the direction of Shri S. V. Rajan, Deputy Chief Cost Accounts Officer. The technical data in respect of lube base stocks was collected with the assistance and co-operation of the technical representatives of the lube refineries and of the principal importers (*viz.* Burmah-Shell, Esso, Caltex and Indian Oil Corporation) and of Shri M. Kurien, Chief of Refineries, Planning and Development, in the Ministry of Petroleum and Chemicals and Mines and Metals (Department of Petroleum).

CHAPTER 2

Lube Base Stocks

2.1 Estimate of Demand

The following estimate of all India demand, based on a study by the Indian Institute of Petroleum, has been furnished by the Government:—

('000 *tonnes*)

	1970	1971	1972	1973
(i) Total all India requirements including greases which are estimated to be roughly 5% of the total	590	649	700	756
(ii) Total indigenous availability . .	373	464	464	614
(iii) Deficit	217	185	286	142
(iv) Deficit expressed as percentage of total demand	38	29	34	19

2.2 The figures at (ii) assume 75 per cent production from Lube India Ltd. and Madras Refineries Ltd. in 1970 and full production in subsequent years and assume 75 per cent production from the projected Haldia refinery for the first time in 1973 only. The indigenous availability takes into account production at the Digboi, Barauni, Madras and Haldia refineries and by Lube India Ltd., of which the first four have/will have integrated lube manufacturing facilities with normal production of bulk refined products and the last is designed and constructed for exclusive manufacture of lube base stocks.

2.3 Digboi Refinery

The refinery at Digboi of the Assam Oil Company Ltd., (AOC) is reported to be capable of producing 80,000 kl of lubricants annually, but the maximum production in a year has so far been 68,098 kl in 1967; the total production in 1969 was 58,740 kl. The entire quantity of lube base stocks required for its own manufacture of lubricants (*viz.* 60,000 tonnes approximately per annum) is produced at the Company's Lube Distillation Plant. It is difficult to estimate fair prices for the lubricants produced by AOC which is a vertically integrated company. The number of grades produced in 1969 was twenty-one; two of which (*viz.* BOC 50 and BOC 250) constituted nearly 88 per cent of total production. These two grades serve a dual purpose. They are consumed to a limited extent as low grade

lubricants but are largely sold to other companies for use as feed-stock for the manufacture of other grades of finished lubricants. We understand that AOC's prices are fixed on the basis of import parity for equivalent grades. The current specifications of these grades are given in Appendix III.

2.4 Barauni Refinery

The Lube oil plant is an integral part of this refinery, the base stocks being produced as a continuous process in addition to other petroleum products. All the offsite facilities are common to the entire refinery. The investment on the lube unit is relatively high. The estimated cost of the lube oil complex as on 31.3.1969 is about Rs. 170 million including the related offsite facilities but excluding the cost of township. The refinery is designed to produce 46,000 tonnes per annum of four grades of lube base stocks but presently only one grade, Pale 800 conforming to the specification given in Appendix III, is being produced. The approximate production was 8,000 and 14,800 tonnes in 1968 and 1969 respectively.

2.5 Madras Refineries Ltd. (MRL)

2.5.1 The production of lube base stocks at this refinery also is integrated with that of other petroleum products. The maximum production capacity is 200,000 tonnes per annum. The total plant investment is approximately Rs. 203 million but no estimate of operating cost is available as the plant has not yet come into full production. The refinery is designed to produce twelve grades *viz.*, Spindle (HVI, MVI, LVI), Light Neutral (HVI, MVI, LVI), Intermediate Neutral (HVI, MVI, LVI) and Heavy Neutral (HVI, MVI, LVI) but the production of MVI grades has not yet commenced. The current specifications (and the designed ones for MVI grades) are given in Appendix III.

2.5.2 In terms of the Formation Agreement, so long as the refinery is processing imported crude oil, the Government of India (or its nominee) will take over the products of the refinery on a basis on less favourable than that prevailing for the corresponding products of any other refinery in India processing imported crude oil. In case the Madras Refinery processes indigenous crude oil the prices of its products will be no less favourable than those received by any other refinery in India processing indigenous crude oil. In comparison with the other coastal refineries, the Madras Refinery is at a disadvantage as a result of the higher rate of wharfage on crude oil prevailing at the Madras Port, the lower draft conditions at the port necessitating import of crude in GP vessels at higher freight rates and the price of Darius crude payable under the Formation Agreement which is $1.35 per barrel. On the other hand, the refinery has the advantage of having an integrated plant for the manufacture of lube base stocks side by side with the bulk refined products.

2.6 Lube India Limited (LIL)

2.6.1 By an Agreement concluded on the 15th September, 1965, the Government of India and the Esso Standard Inc., of USA entered into a fifty-fifty partnership to establish Lube India Ltd. to produce lube base stocks and transformer oil base stock from feed-stock obtained from the Esso refinery. The designed capacity of the Lube refinery built at a cost of approximately Rs. 170 million is estimated at 164,000 tonnes per annum, including 17,000 tonnes per annum of dewaxed light distillates to be used as feedstock for transformer oils manufactured at the neighbouring plant of Power Cables (Private) Ltd. Half of the lube base stocks has been allocated to the Indian Oil Corporation Ltd. and the other half to Esso Standard Eastern Inc. The Lube refinery came into commercial production in January, 1970, and is expected to reach its full rated capacity by 1972. The know-how is to be provided by Esso Standard Eastern Inc. in terms of Design and Engineering, Construction Service and Technical Information Agreements concluded separately with the U.S. company by Lube India Ltd.

2.6.2 The following grades are manufactured at the lube refinery:—

1. 150 Neutral
2. 500 Neutral
3. 1300 Neutral
4. 100 Industrial (Pale)
5. 500 Industrial (Pale)
6. 1600 Industrial (Pale)
7. Transformer Oil base stock.

The current specifications are given in Appendix III.

2.6.3 The Esso Refinery (ESRC) has the right and obligation to supply the reduced crude oil. Reduced crude is to be delivered by the Esso Refinery on behalf of Esso on consignment basis to the Lube Refinery for processing into lubricating base oils. If for any reasons beyond its control, the Esso refinery is unable to do so, Esso will arrange supplies from other sources. Clause 19 of the Lube refinery agreement provides that the Esso Refinery will be permitted to import from its normal sources and process additional crude, equivalent of the quantity of lube base oils, fuel, carbon black feed-stock and operational losses, to be sold to the Lube refinery by the Esso Refinery. By virtue of this agreement, the Lube Refinery is permanently tied to Esso in regard to the supply of its feed-stock, and this may become a handicap to it, in certain circumstances.

2.6.4 The price of the lube distillates, reduced crude and/or any other residue retained, used or lost in operation by the Lube refinery is to be equal to the landed cost of crude to the Esso Refinery plus a handling charge of Rs. 1.5 per tonne of net feed-stock billed to the Lube Refinery, plus excise duties if any levied on such feed-stock, plus an amortization of the additional facilities which ESRC will be required to instal. Lube India Ltd. is billed by the Esso Refinery for the net quantity of reduced crude retained by the former.

2.6.5 It has been agreed by the Government of India, by exchange of letters, that at the start and until a new basis is established, the price of lube base stock will be competitive with the landed cost and that after the plant commences operation, it will be left to the Board of Directors of Lube India Ltd. to determine the pricing basis and the actual price level from time to time so as to provide a reasonable rate of return and subject to any price control applicable generally to the oil industry.

2.6.6 The construction of the Lube Refinery has recently been completed and the first cost of fixed assets of the company at the end of 31st December, 1969, will be approximately Rs. 166.6 million. To maintain the designed capacity of 164,000 tonnes per annum, no large scale addition to the assets is expected. A recent review made by the company of its working estimates capital employed to be in the region of Rs. 185.30 million including a working capital of Rs. 18.70 million and a return on capital employed of 8.5 per cent, after providing for interest on borrowed capital and taxation.

2.7 Pricing Agreement for Lube Base Stocks

2.7.1 Lube base stock is the essential raw material for the production of lubricants. In a developing economy, the pricing of such a vital material cannot be left to market forces especially when its manufacture is in the hands of a few producers and the total production falls short of the total demand. There is, therefore, need for some measure of price control at least over products produced in substantial quantities.

2.7.2 Among the products of the Digboi Refinery only two, *viz.*, BOC 50 and BOC 250, would seem to call for price control; the rest are produced in very small quantities. The prices of such products and of the products imported may continue to be fixed by the sellers as at present. In the case of other producers also only the major products need to be brought under price control. Accordingly, ceiling prices have been evolved for the following products:—

Assam Oil Co. Ltd.

BOC 50 and BOC 250

Barauni Refinery

800 Pale Vi-30..

Madras Refineries Ltd.

Spindle Oil (HVI, MVI, LVI).

MRL's Transformer Oil Base Stock.

Lt. Neutral (HVI, MVI, LVI).

Int. Neutral (HVI, MVI, LVI).

Heavy Neutral (HVI, MVI, LVI).

Lube India Ltd.

Neutral (150, 500, 1300).

Industrial (Pale) (100, 500, 1600).

Transformer Oil Base Stock.

2.7.3 We have considered the following alternative methods of fixing ceiling prices:—

(a) The cost of production plus a reasonable margin of profit.

(b) The cost of import estimated on the basis of the lowest f.o.b. of actual imports of equivalent grades and in the absence of such equivalent grade, the computed lowest f.o.b. of the blend of imported grades, near equivalent to the indigenous grade.

The alternative (a) is not practicable for the present, since the plants have come into production only recently and their costs have not yet been stabilised. We have found alternative (b) to be the only practicable one in the present circumstances, till indigenous production gets stablished and satisfactory cost data become available. Moreover, imports of lube base stocks are likely to continue on a substantial scale for some time and it will, therefore not be realistic to base the prices of domestic products on domestic costs alone. Although lube base stocks are being imported from both Eastern and Western sources, we have adopted the actual f.o.bs. paid for imports from western sources.

2.7.4 **F.O.B. Cost.**—We have collected data of actual f.o.b. costs incurred by the major oil companies on their bulk imports of lube base stocks in 1969, which are shown in the following table along with the lowest quotations in Platt's Oilgram as on the 25th November, 1969, which still hold good:—

Table showing FOB prices as in Platt's Oilgram and actual for 1969

Product	As per Platt's Oilgram	Actual FOB of Imports			
		B. Shell	Esso	Caltex	IOC
	Cents per AG				
Pale Oils					
Pale 100	16·5	13·9	15·00	15·50	16·25
Pale 2000	21·25	16·2	19·50	20·25	..
LVI 1100	..	18·0	..	..	..
Stock 92 (5500 SSU)	..	..	..	..	21·0
Neutral Oils					
Neutral 100 (MVI)	..	19·0	..	..	..
Neutral 100 (HVI).	21·5	18·7	..	..	..
Neutral 150	..	..	20·25	20·75	..
Neutral 65	..	..	22·00	..	..
Neutral 200	22·0	20·2	..	..	21·0
Neutral 450	..	..	22·00	22·5	..
Neutral 500 (MVI)	..	23·5	..	..	..
Neutral 500 (HVI).	23·5	22·5	22·7*	22·57*	..
B.S. 150/160 (MVI)	..	23·8	..	..	..
B.S. 150/160 (HVI)	24·5	23·3 & 23·8	23·5	24·0	27·75
, , (HVI)					

*Neutral 500 has not been imported by Esso and Caltex but they have imported Neutral 450 and can produce Neutral 500 by blending Neutral 450 with Bright Stock.

These data were discussed with the technical and accounting staff of the importing companies, who, however, were unable to explain how they satisfied themselves about the reasonableness or otherwise of the discounts allowed by their suppliers abroad on postings in Platt's Oilgram. In view of the foreign exchange implications of the wide variations in f.o.b. prices which have been disclosed in the above table, we recommend that Government should arrange this matter to be studied further. In the meanwhile, we see no reason to depart from the normal practice of adopting the lowest actual or blended cost of a bulk importer as the basis of price fixation. We find that in many cases the f.o.b. costs of Burmah-Shell Oil Storage and Distributing Co. of India Ltd. (BSM), of the imported product as well as the computed f.o.b. cost of the blended product equivalent to the indigenous product are the lowest. Where an importer's f.o.b. cost of an imported product is higher but the computed f.o.b. cost of the equivalent blended product works out the lowest (as a result of his formulation) we have adopted the latter. In addition, we have made appropriate adjustment for difference in quality arising from pour point and other factors.

The main factors governing the price variations are Viscosity at 100°F, pour point and viscosity indices in the case of Gulf Coast lubes (solvent refined oils) and viscosity at 100°F and colour in the case of South Texas Lubes (pale and red oils). Where no equivalent grade has been imported, we have, in consultation with the technical experts of the oil companies and keeping in view the current specifications of the indigenous products as shown in Appendix III and other relevant factors, computed the f.o.b. cost for a blend of two or more imported grades which would give a near equivalent to the indigenous product. Such imported grades, the blend of two or more of which will give the near equivalent to an indigenous grade are given in Appendix IV. The proportions of blend of the imported grades adopted to arrive at the equivalent indigenous grade for computation of f.o.b. costs are given in Appendix V.

For transformer oil base stock (TOBS), we have adopted the lowest actual f.o.b. cost paid by Messrs. Power Cables Private Ltd., as verified from their books, namely, 15 U.S. Cents per AG and have reduced it by 0·5 Cents per AG in view of the fact that LIL's TOBS is not hydrofined. MRL's Spindle LVI when produced with pour point maximum 14 Deg. F. will qualify for the price recommended for LIL's TOBS with a premium of 0·5 U.S. Cents per AG if MRL's product is hydrofined, otherwise, it will not qualify for the premium of 0.5 Cent per AG.

In respect of MVI grades, the technical representatives of the lube refineries did not indicate the blends but agreed to specified reductions to be applied to the f.o.b. cost of the relevant HVI grades. Consequently, we have not computed the f.o.b. costs of MVIs from the grades or blend of grades actually imported but we have determined their f.o.b. costs by applying the following reductions to the computed f.o.bs. for the revelant HVI grade as recommended by

MRL on the basis of the advice of its foreign collaborator and to maintain parity in the end prices in respect of Heavy Neutral:—

Spindle Oil Lt. Neutral Int. Neutral	2 Cents per AG
Hvy. Neutral . .	1·5 Cents per AG

2.7.5 **Marine Freight.**—We understand from the Ministry of Petroleum and Chemicals that the import of lube base stocks from the U.S.A. was 90 per cent in 1968 but almost 100 per cent in 1969. Imports in future from sources other than the U.S.A., however, need not be ruled out. We have assumed for our purpose 90 per cent of total imports from the U.S.A. and 10 per cent from other sources. According to the data upto December, 1969, furnished by the Ministry of Petroleum and Chemicals and collected by us from Burmah-Shell and Esso, the lowest actual freight rates paid in 1969 for different bottoms were as under:—

	U.S. Dollar per one ton
(*i*) Third Country Vessels	12·30
(*ii*) Indian Flag Vessels.	19·00
(*iii*) U.S. Flag Vessels	24·85
(*iv*) From other sources	8·50

We understand further that 50 per cent of imports from the U.S.A. are in American Vessels and the rest in Indian and the third country vessels. On the basis of the above, the weighted average freight of $19·075 per long ton (Rs. 142·22 per tonne) has been adopted for Bombay. For Madras and Calcutta an addition of Rs. 10 per tonne has been allowed in view of longer haulage.

2.7.6 **Marine Insurance and Ocean Loss.**—These have been allowed at the *ad hoc* rate of 1 per cent on c.i.f.

2.7.7 **Conversion Factors.**—The factors for conversion of American gallons into metric ton, metric ton to kilolitre at 29·5°C and of duty at 15°C to 29·5°C, adopted by us, are shown in Appendix VI. These are based on the current experience of Indian refineries. If, as production is stabilised, the conversion factors undergo a substantial change, revised factors may be adopted with the approval of Government and the prices revised accordingly.

2.7.8 **Rate of Exchange.**—The current rate of exchange of Rs. 7·5757 per U.S. dollar has been adopted.

2.7.9 **Total C.I.F.**—The total c.i.f. prices per tonne at the respective landing ports as worked out by us are given in the Statement.

2.7.10 **Landed Cost.**—To the c.i.f. prices as worked out by us, the following have been added to arrive at the landed costs:—

(a) *Customs Duty*

At the rate shown in the Note below the Statement at page 35 in respect of transformer oil base stocks. In respect of other products, *ad valorem* duty at 62 per cent on c.i.f. and notional landing charges. For this purpose, the notional landing charges have been reckoned at 1 per cent on the net f.o.b. as has been done in the case of actual imports by IOC

(b) *Additional (non-recoverable) duty*

At the rate of Rs. 50·45 per kilolitre at 15°C for transformer oil base stocks. In respect of all other products at the rate of Rs. 281 per tonne currently applicable to lubricants/greases produced from fully or partly imported crude oil. In the case of lubricants/greases produced from indigenous crude the extra differential of additional duty will be borne by the refinery itself and has not been included in the price formulation.

In the event of any difference in the rates of basic and additional custom duty adopted by us and those actually prevalent, necessary adjustment should be made to conform to the actual rates.

(c) *Wharfage*

At the rates prevailing at the respective ports.

(d) *Landing Charges*

At the rates indicated by I.O.C.

2.7.11 **Recommended Ceiling Prices.**—The recommended ceiling selling prices are given in the Statement. These have been arrived at after due adjustment for quality as well as the differences in pour points as explained at (a) of para 2.7.12 hereunder. These shall apply to deliveries ex/f.o.r. lube refineries and are exclusive of local duties and taxes.

The price recommended by us for Pale 800 is higher than Barauni's current price for that grade. The latter, however, is almost on par with AOC's price for BOC 50, equivalent to Pale 100, whereas it should be much higher. The lower price currently quoted for Pale 800 is not warranted by the intrinsic difference in quality compared to BOC 50 and we have, therefore, ignored it. In any case the prices recommended by us are ceiling prices and individual producers are free to quote lower prices.

In some cases the prices recommended by us for similar products produced by different manufacturers show variation as compared with the prices provisionally in force at present but this is because of the fact that adequate adjustments were not made in the past on account of pour point or other differences in quality.

2.7.12 **Variations in Prices**

(a) *Pour Point.*—The specifications given in Appendix III show that the Lube India's solvent refined oils (*i.e.* neutral oils and bright

stocks) have a pour point of 30°F and MRL's 20 to 30°F. The quotations in Platt's Oilgram for such oils are with a pour point of 0—10°F and the actual imports are also in about the same range. As it is logical to build up prices on the basis of products of comparable quality, we find it necessary to apply reduction for the difference in pour point of the indigenous products *vis-a-vis* the imported products. We understand that the I.S.I. specifications for engine oils required in India specify the pour points varying from minus 9°C to minus 24°C [*i.e.* 16°F to (—) 12°F approximately]. IOC has reported to us that supplies to the Defence and other Government establishments and to some portion of the general trade call for pour point lower than the pour point of the base stocks produced by the indigenous lube refineries. IOC has also reported on the basis of information supplied to it by Lubrizol India Ltd. that the cost of additive for bringing down the pour point by 10°F is Rs. 18·40 per tonne inclusive of duty. To bring our prices at par with the quotations for the grades actually imported at the lowest f.o.bs. of the grades equivalent, or the blended equivalent, to the indigenous grade, we have applied the following reductions to the evolved prices to cover the pour point differential in respect of solvent refined oils:—

Madras Refineries Ltd.	
Spindle (HVI, MVI) Light Neutral (HVI, MVI) Int. Neutral (HVI, MVI)	Rs. 18·40 per tonne
Heavy Neutral (HVI, MVI)	Rs. 36·80 per tonne
Lube India Ltd.	
Neutral (150, 500, 1300) . .	Rs. 36·80 per tonne

Of the indigenous pale and red oils, the pour points are as under:—

(i) AOC's grades	55 to 60°F
(ii) Barauni's Pale 800	30°F
(iii) MRL's Pale oils	20°F
(iv) LIL's Pale oils	30°F

The pour points of the imported pale oils are known to be generally low. We have taken pour point at 10°F as the minimum and have consequently applied the following reduction from the evolved prices to arrive at the cost of comparable quality produced indigenously:—

	Rs/MT		*Difference of Pour Point*
(i) MRL's pale oils	18·40	(+)	10°F
(ii) LIL's pale oils	36·80	(+)	20°F
(iii) Barauni's Pale 800	36·80	(+)	20°F
(iv) AOC's products	92·00	(+)	45 to 50°F

The foregoing recommendations regarding pour points in respect of solvent refined and pale/red oils have been made on the basis of the current specifications given in Appendix III. In the event of any radical change subsequently taking place in pour points, adjustments in prices should be made by mutual consultation between the buyer and the seller and reported to Government.

(b) The specifications for solvent refined oils (*viz.*, neutral oils and bright stocks) show viscosity at 100°F and also viscosity indices, in regard to which we have taken the following decisions in consultation with the technical representatives of the lube refineries.

(i) *Viscosity Indices*

According to IOC improvement of 10 points of viscosity indices involves an extra cost by way of additives of about Rs. 4·24 per kg., exclusive of duty. However, in our discussions with the technical representatives, it was agreed that such adjustments are not very common; hence we have provided for no adjustment on this score.

(ii) *Viscosity at* 100°F

The specifications given in Appendix III show the minimum and maximum range of viscosities. If any product falls outside the specified range it would have to be reprocessed and in such cases the applicable price should be mutually settled between the buyer and the seller. In the event of continued production of a grade with viscosity outside the specified range, a revised price may be fixed for it on the basis of the principles followed herein, subject to approval of the Government.

2.7.13 **Octroi at Bombay.**—This is payable on imports at Bombay, the rate applicable from the 1st April, 1970, being about Rs. 23·00 per tonne. Lube India asked for inclusion of this item in the price build up. We have not admitted this item as it is only a local charge.

2.7.14 **Transformer Oil Base Stock (TOBS).**—It was represented to us by Messrs. Power Cables Private Ltd., that on account of the difference in quality between the imported and LIL's TOBS, a lower price should be fixed for the indigenous product. We have not been able to verify the difference in quality and its actual impact on the cost of production of transformer oil. We have, therefore, made no provision on this account.

2.8 **Period of price fixation and provision for adjustments.**

We recommend that the ceiling prices recommended by us and given in the Statement should remain in force for a period of three years. During this period no adjustment need be made for changes in f.o.b. costs or for fluctuations in marine freight, insurance, wharfage or other elements of import costs, exclusive of duty. However, adjustments may be made for variations in the rates of customs duty and the additional (non-recoverable) duties.

CHAPTER 3

Lubricants and Greases

3.1 Lubricants and Greases are at present subject to a system of Block Control under which non-recoverable duties are imposed to mop up over-recoveries. These products are sold in many varieties and brands and it has so far not been possible to fix ceiling prices for them. During the course of our inquiry, however, the Committee was advised by the Ministry of Petroleum and Chemicals that a few major grades could be identified as accounting for the bulk of the demand and that an attempt should, therefore, be made to fix ceiling prices for these grades. The matter was accordingly taken up for consideration in a supplementary report.

3.2 The Committee issued a questionnaire on the 14th November, 1969 to the major oil companies in the private and public sectors and a few of the smaller companies marketing lubricating oils and greases, to ascertain the major elements of cost, *viz.*, base oils, additives, blending expenses, cost of containers, filling-in expenses, marketing expenses and marketing profit. This information was not available from any of the companies which were addressed, except to a limited extent from the Indian Oil Corporation. The companies gave the following reasons for their inability to furnish the data:—

(i) The cost of additives and base oils varies substantially between grades and the formula for each grade differs. The blending operations also differ from grade to grade.

(ii) The companies do not maintain separate accounts for individual grades or groups. The c.i.f. costs of base oils and additives are merged in the books of some companies and no separate record is maintained by some companies of the blending expenses incurred for individual items.

(iii) The companies do not possess details of the composition or costs of the finished products blended for them by outside parties at negotiated prices.

(iv) Lubricants and greases may be divided into the following categories according to the source of supply of the basic material:—

(a) Wholly imported and repacked in India in smaller containers, involving additional cost of filling and packaging only.

(b) Blended locally with the imported base stock.

(c) Blended locally with the indigenous base stock.

(d) Blended locally partly with the imported base stock and partly with the indigenous base stock.

The cost of production varies according to the material used and the finished products in the various categories are not identical in quality.

3.3 Besides the questionnaire two further communications were addressed to the companies calling for cost data for the principal grades. These communications also failed to elicit the required information. Some of the companies pleaded that the detailed formulations of the various grades were developed after considerable amount of research; that each fomulation was intended for a specific end-use and that the formulae were classified as proprietary and could not be divulged. The Indian Oil Blending Ltd. with a 50 : 50 partnership between IOC and Mobil Petroleum Inc. of U.S.A., also pleaded its inability to disclose this information on account of its commitments to the foreign collaborator. It was also urged that the grades sold by one company would not correspond to those sold by another and would differ in specifications and performance characteristic. The proportions of base oils and additives were not identical in all grades and costs varied from company to company according to the proportion. We were also told that the formulations underwent changes from time to time to meet new end-uses and were subject to adjustment to suit the availability or otherwise of the various ingredients. It was stated that ten or fifteen grades of any company would not necessarily cover the bulk of its trade and that, to cover 80 per cent of the total sales of each company, it would be necessary to evolve prices for a large number of grades of each, varying from 31 to 75, which would be too cumbrous. It was urged that lubricating oils constituted about 3 per cent of the total sales of petroleum products in the country and therefore no detailed price control was called for so long as the overall profitability was restricted with reference to the total capital employed. We do not find these arguments convincing. We are unable to understand why the oil companies, which are modern business enterprises, should not maintain detailed cost data. We also feel that even within the records maintained by them they could have furnished us with more detailed information. The producers should not be allowed to withhold essential cost data merely on the ground that they have to maintain secrecy about their processes or that their output consists of numerous grades and specifications.

3.4 IOC alone supplied some data without divulging the details of formulation for each grade, which they stated was known only to their blenders—the Indian Oil Blending Ltd.

3.5 We have examined these data but have found them to be of little use in evolving a scheme of control for the industry as a whole. Firstly, IOC has not yet emerged as a dominant supplier of these products; its share of the total trade was 28·6 per cent in 1968 and 33·4 per cent in 1969. The distribution of IOC's sales among different classes of consumers is also not comparable with that of the other suppliers. In 1969, 60 per cent of IOC's sales of all grades of lubricating oils and greases were made to Government and semi-Government consumers and only 40 per cent to the general trade.

The corresponding percentages for the private oil companies were as under:—

	Government and Semi-Government consumers	*General Trade*
	%	%
Burmah Shell	5·5	94·5
Esso	15·0	85·0
Caltex	6·0	94·0

The data supplied by IOC, which related to thirty-five principal grades, showed that the average sales realization at prices prevailing in 1970 was lower on sales to Government and semi-Government consumers and higher on sales to the general trade. As all Companies sell their products generally in competition with each other, the per unit realization of the private oil companies should also be higher on sales to the general trade than on sales to Government and semi-Government consumers. The cost of distribution may well be higher for sales to general trade than for sales to Government agencies, but in the absence of data regarding the distribution costs of companies, dependant wholly or mostly on general trade, it is not possible to ascertain the exact position in this regard. There is a distinct possibility that companies other than IOC may be able to retain much larger profits than under the present system of Block Control if ceiling prices of the principal grades are determined on the basis of IOC's data and such grades are thereafter taken out of Block Conrtol. Exclusion from Block Control of the principal grades will make it unnecessary for these companies in future to disclose their over-recoveries, which may remain high despite reduction resulting from the application of ceiling prices because of the higher proportion of their sales to the general trade on which higher profits are earned. In the circumstances, we see no alternative but to continue the present system of Block Control even for grades for which IOC has furnished limited data.

3.6 We are well aware of the drawbacks of the Block Control system. The oil companies have also referred to them. We would have been able to evolve a system of ceiling prices if the companies had disclosed their costs. We are not satisfied with the reasons given by the companies for their inability to furnish the cost data in requisite detail, but we have no powers to compel them to do so. Since our repeated requests for information have failed to evoke a satisfactory response, we feel that we should conclude our examination at this stage. We accordingly recommend that the present system of Block Control be continued for the present and that steps be taken to obtain essential cost data from the major producers in respect of the principal grades of lubricating oils and greases, with a view to evolving a system of ceiling prices as early as possible.

3.7 We recommend that any Committee appointed in future to consider major questions relating to the pricing of petroleum products should be given the powers normally vested in a Commission of Inquiry to enable it to examine the books of accounts of the oil companies and independently to collect other evidence necessary for a proper investigation of their costs of production, imports and distribution.

CHAPTER 4

Agents/Dealers Commission on Light Diesel Oil

4.1 By the Government of India Resolution No. 101(22)/68-PPD dated the 20th March, 1970, we have been called upon to determine the rate of commission to agents/dealers in respect of light diesel oil supplied from (i) godowns, (ii) barrel outlets and (iii) retail pump outlets. .

4.2 Light Diesel Oil is distributed traditionally through dealers in more or less the same way as kerosene oil. Normally, a dealer has his headquarters in a centrally located market or grain 'mandi' and caters to the requirements of the secondary and tertiary markets in his agency area either through his own branches or by selling through sub-dealers/retailers. In some cases, the dealers also deliver the product directly to farmers and other consumers in their own tanklorries. With the growth of demand for this product in the rural areas for lift irrigation, the distribution arrangements are being found inadequate and the Indian Oil Corporation Ltd., (IOC) has stepped in to fill the gap by distributing light diesel oil through barrel outlets in areas of heavy concentration of demand. Such outlets numbered 265 as on the 28th February, 1970, and an annual increase of about 150 is estimated. Unlike the retail pump outlets in operation for distributing motor spirit and high speed diesel oil, the barrel outlets have no underground tanks or automatic pumps but merely provide for storage of light diesel oil in barrels at convenient centres where this product is needed for agricultural purposes. There is only one conventional type of retail outlet commissioned by IOC for distributing light diesel oil, namely, at Kalanaur near Rohtak, which has been in commission since December, 1969. The barrel outlets may gradually be converted to the conventional type of retail outlets but such conversion is likely to be delayed owing to the shortage of steel for manufacture of tanks for which the first preference is given to the requirements of motor spirit and high speed diesel oil outlets.

4.3 We have carefully examined the question of the rates of commission to agents/dealers in respect of the aforesaid three modes of supply. Our conclusions are as follows:—

(a) *Commission on supplies ex-godown.*—The present rate of commission on light diesel oil supplied ex-godown is Rs. 6·60 per kl. This is lower than the commission of Rs. 7·70 per kl. allowed on kerosene supplies ex-godown. The difference is probably due to the fact that the turn-over of light diesel oil has hitherto been lower than that of any of the major oil products. The working capital requirements should also be less in view of the lower selling price of light diesel oil. We have received no representation against the present rate of commission on light diesel oil. Since the demand for this

product is steadily increasing, the present may not be an opportune moment to disturb the *status quo*. The trend of demand should be watched for some time more. We also understand that many of the dealers engaged in the distribution of kerosene handle light diesel oil and we have recommended the commission on kerosene to be kept unchanged. We accordingly recommend that no change need be made in the existing rate of commission on light diesel oil supplied ex-godown.

(b) *Commission on supplies from barrel outlets.*—The mode of receipt/delivery of light diesel oil at barrel outlets is not materially different from that at the agents'/dealers' godown; the only difference being in the location of the supply points, which have their advantages and disadvantages from the point of view of the consumer. A rural consumer may find it convenient and economical to visit a principal market in the neighbourhood where the godowns are situated, to sell his produce, purchase merchandise of daily use and also carry back light diesel oil in drums in his own transport. On the other hand, barrel outlets bring supply of light diesel oil nearer to the area of consumption of the farmer. This saves time and transport expenses, avoids spillage and leakage and ensures ready availability of product even in smaller quantity. However, these economies to the rural consumer may be offset by the transportation and operation expenses incurred by those who maintain the barrel outlets. The barrel outlets are operated only by IOC, but they have not furnished detailed data regarding the actual operation of such outlets in different areas, but has submitted a profit and loss study of such an outlet on an assumed basis. We do not consider this to be adequate for the determination of a fair rate of commission for the future. Considering that a barrel outlet functions more or less the same way as a godown in respect of its operation and service, we recommend that the rate of Rs. 6·60 per kl. should continue to apply to supplies from barrel outlets also.

(c) *Commission on supplies from retail outlets.*—Only one retail outlet is in operation at present by IOC, namely, at Kalanaur near Rohtak (Haryana). No material has been submitted regarding the economics of its actual operation. Nor are adequate data available to determine the cost of delivering light diesel oil to retail outlets from the Companies' main storage installations. We recommend, therefore, that the rate of Rs. 6.60 per kl. should continue to apply to supplies from retail outlets also till adequate data becomes available of the economics of their actual operation.

4.4 As in the case of kerosene, local authorities may allow recovery of any extra expenditure which the dealers/agents may have to incur under local conditions in any of the three cases discussed above.

CHAPTER 5

Summary of conclusions and recommendations

5.1 The Lube India Ltd. is permanently tied to Esso in regard to the supply of its feedstock. This may become a handicap to it in certain circumstances. (Paragraph 2.6.3).

5.2 The ceiling selling prices have been evolved for the specified products only and the prices of the products for which no ceiling prices have been recommended may continue to be fixed by the sellers as at present. (Paragraph 2.7.2).

5.3 In respect of 1969 imports of lube base stocks, there are wide variations in f.o.b. prices paid by the Companies, which should be studied further in view of their foreign exchange implication. (Paragraph 2.7.4).

5.4 The recommended ceiling prices for lube base stocks are given in the Statement.

5.5 The recommended ceiling prices may remain in force for a period of three years subject to adjustments for variations in customs duty and the additional (non-recoverable) duty. (Paragraph 2.8).

5.6 The present system of Block Control may be continued for the present in respect of lubricants and greases and steps taken to obtain essential cost data from major producers for the principal grades produced by them. (Paragraph 3.6).

5.7 No change is recommended in the existing rate of commission of Rs. 6.60 per kl. on light diesel oil supplied ex-godowns. The same rate should continue to apply to light diesel oil supplied from barrel and retail outlets. In these cases, the local authorities may allow recovery of any extra expenditure incurred by agents/dealers under local conditions. (Paragraphs 4.3 and 4.4).

5.8 Any Committee appointed in future to consider major questions relating to the pricing of petroleum products should be given powers normally vested in a Commission of Inquiry to enable it to examine the books of accounts of the Oil Companies and independently to collect other evidence necessary for a proper investigation

of their costs of production, imports and distribution. (Paragraph 3.7).

Shantilal H. Shah,
Chairman
B. N. Adarkar,
Member
B. Natarajan,
Member
N. Krishnan,
Member

N. R. Law,
Scretary.

New Delhi, dated the 31st *July*, 1970.

Statement showing the recommended

Details	F.O.B. (please refer to Appendix V)	Freight	Insurance and Ocean Loss	C.I.F.	Wharfage	Landing charges
	——————————Rupees per					
Assam Oil Company						
1. B.O.C. 50	301·54	152·22	4·54	458·30	11·75	0·67
2. B.O.C. 250	373·87	152·22	5·26	531·35	11·75	0·67
Barauni Refinery						
800 Pale	339·04	152·22	4·91	496·17	11·75	0·67
Madras Refinery Ltd.						
1. Spindle Oil HVI	372·37	152·22	5·25	529·84	13·99	0·67
2. Spindle Oil MVI	318·65	152·22	4·71	475·58	13·69	0·67
3. Spindle Oil LVI	292·92	152·22	4·45	449·59	13·14	0·67
4. MRL's TOBS	328·63	152·22	4·81	485·66	13·14	0·67
5. Light Neutral HVI	436·59	152·22	5·89	594·70	13·68	0·67
6. Light Neutral MVI	382·01	152·22	5·34	539·57	13·37	0·67
7. Light Neutral LVI	317·02	152·22	4·69	473·93	13·10	0·67
8. Intermediate Neutral HVI	474·35	152·22	6·27	632·84	13·66	0·67
9. Intermediate Neutral MVI	419·39	152·22	5·72	577·33	13·36	0·67
10. Intermediate Neutral LVI	334·75	152·22	4·87	491·84	12·99	0·67
11. Heavy Neutral HVI	509·06	152·22	6·61	667·89	13·43	0·67
12. Heavy Neutral MVI	464·06	152·22	6·16	622·44	13·10	0·67
13. Heavy Neutral LVI	347·93	152·22	5·00	505·15	12·70	0·67
Lube India Ltd.						
1. 150 Neutral	443·00	142·22	5·85	591·07	4·20	0·21
2. 500 Neutral	494·71	142·22	6·37	643·30	4·20	0·21
3. 1300 Neutral	507·54	142·22	6·50	656·26	4·20	0·21
4. 100 Industrial	315·03	142·22	4·57	461·82	4·20	0·21
5. 500 Industrial	332·35	142·22	4·75	479·32	4·20	0·21
6. 1600 Industrial	344·27	142·22	4·86	491·35	4·20	0·21
7. LIL's TOBS	319·90	142·22	4·62	466·74	4·20	0·21

NOTE:—Customs Duty has been calculated at the rate of 62 per cent *ad-valorem* on cost in case of all products except TOBS, for which data furnished by the LIL

Ceiling Prices Ex/F.O.R. Lube Refineries

Landed cost without duty	Customs Duty	Additional N.R. Duty	Total Duty	Landed cost with duty	Adjustment for pour point & quality	Ceiling price ex/ f.o.r. lube refineries	
							Rs./kl. at 29·5°C
Tonne							
470·72	286·02	281·00	567·02	1037·74	112·74	925·00	844·59
543·77	331·76	281·00	612·76	1156·53	127·53	1029·00	981·78
508·59	309·73	281·00	590·73	1099·32	36·80	1062·52	973·09
544·50	330·81	281·00	611·81	1156·31	18·40	1137·91	965·23
489·94	296·84	281·00	577·84	1067·78	18·40	1049·38	909·97
463·40	280·56	281·00	561·56	1024·96	18·40	1006·56	910·17
499·47	157·24	55·23	212·47	711·94	..	711·94	643·77
609·05	371·42	281·00	652·42	1261·47	18·40	1243·07	1078·96
553·61	336·90	281·00	617·90	1171·51	18·40	1153·11	1024·71
487·70	295·80	281·00	576·80	1064·50	18·40	1046·10	948·67
647·17	395·30	281·00	676·30	1323·47	18·40	1305·07	1134·35
591·36	360·54	281·00	641·54	1232·90	18·40	1214·50	1080·04
505·50	307·02	281·00	588·02	1093·52	18·40	1075·12	983·28
681·99	417·25	281·00	698·25	1380·24	36·80	1343·44	1188·57
636·21	388·79	281·00	669·79	1306·00	36·80	1269·20	1150·99
518·52	315·35	281·00	596·35	1114·87	18·40	1096·47	1025·60
595·48	369·21	281·00	650·21	1245·69	36·80	1208·89	1059·13
647·71	401·92	281·00	682·92	1330·63	36·80	1293·83	1143·77
660·67	410·03	281·00	691·03	1351·70	36·80	1314·90	1177·38
466·23	288·28	281·00	569·28	1035·51	36·80	998·71	872·69
483·73	299·24	281·00	580·24	1063·97	36·80	1027·17	940·20
495·76	306·77	281·00	587·77	1083·53	36·80	1046·73	969·46
471·15	148·33	55·59	203·92	675·07	..	675·07	606·21

C.I.F. plus notional landing charges at the rate of 1 per cent on FOB/for customs duty have been used *prorata* on MRL TOBS also.

APPENDIX I

List of the parties to whom the Questionnaires were issued and from whom replies were received

1. M/s. Burmah-Shell Oil Storage & Distributing Co. of India Ltd., Ballard Estate, P.B. No. 688, Bombay-1.

2. M/s. Esso Standard Eastern Inc., 17, Jamshedji Tata Road, P.B. No. 11041, Bombay-20 BR.

3. M/s. Caltex (India) Limited, 8, Ballard Road, P.B. No. 155, Bombay No. 1.

4. M/s. Indian Oil Corporation Ltd., (Marketing Division), 254-C, Dr. Annie Besant Road, Prabhadevi, Bombay-25 (DD).

5. M/s. Indian Oil Corporation Ltd., (Refineries Division), Indian Oil Bhavan, Janpath, New Delhi-1.

6. M/s. Assam Oil Co. Ltd., Allahabad Bank Building, 17, Parliament Street, New Delhi-1.

7. M/s. Indo-Burma Petroleum Co. Ltd., Gillanders House, Netaji Subhas Road, P.B. No. 383, Calcutta-1.

8. M/s. Castrol Limited, White House, 91, Walkeshwer Road, Bombay-6 (WB).

9. M/s. Gulf Oil (India) Pvt. Ltd., Steelcrete House, 3, Dinsha Wacha Road, P.B. No. 1943, Bombay No. 1.

10. M/s. Tide Water Oil Co. (India) Ltd., 8, Clive Row, Calcutta-1.

11. M/s. Victor Oil Co. (Private) Ltd., 27, Sir R.N. Mukherjee Road, Calcutta-1.

*12. M/s. Sikri & Grover,
United Bank of India Building,
Sir P.M. Road,
P.B. No. 1840,
Bombay-1 (BR).

*Did not reply.

13. M/s. Madras Refineries Limited,
P.B. No. 454,
122-D, Mount Road,
Madras-6.

14. M/s. Lube India Limited,
Administration Building,
Corridor Road, Mahul,
Bombay-74 (AS).

15. M/s. Indian Oil Blending Limited,
P.B. No. 8803,
Pir Pau, Trombay,
Bombay-74 (AS).

16. M/s. Power Cables Private Ltd.,
24, Brelvi Sayed Abdulla Road,
P.B. No. 1522,
Bombay No. 1.

17. Ministry of Petroleum and Chemicals
and Mines and Metals (Department of
Petroleum), Shastri Bhavan,
New Delhi-1.

APPENDIX II

List of persons who attended discussions with the Oil Prices Committee

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AT BOMBAY

Mr. E. D. Gray Shri P.R. K. Menon Mr. P. H. Sommer Shri Ram Dev Shri S. A. Subramaniam	Representing : Lube India Limited.	23-1-1970
Shri J. C. Goyal	Representing : Indian Oil Blending Ltd.,	24-1-1970

AT NEW DELHI

Shri S. K. Gupta Shri Y. S. Shinde Shri M. M. Lall	Representing : Indian Oil Corporation Ltd.	5-2-1970

AT MADRAS

Shri M. Rama Brahmam Shri P. T. Venugopal Shri O. Stephanian Dr. M. S. Nadkarni Shri N. J. Mathew	Representing : Madras Refineries Ltd.	20-2-1970 and 21-2-1970

AT BOMBAY

Mr. E. D. Gray Shri P. R. K. Menon Mr. P. H. Sommer	Representing : Lube India Ltd.	5-6-1970
Dr. M. S. Nadkarni Shri P. T. Venugopal	Representing : Madras Refineries Ltd.	5-6-1970
Shri S. D. Bhambri Shri G. Valvi Shri R. Gurumurthy Dr. G. Jayarama Rao Shri Y. S. Shinde Shri K. S. Subramaniam	Representing : Indian Oil Corporation Ltd.	6-6-1970
Shri R. Raychaudhuri Dr. B. K. Barman Shri A. K. Sarkar	Representing : Assam Oil Co. Ltd.	6-6-1970

Technical Representatives who took part in the meeting held on 26-6-1970 *in the Ministry of Petroleum & Chemicals and Mines & Metals (Department of Petroleum) at New Delhi, regarding specifications of lube base stocks.*

Name	*Representing*
Shri M. Kurien . . .	Chief of Refineries, Planning and Development, Ministry of Petroleum & Chemicals and Mines and Metals (Department of Petroleum).
Dr. M. S. Nadkarni . .	Madras Refineries Ltd.
Shri J. Jayaraman . . .	Indian Oil Corporation Ltd.
Dr. G. Jayarama Rao . .	
Dr. B. K. Barman . .	Assam Oil Company Ltd.
Shri Ram Dev . . .	Lube India Limited.
Shri P. R. K. Menon . .	

APPENDIX III

Specifications of Lube Base Stocks indigenously produced by the Refineries.

(i) DIGBOI

Grade	Density at 15°C	R.I. Viscosity, sec. at 100°F	140°F	210°F	ASTM Colour	Pour Point °F	Flash Point °F	Conradson carbon %wt.
(1) BOC 50	0·924	86	50	35	L3·5	55	355	..
(2) BOC 250 .	0·965	1117	249	60	6·0	60	435	..

(ii) BARAUNI

Pale 800

Pour Point 0°C Max.—30°F
Colour ASTM 5·5 Max.
Viscosity at 100° F 750 to 850 SUS
Flash Point 200°C Min.

(iii) MADRAS

Grade	*Viscosity* CS at 210 Deg. F	SSU at 210 Deg. F	SSU at 100 Deg.F Min.	Max.	Avg.	Vis. Index Min.	Pour Point Max. Deg. F	Flash Point Min. Deg. F	Colour ASTM Min.
(1) Spindle HVI .	2·7	35	55	75	65	95	20	370	1·5
(2) Spindle MVI .	2·7	35	55	75	65	80	20	370	2·0
(3) Spindle LVI .	3·0	36	65	75	70	Positive	20*	370	2·5
(4) Lt. Neut. HVI .	4·5	41	110	130	120	95	20	395	1·5
(5) Lt. Neut. MVI .	4·8	42	130	150	142	80	20	395	2·5
(6) Lt. Neut. LVI .	5·1	43	160	180	171	65	20	395	3·5
(7) Int. Neut. HVI .	7·9	52	280	320	300	95	20	440	2·0
(8) Int. Neut. MVI .	8·5	54	340	400	370	80	20	440	3·0
(9) Int. Neut. LVI .	10·2	60	545	615	580	60	20	440	4·5
(10) Hy. Neut. HVI .	17·1	86	900	1100	1000	90	30	500	4·0
(11) Hy. Neut. MVI .	19·2	95	1200	1600	1410	75	30	500	5·0
(12) Hy. Neut. LVI .	25·5	122	3000	3500	3280	45	30	500	7·0

* 14 for TOBS

(iv) LUBE INDIA

Grade	Viscosity Index Min.	Viscosity SSU @ 100° F		Viscosity SSU @ 210° F		Pour Point °F	Colour ASTM		Flash Point
		Min.	Max.	Min.	Max.	Max.	Min.	Max.	COC°F Min.
(1) 150 Neutral .	95	150	160	..	..	30	1·0	1·5	400
(2) 500 Neutral .	95	..	..	63	..	30	2·0	4·0	435
(3) 1300 Neutral	90(+)	..	..	96	..	30	5·0	6·0	540
(4) 100 Industrial .	..	100	110	..	..	30	0·5	1·5	320
(5) 500 Industrial .	..	500	530	..	..	30	1·5	3·0	385
(6) 1600 Do. .	..	..	..	87	100	30	3·0	4·5	465

	Viscosity SSU at 80°F		Pour Point °F		Flash Point COC °F	
	Min.	Max.	Min.	Max.	Min.	Max.
(7) TOBS	74	128	..	14	295	..

APPENDIX IV

Statement showing the imported grades from which grades equivalent to indigenous grades can be produced by blending

Domestic Grades	Imported grade which correspond to or can be blended to obtain indigenous grades or their near equivalents according to data collected from—			
	B. Shell	Esso	Caltex	IOC
Assam Oil Co.				
(i) BOC 50 . .	Pale 100	Pale 100	Pale 100	Pale 100
(ii) BOC 250 .	LVI 1100	P100 & P2000	P100 & P2000	P100 & Stock 92
Barauni Refinery				
Pale 800 . .	P100 & P2000	P100 & P2000	P100 & P2000	P100 & Stock 92
Madras Refinery .				
(i) Spindle Oil HVI	N100 & N200	N65, N150 & N450	Not possible	N200 & B.S.
(ii) ,, ,, MVI	——————same as HVI with 2 cents differential——————			
(iii) ,, ,, LVI .	P100 & P2000	P100 & P2000	P100 & P2000	P100 & Stock 92
(iv) Lt. Neutral HVI	N1 00 & N200	N65, N150 & N450	Not possilble	N200 & B.S.
(v) Lt. Neutral MVI.	——————same as HVI with 2 cents differential——————			
(vi) Lt. Neutral LVI	P100 & P2000	P100 & P2000	P100 & P2000	P100 & Stock 92
(vii) Int. Neutral HVI	N200 & N500	N150 & N450	N150 & N500	N200 & B.S.
(viii) Int. Neutral MVI	——————same as HVI with 2 cents differential——————			
(ix) Int. Neutral LVI	P100 & P2000	P100 & P2000	P100 & P2000	P100 & Stock 92
(x) Heavy Neut. HVI	N500 & B.S.	N450 & B.Stock	N450 & B.S.	N200 & B.S.
(xi) Heavy Neut. MVI	——————same as HVI with 11/2 cent differential——————			
(xii) Heavy Neut. LVI	P100 & P2000	P100 & P2000	P100 & P2000	P100 & Stock 92
Lube India Ltd. .				
(i) 150 Neutral	N100 & N200	N150	N150	N200 & B.S.
(ii) 500 Neutral .	N500	N450 & B.S.	N450 & B.S.	N200 & B.S.
(iii) 1300 Neutral	N500 & B.S.	N450 & B.S.	N450 & B.S.	N200 & B.S.
(iv) 100 Industrial	P100	P100	P100	P100
(v) 500 Industrial .	P100 & P2000	P100 & P2000	P100 & P2000	P100&Stock 92
(vi) 1600 Do. .	P100 & P2000	P100 & P2000	P100 & P2000	P100&Stock 92

NOTE:— P=Pale.
N=Neutral.
B.S.=Bright Stock.

APPENDIX V

Statement showing composition of imported grades to arrive at the lowest FOB costs of the equivalent or the blended equivalent to the indigenous grades

(Cents per AG)

Indigenous Grades	Related to imported grade or their blended equivalents	Lowest FOB cost adopted
I. *Assam Oil Company*		
(i) BOC 50. . . .	Pale 100	13·90
(ii) BOC 250 . . .	LVI 1100	18·00
II. *Baranui Refinery*		
Pale 800 . . .	23%P100+77%P2000	15·67
III, *Madras Refinery Ltd.*		
(i) Spindle HVI . .	175%N200—75%B.S.	15·96
(ii) Spindle MVI . .	Same as above with 2C differential .	13·96
(iii) Spindle LVI . .	123%P100—23%P2000	13·37
(iv) Lt. Neutral HVI .	71%N 100 + 29% N 200 . . .	19·14
(v) Lt. Neutral MVI .	Same as above with 2C differential .	17·14
(vi) Lt. Neutral LVI. .	73%P100+27%P2000	14·51
(vii) Int. Neutral HVI .	33%N450+67%N150	20·83
(viii) Int. Neutral MVI .	Same as above with 2C differential .	18·83
(ix) Int. Neutral LVI .	32%P100+68%P2000	15·45
(x) Heavy Neutral HVI .	50% N 450 + 50% B.S. . . .	22·74
(xi) Heavy Neut. MVI .	Same as above with 1·5 C differential .	21·24
(xii) Heavy Neut. LVI .	110%P2000—10%P100 . . .	16·42
IV. *Lube India Ltd.*		
(i) 150 Neutral . .	40% N100+60% N200	19·60
(ii) 500 Neutral . .	95% N450+5% B.S. . .	22·08
(iii) 1300 Neutral . .	45% N500+55% B.S.	22·94
(iv) 100 Industrial . .	Pale 100	13·90
(v) 500 Industrial . .	37% P100+63% P2000	15·35
(vi) 1600 Industrial . .	5% P100+95% P2000	16·09

NOTE:— P=Pale.
N=Neutral.
B.S.=Bright Stock.

APPENDIX VI

Statement showing Conversion Factors used

Details	AG @ 15°C per M.T.	KL @ 29·5°C per M.T.	Factors for converting duty rate at 15°C to 29·5°C. Duty at 15°C × factor = duty at 29·5°C
I. *Assam Oil Co.*			
1. BOC 50	286·36	1·0952	0·9897
2. BOC 250	274·17	1·0481	0·9902
II. *Barauni Refinery*			
800 Pale	285·60	1.0919	0·9901
III. *Madras Refinery*			
1. Spindle Oil HVI	307·98	1·1789	0·9889
2. Spindle Oil MVI	301·30	1·1532	0·9890
3. Spindle Oil LVI	289·20	1·1059	0·9899
4. MRL TOBS	289·20	1·1059	0·9899
5. Light Neutral HVI	301·10	1·1521	0·9893
6. Light Neutral MVI	294·20	1·1253	0·9896
7. Light Neutral LVI	288·40	1·1027	0·9900
8. Int. Neutral HVI	300·60	1·1505	0·9890
9. Int. Neutral MVI	294·00	1·1245	0·9897
10. Int. Neutral LVI	286·00	1·0934	0·9901
11. Heavy Neutral HVI	295·50	1·1303	0·9896
12. Heavy Neutral MVI	288·40	1·1027	0·9900
13. Heavy Neutral LVI	279·70	1·0691	0·9903
IV. *Lube India Limited*			
1. 150 Neutral	298·35	1·1414	0·9891
2. 500 Neutral	295·75	1·1312	0·9893
3. 1300 Neutral	292·05	1·1168	0·9895
4. 100 Industrial.	299·17	1·1444	0·9891
5. 500 Industrial.	285·80	1·0925	0·9898
6. 1600 Industrial	282·14	1·0797	0·9898
7. LIL's TOBS	291·22	1·1136	0·9895

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