C. P. U. No. 197

COMMITTEE ON PUBLIC UNDERTAKINGS

(1971-72)

(FIFTH LOK SABHA)

SIXTEENTH RFPORT

OIL AND NATURAL GAS COMMISSION

Ministry of Petroleum & Chemicals

LOK SABHA SECRETARIAT
NEW DELHI

April, 1972/Chaitra, 1894 (S)

Price : Rs. 6.10

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CORRIGENDA
to
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Page	Para	Line	For	Read
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86	4.8	7	deply	deploy
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87	4.10	17	reginonal	regional
88	4.12	6	shlef	shelf
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111	5.32	1	was	has
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113	5.41	9	throughout	throughput
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129	7.17	7	delete "to" after "like"	

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132	7.22	2	1968-69	1970-71
133	7.25	3	1968-69	1970-71
135	7.29	2	would	world
137	7.36	3	insert "at" after "drilling"	
138	7.38	3	read existing line 3 before line 2	
143	7.60	5	delete existing line 5	
145	8.3		Line 4 in statement Col. 2 delete "Rs.212"	
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152	8.22	7	Goleki	Galeki
152	8.22	13	Goleki	Galeki
152	8.22	14	Committee	Commission
158	8.45	1	insert "was" after "It"	
158	8.45	3	delete existing line 3	
158	8.45	4	insert a new line after the existing line as "time did not want. Since they had shipped and since we felt that"	
159	8.48	5	equipment	equipments
166	8.66	23	necessary	necessity
167	8.69	1	question	quotation
168	8.75(b)	last	read "case" after the existing last line	
208	10.4	5	urging	merging
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230	10.82	2	larger	large
234	11.9	2	Central	General
236	11.23	8	resources	resource
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237	11.27	2	insert 'so' after 'be'	
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COMMITTEE ON PUBLIC UNDERTAKINGS (1971-72)

CHAIRMAN

Shri M. B. Rana

MEMBERS

2. Shri K. Baladhandayutham
3. Shri Dinen Bhattacharya
4. Shri G. Bhuvarahan
5. Shri Khemchandbhai Chavda

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7. Dr. Kailas
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12. Shri Narayana Kalliyana Krishnan
13. Choudhary A. Mohammad
14. Shri Dahyabhai V. Patel

**15. Shri Kota Punnaiah

SECRETARIAT

Shri Avtar Singh Rikhy—*Joint Secretary.*

Shri M. A. Soundararajan—*Deputy Secretary.*

Shri M. N. Kaul—*Under Secretary.*

---

*Elected w.e.f. 11-8-1971 in the vacancy caused on the resignation of Dr. V.K.R. Varadaraja Rao, M.P. on 29-7-1971.

**Ceased to be Member of the Committee with effect from 3-4-1972 consequent on retirement from Rajya Sabha.

COMMITTEE ON PUBLIC UNDERTAKINGS (1971-72)

Composition of Study Group V on Petroleum and Chemical Undertakings

1 Dr. Kailas—*Convener*

2. Shri Khemchandbhai Chavda—*Alternate Convener*

3. Shri G. Bhuvarahan

4. Shri Amrit Nahata

5. Shri Dinen Bhattacharya

6. Choudhary A. Mohammad

*7. Shri Kotah Punnaiah

---

*Ceased to be Member of the Committee with effect from 3-4-1972 consequent on reirement from Rajya Sabha.

INTRODUCTION

I, the Chairman, Committee on Public Undertakings having been authorised by the Committee to present the Report on their behalf, present this Sixteenth Report on Oil and Natural Gas Commission.

2. This is the first report of the Committee based on the comprehensive appraisal done by the Comptroller and Auditor General, as contained in the Central Government Audit Report (Commercial), 1970 Part VIII and also on an examination in depth of the working of Oil and Natural Gas Commission upto the year ending 31st March, 1971.

3. The examination of Oil and Natural Gas Commission was taken up initially by the Committee on Public Undertakings (1969—70). The Committee on Public Undertakings (1971-72) took evidence of the representatives of the Commission on the 2nd and 3rd August, 1971 and of the Ministry of Petroleum and Chemicals on the 7th October, 1971.

4. The Committee on Public Undertakings considered and finalised the report at their sitting held on the 7th April, 1972.

5. The Committee wish to express their thanks to the Ministry of Petroleum and Chemicals and the Oil and Natural Gas Commission for placing before them the material and information they wanted in connection with the examination of the Oil and Natural Gas Commission. They wish to thank in particular the representatives of the Ministry and the Commission who gave evidence and placed their considered views before the Committee. The Committee also wish to thank the officers of the Ministry of Railways (Railway Board) and the Heavy Engineering Corporation, Ranchi for the assistance rendered in connection with the examination of two different audit paras.

6. The Committee also place on record their appreciation of the assistance rendered to them by the Comptroller and Auditor General of India in connection with the examination of the Oil and Natural Gas Commission.

NEW DELHI; B. M. RANA,

April 19, 1972 *Chairman,*

Chaitra 30, 1894 *(S)* *Committee on Public Undertakings.*

1

INTRODUCTORY

A. Historical Background

Until the early fifties, exploration for hydrocarbons reserves of India was being done only in Assam and West Bengal. This was mainly in the hands of the private sector and production of oil was only in Assam. Burmah Oil Company was the only sizeable company exploring for oil in India. In fact, prior to the entry of State into exploration, Assam Oil Company—a subsidiary of Burmah Oil had discovered one oil producing field in Digboi in 1889. Oil India Ltd., in which the Government of India and Burmah Oil Company have 50 per cent interest each*, had discovered two oil producing fields—Naharkatiya in 1953 and Moran in 1956. Upto that time the only exploration effort made by the international oil companies in India was that of Standard Vaccum Oil Company. In 1951-52 it carried out aeromagnetic and ground survey of the West Bengal basin. Following this in 1953 Standard Vacuum entered into a joint venture with the Government of India for exploration of this area. The partnership was 25 per cent by the Government of India and 75 per cent. by Standard Vacuum. Ten test wells were drilled and no gas or oil was found. In 1960 the project was closed. In no other regions of India had any of the oil companies made any effort to explore for oil and natural gas.

1.2. As the pace of industrial development gained momentum the consumption of petroleum products in India increased. In 1955 in pursuance to the Industrial Policy statement of 1948, the Government of India decided to have exploration for and development of oil and natural gas resources in the various regions of the country under the public sector. Consequently, towards the end of 1955 an Oil and Natural Gas Directorate was set up, as a subordinate office under the then Ministry of Natural Resources and Scientific Research. This Directorate was constituted with a nucleus of geologists and geophysicists, whose services were secured from the Geological Survey of India.

1.3. Soon after the formation of the Oil and Natural Gas Directorate, it was felt that it would not be possible for the Directorate,

*First Government had one third interest, later in 1961 Government's equity in Oil India was increased to 50%.

with its limited financial and administrative powers, as a subordinate office of the Government, to function efficiently in its task of oil exploration and production. Meanwhile in April, 1956, the Government of India passed an industrial policy resolution, which *inter-alia* placed mineral oil industry in the Schedule "A" industries, the future development of which was to be the exclusive responsibility of the State. On the 14th August, 1956, this Directorate was raised to the status of the Oil and Natural Gas Commission with certain enhanced powers, although it continued to remain a subordinate office of the Government under the then Ministry of Mines and Fuel.

1.4. On the 15th October, 1959, the status of the Oil and Natural Gas Commission was further raised to that of a statutory body by virtue of the Oil and Natural Gas Commission Act, 1959. Thus Oil and Natural Gas Commission came into being as the only organisation in the Public Sector engaged in the exploration and exploitation of India's resources of crude oil and natural gas.

1.5. The working of the Oil and Natural Gas Commission was examined by the Committee on Public Undertakings in 1964-65 and their recommendations/observations were embodied in their Fifth Report (Third Lok Sabha). The replies furnished by the Government indicating the action taken by them on the said Report were considered by the Committee on Public Undertakings (1968-69), who presented their Thirty-Seventh Report (Fourth Lok Sabha) to Parliament on 30th April, 1969.

B. Objectives

1.6. "Oil is where you find it"—that is even though geologists may be highly optimistic about finding oil the presence of oil can be conclusively proved only after drilling is completed. The most widely accepted theory about the origin of the oil is that it was formed by the decay of marine organisms and even vegetation. These were deposited on sea bed. Owing to gigantic earth movements, massive sedimentary rocks were deposited over them so as to completely entomb the marine organisms, which were later converted into crude oil. In course of time, the earth surface underwent various changes and parts of the areas where oil bearing sedimentary rocks had been formed beneath the sea were pushed up above the sea bed. Some parts are still covered by the sea.

1.7. The main functions of the Oil and Natural Gas Commission subject to the provision of the Act, *inter alia,* are "to plan, promote, organize and implement programmes for development of petroleum resources and the production and sale of petroleum and petroleum products produced by it and to perform such functions as the Central Government may, from time to time, assign to it".

1.8. Section 14(i) of the Act also stipulates that the Commission should take steps:—

"(a) for the carrying out of geological and geophysical surveys for exploration of petroleum;

(b) for the carrying out of drilling and other prospecting operations to prove and estimate the reserves of petroleum;

(c) to undertake, encourage and promote such other activities as may lead to the establishment of such reserves;

(d) to undertake, assist or encourage and promote the production of petroleum from such reserves and its refining;

(e) for the transport and disposal of natural gas and refinery gases produced by the Commission, provided that no industry, which will use any of these gases as a raw material, shall be set up by the Commission without the previous approval of the Central Government;

(f) to undertake, encourage and promote geological chemical and other scientific investigations whether in or outside the laboratory;

(g) to undertake, assist or encourage the collection, maintenance and publication of statistics, bulletins and monographs;

(h) to promote and form Companies in compliance with the requirements of the Companies Act, 1956, for any of the purposes aforesaid; and

(i) to perform any other function, which is supplemental, incidental or consequential to any of the functions aforesaid or which may be prescribed."

1.9. During its existence, the Commission has carried out extensive exploration for oil and natural gas in various parts of the country on land and is embarking on off-shore programmes. The Commission has discovered sufficient reserves of oil and gas in Gujarat and Assam so as to establish by now an annual production rate of about 4.00 million tonnes. The Commission expect to raise the output to 5.50 million tonnes approximately per year by the end of the Fourth Five Year Plan period.

C. Functions

1.10. (i) *Exploration*

The present functions of the Commission mainly consist of (a) Geological and Geophysical Surveys for exploration of petroleum (b) carrying out of drilling and other prospecting operations to prove and estimate the reserves of petroleum and (c) production and disposal of crude and gas.

1.11. The production and sale of refined petroleum products, though mentioned as one of the objectives under the Act, has not, however, been undertaken by the Commission.

Up to 31st March, 1969, the Commission had undertaken the operations referred to at (a), (b) and (c) above through fifteen projects located in various parts of the country of which four projects—one at Hoshiarpur (Punjab), two at Tilhar and Ujhani (U.P.) and one at Purnea (Bihar) were abondoned. Of the current projects, two (Rudrasagar and Lakwa) are in the Eastern Region with Regional Office at Sibsagar|Nazira, five (Ankleshewar, Ahmedabad, Mehsana, Nawagam and Cambay) are in Western Region with Regional Office at Baroda and four are located in other parts of the country *viz.* Port Canning in West Bengal, Karaikal in Madras, Jaisalmer in Rajasthan and Surinmastgarh in Jammu and Kashmir. In addition, there is an off-shore project office at Bhavnagar for undertaking drilling in the shallow water of the Gulf of Cambay off Aliabet Island.

1.12 The sequence of oil-exploration begins with geological survey. The geologists study rocks on the surface of the earth and carry out detailed, and semi-detailed mapping. They study the samples of rocks to find out its age, type etc. They look for sedimentary rocks where possibility of oil may be there. Next the subsurface geology is studied by geophysicists. They carry out gravity magnetic and seismic surveys. In gravity magnetic surveys change in gravity and magnetic intensity is measured at different points with the help of gravimetre and magnetometre respectively. After discovering the desired type of sedimentary rock wildcat drilling is done. The seismic survey is the best way to find out where to drill for oil. A detonation is done at a certain depth and the explosion waves which are reflected from various rock layers in the earth are recorded in seismograph. Then follows the exploratory drilling, development drilling, testing of wells and finally, if luck be there, production of oil and|or gas.

1.13. The year-wise performance of Oil & Natural Gas Commission in respect of geological surveys, geophysical surveys and drilling from the years 1967-68 to 1971-72 (up to May, 1971) is as follows:—

Performance in Geological Surveys
(Financial year-wise)

Year	Parties	Detailed mapping Sq. Kms.	Semi-detailed mapping Sq. Kms.	Reconnaissance mapping Sq. Kms.	Traversing (including Reconnaissance Traversing) in line Kms.	Reconnaissance Geomorphological, Neotectonic Surveys (Sq. Kms.)
1967-68	16	739	2908	6025	4319	5000
1968-69	14	1135	2360	6825	1233	10000
1969-70	15	1008	940	3950	1299	7000
1970-71	16	1127	2512	6633	2093	45000
1971-72 (Upto May)	16	215	419	1185	151	..
Corresponding Targets of Geological Surveys						
1967-68	16	936	2741	7120	896	2000
1968-69	15	1305	3235	6350	582	7600
1969-70	15	270	5810	2290	125	9400
1970-71	16	970	3490	3520	145	45000
1971-72	16	895	2170	6070	215	36250

Performance in Geophysical Surveys
(Financial year-wise)

Year	Seismic		Gravity Magnetic	
	Parties	Line Kms covered	Parties	G. M. Stations measured
1967-68	26	6993	10	10297
1968-69	26	9269	8	10869
1969-70	25	7418	4	9330
1970-71	26	6560	5	5079
1971-72 (Upto May '71)	26	2064	5	1136
Targets of Geophysical Surveys				
1967-68	26	7445	10	11920
1968-69	26	7380	8	10355
1969-70	25	7635	4	8520
1970-71	26	6235	5	4185
1971-72 (Upto May '71)	26	1635	5	965

Drilling

Year	Target		Achievement	
	Meterage	Wells	Meterage	Wells
1967-68	201800	73	200144	76
1968-69	276500	126	287874	124
1969-70	271342*	127	231283	109
1970-71	214060	109	169003	90
1971-72 (Upto May '71)	21460	17	15959	6

*Does not include 1500 metres planned for Surinsar (Jammu) well. The well was spudded only on 14-3-1970 and was drilled down to 68 metre by the end of March, 1970.

(ii) *Production*

1.14. The Commission has developed and put on regular production three oil-fields, namely, Ankleshwar, Kalol and Nawagam and a gas field in Cambay, in Gujarat; and two oil fields, namely Rudrasagar and Lakwa in Assam. Trail production from North Kadi, South Kadi Dholka, Kosamba, Sobhasan, Bakrol, Wavel, Ahmedabad Sanand and Kathana structures in Gujarat has also commenced. The crude oil produced from the oil fields in Gujarat is despatched to the Gujarat Refinery and that produced in Assam to the Refineries at Gauhati and Barauni.

1.15. The yearwise production of crude oil and gas from the year 1967-68 to 1971-72 (upto May 71) has been as follows:—

Year	Crude Oil (in M. Tonnes)		Gas in (Mn. M)	
	Plan	Actual despatches	Plan	Actual Supplies
1967-68	2·83	2·82	*	232.94
1968-69	3·05	3·09	*	330·15
1969-70	3·68	3·64	285	333·13
1970-71	3·61	3·64	*	332·53
1971-72 (Upto May' 71)	0·663	0·662		59·91

(iii) *Overseas Operations*

1.16. In order to be self-sufficient in the production of crude oil to the greatest extent possible, the Commission, in January, 1965 entered into a joint structure agreement with the National Iranian Oil Company, jointly with AGIP, SpA an associate of the Italian State enterprise—Ente Nationale Idrocarburi (ENI) and the Phillips Petroleum Company of the U.S.A. to explore and exploit the structures located in four blocks in the off-shore area of the Persian Gulf. Under the joint venture a new Company known as Iranian Marine International Oil Company (IMINOCO) was floated. The interests of O.N.G.C. in this venture are looked after by its subsidiary—Hydrocarbons (India) Pvt. Ltd. According to the terms of agreement, the Commission's share out of the total production of IMINOCO is one sixth IMINOCO started production in August, 1969. Total cumulative production upto July, 1971 has been 5.2

*Plan not fixed. Supplies depend on the day to day demands of the consumers.

million tonnes. Out of this, the share of Hydrocarbons India Pvt. Ltd. is 0.87 million tonnes.

1.17. The performance of Oil & Natural Gas Commission in the field of exploration, production and overseas operations is being discussed in the subsequent chapters of this Report.

D. Plan to meet the requirement of crude indigenously

1.18. The total requirement of crude oil of the country for the year 1972 is 20.90 million tonnes. The country is today depending up to 62.7 per cent on import of crude oil from foreign countries. In order to explore and exploit the possibilities of indigenous production of crude oil and reduce the dependence on import, ONGC was set up in 1955. Since its inception the plan-wise details of production and despatches of crude oil and gas are as follows:—

Plan period	Production & Despatches of crude oil and condensate (Million tonnes)		Gas Supplies* (Million Cubic Metres)				
	Target	Achievement	Associated Gas from Ankleshwar	Associated Gas from Nawagam	Non-Associated gas from Cambay	Associated Gas from Assam	Total
1	2	3	4	5	6	7	8
SECOND PLAN :	—	—	—	—	—	—	—
THIRD PLAN :							
1961-62	—	0·04	—	—	—	—	—
1962-63	—	0·45	—	—	—	—	—
1963-64		0·71	—	—	—	—	—
1964-65	4·70	0·76	—	—	17·73	—	17·73
1965-66		1·43	24·15	—	127·33	—	151·48
TOTAL—THIRD PLAN	4·70	3·39	24·15	—	145·06	—	169·21

*Supplies depend upon the day-to-day demands of the consumers.

It appears that the total quantity of production up to December, 1971 was 22·11 million tonnes as against the target of 23·46 million tonnes and that of gas was 1807·16 million Cubic Metres.

1	2	3	4	5	6	7	8
NON-PLAN PERIOD							
1966-67	2·56	2·54	74·15	—	47·80	—	121·95
1967-68	2·83	2·82	182·09	—	50·85	—	232·94
1968-69	3·05	3·08	233·00	—	97·15	—	33·15
TOTAL—NON-PLAN PERIOD	8·44	8·44	489·24	—	195·80	—	685·04
FOURTH PLAN :							
1969-70	3·68	3·64	251·25	—	81·42	0·43	333·10
1970-71	3·61	3·62	261·77	4·83	65·51	0·44	332·55
1971-72 (up to Dec. '71)	3·03	3·01	208·24	11·76	66·37	0·89	287·26
TOTAL—FOURTH PLAN	10·32	10·28	721·26	16·59	213·30	1·76	952·91
GRAND TOTAL	23·46	22·11	1234·65	16·59	554·16	1·76	1807·16

1.19. The indigenous production of crude oil is much below the requirement of the country. In 1960, 5.7 million tonnes of crude oil was imported at a cost of Rs. 40.57 crores and this had all to be in free foreign exchange. At that time the production in the country was almost insignificant. From 1960 onwards the quantity of crude oil imported in the country and the amount spent on it has been gradually rising as can be seen from the following statement:—

Year	Quantity imported (in million tonnes)	Value in crore of Rs.
1961	6·0	39·31
1962	6·0	38·73
1963	6·5	41·78
1964	6·8	42·59
1965	6·8	40·38
1966	7·5	56·11
1967	8·7	79·59
1968	10·4	93·88
1969	10·7	94·01
1970	11·6	102·36
1971	12·8	103·81

1.20. The requirement of crude oil of the country as against the total indigenous production for the years 1970 to 1974 is as follows:—

Year	Total requirement of crude (In million tonnes)	Total indigenous production (In million tonnes)	Degree of self sufficiency
1	2	3	4
1970	18·46	6·81	36·9%
1971	20·00	7·51	35·7%
1972	20·90	7·80	37·3%
1973	24·30	7·80	32·1%
1974	26·50	8·80	33·2%

1.21. The foreign exchange expenditure anticipated to be spent on import of crude oil during the next three years, i.e., 1972 to 1974 is as follows:—

Year	Velue in crores of rupees
1972	146·61
1973	165·87
1974	186·93

1.22. The outflow of foreign exchange in the subsequent years cannot be anticipated in correct terms for the reason that no firm figures of production are available.

1.23. Of late there has been a tendency of increase in the price of crude oil being imported in the country. The international oil companies have been frequently demanding increase in the price of crude oil, which they are importing in the country. Replying to a calling attention notice regarding unilateral increase in crude price made by the foreign oil companies, the Minister of Petroleum and Chemicals informed the Rajya Sabha on the 27th July, 1971 as follows:—

"On 28th May, 1971 I had informed the Hon'ble House of the concerted action taken by the organisation of Petroleum Exporting countries for raising the posted price of crude and the rate of taxation which resulted in the signing of the Tehran Agreement on 14th February, 1971 between the OPEC and the Oil Companies. As a consequence the oil companies increased their price of crude first on 1-12-1970, again with effect from 15-2-1971 and on the third occasion with effect from 1-6-1971, thus making a total increase of 40 cents per barrel in the case of Aghajari crude supplied by Burmah Shell and Caltex and by 41 cents per barrel in the case of Arabian Mixed supplied by Esso. I had then made it clear to the oil companies that they did not see sufficient justification for the oil companies passing on the entire increase in taxes and royalties to us. However, in order not to affect, the country's industrial growth Government allowed import of crude provisionally at the higher prices.

On 5th July Burmah Shell informed Government that from 15th July, 1971 their price of Aghajari crude would be further increased from $1.68 to $ 7.73 per barrel. Similar notice was given by Caltex on 6th July, 1971 stating that their price increase will become effective from 18th July. On the 5th July, Esso also gave similar notice that the price of the Arabian Mix will increase to $ 1.70 per barrel from $ 1.66 with effect from 10th July, 1971.

Unlike the previous increase in oil price which were sought to be justified by the Oil Companies as following from the Tehran Agreement this last increase, they contend, is justified on the basis of a further increase in the prevailing world prices of crude.

This is a new situation and Government is examining the position with regard to crude prices or currently obtaining in the world market. Meanwhile we are releasing foreign exchange for imports at the June, 1st, 1971 prices."

1.24. Like-wise on the 28th July, 1971 the Minister of Petroleum and Chemicals made a statement in Lok Sabha on a matter of urgent public importance concerning the reported move of the foreign oil companies to increase the price of crude oil imported by them. During the course of the discussion that ensued, the Minister informed the House as follows:—

"The price increase as has been claimed by the companies, is on account of the fact that the oil producing countries have entered into a settlement or agreement with oil companies according to which they have raised the posted price and they have at the same time also raised the tax which they were collecting. On this account, there has been an increase of payment by the oil companies to the producing countries of 40 cents. Now most companies have said they have passed on the entire increase of 40 cents which they are now paying extra to these producing countries, to the consumers in India, that is to say, the entire—burden has passed on.

We have been of the view that this entire burden should not have been passed on to us, because according to an exercise done by us, there is still enough margin left with these companies. Therefore, in spite of the increase by the producing countries in various taxes which these companies have to pay, there could have been a case and there is a case that the entire burden should not be passed on to the consumer. It is based on this alone that while taking into consideration the prices of the petroleum products although the Shanti Lal Shah Committee's recommendations are there to the effect that for every 10 cents increase there should be 4 per cent increase in petroleum product prices. Government have agreed to a petroleum product price increase only of 8 per cent, that is to say, the price increase is equivalent to 20 cents and no equivalent to 40 cents. But in view of the security of the country and in view of the fact that industrial production is not to be hampered at the present juncture, we have taken a decision that we would go on making provisional payment with regard to this, and provisional payment is being made.

But with regard to the present notice which has been given, this has no relevance whatsoever even with regard to the producing countries agreement, that is to say, the Tehran Agreement. This price increase of 5 cents or 7 cents of which these companies have given notice is according to them only in view of the fact that they claim that the world prices of crude have hardened. We have not accepted this position, as I have said in my statement already. The position is that we are releasing them foreign exchange based on the prices as on 1st June, and not in accordance with the notice which they have given.

* * *

As for the question of prices, although the posted price of crude is there, the crude is being supplied at different prices It is possible that underhand dealings might be there because it was our information that when crude was being supplied, we were not getting a discount at a particular period of time, we started getting discount actually from 1963 which was further increased in 1969 and later it was increased till 1970. So it is possible that they might be allowing to some consumers a discount which might be less or more than what has been given to us."

1.25. Again very recently according to press reports, a meeting between the Oil Producing and Exporting Countries of the Persian Gulf and international oil companies operating in the region has resulted in agreement on a 8.59 per cent increase in crude prices as a compensatory adjustment to the devaluation of the dollar. The international oil companies say they have no option but to pass on this rise to their consumers. Three western oil companies have accordingly sought an increase of nearly 12 cents per barrel which presents India with an additional annual bill of approximately Rs. 7 crores. The Government has protested against the increase on the ground that the foreign oil companies have been selling crude in India at a higher price than elsewhere. The outcome of the negotiation is to be seen.

1.26. The Ministry of Petroleum and Chemicals has submitted a note on recent OPEC Agreement and resultant increase in the price of crude to be imported as follows:—

"The three foreign oil companies operating coastal refineries are allowed the freedom under the Refinery Agreement to bring crude oil for their refineries from their own sources at prevailing world prices. The revision of this particular provision in the Refinery Agreements has been subject matter of protracted discussions between the Government and these oil companies. However, it has not been possible to reach any mutually acceptable settlement in regard to its revision.

2. Until the third quarter of 1970, the crude oil prices were continually coming down. Discounts were available on 'posted' prices. An idea of the discounts can be had from the fact that against a 'posted' FOB price of $ 1.79|bbl (bbl is short for barrel and each tone has approximately 7.3 barrels of crude oil, the actual number varies with the gravity of the crude), the discount available was 19 cents/bbl in June, 1960, 21 cents/bbl in 1962 and so on until it became 51 cents/bbl by February, 1970 bringing down the net FOB price to an all time low of $ 1.28|bbl.

3. In the last decade, the 'posted' prices have progressively ceased to have reference to the actual selling prices and have been increasingly used for calculating the tax revenues of the oil producing countries. The royalties, taxes, etc. are calculated by the oil producing countries not on the basis of the actual selling prices of the crude oils, but on their 'posted' prices.

4. During 1970 the oil producing and exporting countries who had been at logger heads with each other for several decades got together and gave an ultimatum to the oil companies that if they failed to increase the posted prices and also simultaneously agree to the producing countries' share of taxes being increased, they (oil producing and exporting countries known as the OPEC) would cut off oil production. The demand for oil all over the world being relatively inelastic, the oil companies could not resist these demands and initially agreed to a 7 cents/bbl additional recovery by the producing countries followed by what is known as the Tehran Agreement of February, 1971, which resulted in a further substantial increase in the 'take' of the producing countries.

5. The increase that have taken place as a direct result of the concerted action taken by the OPEC and otherwise are summarised below.

Date	Cents/bbl
November, 70	7
February, 71 .	27
June, 71 . . .	6
July, 71	5
January, 72	11·7
TOTAL	56·7 cents/bbl

Of the above increases, the first three and the last one have been attributed to a direct increase in the 'take' of the oil producing countries; the fourth increase of 5 cents/bbl has been claimed on the ground of hardening crude oil prices.

6. Between them the three foreign oil companies are currently importing 7.7 million tonnes of crude oil each year. This is equal to a little over 56 million barrels of crude oil per annum. An increase in the crude oil price by every cent, therefore, results in additional foreign exchange outgo of $ 5,62,000.

7. The latest increase of 11.7 cents|bbls has been claimed as a direct result of the agreement reached between the OPEC and the major international oil companies to make good the shortfalls in the recoveries of the oil producing countries as a result of the devaluation of the dollar, owing to crude oil/prices being 'posted' in terms of the dollar."

1.27. During the course of the evidence of the representatives of the Ministry of Petroleum and Chemicals, on the working of O.N.G.C. the Committee enquired about the total requirements of crude oil in the country and how much of it was being imported. The Secretary of the Ministry informed as follows:—

"This is the first time this question has been asked. I have got the information and I will give it. Our requirement of crude oil for 1970 was 18.46 million tonnes. Sources of supply were ONGC 3.63 million tonnes, Oil India 3.07 million tonnes, Assam Oil Company 0.11 million tonnes making a total of 6.81 million tonnes. The estimated requirements of crude oil for the coming years are as follows:—

1971 . .	20 million tonnes
1972	20·9 " "
1973	24·3 " "
1974	26·5 " "

We can go beyond these dates also for projection. But I think it would be advisable at this stage to restrict the projections up to the end of the Fourth Plan. Against these requirements the indigenous production will be like this:—

1971 . .	7·15 million tonnes
1972 .	7·80 million tonnes
1973 .	7.80 million tonnes
1974 .	8·80 million tonnes

The degree of self-sufficiency that we shall attain would be:

1971 .	35·7 per cent
1972 .	37·3 per cent
1973 . .	32·1 per cent
1974	33·2 per cent

This is the present estimation. But it is our hope in the Ministry, and we are working towards that end, that with a much bigger programme, particularly of off-shore drilling, we should have very definite improvement towards self-sufficiency from 1975 onwards. How much it can be, I am not in a position to say. From 1975 onwards the progress towards self-sufficiency will be speeded up".

1.28. The Commission has a 10-Year Plan (1969-70 to 1978-79) for its activities. The plan envisages the achievements of the following objectives:

(a) To find, on land, (i) about 50 million tonnes of additional initial recoverable reserves of oil, by the end of 1973-74, and (ii) to further add 35 million tonnes of initial recoverable reserves, by the end of 1978-79;

(b) to find, off shore, about 115 million tonnes of initial recoverable reserves of oil, by the end of 1973-74;

(c) to establish oil production at the rate of 6.7 million tonnes, per year, on land, by 1973-74, and, subject to (a) being achieved, to step up the production rate, on land, to about 10 million tonnes, per year; furthermore subject to (b) being achieved to establish oil production, off shore, and to step up the production rate of 4.5 million tonnes, per year by 1978-79, leading to the stepping up of a total (on land and off shore together) oil production rate, to about 14.5 million tonnes, per year by 1978-79; and

(d) to establish a gas production rate of about 912 million cubic metres, per year and a cumulative production of about 3,748 million cubic metres, by 1973-74, on land and subject to (a) and (b) being achieved, to increase the gas production rate to about 1,500 million cubic metres per year by 1978-1979.

1.29. For the 10-Year Plan the Commission proposed to deploy 12-16 Geological, 2-4 Shallow drilling, 10 Gaslogging, 2-4 Topographical and 85 Seismic Survey parties and to drill 1185 wells with meterage of 29.92 lakhs (10.21 lakh metres exploratory drilling and 19.71 lakh metres development drilling on land).

1.30. The ten Year Plan envisages financial outlay of Rs. 1,208.80 crores on various activities as shown below:—

	Rs. in crores (1969-70—1978-79)
1. Geology	23·42
2. Geophysics	120·52
3. (a) Drilling (Land)	275·02
(b) Drilling (Off-shore)	148·57
4. (a) Production (Land)	401·01
(b) Production (Off-shore)	87·73
5. Engineering & Transport	78·53
6. R. & T. Institute*	8·00
7. Headquarters	66·00
TOTAL	1208·80

1.31. The Ministry have stated (August 1970) as follows:—

"The First Five Years of the 10 Year Plan period cover the IV Plan period 1968—74 and the remaining 5 years will be covered

* Renamed as Institute of Petroleum Exploration,

under the V Plan period. The programme of work of the Commission in the first 5 year period has since been revised in December, 1969. Therefore, the programme of work for the remaining 5 years will also have to be revised depending upon the results of the work done during the first 5 years of the 10 Year period (1969-70)".

1.32. The broad objectives of the revised Fourth Five Year Plan programme of the Commission, submitted to the Ministry of Petroleum and Chemicals and approved by the Planning Commission, were as under:—

(i) to render a more comprehensive appraisal of the oil and gas reserves potential of the entire exposed portion of the sedimentary areas on land.

(ii) to indicate the reserve potential in respect of a substantial part of the total covered sedimentary areas on land and a part of the offshore areas;

(iii) to establish 35 million tonnes of CI category hydrocarbon reserves during the plan period, so as to leave a balance recoverable reserves of 95 million tonnes in A & D category and 25 million tonnes in CI category at the end of the plan period.

(iv) to establish a crude oil production of 5.5 million tonnes per year by the end of 1973-74 and achieve a cumulative production of about 22.65 million tonnes during the five year period;

(v) to establish gas production rate of 820 million cubic metres per year by the end of 1973-74, with a cumulative production of 2846 million cubic metres, and to ensure optimum utilisation of men, material and machines with a view to arrest increase in the cost of drilling and production, in spite of the inevitable rise in the price of the imported items and the general price level within the country, as well as shifting of centre of activities to more difficult areas.

1.33. In order to achieve these objectives, the Commission envisaged to undertake 155 party-years of geological work 273 party-years of geophysical work and drilling of 528 wells with a total meterage of 1.29 million. The Plan also envisaged the establishment of crude oil production of 5.5 million tonnes during the year 1973-74 and a cumulative production of 22.65 million tonnes of crude oil and 2846 million cubic metres of natural gas by the end of the plan period.

The total financial outlay required for the fulfilment of above said physical programme was estimated at Rs. 356 crores, including Commission's share of expenditure in the Persian Gulf.

1.34. The receipts from the sale of crude oil and natural gas during the plan period, (including the receipts from the sale of Persian Gulf crude), were estimated at Rs. 276 crores.

1.35. During the year 1969-70 the Commission has planned to drill 272 thousand metres and to produce 3.68 million tonnes of crude oil and 389 million cubic metres of natural gas, besides putting into operation 16 geological, 3 gas logging, 3 shallow drilling, 2 topographic survey, 6 gravity magnetic, 26 seismic, 16 electrologging and 1 electrical prospecting field parties in various parts of the country.

1.36. Against the above targets, the Commission drilled a total of 231,283 metres with 109 well completions and produced and sold a total of 3.64 million tonnes of crude oil and 333.10 million cubic meters of associated and non-associated gas, and deployed 15 geological, 2 shallow drilling, 2 topographic survey, 3 gas logging, 4 gravity magnetic, 25 seismic, 14 electrologging and one electrical prospecting parties. Drilling on 13 new structures was undertaken during the year. Indication of oil/gas was obtained in three new structures during the year. A total of 112 wells were tested by the workover rigs. In all 76 wells are either awaiting testing/repair of under testing/repair as on date. The Commission during the year extended its exploratory activities to the offshore areas in the Gulf of Cambay and to more difficult areas on land like Bagmara in Assam, Tripura Surinsar in J.K. etc.

1.37. During the year 1970-71, the Commission envisaged to drill 268,000 meters and to produce 4.07 million tonnes of crude oil and 492.5 million cubic meters of natural gas, besides deploying 16 geological, 4 shallow drilling, 10 gas-logging, 2 topographic survey, 5 gravity magnetic, 30 seismic, one electrical prospecting and twenty electrologging field parties.

1.38. *Against the above plan,* 16 geological, one shallow drilling, 3 gas logging, two topographic survey, 5 gravity magnetic, 26 seismic, 14 electrologging and one electrical prospecting parties were deployed. The target of drilling was brought down to 214,000 meters. So also for various factors the production targets were brought down to 3.61 million tonnes of crude oil and 285 million cubic meters of natural gas.

1.39. The original target of 268,000 meters envisaged deployment of 40 rigs through out the year. The number of rigs in operation during the first half of the year was only 37. It was further reduced to 32 with effect from 1st October, 1970. In spite of lowering the target it was not possible to achieve the target of 214000 metres. The achievement was only 169000 metres for a number of reasons like floods, unexpected complications in the wells, local agitations etc.

1.40. During the evidence of the representatives of the Oil and Natural Gas Commission, the Committee pointed out as follows:—

"You know oil and gas are very vital for our country's economic growth year by year. Every year we are importing crude worth about Rs. 110 crores. So it is very vital that we should attain self-sufficiency in oil and gas. We also appreciate that you are not creators of oil or gas; you can only extract them from wherever available. God creates oil and gas. But whatever experience you have gained till now, do you think that after certain lapse of time, we can attained self-sufficiency in oil and gas.

What we want to know is what are the obstacles that you feel should be removed in order to attain self-sufficiency in oil and gas as early as possible so that the Government, the Parliamentary Committee may be able to help you in removing those obstacles. We feel that somehow there is a lack of urgency, lack of perspective, lack of involvement, etc. Our Nation needs oil and gas very urgently and to fulfil our nation's immediate requirement of oil and gas; we feel that there is slackness in taking initiative in this regard.

Thirdly, when you plan for oil and gas, do you have any coordination with other agencies of the Government. Now for example, we may tell you that the Atomic Energy Commission is thinking of peaceful atomic explosions in the field of oil exploration. Therefore, do you have any coordination with the Atomic Energy Commission whereby you can utilise the expertise and technical knowhow in the sphere of exploration and planning for oil and gas development programme, their assistance may be of great help to you. For example, while planning for oil and gas, you must isolate these from other fuel resources like coal and atom.

Now there has been a persistant demand in the country for having a National Fuel Plan. Have you given thought to this and have you tried to coordinate your efforts with

Irrigation and Power Commission on the one hand and Atomic Energy Commission on the other? Now that probably electronics play a very important role in your Commission, have you planned for any coordination with the Atomic Energy Commission? Do you think that if you envisage a perspective plannig in this field, you can achieve self-sufficiency for this nation in this sphere of oil and gas? What help would you like this Committee, the Parliament and the Government to do to achieve that goal?"

1.41. The Chairman, ONGC replied to the above point as follows:—

"I shall answer very briefly. As I have already said, we envisage plans year-wise but we also envisage plans for 5-years.

We have a 10-year plan which we made on our own. But subsequent to that, we have a Soviet Team working on the preparation of what we call—a techno-economic feasibility study for oil production. It means something like making a prognostication of what can be expected to be produced in five years or 10 years. So they are working on this and sometimes in September they expect that the study would be complete. Regarding the question as to whether we can expect to acquire self-sufficiency nobody can answer this question.

As far as Geological surveys are concerned, the targets and achievements have been brought out in the Audit Report. These targets are only targets of the physical work. These targets have not been completely fulfilled. They are trying to explore the probability. I think the Committee perhaps wants to know that how much extra oil has been found; how much extra oil we expect to find; how much oil we will be able to produce from year to year during the next five years. It is a question of figures. I think we have discovered more than half a dozen fields where we found oil during the last five years. But the oil reserves in those fields are not large. So the result is that the net addition to the recoverable oil reserves has not been very large. This is the position today.

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There is no scientific way that I know of to tell you that so much oil can be produced by any company and so much oil they can hope to find in any particular area. The only way by which we can make a forecast is that we have to judge this on the basis of our past performance. The study which is being made at present jointly by the Indian and the Russian specialists is based on the past performance. As regards plans, by the end of the period of the Fourth Five Year Plan as approved by the Planning Commission, we have said that we would produce 5-1|2 million tonnes at the end of the plan period. We are in a position to produce at that rate and we stick to that figure. There is no change except that a slight difference has been caused by the fact that we were expecting to produce one million tonne per year from Assam. We can expect to produce one million tonne per year if the proposed new refinery in Assam goes into operation. But according to the present expectations, it seems unlikely that the refinery will go on stream by the end of the Fourth Five Year Plan period. To that extent, there will be a short fall".

1.42. To an enquiry of the Committee whether it would be advantageous to concentrate on the structures, which are known to be hydrocarbons bearing instead of discovering new structures, the Chairman ONGC stated as follows:—

"When we find a new structure in an area we will drill a well on that structure. After drilling the well, if we find that it is an oil bearing well, then we do concentrate on that structure. In Ankleshwar also we tried the same method and there we have drilled more than two hundred wells. But such a large number of wells are drilled not to explore the structure but to obtain oil production from it. We have found oil in Lakwa and Rudrasagar structures in Assam and in many structures in Gujarat. We are drilling a large number of wells on those structures to produce oil from them".

1.43. As regards delay in testing of wells, the Chairman, ONGC informed the Committee during evidence as follows:—

"As given in Audit Report 1966-67, 17 rigs were in operation and there were as many as 1,660 idle rig days. In 1967-68, 18 rigs were in operation and 1,795 idle rig days were there. In 1968-69, 19 rigs were in operation and 1,098 idle rig days were there. In 1969-70, 18 rigs in operation and only 489 idle rig days. In 1970-71 we had 19 rigs in operation and 712.8 idle rig days. I would submit therefore that there has been some idle rig days in the past in regard to the production testing but now for the last two years, which is subsequent to the audit report we have improved the situation very well.

Secondly, you inquired whether it would not be better to concentrate in the areas in which oil had already been found. Out of the large number of drilling rigs in operation, today most of them are concentrated only in regions which are known to be petroliferous in Gujarat and Assam. In fact we can count the handful rigs which are operating outside, in Jammu, Jaisalmer and Cauveri basin.

It is true that the chances of finding oil in region where oil has already been discovered are considered to the maximum and that an oil company would concentrate its efforts there".

1.44. The Ten Year Plan of the Commission was submitted by the Commission to the Ministry of Petroleum and Chemicals. During the evidence of the representatives of the Ministry of Petroleum and Chemicals on the working of the Oil and Natural Gas Commission, the Secretary of the Ministry commented on the Ten-Year Plan as follows:—

"We had asked them to draw up a firm programme for 5 years and another perspective programme for another 5 years. They have done that.

I may submit—they also know it—this programme is not really fully scientific. The data behind it was inadequate and, therefore, we took with their consent and in discussion with them a decision about two years ago that we would invite a group of experts from USSR".

1.45. In a note submitted to the Committee, the Ministry have stated as follows in regard to the Report of the Soviet team:—

"In the past five years the ONGC have not been able to add significantly to our oil and gas reserves. The existing reserves have been depleting in the mean-time. The exploration efficiency in terms of oil discovered per metre of exploratory drilling has considerably declined. Many of ONGC's exploratory wells, drilled at considerable cost, have proved a failure and some of the newer fields discovered like Galeki in Assam have been taking a long time to be put on commercial production. Now ONGC is to take up offshore drilling and is also going to extend its operations on-shore to Tripura area, which on geological and geophysical prognosis are highly promising areas, but being at the same time difficult areas, will require more skill to explore and a great deal of resources. This makes it necessary to lay down a better order of priorities for our programme of exploration and also to ensure that ONGC would have good expertise in regard to the choice of correct methods and techniques and equipment for undertaking the exploration in the newer and what would be more difficult areas.

It was for these reasons that the Ministry had felt the need for a review by a high-powered technical team, of the exploration and production work done by the ONGC in the last few years, including re-interpretation of the mass of technical data gathered over the years from seismic surveys and oil drilling. Based on this review could be worked out, on as sound a technological basis as possible a Five Year Operating Plan for further exploration and production of oil, together with a Perspective Plan to cover a further period of five years. This plan should make an overall assessment of the country's petroleum potential on the basis of the geological and geophysical data of the various sedimentary areas on-shore and off-shore; determine correctly the priorities for exploration of these areas, taking into account the prospects, logistics and economics involved; indicate the ratio of effort to be devoted towards exploration and production respectively, translated into concrete operations plan, with a view to achieve a proper balance between maximisation of production and addition to reserves, indicate the methods and techniques to accomplish these objectives and give a broad picture of the magnitude of the resources required, of finance, manpower and equipment, for the operational plan.

During his visit to Moscow in September, 1969 Dr. T. Sen, then Minister for Petroleum and Chemicals sought the help of USSR, experts, for working jointly with ONGC specialists to make a techno-economic study of the Oil and Gas reserves in India. This proposal found ready acceptance of USSR authorities and in consultation with them and ONGC the scope of the techno-economic study was formulated as follows:—

(i) Overall assessment of the petroleum potential on the basis of the geological and geophysical data of the various sedimentary areas in India, on-shore and off-shore. (If, and to the extent, necessary, by re-interpretation of these data).

(ii) The determination of priorities for the exploration of these areas taking into account the prospects, logistics and economics involved.

(iii) The ratio of efforts to be devoted towards exploration and production translated into a concrete operational plan with a view to achieving a proper balance between production maximisation and reserves addition.

(iv) The necessary methods and touching to accomplish the above objectives.

(v) A broad picture of the magnitude of resources (finance, manpower and equipment) needed to accomplish these.

The techno-economic study began in August, 1970. The report of this study team is contained in ten volumes. The report is still being examined by the Commission. A summary of this techno-economic report as prepared by the ONGC is reproduced at Appendix No. I".

1.46. **The Committee note that while the requirements of crude oil would increase from 18.46 million tonnes in 1970 to 26.50 million tonnes in 1974 the degree of self-sufficiency in terms of indigenous production as compared to import would decrease from 36.9 per cent in 1970 to 33.2 per cent in 1974. For filling up the gap, the Committee note the country is dependent on major international oil companies, whose role in this regard has not always been in the best interests of the country. The Government is often faced with a tug of war for fixing price of the crude oil to be imported; in fact the prices of crude have been sought to be revised upwards no less than four times by these Oil Companies since December, 1970. The import bill in terms of foreign exchange is estimated to increase from Rs. 94 crores in 1969-70 to over Rs. 186 crores in 1974-75. The Committee also note that during the first three years of the Fourth Plan, there has hardly been any increase in the production of crude oil which has been at around 3.6 million tonnes from the oil fields of Oil & Natural Gas Commission. The Committee further note that the O.N.G.C. have an ambitious target of raising the production to 5.5 million tonnes by the end of the Fourth Plan. The O.N.G.C. have also prepared a comprehensive—Ten Year programme for 1969—79. After the critical review of this Ten Year Programme by the Soviet Experts, who had played such a valuable role in the initial phase of exploration and development of crude oil resources in the country, they have outlined two variations for exploration and development in their techno-economic report. The Committee expect Government to take a decision on these alternatives with the least possible** delay so that the Plan schemes can be implemented in earnest in a concerted and coordinated manner. The Committee note the assurance given by the official representatives of the Ministry that all assistance including financial provision and allocation of foreign exchange would be given to the O.N.G.C. to implement the programme. The Committee would like Government to keep a keen watch on the concrete measures taken in implementation of the Plan schemes so that the O.N.G.C. could be extended assistance promptly to overcome any difficulty which may be encountered in the field. The Committee need hardly suggest that a comprehensive review of the progress made should be carried out at the end of each year so that the programme for the next year could be modified and augmented in the light of experience gained.

1.47. The Committee would in particular stress the need for drawing up in depth and in time the next operational Plan for 1974—79 based on prospects, logistics and economics and with priorities duly determined so that the O.N.G.C. can concentrate its energies on its implementation with a view to facilitate achievement of self sufficiency in this strategic field in the Seventies.

1.48. The Ministry should draw up an integrated plan for implementation with a view to attain self-sufficiency in crude oil at the earliest to save the heavy drain on precious foreign exchange which is expected to rise to Rs. 186 crores in 1974-75. The Ministry should have a separate task force cell to ensure systematic follow up and for taking steps for implementation of time-bound programme of Ten Year Plan to obviate the import of crude oil, at the earliest.

1.49. During the discussion on the demands for grants, in respect of the Ministry of Petroleum and Chemicals in Lok Sabha on the 6th July, 1971 suggestions were made by Members for evolving a National Fuel Policy with particular reference to the role of petroleum products in the economic development of the country.

1.50. The Committee note that the National Fuel Policy question is under examination of the Planning Commission and the Ministry of Petroleum and Chemicals has also appointed a Study Group in this connection. They recommend that the National Fuel Plan should endeavour to coordinate the activities of all the parties engaged in the production of different kinds of fuels, as early as practicable and the Ministries concerned should also get together to evolve the National Fuel Policy which is so vital to the country's requirement.

1.51. **The Committee would also suggest that the O.N.G.C. should take the active help of other scientific organisations such as BARC, CSIR, etc. for pressing into service latest scientific and technological developments in the interest of intensifying oil exploration programme and achieving self-reliance at the earliest.**

II

ORGANISATION

A. Headquarters

2.1. According to Section 4 of the Oil and Natural Gas Commission Act, 1959, the Commission shall consist of a Chairman and not less than two, and not more than eight, other members appointed by the Central Government and the members may be required to render whole time or part time service, as the Central Government may direct: Provided that one of the Members shall be wholetime Finance Member incharge of financial matters relating to the Commission. Provided further that the Central Government may, if it thinks fit, appoint one of the members as Vice-Chairman of the Commission. Rule 3 (1) of the Oil and Natural Gas Commission Rules, 1960 provides that a Member of the Commission shall hold office for a period of one year from the date of notification of his appointment and shall be eligible for reappointment.*

2.2. At present the Commission has six full time members and one part-time member and one of the full time members is acting as Chairman. The full time members are in charge of Exploration, Production, Engineering, Stores, Finance and Off-shore respectively. Member (Exploration) is also the Chairman. The Chairman has to function as Member (Administration) and is also in charge of Planning and Control, Secretariat, Vigilance and Legal Affairs.

2.3. The basic and technical activities of the Commission are carried out by the Directorates of Geology, Geophysics, Drilling and Production, each headed by a Director. The Directorate of Geophysics is headed by the Chief of Geophysical Services. The necessary service facilities to these basic departments are provided by the

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*At the time of factual verification, the Ministry of Petroleum and Chemicals informed as follows :—

"Under Rule 3(1) of the ONGC Rules, 1960, as originally framed, a Member of the Commission could hold office for a period of one year from the date of notification of his appointment and was eligible for re-appointment. However this Rule was amended in November, 1970, and the term of a Member was increased to a period not exceeding 5 years; Rule 3 (1) now reads as follows :—

> "a Member of the Commission shall hold office for such period, not exceeding 5 years from the date of notification of his appointment, as may be determined by the Central Government at the time of his appointment, having regard to the qualifications, technical or otherwise of such member and he shall be eligible for re-appointment."

departments of Civil Engineering, Mechanical Engineering, Transport and Transportation. In addition, the Commission has its own Institute of Petroleum Exploration, and the Hindoil Design Institute. The former is responsible for the application of modern scientific developments to the oil exploration and production activities and the latter for the preparation of project designs of all oil and gas fields installation etc. The Commission is assisted by the Directorates of Administration, (headed by Chief of Administration), Inspection and Equipment, Planning and Control, Stores and Purchase, Finance and Accounts, the Secretariat and the Law departments in the overall managerial matters.

2.4. It would be noticed that the functions and duties of the Chairman of ONGC have not been specifically defined either in the ONGC Act or in the rules framed thereunder. By convention the Chairman of the Commission functions on the lines of a Chief Executive, but without having that status. He has no powers, as Chairman, except that when a case does go to the Commission he has, in the event of an equality of votes, a casting vote. His role is that of a coordinator and planned, but without any authority. This matter was considered by the Commitee on Public Undertakings (Third Lok Sabha) in 1964-65 and they made the following recommendation in their Fifth Report on ONGC:—

> "The Committee feel that if the standard of efficiency in the Commission is to be improved, it is desirable that there should be a Chief Executive, who should have overall responsibility for the working of the Commission. The Committee suggest that the desirability of appointing the full time Chairman as "the Chief Executive" of the Commission might be examined by Government. This will not only enable the Chairman to exercise better day to day control and supervision over the various activities of the Commission, but will also lead to expeditious implementation of the policies and programmes of the Government and the Commission. Both the Secretary of the Ministry and Chairman of the Commission agreed with this view."

2.5. Government furnished the following reply in pursuance of the above recommendation:

> "The Oil and Natural Gas Commission Act, 1959 under which the Oil and Natural Gas Commission has been constituted does not provide for appointment of the Chairman as its Chief Executive Officer. The Commission has, therefore, been functioning as a Commission, with Members assigned

specified areas of responsibility, and the Chairman acting as the first amongst equals, which gives him an authority and scope for control and co-ordination. The said Act will have to be amended if the Chairman has to be appointed as the Chief Executive Officer in the Commission. While this course may have some advantages, there are important general considerations (*e.g.* necessary to give adequate status, encouragement and high level responsibility to technical personnel functioning as Members) in favour of the *status quo*. There is, therefore, at present no scope or need for altering the existing pattern (Ministry of Petroleum and Chemicals O.M. No. 12|38|65-ONGC, dated the 27th October, 1965)."

2.6. This question has been considered afresh by the present Commitee. To an enquiry of the Committee as to what are the reasons for the Chairman, ONGC not being the Chief Executive of the Organization, the Commission furnished the following reply:—

"By convention the Chairman of the Commission functions on the lines of a Chief Executive, but this is not his status under the ONGC Act and Rules. The Chairman is Member for Administration and Stores and Purchase, and here he functions like an ordinary Member. However, in all other matters, he has no powers, as Chairman, except that when a case does go to the Commission he has, in the event of an equality of votes, a casting vote.

It is accepted that when there are functional Members on the Commission dealing with technical matters, it would be incorrect in practice and objectionable even in theory, to give the Chairman over-riding powers, where technical decisions are in question. There is thus no intention to invest the Chairman with powers of this kind. However, by the very nature of his function as Chairman, he is a co-ordinator of all the work in the Commission, whether technical or otherwise, and since the work is of an interlocking nature, where many disciplines and many department are involved, in one phase or the other of execution, the role of a co-ordinator assumes critical importance. It seems necessary, therefore, that the Government should make it clear that the primary role of the Chairman is to co-ordinate.

Again, by virtue of his positions, the Chairman has to direct all activities relating to planning. This should also be spelt out. However, merely nominating the Chairman as co-ordinator and planner, would not give him the authority necessary to make him effective. Implicit in the role of co-ordinator is the question of authority—authority to take a decision between the conflicting interests of two Members, to take a decision as to which particular work should get priority over another and to take a decision with regard to such important matters as the timing of a decision. Also decisions have to be taken which have a bearing on welfare and industrial and labour relations, and these matters, in the modern context have critical importance.

If, as at present, there is a difference of opinion between the Chairman and any other Member, including the Finance Member on any matter which is of an administrative nature, the case has to be taken up, either to the Standing Committee or depending upon the importance cf it, to the Commission. In a great many matters where thing is important, where labour and industrial relations are in question, a decision brooks no delay. Also, it is not always possible when Members are out on tour or when for any other reason, a Standing Committee meeting or a Commission's meeting cannot be held, to defer a decision.

The Chairman should have powers to take decision relating to his own portfolios of Administration, Stores and Purchase by over-ruling Finance, where the total amount involved is Rs. 20,000 or less, and where there is a question of an administrative nature relating to a technical Directorate, he should be allowed to over-rule Finance in favour of the technical Directorate, where the amount involved is Rs. 20,000 or less. In all such cases, a report would be made to the Commission.

The objective could perhaps be achieved if the Government issues a policy memorandum under section 31 (c) of the ONGC Act relating to the manner in which the Chairman should function.

The Chairman could be empowered to co-ordinate the work between the various departments of the Commission, to look after planning and control both operational and financial, where administrative and stores questions are at issue. It is felt that by giving him this authority, a great deal of time would be saved and much of the present operational delays arising out of protracted disputes and correspondence between the Finance Directorate and the technical Directorates could be overcome."

2.7. The Government, however, did not concur with the contention of the Commission and submitted a separate point of view to the Committee. It reads as follows:—

"In creating a Commission for developing and exploiting the oil and natural gas reserves of the country, it was the intention to create a high-powered, competent, smooth functioning organisation which could work with a fair measure of autonomy and flexibility. This was necessary because of the very nature of the work and responsibilities given to the ONGC. In entrusting the top management to a group of persons, *viz.*, the Chairman and members of the Commission, the intention was to bring together functional heads to look after the important fields of activity and supporting services necessary for exploring, developing and exploiting the oil and natural gas resources of the country. Each full time member of the Commission is thus a functional member and is an expert in the field which is assigned to him. As such, he is fully responsible for the technical decisions pertaining to his field of activity. To enable him to fulfil this role effectively, it is necessary that he should have a fair measure of autonomy in his own sphere of activity.

The Chairman of the Commission has an overall control over all spheres of ONGC's activities and is in the same measure responsible in an overall way for the proper and efficient functioning of the Commission. The role of the Chairman of the Commission is thus primarily that of a co-ordinator. It will be his primary responsibility to see that the Commission functions as a group of senior and experienced persons, each an expert in his own field, but keeping himself informed and interested in the overall functioning of the Commission and possessing maturity of judgment to be able to contribute to the taking of well considered decisions in important matters which affect the overall functioning of the Commission.

The Commission thus is expected to function on the principle of collective deliberations and joint responsibility in decision making. In such an organisation, the Chairman, even when he is not the Chief Executive, performs a very important role, *viz.*, that of co-ordinating the various activities and leading the Commission to function as a purposive group. For an organisation entrusted with the task of exploring developing and exploiting the oil and natural gas resources of a large country like India, the preparation of a sound plan of operation is both essential and difficult and the success of the organisation depends very largely on the extent to which the Chairman as the leader and coordinator is able to plan the various activities in an integrated whole and implement the same in an effective manner.

The structure of the Commission thus largely resembles that of a large autonomous organisation like the Railway Board. It is considered that in view of the multifarious functions and activities involved in oil exploration and production, the head of the organisation like, the head of the Railway Board, should be more in the nature of a coordinator and planner than a Chief Executive."

2.8. However, during evidence the Chairman, ONGC stated as following:—

"In the ONGC, the Chairman is just like any other Member of Commission, excepting that he presides over the meeting of the Commission, he is also a Member Incharge of Administration. We have discussed the arrangements. It is all right. There is no change that we can suggest in this regard."

2.9. One of the terms of the Malaviya Committee, which is currently making a study of the organisation, financing and functioning of the Oil and Natural Gas Commission is "to review the structure of the Commission from the level of the Commission down to the Project, including a review of the composition of the Commission and the distribution of functions and responsibilities among the Chairman and the other whole time Members and the need for and role of part-time Members."

2.10. The Committee find that the Government desire that the Chairman of the Commission should function primarily in the role of a coordinator and expect the Commission to function on the 'principle of collective deliberations and joint responsibility'. After careful examination of the views of the Government, the Committee conclude that they are unable to accept their view-point as merely designating

the Chairman as Coordinator would not clothe him with an effective authority. In an expanding organisation demanding quick decision-making, the power to take prompt decision is a primary pre-requisite and this cannot be fulfilled unless the Chairman has the power to overrule the dissenting views of Members in the overall interests of the organisation.

2.11. **The Committee after careful consideration are compelled to reiterate their earlier recommendation that the Government should arm the full time Chairman with the authority of the "Chief Executive" of the Commission with a view to expeditious implementation of work in the various fields.**

2.12. At present under the ONGC Rules, the term of office of the Members of the Commission is for one year and on expiry of that period a Member is eligible for re-appointment. In practice, with a few exception, the different Members of the Commission from time to time have held office for more than one year at a stretch. One of the previous Chairman of ONGC held office for four years and three months. Continuity of a Chairman in office for a larger period ensures a reasonable lease of life for execution of any particular policy. In an organisation like ONGC, continuity is important, because policies which are evolved for long term projects and which have long gestation periods the same chief executive should be there to nourish them.

2.13. During the evidence of the representatives of the Ministry of Petroleum and Chemicals, the Committee were given to understand that the Government was contemplating enhancing the term of office of the Chairman from one year to three to four years.

2.14. **The activities of the Commission are technical in nature. To fulfil its objectives effectively technical background at highest level is vital, and the senior level appointments deserve to be recruited out of the organisation itself. Moreover, continuity of experience at Commission level for an effectively long period is a must. The Commisison should also be allowed to function unhindered by outside (including ministerial) interference as far as possible.**

2.15. **The Committee therefore recommend that:—**

(i) **Chairman, now a full time Member of the Commission, should be granted a tenure of at least five years which should not normally be reduced.**

(ii) **Chairman should be invested with full authority to overrule, if necessary, the decision of the other Members of the**

Commission in the interest of the efficient working of the Commission. He should be designated as the Chief Executive Head and given the requisite powers;

(iii) **Secretary/Officials of the Ministry should not be appointed Members of the Commission and deputation from Government Departments and other Public Undertakings should not ordinarily be allowed.**

(iv) **Functional Members should be well versed in their respective technical fields.**

(v) **Appointment of Members should be made in consultation with the Chairman.**

(vi) **Procedure for appointment of Members of the Commission should be reviewed every 5 years.**

2.16. **At present the Member (Exploration) is also performing the duties of the Chairman. The Chairman has to function as Member (Administration) and is also incharge of Planning and Control, Secretariat, Vigilance and Legal Affairs. Needless to say that in a big organisation like the ONGC, the Chairman has to perform onerous duties and it is too much to expect Member (Exploration) to do justice to his duties both as Member (Exploration) and the Chairman. Knowing fully well that the Captain of the team has to carry on the work, it is unfortunate, the Government has not filled up the post of the Chairman on a regular basis for over a year. The Committee hope that the Government will soon appoint a person to perform the duties of the Chairman exclusively.**

2.17. **The Committee have dealt with the importance of maintaining harmonious relations with workers at all levels of the organisation in Chapter X. The Committee expect the Chairman and Members of the ONGC to set a high example of dedication so that the workers at all levels have a sense of participation and aventure in the common endeavour to achieve self-sufficiency in this crucial field of petroleum.**

B. Field Agencies

2.18. Since the operations of the Commission are spread all over country, ONGC has established three regional offices at Baroda for the Western Region, at Nazira for the Eastern Region and at Dehra Dun for the Northern Region. The Regional offices control the drilling and production activities at various projects as well as the geological and geophysical field parties stationed in the respective regions. Each Regional office is headed by a General Manager.

2.19. Regional office of the Western Region of Oil and Natural Gas Commission was established at Baroda in April, 1961. It controls and co-ordinates the activities of ONGC's various projects in the Western part of the country. The Western Region comprises six major projects, (i) Cambay; (ii) Ankleshwar; (iii) Ahmedabad; (iv) Navgam; (v) Mehsana and (vi) Aliabet with Bhavnagar as base. In addition to this the Central Repair Workshop and the Construction and Maintenance Division are also under the control of Regional Office. Every Project is a self-contained unit. Project Managers are responsible for fulfilment of specified targets fixed by the ONGC in respect of drilling and production of crude oil and natural gas.

2.20 In order to obtain on the spot decisions and expedite solutions of complicated technical problems, the office of the Chief of Geological Services is also located in Baroda. Operations of geological and geophysical field parties responsible for the basic exploratory service in the Region are directed from Baroda.

2.21 The Eastern Region office is located at Nazira to look after the operations in the Eastern part of the country, namely in Assam, Meghalaya, Tripura, West Bengal, etc. At present oil and gas are being produced from two fields—*viz.* Lakwa and Rudrasagar. It has been stated that exploratory drilling has been undertaken on the structure at Galoki, Baramali and Borhala and arrangements for exploratory drilling on the Baramura structure in Tripura are under way. A project has recently been set up in Agartala to look after the operations in Tripura. An office of ONGC has been functioning in Calcutta since 1956. An office, which conducted deep drilling operations near Port Canning is functioning at Sonapur (24 Parganas, W. Bengal). Several geological and geophysical field parties working in the Eastern Region, have their headquarters office in Calcutta.

2.22. The General Manager, Northern Region is concerned with the drilling and ancillary operations of Cauvery, Jaiselmer and Suri-Mastgarh projects. The General Manager also heads the Planning and Control Division of the Commission. He has his office in Dehra Dun.

2.23. ONGC has established a system of Control Rooms in maintaining control and coordination of different projects within the region and of the different regions with the headquarters. A Control Room at the headquarters was set up in October, 1967, while similar Control Rooms commenced functioning at the Project and Regional offices a little later. The Control Rooms have applied the technique of detailed and careful planning of individual jobs and day-to-day watch on their progress by a number of ways, such as detailed operational progress reports and their immediate evaluation indicating the action to be taken at various levels, expediting the process of decision making by the various agencies during the course of Control Room meetings attended by the concerned Senior officers, including the Members and the Chairman, close personal supervision by all the Senior officers at the project/regional and headquarters levels, etc. It has been stated that the Control Rooms have been instrumental in rendering completed staff work, at all stages, commencing from detecting of the problems right upto the decision making and actual implementation. The Control Rooms have enabled the higher ups both at the headquarters and at the regional offices, to remain in constant touch with the activities in far-off oil fields.

2.24. Section 26 of the Oil and Natural Gas Commission Act, 1959 stipulates as under:—

> "The Commission may, by general or special order in writing, direct that all or any of the powers or duties which may be exercised or discharged by it shall in such circumstances and under such conditions, if any, as may be specified in the order, be exercised or discharged also by any person specified in this behalf in the order."

2.25. It has been stated that in exercise of the above power, the Commission has already delegated various powers to the different authorities concerned for speedy disposal of its business. Further the proposals for delegation of powers are received from time to time from the different authorities, which are examined and the powers as considered necessary by the Commission are delegated to the authorities concerned.

2.26. In a written note submitted to the Committee after the evidence of the representatives of ONGC was over, it has been stated that the Commission is examining the matter for making, a comprehensive review of the delegation of powers by inviting proposals from all the Heads of Departments, Heads of Directorates, Head of Projects and Heads of Offices. A sub-Committee is examining the proposals. The recommendations of this sub-Committee will be considered by the Commission.

2.27. The Committee feel that for optimum utilisation of men, material and equipment, adequate delegation of powers to the appropriate authorities in ONGC is absolutely essential. If management

personnel at various levels are to be called to account for achievement it is obligatory that they should have the necessary powers to act on their own. The Committee, therefore, recommend that General Managers of different regions should be given full delegation of powers commensurate with their duties and responsibilities. The headquarters should more appropriately concentrate on policy and planning, leaving the General Managers Project Managers and other field officers free to handle day to day work. The Committee note that ONGC is undertaking a comprehensive review of the delegation of powers. The Committee expect that the powers of the General Managers/Project Managers/other officers in the field would be suitably enhanced keeping in view, besides the above observations the need for settlement of grievances|demands of labour except those involving policy and financial matters.

C. Relations with Government

2.28. Under Section 15 and 32 of O.N.G.C. Act, 1959, the Oil and Natural Gas Commission has powers "as may be necessary or expedient for the purpose of carrying out its functions under the Act" and make regulations with the approval of the Government of India. In accordance with the above provision, the Commission is required to obtain prior approval of the Government for framing its rules and regulations. The approval of the Government is also required for making any subsequent amendment to the rules and regulations already approved by the Government.

2.29. During the course of examination, the representatives of ONGC pointed out that because the Organisation started functioning as a subordinate office of the Government, the Commission was encumbered and hampered by procedures and methods of work more suitable to a Government department than to a commercial organisation with a preponderant scientific and technical element.

2.30. ONGC feels that these inhibitions interfer with efficient functioning of the Commission as considerable time is spent for obtaining approval of the Government of India.

2.31. The Commission had made a reference to the Government that the words "with the previous approval of the Central Government by notification in the official gazette" occuring in Section 32(1) of the ONGC Act, 1959 may be deleted. As a corollary to the said proposed amendment it was further proposed that sub-section 32(3) of the ONGC Act which stipulates that "The Central Government may, by notification in the official Gazette, amend, vary or rescind any regulation which it has approved, and thereupon the regulation shall have effect accordingly but without prejudice to the exercise of the powers of the Commission under sub-section (1)" may also be deleted. The Government desired ONGC to ascertain the position from other statutory bodies like the Indian Air Corporations, Damodar Valley Corporation and Khadi & Village Industries Commission etc. as to whether their regulations required previous approval of the Government under their relevant Acts. It was pointed out that without such basic data it would be difficult for them to convince the Ministry of Finance to agree to the amendments proposed by ONGC.

2.32. The stautory Public Undertakings like the Indian Air Corporations, Damodar Valley Corporation, Khadi & Village Industries Commission (UP) and Life Insurance Corporations, informed ONGC that their rules|regulations required the previous approval of the Central|State Governments.

2.33. The other Public Undertakings like the Hindustan Steel Ltd., Minerals & Metals Trading Corporation of India Ltd., and State Trading Corporation Ltd. stated that they did not require approval of the Government for framing their rules|regulations.

2.34. On an enquiry, the Indian Oil Corporation Ltd. informed as follows in this regard:—

> "The Board of Directors of the Indian Oil Corporation Ltd. are fully competent to frame such rules and regulations governing personnel policies, purchase and stores procedure, procedure for placement of contracts for capital works, etc. except where the approval of any Governmental authority is required under any other statute. In framing the aforesaid rules, care is taken to take note of the rules and procedures adopted in other public sector undertakings or any guidelines which the Government of India may have laid down on any subject matter."

2.35. The contention of the Government is that the powers of the Commission are enumerated in Section 15 of ONGC Act, 1959, which provides that the Commision may exercise all such powers as may be necessary or expedient for the purpose of the carrying out its functions under this Act, provided that before exercising its powers in respect of the following matters, it shall obtain the previous approval of the Central Government, namely:—

(a) The creation of any post, the salary or honorarium of which would be more than Rs. 2250|- or would be on a scale the minimum of which is more than Rs. 2250|- and the appointment of any person to such post;

(b) The implementation of any scheme or proposal which will involve a capital expenditure exceeding Rs. 50 lakhs.

(c) The disposal of any property, right or privilege the original or book value of which exceeds Rs. 10 lakhs.

2.36. Similarly under Section 32 of the ONGC Act, 1959, the Commission has been given power to make Regulations with the approval of the Government for enabling it to discharge its functions under this Act.

2.37. The view of the Government is that the above powers of the Commission compare favourably with the powers of any other Government Undertaking. Even if the Commission had less powers or, otherwise, wanted more powers for its growth and effectiveness, it was always open to it to submit proposals for amendment of the ONGC Act 1959. Government are unable to agree with the view point of the Commission that its operations have been hampered either because of lack of powers or because of the working procedures, which the Commission, under the ONGC Act, is free to devise for itself.

2.38. Prior to conversion of the Oil and Natural Gas Commission into a Statutory body with effect from the 15th October, 1959, the Commission had been following working procedures and methods of a Government Secretariat. The Government feel that it is within the competence of the Commission, by virtue of Sections 15 and 32 of the ONGC Act, 1959, to change the working procedure and methods which it considers unsuited to its needs.

2.39. It may, however, be mentioned here that the Committee understand that on the recommendations of the Administrative Reforms Commission, the Government are contemplating to suitably amend the ONGC Act 1959 so as to increase the ceiling for implementation of any scheme or proposal involving expenditure exceeding Rs. 50 lakhs to Rs. 1 crore.

2.40. During the evidence of the representatives of the Oil and Natural Gas Commission, the Committee enquired what more powers the Commission wanted to acquire in order to achieve the objectives it had. The Chairman, ONGC stated as follows:—

"Mainly the problem is regarding a provision in the ONGC Act which obliges the Commission to obtain the prior approval of the Government of India to all the rules and regulations. We feel, Sir, that if this particular provision in the Act could be modified so as to enable ONGC to make its own rules, perhaps that would help. That is the principal thing. Secondly, there is a ceiling of 50 lakhs on the capital expendiutre today which can be sanctioned by the ONGC at a time. We now understand that the Ministry of Petroleum and Chemicals is already trying to raise this ceiling to one crore. This Sir, if it materialises, will also help."

2.41. The question of autonomy of the Commission and its relations with the Government was also discussed by the Committee with the representatives of the Ministry of Petroleum and Chemicals. The Secretary of the Ministry informed the Committee as follows:—

"It is as autonomous as necessary for carrying out all its operational tasks. The only restrictions are what are laid down in the Act itself. They are (1) creation of any posts the salary or honourium of which would be more than Rs. 2,250 or the maximum of the scale of which is more than Rs. 2,250 and the appointment of any persons in any such posts and (2) implementation of any scheme or proposal which would involve a capital expenditure exceedings Rs. 50 lakhs. We are considering increasing the limit to Rs. 1 crore". "There has been no interference except the expression of a point of view which has been urged by me from the Government side which I can repeat here. I still hold the same point of view. The Government have agreed with me. The point of view that I have urged is that these posts should be manned by professional people, not by administrative people drawn from the administration or ex-Army people. They must be professional people who have grown up in the organisation, either in the ONGC or anywhere else, who are professional oil men and who have also in addition to that, got managerial capacity. There is no other interference".

2.42. As far as relationship between the Government and the ONGC was concerned, the Secretary of the Ministry informed the Committee as follows:—

"So far as relationship between the Government and the ONGC is concerned, it is perfectly harmonious. There is no reason why it should be anything else. Our objectives are the same. The Government is as keenly interested in the success of the ONGC as the ONGC themselves may be. But in certain matters, there has been a different point of view of the Government. One of them has been that we have been asking them, in view of the very growing requirements of oil in the country, as the consumption of oil is growing the cost of imported oil is increasing, it is necessary to have a bigger programme of exploration and production. Earlier, there was a little hesitation on the part of the ONGC to accept it. They had their own reasons. I appreciated their reasons. But then after having discussions with them, we have come to the conclusion that this has to be done and they are gradually doing it.

Also there was the need for a little more scientific planning of their operations based on the experience we have had and also they have had. They have realised that. We are now insisting that all majort projects should be put in the form of a project and must be implemented according to a time-schedule which must be put in a proper chart and scrutiny and control exercised by them from day to day. The ONGC has been asked to draw up the project like that.

Another matter in which there has been a little difference in our point of view with the ONGC has been that the Ministry have been suggesting very strongly that they should make systematic basic surveys in the country. They took a different point of view on that, saying that they have already been doing it and that something has been done. But we have persuaded them that this requires to be done more systematically and in a more scientific way. We are trying to arrange a visit to some of their officers to the French Institute of Petroleum, who are very advanced in the matter of basin studies, to acquaint themselves with the up-to-date technique of making these basin studies. Once this is done we feel, it will provide us a much better method of appraisal of the prospects of oil in different areas, in different basins, and not only that, also how to have the best strategy for drilling and exploring a basin area. At present to some extent, it has not been a very planned strategy on which we have proceeded.

For example, take the Indo-Gangetic basin. It is a very large basin the size of which is staggering. Each well will have to be a deep well there, for the simple reason that the sedimentation there is very thick, in order to explore and come to know what is the possible oil prospect there, in that basin. We cannot just go on drilling one well here and one well there. We may drill, say, 20 wells and yet we may not be sure whether we have assessed fully the potential of this area. If we do a basin study and then we proceed systematically in locating our wells for purposes of exploration, then with minimum number of wells, we should be able to assess the oil and gas potential in that basin. In this matter there has been a difference in point of view and we have ultimately succeeded and they have accepted our view......"

2.43. **The Committee find that non-statutory Public Undertakings including Indian Oil Corporation do not require the approval of the Government for framing their rules and regulations. These undertakings enjoy comparatively greater autonomy in exercise of their powers and do not require the previous approval of the Central Government for framing their rules and regulations as is required by the ONGC under Section 32 of the ONGC Act, 1959. The Committee feel that the functions and duties of the ONGC are more susceptible of comparison with some of the non-statutory undertakings e.g. I.O.C. The Committee feel that the restrictions imposed upon the ONGC under sections 15 and 32 of the Act have the effect of impeding the efficient working of the Commission. The Committee recommend that Government should re-examine the position and give adequate powers to ONGC to frame its rules and regulations and exercise greater autonomy in the selection and execution of projects. The Committee recommend that Sections 15 and 32 of the ONGC Act may be suitably amended, as necessary as early as possible.**

D. Relations with States

2.44. The relations of ONGC with the different State Governments, where the ONGC is working are of equal importance. The questions of fixation of gas price in Gujarat and acquisition of land in Assam, which have been discussed in this Report in subsequent Chapters, are a pointer towards not a very happy relationship between ONGC and the State Governments. During their visits to Gujarat, the Committee gathered the impression that there was a feeling in Gujarat that the "ONGC would rather flare gas than share it with Gujarat". Such a notion needs to be erased from the public mind immediately. The ONGC may well have a case for an upward revision of the gas price. Its claim that the increase in price is in strict accordance with the principles of costing enshrined in the Rao Award and its attempt to recoup "the undercharging" in the last five years, again in the terms of the last award may be tenable, but these arguments would have been more convincing had principles of these calculations not been shrouded and the relevant data been shared with the Government of Gujarat. Similarly in Assam the Committee were given to understand that the procedure for acquisition of land there was slow and once a decision was taken, the implementation was not forceful.

2.45. **The procedural ineptitude has obscured the need of urgency. The relations of ONGC with the different State Governments, where ONGC is working, deserve special attention so as to facilitate quick decision and smooth working for example in matter of acquisition of land, fixation of price of gas, provision for accommodation, construction of approach roads, recognition of labour unions, etc. The Committee, therefore, stress the need for closer coordination between the Commission and the State Governments.**

III

EXPLORATION

A. Geological Surveys

3.1. For conducting geological surveys the field parties fall under two major categories (i) Geological field parties for general survey work and (ii) special purpose parties for shallow drilling, oil and gas show investigation, vertebrate fossils collection and topographical surveys. The type of work done by the field parties are (i) detailed mapping (ii) semi-detailed mapping (iii) traversing (iv) reconnaissance mapping and (v) geomorphological survey.

3.2. The tables below indicate the targets and achievements in respect of general survey work and the shallow drilling:—

Geological field parties.
(Field Season-wise)

Year	No. of field parties	Detailed mapping (sq. kms).		Semi-detailed mapping (sq. kms).		Traversing (Line Kms.)		Reconnaissance mapping (Sq. Kms.)		Geomorphological survey (Sq. Kms.)	
		Targets	Achievements	Targets	Achievements	Targets	Achievements	Targets	Achievements	Targets	Achievements
1	2	3	4	5	6	7	8	9	10	11	12
1966-67 . .	12	650	737	4,260	4,513	668	*4,099·6	3,600	4,370	..	..
1967-68	1,015	1,015	1,012	2,180	2,838	848	1,083·0	5,650	6,080	5,000	7,000
1968-69 . .	14	1,175	1,030	2,787	3,134	705	1,088·0	5,400	6,740	7,000	8,000

*Includes 3,300 Line Kms. reconnaissance traverses covered by one of the parties.

Shallow drilling

Year	No. of Parties	Targets Metres	Achievements Metres
1966-67	3	10,600	8,225.00
1967-68	3	6,000	3,745·25
1968-69	2	3,000	2,634.50

3.3. In the years 1966-67 to 1968-69 it has been pointed out in the Audit Report that although overall targets in respect of Survey work were generally fulfilled, shortfall in certain fields were noticed specially in respect of shallow drilling, where there was shortfall continuously for the three years.

3.4. The data relating to operational efficiency of geological parties from 1966-67 to 1969-70 is as follows:—

Operational efficiency of Geological parties

	Semi-detailed Mapping, etc. (Sq. Kms.)				Shallowing drilling (Metres)			
	1966-67	1967-68	1968-69	1969-70	1966-67	1967-68	1968-69	1969-70
No. of Parties	12	15	14	15	5	3	2	2£
Field days	2,038	2,199	2,067	1,776	884	592	304	153
Productive days	1,461	1,588	1,584	1,324	599	363	110	116
Unproductive days	577	611	483	452	285	229	194	37
Procentage of productive days to field days	71·69	72·21	76·63	74·5	67·76	61·32	36·18	75·82
Total cost (Rs. in lakhs)	24·13	32·37	*25·79	25·80	21·97	12·78	*7·12	4·91
Average cost per party (Rs. in lakhs)	2·01	2·16	*1·84	1·72	4·39	4·26	*3·6	4·91
Cost per unit (Rs)	281·45	382·89	*254·7	153	267·06	341·32	*270·22	287
Average unit covered :								
(a) Per field day	4·21	3·84	4·25	9·5	9·30	6·33	8·67	11·19
(b) Per productive day	5·87	5·32	5·55	12·76	13·73	10·32	23·9	14·76

*Provisional figures.

NOTE :—Unproductive days constitute the days spent in office work in the field, camp shiftings, suspension of work due to weather conditions, etc. and holidays taken by the astaff. Field days constitute the days spent on geologyical work plus days spent on ancilliary operations (i.e. unproductive days).

£In respe ct of shallow drilling party No. 2, rig was not available. Therefore no field work was done by this party. The date, therefore, is in respect of party No. 1 only.

3.5. With regard to non-availability of a rig to party No. 2 (Shallow drilling), the O.N.G.C. has informed the Committee as follows:—

> "In the field season 1969-70 the Shallow Drilling Party No. 2 was assigned the programme of drilling of Shallow holes in Ritchies Archipelago, in the Andaman and Nicobar Islands. A Russian made URB-2-A rig which was available with the party was found to be unserviceable for coring purposes inspite of repairs done to it. A case for the purchase of an indigenous rig was therefore, initiated on 8th August, 1969. Due to the various formalities to be observed the supply order for the rig could not be placed earlier than July 1970 and consequently the rig could not be made available to the Party during the field season."

3.6. The operational efficiency of the geological parties during 1969-70 showed an improvement over 1968-69.

3.7. During the year 1969-70 the party deployed in Andamans Islands showed a short-fall in its achievement of semi-detailed mapping to the extent of 275 sq. km. (about 53 per cent). The reason for this shortfall is that in spite of the promises made by the Andaman Administration a boat could not be supplied to the party for covering the coastal areas.

3.8. The Committee on Public Undertakings (Third Lok Sabha) had recommended in their Fifth Report (April 1965) on the working of Oil and Natural Gas Commission that the targets for the field parties should be fixed realistically and on scientific data. The Standing Committee of the Commission decided in June 1965 that an Industrial Engineer be asked to analyse the performance of geological and geophysical parties, to study the factors which hampered their output and to suggest norms in respect of output. No study was however carried out till December, 1969. In August, 1970 the Ministry informed the Audit as follows:—

> "The targets of the field parties have been reconsidered. Moreover a proposal for incentive bonus for geological field parties based on an examination of existing norms| targets with revisions suggested where considered necessary was prepared.... This proposal is under consideration".

3.9. The Committee on Public Undertakings (Third Lok Sabha) had also commented in their Fifth Report on fixation of standard cost. The Government had stated in its reply that standard cost would be fixed after the actual costs of 1965-66 were compiled. Standard costs have not, however, been fixed. Even the detailed estimates of cost for each field party were not prepared before 1968-69.

3.10. A study to fix the work norms for the Directorate of Geology was undertaken in Planning & Control Division. Basic data of past performance of the geological parties was collected area-wise, year-wise and work-wise. On the basis of this information, average out-put per party on the basis of total days available and total productive days available was computed. Also computation was made on average output per production day and per party day.

3.11. A critical study of the results revealed that the pattern of out-put did not observe a curve of uniformity. To analyse the areas of variation a deep probe was made into the various factors which have a determining effect on the results. These factors are:—

(a) Topography

(b) Weather

(c) Assessibility

(d) Availability of labour

(e) Communication

(f) Type of work

(g) Socio-economic climate

(h) Local condition.

3.12. For purposes of co-relation of results of the past performance each of the above factors were to be given subjective|qualitative assumptions. It has not been found easy to make a prediction of these assumptions with the desired accuracy. If on the basis of such subjective assumptions work norms are laid, these will be amenable to the same level of error as is inherent in the assumptions.

3.13. In the light of limitations associated with the geological field work to be carried out, it is, therefore, found that the task of fixation of work norm is not only a difficult one, but it will also be unrealistic, as there will not be the desired improvement in the factor of prediction. The O.N.G.C. has stated that:—

> The yardstick for the control of the output of the field parties is the comparison of achievements against the target assigned to it in the Programme of Work,

"besides periodical checks and visits to the field parties by Superintending Geologist and Director to see to what extent the area allotted has been covered effectively.

Individual targets of the field parties are laid down from year to year taking into consideration the variable factors applicable to the area of work. While laying down the targets and the programme of work, mention of special studies, if any, problems likely to be encountered during the course of work and a broad outline for the traverse lines to be laid down are also given. The targets are later broken up month-wise as far as possible to keep a detailed watch on the performance of the field parties. During the course of the field work the members of the field parties send every month a monthly diary giving therein the work done by each individual on different dates along with a summary of the work, observations made and the problems encountered during the course of work. This report is accompanied by a sketch map of the area giving therein the geology of the area mapped during the month. These are reviewed by the Superintending Geologists concerned and are reported upon to Director of Geology with their comments on performance of the parties and the salient geological features. These reports are in turn reviewed by the Director of Geology. During the course of their field work the Supdg. Geologists visit the parties and go through the compiled maps, field diaries etc. of the party personnel. Such visits to field parties are also made by the Director.

From the foregoing it will be seen that a detailed assignment with physical targets is made for an individual party before the field season starts. The quality and quantity of the output of the work is judged continuously and constant supervision is maintained at different levels during the entire period of field work.

It is, however, emphasised that considering the nature of geological mapping work, the physical targets set down for each field party in the programme of work have necessarily to be treated as a broad indication of the work to be carried out rather than a rigid and precise target in physical terms."

It has further been stated that:—

> "The Russian experts were also of the view that no norms can be fixed for field operations. The views of Soviet expert, Mr. Kalinin were, that though it is a difficult task to assess the area to be covered or the type of geological field work to be carried out, yet it would be desirable to specify the type of work and the target for coverage in terms of sq. kms.|line kms. This view-point was accepted in principle during the discussions in the 52nd meeting of the Commission held on 10-11-1964 and in accordance with the same target and type of work for individual parties are laid in the Programme of work."

3.14. During the evidence of the representatives of the Commission, the Chairman, O.N.G.C. informed the Committee that they had considered the matter and that their conclusion was that the nature of geological mapping and geo-physical surveys was such that there were too many variables to be taken care of and that they felt that it was not at all feasible to lay down any standards and norms for coverage. It was further added that the ONGC proposed to drop the matter as it was not possible to do so.

3.15. As regards the costs, the representatives of the Commission further stated as follows:—

> "Even though we do not have standard cost, we will continue with the procedure to work out the estimated costs for the next year so that one can have cost comparisons. We will have advance information of the likely costs and then we can compare the actuals with the estimated costs.

This has been going on from 1968-69 and upto 1969-70 we have finished this work of comparison. Even though we do not have standard costs, the estimates of costs are there on an annual basis. Here is this complexity of work which depends upon the nature of survey, nature of terrain, geography, accessibility and availability of labour, communication, type of work, socio-economic climate etc., which makes it impossible to work standard costs".

3.16. In the years 1966-67 to 1968-69 although overall targets in respect of geological field parties were generally fulfilled, the shortfalls were noticed in respect of shallow drilling continuously for three years. Moreover, during the years 1969-70, the geological parties deployed in Andaman Islands showed a shortfall in achievement of semi-detailed mapping to the extent of 275 sq. km. (about 53 per cent),

which they attributed to the fact that despite the promise made by the Andaman Administration a boat could not be supplied to the Geological party for covering the coastal area.

3.17. The Committee note that the percentage of productive days to field days in case of semi-detailed mapping has shown a rising trend from 1966-67 to 1968-69 from 71.69 to 76.63 but in the year 1969-70 it has come down to 74.5.

3.18. The Committee note that in pursuance of an earlier recommendation made by them on work norm and standard cost, the Directorate of Geology had undertaken a study based on the performance of geological parties area-wise, work-wise and year-wise. Critical study of the results have, however, revealed that because of a number of variables such as topography, weather, accessibility, availability of labour, communication, type of work, socio-economic climate, local conditions, etc., it has not been found possible to work out a work norm or standard cost. While the Committee appreciate the difficulties inherent in working out a uniform norm or standard cost for geological survery, they feel that if figures are compiled systematically area-wise and work-wise these should help considerably in framing the estimates on realistic basis and of judging the performance where the area and the work are of similar nature. The Committee have no doubt that if the Commission earnestly persist in their efforts to compile data systematically and closely analyse it they would have before long reliable norms to guide and evaluate the work of geological surveys in the field.

3.19. The reasons for the inability of the Andaman Administration to supply a boat to the Geological party should be looked into by Government with a view to finding lacuna if any, and obviate recurrence, in the matter.

B. Geophysical Surveys

3.20. The table below indicates the targets of survey work fixed for Gravity-cum-Magnetic parties by the Commission and the achievements there against for the years 1966-67 to 1970-71.

(Field Season-wise)

Year	Annual targets		Achievements	
	No. of parties	No of stations to be measured (Kms)	No. of Parties	No. of stations measured (Kms)
1966-67 . .	10	13,000	10	13,606
1967-68 . .	10	12,300	10	11,216
1968-69 . .	8	10,950	8	11,195
1969-70 . .	4	3,985	4	5,241
1970-71 . .	5	5,150	5	5,314

3.21. While the overall targets were attained except in the year 1967-68 as indicated above, there was shortfall in certain areas (*i.e.* Gujarat in 1966-67, Gujarat, Rajasthan, Uttar Pradesh, Assam and Orissa in 1967-68 and Assam in 1968-69). The shortfall in these areas has been assigned by the Commission to unforeseen breakdown of vehicles, inadequate repair facilities, poor accessibility of area, development of defects in the gravimeter, etc.

3.22. During the field season 1967-68 there were 10 Gravity-*cum*-magnetic parties in operation. During the field season 1968-69 there were only 8 and during the field season 1969-70 and 1970-71 the numbers of G.M. parties in operation in field were 4 and 5, respectively. In this connection O.N.G.C. has stated as follows:—

> "Most parts of the sedimentary basins considered prospective had been covered by regional|reconnaissance G.M. surveys by field season 1968-69. Portions of the sedimentary areas in Rajasthan, Saurashtra, Assam and Andhra Pradesh remained to be covered. In view of this, it was considered necessary to reduce the gravity-*cum*-magnetic work. Hence the number of parties for gravity-*cum*-magnetic survey were reduced to four during 1969-70. However, considering the need for some additional G.M. control in the areas adjoining the sedimentary basins, the number of gravity-*cum*-magnetic parties were increased to five during the field season 1970-71."

3.23. The targets and achievements of the seismic parties are mentioned below:—

(Field Seasons-wise)

	No. of parties	Line Kms.	No. of parties.	Line Kms.
1966-67	25	7,475	25	6,974
1967-68 . . .	25	7,525	25	7,601
1968-69	27	7,225	26	7,935
1969-70	25	6,840	25	7,056·46
1970-71 .	26	7,150	27*	7,492·36

*The increase of one party is due to the facts that the Electrical party was closed after some work and the crew was diverted to take up seismic work in Canvery Basin.

3.24. Although the targets were achieved in all the years except in 1966-67, there was shortfall in certain areas (*i.e.* Gujarat and Madras in 1966-67, Gujarat in 1967-68 and Rajasthan in 1968-69). The shortfall in these areas has been explained by the Commission to be due to breakdown of vehicles and equipment, inadequate repair facilities, poor accessibility of the area and delayed commencement of operations.

3.25. The targets for four gravity-*cum*-magnetic parties deployed in 1969-70 were as follows:—

Member of Party	Area of work	Target
1. Party No. 45 . . .	Maharashtra	1180 stations
2. Party No. 48 . . .	S. W. of Nachna in Rajasthan	700 stations
3. Party No. 51 . .	West of Teipur in Assam	925 "
4. Party No. 52 . .	S.W. of Balasore	1180
		3985 "

3.26. It has been stated that the actual achievement was more than the targets—it being 5241 stations. The average target and achievement in terms of number of stations in line kms per party works out to 996 kms and 1310 kms respectively in 1969-70 as against 1370 kms and 1399 kms in 1968-69. The reasons assigned to the variation in the targets is that the Commission decided for a six month field season instead of eight month field season. In this connection ONGC has stated that:—

> "It was considered that this would enable field parties to devote more time for data interpretation. In the previous years, parties used to stay only for 4 months in headquarters and it was not possible for them to analyse their field data adequately in a short span of 4 months and to make preparations for the next field season as well. It may also be mentioned that it is mostly during the off-season period that the officers and staff of field parties take their annual leave."

3.27. As in the case of geological survey, neither standard costs for geophysical surveys have been fixed so far nor were detailed estimates of costs framed prior to 1968-69. In the absence thereof, it has not been possible to have a correct assessment of the performance of field parties. However, the available operational data in this regard for 1966-67 to 1969-70 is given below:—

Operational efficiency of Geophysical Parties

	Gravity-Magnetic				Seismic Land				Seismic off-shore	
	1966-67	1967-68	1968-69	1969-70	1966-67	1967-68	1968-69	1969-70	1966-67	1967-68
No. of parties . .	10	10	8	4	24	24	26	25	1	1
Field days	2,273	1,992	1,869	838	4,709	4,460	5,694	4,769	258	210
Production days . . .	1,059	1,048	1,033	600	2,835	2,788	3,329	2,930	51	62
Unproductive days . . .	1,214	944	836	238	1,874	1,672	2,365	1,839	207	148
Percentage of productive days to field days	46.59	52·6	55·3	71·6	60·20	62·51	58·46	61 4	19·77	29.52
Total cost (Rs. in lakhs) . .	17·92	26 57	17·99*	—	127·08	196.45	176.81**	—	14·73	26·33
Average cost per party (Rs. in lakhs) .	1·79	2·66	2·248**	—	5·30	8·19	6.83**	—	14·73	26·33@
Average cost per Station/L.Kms. (in Rs.)	131·70	236.89	256.89	—	2,033.20	2,895·03	2,228.12	—	2,034·26	3,198.44
(a) G.M. average stations measured/ Seismic line Kms per field day. .	5·99	5·63	6·3	6·28	1·32	1.51	1·43	1·55	2.80	3·92
(b) Average Stations measured Seismic line K. per productive day . .	12.84	10·70	11·7	9.29	2 20	2·43	2·353	2·39	14 20	13·3

@This includes Rs. 3,23,644·00 cost of Hydrophones issued during the field season which would be used for three years.

£In case of seismic surveys and gravity magnetic surveys unproductive days are those when seismic records or gravity magnetic observations are taken in the field, but some essential work goes on.

+Information awaited.

**This includes Depreciation, Regional over-heads, Directorates and Headquarters over-heads etc. which comes to about Rs. 2 lakhs per party.

*This includes Depreciation and Directorates and Headquarters overheads etc. also which comes about Rs. 47,000/- per party.

3.28. In regard to un-productive days, the Commission has stated as follows:—

"Looking at the total number of field days in geophysical parties as compared to production days, which are the days when actual production of line kms|stations were observed in the field, it will be seen that number of production days are very less as compared to field days and this may give the wrong impression that the parties are not fully utilising the time available. In fact to achieve production, a number of days have to be spent on ancillary work such as topographic survey work (exclusively), maintenance of instruments and camp equipment, camp shifts from place to place, camp establishment before the actual production starts and camp winding at the close of the production work, apart from Sundays and other holidays which are observed by Government Departments. These non-productive days also include days when the weather conditions were not favourable for carrying out field work days on which there was trouble with the vehicles|machinery or the field operations were not possible due to other miscellaneous reasons. Hence, just looking at the percentage of productive days to field days may carry a wrong impression.

Statement for operational efficiency also gives an idea of average cost per station observed in G.M. parties and average cost per line km. short in Seismic party for the year 1968-69. Cost reports for the year 1970-71 have yet to be finalised."

3.29. As regard the basis for fixing the number of field days, the Commission has stated that the field days are not fixed for the field parties. What is fixed for them is the field season of six months during a year.

3.20. As regards fixation of standard costs for geophysical surveys, the Commission stated in August, 1970 as follows:—

"It is true that standard costs have not been fixed. The basis of any cost estimate is the past experience. Before any standard costs can be worked out, it is essential to work out in detail the costs involved in similar work in the past. This is particularly essential for estimating the cost of geophysical operations in which costs will vary widely from area to area, the type of surveys, the geophysical problems to be solved, the type of equipment to be used, and the logistic involved etc. The Commission, therefore, felt that before any attempt is made to prepare standard costs of geophysical operations cost reports of past operations should be prepared. With this object in view, cost reports of 1964-65, 1965-66, 1966-67 and 1967-68 have been prepared. However, considerable differences between the costs of surveys in 1966-67 and 1967-68 have been observed. In the case of land seismic parties, the difference is as much as 40 per cent. Hence, before standard costs are worked out, actual costs of operation of two more years should be worked out. Then the costs involved over a period of five years should be studied for preparing standard costs".

3.31. The Commission has pointed out that it was true that in 1965 it had been decided that standard costs would be worked out. Subsequently it was observed that the cost fluctuate greatly from year to year as well as from area to area. The reasons for variation were several (i) the terrain condition varies, which lead to a difference in the output of Seismic party; (ii) the field technique frequently varies from area to area and even from year to year in the same area and (iii) different seismic techniques. On account of these it was felt that it would not be feasible to fix standard costs for seismic survey.

3.32. It has been stated that no detailed estimates of costs for Seismic parties were made prior to 1968-69. However, norms had been fixed for the number of personnel of various categories which would form a Seismic party. Also in terms of line kms. to be shot by each Seismic party during the field season were invariably fixed in advance from year to year and performance was watched against the targets. As the cost per line km depends largely on the output, the targets helped to keep control on the cost per line km. Achievements of the Seismic parties taken together, as percentages of the targets laid down, for the last three field seasons were as under:

Year	Achievement as % of the target
1968-69	112%
1969-70	10 %
1970-71	102%

3.33. The Committee enquired reasons for the late starting of the field parties. The Commission informed that the field season which is of six months duration, for geophysical parties working in the Northern Region, Western Region and Andhra Pradesh starts from October, except for the parties working in Srinagar Valley. The parties working in the Eastern Region move out to the field in late November and those working in the Cauvery Basin start in field work in February. It has been stated that the schedules are given as guide lines, so that the parties know when they are required to move out. It has, however, been admitted that in 1967-68 Seismic parties of the Western Region were particularly delayed in establishing their camps because of general strike in Oil and Natural Gas Commission in September, 1967.

3.34. As regards the number of days lost as a result of the strike, the ONGC has submitted the following note:—

> "During the field season 1967-68, seismic partics of Western Region were delayed in moving out to field. This was mainly due to the strike staged by ONGC employees. Repairs of vehicles and other camp equipment which are carried out during the off season were delayed inordinately because of the strike. Moreover, the field officers from the geophysical parties were required to carry out many jobs, *e.g.* operating production installations for maintaining oil and gas production during the strike period, which do not constitute geophysical field work and are not in any way connected with their own sphere of activities. It is not possible to work out exact number of days which were lost due to strike. However, movement of the seismic field parties of Western Region during the field season 1967-68 is given as under:—

Sl. No.	Investigation No.	Date of establishment of Camp.
1	G-57 (Offshore)	1-9-1967
2	G-58	15-1-68
3	G-59	11-1-68
4	G-60	7-1-68
5	G-61	11-1-68
6	G-62	9-1-68
7	G-63	24-12-67
8	G-64	14-1-68
10.	C-65	12-1-68

3.35. From the details furnished by the Commission to the Committee and the evidence given by the Commission|Ministry, it is observed that overall targets of survey work fixed for gravity-*cum*-magnetic parties by the Commission were attained except in the year 1967-68, the shortfall being in Gujarat only in 1966-67, Gujarat, Rajasthan, U.P., Assam and Orissa in 1967-68 and Assam in 1968-69. The Commission have assigned these shortfalls to factors like "breakdown of vehicles and equipment, inadequate repair facilities, poor accessibility of the area, development of defects in the gravity meter, etc."

3.36. As far as the targets and achievements of seismic parties are concerned, the Committee find that there were shortfalls in certain areas viz., Gujarat and Madras in 1966-67, Gujarat in 1967-68 and Rajasthan in 1968-69. The Commission had indicated that these shortfalls were also due to "breakdown of vehicles and equipment, inadequate repair facilities, poor accessibility of the area and delayed commencement of operations."

3.37. The Committee note that for Gravity Magnetic survey, the percentage of productive days to field days rose from 46.59 in 1966-67 to 71.6 in 1969-70. Normally, the Committee would have expected that with the improvement in the percentage of productive days to field days, the average cost per Station|L.K.M. would also come down, but instead they find that the averge cost rose from Rs. 131.70 in 1966-67 to 256.89 in 1968-69 (Figures for 1969-70 are not available). The Committee would like ONGC| Government to look into the reasons for this rise in the average cost per Station|L.K.M. despite improvement in the percentage of productive days to field days and take remedial measures to ensure that the cost is kept to the minimum consistent with work achievement.

3.38. The Committee would also like to point out that the percentage of productive days to field days increased for seismic offshore surveys from 19.77 in 1966-67 to 29.52 in 1967-68. The Committee consider that the percentage of productive days to field days is very much on the low side and every effort should be made to increase the percentage. The Committee are further perturbed to find that in spite of the fact that there was some increase in the percentage of productive days to field days in 1967-68 as compared to 1966-67 the average cost per Station|L.K.M. rose from Rs. 2,034.26 per Station| L.K.M in 1966-67 to Rs. 3,298.44 in 1967-68. The Committee would like O.N.G.C.|Government to carefully analyse the reasons for this perceptible increase in the average cost per Station L.K.M. in spite

of the fact that the percentage of productive days to field days had improved. The Committee need hardly point out that as off-shore surveys are bound to increase, it is imperative that every effort is made to keep the average cost per Station|L.K.M. to the minimum.

3.39. The Committee note that the O.N.G.C. are seized of the problem of working out the standard cost for geophysical survey and that with this objective in view, cost reports for four years from 1964 to 1968 have been prepared and analysed. It was, however, noticed that there was a difference of as much as 40 percent in the average cost of geophysical surveys carried out in 1966-67 and 1967-68 and, therefore, it had been decided to ascertain actual cost of operation of two more years before working out the standard cost. The Committee hope that the relevant data must have been collected by now and standard cost for geophysical survey worked out in consultation with Finance and Audit so as to provide a yardstick for evaluating the performance of parties in the field.

C. Agreements under Institute Francais Du Petrole credit Contract with Compagnie General De Geophysics

3.40. In para 3B of Section XXII of the Audit Report (Commercial), 1967 it was mentioned that the Commission had entered into an agreement with a foreign firm (IFP) for exploration work in Jaisalmer area. It was further mentioned therein that there was a delay of 17 months in commencement of seismic survey operations with reference to the schedule laid down in the agreement with the above firm.

3.41. The seismic survey operations in this region commenced in November, 1963 in terms of the contract of June, 1963 entered into by the Commission with M/s. C. G. G. whose revised quotation was the lowest. The contract was initially for a period of one year and could be extended for two years more at the option of the Commission, but was extended from time to time till January, 1968. The total period of contract worked out to 47 months.

3.42. According to Article 11.3.1. of the contract, the contractor was to make every possible effort to carry out on each working day as much volume of work as was possible within the hours of work specified in Article VII.4.1. of the contract. If the volume of work during any particular month was less than the ONGC considered reasonable C.G.G. was to explain the reasons for such shortfall and to abide by the suggestions of O.N.G.C. for improving the output of work.

3.43. The performance of the contractor varied from month to month but except in a few cases e.g., in May-July, 1964 when there was camp shifting, in Octover, 1965 when the work was suspended due to Indo-Pakistan conflict, the reasons for variations were not available.

3.44. It has been pointed out in the Audit Report that in the absence of volume of work to be done being specified in the contract and/or any norms being laid down by the Commission, it has not been possible to verify whether the performance of the contractor was reasonable.

3.45. In this connection, the Commission stated in March 1970 as under :—

> "It was not possible, to fix any particular norm for working in desert area of Rajasthan because such work had not been done earlier on any extensive scale. A norm can only be fixed on the basis of the experience of actual performance in a particular job. As such experience was not available at the time under consideration, no norm could be laid down......
>
> In the Jaisalmer Project, there was a joint team consisting of Experts from I.F.P. and ONGC. I.F.P. was independent of the contractor (CGG). Both I,F.P. and ONGC experts kept constant watch on the progress of the work done by the CGG and in this way it was ensured that the Contractor was taking every possible effort to carry out as much work as possible within the specified hours of work.
>
> During the course of work neither the I.F.P. nor the Indian Experts, who were keeping watch on the day to day progress of the contractor had made any complaint that the contractor was not doing its best. Therefore, there are no grounds to presume that the performance of the Contractor was not reasonable."

3.46. During the entire period of contract, the contractor carried out seismic survey over a total area of 2108 line kms. at a cost of French Francs 56,30,126.94 and Rs. 15,65,057.08. The per line Km cost on the basis of the above expenditure works out to Rs. 3,361.

3.47. The Commission also undertook seismic survey in this area during the year 1968-69 (with effect from 20th January, 1969).

3.48. In a reply submitted to the Committee after the evidence of the representatives of the ONGC was over, the Commission informed that I.F.P. had not stated anything in the contract about the norm of performance under the Indian conditions. As to the quantum survey work expected to be done in this area and how much has been completed departmentally and through the agency of the contractor, ONGC has stated as follows:—

"About 12000 Kms including 700 kms of refraction surveys is required. This is, however, tentative as the volume of detailed surveys depends on the findings in the reconnaisance survey.

Out of the above,CGG had covered 2108 km. including 384 kms of refraction and Indian crew was covered 641 line kms. of refraction lines."

3.49. As regards the cost per line km of the work done departmentally ONGC has stated as follows :—

"As per cost report for the year 1968-69, the cost per line klm for the departmental seismic survey work undertaken in the Jaiselmar area was Rs. 7,057."

3.50. It has been further stated that the cost reports for the years 1969-70 and 1970-71 have not yet been compiled.

3.51. **The Committee do not feel happy to note that the volume of work to be done in respect of seismic survey in the Jaisalmer area was not specified in the contract itself and it was therefore not found possible to verify whether the performance of the contractor was reasonable or otherwise. The Committee find that the cost of seismic survey work per line km being done by ONGC in the area is very high and would stress that every effort should be made to bring it down by more efficient and greater utilisation of men and equipment.**

D. Drilling

3.52. Performance of the ONGC in respect of drilling from the year 1967-68 to 1971-72 (May '71) is as follows :—

Year	Target		Achievement	
	Meterage	Wells	Meterage	Wells
1967-68	201800	72	200144	76
1968-69	276500	126	287874	124
1969-70	271342*	127	231283	109
1970-71	214060	109	169003	90
1971-72 (Upto May, 71)	21460	17	15959	6

*Does not include 1500 metres planned for Suruinsar (Jammu) well. The well was spudded only on 14-3-1970 and was drilled down to 68 metres by the end of March, 1970.

3.53. The reasons for the non-fulfilment of the drilling targets in 1967-68 were 1) the strike in the Western Region, in almost all the drill-sites, and the regional workshop at Baroda. (ii) Complications were encountered in a number of wells at various projects which added to the unproductive time. Such complications are normal occurrances in the drilling operations. (iii) Frequent repairs were required in the rigs.

3.54. In 1969-70 the shortfall has been due to (i) the unprecedented floods, both in the Eastern and Western Regions, communal riots in Gujarat, and Refinery Bundh, Barricades, Gheraos and Satyagrah in Assam, as many as 18 rig-months were lost on account of the above factors. (ii) As a result of prolonged shut down, substantial amount of time was consumed in conditioning of the wells before further drilling could be resumed in them. (iii) Fishing and complications in various wells. (iv) Drilling on a record number (13) of new structures during the year, involved a number of complications. (v) The average depth of wells drilled during the year was more than planned, and hence the drilling of these wells took more time.

3.55. Similarly in 1970-71 the reasons for shortfall are stated to be as follows :—

(i) Floods in all the regions (except Northern).

(ii) Unexpected complications and fishing in a number of wells which included a number of wild cat wells.

(iii) A corollary of the above reason is the slow progress of drilling.

(iv) It is obvious that in wild cat and exploratory areas no set programme of production testing can be adhered. In our plans generally testing of only one or two objects are visualised but actually much more objects were tested. This resulted in lesser drilling achievement.

(v) Drilling activities are hampered quite frequently in Assam due to the barricade put up by the local people. The project authorities always take up such cases with the civil authorities but setback to the planned efforts has its impact. 34½ rig days were lost due to barricades in Assam during the year 1970-71. Though exact figure in terms of loss of metreage due to this reason cannot be worked out, but on the basis of meterage planned for the period, during which barricades were put up, the shortfall works out to the time of 1,022 mts.

3.56. So far oil has been discovered only in two sedimentary basins, namely, the Cambay basin of Gujarat and Brahamputra valley of Assam. Large parts of these basins have already been covered by Seismic surveys and it is stated that most of the promising structures discovered have already been tested by drilling. It is because of this position that there has not been a large addition in the oil reserves during the last five years or so, in spite of a number of oil bearing areas having been discovered.

3.57. To find more oil fields in the Cambay basin of Gujarat and the Brahamputra valley of Upper Assam, the portions have not been covered by Seismic profiles on a fairly close ridge and the portions which have not been covered at all are now being covered by a Seismic Survey. Also after additional digital seismic field recording systems have been procured, selected portions of the areas already covered by analogue Seismic technique will be covered again by digital Seismic technique to look for the traps of low amplitues or smaller areal extents which may have been missed in the analogue Seismic Survey. Furthermore, in the areas where possibility of occurrence of stratigraphic exists, special efforts are being made to search for such traps by conducting Seismic surveys and drilling operations.

3.58. It has also been stated that the work of reinterpreting the Seismic data taking into account all the available data obtained from the wells has been strengthened. The data is now being reinterpreted not only at Dehra Dun but also at the Regional levels at Baroda, Calcutta and Madras. As regards the reinterpretation work done so far, ONGC has stated as follows :—

> "The reinterpretation of Seismic data taking into account of all the available data obtained from the wells as well as from the gravity magnetic and geological data were being done in the interpretation Section since beginning of the Commission's operations. The reinterpretation group at headquarters was strengthened in October, 1969 and simultaneously regional interpretation groups were organised at Baroda, Calcutta and Madras.
>
> The policy regarding the reinterpretation work was reoriented in 1969 with the purpose of achieving the following objectives even better:—
>
> (i) Synthesis of the geological and geophysical data to provide a comprehensive picture of each of the basins surveyed.
>
> (ii) Review and mapping individual structures for making recommendation for drilling.

(iii) Development of new interpretation concepts and procedures to locate stratigraphic traps like pinchouts, truncations, sand bodies, reefts etc.

(iv) Evolving most effective exploration strategy based on all the available geophysical and geological data and their interpretation.

The reinterpretation of Seismic data in the light of well data, and the synthesis of various geophysical and geological data carried out at Dehra Dun has resulted in the preparation of upto date regional maps on various important horizons. These maps have provided unified picture of basins and have led to a greater understanding of the total tectonic frame work and sedimentary history of the basins, the localization of areas where there is a need for further surveys and a prognostication as to what type of traps could be expected in various localities.

The search for stratigraphic types of traps or the basis of geophysical data has been taken up, which has let to encouraging results. A couple of isolated sand bodies were defined on the basis of a seismic and well data in Cambay basin. Pinchout type of traps were also mapped in the same basin. Reinterpretation of several structures mapped by seismic parties, was carried out. Recommendations were made for exploratory as well as developed wells, which were approved by the Commission.

Exploration strategy was decided for all the basins. Some of the more important recommendations were the progressive application of multiple path seismic reflection (CDP) surveys in various basins, more extensive and intensive use of refraction seismic surveys, intensive velocity logging of wells, etc.

In respect of seismic, gravity and magnetic data, a total of 113 reports have been submitted by the re-interpretation groups together todate, of which more than 60 per cent were submitted after strengthening the set up for re-interpretation work in October 1969.

As regards well log interpretation a total of 73 reports have been submitted by the interpretation groups together, todate, of which over 60 per cent were submitted after October, 1969."

3.59. It is hoped that the above-mentioned measures will lead to the discovery of additional oil fields in the Cambay basin of Gujarat and the Brahamputra valley of Upper Assam.

3.60. The exploration work in the other sedimentary basins in which oil has not been discovered so far is being continued and even being intensified. In Kutch, drilling of exploration wells is being undertaken commencing from the latter part of this year. In the Tripura area where geological mapping has been in progress for quite some time and where several large structures have already been delineated by gelogical mapping, drilling of exploration wells is being undertaken commencing from the early part of 1972. Also it is proposed to intensify the drilling operations in this area by deploying a second drilling rig, as soon as possible and a proposal for the procurement of the necessary equipment and materials is being processed.

3.61. The Ministry of Petroleum and Chemicals was approached on 8-10-1971 for allocation of funds for procurement of equipment and materials required for drilling two additional wells in Tripura by deploying a second drilling rig.

3.62. The subject matter was discussed in Commission's meeting held on 29-10-1971, wherein it was suggested that a feasibility report should be prepared in the first instance for justification. The Ministry vide their DO letter No. 18|119|71-ONG dated 11-11-1971 desired that the report should also deal with some additional points mentioned by them.

3.63. Further action with regard to preparation of the required feasibility report was then taken up by the Planning and Central Division and the report after finalization has been sent to the Ministry towards the end of December, 1971 and further action in the matter will be taken after hearing from the Ministry.

3.64. With regard to drilling in Tripura, the Ministry of Petroleum and Chemicals furnished the following note:—

> "As mentioned by ONGC in their reply Ministry of Petroleum and Chemicals was approached initially on October 8, 1971 by the ONGC with the proposal to deploy a second rig for drilling 2 additional wells in Tripura. While the Ministry was still examining this proposal, the matter was briefly discussed in the Commission's meeting held at Dehra Dun on October 29, 1971, wherein it was decided by the Commission that a feasibility report should be prepared, giving full justification for the proposal. This report was prepared by them and approved in the Commission's meeting held on 20/21st December, 1971. Sub-

sequently, it was sent by the Commission with a forwarding letter dated January 1, 1972 from Member (Finance), ONGC, who suggested that, in the first instance, the Commission be permitted to invite open tenders for the materials which have to be imported for the purpose, without having to wait for the formal foreign exchange allocation.

The feasibility report was examined in detail by this Ministry in consultation with Department of Expenditure and Department of Economic Affairs of the Ministry of Finance. Subsequently, on the basis of this examination and as desired by the Commission, permission for the latter to invite open tenders for equipment sought to be imported, was conveyed to the Commission by the Ministry on March 8, 1972."

3.65. In the Jaisalmer area of Rajasthan, where drilling of wells down to about 2,000 metres had not given any favourable results, it is proposed to drill deeper exploration wells to explore the deeper parts of the geological section. Arrangements for drilling of the first deep well are on hand and the drilling is likely to be commenced in 1972.

3.66. In West Bengal, the Seismic Survey is being continued, to search for favourable structures. Two of the Seismic parties are already using digital seismic fields recording systems and the other two Seismic parties will switch over to digital systems as soon as these are received.

3.67. On the Surin-Mastgarh Structure in Jammu, the well which is currently under drilling, will throw considerable light on the prospects of this structure as well as prospects of this region in general.

3.68. In the Cauvery basin of Tamil Nadu, the Seismic Surveys are being continued in search of more structures. Drilling of exploration wells on the structures as and when they are discovered is also being continued.

3.69. In the remaining sedimentary basins, namely, the alluvial plains of Uttar Pradesh, West Bengal, Mahanadi delta, Krishna-Godavari delta and in Surma Valley and Cachar area of Assam, Seismic Survey is being continued, in search of favourable structure.

3.70. The table below gives the operational data in respect of drilling undertaken at all the projects since 1965-66 :—

	1965-66	1966-67	1967-68	1968-69	1969 70
No. of rigs in possession	46	50	50	50	..
No. of rigs in operation	33	37	42	42+1*	42
No. of wells completed	90	77	76	124	109
Metres drilled	1,81,300	1,68,342	2,00,144	2,87,874	2,31,283
Total rig days available	13,502	14,286	15,126	15,517	13,956
Total rig days utilised	11,536	12,408	13,031	14,995	13,634
Operating days :					
(a) Rig building days including rigging and transporation	4,014	3,568	3,027	3,320	2,690
(b) Drilling days (including complications and idle time)	6,377	7,282	8,037	10,005	9,460
(c) Testing days	1,145	1,558	1,967	1,670	1,484
Non-operating days :					
(d) Major Overhauling	579	176	1,392	252	522
(e) Others (including first rigging up and long distance transportation)	1,387	1,702	703	270	
(f) Cycle speed per day (metres)	15·7	13·6	15·3	19·2	516@
(g) Commercial speed per rig day (metres)	28·4	23·1	24·9	28·8	743@

*Structural rig being used for drilling purposes at Manhera Tibba.

@Represents cycle speed and commercial speed per rig month.

3.71. The year-wise number of wells tested is as follows :—

Year	No. of Wells tested by deep drilling rigs	No. of Wells tested by work over rigs
1965-66 .	59	51
1966-67 . .	66	75
1967-68	69	93
1968-69	99	140
1969-70	73	112

3.72. In 1970-71, the position was as given below:

Year	No. of wells drilling of which was completed	No. of wells tested by deep drilling rigs	No. of wells tested by work over rigs*
1970-71 . .	90	69	108

3.73. The testing of such of the wells completed in each year which could not be tested by deep drilling rigs was done subsequently by work over rigs

3.74. It may be mentioned that the intitial testing in the wells is always done by the deep drilling rig which is employed for drilling of that well. Wells are said to be 'completed' only after doing the testing of the well by deep drilling rig, whenever testing is considered justifiable. On the otherhand, work-over rigs are employed for subsequent testing in the 'completed' wells and these work over jobs may be done periodically on old wells; the time that would elapse between the completion of the wells and subsequent work-over jobs varies, depending upon the job to be done, the availability of the work over rigs, etc.

3.75. It will be seen that the commercial speed, which connotes the actual drilling efficiency, went down from 28.4 metres in 1965-66 to 23.1 in 1966-67, 24.9 in 1967-68 and rose to 28.8 in 1968-69.

3.76. Some of the rigs were not in operation. Details about them

*Of these, some wells are common a with those tested by deep drilling rigs (sunk wells had been initially tested by deep drilling rigs but were subsequently tested by dee· drilling rigs but were subsequently further tested by work over rigs.)

alongwith reasons for their non-operation are given below:—

1966-67			1967-68			1968-69		
No. of Rig.	rig. No.	Reasons	No. of rigs	Rig No.	Reasons	No. of rigs.	Rig No.	Reasons
2	2DH-I BU O	Laid off.	2	1DH-I BU-IO	Laid off.	3	2DH-I BU-II BU-IO	Laid off.
2	5LD-I BU-3	For training Stand by.	2	5LD-I BU-3	For training Stand by.	2	5LD-I 3D-3 4LD-2	For training Stand by.
4	NAT-55 BU-2 H-2500 3D-3	Under repair and check up Under transport.	2	H-2500 3D-3	Idle. Under transport.	2	H-2500 5D-7	Idle Under check up.
5 rigs either remained in transit or in stores.			2 rigs either remained in transit or in stores.					

3.77. A statement giving the reasons for laying of two rigs each in 1966-67 and 1967-68 and three rigs in 1968-69, reasons for two rigs being idle (under transport) in 1967-68 and two rigs (under check up) in 1968-69 and the reasons for their remaining in stores in 1966-67 and 1967-68 is given at Appendix II. The statement also shows reasons for non-operation of eight rigs in 1969-70 and eighteen rigs in 1970-71.

3.78. The Ministry of Petroleum and Chemicals have further stated in a note as follows:—

> "A certain number of Rigs with ONGC have, over the years, become unserviceable. Government had, in the past, been emphasising on the Commission to take an early decision on these Rigs. In its meeting held on August 16/17th 1971, the matter was considered by the Commission and it approved in principle that 11 of these Rigs should be considered "as not available for active service". It was also decided that before these rigs were treated as "condemanded", a Survey Board should inspect the same and report, and also assign a value to the recoverable parts of these rigs. The recommendations of the Board were to be put up to the Commission, in due course, for further decision. Government are awaiting the results of follow-up action in this matter from the Commission."

3.79. During the course of the evidence of the representatives of ONGC, the Committee pointed out as follows:—

> "It has rightly been said that instead of searching for another structure or the area, here you have mentioned about Ganga plains. I think you should try to complete the drilling operations which are at present inhand, either in Gujarat or Assam or Rajasthan or anywhere. Kindly put more emphasis on these instead of searching for new areas".

3.80. The Chairman, ONGC replied as follows :—

> "With due respect, I feel it would not be correct to confine our activities to the areas where oil has already been found. Take for instance Gujarat. Gujarat is the most important region where we have today as many as 18 drilling rigs in operations out of a total of 32. But Gujarat is essentially a small area for producing oil. Today we are producing about 3.6 million tonnes only from Gujarat and Assam. The way in which we are going and the way in which India's needs for oil is growing, I will say that it

will not be possible to meet the entire needs, if we confine ourselves to Gujarat and Assam. It is therefore necessary for us to spread ourselves to all other sedimentary regions like Jaisalmer, Cauvery Basin, Bengal, Tripura, Andhra Pradesh and Mahanadi Delta etc. etc., where the possibility of finding oil cannot be ruled out on a geological considerations and the data available at present. If you see the amount of drilling that we have done in the Cauvery basin and Jaiselmer region. you will find that we have done a fairly large volume of work. Although we have not succeeded, we are still continuing. We are not giving it up. As regards Andhra Pradesh, if we drill a well 3000 metre deep over there, it may cost us Rs. 30 lakhs or even more. I think you will certainly want us not to drill a well just for the sake of drilling. You will want us to drill a well at a place where there is a good chance for finding oil. Therefore, in Andhra Pradesh, West Bengal and Mahanadi Delta, we are still looking for those places where on the basis of geological and geophysical data there will be good chances of finding oil. It is only because we have not found any such place in the aforesaid so far. ***** In Jaiselmer we have located a place for two very deep wells. These wells will be drilled down to about 5000 metre. For these wells, we have to get certain special equipment materials from abroad. We cannot do without it. However, we have located another place where the depth of the well is 3500 metres only. One of our rigs which was manufactured at Ranchi should be able to drill this well. Another question was what have we done about these drilling the deeper wells mentioned above. The precise answer is that we are processing a proposal for the purchase of special equipment and materials required for drilling these wells. After we have convinced ourselves then we will go to the Government for sanction of foreign exchange."

3.81. Thereupon the Committee pointed in connection with drilling at Jaiselmer that there was a feeling that top-officers of ONGC did not want to go beyond Jodhpur as it was a difficult area. The Chairman denied this by saying that:—

"If there is any feeling that the top officers of ONGC do not want to go to and work in the Jaiselmer area because of difficult living canditions there, is quite incorrect. The ONGC people have nothing to do with what kind of environment and living conditions are there in an operational area. If anywhere in this country there are prospects of finding oil, I am sure, none of us will hesitate in staying and working there night and day. Today, I am in-charge of exploration. I have myself spent about two field seasons in Jaiselmer desert just before the formation of ONGC. I have surveyed that area myself for about two field seasons. This is not the real problem. Our real problem is that in spite of a large volume of exploration work the results there have not been favourable so far. If in any part of India, on sound geological and geophysical considerations, there are good prospects of finding oil we shall not have the least hesitation to go and work there. I can assure the Committee that the lack of oil finding in Jaiselmer is not because of personal convenience and things like that".

3.82. The Committee note that in the year 1968-69 as against the target of 2,76,500 metres and 126 wells, the Commission drilled 2,87,874 metres and 124 wells; in 1969-70 against the target of 2,71,342 metres and 127 wells, the Commission drilled 2,31,283 metres and 109 wells, and in 1970-71 against a target of 2,11,060 metres and 109 wells, the Commission drilled 1,69,003 metres and 90 wells. The Committee regret to note that there is shortfall both in the meterage drilled and the number of wells, except in the case of meterage in the year 1968-69. The Committee note the achievement in the number of wells completed yearwise but are constrained to note that as many as 82 wells drilled have not been fully tested. The Committee expect that as soon as drilling is completed in a particular well, the follow-up action of testing should follow as a matter of routine. Since the number of wells awaiting testing is large, the Committee feel that the planning of exploration, drilling and testing is not fully integrated in the ONGC. The Committee would like ONGC to go into the reasons for delay in commencing testing of wells. The Committee would recommend that the programme of testing a well should be time-bound. Timely testing of wells would provide surer clue whether exploration and drilling work should be intensified or modified in the light of the results achieved. The Committee also recommend that the results of testing should be correlated, with the surveys which had preceded drilling so as to derive guide lines for future explorations and drilling work.

3.83. The Committee have also noted that during the year 1966-67, 13 rigs were laid off or not used. In 1967-68, 8 rigs were laid off or not used, in 1968-69, 8 rigs were not used. In 1969-70, 8 rigs were not in operation and in 1970-71 as many as 18 rigs were not in operation. They were not used as either they were laid off or were under repair or transport.

3.84. **The Committee note that at the meeing of the Commission held in August 1971 it was decided in principle that 11 of the rigs should be considered "as not available for active service". It was also decided that before these rigs were treated as condemned a Survey Board should inspect the same and report and also assign a value to the recoverable parts of these rigs. The recommendations were to be placed by the board before the Commission for further decision. Government are still awaiting the results of the follow-up action taken in the matter by the Commission. The Committee are constrained to observe that a matter of such urgent importance as availability of rigs for service or otherwise there should have been so much delay. The Committee would like Government and ONGC to undertake a critical review of the rigs which are borne on their inventory with a view to locate those which are unserviceable and should be disposed off and those which can be put into service after execution of repairs where necessary. Government|Commission should then take an overall view about the adequacy or otherwise of these rigs as compared to the present assignment for exploration and development and take timely measures to equip themselves with requisite number of rigs of suitable design and make in the interest of timely and efficient execution of the plan programme.**

E. Prolonged drilling of well at Bodra

3.85. In March, 1964 the Commission opened Port Canning Project office in Calcutta for oil exploration in that region. The site acquired on 30th April, 1964, was decided to be abandoned in October, 1964, and a new site was acquired in May, 1965. The civil work on the new site was started in August, 1965 and completed on 7th January, 1966 against the scheduled target of September, 1965. The rig building was taken up on 28th January, 1966 and was completed in about six and half months i.e., 17th August, 1966 instead of normal time of 2½ months and the well was spudded on 18th August, 1966. The delay in rig building has been attributed to complicated nature of the rig deployed. As against the projected depth of 5,000 metres to be reached by March, 1967, 3,315,80 metres were drilled by February, 1967, when further drilling was stopped as the blow out preventor to be installed was found defective. (Please see Appendix III concerning the defect in B.O.P.). The drilling resumed in July, 1967, was again discontinued in August, 1967 for carrying out casing repairs and squeeze jobs which continued till December 1967. In January, 1968 when drilling was resumed there was a major stuck up and fishing operation continued till May, 1968. In August 1968 there was another stuck up, which could not be fished out till 2nd December, 1968 when it was decided to stop further drilling.

3.86. Since the casing of the wells were weakned by constant fishing operations and due to the existence of alternating high and low pressure zones in the formation, loss of mud occurred around 3,300 to 3,400 metres. "To seal off these mud losses further squeeze operations were tried but these proved unsuccessful and finally 7" liner was lowered up to 3,600 metres and after that further drilling proceeded up to 4,198 metres. Heavy mud losses coupled with increased specific gravity and mud resulted in extra consumption of chemicals of the order of Rs. 5.67 lakhs over and above the normal requirements.

3.87. The well was sealed at 4,198 metres and divided into 9 horizons. Production tests conducted of these horizons did not show encouraging results and the well was abandoned.

3.88. The expenditure incurred on the well up to 31st March, 1969 was Rs. 2.40 crores.

3.89. In this connection it has been stated that the schedule of civil engineering works was drawn up anticipating the conventional type of foundation for "A" type derrick and anticipating normal condition of whether in the area. The site was released on the 7th May, 1965. In this area the rains during the year 1965 were very heavy and unprecedented which rendered the working conditions very difficult. The foundation plans had to be changed after the tenders had been accepted for the foundation works as instructions were received that four legged derrick type from Sibsagar would be used instead of the "A" type derrick contemplated earlier. Accordingly the tenders received on 8-6-1965 had to be rejected and tenders reinvited. The revised foundation plan duly approved by the Chief Drilling Engineering and Consultant was received in the Project on 1-7-1965. Thereafter, the estimates were all revised. By this time the monsoons intervened and delayed progress. The foundation plans were again revised at the instance of the Russian consultant. The plan was finalised on 10-9-1965.

3.90. It has been further stated by the Commission that in the South Eastern and Southern part of West Bengal, the Sedimentary Section is very thick and it is felt that the rock formations at very large depths may also be favourable for occurrence of oil or natural gas.

The problem was that the quality of the Seismic data obtained from the shallover parts of the geological sections was not good as

one would like to have and the data obtained from larger depths was extremely poor. A large volume of Seismic survey was done, but it was not up to the point which one would have liked. In order to improve on this Seismic data, the ONGC has gone in for the digital Seismic data processing system.

3.91. In a note submitted to the Committee, after the evidence of the Ministry of Petroleum and Chemicals on the working of the Oil and Natural Gas Commission was over, the Ministry has stated as follows with regard to the Digital Seismic data processing system acquired by Oil and Natural Gas Commission:

> "The digital seismic system arrived in India at the middle of April, 1971. It was found that during transit, it had suffered certain damage. The damage was on the outside cover; the glass piece of one of the tape Transports was damaged and some power transistors of the tape transport also suffered damage. The damage to the tape Transport was rectified by an Engineer who was sent by the Suppliers and the power transistors were also replaced. After the installation of the system, the Supplier's Engineer came to Dehra Dun as per contract, for making a thorough check before putting it on the productive job. During his stay in India, it was noticed that sometimes a part of the circuit was showing some leakage. This part has been subsequently replaced.
>
> Certain bugs were suspected in some of the programmes. They have been checked and programmes are now working. During the course of the operation, certain sub-unit of the processing system fail to work; they are attended to by ONGC's own specialist. However, an engineer and a geophysicist of the Suppliers paid a vist to the digital seismic data processing centre for the second time and checked the equipment and programmes again. This was in October, 1971. They left in the middle of October, 1971. The data processing system has been functioning without any major break-down".

3.92. **The Committee note that as against the project depth of 5,000 metres to be reached in drilling Bodra well by March, 1967, only 3,315.80 metres were drilled by February, 1967 when further drilling was stopped. The well was sealed at 4,198 metres and divided into 9 horizons. Production test conducted of these horizons did not show encouraging results and well was abandoned, after incurring expenditure of Rs. 2.40 crores.**

3.93. The Committee regret to note that there was change in decision with regard to setting up the derrick for the Bodra well. The foundation plans had to be altered after the tenders had been accepted for the foundation works as instructions were received that four legged derrick type from Sibsagar would be used instead of "A" type derrick contemplated earlier. Accordingly, the tenders were re-invited. The foundation plans were again revised on the advice of the consultants. Thus, it appears in retrospect the Seismic data collected before starting the drilling at Bodra well in West Bengal needed improvement. The data collected by drilling 4,198 metres at Bodra well although of importance to ONGC, may not be commensurate with the huge expenditure on the well. The Committee expect the Commission to draw lesson from this experience and recommend that careful and effective survey should be carried out before selecting a site for drilling, in future and to ensure that such lapses will not occur again.

F. Drilling cost

3.94. The Commission has prepared cost reports for 655 wells out of 674 wells drilled with its own rigs up to the 1st April, 1969. Standard costs were initially worked out in October, 1965 in respect of the production wells in Ankleshwar, development wells in Ahmedabad (Kalol) and exploratory wells in Rudrasagar, but became redundant due to material changes, such as devaluation, rise in prices, revision of pay scales and introduction of incentive scheme. Standard costs of the wells in other fields were not, however, fixed till August, 1969 when costs for wells of different depths range drilled in different areas with different type of rigs had been fixed.

3.95. A comparative study of the standard costs so fixed with the actual costs in respect of some of the wells drilled during the period from October, 1968 to March, 1969 has been made. During this period 29 wells were drilled by the ONGC. In almost all the cases the actual cost of drilling per metre has exceeded the standard cost. These variations in the different wells ranged from Rs. 13.43 (BU-75-VIIK-126) to Rs. 1098.37 (URB-4 PM). A statement showing the comparative study of standard costs with the actual costs of the wells drilled during the period from October, 1968 to March, 1969 is given at Appendix IV.

3.96. The reasons for variations have been chiefly increase in cycle period, increase in expenditure on civil works, man power and P.O.L., increase in cost on Serivces and drilling days, increase in expenditure on chemicals, cementation, transport and other materials.

3.97. The Committee note that the reasons for variation between the actual cost and standard cost of drilling have been chiefly due to increase in cycle period, increase in expenditure on civil works, more expenditure on man power and P.O.L., increase in cost of services, increase in number of drilling days and increase in expenditure on chemicals, comentation, transport and other materials. In the opinion of the Committee, the reasons assigned for the wide variations can be checked with proper planning and control. The Committee feel that there is scope for reduction in the cost of drilling. The existing mud pumps could be replaced by more powerful ones capable of drilling to great depths. Efforts should also be made (i) to improve the quality of drilling mud (ii) to procure drilling bits of better quality and more suitable for drilling through the expected rock formations, (iii) to procure drilling pipes with better quality and with factory fitted tool joints (iv) to give more emphasis on proper maintenance of drilling rig and machinery and create better facilities (v) to procure better and additional coring, fishing, drilling, stem testing, lifting and transportation equipment.

IV

OFF SHORE OPERATIONS

A. Off-shore Seismic Survey

4.1. For off-shore seismic survey in the Gulf of Cutch and the Coromandal Coast; the Commission invited limited tenders in February, 1964 from 13 Geophysical Companies in USA, France, Germany and U.S.S.R. On comparing the quotations received, the offer of M|s. Geophysical Service International Ltd., on per line mile basis involving a total payment of Rs. 42.51 lakhs for survey of 6,000 line-miles (9,600 line kilometres) was considered the best as payments were correlated with the volume of work done. The work was, however, awarded to M|s. Technoexport, Moscow whose offer was for the hire of equipment and personnel and was evaluated by the Commission to involve a total expenditure of Rs. 47.20 lakhs for surveying 6,000 line miles (9,600 line kilometres) during a period of 14-1|2 months, on the ground that it involved lesser expenditure in foreign exchange.

4.2. On 15th June, 1964 the Commission entered into a contract with Messres Technoexport under which the latter was to supply a fully equipped and fully manned seismic survey ship for a period of 16 months (inclusive of voyaye from the USSR and back) for carrying out survey in one or more areas off the coast of India as might be requested by the Commission. The survey ship left the USSR on 4th July, 1964 and reached the Madras Port on 1st August, 1964.

4.3. As the off-shore seismic survey in the Cambay area was essential to locate points for drilling, for which a contract with M|s. SNAM SpA of Italy had already been entered into on 26th September, 1964 and the drilling platform was likely to arrive in India in January, 1966 and as the Commission had insufficient time to undertake this work with its own equipment, the Commission decided to extend the period of contract by 15 months with effect from 4th October, 1965 to undertake survey work in this as well as other areas. The extension involved an expenditure of Rs. 90.06 lakhs including expenditure on explosives etc. and Indian personnel. The sum of Rs. 90.06 lakhs was inclusive of on amount of Rs. 14.92 lakhs representing an increase in the rate of hire charges of equipment (Rs. 5.27 lakhs) customs duty payable on the replacement of existing seismic unit

(Rs. 3.00 lakhs), incidence of increased amenities to be provided to the foreign specialists (Rs. 2.13 lakhs) and the additional expenditure on the replacement of existing specialists (Rs. 4.27 lakhs) etc. The drilling platform of M|s. Sham SpA however, did not arrive in India as a result of a gas blow-out before shipment.

4.4. The performance during original contract period (1st August, 1964 to 3rd October, 1965) indicates that out of the total of 429 days (excluding voyage days from Russia to India) the ship was engaged in actual survey work only for 152 days i.e. about 35 per cent only. The actual line kms. covered were 6,351 out of 9,600 line kms. There was a shortfall of 3,429 line kms. The performance during extended period of contract (4th October, 1965 to 3rd January, 1967) indicates that out of the total of 457 days (excluding voyage days from India to Russia), the ship was engaged in actual survey work for 183 days i.e. about 40 per cent. The actual line kms. covered were 8,272.1 line kms. against the target of 6,160 line kms.

4.5. At the time of the evaluation of the offer, it was envisaged by the Commission that the Technoexport would be able to execute 1650 shots* per month. As against this estimate, the actual performance during the initial period was 1056 shots per month on an average and during the extended period 1329 shots on an average per month.

4.6. The survey work was completed in January, 1967 and the USSR team submitted its final Report in November, 1967. According to the contract, the final Report should have been submitted within six months of the date of completion of work. There was thus delay of four months in submission of the Report. The Report indicated the presence of two interesting structures *viz.* 'Bombay High' and 'South Tapti Structure' in which deep exploratory drilling was recommended. The Report also mentioned that refraction survey in off-shore area adjacent to Cambay and Godavari-Krishna Basin could not be carried out as the Commission could not provide a motor launch for remote shooting.

4.7. The agreement for Seismic Survey was discussed with the representatives of the Oil and Natural Gas Commission during their evidence. The Committee were informed as follows:—

"This is regarding off-shore seismic survey in the Gulfs of Cambay & Cutch and the Coromandal Coast. We had

*Shots indicate the detonation of the explosives in specified locations.

invited quotations from a number of western compancies—American and European and we made a comparison of the offers. That is how the Russian offer was evaluated ....* * * . We realised the position that Russian quotation was about rupees five lakhs higher than the American quotation. I want to submit, Sir, that this fact had been brought to the notice of the Government. I would like to give you a little background about this thing. Right from the inception, the ONGC has been more or less an entirely Russian aided-project. We had been depending almost entirely on the Russian aided-project. We had been depending almost entirely on the Russian credit for the procurement of our equipment and specialised services. So, we assumed that we will have to get the Seismic Survey done through USSR. In fact, we had written in one of our letters to the Government before we submitted the proposal that one of the main objective of our inviting quotation from the Western countries was to evaluate the Russian quotation. This thing we had indicated. Foreign exchange position in those days was very tight. Since the inception of ONGC, Government has made an allocation of 75 crores to ONGC. Now the position has changed. Free foreign exchange is not so difficult * * * *. We had one party—Indian seismic party of our own which had been operating in the northern part of the gulf since 1963 onwards. The party had a ship from Bombay and we chartered it and we conducted the survey. First we found that our work was extremely slow. We found that if we continue in that way, it will take a very long time to survey the Indian off-shore area. That is why Russian help was sought".

4.8. As regards linking of the plan of calling the Italian drilling platform with this seismic survey, the Chairman, ONGC informed the Committee as follows:—

"That has nothing to do with the drilling.......

In the Audit Report, it got tied up with the drilling in a very peculiar way. The Italian platform was asked for by us for the operation of drilling in the Gulf of Cambay where water depth was within 40 metres. The Contract was signed in 1964 and the ship should have come in 1965. In 1965 we had a very eminent Russian Consultant with us. He was Mr. Kalinin. When we were discussing about the deployment of Italian platform Mr. Kalinin very strongly opposed deployment in the northern part of the Gulf (Aliabet structure). In the meantime the Russian seismic party had been able to get indications of some structures in the southern part of Gulf. Mr. Kalinin made a point saying why do you not deply it on the larger structure which appear in Bombay and other adjoining areas.

I opposed Mr. Kalinin's suggestion in the Commissions' meeting, because as I said, we had only got indications of the structures. The structures had not been mapped. How can we utilise the expensive platform for drilling?"

4.9. There upon the Committee desired to know whether it would be correct to assume that when the contract with the Russians was finalised on a time basis, there was no kind of attempt made to estimate the quantum of production and that what had been done was *ex-post facto* comparison, *i.e.* after certain work had been done. The Chairman, ONGC stated as follows in reply to the Committee's comments:—

"We had discussed this matter at length with the Russian representatives when the contract was being negotiated. They had given us their own estimate of how much they can expect to shot per working day. And ultimately we said that our estimate of work is 9,600 kms. and their estimate of the time was 14-1|2 working months. On that basis, it worked out to 1650 shots per month. On the basis of 18 working days per month, this comes to about 92 shots per working day. But what I want to stress is that they had made it clear to us that this would be the output of the work per working day. They were not able to say how many working days there will be in a month. In fact, and it is recorded in our file; they assumed that they will be able to work 18 working days per month".

4.10. In a written reply submitted to the Committee, after the evidence of the representatives of ONGC was over, the ONGC has stated in this connection as follows:

"The object of entering into a contract with V|O Technoexport was to conduct seismic survey in the various prospective parts of the continental shelf of India, to obtain information regarding the structures and other geological conditions, which is necessary for making a broad, preliminary assessment of the oil and natural gas prospects of those areas. This task was not completely fulfilled during the initial period of the contract, nor was it expected that it would be fulfilled, considering the large areal extent of the continental shelf of India. While in the Gulf of Kutch and the area off the Coromandel Coast, a substantial volume of regional|reconnaissance survey was carried out, a substantial volume of additional seismic survey work was required to be carried out in the Coromandel Coast. Also, reconnaissance|semi-detailed|detailed seismic work had not been carried out in the southern part of the Gulf of Cambay and the adjoining area of the Arabian Sea, where some indications of possibly favourable structures were obtained during the reginonal surveys. In certain other areas of India e.g. the area of south of Sunderbans extending westwards towards the Mahanadi delta and the area off the Krishna-Godavari delta, seismic survey work had yet to be carried out.

It was, therefore, necessary to extend a contract with V|O Technoexport, for broadly assessing the prospects of the area in the southern part of the Gulf of Cambay and the adjoining area of the Arabian Sea, the area off the Coromandel Coast and the aforesaid other areas. The object of extending the contract with V|O Technoexport was to carry out the aforesaid additional essential work."

4.11. The object of entering into a contract with M|s Technoexport was to conduct seismic survey in the various prospective parts of the continental shelf of the Gulf of Kutch and Coromandal Coast to obtain information regarding the structures and other geological conditions, which is necessary for making a broad preliminary assessment of the oil and natural gas prospects in any area. The performance during the original contract i.e., 1st August, 1964 to 3rd October, 1965 indicates that out of total 429 days, (excluding voyage days from Russia to India) actual survey work was done only for 152 days and the actual line kms. covered were 6.351 out of 9,600 like kms; thus leaving a shortfall of 3,249 line kms. The performance during extended period of contract from 4th October, 1965 to 3rd January, 1967 indicate that out of the total of 457 days, the ship was engaged in actual survey work for 183 days. The actual line kms covered by

the survey were 8,272.1 line kms against the target of 6,160 line kms. The Committee regret to note that the objectives for carrying out seismic survey in the various prospective parts of the Gulf of Cutch and Coromandal Coast was not fulfilled during the different stages of the contract.

4.12. Besides, it is also noted that the Commission accepted a higher offer on the considerations that it would involve lesser expenditure in foreign exchange. Moreover, the extension of contract was made to link it up with another agreement with SNAM which envisaged the use of drilling platform of SNAM to be brought from Italy and also to complete the Seismic Survey of the continental shlef of India. Unfortunately, the Committee find that these objectives failed to materialise.

4.13. The targets set out in the contract could not be achieved and the submission of the Reprot of the contractor on the Seismic Survey was also behind schedule.

4.14. The Committee note, the Report indicated the presence of two structures viz., **"Bombay High" and "South Tapti" in which deep exploratory drilling was recommended but no exploratory drilling has yet commenced. The Committee are concerned to find that the sense of urgency in commencing deep off shore drilling has been lost by the Commission.**

4.15. According to its plan, ONGC expects to step up its output of crude in the coming years by planning to secure as much as 40 per cent of the additional production from the off-shore areas. For this ONGC is trying to complete the Seismic Surveys of potential oil bearing regions of the continental shelf. ONGC has submitted a proposal to the Government for covering about 4500 line kms in the current year and for the next year ONGC plan to conduct additional survey. In this connection, during the evidence of the representatives of the Commission, the Chairman, ONGC stated as follows:—

> "The work of off-shore Seismic Survey has still not been completed. Roughly speaking, I believe, it will take 7, 8 or 9 years to cover all the perspective continental shelf areas by seismic survey.
>
> What we are doing for meeting our immediate requiremeints is that there is a proposal under the consideration of the Government for utilising the services of another contractor for conducting off-shore Seismic Survey in "Bombay

High" and adjoining areas. A limited volume of work is envisaged-4500 kilometres. We tried to buy in or hire a suitable Indian vessel. We advertised, we contacted the owners, but we were not successful."

4.16. With regard to the proposal for meeting the immediate requirements, the ONGC has submitted a note to the Committee:—

"Sanction for award of the Contract for conducting detailed seismic reflection and refraction and magnetometer surveys to M|s. C.G.G.|France was accorded by Government and on the basis of this sanction a contract was awarded to C.G.G. The survey is in progress and likely to come to an end before the end of February, 1972. Thereafter the data is to be processed and interpreted by C.G.G. in France.

The value of contract with C.G.G. is 4,238,862 French Francs.

The Soviet Seismic Expendition carried out seismic reflection surveys in the west and east coasts of India using analog seismic field recording system. The processing of these data was also of conventional nature. The presently envisaged surveys will be using the modern, digital data field recording and data processing techniques. Also both seismic reflection and refraction surveys would be carried out and in addition, magnetic surveys would also be conducted."

4.17. The Ministry of Petroleum and Chemicals also furnished a note in this connection:—

"Detailed off-shore seismic surveys on the structures like 'Bombay High' earlier indicated by the preliminary surveys by the Soviet seismic expedition, were considered necessary for obtaining a detailed geological picture of these structures and for pin-pointing the drilling locations for the initial exploratory phase. For this purpose, a contract was entered into by the ONGC with a well-known firm, CGG, under French Government assistance, for conducting 4500 line Kms. of digital seismic surveys using up-to-date digital and other equipment. The survey has now been completed and the data are being processed in the computer centre of CGG in France. Two Geophysicists of the ONGC are at present at this computer centre for independently interpreting the processed data, apart from the Contractor's own interpretation which he is carrying on."

4.18. The Committee note the activities of the ONGC is surveying the continental shelf of the country and notice that the job was being undertaken through hired agencies. A stage has come for the Commission to raise its own team of experts, capable of undertaking seismic survey of the continental shelf without depending exclusively on foreign agencies. The Committee recommend that the modern methods and techniques of seismic survey including the latest equipments of magnetic seismic survey be acquired. They also hope that the personnel concerned will be trained properly to handle these equipments for successful execution of the job.

B. Seismic Survey Ship

4.19. During the evidence of the representatives of the Oil and Natural Gas Commission, the Committee were informed that a proposal for sanction of the Government for the purchase of a used Seismic Survey Ship from abroad for conducting off-shore seismic surveys in India's continental shelf areas during the coming years was being processed with the Government.

4.20. But in a note submitted to the Committee after the evidence of the representatives of ONGC was over, the ONGC has stated as follows in this connection:—

> "A proposal for the purchase of survey ship, equipment and instruments at a cost of £4.20 lakhs has been submitted to the Government of India. The Government sanction has not been received as yet. The offer was valid upto 30th August, 1971 in the first instance. We requested the firm to keep it open upto 30th September, 1971 but the firm agreed to extend the validity of their offer upto 15th September. 1971. Finding that some more time might be required to obtain the decision of Government, we again requested the firm to extend the period of validity of their offer upto 30th September, 1971. The firm has in their reply informed us that due to other commitments, they were not in a position to keep their offer open beyond 15th September, 1971 and have further added that their message should be treated as notice of withdrawal of their offer. We have accordingly informed the Government."

4.21. The O.N.G.C. submitted another note in this connection as follows:—

"Tenders were invited abroad, in March, 1971, for conducting off-shore seismic survey in the area of the Arabian Sea adjoining the Gulf of Cambay, and the prespective tenders were asked also to indicate whether they would be willing at the end of the survey, to sell to the Commission their seismic survey vessel and its instruments and equipment and, if so, they were asked to quote prices of the same. The tenders were opened in May, 1971.

On the basis of the offers received, a proposal for the purchase of the seismic survey vessel, "Teledex-IV" and its instruments and equipment was submitted to Government. However, sanction for the purchase was not received and the offer lapsed.

Subsequently, on 13th December, 1971, a proposal for the purchase of the seismic survey vessel, "Lady Diana", together with its seismic instruments and equipment, which are currently being used by CGG for conducting the seismic survey for the Commission in the Arabian Sea, was submitted to Government. In the proposal, it was requested that if the proposal is not agreed to for any reason, then the Commission be authorised to invite tenders abroad.

While a decision of the Commission on the above mentioned proposal has not been received, so far, an inspection of the vessel carried out by the specialists of the Commission alongwith a specialist of the Mercantile Marine Department has indicated certain disadvantageous features of this vessel, on account of which it is felt that it would not be advisable to purchase it. The matter will be taken up with Government for obtaining approval to invite quotations abroad. This is considered necessary, as no suitable vessels are available in India, and construction of a suitable vessel in India is likely to take quite a long time."

4.22. The Ministry of Petroleum and Chemicals have also furnished the following note with regard to the present position of acquisition of a seismic survey ship for use by the ONGC.

"Commission's proposal was to conduct a limited volume off-shore seismic surveys on contract in the Bombay High and adjoining structures during the field season of 1971-72 and thereafter to acquire a seismic vessel of its own to conduct off-shore seismic surveys in other promising parts of the shelf after the monsoon of 1972. This limited volume of off-shore seismic survey in the Bombay High had to be done very quickly to be able to adhere to the schedule for commencing drilling on this structure when the jack-up platform is received from Japan. For acquiring a seismic vessel, the Commission made a proposal to procure a vessel called "TELEDEX-IV", from an American company, Teledyne. However, the inspection report made by the ONGC and our Mercantile Marine Department in Fiji island indicated that this vessel had struck a reef during its operations and suffered some damage, shortly before the team inspected the vessel. Moreover, the digital seismic equipment and streamer cable etc. installed in the vessel were all quite old and were stated to require replacement within a short period of one year or so. Furthermore, the Teledyne Co. gave a very short validity period for its offer, requiring examination of the proposal by Government within two weeks. At the time the proposal was made, the Commission was having problems in operating the newly-procured digital seismic units in the West Bengal and in processing these data in the digital computer in Dehra Dun. It was felt that until these initial problems are resolved, it would not be advisable to make commitments at that time for the purchase of a seismic vessel intended for operations a year later, the idea being that the Commission would be in a better position to assess the requirements including expert assistance, after exposure to the digital seismic operations proposed to be conducted contractually through CGG, French Co. in the Bombay High area. Moreover, having already made commitments for providing large amounts of foreign exchange for the Bombay High drilling operations due to start towards the end of 1972, it would have been difficult at that time to get a further sizeable foreign exchange allocation so soon for acquisition of the seismic vessel and equipment when the justification for the proposal was inadequate. Further, the purchase of a seismic ship would only enable ONGC to obtain the digitally recorded data; the necessity would still remain for the processing of data abroad which would cost at least as much as the cost of the surveys. For these reasons Government felt that the proposal for acquisition of "TELEDEX-IV' was not well conceived.

Subsequently, on 13th December, 1971 the Commission made a proposal for the purchase of another seismic vessel 'Lady Diana' with which CGG was surveying the 'Bombay High' area at that time. The Commission, however, later withdrew this proposal after examination of this vessel in detail and finding that this vessel was not suitable for Commission's operations. Obviously ONGC's proposal had initially been sent without full consideration.

According to the Commission it had received other offers for the purchase of a seismic ship, outside of the tender floated by the Commission for contracting which has been mentioned in Commission's reply. The Commission has just submitted another proposal for inviting global tenders for the purchase of a fully equipped seismic ship."

4.23. The Committee very much regret to note the undue delay in processing a proposal both at the ONGC level and at the Government level has resulted in withdrawal of an offer of sale of a second hand seismic survey ship by a foreign party. The arguments whether the ship in question was suitable to the requirements of the ONGC or not and whether the offer was not considered on grounds of short validity period seem unconvincing. The Committee would like Government to take expeditious decision in the matter so that the ONGC have the services of a fully equipped seismic ship for carrying out the requisite survey.

C. Off-Shore Drilling

4.24. In view of the rising demand for petroleum products and the limited success of exploration for oil on land, the Oil and Natural Gas Commission decided to explore the bed of the Gulf of Cambay as also the continental shelf along the coast of the country.

4.25. It was decided to drill the first well namely Gulf of Cambay off-shore well No. 1, at Aliabet, a point in the Gulf of Cambay, 46 kms. away from Bhavnagar Port.

4.26. A fixed platform was used on this project over which the necessary drilling equipment was erected. This well was spudded on the 19th March, 1970.

4.27. The main platform consists of 6 blocks of tubular steel, each measuring 33 mts. × 16 mts. × 8 mts. and weighing over 100 tonnes. These blocks are placed at specified distance from each other and connected on top and at intermediate levels. Timber decking is provided over which the necessary drilling equipment is rigged up. The total weight of the steel used for the platform is about one thousand tonnes.

4.28. The practical aspect of the technology of designing and fixing of off-shore platform was new to the ONGC as it needed a wide range of hydrometeorological studies besides specialised engineering and scientific know-how. In spite of the difficulties, the ONGC managed to design the platform, fabricate it, launch it, tow it to the drillsite and erect it at the drillsite a little before the scheduled time.

4.29. The Committee appriciated this daring deed of all officers and men of ONGC for their perseverence and courage and congratulate ONGC for designing and fixing 'off-shore' platform.

4.30. Normally, such projects are to be taken up at places where the logistics are favourable. But ONGC had to start this venture in an area where the conditions of working are not only hazardous but unpredictable too. The hydrological and meteorological conditions in the Gulf of Cambay are such as have entitled it to be called the second worst sea of the world for such operations. Some idea of the severity of wind and wave parameters can be had from the fact that the wind velocity varies from 40 to 80 mts.|sec. high tide current varies from 5 to 7 knots, tidal fluctuations of 8 to 12 mts. and wave heights of 12 mts. etc.

4.31. At this well, the sea bottom is 36 metres below the rotary table of the drilling rig. The water depth varies from about 12 metres at low tide to about 22 metres at high tide. Thus, the sea level is about 24 metres below the rotary table at low tide. At high tide the sea level is about 14 metres below the rotary table.

4.32. During the drilling the ONGC encountered couple of problems created by the escape of the mud into the sea and the deformation of the shoe of the false conductor, which resulted in considerable loss of time. During monsoons on account of foul weather the work in the project was suspended.

4.33. The drilling target of 3600 mts. and two wells was fixed, but the same could not be achieved due to serious complications in the well, which were successfully liquidated and the well was completed on 3rd February, 1971 at the depth of 1491 mts. as against the projected depth of 1800 mts. The drilling had to be stopped here because of reaching the basement.

4.34. On electrologing, the horizons which were likely to bear hydrocarbons were located.

4.35. Extensive production testing was carried out of these horizons. Strata between depths 864 to 867 mts. was found hydrocarbon bearing; but on thorough testing the same was not found commercially exploitable.

4.36. After detailed study of testing results of all the horizons, a decision was taken to abondon this off-shore well No. 1. The presence of oil in rock formation of the Mioceme age has opened up new prospects in this area. Further decision to drill in the Gulf of Cambay is yet to be taken.

4.37. The Government of India have recently appointed a new Member of the Oil and Natural Gas Commission, who is exclusively in charge off-shore operations.

4.38. During the evidence of the representatives of ONGC, the Chairman ONGC informed the Committee that presence of oil in the West structure at Aliabet was encouraging sign. ONGC produced initially at a rate which comes to about 200 tonnes per day. Later as production testing was continued, water cutting started and the proportion of water coming with oil progressively increased with time. Finally, the fluid produced from the well was found to contain more water than oil. This the ONGC found was not a commercial proposition and that well was being abandoned. The Chairman further stated that they were examining a proposition to cut down under water the existing platform and move out and put it down on the Aliabet East structure. The feasibility studies for this purpose were in progress. The Chairman also informed the Committee that they had a proposal earlier to drill with a fixed platform on the Tapti structure, because they were wanting to drill at a place where water depth was 15 metres only, but subsequently the thinking changed particularly after obtaining the results of Aliabet west well. They felt that they should now drill at places where water depth is about 30 metres. But drilling with a fixed platform in such water depths was too expensive. So they had to wait for the mobile platform.

4.39. The Committee can hardly ever-emphasise the need for urgently discovering new reserves of oil both on off-shore and on land. The Committee have a feeling that the progress in matter of acquiring the mobile platform or in taking a decision to go in for drilling in the Gulf of Cambay has been slow. The Committee expect that with the appointment of the Member (Off-shore) in the Commission to look after the off-shore ventures of the Commission, decisions in this regard would be taken expeditiously. One of the reasons for going in the off-shore areas of the Gulf of Cambay and the adjoining area of the Arabian Sea, is the likely extension of the known petroliferous sedimentary basin of Gujarat into the aforesaid off-shore area and the indications of the presence of large structures in the area. In this context the presence of oil in the very first venture in under-sea

drilling is gratifying to note. Whether the strike of oil is commercially viable or not, it has shown presence of oil in this structure. It brightens the prospects of finding oil in off-shore continental shelf. The Committee appreciate the fixing of the rig at Aliabet ahead of schedule. Subsequently the project suffered a set back and work had to be suspended for several weeks due to defect in the mud circulation system of rig and unfavourable weather. The finding of oil should boost the morale ofthe Commission's personnel and encourage them to intensify their efforts in this region. This should encourage plans to look for oil in the adjacent and more promising fields in the Gulf of Cambay. The country has paid a heavy price for the Aliabet project and not to make use of the expertise gained would be unwise.

D. Bombay High

4.40. The report of the Soviet off-shore seismic team had indicated the presence of two structure *viz.* 'Bombay High' and 'South Tapti', in which deep exploratory drilling was recommended. Arrangements for commencing the exploration work are in progress. A mobile platform is being acquired from Japan. The Commission has informed the Committee as follows:—

"The cost of the mobile platform which is being built in the Hiroshima Shipyard of Mitsubishi Shoji Kaisha Limited, is $44.65 million, the payment is to be made under the Yen Credit. The platform is expected to be delivered at Hiroshima by the end of the September, 1972 and to arrive in the operational area in the Arabian Sea in the early part of November, 1972.

Based on the preliminary seismic survey conducted for the Commission by a Soviet off-shore seismic team and the results obtained in the land area north of the Gulf of Cambay, area of the Arabian Sea, adjoining the Gulf of Cambay, is considered a very favourable area to explore for oil and gas. However, as is well known, oil is where you find it. Unless a few wells are drilled in this area, nothing can be said, quite definitely regarding its oil and gas prospects.

To start with, the Commission plans to drill six wells, in the first phase. Based on our results thus obtained the future programme, for the second phase, will be drawn up. The operating programme envisages a financial outlay of the order of Rs. 26 crores during the first phase. This amount includes the capital as well as operating expenditure."

4.41. The time lag between the submission of the report of the Soviet off-shore seismic team and the decision to commence drilling in the area recommended by them is big. The Committee realise that decision in a delicate matter like this involving huge investment is not easy to arrive. Nonetheless our search for crude oil to become self-sufficient is necessary. At this juncture one can hardly afford to go slow in a matter so vital to the country.

4.42. Looking to the extensive area ONGC is covering on land and the present assessment of large areas of oil bearing off-shore area of India's continental shelf, the Committee feel that there is a good case for the off-shore operations—both survey and drilling to be looked after by an independent agency. The Committee recommend that Government may consider of relieving ONGC of the operations pertaining to off-shore surveys and drilling and setting-up another organisation independent of ONGC for conducting off-shore survey and drilling as these need separate planning and expertise in the interest of efficiency and attaining self-reliance in this crucial fuel resource in the nearest future.

V

PRODUCTION

5.1. ONGC has a product-mix of two items—crude oil and gas. At present it is producing crude oil from its fields in Ankleshwar, Kalol, Nawagam, Kosamba, Kathana, Dholka and North Kadi South kadi, Subhasan, Wevel, Makrol, Ahmedabad and Sanand in Gujarat and Rudrasagar and Lakwa in Assam. The gas is of two types (i) non-associated and (ii) associated. The non-associated gas is being produced from the Cambay field in Gujarat which is predominantly gas bearing. The associated gas is being produced along with the crude oil in the different fields. ONGC has also a share of crude oil in its Persian Gulf venture, which has been dealt with in a subsequent Chapter.

A. Production of Crude Oil

5.2. The estimated crude oil production rates from the ONGC's known fields during the Fourth Five Year Plan period are as indicated below:—

	1969-70	1970-71	1971-72	1972-73	1973-74
	In million tonnes / year				
Gujarat	3·50	3·82	4·40	4·50	4.50
Assam . . .	0·18	0·25	0·25	0·25	1·00
Total	3·68	4·07	4·65	4·75	5·50

5.3. At present the ONGC is supplying crude oil from Ankleshwar and from North Gujarat oil fields to the Koyali Refinery in the Western Region. The crude oil from Lakwa and Rudrasagar is supplied to the Gauhati and Barauni Refineries in the Eastern Region.

5.4. During the year 1968-69, the Oil and Natural Gas Commission drilled 2,87,874 metres and 124 wells as against the target of 2,76,500 metres and 126 wells; in 1969-70 the Commission drilled of 2,31,283 metres and 109 wells; as against the target of 2,71,342 metres and 127 wells, and in 1910-71 the Commission drilled 1,69,003 metres and 90 wells against a target of 2,14,060 109 wells.

5,5. The table below indicates the year-wise and project-wise production of targets of crude oil fixed by the Commission and achievements there against for the years 1966-67 to 1970-71.

(in million tonnes)

	Targets										Achievements				
	As per 4th Five Year Plan					As per Annual Plan*									
	1966-67	67-68	68-69	69-70	70-71	66-67	67-68	68-69	69-70	70-71	66-67	67-68	68-69	69-70	70-71
Ankleshwar	2·498	2·83	2·83	..	..	2.498	2.84	2.84	2·98	2·980	2·52	2·74	2·82	3·02	3.0 273
Kalol	·005	·07	·10			·005	·05	·07			·006	·038	·068		
Nawagam		·03	·07				·01	·07			·003	·006	·098		
Kosamba		..											·002		
Kathana		..							..	..			·001		
Dholka	..		..	..		..		..	0·52	0·480				0·427	0·4305
								..					·004		
Kadi	..	..	..			..	..	..	..	..	..	..	·009		
Rudrasagar	·031	·03	·10			·031	·03	·07	0·18	0·146	·030	·033	·032	0·19	0.1802
Lakwa	..		·15	..	..	..		·10			..		·056		
	2·534	2·96	3·25	..	..	2·534	2·83	3·151**	3·68	3·606	2·556	2·817	3·09	3·64	3·6380

*Based on the daily rates of production fixed from time to time.

**The targets were further reduced to 3·05 million tonnes due to floods in Gujarat and Assam.

5.6. In 1968-69, the target of 3.15 million tonnes was reduced to 3.05 millions. The Project-wise details of production for the target of 3.05 million tonnes are as under:—

	Original Target (million Tons)	Revised Target (million Tons)	Reduction (million Tons)
(i) Ankleshwar	2·84	2·762	0·078
(ii) Kalol . . .	0·07	0·062	0·008
(iii) Nawagam	0.07	0·062	0·008
(iv) Rudrasagar	0·07	0·069	0·001
(v) Lakwa . . .	0·10	0·092	0·008
	3·15	3·047	0·103
	Say	3·05	Say 0·10

5.7. The main reasons advanced by the ONGC for non-achievement of the target by the different fields were as follows:—

1967-68

(i) In kalol the reasons were (a) inadequate transportation facilities from Group Gathering Stations to oil terminal (b) congealing of crude oil at Group Gathering Stations during winter and (c) irregular supply of wagons by the railways.

(ii) In Nawagam the reasons were (a) transportation difficulties and (b) refusal by Koyali Refinery to accept crude due to less take off or residual fuel oil.

1968-69

(i) In Ankleshwar the causes were (a) due to delay in the repairing operations of R.C.C. pipeline of water injection resulting in stoppage of water injection into S 3+4 sand and consequent reduction in production and (b) due to floods there was dislocation of railway track in August, 1968, and the Refinery was not in a position to move the products and hence curtailed oil supplies from Ankleshwar.

(ii) In Kalol it was due to the inability of road transportation contractor and railways to supply the required number of wagons.

(iii) In Lakwa and Rudrasagar the reasons were less off-take by the Gauhati Refinery and floods in Assam.

1969-70

(i) The shortfall in other fields in Gujarat was due to (a) non-availability of required number of wagons (b) less in take by Koyali Refinery due to their R.F.O. disposal problems (c) retention of oil tankers for longer period (d) frequent choking of tubing and beans and (c) increase in round trip time for crude oil special between Sabarmati and Gujarat Refinery.

5.8. It is noticed that production of crude oil has been restricted on account of (i) less off-take of crude by the Refineries (ii) non-placement of the required number of tank-wagons (iii) difficulties in transportation of crude to Gauhati and Barauni Refineries and (iv) congealing of oil in winter season. The Committee understand that the Indian Oil Corporation Ltd. (Marketing Division) has since been able to find a suitable market for their residuary fuel oil and that this problem has been solved for the present. The problem of the regular placing of rail wagons has also been taken up with the Ministry of Petroleum and Chemicals and the Railway Board and the situation is expected to improve in the near future. It is hoped that when Oil India Ltd. (in Assam) provide the handling facilities *viz.* pumping and crude conditioning to cater to additional off-take, there may not be much difficulty in despatching ONGC crude at the quantity to be fixed by mutual discussions. In this connection, ONGC has informed the Committee as follows:—

> "The position has changed since the time the Audit Report (Commercial) 1970, Part VIII was given. Oil have, in recent years, been transporting progressively larger quantities of ONGC crude depending on its availability as well as offtake by the IOC's Gauhati and Barauni refineries. To achieve this, OIL initially utilised the reserve capacity in their system, which the pipeline design had provided for normal flexibility in OIL's own operations. Later in March '71, OIL installed larger plungers in their Moran pumping station to enable transportation of 900 to 950 tonnes per day of ONGC's crude, which is the rate at which crude oil has lately been produced by ONGC in the Eastern Region."

5.9. As regards congealing of crude oil about five months in a year during the winter in Assam, the plans are underway to solve the congealing problem. The problem of congealing of crude was on sustained production in the later part of 1968. The problem is presently being combated by scrapping of the wells and steaming and flushing of flow-lines. Other methods for tackling this problem are also being studied by ONGC.

5.10. The Committee also understand that all the producing wells in Assam have not been connected to the Group Gathering Stations as there is a difficulty in getting the land for laying the flow lines. For instance in the case of some wells the land acquisition in the Lakwa fields for laying flow lines has been going on for the last two years but without any success.

5.11. During the evidence of the representatives of the ONGC and also those of the Ministry of Petroleum and Chemicals it was pointed that the production of crude oil can be stepped up in Assam as soon as the second Refinery in Assam goes on stream.

5.12. The Oil and Natural Gas Commission is, at present, supplying on an average, about 11,000 tonnes of crude oil per day or about 4.00 million tonnes of oil per year to the various consumers. This level of production is likely to be further increased on completion of development drilling and construction of production facilities at some of the newly producing fields and construction of transportation facilities.

5.13. The Committee find that so far as the transport of crude from Gujarat oil fields is concerned, most of the difficulties have now been overcome and pipeline laid for assured supply to Koyali Refinery. The Committee need hardly stress that there should be close coordination between ONGC and the Refinery and a perspective plan should be drawn up so that supplies to the Refinery can be stepped up in keeping with its expansion programme etc.

5.14. As far as Rudrasagar and Lakwa Oil fields in Assam are concerned the Committee are not clear whether the real constraint arises from the fact that exploration and drilling operations in these fields have not yet conclusively established commercial production or for want of transport facilities or for lack of capacity in the Refineries. The Committee need hardly point out that most pressing problem is of reducing, if not eliminating, our dependence on imported crude. It is, therefore, imperative that the known reserves of oil in Lakwa and Rudrasagar fields are fully exploited and the transport bottlenecks overcome suitably. The capacity in the Refineries at Gauhati or Barauni should also be suitably augmented if necessary to refine this available crude, if, however, the intention is that the supply of crude from Rudrasagar and Lakwa oil fields should be stepped up only when the Refinery comes up at Bongaigaon then the Committee expect

Government/ONGC to clearly state and publicise the decision to obviate any misgivings. In that case, the Committee would also expect Government/ONGC to draw up a coordinated programme for development of Lakwa and Rudrasagar oil fields to synchronise with installation of refinery at Bongaigaon.

B. **Production of Gas**

5.15. The Oil and Natural Gas Commission has been producing and selling natural gas from its two fields *i.e.* Cambay (free gas) and Ankleshwar (associated gas) in Gujarat and associated gas with crude oil produced in the Eastern Region.

5.16. The production of gas since 1967-68 has been as follows:—

1967-68	232·94	million	cubic	metres.
1968-69	330·15	,,	,,	,,
1969-70	333·13	,,	,,	,,
1970-71	332·53	,,	,,	,,
1971-72 (Upto May, 1971)	59·91	,,	,,	,,

In case of gas there are no planned targets, as supplies depend on the day to day demands of the consumers.

5.17. It has been stated by ONGC that the supply of gas in the Western Region is according to the day to day need of the industries in and around Baroda. The industries are, however, of the view that the supply of gas to them is irregular. They have also stated that much of the gas is being flared. The Committee asked for the views of the Commission on this issue. In a written reply submitted to the Committee, the Commission has stated as follows:—

> "The supply of associated gas from Ankleshwar to the industries at Baroda is not irregular. We have been supplying gas as per their requirements."

The associated gas at Ankleshwar is produced alongwith the crude oil and is separated at three different pressures *viz.* 16.6 and 0.5 atmospheres. The 16 atms. gas is transported to Baroda through a gas pipeline and supplied to the Gujarat State Fertilizers Corporation, Baroda Industries etc. The 6 atms. gas is transported to Uttran and supplied to the Uttran Power Station and Jayant Paper Mills. The low pressure (½ atms.) gas is being flared.

Out of the total availability of about 10.4 lakh M3 of associated gas per day, 0.5 atms. pressure gas accounts for only 1.4 lakh M3 day. The distribution patterns of the remaining 9 lakh M3 per day is as follows:—

	Lakh M3 day	
GSFC Baroda	4·00	
Baroda Industries	1·46	
Baroda Municipality	0·50	(not being supplied at present)
Uttran Power Station	3·00	
Jayant Power Mills	0·08	
TOTAL	9·04	

From the above, it is seen that the available 16 and 6 atms. associated gas of Ankleshwar is fully committed and is being supplied as per the requirement of the consumers.

The free gas from Cambay is being supplied to the Dnuvaran Power Station of the Gujarat Electricity Board according to their demands."

5.18. In Assam the quantity of gas associated with crude oil produced in the Eastern Region during the last two years is given below:

1969-70	13·7	Million cubic metres
1970-71	13·6	„ „ „

At present a very limited quantity is being sold to two buyers, who have made their own arrangements for carrying the gas to the destination *viz.* tea-gardens. Unlike in Gujarat, the number of buyers of gas in Assam is limited.

5.19. It would be seen that in Ankleshwar (Gujarat) the gas is being flared for technical reasons. The separation of gas at ½ atmosphere from the crude oil is at a very low pressure and it is not possible to transport it through pipeline.

5.20. During their visit to the Western Region the Committee enquired about cost of production of gas at Ankleshwar and Cambay on the basis of experience gained so far. The O.N.G.C. furnished the following note:

"On the basis of the costing principles followed by the Commission and books of accounts maintained by it, the average cost of gas produced from Ankleshwar and Cambay fields, in the two years 1969-70 and 1970-71, worked out to Rs. 65.50 per 1000 cubic metres at well head. This is inclusive of interest element, but exclusive of royalty and sales tax. In Assam, since commercial production has not started, cost of production of gas as such has not been compiled. Some quantity of gas is however sold to consumers in Assam.

According to Dr. Rao's award, applicable to gas from Ankleshwar and Cambay fields, the well head price was Rs. 50 per 1000 cubic metres, upto 31-3-71. From 1-4-71, through the kind intervention of the Governor of Gujarat and the Minister for Petroleum and Chemicals, a decision was reached to charge Rs. 66 per 1000 cubic metres at well head in the five year period from 1-4-71 to 31-3-76 against Rs. 50 upto 31-3-71. It may be mentioned here that on the principles for costing adopted by Dr. Rao (these principles are different from those followed by us in our Finance Accounting), cost of production inclusive of interest in the two years 1969-70 and 1970-71 comes to Rs. 45.23 per 1000 cubic metres.*

As for transportation charges, the rate for 1971-72 will be fixed on actuals incurred (under compilation) by the Commission per unit of gas in 1970-71 and so for each subsequent year on the basis of the actuals of the previous year. This formula will also apply for a five year period from 1-4-1971.

Though the price decision as above are valid in regard to Gujarat State Electricity Board and Gujarat State Fertilizer Corporation only, it is the intention to arrive at a similar settlement with the Baroda Industries which also take gas from Ankleshwar field.

In Assam, the Commission charges Rs. 52.95 per 1000 cubic metres at well head. This is what Oil India is said to be charging its long established customers."

5.21. **In the opinion of the Committee much of the criticism about flaring of gas could be avoided, if O.N.G.C. were to explain the technical reasons for doing so through their publicity media in a lay**

*At the time of factual verification the ONGC informed that the "cost of production indicated at Rs. 45·23 per 1000 M 3 is exclusive of the element of return on Capital, in respect of which also Dr. Rao had laid down a formula".

man's language.. The impression that the supply of gas from O.N.G.C is not regular should be dispelled by them. It is likely that the demand of gas in the Gujarat region may increase in the future. The Committee would suggest that ONGC should identify the areas where the demand of gas is expected to increase and take necessary steps well in time to meet the need of prospective industrial consumers.

C. Delay in Production

5.22. The Audit Report (Commercial) 1970—Part VIII has pointed out two cases which resulted in delay in commencing production. The details of the two cases are discussed in the subsequent paragraphs.

(i) *Delay in commencement of production at Ahmedabad Project*

5.23. Delay in construction of the Kalol-Nawagam-Koyali Pipeline resulted in delay in commencement of regular production at Ahmedabad Project. The Oil and Natural Gas Commission decided to construct a Crude Oil pipeline from Kalol to Nawagam and from Nawagam to Koyali on the 21st June, 1965. The question of designing this pipeline was taken up with M/s SNAM SpA on the 9th March, 1966 (SNAM had been awarded the work of design and construction of other five pipelines in the Gujarat Region). SNAM offered to undertake the techno-economic study at a cost of Rs. 1,72,500 on the 28th March, 1966. In June, 1966 the Commission approached the Government of India to award the work of designing the pipeline to M/s SNAM SpA.

5.24. The Government of India suggested in August, 1966 that M/s Engineers India Ltd. be contacted for undertaking design work. Accordingly a meeting was held with M/s Engineers India Ltd. where it was decided to award the work of design to them on cost plus 15 per cent basis. Engineers India started the preliminary work, but in October, 1966 they were asked to stop the work.

5.25. M/s Engineers India Ltd. were asked to stop the work, because in October, 1966 the Government agreed to award the work of design to M/s SNAM SpA. Final approval from the Government for expenditure of $23,000 for allotting the work of design to M/s SNAM SpA was received in April, 1967. M/s SNAM SpA had desired more details regarding characteristics of crude/crude mix in order to complete the design. For this purpose, the Commission decided in July, 1967 to conduct experiments departmentally and engaged a consultant for carrying out studies and field experiments for undertaking the design work. The report of this consultant was received in March, 1968. As a result of this report, it was decided in April, 1968 to assign the work of designing the Kalol-Nawagam-Koyali pipeline to the Hindi-oil Design Institute. The design was finally prepared by the Hind-oil Design Institute of ONGC at Dehra Dun.

5.26. Proposal for the construction of field installations and the Kalol-Nawagam-Koyali Pipeline involving an expenditure of Rs 4.35 crores was approved in July, 1968. Tenders for the construction were invited in October, 1968. Four tenders were received. The Commission entered into a contract with one of the four tenderers—Messrs Dodsal Pvt. Ltd. in March, 1969 at Rs. 1,02,00,001 after negotiation.

5.27. The work of construction was commenced by Dodsal as the main contractor in May 1969. The Nawagam-Koyali Sector of the pipeline was completed in March 1971 as against the scheduled date of completion on the 30th November, 1969. This sector was commissioned in April, 1971. The Kalol-Nawagam sector was completed in June, 1971, as against the scheduled date of completion on the 28th February, 1970. The entire pipeline was commissioned in August, 1971.

5.28. The delay in completion as per schedule is mainly attributable to the delay in receipt of seamless pipes from Czechoslovakia, which were to be delivered ex-factory by October/November, 1969 in accordance with the contract entered into by the Commission in June, 1969. The pipes were received ex-site in April, 1970.

5.29. The Commission has informed the Committee in a written reply as follows:—

"The Commission decided in June 1965 to construct the Kalol-Nawagam Koyali Pipeline. By that time Kalol and Nawagam fields had not been put on trial production and Kalol-Nawagam crude mix being very viscous and hence difficult to transport required experiments for determination of the flow behaviour of this crude mix. This data was ultimately required for designing the K-N-K Pipeline. The crude mix comprises of crude oil from different horizons of Kalol and Nawagam fields and, therefore, it was essential to put these fields on production before undertaking such studies.

As per the requirement of North Gujarat crude by the Koyali Refinery, trial production from Kalol and Nawagam was started from January, 1967 and March, 1967 respectively. In July 1967 the Commission engaged a consultant for carrying out studies in this regard. Field experiments were carried out by laying 4½" pipeline and pumping the crude mix. This experiment was to continue till February, 1968 so as to study the problem under conditions prevailing in the various seasons. The consultant submitted his report in March, 1968. Subsequently, the designs were finalised and complete proposal for the field installations and the K-N-K Pipeline involving an expenditure of Rs. 435.47 lakhs was approved by the Commission in July, 1968. After preparing the tender documents, the tenders were invited for construction of the K-N-K pipeline and opened in October 1968. Tenders from the following four parties were received.

S. No.	*Party*	*Amount quoted*
1	M/s Desai Walji Bhai	Rs. 85 lakhs
2	M/s Pithawala	Rs. 130 lakhs
3	M/s Gannon Dunkerley	Wanted more time
4	M/s Dodsal	Rs. 144 lakhs

A Committee was formed then to examine the financial position and technical ability of the firms and availability of specialised fabrication/construction equipment with the firm. On the recommendations of the Committee and in view of the magnitude and specialised nature of the job, negotiations were carried out with M/s Dodsal who were persuaded to reduce their quotation. These negotiations resulted in the reduction of their quotations from Rs. 144 lakhs to Rs. 102 lakhs. Thus, the time taken for awarding the contract was necessary and profitably utilised."

The Committee enquired why the Government agreed to award the work to M/s ENAM SpA. The Ministry furnished the following note in reply:

"Consequent on discovery and availability, in large quantities, of crude oil and natural gas in different fields of Gujarat, ONGC had decided to utilise the same to the fullest extent by supplying them to Koyali Refinery and the various power stations in Gujarat. It was proposed by the Commission to do so by laying 6 (later 7) pipelines. For this purpose, negotiations were held by the Commission with M/s Snam Progetti, an Italian firm of international repute, and which is an agency of E.N.I., the Italian State Undertaking for Oil. As a part of their overall Gujarat Pipelines deal with ONGC, amounting to Italian Lire 214 million (equivalent to Rs. 16,32,826), which was approved by the Central Government in January, 1963, designing of Kalol-Nawagam-Koyali pipeline was entrusted to Snam along with designing of the other 6 pipelines in Gujarat. Subsequent to the contract, Snam had undertaken a certain amount of work in connection with designing of this pipeline. However, in view of the fact that the oil potentialities of Koyali and Nawagam fields needed further consideration, further action regarding setting up of this pipeline (and another one, being the gas-line between Kalol and Ahmedabad) was deferred by ONGC. On the other hand, design and construction of the other 5 pipelines under the Contract was completed by Snam by 1964.

By 1965 when the Commission had got a clearer picture of the potentialities of these two fields and of the characteristics of the crude oil from these fields, the Commission decided, in its meeting of 21-6-1965, to revive action on Kalol-Nawagam-Koyali pipeline, and the matter was again taken up by them with Snam. In August, 1965, Snam handed over to ONGC, design drawings regarding this pipeline, relative to the part of the work, which they had already done in the past as per the overall Contract mentioned earlier. Snam mentioned that when all the data, relating to the characteristics of the crude oils to be transported through pipeline, were made available to them, they would work out the size of the pipeline as well as executive drawings for Kalol pumping station and Koyali terminal which were a part of this Pipeline system.

The characteristics of the crude mixtures, along with design task for the Pipeline, were forwarded in March 1966 by ONGC to Snam. As it was found that the crude oil from these two fields had high pour-points and might require special heat treatment beforee transportation through pipeline, it was indicated by Snam to ONGC that fresh studies were needed, in the light of these characteristics, now known to consider the Techno-Economic feasibility of this pipeline. This was not a part of the original Contract and thus Snam stated that these fresh studies could be done at an additional cost of $23,000|-. ONGC considered this and forwarded a proposal to Government in July, 1966 agreeing with the suggestion from Snam and asking for Government's approval for the proposal along with a proposal for awarding, also, the construction of the pipeline to Snam. At that stage, Government considered in what way could Indian expertise in the field of oil pipelines, to the extent that it had developed till then, be utilised for this project; ONGC were accordingly directed to look into this matter. Hence the negotiations between ONGC and E.I.L., in August, 1966, to which a reference has been made in the Audit Report (Commercial) 1970. In a letter of September 19, 1966, Managing Director, E.I.L. indicated, after having consulted M|s. Bechtel, the then foreign shareholder in the E.I.L. that E.I.L. would be in a position to offer design and engineering of the pipeline and this would be done with the help of Bechtel, which would prepare the design manual in U.S.A. and also supply a specialist, to be located in India, in an advisory capacity to E.I.L. for the duration of the design effort. The total cost of Bechtel's services would be equivalent of $ 92,000 of which $ 77,000 was the foreign exchange component. Our records reveal that the arrangement with Bechtel as proposed in M.D., E.I.L.'s letter was not considered suitable, and it was decided to await Bechtel's readiness to send an expert as a part of E.I.L. itself, in response to further suggestions made by M.D., E.I.L. On October 13, 1966, M.D., E.I.L. sent a further letter, making an alternate suggestion that E.I.L. could conduct the job of detailed design and engineering under the guidance of Snam's experts (thus Snam were to replace Bechtel as in the earlier propostal). In the meantime, Snam had confirmed, *vide* their letter of October 4, 1966, their willingness that the additional studies proposed to be made by them (at a cost of $ 23,000) would be handed over to ONGC along with the final drawings, and specifications for the pumping and heating stations. In view of the Snam's willingness in this regard, was considered not necessary for E.I.L. to come into this part of the work. It was decided that it would seem best to get the further studies made by Snam at the cost of $ 23,000|- and, in line with this E.I.L. would furnish to ONGC the design work that E.I.L. had already done. On the other hand, insofar as Engineering management of local construction was concerned, it was considered that since E.I.L. had made a substantial study of this already, ONGC should develop a proposal for it with E.I.L.; also that E.I.L. could be entrusted with the implementation of the project by rendering services in respect of indigenous supplies, contractor selection, construction supervision etc. Chairman, ONGC was accordingly informed vide this Ministry's letter of October 18, 1966 to take further action.

As has already been mentioned in Audit Report Commercial 1970, para 9.02, ultimately, it was decided not to entrust the design work to Snam but on the other hand to undertake it in the Design Institute of the Commission itself. Thus no payment was made by ONGC to Snam on the basis of offer earlier approved by Government for $ 23,000|-".

5.31. The ex-factory delivery of the line pipes was effected during November-December, 1969. A delay by about a month would seem to be involved. The contract did not have a penalty clause as the suppliers had not agreed to such a clause.

5.32. It was further been stated that the delay in supply of pipes has not involved any extra payment to the contractor. The contractor has however put in a claim of Rs. 4.85 lakhs on this account. The same has not been admitted by ONGC. This claim alongwith other claims of Dodsal under dispute have now been referred to arbitrator.

5.33. **The Committee find that consistency of approach in regard to the allotment of work of designing of the Kalol-Nawagam-Koyali Pipeline was lacking. The Committee are not able to appreciate how ONGC/Ministry thought of negotiating designing work with a foreign firm when the Hind Oil Design Institute of ONGC/Engineers India Ltd. (a public sector undertaking) could undertake the same and thus save valuable foreign exchange and time spent in avoidable negotiations. The result of this vacillating policy was delay in the designing and commissioning of the pipeline. The Committee is of the view that the Government should have shown greater alertness and firmness in deciding the award of the contract to an indigenous organisation.**

5.34. **Now that the Kalol-Nawagam-Koyali Pipeline has been commissioned and regular production has commenced from the Ahmedabad Project, the Committee trust that adequate care has been taken to see that the capacity of the pipeline would meet in full the present and future requirements of an expanding refinery like Koyali.**

(ii) *Delay in commencement of commercial production of crude in Assam*

5.35 In Assam, the Member (Production and Engineering) decided in May, 1963 to start trial production of crude oil from some of the producing wells in Assam. On 15th May, 1964 the Commission ordered to defer the implementation of the scheme due to technical reasons as reproduced below:

> "Since the Rudrasagar field has not yet been fully explored, it was thought premature to embark on trial production as a preliminary to the location of development wells, as earlier planned by the Directorate of Geology."

5.36 The trial production from Rudrasagar field commenced in March 1966 and from Lakwa field in May 1968. However, commercial production from these fields has not yet (February, 1970) started although in reply to a question of the Estimates Committee, the Commission had stated (January, 1968) that commercial production from Lakwa field was expected to start from the summer of 1968 and that from Rudrasagar fields from the end of 1969.

5.37 The delay in the commencement of commercial production is stated to be due to inadequate pumping facilities of the Oil India Limited pipeline through which Lakwa crude is to be transported and the limited capacity of the Indian Oil Corporation Refineries.

5.38 The Ministry have stated (August 1970) that the inadequacy of Oil India Limited pipeline no longer exists, as Government have decided in December 1969 to increase the refining capacity in the Public Sector in Assam.

5.39 In this regard the Commission has stated as follows:

> "Commercial production from Rudrasagar field could not be commenced for want of suitable and economical mode of transportation of crude oil."

5.40 Trial production from Rudrasagar field was commenced in March 1966 by transporting crude to Gauhati Refinery by Railway tank wagons but this mode of transportation having been found to be uneconomical was discontinued w.e.f. April 1, 1970. Non commencement of commercial production from Rudrasagar field was, therefore, not because of the fact that crude reserves did not warrant exploitation on commercial scale.

5.41 The crude from Lakwa and Rudrasagar fields initially was ment to feed the Gauhati and Barauni Refineries. Accordingly supplies to Gauhati Refinery, from Radrasagar field, were commenced by Railway tank wagons in March 1966 when trial production was started from this field. Similarly, despatches to Gauhati and Barauni Refineries from Lakwa were commenced through Oil

India's Pipeline in July 1968 with the commencement of trial production from Lakwa. Though the Gauhati and Barauni Refineries have a higher refining capacity, the throughput of both the Refineries had been planned at a lower rate due to operational difficulties. In May 1969, the Managing Director, I.O.C. informed O.I.L., Ministry of Petroleum and Chemicals and the ONGC :—"As there is a coking unit at each Refinery which has to be shut down at the end of an operating cycle for routine decoking, we have to stagger the monthly crude throughout. We are aware that the tankage for crude oil is rather limited at Barauni Refinery as we had to divert some of the crude oil tanks to LSHS service in order to maintain reasonable off-take of your crude at the refinery in the past few years. Additional tankage is now under construction at Barauni Refinery". The throughput of Gauhati Refinery was also limited by the upliftment and disposal of LSHS produced in the Refinery.

5.42. From the above it is evident that crude oil has been supplied to the Gauhati and Barauni Refineries by O.I.L. and ONGC as per the requirement of the Refineries. However, the crude oil supplied to these Refineries by O.I.L. alone was not adequate to meet the demand/capacity of these Refineries. As already mentioned above, crude oil from Rudrasagar field was supplied to the Gauhati Refinery by tank wagons but this mode of transportation having been found to be uneconomical was discontinued w.e.f. April 1, 1970.

5.43. The inadequate pumping facilities in respect of OIL's pipeline could be augmented by providing necessary modification/expansion by OIL in their pump stations.

5.44. During the year 1970-71, the OIL was to supply 2.75 m.t. and ONGC 0.25 m.t. to Gauhati and Barauni Refineries. The OIL has transported from Moran only 0.18 m.t. during 1970-71 that is about 0.07 m.t. less crude oil was produced. The Lakwa and Rudrasagar fields of the Commission have an optimum production potential of 0.6 and 0.4 million tonnes per annum respectively. Thus both the fields can give a combined production of 2,740 tonnes per day. This rate of production is envisaged to be achieved when the proposed Refinery at Bongaigaon comes into existence and starts working on its full capacity.

5.45. The Commercial production from ONGC's fields of Assam will commence when the Bongaigaon Refinery is ready to receive crude which is expected to be ready sometimes in 1974 or when additional quantity of crude is required from us for Barauni/ Gauhati, in case OIL are unable to meet their commitment for some reason."

5.46. In this connection, the Ministry has furnished the following notes:—

> "Rudrasagar field continues to be on trial production. As regards Lakwa field, the total production during the financial year 1971-72 is expected to bear a ratio to the estimated optimum production from the field, which will be in excess of the ratio at which the production has to be considered as 'Commercial'. The Lakwa field is, therefore, deemed to be on 'Commercial' production from the beginning of 1971-72 financial year, even though the optimum production from that field (as also from Rudrasagar field) can be reached only when the Bongaigaon Refinery goes into operation."

5.47 **The Committee note that the Lakwa and Rudrasagar fields of ONGC have an optimum production potential of 1 million tonnes per annum between them. This potential was developed some years ago and has hardly been put to use for want of refining capacity at Barauni|Gauhati. The Committee note that Government have now taken a decision to set up a Refinery at Bongaigaon in Assam to refine this crude and this refinery is likely to go on steam in 1974. The Committee deprecate delay of several years in putting to effective use the production potential of one million tonnes established in Lakwa and Rudrasagar fields which could have saved the country some part of the valuable foreign exchange which is being expended to import crude oil from abroad. The Committee would like Government to lose no further time in ensuring that the new Refinery is brought up expeditiously and in the meantime the crude potential at Lakwa and Rudrasagar are utilised to the extent feasible by transporting it by suitable means to the existing Refineries at Barauni|Gauhati.**

VI

OVERSEAS OPERATIONS

A. Hydrocarbons India (P) Ltd.

6.1. In order to be self-sufficient in the production of crude oil to the greatest extent possible, the Commission in January, 1965, entered into a joint structure agreement with the National Iranian Oil Company jointly with A.G.I.P. SpA., an associate of the Italian State enterprise known as the Ente Nationale Idrocarburi, and the Phillips Petroleum Company of the U.S.A., to explore and exploit the structures located in four blocks in the off-shore area of the Persian Gulf. The area comprises about 7960 square kilometers.

6.2. Under the above joint structure agreement, a new Company called the Iranian Marine International Oil Company (IMINOCO) was incorporated on 17th January, 1965. The National Iranian Oil Company holds 50 per cent shares in the IMINOCO and the balance 50 per cent is held by the other three partners in equal proportion. The Hydrocarbons India Private Limited, New Delhi, a wholly-owned subsidiary of the Commission, which was incorporated on 5th March, 1965 represents Commission's interests in the IMINOCO.

6.3. Of the eight major structures in the four blocks, six were found dry. The seventh, 'R' structure, now known as the Rostam field, has been almost fully developed.

6.4. The eighth major structure, namely the 'Raksh' structure, has also been found oil bearing. The structure is being developed and is likely to be put on production by the end of 1971.

6.5. The total initial optimum production from the Rostam and Raksh fields, after full development, has been estimated to be of the order of 145,000 barrels per day. The Commission's equity share out of this production, will be one sixth, i.e. about 24,000 barrels per day. In the course of the years, the production from these fields is expected to decrease progressively.

6.6. The Oil and Natural Gas Commission has invested in the Hydrocarbons India (P) Ltd. a sum of Rs. 1,00,000 as capital and has advanced Rs. 44.69 crores as loans up to 1st July, 1971.

6.7. ONGC, AGIP SPA, and Phillips Petroleum Company constitute the Second Party to the Joint Structure Agreement with National Iranian Oil Company. There is an internal agreement between the constituents of the Second Party as under:—

(i) Agreement dated 30th July 1964 between AGIP SPA and the Phillips Petroleum Company; and

(ii) Agreement dated 26th August 1964 between ONGC, AGIP, SPA, and Phillips Petroleum Company, by which ONGC was made a party to the original agreement between the other two constituents vide agreement dated 30th July 1964, amended subsequently in 1969.

6.8. Subsequently, on formation of the Hydrocarbons India Private Limited on the 5th of March 1965 all the rights and interests acquired and obligations undertaken under the Joint Structure Agreement, as well as agreements entered between the constituents of the Second Party were transferred to the Hydrocarbons India (P) Ltd. by the ONGC. There is, however, one condition imposed by the other parties, i.e. in the event Hydrocarbons India Pfivate Limited fails to comply with the obligations undertaken by the various agreements, ONGC would continue to be responsible for the defaults of the Company. This amounts to that the ONGC is still obliged to fulfil the contractual obligations made by it in the event Hydrocarbons India Private Limited fails to comply with them.

6.9. The internal agreement between the constituents of the Second Party is to bid for, explore and produce from certain areas in the Persian Gulf which were thrown open by global tender by the National Iranian Oil Company. There are 4 blocks which were then known to contain 6 structures in District No. 1 of the Persian Gulf which were awarded to this group along with the National Iranian Oil Company. The main terms and conditions of participation of the constituents of the Second Party are:

They present collectively a 50 per cent interest in the Joint Structure Agreement and among themselves they are one-third partners to such 50 per cent share. All their rights, interests and obligations are therefore, to the extent of one-third of 50 per cent. All the three constituents of the Second Party, thus, are on an equal footings as to the rights and interests acquired and the obligations undertaken under the Joint Structure Agreement. Messrs AGIP SPA, however, have been appointed by the three constituents of the Second Party as the group operator and the coordinator. They are being paid certain charges based on a percentage of the expenditure incurred from time to time by all the partners of the group, for the services rendered by them on behalf of the group.

6.10. The Committee desired to know the objectives of the agreement and the extent to which realisation had fallen short of objectives. In a written reply the Ministry informed the Committee as follows:—

"During 1960—64, the off-shore exploration was just beginning to take shape in the Persian/Arabian Gulf. Encouraged by the initial discoveries made in certain parts of the Gulf, the National Iranian Oil Company (NIOC) which is a State-owned company, organised an extensive marine seismic survey of the Persian Gulf with financial support from interested groups of foreign oil companies. Based on the results of these seismic surveys, the NIOC demarcated the off-shore areas into a number of 'blocks for bidding by these Groups. There was a very keen competition and ultimately six multi-national groups of companies were awarded the exploration concessions. All these groups paid huge amounts on signature to NIOC (Totalling nearly two hundred million US dollars) as there were high hopes of large Oil discoveries in these areas. ONGC joined one of these groups formed by the Italian State Oil Company (AGIP) and Phillips Petroleum Co. of USA (who are also partners in the Cochin Refineries Ltd.). Of the 6 groups who were awarded the concessions, only two groups could ultimately find oil in commercially feasible quantities, *viz.*, our group, IMINOCO and the American group, LAPCO. The other four groups had to pay, besides bonus, one-half of balance of commitment of exploration expenditure, before surrendering their concessions. In the evaluation of the results of seismic surveys and in the selection of the concessional blocks for bidding, ONGC took part. Following the award of the concession, ONGC, AGIP and PPC (constituting the Second Party) and NIOC (constituting the First Party) formed in Iranian Company for the conduct of exploration/production.

A Joint Structure Agreement was concluded for this purpose. In this company, called Iranian Marine International Oil Company (IMINOCO), the first party has 50 per cent share and the Second Party entitles have

16-2/3 per cent share each. The oil and gas, produced by IMINOCO would be shared by the parties according to this ratio. The capital of IMINOCO is Rails 2,520,000 (approximately Rs. 252,000). According to the Joint Structure Agreement, the Second Party paid 34 million dollars of cash bonus at the time of agreement and agreed to spend a minimum of 48 million dollars during a 12 year period for exploration. If oil were found, the development expenditure towards the development of the field were to be borne according to the equity share by each party.

2. The internal Agreement between the constituents of the Second Party serves to fulfil the mutual obligations under Joint Structure Agreement, providing, *inter alia* for exploration of the crude oil obtainable from the Concession areas.

Oil has been found in two structures *viz.* Rostam and Raksh, the present rate of production from both being in the range 300—400 thousand tons a month. Exploration is continuing in two other structures near these oil fields."

6.11. The Hydrocarbons India (P) Ltd. has not been able to lift and dispose of its ownership of crude produced from its overseas off-shore concession in Persian Gulf. The ownership share of the company, at the end of July, 1971 was 6,517,146 barrels. Of this, the lifting year-wise up to July, 1971 has been as follows:—

Year	*Quantity lifted*
1969	314,093 barrels
1970 . . .	496,149 „
up to 31-7-71	1,627,428 „
	2,437,670 „

6.12. Therefore the cumulative quantity under lifted up to 31st July 1971 is 4,079,476 barrels i.e. nearly 62.6 per cent of its share has not been lifted by the Hydrocarbon India (P) Ltd. A consolation can however be derived from the fact that this under-lifting can be made good by lifting additional quantities at future dates in the manner specified in the Agreement between the partners.

613. The reasons for the under-lifting were that buyers could not be found either in India or abroad in spite of best efforts.

6.14. The Inland refineries owned by the Indian Oil Corporation are all designed for processing sweet crude. Rostam crude is, however, like most of the other Middle-East crude, sour crude, i.e. it contains a small percentage of sulphur and marcaptans. The inland refineries of the I.O.C. are not in position to process this crude without major modifications of the plant. The Madras Refineries Ltd. cannot take this crude in view of the long term contract for Darius crude.

6.15. The Committee also enquired during the evidence, the arrangements that were being made either to refine or to sell the crude oil. The Secretary of the Ministry informed the Committee as follows:—

> "For the time being we are selling it and there is no loss in the process of selling it because we are really earning good foreign exchange by that. But we are making a provision in the Barauni Refinery where 1 million tonnes capacity has been lying idle, because there was not sufficient oil from Assam Oil fields. We are making necessary alternations. When the Barauni Refinery alternation is completed, it will be possible to refine that oil there. Even ahead of that we are analysing this oil and it may be possible soon to start processing a small quantity of this oil by mixing it with the indigenous oil.
>
> There is another proposal under consideration that a refinery may be set up in Goa. That refinery can be of 2 million tonnes capacity and will absorb the entire share of HIPL—of the Rostam Crude. Today it is a little less than 1 million. Our expectations are of two million barrels as other fields are being developed.
>
> * * * * * *
>
> This should not cause us any worry, in my humble opinion, because our refineries were designed for processing our indigenous crude which was found to be sulphur free. To refine imported crude in an interior refinery is also going to be a somewhat costly affair for the reason that additional cost will have to be incurred in transporting this oil from the port of reception upto the inland refinery. It will be better to refine it in a coastal refinery.
>
> There is another consideration. We do very carefully analyse all the product pattern from a particular type of crude

including its content. If we find by comparison with Rostam that some other oil that is available in the international market and comparing the price of the two, it would be better for us to use it in our refinery even if it is to be imported and fed into inland refinery and that crude oil is giving us in terms of products a better value, it would be wise to do that and sell this crude oil somewhere."

6.16. The Committee were also informed during the evidence that the Rostam Crude has got a higher sulphur content. When the break-up of the pattern of its product-mix is considered the content is not much. More of furnace oil is there. This would be useful for these consumer countries where more of furnace oil is needed for instance Japan. Its product-mix was not suitable to the needs of India where middle distillates were more in demand.

6.17. The Profit and Loss Account of the Company for the year 1970 exhibited a cumulative loss of Rs. 15.59 crores including carry overs from the past years; the loss for 1970 being Rs. 4.42 crores only. The cumulative loss of Rs. 15.59 crores is on account of over claiming the amortisation of exploration expenditure and cash bonus and depreciation of development expenditure since the inception of the operation i.e. 1965 in order to avail the maximum rebate for the income tax in Iran. This, however, is provisional pending the final decision resting with the Iran Government as to the date from which its claim towards amortisation/depreciation would be applicable.

6.18. It has also been pointed out that loan to the Hydrocarbons India (P) Ltd. is granted by the Oil and Natural Gas Commission on the same terms and conditions on which Government of India gives loans to the Commission, since the releases from the Government of India to the Commission are specifically for advancing funds to Hydrocarbons India (P) Ltd. The first instalment of Rs. 1,49,25,000 towards repayment of loan was paid to the Commission on 30th June 1971 and an amount of Rs. 6.61 crores has been paid as interest on such loans upto 1st July, 1971.

6.19. The expectations of the ONGC from this joint venture in the Persian Gulf has not been met fully. During the evidence of the representatives of the Ministry of Petroleum and Chemicals, while discussing about the capital structure of the ONGC, the Committee pointed out that in the present arrangements it was envisaged that ONGC would pay 5 per cent dividend to Government in any year in which they will not draw any money from the

Government and enquired as to when such a situation would arise. Among other reasons pointed out by the representatives of the Ministry, the Secretary also stated as follows:—

> "At that time the expectation was very largely on this joint venture in the Persian Gulf, in which HIPL, a subsidiary of ONGC, has 1/6 share, that there would be very big resource, but it has not happened and therefore this expectation did not materialise...."

6.20. As regards the comparative economics of selling of Rostam Crude in outside market and importing other crude for Indian Refineries, the Ministry informed the Committee as follows:—

> "Production of Rostam crude began towards the end of 1969 but full production from that field, after completion of development drilling, has begun only recently. At the same time, the Raksh field which was discovered nearby, also began producing from the end of 1971. At present, we are getting a mixture of Rostam and Raksh crude, the characteristics of which though considered more or less similar have yet to stabilize. The original gravity of the Rostam crude was 38.00° to 38.90°. The gravity began to fall in the course of production and currently it is in the range 36.00° to 36.90°. It is expected that Rostam and Raksh would stabilize in this range. Cochin Refinery processed two cargos of Rostam crude on a trial basis first in 1970 and then in 1971. The results of the trial processing indicated that the combined values of the product-mix coming out of the processing would become much lower than the value of the product-mix coming out of Aghajari. Therefore, Cochin Refinery considered the Rostam crude as unsuitable for its processing. This is mainly due to the fact that the Cochin Refinery was designed in context of processing the Aghajari type of crude. Therefore, it was felt that instead of processing Rostam crude in Cochin and obtaining a lower valued product-mix, it would be better to sell the Rostam crude abroad at competitive prices and to use Aghajari crude which is more suited for this refinery. Since many of the foreign refineries are very large on size and are capable of absorbing a variety of types of crude oil, there is no inhibiting factor in using Rostam crude in these overseas refineries as in the case of the refinery like Cochin. The export selling price of Rostam

crude compares favourably with the current import price of Aghajari crude, keeping in view the relative qualities of these crudes and the fact that the Rostam crude is a new crude, yet to stabilize, whereas Aghajari is a very stabilized crude obtainable in very large quantities."

6.21. The Committee note that the real purpose in entering into a joint structure agreement and capital participation to the extent of 16-2/3 per cent with the National Iranian Oil Company (NIOC) was to develop oil resources in the off-shore area of the Persian gulf to meet the requirements of crude for the country. The Committee find that the venture has resulted till 1970 in a cumulative loss to ONGC of Rs. 15.59 crores. The Company has been able to establish production of crude oil in no more than two fields of Rostam and Raksh only. Out of its share of 65,17,146 barrels (till July, 1971) Hydrocarbons India (P) Ltd. lifted 24,37,670 barrels only, thus resulting in under-lifting to the extent of 40,79,476 barrels or roughly 62.6 per cent of the share.

6.22. The Committee note that Government are now thinking of utilising this crude mixed with other crudes for processing in existing refineries and that they are also contemplating adaptation of the spare capacity available in the Barauni Refinery to take up processing of Rostam crude. Another proposal is to provide for utilisation of this crude in the projected new refinery at Goa. Government claim that they are able to sell Rostam crude at comparable prices to Japan and other countries which are already processing crude with sulphur content. The Committee need hardly emphasise that Government should without further loss of time examine in depth the economics and possibilities of utilisation of Rostam and Raksh crudes in either the Government owned or private sector refineries vis-a-vis the cost of importing crude from elsewhere into the country, keeping in view the relative qualities and characteristics of these crudes, the end-products which can be derived from them and the consumption pattern of petroleum products in the country. The Committee consider that had Government carried out a thorough analysis of the problem earlier or made more vigorous efforts to dispose of crude there would not have been shortfall to the extent of 62.6 per cent in our lifting of crude from Rostam and Raksh oil-fields. The Committee would like Government to take a most rational decision in national interest about the disposal of our share of crude from these oil fields of Iran in which Government have made substantial investments and suffered already a cumulative loss of over Rs. 15 crores so as to derive the maximum benefit and cut down the losses.

B. Audit by C.&A.G.

6.23. The Audit Report has pointed out as the expenditure incurred by Hydrocarbons India (P) Ltd. is not subject to audit by the Comptroller and Auditor General of India, it has not been possible to make an appraisal of this investment. This position has risen because Hydrocarbons India (P) Ltd., is a subsidiary of a statutory corporation, which is distinct from a Government Company incorporated with reference to Companies Act.

6.24. During the evidence of the representatives of the Ministry of Petroleum and Chemicals, the Committee enquired the reasons for the C&AG not auditing the accounts of the Hydrocarbons India (P) Ltd. The Secretary of the Ministry stated:—

> "We are examining that and even ahead of amending the Act. When a Resolution is passed by them, we could request the C&AG to do the audit. We will provide our share of the expenditure on approved basis; that the budget is approved by the Board where we have a Director who has a say in the matter. Once that is approved, we provide our share for the year under the budget. Therefore we have with us only records of that amount which we have given and no other usual kind of accounts and material which is subject to CAG's audit. Therefore, it is doubtful how much value would be achieved by the CAG audit. Nevertheless we have no objection in the formation agreement. The HIPL has got the right of taking up independent audit through their own auditor once in three years. Whether that would enable the HIPL to call in the services of the CAG to do that, we are a little doubtful. Legal position has to be examined."

6.25. The Committee were further informed that there was an audit of HIPL accounts by a Commercial Auditor. The representatives of the Ministry also added that:—

> "The question of its Audit was made in consultation with the CAG. At that time we were advised by the Law Ministry that if we amended the Act, it would be repugnant to the provisions of the Companies Act for the reasons that Dy. C.A.G. has just mentioned. So, in consultation with him we arrived at the procedure whereby the audit of the Company would be done every year, by a Commercial Auditor who would be the nominee of the C.A.G. This procedure has been followed every year and the audited accounts of the HIPL are placed on the Table of the

Parliament along with ONGC's. Lately, we had re-examined this question and we went to the Law Ministry and we suggested the solution whereby the Act can be amended. The Law Ministry this time has agreed with us that the Act can be amended. As Mr. Mukerji pointed out, the amendment of the Act itself would be rather a time consuming process. It may take three or four months. We have advised HIPL Chairman, who is the Chairman of ONGC to put up for consideration a resolution whereby CAG may be requested to audit the Accounts of HIPL for a definite period till we amend the Act and get it passed."

6.26. The Committee note that steps have already been taken to bring the Hydrocarbons India (P) Ltd. within the purview of Audit by the Comptroller and Auditor General of India—first through a resolution by the Board of Directors and then by amending the ONGC Act suitably. The Committee recommend that this should be done at the earliest.

C. **Indian Personnel in IMINOCO**

6.27. The Committee understand that after considerable persuasion the other two partners have agreed to inclusion of only one Indian personnel in the service of IMINOCO. So far two Indian drilling engineers have been trained and one more is receiving training in off-shore drilling operations of IMINOCO in the Persian Gulf.

6.28. The Committee find that the number of Indian Personnel for training and for employment in IMINOCO, the parent Company, is negligible. In addition to the two persons already trained there are two more Indians with them—one for training and one in their employment. The Committee would suggest that Hydrocarbons India(P) Ltd. should persuade IMINOCO to accept more Indians for employment and training so that ONGC may be able to gainfully draw upon their experience and expertise in furthering off-shore drilling programme in the country.

VII

EQUIPMENT

7.1. The Oil and Natural Gas Commission has to use a varied type of instruments and equipments in its different operations. The technology of oil drilling and production, as also of exploration, is rapidly advancing. The application of the latest equipment is likely to bear better results. The selection of proper equipment for working under the prevailing conditions, therefore, assumes importance. Amongst the equipments needed by the O.N.G.C. for its different operations, the foremost is the derrick and surface equipment of a drilling unit called rig. Before starting the work of drilling, the derrick is built and other tools and machinery are installed. O.N.G.C. has to use drills from very small holes to very deep wells for seismic recording and also various types of electronic equipment for seismic recording and electrologging. Heavy duty pumps, slush pumps, rotary tables, blow out preventors, engines, compressors, generators, welding sets, fishing tools, different types of bits, pipes for drilling, casings and pipelines, valves of very high pressure, X-mas trees, mud chemicals, etc. are some of the equipments and materials used in the process of drilling and production of crude oil. Since the activities of the Commission are spread throughout the length and breadth of the country, transport equipment, both for in-land and off--shore has big role to play. ONGC needs transport from light vehicles for transportation of men to very heavy vehicles for carrying heavy equipment. In off-shore they need marine transport equipment. After production, the need arises for storage of the crude oil before its despatch to the destination. For this purpose, ONGC needs storage tanks. For despatch, ONGC has its pipelines and pipeline installations. An equally important aspect of the industry is research and development. The laboratories of the ONGC are problem-oriented. Day to day working problems are analysed there. Sophisticated equipment in ONGC's laboratories help them in this regard. Most of the equipment in use in the Oil and Natural Gas Commission is from the USSR.

7.2. Of late, however, the Commission has been making use of technological developments made in Western countries also specially when it can afford to do so and whenever these have been considered to be of positive advantage over the conventional practices. The Commission has, however, pointed out that for reasons of foreign exchange only a few discreet change-overs have been made especially when the advantages of such change-overs were obvious.

7.3. It has been stated that the requirements of equipment to undertake the tasks ahead are being assessed and proposals for procurement are being processed for obtaining Government sanction and arranging procurement. For example two digital field recording systems and one digital seismic data processing system have already been procured and put into operation. Another two digital seismic field recording systems are already on order and a proposal for the procurement of additional four systems is being processed with the Government.

A. Drilling Equipment

7.4. The Oil and Natural Gas Commission has got the following types of rigs for drilling wells of various depths:—

	Type	Country of manufactureing	Number of Rigs	Depth Range.
1.	BU-75	Russian	13	2000/2200
2.	5 D	Russian	10	3000/3200
3.	3DD	Russian	21	4500
4.	URB-4 PM	Russian	4	1000
5.	NAT-45	USA	2	1800
6.	MT-55	USA	1	3000
7.	H-2500	US Italian	1	6500
8.	4 LD	Rumanian	5	3300
9.	5 LD	Russian	1	3500
10.	2 DH	Russian	1	2000

7.5. There are in all 59 drilling rigs presently available with the Commission, out of which 55 are Deep Drilling Rigs and 4 are Structural Drilling Rigs. These also include 3 new 3D rigs which are on order with the Heavy Engineering Corporation, Ranchi. On the basis of their conditions, the Commission has decided to write off 10 old rigs, for which a detailed survey of all the components pertaining to these rigs is being carried out.

7.6. Thus ONGC is left with 42 deep drilling rigs for the purpose of development, subject to availability of locations and man-power. The position of 42 rigs is as under:—

1.	Rigs already engaged in operation	33 Nos.
2.	Rig under rig building at Tripura	1 No.
3.	Rig being used for training purposes at I.P.E., Dehradun. . . .	1 No.
4.	Rig being diverted to Rajasthan for deep drilling in Jaisalmer area. . .	1 No.
5.	Rig being erected at Nawagam in Western Region.	1 No.
6.	Rigs awaiting development	5 Nos.
		42 Nos.

7.7. At present the rigs under long distance transportation from one project to another are as under:—

1. Rigs 4LD-2—From Mehsana to Banni-2 (Kutch).

2. Rig 3D-New, partly from Baroda and Assam to (From HLC) Sumarwali Talai Well No. 2 (Rajasthan).

7.8. The rig 4LD-2 after transporation is planned to spud the well Banni-2 (Kutch) by the end of March or early April, 1972.

7.9. Most of the major assemblies of the 4D rig-equipment has already arrived in Rajasthan *via* Sibsagar and Baroda. Some consignments that are over-dimensioned are awaiting despatch from Sibsagar Railway Station. Moreover, 6 items are yet to be received in Rajasthan from HEC; Ranchi. Due to the recent Indo-Pakistan conflict the transportation of the material was suspended.

7.10. It has been stated that the maintenance of these rigs poses a problem as far as requirement of spare parts is concerned. Since these rigs are of different types and manufacture, the procurement of spare-parts has to be done from various sources, which results sometimes in a great deal of delay when spare-parts are not available. Moreover the inventory of spare-parts increases for this reason. Since the requirement of spares of each type may not be very large it becomes difficult to establish indigenous manufacture because it becomes uneconomical to do it on small scale. From the maintenance point of view there is, however, no serious difficulty.

7.11. As far as standardization is concerned, the ONGC has stated that since the requirement of rigs is for various depths it is not possible to make use of rigs of only one type in all areas. However, it is possible to procure rigs of same type and capacity for similar depth range. For example the rigs 5 D, 4 LD and Nat-55 are more or less of the same capacity but these were procured due to availability of the foreign exchange at that time and also to establish the advantage of one type of rig over the other. The rig Nat-55 was purchased from Stanvac, who were carrying out oil exploration in the West Bengal area, when they wound up their operations. The ONGC has also stated that standardization of rigs will be attempted in case of future procurement, to the extent possible, subject to the limitations which have been mentioned above.

7.12. During the evidence of the representatives of the Commission, the Chairman, ONGC informed the Committee that they were chiefly using rigs from Russia and Rumania which were considered to be latest at the time of purchase some ten years back. They had only four rigs of other makes—three American and one Italian. Asked whether they would like to go in for more rigs from the Western Countries, the Chairman, ONGC explained that since the foreign exchange position was not so difficult they would prefer to have rigs incorporating the latest technology from any source.

7.13. The Chairman ONGC, however, informed the Committee that they were a little slow in their programme for replacement of rigs, as in the absence of discovery of any major oil structure, they did not have a work-programme for new rigs for the next five or eight years.

7.14. During the evidence of the representatives of the Commission, the Committee also enquired as to how the drilling efficiency of the Commission's rigs compare with the drilling efficiency of Oil India Ltd. The Chairman, ONGC stated as follows:

> "We do not know how our drilling efficiency compares with that of the Oil India Ltd. because we have no data pertaining to Oil India. If the data is made available by them and if we could get the data, it should be quite possible to compare. There is no problem about it.
>
> The drilling rigs are of different types even in ONGC. We have got 7 or 8 different types. By and large, we have most of our drilling rigs of the Russian or Rumanian make. We have only 4 rigs of other makes 3 American and 1 Italian. And most of the rigs of Oil India as far as I know, are of American makes. But, Sir, unless we have the details, we really cannot make a comparison".

7.15. As regards the fact that the Oil India had better efficiency than the ONGC, the Chairman, ONGC stated as follows:—

"By and large, from my information, I would say that so far as drilling efficiency is concerned, as far as I know, broadly it is so. And if you wish to know the reasons. each drilling rig in Oil India, probably, gives more metres per year than in the ONGC. This is my general information."

7.16. The Chairman, ONGC further stated that:

"Of course, there is the question of rigs. More than the rigs, the thing is that they are operating in a very compact area. The drilling conditions are more or less the same in the area. Once we go to a new area, if we want to drill down 3,000 metres, it might take us 6 months even. If we have to drill more wells in the same general area, instead of 6 months we may be able to do it in 2 months only.

Perhaps, there is some difference on account of the drilling rigs. Certain components are essential like the mud pumps ; they have better mud-pumps than what we have. Now, when we go for new rigs, we propose to buy the proper type of equipment".

7.17. Member (Finance) ONGC stated during evidence before the Committee:

"I have no idea at all about the type of rigs the Oil India is using. But as far as the ONGC is concerned, there are very old rigs. And the other day, we were discussing a replacement programme also for some of these rigs. And we have some difficulties about accessories like to the pumps and so on. So that also makes the drilling efficiency not as good as it should be. But the point Mr. Negi was making about working in new areas—this also has a retarding effect on the overall efficiency. But we will undertake a study. I do not know whether we are less efficient or not. If we are less efficient, why? So. we will undertake a study provided we can get the data from the Oil India. I think, Mr. Negi is on the Oil India Board and there should be no difficulty to get the data".

7.18. During the evidence of the representatives of the Ministry of Petroleum & Chemicals, the Secretary of the Ministry informed the Committee in this connection that the Government had ensured that machinery and equipment, whether imported or indigenous, which is best suited to the requirements, would be made available to ONGC. He further added:

> "But I may add that in this matter the ONGC being the technical body must assess its requirements and make demands on the Government. They are doing by stages. We have now been insisting that any big venture should be put up in the form of a complete project, which was not being done earlier. In going to Tripura we have asked them to be more or less in the form of a project. A project means that all the details are worked out, estimates of costs, requirements of materials, requirement of equipment, what is to be imported and what would be indigenously available, what is the man-power needed and how much time it will take. We are also insisting that the entire planning must be done for the implementation of the programme. Otherwise, we cannot be sure that a project will be implemented according to schedule. The ONGC is coming up with proposals to Government from time to time for foreign exchange for equipment, giving the list of equipment, the additional rupees resources that they need and any other form of help that they need".

7.19. The Committee enquired as to who decided about the import of equipment and whether it was a fact that equipment was ordered from another country instead of a country from where it was best available. The Secretary of the Ministry stated as follows:—

> "There is nobody who dictates this. It is largely conditioned by the circumstances of the availability of foreign exchange with the Government of India. If it is available from France and the foreign exchange is available, it is suggested that it should be got from there. If it is on rupee payment basis that the equipment can be got and it is equally satisfactory, it is suggested that it should be got from there. If it is available from Japan and Yen credit is available, it is got from that source. In the time that I have been in this Ministry, whenever ONGC have made out a case convincingly that a particular type of equipment which is available only from one country must be obtained, we have always made the foreign exchange available to them.

For example, when we found that the drilling in the Bengal basin did not succeed, it was examined in great detail and the advice of the experts was that the pictures obtained in the geo-physical survey were not sufficiently clear to enable ONGC to take drilling at another place. They wanted a more sophisticated equipment from the United States and free foreign exchange to the extent of Rs. 65 lakhs was made available to them. Two units of this new field unit and playback equipment have already been bought and they are operating in the field. Although five or six officers of ONGC were sent to the firm and they stayed there for four months to get training and to acquaint themselves with the operation of the equipment, still some teething troubles are there but I believe they will be solved in one or two months.

So we have made it clear to the ONGC that whenever there is need to obtain sophisticated equipment for some specific purpose, and it is available only from one country, Government will make available to them foreign exchange, even free foreign exchange."

7.20. He further went on to say:—

*****there was great difficulty about foreign exchange and so that bulk of the supply had to come necessarily from the rupee payment area. In 1968-69 the ONGC was given free foreign exchange of only Rs. 42 lakhs; in 1969-70. Rs. 50 lakhs, but in 1970-71 it was Rs. 113 lakhs, because we have adopted this policy that if it is needed for special reasons, it shall be made available. There have been cases, I may make it clear, where the same thing could have been obtained at a cheaper rate from another country—not that the quality was in dispute—but the Finance Ministry advised rightly to pay a little more and get it from the source where we have the foreign exchange credit available.

The rigs have been used and they have certainly become old but it is not the case that there is a shortage of rigs. At present there is a surplus of rigs. And they should not use rigs which are too old and should be condemned, and we have told them so. They do not require new rigs, and they have also not made any proposal to us. *****

The second important point is, we must be very careful in regard to the choice of the type of rigs for the kind of conditions in which they would operate. If it is deep drilling, special type of rig must be used. For shallow drilling, another cheaper type of rig must be used."

7.21. It has been noticed that fishing and complications in various wells of the ONGC has hampered the operations considerably. The shortfall in targets of drilling among other factors has been attributed to poor condition of rigs; stucking up of drill pipes, drill stringes, tubings, cables, core barrels; fishing/milling of bit roller non-availability of suitable drill tools, unexpected repair of equipment; trouble in rig-engine; etc.

7.22. The table below indicates the details of productive and unproductive hours for the years 1966-67 to 1968-69:—

(Figures in hours)

	1966—67*	1967—68*	1968—69	1969—70	1970—71
(a) (i) Drilling	45,814	59,350	74,196	63,800	61,561
(ii) Casing & Cementing	7,841	10,840	16,759	14,140	10,522
(iii) Auxiliary	46,696	52,212	65,091	62,238	55,434
Total Productive Time	1,00,351	1,22,402	1,56,046	1,40,178	1,27,517
(b) (i) Repair	14,177	18,811	24,186	22,399	20,618
(ii) Complications	12,759	17,292	28,006	31,144	25,073
(iii) Fishing	9,111	7,078	12,728	12,699	14,819
(iv) Shut-down	20,877	25,716	17,035	20,130	18,461
Total Unproductive Time	56,924	68,897	81,955	86,372	78,971
Total (a+b)	1,57,275	1,91,299	2,38,001	2,26,550	2,06,488
Percentage of unproductive hours to total hours	36·2	36·0	34·4	38	38
Percentage of shut down hours to total hours	13·3	13·4	7·1	9	9

*Excludes the balance of time for other areas namely other than Assam and Gujarat.

7.23. It will be seen that the overall percentage of unproductive hours to total hours went down from 36.2 in 1966-67 to 34.4 in 1968-69 and that of shut down hours to total hours decreased from 13.3 to 7.1 during the same period.

7.24. Although the overall shut down period came down substantially in 1968-69, it was seen that the incidence of idle time on account of waiting for materials, services (*e.g.* transport, electrologging, perforating parties and staff) and decision making included in the overall shut down period was 885 days during the years 1966-67 to 1968-69 and cost the Commission a sum of Rs. 44 lakhs (approximately).

7.25. The following table indicates the work-over rig days available in some of the projects and the actual utilisation thereagainst for the years 1966-67 to 1968-69:—

Year	Number of Rigs	Rig days		Idle days due to		
		Available	Utilised	Avoidable reasons like waiting for mud chemicals, cement, shift vehicles programme from geology accessories shortage of staff and equipment etc.	Unavoidable reasons like shut down due to complications	Total idle rig days
1	2	3	4	5	6	7
Western Region						
Ahmedabad						
1966-67	5	2054	1230	258	566	824
1967-68	5	1761	1144	194	423	617
1968-69	6	1701	1266	142	323	435
1969-70	4	980	857	69	54	123
1970-71	4/5	1183	884	259	40	299
Ankleshwar						
1966-67	5	1332	1118	115	99	214
1967-68	5	1618	1359	173	86	259
1968-69	4	1624	1532	13	79	92
1969-70	4/3	872	862	—	9	9
1970-71	3	849	824	—	24	24

1	2	3	4	5	6	7
Cambay						
1966-67	3	242	127	68	47	115
1967-68	3	732	406	150*	176	326
1968-69	3	730	455	167**	108	275
1969-70	2/1	291	230	10	51	61
1970-71	d/1	54	40	2	12	14
Nawagam						
1966-67 (Aug. 66 to Feb. 1967)	3	636	230	159	247	406
1967-68	3	1098	682	338	78	416
1968-69	3	1233	1122	85	26	111
1969-70	3/4	799	712	9	78	87
1970-71	3/4	129	968	25	94	119
Eastern Region						
1966-67	1	422	321	3	98	101
1967-68	2	732	555	53	124	177
1968-69	3	1029	849	71	109	180
1969-70	2/4	663	581	58	24	92
1970-71	4	11100	932	145	22	167

*Includes 31 days (March, 1968) during which the staff was diverted to other jobs.

**Includes 61 days (April and May, 1968) during which the staff was diverted to other jobs.

Note : Data in respect of Eastern Region and Nawagam Project (for 1968-69) was maintained in terms of hours and has been converted into days @ 8 hours per day.

7.26. It will be seen from the above that 1959 idle days during the years 1966-67 to 1968-69 were for avoidable reasons resulting in payment of idle time wages to the staff employed on these rigs to the extent of Rs. 2,66,966 (approximately). In this connection, the Commission stated in February, 1970 as follows:—

> "......While analysing the performance of the Work-Over Rigs, it has to be borne in mind that during the period under Review, most of the rigs in use were of the Bakinetz type. This Rig is merely a tractor-mounted winch and hoist which is generally used only for pulling out and running in the Tubing, Sucker Rods, etc. So as to utilise these rigs more profitably, the Commission decided to provide them with accessories like washing units, Mud Tanks, Mud Mixing and Conditioning Equipment, Compressors, etc. Items like washing units and compressors, etc., had to be imported from U.S.S.R. which naturally took considerable time. In view of this, there was bound to be some loss of time in waiting for the acccessories. Some time was also lost for want of mud chemicals and cement as there was a general shortage of these items either due to difficult market conditions or to transport bottlenecks. Waiting for instructions is a very rare phenomenon and could not have occurred on more than few occasions. In any case, since the proper use of mud may make all the difference in a well, it can hardly be a cause for adverse comment if people wait technical instructions from superiors.
>
> In order to ensure that the Work-Over Rigs get their due attention at the Projects, the Commission introduced an incentive scheme in July, 1969 which takes into consideration the performance of the Work-Over Rigs also."

7.27. During 1968-69 time lost due to fishing and complications (in respect of 'deep drilling') was 832 rig days and in 1969-70 the time lost was 1691 rig days.

7.28. It has also been observed that hydraulics is a very important consideration in drilling. Hydraulics depend on mud pumps. ONGC's mud pumps are stated to be not quite as powerful as they should be for the depths at which they are required to operate.

7.29. It is said that fishing and complications exist throughout the would in drilling operations. They cannot be eliminated even with the best equipment and training, these can only be minimised, if the operations are carried out on structures, where the surface conditions are fully known. Although the downwhole accidents appear to be similar, it cannot be said that no two fishing jobs are identical in nature. The reasons for fishing and complications are the unforeseen sub-surface conditions existing in the well. The main instance of failure resulting in fishing in the ONGC are stuck up of drilling strings, failure of strings due to twist off, and bit failure. ONGC are equipping themselves with modern fishing tools to reduce time in such operations.

7.30 The Committee understand that certain items of sophisticated equipment for drilling have either been procured or are on order or are being processed. In the opinion of the Committee there is a big scope of reducing the number of idle days, which is due to a number of avoidable reasons like waiting for mud chemicals, shortage of equipment, etc. It is essential that loss of time on account of fishing and complications should be reduced to the minimum possible extent. Use of better type of drill pipes bits and fishing tools can result in higher speed. Application of latest sophisticated tools should help ONGC in achieving this objective.

7.31. Oil exploration is a very risky venture and because of this risk considerable diversification of efforts are needed to have a chance of a successful oil exploration programme. Slackness in taking initiative in the matter of selection of equipment has to be avoided. The Committee recommend that the Commission should plan out the requirements of equipment in advance on a realistic basis and acquire them matching their perspective planning.

7.32. At present ONGC is chiefly using rigs from Russia and Rumania, which were considered to be the latest at the time of purchase some ten years back. They have as many as ten types of these rigs. Maintenance of these rigs poses a problem as far as requirement of spare parts is concerned. ONGC should go in for standardisation of rigs. It is possible to procure rigs of the same type and capacity for similar depth range.

7.33. The Committee find that at present some rigs are surplus and no proposal has been submitted by ONGC to the Government recently for buying new rigs. The Committee would like the Commission to do a careful evaluation of existing rigs and make assessments of requirements of rigs project-wise with a view to locate the unserviceable and repairable rigs and the type of rigs, best suited for drilling in the different projects. The Committee would urge the ONGC to take an early decision with regard to rigs awaiting deployment. The Commission should dispose of such of those rigs on which the expenditure involved in repairs would not be commensurate with the efficiency of the repaired rig. This would help ONGC to rationalise its inventory. If need be, a suitable programme

for replacement of old rigs and deployment of improved types of mud pumps to improve the efficiency of rigs should be drawn up. The Commission has decided to write off 10 old rigs on the basis of the present condition of rigs. A detailed survey of all the components pertaining to these rigs is being carried out. In the opinion of the Committee, such an exercise should have been done earlier.

7.34. From the facts placed before the Committee it appears that as far as the Oil and Natural Gas Commission is concerned, non-availability of foreign exchange from any particular source is no longer a hindrance. Government provide the necessary foreign exchange to enable the ONGC to get the required equipment. The Committee recommend that the ONGC should be careful in utilising the foreign exchange for acquiring new and sophisticated equipment and instruments, which should result in the long run in corresponding saving in the quantum of foreign exchange to be spent on the import of crude oil. They recommend that the Commission should place before the Government proposals for "a complete project" including the foreign exchange requirement instead of approaching piecemeal. The future requirements of ONGC for rigs should be procured from the sources, which can deliver the goods of the right type and requirement, instead of being tied down with the availability of foreign exchange from any particular source.

7.35. The Committee are surprised to know that in spite of the Chairman, ONGC being a Director on the Board of Oil India Ltd., no comparative evaluation of performance of rigs of the two organisations has been undertaken. The Committee are of the view that such an evaluation would be useful to both of them and expect that it should be undertaken without any further loss of time.

B. Blow out preventors

7.36. Audit Report (C), 1970, Part VIII has referred to two cases of losses on account of blow out of wells during the course of drilling Rudra Sagar (Well No. 25) and Kathana (Well No. 4). The details of the cases are as follows:—

(a) *Rudra Sagar (Well No. 25)*

7.37. On 3rd January, 1967, it was observed by the Commission that head of Well No. 25 (Rudra Sagar) was unapproachable due to high discharge of gas and oil. It was decided to carry out further operations only in the morning on 4th January, 1967. On 4th January, 1967 at about 4 A.M. however, the well caught fire before any action could be taken. The fire was put out on 23rd January, 1967. The loss/expenditure as a result of the blow out was Rs. 39.58 lakhs (approximately) including claims of Rs. 0.97 lakhs for damages caused in the neighbourhood, etc.

7.38. A Preliminary Enquiry Committee constituted by the the blow out was due to operational and administrative failure and Project on 17th January, 1967 reported on 18th February, 1967 that stated, "if care and caution had been exercised right from the beginning, in all probability the well could have been saved." The Commission also appointed an Enquiry Committee on 7th February, 1967 to go into circumstances/causes which led to the fire and to fix responsibility. A further enquiry was held by the Director of Geophysics in April 1968 who observed in his report submitted in July, 1968 that "the blow out occurred not due to lack of adequate precautions, but due to incorrect understanding of significance of early signals of the well getting active and consequent delay in taking action to control the well" and that "no arrangement exists for systematic training in controlling or handling blow outs, or in carrying out important operations such as fitting of tubing hanger."

7.39. On the basis of the reports, action is stated to have been taken against the officer at fault. One increment without cumulative effect has been stopped in respect of four officials and services of a Technical Assistant who was found guilty of failure to pay heed to the warning have been terminated.

(b) *Kathana* (*Well No.* 4)

7.40. A blow out occurred at Well No. 4, Kathana on 2nd September, 1966 and well had to be abandoned on 16th September, 1966. The Enquiry Committee constituted in September, 1966 to investigate the causes of the accident observed on 3rd October, 1966, that "it was not possible to save the well from blow out and completely losing the well although an open blow out could have been avoided by taking right measures in time."

7.41. The Enquiry Report and the replies of the officials to the charge sheets issued to them further reveaed that "adequate equipment in the satisfactory condition was not available at the site and no manual of instructions were given to the crew for guidance in such circumstances."

7.42. The Management have stated (November, 1967) that:—

"At the time of Blow-out...., Hydril blow-out preventor was in use......spares required for changing old parts such as........were not usually available."

"After the said experience....Hydril B.O.P. has now been replaced with a new B.O.P...." "As regards instruction manual, the headquarter used to give piecemeal instructions.... A comprehensive manual had now been supplied to the drilling personnel during the end of May, 1967".

7.43. An expenditure of about Rs. 10 lakhs was incurred on the well up to the date of its abandonment.

7.44. Though the enquiries have attributed the blow out to 'operational and administrative failure', perhaps a better type of a Blow Out Preventor could have saved the situation.

C. Indigenous Equipment

7.45. The Committee enquired the percentage of indigenous equipment and machinery which was in use at present in the ONGC. In a written reply, the ONGC stated as follows:—

7.46. "Oil field equipment can be broadly divided into the following 4 groups:—

(1) Well testing and well completion equipment.

(2) Workover rigs.

(3) Oilfield installations.

(4) Pipeline Equipments.

7.47. For well testing and well-completion equipment we require specialised packers, well-testers and high pressure X-mass trees. These items of equipment are at present imported. Attempts are being made to manufacture indigenously the high pressure X-mass tree valves and we hope that within the next 2 to 3 years it may be possible to develop the manufacture of X-mass trees in the country.

7.48. The workover rigs in the Commission are imported and about 10 per cent indigenous equipment is being used. We do not envisage any increase in the number of workover rigs for our operations.

7.49. Almost all the oil field equipment is indigenous except for oil and gas separators and control equipment and specialised instruments.

7.50. The pipeline work is carried out by Indian Contractors, some of whom have the necessary imported equipment. Almost all the pipes required for laying in the country are indigenous except for some seamless pipes required for under pinning of the bridges. Some of the specialised reciprocating pumps and gas compressors are imported. However, some of the Indian manufacturers have now come forward with the proposals of manufacturing these items indigenously within the next 2 to 3 years."

7.51. It has been stated that concerted efforts have been made to develop indigenous skill and sources of supply for equipment and major components thereof. As a result of these efforts, the following success has been achieved:—

(i) An order for 3 Nos. of 3D rigs was placed on M|s. Heavy Engineering Corporation, Ranchi. However, it must be stated that an appreciable percentage of major components and assemblies of these rigs was imported by M|s. Heavy Engineering Corporation, Ranchi, before these rigs could be assembled and supplied.

(ii) The fabrication of the sub-structures of the deep drilling rigs has been undertaken by the ONGC workshop. Efforts are also being made to design and fabricate the mast of the rig.

(iii) The generating and welding set of rigs are now being procured indigenously.

(iv) Efforts have been made to replace diesel engines by suitable indigenously made diesel engines. Two such diesel engines are now being installed on the rigs for trial.

(v) The air compressors have now been standardized to 3 types formerly they were of 8 types and are being replaced by indigenously available ones.

(vi) The imported heavy duty transportation and lifting equipment is also being replaced by indigenously available equipment.

(vii) It has been possible to develop indigenous sources of supply of shot-hole drilling rigs.

(viii) The imported Commenting Units are being mounted on the indigenously available chassis.

(ix) A complete seismic unit using a few imported components and mainly indigenous components has been designed and manufactured in the ONGC Laboratory. Similarly three electrologging Units using a few imported components have been manufactured and put into use in the field.

7.52. It has been also stated that vigorous efforts are being made to develop indigenous sources of supply of tubulars, drilling bits, wire ropes, high pressure valves. The Commission has set up a separate section to develop and execute the import substitution programme. The main functions of this section are to select items of equipment and spare parts which could be manufactured indigenously. The manufacturing drawing and technical know-how are imparted to the various manufacturers for developing equipment substitutes in the country. As a result of these efforts, indigenous development of nearly 1,000 spare parts has been established in the country.

7.53. ONGC is of the view that there is scope to manufacture various types of rubberised components in use in ONGC. At present the parts being manufactured by various indigenous sources are not of the required quality. There is also scope for an industry to manufacture specialised metallic items, involving heat treatment like valves, valve seats, piston rods of slush pumps, wash pipes of swivel, etc.

7.54. The ONGC has encouraged the indigenous manufacturers to develop certain facilities for the analysis of materials and for the testing of items developed by them indigenously.

7.55. The analysis and testing of imported material are also done by various test laboratories in the country. The indigenous manufacturers who develop the items successfully are given a guarantee of business for one to two years by concluding rate contracts with them. The cost of tooling required for development is met, partly or completely, by the Commission. The manufacturers are being asked to develop items against educational orders and the cost of the samples is brone by the Commission.

7.56. During the evidence of the representatives of ONGC the Committee enquired if the rigs could be manufactured in India. The Member (Production) explained that the Heavy Engineering Corporation, Ranchi was assembling three rigs for ONGC. All important components were imported and some non-essential parts were manufactured by H.E.C. The requirements of ONGC were not sufficient so as to induce some one to manufacture them economically. It might only be possible to manufacture some essential parts indigenously. H.E.C. had supplied one rig, but it had not yet been put to use, as some of the components were still awaited.

7.57. The Secretary of the Ministry of Petroleum and Chemicals also informed the Committee during the evidence of the Ministry on the working of ONGC as follows:—

> "Our technical advice is that these rigs (Rigs from Ranchi) are going to be quite suitable. We have not tried them. Even the one that has come is not yet complete. To start with, it is mostly a question of assembling imported things with certain things made in H.E.C. itself. Progressively the indigenous content will go on increasing and the imported content will come down."

7.38. The Audit Report (Commercial) 1970 Part VIII has however commented upon the delay in supply of rigs by Heavy Engineering Corporation, Ranchi as follows:—

> "An order for the purchase of 3 complete 3-D type drilling rigs was placed on M/s. Heavy Engineering Corporation Ltd., Ranchi vide contract No. ONGC/HEC/3-D, dated 26th October, 1967 at a total cost of Rs. 1,01,09,246 and a total payment of Rs. 44,85,030,82 has so far (January, 1970), been made by the Commission.
>
> Although the rigs were to be received before the end of 1967 none of these rigs has been received in complete form so far (January 1970). It may be mentioned that the contract does not include any penalty clause for delay in delivery."

7.59. The need for developing indigenous capacity to manufacture rigs within the country cannot be over-emphasised. It deserves utmost consideration of all the concerned authorities, but the way manufacturing/assembling of the three rigs at the Heavy Engineering Corporation, Ranchi, has progressed leaves much to be desired. So far ONGC has received only one rig and that too has not been put to use as some of the components are still awaited. The reasons for the delay in the assembling/manufacturing programme of rigs

should be looked into and necessary measures taken to overcome these delays. The Committee would also like that the suitability and performance of the rigs manufactured at the Heavy Engineering Corporation should be carefully evaluated so that the necessary improvement could be effected in the new rigs to be manufactured.

7.60. The Committee need hardly point out that as Heavy Engineering Corporation have lot of spare capacity available it could be gainfully utilised in the manufacture of rigs of suitable designs and other equipments best suited to the requirements on ONGC and other equipments best suited to the requirements of ONGC and other public undertakings engaged in drilling, mining, etc.

7.61. The Committee recommend that there should be greater coordination amongst the ONGC, the HEC and the Administrative Ministries concerned with a view to plan and frame their programmes in a more fruitful way according to the needs of each other. The Committee recommend that Government should give all assistance to the Undertakings to achieve their objective.

7.62. The Committee appreciate the Commission's programme of substantially bearing the cost of tooling required for development and asking the manufacturers to develop items against educational orders as also bearing the cost of samples.

7.63. Another field in which it is essential to reach self-sufficiency pertains to pipes including seamless pipes which ar e required in very large numbers for exploration, development and transmission of oil. The Committee consider that since India has already valuable experience in the field of manufacture of pipes, it should be possible to manufacture special types of pipes including seamless pipes required for the oil industry.

7.64. The Committee would stress that both Government and ONGC should make concerted efforts to achieve self-reliance in drilling equipments and other stores required for oil exploration and development programme.

VIII

INVENTORY CONTROL

A. Inventory position

8.1. The table below indicates the value of opening stock, closing stock of stores and spares and consumption of stores and spares during the years 1966-67, 1967-68 and 1968-69 —

(Rs. in Crores)

	1966—67	1967—68	1968—69
(i) Opening stock	1·20	37·02	36·04
(ii) Closing Balance			
(a) In-stock	26·74	26·06	25·90
(b) In transit	10·28	9·98	7·54
(iii) Consumption during the year	8·65	10·25	13·09
(iv) Closing balance excluding in transit Stores and spares in term of months' consumption	37	30	24

8.2. A stores reorganisation Committee appointed by the Commission in April, 1965 had observed that no rational system of provisioning based in past consumption, quantity in stock, quantity on order had been adopted. It was further mentioned therein that the purchases had been made by the Commission in order to utilise the credit facilities offered by the various countries without taking into account the actual requirements.

8.3. In connection with its large inventory holdings, the Chairman of the Commission obeserved (January, 1970) as follows:—

(a) One of the difficulties faced by the Commission in computing its true inventory is its large holdings of stores and spares which cannot be used. The value of such stores as on 31st March, 1969 had been computed to be Rs. 3.89 crores.

(b) The average lead time for imported equipment and stores is between 24 and 30 months and for spares between 18 and 24 months.

(c) The inventory is the aggregate of the holdings of a large number of Projects spread over the length and breadth of the country. The Commission has to keep comparatively large stores in isolated Projects and in Projects where isolated rigs are in operation to meet any emergency.

(d) The classification of the major items comprising the inventory of Rs. 33.42 crores, as on 1st April, 1949 was as follows:—

Description	*Value*	*Remarks*
(i) Casing pipes	Rs. 473 lakhs	
(ii) Other pipes and pipes fittings	282 lakhs Rs. 212	
(iii) Drill bits	Rs. 312 lakhs	Includes obsolete bits worth Rs. 1·07 crores.
(iv) Other drilling stores	Rs. 406 lakhs	
(v) Oil well cement and mud chemicals	Rs. 60 lakhs	
(vi) P.O.L	Rs. 30 lakhs	
(vii) Spares parts for drilling equipment	Rs. 458 lakhs	It has not been possible to rationalise rigs components because rigs are purchased from different sources.
(viii) Spares parts for imported transport equipment	Rs. 103 lakhs	There has been unnecessary stock piling of spare parts, particularly for equipment which were procured from the USSR because of incorrect assessment of requirements.

8.4. The Ministry stated in August, 1970 that "the Government felt the need to tone up the working of ONGC in this regard and has appointed, after the reorganisation, a permanent Member in charge of Stores and Purchase. A well qualified officer has now taken over this Department about a month back."

8.5. The inventory of ONGC consists mainly of stores and spare parts. In stores there are a number of items which are used both for drilling operations and production activities. It has, therefore, not been possible to earmark the holdings of inventory separately for production and separately for drilling. The Commission has not classified the inventory separately for indigenous items and imported items.

8.6. The Committee have noted with concern that there had been unnecessary stock piling of obsolete bits and that of spare parts for imported transport equipment, because of incorrect assessment of requirements. The tendency of accumulating unnecessary stores not only ties up capital, but also results in unnecessary expenditure on their care and maintenance. The Committee understand that the ONGC has already acquired an Electronic Data Processing Equipment. The Committee feel that the computer should have been available in all its regional offices and should have been fruitfully utilised so that inventory position is readily available at any point of time to avoid duplication of orders. The Committee expect that with the appointment of Member of the Commission exclusively incharge of Purchases and Stores, the system of inventory control will improve. The Committee note that the Commission has not so far classified the inventory separately into indigenous items and imported items. Segregation of inventory into indigenous and imported items is a very essential item of inventory control in the opinion of the Committee. The Committee trust that ONGC will expeditiously take necessary steps to classify the inventory holdings accordingly.

B. Surplus and unserviceable stores

8.7. According to an assessment made by the Commission, stores and spares valued at Rs. 328.63 lakhs and Rs. 257.96 lakhs were likely to become surplus by 31st March, 1969 and 31st March, 1971 respectively as reported in the Audit Report on the accounts of the Commission for the year 1967-68. Out of surplus stores and spares valued at Rs. 328.63 lakhs materials worth Rs. 40.89 lakhs were stated to have been consumed up to October, 1968 and those valued at Rs. 81.25 lakhs (converted at the current rate of exchange) were stated to have been returned/awaiting shipment to the foreign supplier as on 31st March, 1969. It has been stated that 5794 Russian bits of the value of Rs. 90.67 have been shipped to the USSR during the period of September, 1967 to 29th August, 1969.

8.8. It has, however, been seen that the net final surplus for the Commission as a whole has not been determined so far (July 1970) even though it was decided that net surplus should be declared and disposal action initiated by the end of August, 1969. In this connection the Commission stated in July, 1970 as follows:—

(a) "It is correct that overall net surpluses have not been worked out so far. Surpluses in respect of certain important items such as drilling bits, and Turbo-drills etc. where the locked up capital is substantial have, however, been worked out and action is contemplated to dispose them of in India and abroad, after obtaining Government's approval."

(b) "Further a list of the imported items where the stocks exceed an estimated 5 years consumption and Rs. 1 lakh in value will be prepared shortly on the basis of consumption data for 1969-70. The surpluses thus revealed would be subjected to a deeper technical study by a team of technical officers which is being constituted for the purpose, in order to determine the final surpluses after taking into consideration the condition of the equipment as well".

(c) "......because of the huge quantity of the work that was to be done by the projects manally we are now taking measures to work out these surpluses by using the Computer."

8.9. In a note submitted to the Committee after the evidence of the representatives of ONGC was over, the ONGC has stated as follows in this regard:—

(a) "Declaration of surpluses is a continuous process. Hence no final surpluses can be arrived at any one particular time. However, lists of slow moving and non-moving items of imported stores and spares were prepared in September, 1971 out of which it was estimated that stores and spares of the value of Rs. 1.71 crores approximately could be declared surplus. The position regarding declaration of surpluses is as under:—

(i) Out of the lists of slow-moving|non-moving items, stores of the approximate value of Rs. 7.31 lakhs have been declared surplus. The stores of the approximate value of Rs. 51.58 lakhs have also been finally assessed as surplus and orders of the competent authority are being obtained to declare them as surplus.

(ii) In addition to the estimated surplus of Rs. 1.71 crores in the two lists of slow-moving and non-moving items, Russian bits of the approximate value of Rs. 1.50 crores have been declared surplus. Out of these surplus bits, the bits of the approximate value of Rs. 42.70 lakhs have been released for sale to the various public and private consumers in India, who are engaged in tubewell drilling and like activities. Besides, 4777 surplus bits, the cost of which is being worked out, are proposed to be returned to the USSR for which a protocol has been signed.

(b) In order to co-ordinate, identify and dispose the surpluses quickly, the following action has been taken:—

(i) A Disposal Cell headed by a senior technical officer has been set up.

(ii) A comprehensive disposal procedure has been formulated and issued.

A list each of slow-moving and non-moving items of imported stores and spares, where the stocks exceed estimated 5 years consumption, based on the average of the past 2 years consumption *i.e.*, 1968-69 and 1969-70, was prepared and circulated in September-October, 1971 to the user Technical Directorates to enable them to segregate insurance|slow-moving|surplus items."

8.10. The position regarding the unserviceable stores in some of the projects of the ONGC is given below. In Hoshiarpur and Jwalamukhi projects the book value of used stores which were declared unserviceable is as follows:—

Sl. No.	Group of Stores	Hoshiarpur	Jwalamukhi
		(Rs. in lakhs)	
1.	Auto-stores	1·72	1·25
2.	Drilling	3·92	9·91
3.	General stores	0·24	0·20
4.	Tents and camp equipments	0·18	0·03
5.	Furniture & fixtures	..	0·02
		6·06	11·41

8.11. Out of above, unserviceable stores valued at Rs. 12.03 lakhs were put to auction between January, 1968 and January, 1969 and a sum of Rs. 0.80 lakh was realised. The balance of stores valued at Rs. 5.44 lakh has been kept to be used again as raw material.

8.12. The position of unserviceable stores in some of the other projects is as under:—

(i) Unserviceable stores valued at Rs. 6.98 lakhs which accumulated at Sibsagar Project during the last 7-8 years were auctioned in October, 1967 for Rs. 1.54 lakhs only.

(ii) In Ahmedabad belts of different sizes numbering 2,000 to 3,000 were stored in a heap and most of them had lost their original shape and had cracked. The total value of these items was not, however, intimated to Audit.

The Ministry stated in August 1970 that the alleged deterioration of the V. Belts at Ahmedabad "is under investigation."

(iii) 142 items of unserviceable stores (imported as well as indigenous) at Ahmedabad Project and 617 items of unserviceable stores at Ankleshwar Project were awaiting disposal. The value of these stores has not been indicated.

8.13. The Ministry stated in August, 1970 that 'the position regarding the unserviceable stores stated to be awaiting disposal at Ahmedabad and Ankleshwar projects is being ascertained.'

8.14. In a note furnished to the Committee after the evidence of the representatives of ONGC was over, the Commission has stated in this regard as follows:—

"As regards determining of excess holdings it is stated that an exercise has been carried out in respect of all the imported items of stores and spares, which have been brought on the Electronic Data processing, with a view to assess the excess of inventory holding in respect of items, the stock position of each of which is more than Rs. 1 lakh. The requirement of the next five years was computed based on the last three years consumption and the excess of stock held in respect of that item was arrived. It has been revealed that in 8 categories of items, ONGC is holding stocks amounting to Rs. 6.579 crores. The quantum of five years requirement is, however, only Rs. 2.066 crores. A further scrutiny by the relevant technical Directorates in respect of those items, has revealed, that only items of the value of Rs. 1.56 crores may now be considered as surplus to the requirements.

ONGC has carried out another exercise in respect of non-moving items, which had not registered any issues for the last three years and the holdings of each of which is over Rs. 1 lakh. The total holding of such items in 8 categories is Rs. 3.46 crores. A technical scrutiny has however revealed that items worth Rs. 1.50 crores only may be declared as surplus.

There are certain insurance/slow moving items which may not have shown any consumption during the past three years or so. However, some quantities of such items are also required to be kept in stock as insurance items."

8.15. In a note submitted to the Committee after the evidence of the representatives of ONGC was over, the ONGC has stated as followed in this regard:—

It is pointed out that against the list of non-moving items, the value of which was estimated at Rs. 3.46 crores approximately, items worth Rs. 00.15 crores only were considered to be surplus and not Rs. 1.50 crores as mentioned. The total surpluses against the two lists of slow-moving and non-moving items were estimated to be of the order of Rs. 1.71 crores. The two lists of slow-moving and non-moving items are now being scrutinized in detail. In this connection, it is pointed out that:—

(i) Out of the estimated surpluses of Rs. 1.71 crores, stores of the value of Rs. 7.89 lakhs have been finally declared surplus for eventual disposal. In addition, stores of the value of Rs. 51.58 lakhs have also been finally assessed surplus and proposals put up to the competent authority for declaring this surplus for disposal; and

(ii) The remaining items in the two lists of slow-moving/non-moving items are being examined with a view to segregate the insurance items and the quantities thereof. The insurance items will have to be kept in respective of whether these are slow-moving or non-moving in order to avoid the heavy cost of stock-out in the event of emergent and unforeseen circumstances. The preparation of list of insurance items, the cost of which is estimated to be about Rs. 3.29 crores, is in hand. As soon as this list is completed, the surpluses would be reduced to that extent.

After the list of insurance items is prepared, it is possible that we might be left with certain slow-moving stocks which will have to be worked off gradually. In order to keep a strict watch over the inventories in the Commission, a separate Inventory Cell has been set up in the Directorate of Stores and Purchase, one of the functions of which, is to scrutinize future purchase proposals with reference to the existing stocks, dues in and the past consumption. The user Technical Directorates have also to certify on each demand that the list of non-moving items has been consulted and no item in the list can be used in lieu.

8.16. The Committee note that lists of slow-moving and non-moving items of imported stores and spares could be prepared only in September, 1971. Although it was estimated that stores and spares of the value of Rs. 1.71 crores approximately could be declared surplus, so far slow-moving and non-moving items worth Rs. 7.31 lakhs only have been declared surplus and stores worth Rs. 51.58 lakhs have been assessed and awaiting declaration as surplus. Since declaration of surplus is a continuous process, the Committee would stress that exercise of identification of surplus items in slow moving and non-moving stores and spares should be completed as early as possible and suitable action taken for their disposal.

8.17. The Committee find that currently ONGC is having an inventory of excess holdings to the tune of Rs. 1.56 crores and an inventory of non-moving items to the tune of Rs. 0.15 crores i.e. Rs. 1.71 crores as against a closing balance as on 31st March, 1969 of Rs. 25.90 crores. This means nearly 7 per cent of ONGC inventory holding needs to be disposed off. The Committee hope that energetic steps are being taken by ONGC in reducing their holdings of inventory. The procedure for determination and disposal of such items should also be reviewed expeditiously.

8.18. The Committee note with concern that unserviceable stores valued at Rs. 12.03 lakhs were put to auction between January, 1968 and January, 1969 and a sum of Rs. 0.80 lakhs was realised and that the balance of stores valued at Rs. 5.44 lakhs has been kept to be used again as raw material. The Committee are surprised to note that stores once declared 'unserviceable' had been retained for use again as raw material. Apparently, the procedure for declaring a particular store as 'unserviceable' is not sound and needs to be reviewed with a view to prevent the disposal of serviceable stores without proper scrutiny. The Committee hope that the system of fixing a minimum reserve price is followed in each case while auctioning the unserviceable stores.

8.19. The Committee have also noted that in Ahmedabad lots of different sizes of belts numbering 2,000 to 3,000 were stored in a heap and most of them had lost their original shape and had cracked. The value of the stores had not been intimated. This manner of stacking the belts is regrettable. The reasons for non-observance of the stacking procedure should be looked into, responsibility fixed and necessary action taken to obviate recurrence of such losses.

(a) *Unnecessary purchase of mud-chemical at Ahmedabad project*

8.20. In December, 1962, the Commission placed an order for the supply of 209 drums of Kenflo Super Concentrate valued at Rs. 2.06 lakhs for preparing oil base mud. The chemical was received in the Ahmedabad project on the 28th June, 1963. Although, a period of six years has since elapsed, there has been an issue of 3 drums only till May, 1969. In this connection, the Chemist-in-Charge of the Project stated as follows:—

> "It is doubtful whether we will be using oil base mud in this Project where high sp. gr. mud is required. Moreover, this material was not purchased on our Indent."

8.21. From the above it is apparent that the chemical was purchased without any specific requirement and the expenditure of Rs. 2.03 lakhs (after excluding the cost of 3 drums consumed) on the purchase of mud-chemicals was avoidable.

8.22. As regards the possibility of the use of the mud-chemical, the Ministry have stated (August, 1970) as follows:—

> "A meeting was held at Dehra Dun on June 24, 1970 attended by representatives of Directorate of Drilling Institute of Petroleum Exploration and Geology Directorate, wherein it was decided to use Kenflo for making oil base mud to open up certain horizons of Lakwa and Goleki field Directorate of Drilling has already requested Mechanical Engineering Directorate to procure certain rubberised items which will be resistant to oil base mud to be used in Drilling with oil base mud. As soon as these items are procured, Kenflo will be utilised to drill few wells with oil base mud in Lakwa and Goleki fields."

The Committee has informed the Committee that the proposal was initiated by the then Chemist Senior (Central Lab.) Dehra Dun approved by the Superintending Geologist and Director of Geology

8.23. The Committee note that the Commission placed an order for the supply of Kenflo Super Concentrate valued at Rs. 2.06 lakhs for preparing oil base mud without making an assessment about its requirement. The mud-chemical was purchased in June, 1963 and till May, 1969 only three drums of the mud-Chemical were issued for use. The Committee regret to note that undue haste was exhibited by the Commission in purchasing the mud-chemical, which could not be utilised gainfully.

(b) *Purchase of bits of incorrect specification*

8.24. Under the contract dated 22nd July, 1965 M|s. Techno-export was to supply 2,000 bits of 214 MIJI specifications. The firm, however, supplied drill-bits of 214 MGL and 9-MGL specifications. The incorrect specification of the bits came to the notice of the Commission in December, 1966 when the bits were put to use and their performance was found to be poor.

8.25. The Commission used 407 bits and the remaining 1,593 bits valued at Rs. 22.69 lakhs are still (May, 1970) lying in stock. The matter for replacement of the bits of incorrect specification was formally taken up by the Commission in May|June, 1969. The bits have, however, not been replaced by the supplier so far.

8.26. It may be mentioned that there was a slight variation in the nomenclature as given in the invoice *vis-a-vis* the contract. It is not clear why the error could not be detected at the time of the scrutiny of invoices.

8.27. The Ministry stated in August, 1970 as follows:—

"(a) The Soviet authorities have suggested a slight modification of these bits. After the modification, the bits were to be given a trial with a view to assess their performance. Further it was also decided that if the performance was found satisfactory, the bits could be retained by us and the Soviet authorities would bear the cost of such modification."

(b) Two bits have since been modified and are about to be used in two rigs in Western region. The performance of these two bits will be watched very closely and in case these give better results, the modification of the balance bits will be undertaken.

(c) As regards detection of the wrong supply at the time of scrutiny of invoices, it is pointed out that the Soviet documentation has generally been faulty and that the description of an item varies in the various documents."

8.28. The ONGC has, however, contested the contention that the matter 'for replacement of the bits of incorrect specification' was formally taken up by the Commission with the foreign suppliers only in May|June, 1969. The supply of bits of incorrect specifications was reported on 23rd December, 1966. On receipt of this information a cable was sent on 23rd December, 1966 itself to Techno-export requesting them to withhold further supplies of the bits. The Russian suppliers, however, contended that the bits supplied by them were identical to the bits provided in the contract. At the time this matter was taken up with Techno-export on 23rd December, 1966, they had already shipped 1600 bits out of 2000 ordered. The balance quantity was shipped in February|March, 1967.

8.29. The ONGC has further stated that the two bits after carrying out the modifications as suggested by the Soviet Suppliers were put to use and their performance was not found satisfactory. The question of returning these bits to the foreign suppliers was discussed with Soviet Delegation which visited Dehra Dun in April|May, 1971. The matter has not yet been settled finally.

8.30. During the evidence of the representatives of the Commission, the Committee were informed as follows:—

> "Sir, some of these bits were modified in India. But the experiment was not successful after the test We brought this fact to the notice of the Soviet Delegation who visited Dehra Dun. The Soviet Delegation said that according to the advice the Chief Soviet Adviser, these bits could be used in some zone, and the ONGC should try to use these bits. But the Delegation has also undertaken to investigate the possibilities of using these bits in Russia. They might take these back. On other hand, we have also offers for purchase of these bits within India itself."

> "Actually, Sir, there is a lot of demand for these bits. We are trying to sell them. If we do not succeed with Russia in taking them back, of course, there is demand by certain undertakings in the country and we may be able to dispose off these bits without any loss."

8.31. The case of purchase of bits of incorrect specifications, which resulted on account of defective documentations, is regrettable. The Committee hope that efforts being made to either return them to the supplier or to sell them off to some party within the country would prove successful and ONGC saved of a loss of Rs. 22.69 lakhs on this count.

C. Fixation of maximum and minimum limits

8.32. Minimum, maximum re-ordering and danger levels have not been fixed in the case of imported items so far (February, 1970) even though Government in reply to para 88 of the 5th Report of the Committee on Public Undertakings (Third Lok Sabha—April, 1965) has stated in October, 1965 that a Central Recording and Provisioning Section was being set up at the Headquarters which would fix necessary minimum, maximum and re-ordering levels for all the imported items.

8.33. The Central Recording and Provision Cell was set up in February, 1966. The position (28th July, 1969) regarding fixation of the maximum and minimum limits in respect of indigenous items is stated below:—

Sl. No.	Name of Project	No. of items stocked	No. of items for which minimum/maximum limits have been fixed.	No. of items for which limits are proposed to be fixed.
1	Sibasgar	11,000	8,300	Nil
2	Ahmedabad	23,000	5,800	Nil
3	Jodhpur	47,000	1,928	938
4	Workshop, Broda	18,465	1,263	Nil
5	Jammu	3,323	3,323	Nil
6	Baroda	7,966	5,025	Nil
7	Cambay	8,055	1,840	Nil
8	Karaikal	1,015	326	Nil
9	Ankleshwar	8,850	5,359	Nil
10	Naroda	Project is being abandoned		
11	Nawagam	10,000	5,727	301
12	Mehsana	9,000	1,150	2 100
13	I.P.E. (R & T)	1,755	877	Nil
14	Central Stores, Dehra Dun.	10,843	447	320

8.34. As regards non-fixation of maximum and minimum limits of imported stores, the Commission has stated (July, 1970) as follows:—

"It was .... subsequently found that there was in fact no advantage in fixing such limits when we were operating under a wide area of uncertainty.... In the circumstances all imported stores and spares have to be treated as review items. The annual reviews are undertaken by the user technical Directorates on the basis of the requirements of the various projects, the programme of work and the stock that are available and Government is approached for release of funds accordingly.

8.35. In a note submitted after the evidence of the representatives of ONGC was over, the ONGC has stated that out of a total of 108,553 indigenous items of stores and spares for which stock-cards are maintained, maximum|minimum limits in respect of 11,022 items of recurring consumption have been fixed as in June, 1971. It has also been stated that, 'The indigenous stock items of stores and spares are reviewed once a year for the fixation of maximum and minimum. The imported items are constantly kept under review at the headquarters. Those items for which movements have taken place are reported by the projects to the Headquarters monthly and the stock data is updated every month. The total holding of imported stores and spares on E.D.P. pertaining to every Directorate is sent to them with a view to enable them to (i) watch the consumption (ii) formulate their annual requirement; and (iii) spot the items for in-lieu use or for disposal.

Once a year, a review report in respect of imported items with no movements in the last two to three years is also programmed on Electronic Data Processing and is sent to them."

8.36 The Committee note that as in June, 1971 out of a total of 108553 indigenous items of stores and spares for which stock cards are maintained, maximum|minimum limits have been fixed by the Commission only in respect of 11022 items of recurring consumption and that indigenous stock items of stores and spares are reviewed once a year. The Committee emphasise the need for fixing the stock limits in respect of the remaining items after making a thorough assessment of fast moving and slow moving items.

8.37 The Committee understand that the imported items are constantly kept under review at headquarters through EDP reports in respect of each Directorate. The Committee consider that if these reviews are carried out in depth, there should be no question of any imports taking place far in excess of the requirements. In fact, the Committee would suggest that the review should also serve another purpose of seeing how far the items which are intended to be imported could be substituted by indigenously produced goods.

D. Purchase of drilling equipment in excess of requirements

8.38. The Commission entered into a contract with Messrs Technoexport for the purchase of equipment and materials *viz.* 4 drilling rigs accompanied by accessories, materials spare unit parts, productive equipment, etc. for these rigs. The contract was executed on 3rd August, 1967 and the equipment and materials were to be delivered in 1968-69.

8.39. The requirement of the Commission for the various equipment, etc. was, however, reviewed and revised within a period of four months and the Commission sent a cable to Technoexport on 22nd December, 1967 requesting that only 2 rigs be shipped and no action to manufacture and despatch the other 2 rigs be taken till further instructions. The request was again repeated by cable on 28th December, 1967.

8.40. Cables intimating the shipment of equipment were received by the Commission on 31st January and 15th February, 1968 respectively. On 17th February, 1968 the Commission called for the documents relating to the shipments made and also requested Technoexport to restrict supplies in accordance with the revised requirements. Technoexport in their cable dated 26th February, 1968 informed that they had not received the revised requirement and that the shipment had already been effected.

8.41. Scrutiny of the invoices relating to the first two shipments showed that equipments valued at Rs. 6.53 lakhs which were not required by the Commission were shipped by Technoexport.

8.42. According to sub-para 2 of para 9 of the contract the equipment should not have been shipped by the suppliers till the receipt of letter of authority by the State Bank of USSR. The letter of authority to the State Bank of USSR was despatched by the Government of India, Ministry of Finance on 12th February, 1968. The shipments were, however, effected on 28th January, 1968, 4th February, 1968 and 8th February, 1968 respectively.

8.43 The Commission requested Technoexport to take back the over supplied equipment as those were not required by them. However, on 21st June, 1968 the Commission decided to accept the over supplied equipment and made the payment accordingly.The reasons for acceptance were, however, not recorded.

8.44. In this regard the Chairman, ONGC informed the Committee during the evidence as follows:—

"A team of Russian experts had come to India about a year prior to this date and they had recommended that we need to purchase 19 drilling rigs. We felt that 19 rigs would not be required. We decided to buy only 7 rigs. Out of 7 rigs we placed an order for 3 rigs on the Heavy Engineering Corporation, Ranchi and we placed order for 4 rigs on USSR. There was a definite order and commitment for buying 4 rigs from the USSR. In the meantime we met with bad luck in our Lakwa field we found that instead of drilling of the wells to the depth of 4,000 meters we had to drill the wells down to 3,000 and odd meters only.

Because of this reduction in the drilling requirement, the requirement of rigs went down. Consequently, we found that at that time we did not need 4 rigs even from the USSR. We immediately asked the Soviet authorities to cancel the order for 2 rigs and send us only 2 rigs. We felt that we needed only 2 rigs. They agreed to it in as much as they did not send 2 rigs, out of the four ordered. But with the other 2 rigs which had already been shipped, they had sent certain items whch were part of the supply order for four rigs but were not immediately required for use with two rigs only. Now coming to the proper perspective of the picture, the total contract for 4 rigs came to Rs. 2.23 crores. After reducing to two rigs, the value of the contract came down to Rs. 1.05 crores. the extra items which they sent and which were as per terms of the contract, amounted to about Rs. 6.53 lakhs only as brought out by Audit. I would like to submit that this was a very small percentage."

8.45. It further added that "against four rigs we cancelled two. So, only two rigs came. With these rigs, they had already shipped So, only two rigs came. With these rigs, they had already shipped some extra components worth Rs. 6 lakhs approx. which we at that we would have to go in for them in future, we felt why not accept them. Secondly, I must make it clear that these came in accordance with the terms of the contract. In fact, our contract was for four rigs and it included these Rs. 6 lakhs worth of items. The Russian authorities if they had insisted on it could have sent all the four rigs. So it is not outside the contract."

8.46. In a written note submitted to the Committee after the evidence of the representatives of ONGC was over, the ONGC has stated as follows:--

"The decision to accept the items already shipped by Messrs Technoexport was taken at the level of the Chairman in consultation with the concerned technical officers. Before the items were accepted, there was exchange of notes amongst the concerned officers and the following reasons were recorded for some items (five numbers) explicitly in the relevant files:—

(a) The items were of such nature which are of regular consumption/stand-by.

(b) Indentical items were to be procured in the subsequent year 1969-70.

For the other items (two numbers) the same reasons however held good, though not recorded."

8.47. It has been further stated that the items which were supplied by Messrs Technoexport in excess consequent on the revision of the contract, were of regular use.

8.48. The Committee trust that ONGC will gain from the experience of this contract and plan their future requirements on a realistic basis keeping in view their perspective drilling programme. As suggested by the Government, the Committee would also stress that all proposals for new equipment should be submitted to the Government in the form of a complete project report rather than piecemeal as is being done now. This would go a long way to obviate the need for reducing or increasing the order, after it has been contracted.

E. Physical verification of stores

(a) *Extent of excesses and shortages*

8.49. Physical verification of stores is to be carried out in accordance with the provisions of Rule 17(1) of the Oil and Natural Gas Commission Rules, 1960.

8.50. The following shortages and excesses were noticed as a result of physical verification of stores conducted during the last 4 years ending 31st March, 1969:—

(Rupees in lakhs)

Year	Shortage		Excess	
	No.	Value	No.	Value
1965-66	7,531	849·62	7,162	459·55
1966-67	3,035	240·48	3,186	285·83
1967-68	2,075	30·32	2,344	14·94
1968-69	2,020	7·87	1,181	15·09

8.31. The stock verification team for 1968-69 could not verify some items *viz.* M.S. rounds, bars, barbed wire, etc. at Regional Stores, Baroda, Ahmedabad, Ankleshwar, Research and Training Institute and Central Stores, Dehradun due to lack of weighing facilities and casing pipes at Sibsagar as these had not been segregated and stacked in countable position.

8.52. The discrepancies have been attributed by the stock verification team to one or more of the following reasons:—

(i) The balances on the vouchers raised by the stores section and floated to the respective accounts sections are not checked before posting in the books.

(ii) A periodical reconciliation between priced and numerical Kardex cards is not conducted.

(iii) Index registers are not properly maintained resulting in more than one card for the same item.

(iv) Posting errors and the non-receipt of vouchers from the stores section on day to day basis.

8.53. The stock verification team for 1968-69 also pointed out some more deficiencies.

8.54. The Ministry stated in August, 1970 that necessary remedial action has been taken to rectify the above shortcomings and suitable instructions have also been issued, where necessary.

8.55. In connection with the extent of excess and shortages, the Committee enquired whether the various deficiencies enumerated by the stock verification team have been resolved, the Commission informed the Committee in written note as follows:—

"The projects of the Commission are spread out almost all over India and each project has stores formation. New Projects are formed and some old are closed. Secondly, the number of rigs is increased or decreased as per requirement at each project. As such, transfer of stores from one project to another takes place to meet the operational needs. In new projects the procurement action is taken on priority basis to ensure proper working of the project according to schedule. The stores formation of the Commission besides being spread out, have to cater to operational needs and, therefore, cannot be compared with static stores formation.

In view of the above, minor shortcomings here and there in stores accounting and store keeping are likely to crop up. During the course of verification whenever these are noticed, the same are reported to the authorities concerned. On the basis of defficiencies pointed out by the Stock Verification Team suitable instructions have been issued.

(b) *Clearance|adjustment of excesses and shortages*

8.56. The shortages and excesses are being looked into and adjustments made. The following table indicates the number of items and the position of outstanding discrepancies as on 31st July, 1971 pertaining to the years 1963-64 to 1969-70:—

(Rupees in lakhs)

Years	Shortages		Excess	
	No.	Value	No.	Value
1963-64	57	7·72	—	—
1964-65	2	0·11	—	—
1965-66	61	0·24	75	0·14
1966-67	159	4·10	34	2·08
1967-68	190	0·96	53	1·19
1968-69	711	1·63	124	2·42
1969-70	584	4·20	261	2·93

8.57. The following observations have been made in the Audit Report (Commercial) 1970—Part VIII in regard to shortage and excesses:—

(a) The discrepancies (shortages of the value of Rs. 0.40 lakh and excesses of the value of Rs. 1.73 lakhs) relating to the period 1959—61 have been treated as adjusted without fixing responsibility.

As there was no priced stores accounting in the Commission prior to 1st April, 1963, the outstanding discrepancies pertaining to the Stores Verification cycle 1959-60 and 1960-61 were treated as settled, provided these were not due to theft, fraud and neglect.

(b) The following discrepancies relating to capital items which formed part of the discrepancies for the years 1962-63 to 1966-67 were treated as settled on account of adoption of census values:—

(Rupees in lakhs)

Year	Shortages		Excesses	
	Items	Value	Items	Value
1962-63 . .	2	0·66	3	0·08
1963-64 . .	4	0·84	—	—
1964-65 . .	180	23·74	19	4·64
1965-66 . .	257	65·81	157	92·50
1966-67	465	99·22	373	175·84
	908	189·77	552	273·06

8.58. ONGC has now adopted the perpetual system of verification from 1966-67 onwards and with the posting of Stock Verification units at each project, the settlement of discrepancies is receiving the constant attention of the project authorities as this matter is regularly pursued by the Stock Verification Units as well as Headquarters. The number of discrepancies pending on 31st March, 1970 was 5683 whereas the figure as on 31st July, 1971 was 2311 only.

8.59. The Committee note that physical verification of stores is carried out every year in accordance with the provisions of Rule 17(1) of the Oil and Natural Gas Commission Rules 1960 and that

the instructions have been issued in connection with the deficiencies pointed out by the Stock Verification Team. The Committee trust that the instructions issued will be borne in mind by all concerned in the Commission and that constant endeavours would be made by the Commission to bring down the figure of discrepancies as early as practicable.

F. Census of Capital Items

8.60. The Commission conducted a census of capital items in 1965-66. In reply to para 8(d) of Section XXII of the Audit Report (Commercial), 1967, the Ministry had replied that 'on a closer scrutiny of the census results, however, it was found that the census results could not form the basis for correcting the financial ledgers...'

8.61. The Commission therefore, conducted a second census as on 31st March, 1967 and its results were incorporated in the accounts for the year 1967-68. According to the census figure, the gross block amounted to Rs. 52.47 crores as against Rs. 51.27 crores as per financial books. The following table indicates the gross block as on 31st March, 1967 and the census value as on that date:—

(Rupees in lakhs)

Sl. No.	Particulars	Gross block as on 31-3-67	Census value as on 31-3-67	Difference
1	2	3	4	5
1	Freehold land	161·40	161·40	—
2	Buildings	338·05	343·83	5·78
3	Railway sidings	13·63	13·63	—
4	Roads bridges and culverts	26·88	26·88	—
5	Plant and Machinery	2,053·84	2,539·63	485·79
6	Tools and Equipment	355·87	678·00	322·13
7	Storage tanks	40·23	17·44(-)	22·79
8	Transport vehicles	617·67	469·74(-)	147·93
9	Pipelines	898·27	898·93	0·66
10	Tents and Accessories	14·76	16·61	1·85
11	Furniture and Fixtures	64·41	81·24	16·83
12	Capital items on stock	318·44	— (-)	318·44*
13	Capital items in transit	223·84	— (-)	223·84*
		5,127·29	5,247·33	120·04 net excess

*These amounts were included in the census values shown in column 4 above.

8.62. The net shortages/excesses revealed as a result of census have been kept under the head 'Difference on adoption of fixed assets.' till reconciliation is finalised. The debit and credit balances booked on this account as on 31st March, 1969 were as under:—

Debit Rs.	Credit Rs.	Net credit Rs.
12,81,17,822·02	12,98,36,828·35	17,19,006·33

8.63. The reconciliation and adjustments of the differences in the two sets of figures is stated to be going on with reference to the data available with the Units.

8.64. The question was discussed by the Committee with the representatives of the Ministry of Petroleum and Chemicals during their evidence. The Financial Adviser of the Ministry informed the Committee as follows:—

> "In regard to this item, the brief answer to the question is this that once a census is taken then obviously we proceed from that stage onwards in respect of equipment and material, both with regard to numbers and appropriate valuation. I understand however that having done the census and arrived at certain figures, the ONGC has found that there is a difference of Rs. 16 lakhs between their booked figure and the estimated value arrived at the census. They are trying to investigate this difference and find out whether this difference is due to difference in valuation caused by a lower value being adopted or for any other reasons. This is why although there are detailed books and records to indicate the numerical census figures, their accounts figures continue to have an amount of a little less than Rs. 16 lakhs which is under investigation."

8.65. The representatives of the Ministry however further added that:—

> "Actually, the latest figures of the difference on fixed assets is a net debit of Rs. 15.40 lakhs as against the net credit of Rs. 17.19 lakhs".

8.66. In a written reply furnished by the Commission after the evidence, it has been stated as follows:—

> "The non-recurring expenditure in the books of the various Accountant Generals upto 14.10.1959 was to be taken as

the initial capital of the Commission. Various amounts from February, 1957 to 14th October, 1959 were booked in the Books of the Accountants General under the heads as pertaning to the Government transactions such as "72—Capital Outlay", "36—Scientific Department", "Sub-Head, A-4 81—Capital Account of Civil Works". The above type of classification was not conducive to build up detailed records of the Fixed Assets forming part of the initial capital. The Ministry of P & C in their letter No. 12/5/60-ONG (I) dated 20th June, 1960 stated that it was prepared to declare the expenditure from 1956-57 onwards upto 14th October, 1959 as the initial capital of the Commission under Section 16 (i) of the ONGC Act and required the Commission to verify the records of the Accountant General. The verification of the records had taken considerable time due to the fact that the records were old and the asset-wise classification had to be done by the Commission's accounting personnel. The initial capital of the Commission was declared by the Government only through their letter of 7th August, 1961 (even after such declaration further verification and adjustments had to be carried out). Thus, it will be seen that even at the time of the formation of the statutory body of the Commission was not having sufficient material to introduce proper systems and procedures in the accountal and control of the capital assets. This has also been commented upon in the 5th Report of the Lok Sabha Committee on Public undertakings, wherein it has been stated that immediate steps should be taken to re-assess and evaluate the items pertaining to the initial capital of the Commission. Subsequently, in the years that followed the Commission took steps to obtain the approval of the Government in consultation with the Comptroller and Auditor General of India for the form of Block Registers to record transactions of capital items. The approval was conveyed by the Ministry in January, 1962. The Commission build up the Block Registers on the basis of the financial Accounts upto 1964-65. Though the Block Registers were compiled on the basis of the financial accounting entries due to the fact that there as (a) no priced accounting for all individual capital items (b) no rigid classifications between stores and capital items existed and the Block Register entries and the amount as reflected in the financial accounts could not be correlated at this stage of receipt the block registers were not found useful for achieving complete control.

Thus, having been faced with the legacy of accounting records which were not helpful for physical control and with the mounting additions to the fixed Assets account year after year at an enormous rate the Commission had to resort to the operation of census of capital items in April, 1964. In October, 1963, it has been recorded by the then FA & CAO "that the physical census of non-consumable is the only solution for bringing out up to date position of the stock registers and distribution registers". Thus, it will be seen that the Commission has been taking continuous action in the matter of gaining accounting and physical control over the capital assets right from the formation of the statutory body by means of the verification of the original records of the Accountant General's building up the Block Registers etc. Since the records could not be made of any profitable use and since any further exercise in the same direction would have only resulted in fruitless efforts, the Commission had taken a step in conducting a census to set right its books of acccount and ensuring its physical control. The urgency of the matter was more keenly felt as the Commission grew in size and activities were dispersed over the length and breadth of country. The increase in the number of drilling Projects and necessary to move the machinery from one location to another were the main factors. The first census was conducted in the years 1964-65. Though the result of such census could not be made use for accounting purposes the methodology of that census was, however, retained and, thereafter another census was conducted on 31st March, 1967 to ascertain the value of the capital holdings on a particular day. The result of this census was adopted in the Books of Accounts. Simultaneous with the adoption of the census values the block registers-forms were also got revised to suit the peculiar nature of the transactions of the Commission. Thus, it can be concluded that the various factors such as the inheritance of the governmental system of accounting coupled with the growth in size and volume of the Commission in a short period prevented timely steps to be taken in the matter of gaining control of the assets of the Commission in a complete manner though continuous efforts in this direction were being made."

8.67. The Committee note the efforts made by the Commission to secure control over the capital assets and also find that investigation in respect of credits and debits noticed, as a result of census of

capital items, is proceeding. They hope that the differences would be resolved expeditiously and a clear picture of capital assets will emerge out soon.

G. **Purchase of Casing Pipes from Czechoslovakia**

8.68. In April, 1968, Commission assessed its requirement of casing pipes of N-88 and P-110 grades (9.⅝" and 5½" size—API specification) for the years 1969-70 and 1970-71 at 3,93,000 metres. For the purpose of procuring these, Commission's representative had a meeting with the Trade Representative of Czechoslovakia, New Delhi on 12th June, 1968. On 18th/20th June, 1968 the Commission requested the Trade Representative for submission of the quotation alongwith catelogues etc.

8.69. The question of M/s. Ferromet of Czechoslovakia was received on 2nd October, 1968 and on its examination it was found that the price of 5½" size casing pipe was higher as compared with the available rates from USA and Italy. The matter was discussed in November, 1968 with the Trade Representative of Czchoslovakia, who, however, did not agree to reduce the price. As this stage Commission decided that casing of N-80 and P-110 grade should be purchased from Czechoslovakia as those were not manufactured by any other East European countries and that a decision for the purchase of J-55 grade casings should be taken on receipt of quotation from Rumania which was also manufacturing casings of this grade.

8.70. The Trade Representative of Czechoslovakia was informed of the above decision. In letter dated 20th December, 1968 the Trade Representative, however, expressed his inability to accept the order for N-80 and P-110 grades only unless a balanced order comprising of material in all the grades was placed, as it was neither economical nor possible from the point of view of practical commercial consideration for any manufacturing of tubulars not to have a proportionate share of order in all grades. The matter remained under the consideration of the Commission till 20th February, 1969 when a letter of intent for the purchase of 3.005 lakh metres of casing pipes of various sizes and grades, subject to obtaining the Government of India's sanction of appropriate foreign exchange, was issued to the Trade Representative of Czechoslovakia by the Director of Stores and Purchase.

8.71. In the meantime, it came to the notice of the Commission that, in view of an error in the figures of stock in hand, an emergency had arisen if the casing pipes were not purchased immediately it would be necessary to lay off a number of rigs. In view of the urgency, the Commission entered into a contract with Czchoslovakia on 26th March 1969 *i.e.* one day after the issue of sanction of foreign exchange by Government on 25th March, 1969 for the purchase of 74,000 metres of casing pipes of J-55 and N-80 grades at a total cost of Rs. 108.57 lakhs.

8.72. In April, 1969 it was decided to invite open tenders for the purchase of balance quantity of casing pipes. Before the tenders were, however, received orders for the purchase of 97,950 metres of pipes wre placed on Czechoslovakia (67,750 metres of J-55, N-80 and P-110 grades) at a cost of Rs. 64.10 lakhs on 3rd May, 1969 and on Rumania (30,200 metres of J-55 grade) at a cost of Rs. 27.92 lakhs on 16th May, 1969 at their quoted rates.

8.73. The open tenders were received on 9th June, 1969 and it was found that rates from Japan were the cheapest and those of Belgium the second lowest. The purchases could not, however, be effected from these countries due to non-availability of foreign exchange. The next lower offer was from Canada. Accordingly, Government was approached on 25th August, 1969 for re-allocation of foreign exchange which was allowed and other order for the purchase of casing pipes (91,000 metres—$9\frac{5}{8}''$ and 67,750 metres $5\frac{1}{2}''$) at a total cost of Rs. 109.53 lakhs from Canada was placed on 24th October, 1969.

8.74. As mentioned above the Commission purchased, *vide* orders placed in March/May, 1969, a total quantity of 1,71,750 metres of casing pipes of various grades from Czechoslovakia (1,41,750 metres) and Rumania (30,200 metres). The exact extra expenditure involved in the purchase of these pipes cannot, however, be worked out, as, in the absence of global tenders being called initially, contemporary competitive quotations are not available.

8.75. The following features arise out of this deal:—

(a) Although the purchases from Czechoslovakia and Rumania were made on emergency basis the supplies were not received according to the delivery schedules laid down in the contracts.

case.

(b) The Commission took nearly one year in processing the

8.76. The Committee were informed that the case is being examined by the Central Bureau of Investigation *suo motu.*

8.77. During the evidence of the representatives of the ONGC, the Committee were informed by the Chairman as follows:—

"We had entered into a contract with the USSR in September, 1966, which covered our requirements upto March, 1969, assuming normal drilling operations. At that time two things happened. During the period from January to March, 1968, we had a crash drilling programme and we covered a lot of drilling work. That is one reason why the casing fell short. Furthermore we found that we had to make a change in quality of the casing pipes. We went at that time into certain deep drilling areas in Assam. I am referring particularly to the areas where we have drilled wells down somewhat more than 4000 metres. For drilling wells, this 9⅝" casing that you just now referred to has to be lowered down to as much as 3000 metres in some cases. Normally, we lower this casing up to about 600 metres only. As a result of this sudden change in our exploration requirements, the requirement of 9⅝" casing increased very considerably. Furthermore normal kind of the casing which was on order in USSR was not useful to us for the purpose of drilling very deep wells, particularly where there was a high pressure. So, a special situation arose which necessitated our placing orders for the required quality of casing immediately......

The letter of Intent was placed on Czechoslovakia. That was we have in mind.

Firstly, we wanted 9⅝" casing urgently. Had we waited till the Government sanction was received, then it would have taken us a very long time to receive the casings. It would take several months. If you look at Audit Report, page 12, the first contract was signed on the 26th March, 1969. The delivery stipulated was the 31st May, 1969. It comes to about two months. Nobody can expect casing to be delivered in two months time unless the production had been planned earlier. My submission is that this letter of Intent helped us as it helped the Czechoslovakia to plan production in their factories and that is the reason why casing could be delivered so quickly.

Now about the propriety, the Letter of Intent simply says; subject to our obtaining Government of India's sanction of appropriate foreign exchange, we intend to purchase casing pipes as per list attached. The list also indicated the delivery schedule of the pipes during the different quarters of the year 1969-70 and 1970-71. This is subject to the sanction of the Government of India. This is not legally a binding document. But it helped Czechoslovakian authorities to commit their plants to produce this much of casing. This letter of Intent was sent after the proposal for purchasing Czechoslovakian casing had been duly approved by the Commission and a formal proposal for foreign exchange release had been submitted to Government. As will be seen on page 10 of the Audit Report, sanction of foreign exchange was issued on the 25th March and on 26th March we signed the contract.

We have the documents here from the Czechoslovakian Gov ernment authorities which make it celar that the letter of Intent was not taken as commitment. We had submitted to Audit that this was not taken as binding on us. This helped Czechoslovakians to plan the production quickly.

The quantities for which orders were ultimately placed on the 26th March and even in May, were far less than the quantities which are shown in this letter of Intent. That is there in the documents.

As my colleague has mentioned the letter of Intent was for 3 lakh metres of casing. Had this been the commitment, we should have to buy all of them. But against this, orders were placed only for 1,41,000. In the Audit Report the consumption of 9⅝" casing has been given as 55,333 metres. There is a slight error.

The total consumption of 9⅝" was 78212. The reason for it is that at the time, particularly in Gujarat we had reached a stage where there was going to be almost of a shut down of drilling on account of lack of 9⅝" casing. We had stock of old 10¾" casing which was not considered the most suitable for the purpose and which we had put aside. We used even 9⅝" casing which is not normally done. Secondly, as per normal casing policy the 9⅝" casing is run down to about 800 metres. But because of the shortage of the casing we took enormous risk in drilling and ran it down to about 300 metres only. That is on the record and our Director of Drilling had made an objection in writing that it was not proper on the part of the Commission to take such risks. It is because of these measures that the requirement/actual consumption had gone down."

8.78. In a note submitted to the Committee by the Ministry after the evidence of the representatives of the Ministry of Petroleum and Chemicals was over, it has been stated with regard to procurement of casings and tubings indigenously as follows:—

"In order to avoid dependence on import of casing pipes and tubings required, we have been making efforts to get these items indigenously. We have entered into a rate contract with M/s. Indian Tube Company for supply of 5½" casings of different thickness and steel grades with thread and coupling and smooth end 2⅞" size tubings of J-55 and N-80 steel grades. The supply of these items is expected by January, 1974.

For external upset type of tubings so far no indigenous manufacturer is available.

As regards the bigger size of casings, i.e. 8" and above, and also casings with Extreme Line Threads, it is not possible to say as to when we will be able to be self sufficient for these items from indigenous sources. As per the latest information received from M/s. Indian Tube Company the chance of supply of these items within the next couple of years is remote. Similar is the case with M/s. Hindustan Steel Limited from whom we have enquired whether they are in a position to supply seamless casing pipes for our future requirements. No positive reply is received as yet. High level meetings have been held in the Ministry of Steel to explore expected requirement and possibilities of indigenous manufacture of such steel tubes where the Commission had been represented at a very high level and representatives of Ministries of P & C and DGTD were also present."

8.79. The Committee regret to note that the system of inventory control in the past had not been upto the mark, in as much as due to an error in the figures of stock in hand an emergency arose for

purchase of casing pipes from abroad. It was feared that had the pipes not been purchased immediately, it would have become necessary to lay off a number of rigs. But the Committee are surprised to note that in spite of the emergent purchases being made, the supplies were not received according to the delivery schedules laid down in the contracts. The manner in which these pipes were purchased in emergent basis is also not very clear. The Central Bureau of Investigation is currently examining this case. As such the Committee would not like to comment on it.

8.80. The Committee would however like to emphasise the need for an all out effort for developing indigenous sources of supply of the casing pipes of the size and specifications required by the Oil and Natural Gas Commission. The Committee would like the Ministry of Steel and Mines, Ministry of Industrial Development Directorate General of Technical Development and the Ministry of Petroleum|ONGC to comprehensively review the manufacturing capacity within the country and take concerted measures to achieve self-reliance in this crucial field by a specified date.

H. Purchase of Tubings

8.81. To meet the requirement of production tubings of API specifications for the year 1969-70, quotations were invited from various East Enropean countries and Italy in May, 1968. In August, 1968 it was decided that the production tubings should be purchased from Czechoslovakia as their rates were lower. Accordingly, Government was approached on 29th August, 1968 for release of foreign exchange which was received in February 1969. A contract for the purchase of 2,47,500 metres of tubings valued at Rs. 75.30 lakhs was entered into in March, 1969 with the Czechoslovakia firm.

8.82. It has, however, been seen that offers from firms in France and Japan were also received by the Production Directorate of the Commission in August, and October, 1968 respectively. Although the rates quoted by these firms were lower than the rates of Czechoslovak supplier, those were not considered for the reasons mentioned below:—

(a) M/s. F.B.T. (France) is an export agency and also a very small organisation. Besides the price difference is in the order of about 10-12 per cent against credit which involves about 6 per cent interest in foreign exchange, while the offer from Czechoslovakia is in the rupee exchange and does not involve any payment of interest.

(b) The chances of getting Yen Credit (Japan) release from the Government are remote and the requirement is urgent.

8.83. The above offers were not, however, intimated to the Ministry. The comparative statement of the quotations which was asked for by the Ministry and sent to them with Commission's letter No. PDN/3(4)-15-Pt. dated 28th September, 1968 included only the quotations of Czechoslovakia and Italy.

8.84. During the evidence of the representatives of the ONGC the Committee wanted to know why the offers of French and Japanese firms were not forwarded to the administrative Ministry for the proper appraisal of the case and at what level was the decision taken not to forward the offers to the Ministry. The representatives of the ONGC stated as follows:—

> "These quotations were invited on 4-5-68 and the offer from France was received only on 24-8-68 and that from Japan was received on 8-10-68. Both these quotations were not in response to our tender enquiry. We issued an enquiry to the East European country and Italy. The Government had been approached for release of foreign exchange for the purchase of tubing from Czechoslovakia on 28-8-68 which is prior to the receipt of the Japanese offer. As regards French offer, it was taken into account at that time and it was felt by the Commission that the firm, was only a middleman and they were not likely to deliver the goods ,and it was not therefore, proper to place an order on them. ...... I may submit that it was not the intention to keep anybody in the dark about the quotations. One of our officers took the file personally to the Ministry of Finance before placing the order. The Director concerned in the Ministry of Finance on 19-11-1968 recorded on the file that no Yen credit is available."

It was admitted by the Chairman, ONGC that:—

> "Normally we go to the Ministry of Finance through the Ministry of Petroleum. But there was an urgency in this case. One of our officers went directly to the Finance Ministry to find out whether Japenese credit was available or not and the Director concerned in the Finance Ministry stated that it was not available."

8.85. It would thus be seen that the lower tender in respect of purchase of tubings from Japan were not communicated to the administrative Ministry in anticipation of non-availability of Yen Credit. The Committee do not approve the manner in which the ONGC anticipated the non-availability of foreign exchange from a particular country without ascertaining from the Ministry of Petroleum, its administrative Ministry. They suggest that in such matters it should be obligatory for the Public Undertakings to approach the Ministry of Finance through their administrative Ministry rather than direct and this practice should be strictly followed.

8.86. As in the case of casing pipes, in the case of tubings it is highly desirable that the country should be self-sufficient. Avenues for manufacturing the desired types of tubings should be explored and every endeavour made to become self-sufficient in this regard by a specified date.

I. Supply of drill pipes which proved defective in operation

8.87. The Commission purchased a large number of drill pipes from the U.S.S.R., against various contracts signed with Messrs. Technoexport, Moscow between 1957 and 1963. Under the contract the quality and normal running of these pipes was guaranteed for a period of 12 months from the date of operation but not more than 18 months from the date of delivery of the last package pertaining to the corresponding set of equipment without which the equipment cannot be operated.

8.88. The drill pipes were received from time to time and pipes received under different contracts were stored together as a result of which pipes received under one contract could not be distinguished from pipes received against other contracts. These could also not be used within the guarantee period. In course of drilling beyond 2,000 metres in Assam area in 1964, the Russian drill pipes sustained frequent 'Mud Cuts' and 'Twists off'. To avoid this it was decided in consultation with the Soviet Chief Drilling Engineer and Consultant that these drill pipes should be mounted with steel rings.

8.89. The expenditure incurred on the purchase and fitting of steel rings was computed in January, 1967 at Rs. 10.92 lakhs and a claim for this amount which was lodged with the suppliers in May, 1967 was rejected by the suppliers on 17th January, 1968. The suppliers pointed out that these drill pipes had been used for depths beyond 2,000 metres since 1957 and a large number of wells bored successfully. They also pointed out that the 'instructions on utilisation of drill pipes in deep drilling were seriously infringed.' Though the Commission did not accept the above arguments, it did not also contest the statement that these drill pipes without steel rings had been used successfully for depths beyond 2,000 metres. The Commission further observed that the limitations of these drill pipes were not known before these were purchased in the formative years of the Commission and that the mounting of steel rings was unavoidable.

8.90. The Commission decided in October, 1969 to write off the loss of Rs. 10.92 lakhs.

8.91. During the evidence of the representatives of the ONGC, the Committee pointed that a number of pipes received under different contracts were stored together and it was difficult to distinguish pipe received under one contract from those received under another contract. The Member (Stores) explained that at the time of receipt, all equipment was checked. In case of 9⅝" pipes, these were pipes of different thickness. They were received in Calcutta and by the time they reached Assam they changed many hands. The markings were small. The Committee were informed that by and large, ONGC had by now improved their stacking system.

8.92. In a note submitted to the Committee after the evidence of the representatives of ONGC was over, the ONGC informed the Committee that the reasons advanced by the suppliers for the drill pipe failure cannot stand scrutiny. The drill pipes supplied were not 'defective' but were neither upto the strength required for the condition under which the pipes were used. The pipes had to be reinforced with steel rings and the 'limitation' which was not known earlier had to be removed.

8.93. The Committee observe that the stacking of pipes received under different contracts was mixed up and it was not possible at the time of their use to distinguish pipes received under another contract nor to ascertain whether the pipe had been used and tested within guarantee period. The Committee would stress that

the machinery for checking of stores and spares at the time of their receipt is geared up so that the defects in the stores and spares may be noted right at the time of their receipt instead of their being noticed at the time of use.

8.94. The Committee would also suggest that ONGC should segregate its inventory under each contract so as to avoid any difficulty in future specially when there is dispute over wrong specification of the items supplied.

IX

FINANCIAL MATTERS

A. Capital structure:

9.1. The table below summarises the financial position of the Commission under broad headings for the years 1966-67 to 1969-70:—

(Rupees in lakhs)

	1966-67	1967-68	1968-69	1969-70
(a) Government capital . .	11,807·36	11,953·36	12,329·49	12,433·72
(b) Reserves and surplus including profit . .	992·21	2,269·90	3,562·94	5,314·56
(c) Borrowings from the Govt. of India (including deferred credit)	3,898·89	4,831·25	6,534·74	7,880·16
(d) Trade dues and other current liabilities (including provisions)	1,035·12	1,471·87	1,096·89	1,092·30
(e) Difference on adoption of fixed assets Census Value (Net)	..	..	17 19	..
(f) Suspense account (net) .	62·50	..	13·39	3·31
TOTAL .	17,796·08	20,526·38	23,554·64	26,724·05
Assets				
(g) Gross bolck .	4,585·01	6,563·03	7,674·44	8,484·93
(h) Less : Depreciation .	1,641.12	3,116·71	4,020·54	5,155.02
(i) Net fixed assets . . .	2,943·89	3,446·32	3,653·90	3,329.91
(j) Trade marks, Patents and Designs	4·90	..	..	..
(k) Producing properties . .	1,411·11	1,301·79	1,188·97	4,574·29
(l) Capital works—in-progress, capital equipment in transit and on stock (including expenditure on Baroda Workshop)	749·36	798·79	992·35	1,210·64

520 LS—13.

	1966-67	1967-68	1968-69	1969-70
(m) Development expenditure .	6,701·94	8,485·15	10,199·85	9,285·59
(n) Current assets, loans and advances	5,927·09	6,444·25	7,459·23	8,249·69
(o) Investment . . .	1·02	1·02	1·02	1·02
(p) Petrochemical Div. . .	12·46	18·79	31·99	..
(q) Jobs-in progress . . .	7·20	17·38	27·33	50·02
(r) Suspense	..	5·50	..	
(s) Stores adjustment account (including imported stores control account) . . .	37·11			..
(t) Difference on the adoption of fixed assets census value .	..	12·39	..	22·89
TOTAL . .	17,796·08	20,526·38	23,554·64	26,724·05
Capital employed	8,036·67	8,530·90	8,969·08	12,109·23
Net worth	11,641·52	13,073·80	14,044·30	15,602·69

Note :—1. Capital employed represents net fixed assets plus trade marks, patents and designs and producing properties plus working capital (excluding the loans etc. relating to Hydrocarbons India Private Limited).

2. Net worth represents capital plus reserves and surplus less stores adjustment account, difference in adoption of fixed assets census value, suspense and development expenditure on abandoned areas.

9.2. Under Section 16(1) of the Oil and Natural Gas Commission Act, the non-recurring expenditure of Rs. 557.76 lakhs incurred by the Central Government during the period from 1955 to 14th October, 1959 (when the organisation was functioning as a department of the Government of India) was treated as capital expenditure of the Commission as on 15th October, 1969.

9.3. During the period from 15th October, 1959 to 31st March, 1969 the Government of India advanced to the Commission funds aggregating Rs. 17,549.42 lakhs—Rs. 11,771.73 lakhs (including Rs. 0.72 lakh on account of upward revision of the capital for 1959-60) as capital and the balance (Rs. 5,777.69 lakhs) as loan.

9.4. It was pointed out in the Audit Reports on the accounts of the Commission for the years 1961-62 to 1966-67 that the pattern of financing *i.e.*, ratio between loan and capital had not been decided by Government. In para 59 of their Fifth Report (April, 1965), the Committee on Public Undertakings also recommended that the terms and conditions governing the advance of funds to the Commission should be determined by Government as early as possible. In October, 1965 Government replied that the pattern of apportioning funds as loans and capital in future would shortly be finalised in consultation with the Ministry of Finance.

9.5. In August, 1968 Government decided as follows:

(i) The funds advanced so far by the Government to the ONGC and described in its balance sheet as 'Government Capital' shall be treated as if they were 'Capital' in the case of a joint stock company incorporated under the Companies Act, 1956 on which ONGC shall pay to the Government a return at the rate of 5 per cent per annum. The payment of the return shall be a first charge on the profits of the Commission after meeting their revenue expenditure e.g. expenditure on production, payment of interest etc., and shall become payable from the first year in which the Commission have surplus i.e. when the Commission does not receive funds from the Government either as capital or as loan. After the Commission have paid dividend for a year or two at the above rate, the rate of dividend will be reviewed by the Government taking into account the cash flow position of the ONGC at that time".

(ii) "As regards the general pattern of financing to be followed for funds to be advanced in future, the principle adopted from 1964-65 onwards shall continue to be followed i.e. the funds will be advanced to the ONGC in the form of 'Capital and Loans' in direct proportion to their expenditure on exploration and development".

9.6. In this connection, following observations have been made in the Audit Report (Commercial 1970—Part VIII):

(a) As a result of the above unorthodox arrangement no return on capital is likely to become due during the periods 1969-70 to 1978-79 as, according to the 10 years plan of the Commission the total expenditure would fall short of the receipts by Rs. 35,971.75 lakhs, thus necessitating the drawal of funds by the Commission in the form of 'Capital' or 'Loan' from Government.

(b) Neither the Commission's records show the expenditure on exploration and development separately nor do the budget estimates framed by the Commission and approved by Government for the purpose of making a provision in the Demands for Grants of the Government indicate the details of expenditure into exploration and development. In view of this it could not be verified whether the figures of 'Capital' and 'Loans' as advanced by Government and incorporated in the Annual Accounts of the Commission were in accordance with the general pattern of financing laid down by Government and whether the Commission had gained by obtaining funds as capital in excess of what would have been admissible on the basis of actual expenditure incurred on exploration thereby resulting in less incidence of interest.*

9.7. During the evidence of the representatives of the ONGC, the Committee enquired if it was possible at this stage to work out the expenditure on exploration and development of the Commission for the years 1964-65 to 1969-70 in order to find out the extent to which the actual releases of funds by Government deviated from those admissible to it. The Member (Finance) informed as follows:

"If we go back say to 1964-65, I think it is a bit difficult to work out because expenditure on exploration and development has been mixed up. But I understand that it was done on accrual basis for 1967-68 and 1969-70 ....A policy was laid down in Government's letter dated August, 1968, wherein they said that for all exploration activities capital will be advanced and for all developmental activities loans will be advanced i.e. upto the production stage. But first, against both exploration and development expenditure, revenue receipts must be adjusted. It is only the net money that is required thereafter that will be available from Government in the form of capital and loans. There are, however, certain activities for example pipelines construction of the Commission which will be financed purely by loans. Now while acting by these principles which are stated in the above letter, Government should have advanced 58 per cent as loans and 42 per cent as capital according to our calculations—not that these calculations have been accepted by the Audit Department for 1967-68, but the Government actually advanced 71 per cent as loans and 29 per cent as capital. In 1969-70 Government should have advanced 54 per cent as loans and 46 per cent as

*(i) Expenditure on exploration indicates the expenditure incurred in the areas which have not been proved/declared producitive.

(ii) Development expenditure indicates the expenditure incurred in the areas which have been declared productive.

capital. Actually, we find the ratio was 41:59. Thus in 1967-68, we got more loans than we should have whereas in 1969-70, it was the other way. That is a sort of rough study made for these two years."

9.8. During their evidence the representatives of the Ministry of Petroleum and Chemicals stated in this connection as follows:

"This question which has now been referred has a certain measure of historical background. As it has been already pointed out, the ONGC was a Department of the Government and at that time funds were made available which was not in the shape of loan, that is the funds that were made available upto 1963-64 did not contain any element of loan. This was treated as capital. The question as to the return on this money given to the ONGC was taken up later. In 1964-65 it was the first occasion when the question of giving a loan to the ONGC came up. At that time the principle was evolved that monies given for exploration may be given as capital and monies given for development be given as loan. Without going further into the detail, what has happened historically since then is that the form of accounts of the ONGC and the proforma for the budget of the ONGC which existed until recently did not clearly bring out the separation between exploration and development expenditure. Difficulties were encountered in these intervening years and therefore, until some appropriate system was evolved the release of funds was made on the basis of broadly of 50—50 distribution between capital and loan. I say broadly because expenditure on certain items like pipelines have been taken out and put in the budget as expenditure to be financed by loan; the balance was met by 50 per cent as equity and 50 per cent loan. However, we have been examining this matter and some months ago we have finalised and amended the form of the budget which comes to the Government from the ONGC to bring out clearly expenditure on exploration as distinct from the expenditure on development. It will be necessary to amend the accounts form also appropriately so that this distinction becomes available when the actual booking takes place. This matter was discussed at length with the previous Finance Member of the ONGC and also with the present Finance Member and as I have just mentioned the budget form has been suitably modified."

9.9. One of the terms of reference of the Malaviya Committee is: "to review the existing pattern of financing of the ONGC, particularly the ratio between equity and loans, and to suggest changes that may help to present a fair picture of the financial results of the Commission's operations and facilitate, and remove any disincentives that there may be, in Commission taking normal risks involved in oil exploration and production; also to review the costing system and budgetary control existing in the Commission and suggest measures for improvement."

9.10. The Committee find that despite Government's decision in 1968 that they would supply finances to O.N.G.C. in the form of capital for exploration and loan for development the accounting and budgetary procedures were not revised, until recently, to reflect accurately the above position. It is a moot point whether the entire cost for pipeline construction should be debited to production expenditure and none to exploration head. Similarly it is not clear as to what would be the most appropriate head to debit cost of project housing. The Committee find that Government have already asked Malaviya Committee to specifically go into all aspects of equity: loan ratio and to recommend removal of any financial disincentives that may be coming in the way of exploration and production by O.N.G.C. The Committee would like Government to go into all aspects of the matter and take an equitable decision which would make for a vigorous and meaningful programme for exploration and production.

B. Working Results

9.11. The Commission is preparing Production and Profit and Loss Account in respect of two of its projects (Cambay and Ankleshwar), which have begun commercial production; one of them is producing gas and the other crude and gas. The other projects are either under exploration or in which commercial production has not commenced so far. The table below indicates the working results of the projects declared commercial for the years 1966-67 to 1969-70 together with development expenditure written off and that awaiting write-off and producing properties depleted and that awaiting to be depleted:

(Rupees in lakhs)

	1966-67	1967-68	1968-69	1969-70
(a) Profit before tax	1,104·69	1,277·73	1,293·15	1,070·38
(b) Percentage of Profit before tax				

	1956-67	1967-68	1968-69	1969-70
(i) Sales	39·0	36·3	37·2	27·7
(ii) Capital invested .	6·7	6·7	5·8	4·2
(iii) Capital employed (excluding the loans, etc. relating to Hydrocarbons India Private Limited) . .	13·7	14·1	14·4	10·7
(c) Development expenditure on areas other than producing areas written-off during the year before arriving at the profit	542·04	715·26	868·60	830·39
(d) Development expenditure on the areas other than producing areas awaiting write-off . .	6,701·94	8,485·15	10,199·85	9,285·59
(e) Producing properties depleted during the year . . .	112·55	113·36	112·82	384·80
(f) Value of producing properties awaiting to be depleted .	1,411·11	1,301·79	1,188·97	4,574·29

According to the Commission:

(i) no provision for Income-tax was necessary.

(ii) development expenditure represents the expenditure on exploration in areas which have not been declared productive. 1/15th of the accumulated expenditure is charged to Profit and Loss Account of the Commercial projects every year.

(iii) producing properties represent the total expenditure incurred in the productive areas till the date these are declared as commercial for exploitation 1/15th of the accumulated expenditure is charged to the Production Account each year.

9.12. It is seen that although the Commission had earned an additional revenue of Rs. 92.31 lakhs on account of increased quantum of sale of crude and there was reduction in expenditure by Rs. 3.16 crores approximately on transportation, octroi and handling charges on account of discontinuance of despatch of crude to Bombay Refineries, the increase in the profit before tax in 1968-69 over that 1967-68 was of the order of Rs. 15.42 lakhs only. This was mainly because of higher incidence of royalty and write-off of development expenditure in areas other than producing properties, charging off the development expenditure of the producing fields and water injection expenses for the first time in 1968-69 and the impact of reduced sale price of crude.

9.13. The sale price of gas was much below the cost of production of gas at Cambay Project. As a result the Commission suffered a loss of Rs. 50.67 lakhs in 1967-68 and Rs. 50.60 lakhs in 1968-69 on the sale of Cambay gas.

9.14. The Committee note that in the present procedure the profit and loss accounts for a particular year is prepared only for commercially producing fields and only a portion of the total expenditure in respect of similar fields, which are not commercially producing is charged to profit and loss account. The Committee also note from the balance sheet as on 31st March, 1970 that out of a total expenditure of Rs. 101.16 crores incurred by ONGC so far on development on areas other than producing properties, a sum of Rs. 8.30 crores has been written off during the year 1969-70 and the balance of Rs. 92.86 crores has been shown in the balance sheet to be written off in the coming years. The expenditure incurred by ONGC on development etc. of areas other than producing properties during the year 1970-71 and also the brought-forward expenditure as on 31st March, 1971, was Rs. 118.61 crores. Of this a sum of Rs. 10.04 crores was written off against the revenues (in the P&L Account) during the year leaving a balance of Rs. 108.57 crores as on 31st March, 1971. The percentage of profit before tax to capital invested is showing a downward trend. The profits from the commercially producing fields as compared to the total capital invested (both in exploration and development) does not reflect the correct position, as the capital investment is in two different channels. Similarly much of the glamour from the profits is taken away, when the quantum of expenditure, incurred on the development of areas other than producing properties to be written off in future is taken into consideration.

C. Release of Foreign Exchange

9.15. At the beginning of the financial year the Commission submits its requirement of foreign exchange to the Ministry of Petroleum & Chemicals, based on the exploration and production programme for the year. The Ministry, after examining the requirements and making its own assessment, makes proposals for allocating foreign exchange to the Commission and send them for concurrence to the Ministry of Finance in the Department of Economic Affairs, where they are scrutinised.

9.16. However, after the allocation of foreign exchange has been made, it does not imply that the Commission is thereby empowered straightaway to spend it.

9.17. The Commission has to send individual expenditure proposals so that these can again be scrutinised, first in the Ministry of Petroleum and Chemicals, and thereafter in the Ministry of Finance before foreign exchange in the amounts required in each separate proposal, can be released.

9.18. Every proposal which is sent for the release of foreign exchange must indicate the exact amount of foreign exchange required, calculated on the basis of the lowest acceptable tenders. Also the Commission has to send a comparative statement of the tenders received and must show that for the goods in question clearance from the DGTD has been obtained. At this stage the Ministry of Finance (Department of Economic Affairs) scrutinises the individual proposals to assess the need for importing the equipment or goods concerned.

9.19. Under the present system orders for the release of foreign exchange for the first half of the financial year have to be obtained by the 30th September and for the second half by the 31st of the March following. As a general practice the gap in time between the date when the foreign exchange allocation is made and the date when the money is actually released is so short that the Commission finds it difficult, and on occasions, impossible to comply with the formalities involved in actually placing orders.

9.20. The Committee recommend that the procedure for sanction of foreign exchange should be so streamlined that room for avoidable delay is negligible. As a step in this direction, the Committee would like Government to examine whether the administrative Ministry should be empowered to sanction the foreign exchange on schemes already approved in principle by Finance Ministry without making another reference to that Ministry as is the existing practice. In the opinion of the Committee, the administrative Ministry should call for from ONGC quarterly report of anticipated expenditure involving foreign exchange in detail, examine their reasonableness and thereafter obtain the sanction of the Ministry of Finance (Department of Economic Affairs).

D. Internal Audit

9.21. The Audit Report (Commercial) 1970—Part VIII has pointed out that the Commission has an Internal Audit Wing which is controlled from Headquarters. The Internal Audit Wing has 4 perpatetic parties operating from Headquarters and 6 Resident Audit Parties with Headquarters at Ankleshwar, Ahmedabad, Cambay, Sibsagar and Baroda. The following features of the system deserve mention:

(a) The periodicity and quantum of audit does not provide for an exhaustive check of the receipts and expenditure of the Commission. In this connection, the Commission has stated (December, 1969) as follows:

"The question of revision of quantum of Audit Check by the Internal Audit has been reviewed recently and it has been decided that for the present the prescribed quantum of audit i.e. detailed checking of one months accounts in every six months is adequate. As pre-audit system prevails in the Commission, there is hardly any need for internal audit to conduct an exhaustive check of all the incomings and outgoings of the Commission".

(b) At the end of July, 1969, 320 objections raised by Internal Audit pertaining to the period 1961—64 and 873 objections pertaining to the period thereafter were outstanding. The Commission has stated that necessary instructions for prompt settlement of the objections were issued in August, 1969 and as on 31st October, 1969 the number of objections outstanding was 983.

(c) The internal audit reports on the different projects|offices are required to be submitted to the Economy Committee which was constituted by the Commission in September, 1963. It has, however, been seen that no meeting of the Economy Committee has been held after 7th June, 1967.

9.22. It was explained (August, 1970) by the Commission that the Economy Committee could not meet after June, 1967 firstly because of general changes in members of the Committee and secondly because of the change in the composition of the Committee being under review in order to make it more effective. The new Committee has since been formed.

9.23. In a written note ONGC has stated that the Internal Audit of the Commission is divided in three Regions, i.e. Northern, Eastern and Western. In each Region, there is an Internal Audit Officer, who is responsible for conducting the audit of different units in the Region. After completion of audit, Report is issued by the Internal Audit Officer to the Project|office concerned with a copy to the

General Manager of the Region. Copies of all the Internal Audit Reports are put up to the Joint Director (Audit) at Headquarters. Paras involving serious irregularities or suggestions for economy in expenditure are brought by him to the notice of the Member (Finance) and the Chairman and also to the notice of the other Members concerned for their information and taking remedial measures.

9.24. The Economy Committee is a sub-Committee of the Commission which was set up in September, 1963 with a view to review periodically the various points taken up by the Internal Audit Parties and the Cost Accounts Department so as to avoid the recurrence of irregularities and delays and plugging the channels of avoidable waste and to achieve greater efficiency and economy in the execution of plans and programmes of the Commission.

9.25. In a further note submitted by the Ministry of Petroleum and Chemicals, it has been stated that:

"The Economy Committee as constituted originally could not meet after June, 1967, firstly because of general changes in the Members of the Committee and secondly because of the changes in the composition of the Committee being under review in order to make it more effective.

Since the reconstitution of the Economy Committee, it has met once on 24th December, 1970. Subsequently it was proposed to hold the next meeting of the Economy Committee at Sibsagar during March|April, 1971 but due to unavoidable reasons it was not possible to hold the meeting.

It is relevant to point out that follow up action on Internal Audit Reports is taken independently and does not wait for the Economy Committee to meet. Thus the main purpose behind this Committee receives attention."

9.26. The Committee note with concern the delay in reconstitution of the Economy Committee and also that this Economy Committee did not meet from June, 1967 to December, 1970. The Committee recommend that the Economy Committee should meet periodically say at least once in every three months to study and resolve the objections raised by the Internal Audit Parties. The Committee would stress that the comments of Audit should receive serious consideration at all levels and necessary follow up action should be taken in each case promptly.

E. Payment of Freight

9.27. A mention was made in para 5A(b) of Section XXII of Audit Report (Commercial), 1967 that there was an under-loading of 2.7 tonnes crude per wagon, the total under-loading for 51,937 wagons being 1.38 lakh tonnes during the period from April, 1965 to 31st March, 1966 and on which freight amounting to Rs. 30 lakhs (approximately) was paid. The Ministry had stated (December, 1966) that "the Railways have since tken up the cleaning of the wagons from April, 1965 at the rate of 45 wagons a month".

9.28. During the period from 1st April, 1966 to 30th April, 1968 (supplies to Bombay Refineries stopped with effect from 1st May, 1968), the Commission despatched a total quantity of 19,81,570 tonnes of crude oil through 98,630 wagons. On this basis, the average load per wagon worked out to 20,09 tonnes (approximately) as against the carrying capacity of 21.6 tonnes. There was thus an under-loading of 1.509 tonnes per wagon, the total under-loading for 98,630 wagons being 1,48,838 tonnes on which freight amounting to Rs. 37.21 lakhs (approximately) was paid.

9.29. The Commission has stated (April, 1970) that the actual loaded quantity was less because carrying capacity of the tank wagons at 21.6 tonnes per wagon was worked out on the basis of the specific gravity of crude oil at 15° centrigrade whereas actual loading temperature was 30—35 degree centrignade. It has further been stated that "the case has been taken up with the Railway Board and it is still under their consideration".

9.30. This question was discussed with the representatives of the Commission alongwith a representative of the Ministry of Railways (Railway Board). The Committee pointed out that on account of variations in the temperature of crude oil at the time of loading in the tank wagons there had been under-loading on occasion resulting in over payment. The representative of the Railway Board explained the position as follows:—

"Here if I may submit that the impression that they have paid excess freight charges is not quite correct. There does not appear to be any basis to assume that any over-charges have been paid because this 21.6 tonnes happens to be the weight for charge. Whatever the quantity of the oil, that has been loaded in the tank wagon, freight has got to be paid on this 21.6 tonnes, the carrying capacity of the wagon. As regards exact weight of the oil loaded there is some confusion and that is inherent in the very nature of things. For instance, this crude oil does not always have a uniform specific gravity. It varies from day to day. We have even found that in between two tanks, there has been some difference. It varies with the temperature also. We had to fix the specific gravity on an *ad hoc* basis. We cannot take the risk of the tank wagon being overloaded; it may then lead to an accident.

The second factor is that we got some analysis made in Bombay in our railway laboratory. We also got information from the ESSO refineries who were the consignees in some of these cases. Another factor, we took into account was that for black oil the specific gravity is .86 and for petrol it is 0.7057. We fixed .79 on the basis of our analysis and the information obtained from ESSO refineries. This again is a rough basis of calculation. Even if the actual when loaded was little less, the freight payable would be the same.

Now coming to the reference made to the Railway Board, it has got two implications. One is about past and the other is about future.

I have explained that there is no case for over-charge or under-charge. Even assuming for the sake of argument that there was a claim, then that claim should have been lodged with the railways within six months of the date of booking of the consignment. That is the law, Sir. That has not been done. Even upto date no such formal claim has been lodged with the railways. It is already time-barred. Even on merits this traffic has stopped moving now. We cannot, therefore, take the samples and determine the exact specific gravity. Something has happened, the merits of which it is impossible to judge today. For this past transaction actually, I say, there is no real over-charge. If there is a notional claim, it has not been lodged in time.

Now as regards things for the future, from the 1st of April, we have taken into consideration the carrying capacities of our tank wagons for oil. We have calibrated them. The Oil Companies have given us the specific gravity and everything. From the ONGC we have not received that information as yet."

9.31. The view of the Chairman, ONGC was as under:

"The point has been made perhaps rightly, Sir, that regardless of what is the actual weight, the railways have fixed a weight of 21.6 tonnes per wagon. If this was purely an *ad hoc* decision of the Railways, I agree that we would have no claim, but, Sir, this is based on a calculation on the specific gravity of the Ankleshwar crude as measured at 15 degrees centrigrade. My submission is that this is not an *ad hoc* figure used by the railways. This is a figure based on a scientific methodology, but the facts taken into account for making the calculations were not correct. They have taken 15 degrees whereas the actual loading temperature is 30—35 degrees centigrade. We have got records of each loading.

If the railways are agreeable to consider or examine our claim to be charged on the basis of the temperature at which the loading was done, we have got these figures for each wagon, we can work them out scientifically.

There was a question, Sir, as to whether the claim was made or not in time. Here is a letter dated August, 1964 where a claim has been made on the railways by ONGC.

I submit, Sir, that this was time barred technically in respect of the loadings more than six months prior to 31st August, 1964. But what about the loadings which were done within six months and subsequent to this. That was not time barred. This is a technicality."

9.32. As regards the issue of Railway Board collecting data re. specific gravity of crude oil sent through tank-wagons by the different oil companies to which the ONGC had not replied, the Chairman ONGC stated as follows:

"If we have not replied, we have done something wrong."

9.33. The Committee are anxious that this matter should be settled quickly. The ONGC and the Railway Board, both being different limbs of Government, it is not desirable to carry on this kind of discussion and a long-distance correspondence. The matter might have been settled by a conference between the Finance Member of the ONGC, Financial Adviser to the Petroleum Ministry, the Financial Commissioner, Railways and representative of the Petroleum Min-

istry. The Committee need hardly emphasise that in matters like these there should be a complete and a fruitful coordination amongst all the concerned authorities.

F. Sale price of gas

9.34. Till recently the price of gas was governed by Dr. V. K. R. V. Rao's award of September, 1967 which was valid upto 31st March, 1971 *i.e.* for 5 years from 1966 to 31st March, 1971. While arriving at the well head price, Dr. V. K. R. V. Rao had considered certain assumed figures on the quality and cost of production. The price was to be revised, based on the actual figures for the said five years period and suitable adjustments made in the price for the next five years period *i.e.* starting from 1st April, 1971. Based on the principles enunciated in Dr. Rao's award, ONGC worked out the new price of gas and asked for the concurrence of the consumers accordingly.

9.35. In Assam the price of gas per 1000 cubic metres charged by ONGC is Rs. 52.95 delivered at the Lakwa GGS to the buyers. Buyers have made their own arrangements for carrying the gas. In addition, the buyers are to pay the royalty and the sales tax. The price of Rs. 52.95 per 1000 cubic metres of gas was fixed in 1969 when the gas supply was started and the same price is continuing. The price is higher than the previous price charged in the Gujarat region, but it is less than the price of gas now arrived at in the Gujarat region.

9.36. According to Dr. Rao's award, applicable to gas from Ankleshwar and Cambay fields, the well-head price was Rs. 50 per 1000 cubic metres upto the 31st March, 1971. Dr. Rao in his award had also provided for a new price to be fixed for the five years commencing from the 1st April, 1971.

9.37. In this connection, the relevant portion of the award is reproduced below:

Sub-para 6 of Section VIII of the Award:

> "6. A new price should be fixed for the next five-year period beginning with April, 1971 after undertaking a thorough review of the actual position regarding output, outlay, and demand during the period covered by the award. Any adjustment needed in the light of this review should be incorporated in the price to be fixed for the next five-year period, in the form of a discount or a premium, as the case may be, for implementing the basic formula of this award

in the light of realised facts regarding output and outlay during the period covered by the award."

9.38. In addition to the well-head price provided by the Arbitrator, royalty, sales tax and transportation charges had to be paid by the consumers.

9.39. Since the price payable from 1st April, 1971 was to be reviewed and fixed by negotiations, a review of actual expenditure incurred during the first four years ended 31st March, 1970 and by adopting provisional figures for the year 1970-71 was undertaken. In terms of this review, the well-head price for the five-year period ended 31st March, 1971 worked out to Rs. 80 per thousand cubic metres. Since the Gujarat consumers paid a well-head price of Rs. 50 per thousand cubic metres as against the actual cost worked out at Rs. 80 per thousand cubic metres and since according to the understanding of the ONGC of the terms of award, the past under-recoveries were to be made good within the next five years, the revised well-head price was intimated to the consumers at Rs. 106 per thousand cubic metres which included a premium of Rs. 26 per thousand cubic metres in lieu of the past under-recoveries.

9.40. During the evidence of the representatives of ONGC on the 3rd August, 1971, the Committee enquired the basis of fixation of price of gas. The circumstances leading to the enhancement of price of gas consequent to termination of the period of Dr. V. K. R. V. Rao's Award were explained to the Committee. The Member (Finance) admitted that during the currency of the Award the price of gas was less than the cost of production. In the award it was presumed that the daily production from Cambay would be 5.5 lakhs cubic metres per day, but the actual supply was at the average rate of 1.98 lakh cubic metres per day during 1966—71. Thus there was a shortfall in production and the cost of production was higher. He stated that the cost included depreciation, amortization, operational costs, interest on loans, etc. It was fixed on cost plus basis. He further explained that the award had stipulated that this loss could be recovered by ONGC on reviewing the position after the termination of the award. Accordingly, ONGC added a premium element into the price. He further stated that they were in process of negotiating the price with various consumers and pending settlement of new price, ONGC was charging on the old rates.

9.41. The matter was also discussed with the representatives of the Ministry of Petroleum and Chemicals on the 7th October, 1971.

The representatives of the Ministry explained in details the negotiations held among the ONGC, various consumers and the Government of Gujarat, in which the Minister of Petroleum and the Governor of Gujarat also participated. The price was mutually arrived at Rs. 66 per thousand cubic metres at well-head and it would be valid for the next five years.

9.42. The price of gas in Assam was that which was being charged by Oil India Ltd. The Secretary also informed that Dr. Rao had also taken into account the higher cost of coal and the disadvantage at which the people of Gujarat were put as compared to other areas which were nearer the coal fields. The Secretary also stated that the price of gas was likely to rise as the State Government wanted to increase the sales-tax and also increased royalty. Increase in operating costs will be another factor.

9.43. A number of discussions were held with the various consumers in Gujarat with a view to arrive at a finally agreed price. Discussions with GSEB and GSFC were held on 5th and 6th August, 1971, in addition to those with GSEB officers which took place at Dehra Dun and Delhi, during which they studied data furnished by the ONGC and discussed the basis of calculations with the ONGC.

9.44. Since no agreement could be reached by direct negotiations between the ONGC on the one part and the GSEB and GSFC on the other, the matter was taken up by the Governor of Gujarat with the Petroleum and Chemicals Ministry. Finally, the Governor of Gujarat and the Ministry of Petroleum and Chemicals deliberated on the subject and decided a price of Rs. 66 per thousand cubic metres at well-head effective from 1.4.1971 and applicable for a further period of five years, as against Rs. 50 per thousand cubic metres applicable upto March 31, 1971. It was also decided that no premium for the past under-recoveries would be charged. There is a provision for payment of royalty, sales tax, transportation cost and other statutory charges in addition to the well-head price mentioned above.

9.45. During their visit to Gujarat, the Committee were informed that ONGC was contemplating installation of compressor station to compress the last stage gas for transportation, which is being flared at present, and also to increase the capacity of the Ankleshwar-Baroda Gas pipeline and to provide storage in the pipeline to meet fluctuations in consumption by increasing the transmission pressure from the presently available 14 kg|Cm2 to 26 kg|Cm2.

9.46. A ten year plan for the production and utilisation of associated gas from Ankleshwar has been prepared. A pre-requisite for implementing this plan is the installation of comprehensive multistage gas compressor station at Ankleshwar.

9.47. It has been stated that the economics of the plan is very favourable—with return on an investment of Rs. 100 lakhs of 38.81 per cent and pay-back period 2.2 years before taxes, and 17.33 per cent and pay-back period of 3.5 years, after taxes.

9.48. The plan has been approved by ONGC and the report on 'feasibility study' was submitted to the Government in November, 1971 for approval and for allocation of foreign exchange to the extent of Rs. 80 lakhs for the import of compressors.

9.49. It has been pointed out that without commissioning of this plant it would not be possible to supply gas to the proposed Heavy Water Plant of the Department of Atomic Energy to be located at Baroda, starting with 50,000 cum|day from December, 1972.

9.50. The Committee feel that while it would be legitimate for ONGC to take into account the cost of production of natural gas as well as the royalty which is to be paid to the State Government it has to be borne in view that natural gas is a fuel resource of basic importance for industrial development of Gujarat which is situated far away from the coal areas and does not have any industrial fuel except gas and petroleum. The Committee, therefore, need hardly stress that in fixing the price of gas hereafter Government should keep this important consideration in view so as to assure supply of natural gas for power, fertilizers and other basic industries at a reasonable rate.

9.51. The Committee note the ONGC's statement that there is no difficulty in meeting the requirements of industry, in the contiguous areas, for supply of gas. The Committee would like ONGC to publicise the availability of gas so that it can be used in ever larger quantities for industrial purposes. The larger use of gas should also yield economies of scale to ONGC. The Committee would also stress the need for taking effective measures to ensure that the cost of generation and supply of gas are reduced to the minimum so as not to burden the industry.

9.52. As regards the flaring of the gas the Committee would like to recall that when they visited the Ankleshwar oil fields it was understood that the Commission was examining the economies of suitably compressing the gas and putting it to industrial use. The

Committee have been supplied a copy of the "Feasibility Study for a Gas Compressor Station at Ankleshwar to transport additional gas to Baroda". It is claimed in the study that on an investment of Rs. 100 lakhs, the Commission would be able to have a return of 38.81 per cent before taxes and 17.33 per cent, after taxes and that the entire investment would be paid back after 3—5 years, even after setting off taxes. In view of the favourable economic aspects and the over-riding need to utilise a valuable energy resource like gas for productive purposes, the Committee would like Government to take decision in the matter without delay and draw up a firm programme for supply of additional gas to meet among others the requirements of Heavy Water Plant at Baroda.

G. Costing

9.53. The activities of the Commission requiring cost compilation are:

(i) geological and geophysical surveys;

(ii) exploratory and production drilling;

(iii) production of crude and gas; and

(iv) execution of jobs in the Workshops.

9.54. The Commission has been compiling cost data in respect of geological and geophysical surveys, drilling operations, production of crude and gas and execution of jobs in workshop. The cost data, however, suffer from the following deficiencies:

(i) The integrated system of cost and financial accounting has not been introduced so far even though the Ministry had stated in December, 1966 [*vide* Section XXII of Audit Report (Commercial), 1967] that action was already in hand for introduction of the integrated system of cost and financial accounting so as to provide a basis for prompt management reporting.

(ii) Reconcilation of the cost figures with the figures in the financial books is not carried out.

(iii) The cost reports are not prepared promptly. Although the time lag in the preparation of well cost reports has been considerably reduced, this deficiency still persists in the preparation of cost of production of crude and gas and cost of geological and geophysical surveys. The cost of produtcion of crude and gas for the year 1968-69 has not yet been prepared (February, 1970).

(iv) The cost reports do not indicate the incidence of idle manpower and plant|equipment. The Ministry have stated (August, 1970) that the incidence of idle manpower had been indicated in the recent cost reports.

(v) Job estimates in workshops are not prepared. The Ministry have stated (August, 1970) that efforts will be made to ensure preparation of the estimates in future.

9.55. The Committee regret that even after a lapse of several years cost and financial accounting have not been introduced in an integrated manner so as to facilitate prompt reporting to management. The Committee would like O.N.G.C. to give highest priority to this work so that the Management are fully seized of financial aspects in taking decisions and can exercise contemporaneous check on field and workshop operations in the interest of efficiency and economy.

H. Budget

9.56. The existing budget forms of the Commission were prescribed by Government in the year 1963 in consultation with the Comptroller and Auditor General of India under the Oil and Natural Gas Commission Rules, 1960.

9.57. At that stage the Commission's activities were limited to exploration work. In the meantime, there has been considerable expansion in the activities of the Commission necessitating proper coordination and tighter control but the budget forms have not yet been revised. The following deficiencies in the budget forms have been noticed:

(i) These do not specifically provide for the preparation of capital and revenue budgets with adequate details.

(ii) These provide for preparation of cash budget only. The budget is not supplemented by an estimate of profit and loss in the absence of which the likely financial result of the operations for the budget period cannot be forecast.

(iii) The estimates for each year under the capital heads are not supplemented by detailed estimates for each caiptal scheme|work bringing out clearly its relative economics, the anticipated period of its completion and the phasing out of the total expenditure. This renders the long range planning of finances difficult.

(iv) It does not clearly indicate the expenditure to be incurred on exploration and development under various heads.

9.58. The Ministry have stated (August, 1970) that they have already decided to revise the budget forms and that a team of officers will be visiting Dehra Dun shortly to take up the work in hand.

9.59. During the evidence of the representatives of the Ministry of Petroleum and Chemicals on the working of the Oil and Natural Gas Commission, the Financial Adviser of the Ministry informed the Committee that the budget forms had since been suitably modified.

9.60. The Committee trust that with the introduction of the revised forms of budget, proper coordination and tighter control will be exercised by the O.N.G.C. in its ever increasing activities.

I. Claims in respect of Short Landings, Customs, etc.

9.61. As on 31.3.1969, a total sum of Rs. 65.94 lakhs was outstanding recovery in respect of the claims relating to short landings, customs duty charged in excess, demurrage|wharfage incurred, etc. A test check of the various claims lodged by the Commission showed that, in a number of cases, the Commission failed to lodge the claims within the prescribed period and to produce documentary evidence|information required by the customs department|railways| insurers|clearing agents|suppliers due to which these claims were either rejected or not yet accepted by the parties concerned. A few instances of such claims are given below:

(a) *Customs' claims*

Particulars of items imported with value	Customs duty		Amount of claims rejected	Remarks.
	Charged	Chargeable		
1	2	3	4	5
			Rs.	
(1) Cementing unit mounted on chasis imported against B/E No. 6733 of 23-1-1964. Total value Rs. 1,53,499	@ 78·25% under items No. 75 of ICT		69,492	The claim was rejected for want of documents and the appeal was also rejected as the value of Cementing unit was not given separately in the invoice and being a fresh claim was time
Cementing Unit—Rs. 1,01,409.		@11%		
Chasis—Rs. 46,521		@78·25%		

1	2	3	4	5
Spares—Rs. 5,569. . .	@55%			barred. The claim was finally rejected by the Ministry of Finance on 2-10-66 for want of separate value of the Cementing unit. The Commission was now obtained the separate value and requested Government to reconsider the decision.
(1) Claim in respect of refund of customs duty on 2 type—5242 tailor trucks received from V/O Techno-export, Moscow under contract No. 542.			12,955	The two trucks were delivered at Bombay and the two trailors at Calcutta as per requirement but both being included in one invoicement for Bombay duty was charged at both the places. The claim for refund was filled late for want of documentary evidence and rejected both at the referred stage and the appellate stage on the ground of delay. The appeal for reconsideration filed with Government has also been rejected.

(b) *Railways/ Steamer claims*

Particulars	Amount of claims rejected	Remarks
1	2	3
	Rs.	
(1) Claims in respect of 2 packages shortlanded ex-s.s. Storropole at Calcutta on 17-7-1966.	92802	The claim being time barred was rejected by steamer agents as well as by the under-writer. The Commission has stated (February, 1970) that the claim could not be submitted within the stipulated period for want of port Commissioner's 'B' certificate from as well as clearance position of the unmanifested excess offered by the Steamer agent. The claim was also lodged with the Assistant Director of Shipping on 27th October, 1967 and is being pursued.
(2) Payment of demurrage charges at Sanand Railway Station.	51,765	Ahmedabad project paid demurrage charges totalling Rs. 1,10,966 in 1963-64 to 1965-66 to the Railways. The Project preferred claims for refund of demurrage charges as these

1	2	3
		were paid by them on account of non-availability of charges with the Railways authorities initially rejected all the claims on the ground that the indents for Railway cranes were not placed with them in time but later informed that claims for Rs. 59,201·50 which had become time barred had been referred to the Railway Board for sanction and that the remaining claims amounting to Rs. 51,764·90 had been rejected.
(3) Claims in respect of 3 packages shortlanded ex-s.s. Belovodsek at Calcutta on 24th January, 1963 and refund of customs duty	30,492 (cost of 3 packages Rs. 27,00 plus customs duty @ 10% Rs. 2,772)	The claim was rejected by the carriers on the ground that the Commission failed to give notice as required by clause 15 of the Bill of landing. The claim being time barred was also rejected by the Insurance Company. No claim in respect of the refund of customs duty already paid on the shortlanded goods was lodged with Customs authorities. The Commission has referred the case for legal opinion.
(4) Damage to Bank House in transit from Calcutta to Pokaran	8,868	The claim was rejected by the Railways as the packing was not according to Railway regulations. The Enquiry Committee constituted to find out the causes, however, reported that there is circumstantial evidence to indicate that some mischief was played by an employee of the Commission against whom action to impose major penalty has been initiated. A suit has been filed by the Commission against the Railways.

9.62. The ONGC has informed the Committee that the total value of the claims outstanding in respect of short landing, customs charged in excess, demurrage and wharfage incurred, as on 31.3.1971 is as under:—

1. Short landing claims including claims recoverable —imported Stores.	Re. 6·68 lakhs.
2. Customs claim	Rs. 71·09 lakhs*
3. Other demurrage/wharfage	Rs. 0·46 lakhs.

*Out of Rs. 71·09 lakhs, Rs. 20·21 lakhs have since been recovered, thus leaving a balance of Rs. 50·98 lakhs]

9.63. The demurrage|wharfage claims relate to the various Projects of the Commission, which are spread over the country. They are pursued for settlement at the level of the respective Projects. Details about their settlement are not available at the Headquarters.

9.64. The Committee recommend that energetic efforts should be made by the Commission to settle all outstanding claims expeditiously. The Committee also suggest that a careful scrutiny of the shipping documents should be undertaken contemporaneously to enable claims for short landings being lodged without any loss of time, so as to obviate any loss on account of time-barred or incomplete claims.

9.65. The Committee note that customs claims to the tune of Rs. 5.88 lakhs are outstanding. The Committee would urge that a careful analysis of the claims should be made with a view to taking appropriate steps for their realisation. Since this matter has been pending for a number of years, the Committee would suggest that reasons for these outstandings should be gone into claim-wise and the matter taken up at the highest level if necessary, in the interest of expeditious finalisation.

9.66. The Committee would emphasise the need for prompt clearance of goods both at the Railways and at Ports to obviate incurring of demurrage charges.

9.67. The headquarters of ONGC should also keep a careful and continuous watch on claims for short-landing and custom-refunds which are pending beyond six months to ensure their expeditious settlement.

9.68. The Committee would also urge that contemporaneous action should at least now be taken to claim refund from customs for cases which may arise hereafter so that such arrears do not occur.

J. Allowances

9.69. Dearness allowance is paid to the Commission's employees at rates applicable to the Central Government employees.

For the purpose of grant of house rent allowance, the employees have been grouped under 2 categories:

(a) Field (Project Staff) (including officers and staff); Those who are sanctioned and|or working exclusively for a project and are in receipt of drilling allowance; and

(b) Non-field (non-project) staff. Those who do not fulfil the conditions mentioned in (a) above.

9.70 For field (Project staff), where the Commission is not able to provide either single or family accommodation, the employees are allowed to make their own arrangements for accommodation and they are reimbursed the actual rent paid limited to 10 per cent of pay in case of family accommodation and limited to 5 per cent of pay in the case of single accommodation.

9.71. For field (Project staff), where the Commission provides only free single accommodation or the employee is able to procure only single accommodation (rent for which is reimbursed by the Commission to the extent of 5 per cent), and the employee is, therefore, compelled to keep his family elsewhere, he is allowed additional house rent allowance at 5 per cent of pay to compensate him for residential accommodation for his family.

9.72. For non-field (Non-Project) staff at the under mentioned places the Commission, in consideration of the difficulties obtaining at those places, has given concessional house rent allowance as indicated below:

(a) *Dehra Dun*

Pay	*Rates of house rent allowance.*
Below Rs. 75 p.m.	Rs. 7·50 p.m.
Rs. 75/-and above but below Rs. 100/-p.m.	Rs. 10·00 p.m.
Rs. 100/- and above but below Rs. 200/-p.m.	Rs. 15·00 p.m.
Rs. 200/- and above	7½% of pay

(b) *Baroda*

At 'C' class rates, but in addition, the employees drawing a basic pay of Rs. 500|- or above (Rs. 620|- including dearness pay) per month are paid house rent at 7½ per cent of pay subject to the condition that no employee will draw house rent allowance in excess of amount by which the rent actually paid by him exceeds 10 per cent of his pay.

(c) *Delhi, Calcutta and Madras*

Below Rs. 100/-p.m.	Rs. 25 per month.
Rs. 100 and above	25% of pay subject to minimum of Rs. 30/- and maximum of Rs. 500/- the employees bearing the first 10 % of the pay. This is in accordance with guidlines set up by the Bureau of Public Enterprises.

(d) *Bombay*

Below Rs. 100/- p.m.	Rs. 30/- per month.
Rs. 100 and above.	30 % of pay subject to minimum of Rs. 35 and maximum of Rs. 600/- per month. This is in accordance with guideline set by the Bureau of Public enterprises.

9.73. As an exception, the employees drawing a pay up to Rs, 500/- (Rs.620|- including dearness pay) per month are eligible for house rent allowance, subject only to the condition that they pay rent or contribute towards rent or house rent or property tax but without reference to the amount actually paid or contributed. The exception applies to all the employees posted at Delhi, Bombay, Madras, Calcutta, Dehra Dun and Baroda.

9.74. At Mehsana (the headquarters of Mehsana Project staff), house rent is, as a special case, considering the difficulties experienced by the Commission's staff, being paid at the rates applicable under Government rules to cities classified as B—1 (like Ahmedabad).

9.75. The rates of house rent allowance at other places are in accordance with the rates applicable to the Central Government employees.

9.76. Conveyance allowance is admissible to the following categories of employees:

Designation	Conveyance allowance admissible.
(1) Security-cum-Fire Officer.	Motor Car Allowance Rs. 60/-p.m
(2) Security Officer Gd. II (3) Security Officer Gd. III.	Motor Cycle Allowance @Rs. 25/-p.m.
(4) Security Officer Gd. IV (5) Security Supervisor	Bicycle allowance @ Rs 5/-p.m.

(6) Public Relations Officer	Motor Cycle or Scooter allowance @ Rs. 50 p.m.
(7) Medical Officers at Headquarters Dehra Dun.	Who maintain Motor Car @ Rs. 120/p.m.
	Who maintain Motor Cycle Rs. 40/-p.m.
	Who do not maintain Motor/Car/Motor Cycle Rs. 20/- p.m.

9.77. The Travelling Allowance is governed by the Oil and Natural Gas Commission (Travelling Allowance) Regulations, 1970, which are in force from February 21, 1970.

9.78. No entertainment allowance is admissible to the employees of the Commission.

9.79. Besides there are different schemes which cover leave fare assistance, education assistance, medical facilities, drilling allowance, field establishment allowance, etc.

X

MISCELLANEOUS MATTERS

A. Integrated Oil Company

10. 1. The Oil & Natural Gas Commission has made a forceful plea before the Committee on Public Undertakings for becoming an integrated oil company. At present the O.N.G.C. looks after the exploration for and production of crude oil and gas, whereas the Indian Oil Corporation looks after the refining of crude oil and marketing of petroleum products. At one stage the thinking in ONGC was that it could be made an integrated oil company by alloting atleast one refinery to refine some of its products. The profits from refining would act as a cushion against exploration losses. The ONGC has stated as follows in this connection:—

> "It is true that most of the funds which help the ONGC to operate come from the Govt., but the ONGC is expected to operate like a commercial organisation to pay its way, to get out of debt and at the same time to extend its operation into all the sedimentary basins of India to discharge its national responsibilities.
>
> These national responsibilities involve—
>
> (1) Exploration through geological, geophysical and drilling operations
>
> (2) Development of oil and gas fields
>
> (3) Production of oil and gas and their transporation to consumers.
>
> There is a heavy element of risk in exploration, some element of risk in development (depending on the character of each individual field) and virtually no risk in production.
>
> The ONGC pays income-tax, royalties, sales-tax and local taxes, like any other concern or industry. It pays customs duty and excise duty, like any other business or commercial entity. It has to sell its oil at the same price at which comparable Middle East oil is sold, and to sell its gas at an arbitrary price, fixed by an arbitrator.
>
> In discussing the pattern of financing of the ONGC the question of the heavy risk element in oil exploration is very relevant. Any calculation of an appropriate return on in-

vestment cannot afford to ignore the risks attending such investment.

Had it been the case that the Commission was an integrated oil company in the modern and accepted sense of this definition in the oil industry, that is to say, if it did the refining and marketing of its oil, and not only the exploration and production of crude; the position would have been very different. With sure profits earned in refining and marketing it might have been able to cushion or to absorb, some, if not all of its exploration losses. It would still have needed assistance and incentives to encourage it to explore, but its risks would be partly covered. As it is, its risks are not covered, it has no cushion to absorb its losses, and yet it is expected to make money and to fulfil the national (not necessearily the commercial) objective of self sufficiency.

The Govt. meet the financial needs of the Commission from year to year by a procedure which is as follows:—

(i) In any year the receipts from the sales of oil and gas by the Commission are apportioned first between the expenditure or exploration and production, in the ratio which each of these expenditure bears to the total expenditure.

(ii) Any shortfall between the share of receipts which falls to the lot of exploration and production respectively, and the actual expenditure anticipated in exploration and production in the coming year, is met by the Government in the shape of capital for exploration and loans for production.

(iii) Any expenditure on pipelines, interest payments and in connection with the financing of the activities of Hydrocarbons India Pvt. Ltd. for its overseas operations, is financed only by loans.

On the capital which is advanced by the Government from time to time the Commission will be expected to pay a 5 per cent dividend when it no longer needs to take funds in the form either of capital or loans from the Government. On loans it pays interest at 6½ per cent.

The basic thinking governing this pattern of financing appears to be that the Commission, like any other business or commercial organisation should finance its exploration ventures from the profits of its production ventures or to put it another way, it should pay for its exploration losses out of its production profits. If the Commission was a purely commercial venture, in the sense that it was free to extend or to limit, its exploration programme according to the dictates of pure profit making, or if it was an integrated oil Company, the pattern would have been commercially acceptable. However, since these definitions do not apply to the Commission it is obvious that the pattern is unsuitable and requires to be changed.

The Commission finds itself in an unhappy position. Its commercial sense and its financial conscience both dictate a conservative exploration policy, a policy of limited risks, cautious investment and of quick recovery of profits from production fields. Its nationalist conscience—and as a Public Sector organisation it has one—dictates an adventurous exploration policy, calculated risk taking, side by side with vigorous development. It is because these objectives conflict with each other, and because, without assistance, vigorous exploration and vigorous development cannot proceed side by side, that the ONGC finds itself in trouble.

As things stand at present, vigorous exploration involves getting more and more into debt to the Government, because the profits from producing fields cannot by themselves finance such a programme. In the context of the geological features in the country, such a programme involves the certainty of heavy exploration losses, because the Commission will be moving into unknown areas, and will be exploring marginal and submarginal prospects. The Commission is well aware that these losses will eat into its already exiguous profits, and so loss of these profits can be ploughed back into exploration and so, more help in the way of capital grants and loans from the Government will be necessary. The vicious circle thus formed is apparent. If, to make ends meet it cuts down exploration concentrates on production and marks time till it has paid off its debts to Government, it is mortgaging the future for the present. Constant exploration to find additional reserves to sustain production in the year to come is essential in the national interest. Similarly, in the national interest to save foreign exchange, maximum production must be ensured. For both these objectives money has to be found from the Government and the burden of debt on the Commission grows more and more intolerable, and the prospect of self sufficiency in the Commission recedes further and further away into the future."

10.2. The Commission has made certain suggestions in this regard. Two of these suggestions are (a) a premium could be given by apportioning some shares of the profits earned by the I.O.C. from the sale of ONGC oil, or by allowing the ONGC to levy a surcharge or premium at a fixed rate or per barrel of oil supplied to the IOC, and (b) some attempts should also be made by the Government to make the ONGC into an integrated oil company by alloting it atleast one refinery to refine some of its products.

10.3. The views of the Government on the subject are given below:—

"The Oil & Natural Gas Commission, the only public sector exploration organisation in the country, has a special responsibility of exploring, in the quickest possible time, the crude potentialities of the country. The responsibility for finding money for the activities of the Commission has been cast by the ONGC Act upon the Government of India. Any financing arrangements which we consider for the Commission must take into account the foregoing two principal points, namely, the promotional aspect of the ONGC's operations, as distinguished from a strictly commercial aspect, and the fact that the Government is its chief financier and is obliged to meet any current deficits that may arise in its ways and means position.

2. Keeping these two aspects in mind, the following pattern of financing has been applied to the Commission. The internal receipts generated by the Commission by way of sale of crude oil etc. are first applied and set off against expenditure under all heads like exploration, development, Persian Gulf operations, pipelines, repayment of loan, interest etc. The deficits are sought to be met from Government advances. This way of treating the Commission's own funds is consistent with the quasi-commercial aspect of the Commission's operations. The Government meets the deficits by advancing money either as 'capital' or 'loan'. All exploration expenditure is financed from 'capital' to be treated as "equity". The expenditure on development and other operations which are purely of a commercial nature, are financed from 'loans'.

3. The Commission's capital structure thus consists both of 'equity' and 'loans'. The funds advanced in the form of 'capital' are to be treated as if they were equity in the case of a joint stock company incorporated under the companies' Act, 1956 and the ONGC will be required to pay to the Government a return @ 5 per cent per annum. The

payment of return is to be a first charge on the funds of the Commission after meeting Revenue expenditure and shall become payable from the first year in which the Commission has an overall surplus i.e. the Commission does not require any funds from the Government either as equity or loan.

4. It will be seen that the above pattern of financing does not cast any undue burden on the finances of the Commission. The deficits in exploration expenditure are met by the Government on the form of advance of equity capital. The dividend liability arises only when the Commission's operations have become completely self-supporting. This has been done keeping the promotional aspect of the Commission's activities in mind. (The necesseary control over the expenditure is exercised through the annual budgets which are required to be approved by the Government). The loan liability is only in respect of the strictly commercial operations of the Commission."

10.4. In reply to the ONGC's argument for becoming an integrated oil company, the Government also submitted the following note to the Committee:—

"In its 34th Report concerning the working of the Indian Refineries Limited, the Estimates Committee recommended that with a view to achieving economy, efficiency and co-ordination as well as to eliminate duplication of effort and wasteful expenditure, the urging of the three public sector undertakings concerned with exploration and production of crude oil, refining and distribution should be examined by Government at an early date. The recommendation was examined by this Ministry carefully in consultation with the three organisations concerned. In view of the vast scope for further expansion of activities for discovery of oil and gas in India, it was considered that the Oil and Natural Gas Commission should be maintained as or independent organisation unfettered with activities of a purely commercial nature relating to the refining and sale of petroleum products.

On this ground the Cabinet decided on 18th May, 1964 that the Oil and Natural Gas Commission should continue to direct its attention to scientific search in the field of oil exploration and production as it was considered inappropriate to merge the ONGC with IRL and the IOC.

The Committee on Public Undertakings, in their Fifth Report on the ONGC dated April, 1965 made a positive recommendation in para 151 of the Report that "public undertakings in the same field of activity should normally be under the administrative control of one management. "It is, therefore, desirable that the Koyali refinery should be transferred to the Indian Oil Corporation. They recommend that a decision in this regard may be taken without any delay."

In ragard to this recommendation, the Committee were informed of the Government's earlier decision, taken in September, 1946 to transfer Koyali Refinery to the IOC. The actual transfer took place on 1.4.65 In this connection, the 37th Report of the C.P.U. on action taken on the 5th Report may also be seen at page 17 thereof."

The Oil and Natural Gas Commission is a statutory body established under the Oil & Natural Gas Commission Act of 1959. The Act empowers the Commission to plan promote, organise and implement programmes for the development of petroleum resources and the production and sale of petroleum and petroleum products produced by it. Since the establishment, the Oil and Natural Gas Commission has expanded its activities all over India on a large scale and is today one of the biggest organisations of its type in the world. Its activities cover not only development of oil and gas fields already discovered, but also systematic search for the hydrocarbons in all possible oil-bearing regions of the country both on shore or offshore. It has also established, with the assistance of the United Nations Special Fund, a Research and Training Institute where basic research relating to petroleum geology and allied subjects is being undertaken. In view of the vast scope and need for further expansion of activities for the discovery of oil and gas in India, it is the considered view of the Government that the Oil and Natural Gas Commission should be maintained as a separte organisation unfettered by activities of a purely commercial nature relating to the refining and sale of petroleum products.

The Commission should continue to direct its attention to systematic search in the field of oil exploration and production. The Commission has a special responsibility in the matter of exploring and exploiting in the quickest possible time, the crude oil and gas potentialities of the country. In view of, its vast and vital responsibility, it is not advisable to burden it with the responsibility of refining and marketing. The fact that the Commission has no commercial operations like refining and marketing to cushion and absorb its exploration losses, does not alter the above position and should put it at no disadvantage in the discharge of its specific responsibility. It is Government's responsibility to find the necessary resources for the Commission's activities. What is important is that the Commission should use these resources efficiently and economically."

10.5. During the course of evidence of the representatives of the Oil and Natural Gas Commission, the Committee enquired if the Commission had submitted any proposal to the Government in this regard. The Chairman, ONGC informed as follows:

"In certain documents submitted by us to Government, we have given some indications, but we have not made any concrete suggestions for this. We have, however, indicated various possibilities regarding the financing of the ONGC exploration work and this is one of the possibilities we have indicated. We have done some more thinking on this question. Actually refining again like exploration and production is also a specialised work. We feel today that just entrusting directly refining or the marketing to the ONGC may not be in the best interests so far as efficiency of the operation is concerned.

Our feeling today is that perhaps the better way to go about this will be perhaps not to directly entrust the ONGC with the task of marketing and refining. These are also specialised operations and are being conducted very efficiently by the I.O.C. What we think is that there should be some kind of financial integration between IOC, marketing and refining and the ONGC, so that the profits in one sector could go partially to meet the expenditure on exploration. That is really what we have in mind today."

10.6. The Committee enquired, what type of financial integration the Commission envisaged. The views of the Chairman, ONGC were as follows:—

"In Italy there is a national organisation called the E.N.I. It is a wholly-owned organisation of the Government of Italy. This is a company which owns half a dozen companies. Naturally if we could have a holding company like this which would really control the ONGC production and marketing activities this company could probably be in a position to appropriate the profits from one sector to the other depending on the requirement...... This is only an idea that has occurred to us."

10.7. The Member (Finance) also added as follows:—

"Sir, we have discussed this point between ourselves. It was a joint idea. That is, a sort of apex company with a number of subsidiary companies can function in the country and financial matters alone can be managed through a system of financial integration. Otherwise ONGC, IOC and each such company in our country will be independent and only for financial management, we may have an apex company like E.N.I. in Italy. We can work out a note on this. The idea would be that we have Chairman of various companies as Directors of the apex Company. The Chairman of the various companies will be responsible for the Apex company also. I do not think that there will be a sort of slackness in the functional arrangements."

10.8. The Secretary, Ministry of Petroleum and Chemicals stated in this regard, during the evidence, as follows:—

"Questions have been raised in the past why these could not be combined into one organisation. I believe that the ONGC themselves have been putting forward such a view. justifying it by arguing that if it were an integrated oil company as are the large commercial oil companies in the world which explore for oil, produce oil and quite often have their own refineries where they process the oil and quite often or in many cases do the marketing of the oil products also themselves, their financial position would have been stronger. For, on the exploration side, it is not easy nor is it always possible to make it a viable activity; money can be lost in large amounts in exploration, if oil or gas is not found. But on the commercial side of refining and marketing, it is not so difficult to make it a profitable enterprise.

The view of the Government so far has been that the main responsibility of the ONGC, namely to explore and produce oil and gas as very valuable natural resource of the country on which a great deal of the industrial growth is dependent, should not in any way be whittled down by putting other commercial responsibilities on the ONGC. And let the commercial responsibility remain with a separate body. Under the ONGC Act, Government have taken upon themselves the responsibility to provide necessary funds to the Commission for carrying on its activities to the extent necessary."

10.9. He further went on to say that:—

"In Germany, there is an example of this kind. In France, there is CFP, a French company, which is not wholly a public sector concern; Government holds about 40 per cent. of the share. That also, is largely an oil producing company or oil exploring and producing and selling the oil.

I may also mention that it is not necssarily the case that an exploring company will never make a profit. They can also make good profits. It all depends on the scale on which they can have their activities, on the choice of promising places for exploration they make and the efficiency with which they can tackle their work and the luck they have. In our case, the integration of the kind ONGC has pleaded for is at the level of government. Both being public sector undertaking, it is immaterial whether integration is by way of one company embracing all the functions or integration is at the level of Government. By this, I mean that whatever profits are being made by IOC—it has been making good profits became resources of Government available for making allocations to the ONGC to the extent it needs. So my submission is that from the point of view of resources being available to the ONGC for exploration which comes from government, it does not make a difference whether there is a separate refining and marketing company which is making profits and is, therefore, able to contribute to the public exchequer out of which moneys are advanced by way of loan or capital to the ONGC to carry on its activities."

10.10. The representatives of the Ministry quoted an example of two government undertakings operating like this in a foreign country as follows:—

"There are companies controlled by Government or which have their participation purely for oil production which have made substantial profits. I may site the example for Iran where the consortium companies jointly with the Iranian National Oil Company have explored and produced oil in large quantities, 15 million tonnes. Similarly in Kuwait, the Kuwait Oil Company has participated with the Kuwait National Oil Company. Recently in Germany, a government-sponsored company was set up for the purpose of exploring in certain areas. It is strictly in the public sector. To that extent, I would submit that oil production need necessarily be an exclusively profitable thing, but depending on the philosophy of exploration a particular company or its organisation evolves it is possible to make it viable and profitable. In fact, by making both of them exploring and marketing companies, profit in marketing is not as large as in exploration. Most of the integrated oil companies, ESSO, Shell and International Oil—if we analyse their profitability make profits in exploration and production; it is not in refining. If you take Texas Company and Caltex, the bulk of the profitability comes from its production. Therefore, it is not that by merging the two you get a better profit, or by not merging you get a better profit. It is essentially the approach of exploration and organisation by which we can make it much more profitable. It is possible that if oil is discovered in Bombay High or in Tripura the ONGC will show greater profit than IOC itself."

10.11. The Secretary of the Ministry added that:—

"The profitability of ONGC is to some extent dependent on the price of crude oil. Earlier the trend was of a falling price of crude. Our crude prices are based on the principle of import parity. Lately the prices of crude in the international market has been increasing and although we have not agreed to allow the full increase in product pricing to the private oil companies for various justifiable reasons, we have agreed to increase the indigenous crude prices by 20 cents a barrel. That immediately raises the resources of ONGC.

I would also repeat that in the case of two government companies there is less disadvantage in the separation than there would be if they were a private organisations because within these two government companies, the possibility of funds earned by one being put at the disposal of the other organisation not making profits is easy. But the more important consideration would be the practical one. The task given to ONGC is sufficiently large and complex extending all over the country. It is a highly technical work and it is getting more and more complex with more and more sophisticated equipment and technology being evolved. For this purpose, therefore, it would not be quite wise to saddle them with commercial responsibilities of a marketing company or a refining company. Let them wholeheartedly and singlemindedly concentrate on the principle task of exploring for oil and gas and producing both."

10.12. As regards the Private sector oil companies operating in the country being integrated or individually doing refining and marketing, the Secretary, Ministry of Petroleum and Chemicals informed the Committee that they were all separate companies, there were separate companies supplying crude oil to them, their refining and marketing companies were separate, but it was true that these were large international companies operating all over the world with numerous holding companies and subsidiaries. He further stated that they were a very complex organisation and we could not reach anywhere near that stage at the moment.

10.13. While discussing this question, the Committee pointed out that the Indian Oil Corporation declared 16 per cent dividend, while the O.N.G.C. could not afford 8 per cent the result of which was that the employees of the ONGC were discontended. The Secretary of the Ministry admitted as follows:—

"Without expressing any view at the moment, I may inform the Committee that Government are seized of this problem. It is a genuine grievanee and Government are considering how it can be met."

10.14. The rates of Interim Bonus-Exgratia declared by the Commission are as under:—

for the year 1965-67	5%
for the year 1967-68	6½%
for the year 1968-69	8% and
for the years 1969-70 and 1970-71 1971-72	10%

The rates are subject to the condition that on the basis of the findings of the National Tribunal a recomputation of the profits for the year 1966-67 and subsequent years would be made. The percentage, as agreed to above, would be reconsidered if the allocable surplus admits of it. In case, it is found that there is no allocable surplus for these years under the Payment of Bonus Act 1965, then the Interim Bonus payment agreed upon and paid would be treated as final bonus and the matter would stand closed for the years covered by the agreement.

10.15. The Committee agree that at the present stage of development it is necessary that an organisation like O.N.G.C. should devote itself primarily to the task of exploration and production so that India is able to reach self-sufficiency at the earliest. This is, however, not to deny that the two demands of O.N.G.C. for adequacy of funds for exploration and an incentive bonus comparable to Indian Oil Corpo-

ration deserve serious consideration. The Committee would like Government to evolve a satisfactory arrangement whether by way of a parent company having holdings both in O.N.G.C. and Indian Oil Corporation or at Government level so that O.N.G.C. feel reassured about availability of adequate funds for a meaningful programme for exploration, proving and production and grant of a comparable bonus to enthuse the Workers engaged in the vital task of production of oil.

B. Major Individual Irregularities

10.16. The Audit Report (Commercial) 1970 Part VIII has mentioned about three cases of irregularities. Details about them are as follows:—

(i) *Establishment of a steel foundry*

10.17. In 1962 the Commission arranged with the Government of Uttar Pradesh to float a Private Limited Company; *viz.*, Northern India Alloy and Steel Castings Private Limited, Roorkee, with an authorised share capital of Rs. 50 lakhs to be contributed equally by the Commission and the State Government. The main purpose of the foundry was to undertake manufacture of steel castings required to meet the need for such castings of the Commission and of the Government of Uttar Pradesh estimated at Rs. 8 lakhs and Rs. 2 lakhs per annum respectively. The Plant Engineer of Uttar Pradesh Government Workshop, Roorkee was entrusted with the task of setting up the foundry and fulfilling other formalities necessary to float the Company. Total expenditure of Rs. 15.76 lakhs was incurred on the acquisition of land, construction of buildings and erection of plants, etc. All formalities in connection with the registration of the Company were completed by February, 1968 but the Company was not registered.

10.18. In 1967 the State Government approached the Central Government for financial assistance for the Project. They were informed by the Planning Commission that only 30 per cent to 40 per cent of the capacity of the steel casting industries in the Uttar Pradesh were being utilised and that steel castings of all descriptions were easily available at competitive rates. The Planning Commission accordingly advised that the setting up of a new steel foundry did not appear to be justified. The position was reviewed in the 4th meeting of the Board of Directors of the proposed Company on 29th March, 1968. The Board felt that due to recession in the foundry industry and availability of spare capacity in the country, the Project in its present form would not be able to stand competition and would thus incur heavy losses. It was, therefore, decided that the Project may be wound up.

10.19. As the Commission was participating in the Joint venture on an equal share basis, it would have to share half the loss being estimated at Rs. 11.74 lakhs by the Uttar Pradesh Government. The ONGC has however, stated that against the investment already made, the property is there and can be sold and the equipment, if sold, can fetch higher price. The loss as worked out by the Government of U.P. has not yet been accepted by the Commission.

10.20. The Committee are neither impressed by the manner in which the project for steel foundry, in conjuction with the State Government was taken up for execution at Roorkee without thorough investigation nor by the post-haste manner in which it is being abandoned to cause avoidable loss. The climate of recession has since given way to buoyancy in production. The Committee would like O.N.G.C./Government to re-examine the project in all its aspects and reach a firm decision in the best public interest.

(ii) *Purchase of Nazira property*

10.21. In August, 1965, the Commission received a proposal for the sale of a property located at Nazira from a Private Company at a market value of Rs. 28.56 lakhs. The property consisted of bungalows office buildings, godowns, executive staff club, junior staff club and labour quarters.

10.22. The Commission initially expressed lack of interest in the deal as the property was 13 miles away from Lakwa oilfield and could not serve the purpose of locating a workshop or even, in any substantial scale, a residential colony. Subsequently, it was, however, felt that if the property could be acquired at a reasonable price it might serve a temporary accommodation for a part of the staff engaged on work at Lakwa until such time that a colony was developed at Lakwa itself. It was, therefore, decided on 22nd|25th February, 1966 by the Commission that an offer might be made to the Company for the sale of the entire property at Rs. 12.50 lakhs as detailed below:—

	Rs.
(1) 175·5 acres of @Rs. 3,000 per acre	5,26,500
(2) Buildings with 5% depreciation as they were classified as IInd Class Buildings.	4,96,222
(3) Roads electrical installations, overhead electric lines and underground drains.	2,10,000
	12,32,722

Note : In arr'ving at the above figures no assessment of the value of the land, bu'ldings and other assets was obta'ned from the States P. W. D. of Revenue Authorities.

10.23. The above offer was made by the Commission on 28th February, 1966, but the Company on 22nd March, 1966 expressed its inability to agree to the amount of Rs. 12.50 lakhs. It was further intimated by the Company that in proposing sale of its property to the Commission at a figure assessed by an entirely independent and reputed firm of valuers it had made an entirely fair and reasonable proposal and requested the Commission to reconsider the matter on a more realistic basis.

10.24. The matter was reconsidered by the Commission and it was decided in the meeting held on 7|8th June, 1966 that, as Nazira would be a suitable place to locate the regional Headquarters, Chairman and Member (Finance) should negotiate with the owners in regard to the acquisition of the property as soon as possible. The matter was discussed by the Chairman and the Member (Finance) with the representatives of the Company at Calcutta on 24th June, 1966 and the latter, on 12th July, 1966, offered to sell the property at Rs. 24 lakhs.

10.25. Considering the fact that the requirements were urgent and deal was economical as compared with acquiring of land and construction of buildings thereon, the Commission on 4th August, 1966 approved of the purchase at a consideration of Rs. 24 lakhs.

10.26. The payment was made and the possession was taken over on 6th November, 1967.

10.27. As per para 15 of the agreement entered into with the Company on 9th May, 1967, the purchase price comprises the following elements:—

(1) Land measuring 183.23 acre	Rs. 16,00,0 9
(2) Buildings	Rs. 8,00,000

10.28. On the above basis, the value of land acquired came to Rs. 8,732 per acre as against the price of Rs. 3,000 per acre which was originally considered reasonable by the Commission considering its location and development. The area of 183.23 acres was found on joint survey, to be 182.01 acres and included:—

(a) 4.93 acres of land which had already been sold by the Company; and

(b) 8.33 acres of land which was low lying and 23.4 acres of land which had been leased out.

10.29. The Chairman, O.N.G.C. had stated (August, 1970) that "the valuation of the Estate done by the Chief Engineer (Civil) was Rs. 25.5 lakhs. However, when making his recommendation based on this valuation the Chief Engineer (Civil) has suggested that since the Company appeared to want only Rs. 12.5 lakhs to put up some new buildings, this fact should be carefully considered when fixing up a final price for purchasing the Estate. It was on this basis that the valuation of Rs. 25.5 lakhs was brought down to about Rs. 12.33 lakhs."

10.30. The Ministry stated in August, 1970 that the case was examined in that Department and had been entrusted to the Central Bureau of Investigation for further investigation.

(iii) *Compensation for Tea Bushes*:

10.31. Pursuant to the drilling programme for the year 1967-68 Lakwa Drill Sites Nos. 54,55,56 and 61 we were to be drilled on priority basis. As these sites belonged to a private Tea Estate the Project authorities initiated in August, 1966 the question of their acquisition by an application to the S.D.O. (Civil) under Rule 189 of the Assam Land and Revenue Regulations. In September, 1966, the S.D.O. recommended private negotiations. The Project authorities approached the General Manager of the Tea Estate on 26th October, 1966, to sell the land on these sites. The Estate in their letter dated 3rd November, 1966 refused to entertain the above proposal unless the previous claims of compensation in respect of certain drill sites were settled.

10.32. On 7th December, 1966, the Project authorities again applied to the Sub-Divisional Officer (Civil), Sibsagar to invoke Rule 189 of the Assam Land and Revenue Regulations to grant the Oil and Natural Gas Commission the right of entry to the land. This was not granted due to strong objection by the Company and further negotiations were advised in January, 1967.

10.33. After protracted correspondence and negotiations, permission to carry on the work at Site No. 54 was obtained from the Tea Estates on 26th August, 1967. The work could not, however, be started as the question of payment of compensation for tea bushes planted on the land to be acquired remained undecided. Meanwhile, various agencies were contested by the Commission to advise as to how the amount of compensation payable to the Company for the tea bushes might be calculated. In letter dated 18th March, 1967, E.E. Project Cell, New Jalpaiguri intimated that the N.F. Railway had paid Rs. 3.96 per bush for hedge planting (5' x 2' 4330 bushes per acre, yield 21,436 maunds per acre) and Rs. 6.90 per bush for triangular planting 4|1.-2483 bushes per acre, yield 21.436 maunds per acre) in accordance with the table of the Tea Association, a copy of which was also forwarded alongwith the letter. The Project authorities then referred the matter the S.D.O., Sibsagar, who in his letter dated 9th May, 1967 approved the rates indicated in the table prepared by the Tea Association.

10.34. In the course of discussions with the Project authrities, the General Manager of the Tea Estates had indicated that the rates admitted by N.F. Railways would be acceptable to him. He, however, did not finally confirm the understanding when the Commission asked him to do so.

10.35. M|s Oil India Limited also intimated in December, 1967 that for the purpose of compensation they obtained the prevailing rates from the Tea Association and relevant particulars of land from the gardens concerned and advised the Commission to make a reference to the Tea Association for obtaining copies of their latest tables.

10.36. Meanwhile, the Project authorities continued to have negotiations with the Tea Estates and agreed on 8th January, 1968 that, pending final award by the S.D.O., Sibsagar, the Commission would pay provisionally at the rate of Rs. 5 per tea bush to be adjusted later on.

10.37. On 20th February, 1968 the Commission approached S.D.O., Sibsagar with a request to intimate the fair assessment of the compensation. In his letter dated 18th March, 1968, the S.D.O., Sibsagar, while intimating the rates reported by E.E. Project Circle, New Jalpaiguri and the L.A.O. Jorhat, advised payment at Rs. 2., Rs. 3.96, Rs. 5, Rs. 6 and Rs. 6.90 per bush according to size.

10.38. Meanwhile, the Authorised valuer who had been asked on 6th March, 1968 to advise on the fair valuation of the tea bushes, replied on 25th March, 1968 that having regard to the fact that the maximum price at which tea estates have been sold in recent years is Rs. 4,000 per planted acre including factory buildings, machines, bungalows etc. the valuation of a tea plant will come to a much lower figure and even after taking into account the other favourable factors should not exceed Rs. 5 per tea bush in any circumstances.

10.39. The S.D.O. Sibsagar in a subsequent communication dated 28th May, 1968, however, intimated the following rates adopted in land acquisition proceedings in Lakhimpur District by I. A. O., Dibrugarh:

	Rate per bush Rs. P
Seedlings below one year	0 25
Small bushes one to two years old	3 00
Medium three to four years old . . .	10 00
Bushes five years and above.	20 00

While recommending payment on the above rates in respect of the land occupied by the Commission after private negotiations, the S.D.O. also mentioned that in a land acquisition case of 1956-57 compensation was allowed at the Rs. 10 plus 15 per cent there on per tea bush in the Lakhimpur District.

10.40. The matter was finally discussed on 23rd July, 1968 with the Managing Director of the Tea Estate, and compensation was finally agreed to be paid on the following rates:

	Rate per bush Rs. P
Seedling (below one year)	0 25
Small bushes (below 3 years)	2 00
Bushes over 3 and upto 5 years, ...	5 00
Bushes over 5 and upto 50 years.	11 00

10.41. It may be mentioned that the rates proposed by the S.D.O. were not in the nature of an award from the competent authority, as the price of Rs. 22.67 lakhs finally paid was settled through negotiations. It is also not clear why the Commission did not take into account the relevant data regarding the planting system, density and yield per acre, age and profit earned by the Tea Estates, etc. which form the basis for determining the compensation in terms of the tables prepared by the Indian Tea Association and which were also acceptable to the S.D.O., Sibsagar.

10.42. The amount of compensation at Rs. 5 per bush as recommended by the Authorised valuer works out to Rs. 10.88 lakhs as against the amount of Rs. 22.67 lakhs (20,914 bushes at the per rate of Rs. 5 per bush-Rs. 1.04 lakhs, and 1,96,598 bushes at the rate of Rs. 11 per bush-Rs. 21.63 lakhs) paid by the Commission

10.43. It may also be relevant to mention, in this connection, that certain other Tea Estates which have been/are being acquired by the Commission have asked for compensation at the rates agreed to in the case of the Lakwa Tea Estates.

10.44. The Ministry stated in August, 1970 that the case was examined in that Department and had been entrusted to the Central Bureau of Investigation for further investigation.

10.45. The cases relating to the purchase of Nazira property and the compensation for tea bushes are under investigation by the Central Bureau of Investigation. Since the Central Bureau of Investigation is investigating the matter, the Committee would not like to comment on it. The cases were handed over to the Central Bureau of Investigation in or before August, 1970 and during the evidence of the representatives of the Commission and the Ministry, the Committee were given to understand that the investigations were in progress. The Committee are not aware at what stage the investigations are. It is nearly 1½ years that the C.B.I. is seized of the matter. The Committee would only like to suggest that investigation in such cases should not be spread over long period because with the passage of time much of the need, and possibly evidence, is lost. Keeping the ends of justice in view, the Committee would urge the CBI to complete the investigations and submit the report to the Government as early as practicable.

C. Personnel

10.46. The Commission has six full time Members and one part-time Member and one of the full time Members is acting as Chairman. The full time Members are in charge of Exploration, Production, Engineering, Stores, Finance and off-shore respectively. Member (Exploration) is also the Chairman. The Chairman has also to function as Member (Administration).

10.47. The basic and technical activities of the Commission are carried out by the different Directorates of Geology Geophysics, Drilling, Production, Administration, Inspection and Equipment, Planning & Control, Stores & Purchase, and Finance and Accounts, the Secretariat and the Law Department.

10.48. The Commission has its own Institute of Petroleum Exploration and Hindoil Design Institute at Dehra Dun.

10.49. An organisation chart of the Oil and Natural Gas Commission may be seen at Appendix V.

10.50. The Directorate of Administration is responsible for the implementation of the policies and the decisions of the Commission. It is a coordinating authority between the Ministry of Petroleum and Chemicals and the Commission. Some of the major functions of this Directorate are (a) Establishment matters (b) Recruitment and Promotion (c) Industrial relations and welfare (d) General Administration (e) Training of Personnel (f) Public Relations, (g) Discipline and Appeals for the entire Commission. The Directorate is headed by the Chief of Administration. This Directorate has also an attached Law Office.

10.51. The Commission made a start with 60 persons in 1955-56. Since then it has grown greatly as would be seen from the following table:—

Category	31-3-1968		31-3-1969		31-3-1970		31-3-1971	
	S*	F*	S.*	F*	S	F	S	F
A. TECHNICAL								
Class I & II	2370	1979	2660	2187	2559	2274	2545	2278
Class III	10212	7549	8997	7393	8313	7820	8140	7541
TOTAL :—	12582	9528	11657	9680	10872	10094	10649	9819
B. NON TECHNICAL								
Class I & II	634	535	616	575	605	567	616	574
Class III	4494	3072	5758	5590	6372	5837	6285	5864
TOTAL :—	5128	3607	7374	6165	6477	6404	6901	6438
C. Class IV	5342	6188	5661	5310	5279	5044	5570	5304
D. GRAND TOTAL	23052	19323	24692	21055	23128	21042	23120	21561

*S=Sanctioned Strength
*F=Filled in actual Strength

10.52. The Commission has sent 221 officers for training in India and abroad in the last three years. Out of these 79 were sent abroad and 142 received training in India. The expenditure incurred by the Commission for training purposes in the last three years is as follows:—

1. For Training abroad.	Rs.	7,13,488
2. For training within India	Rs.	1,16,815
	Rs.	8,30,303

10.53. This amount, however, does not include the expenditure involved on the TA|DA of the officers and cost of air fare incurred on the trainees going abroad. This also does not include expenditure on trainees sent abroad under different aid schemes like the Colombo Plan, UNDP, Indo-French Technical Co-operation Agreement, where in some cases, one side air fare is the liability of the Commission. The traininag needs of the employees are considered by the departmental heads and determined by the Commission in the context of the standard of technical|administrative knowledge required, of the concerned employee.

10.54. Till July, 1971, the Commission had carried out 51 work studies (26 studies of staff assessment and 25 of systems of procedures). The resultant effect in 1970 was surplus staff of 314, which is being adjusted against requirements of additional work.

10.55. Subsequent to July, 1971, the Industrial Engineering Unit, has carried out 6 work studies (5 studies of staff assessment and one of system and procedure). The surplus staff found as per various studies is being adjusted against the requirements of the construction and Maintenance Division in Western Region (169 persons) Bombay High (241 persons) newly constructed production installations in Western Region and the recommissioning of four more rigs in the near future in the Commission.

10.56. The staff strength in the Commission is regulated by the following:

(a) For a number of jobs the norms for personnel have been fixed.

(b) The organisation has a Industrial Engineering cum-work study Department of its own which carries out staff assessment studies in the various work areas of the Commission on regular basis, according to a laid down schedule. The surpluses wherever found are transferred to deficient or newly set up projects|work centres of the Commission.

(c) The Commission has set up a Standing Establishment Committee consisting of:

(i) Director of Administration

(ii) Director of Finance & Accounts and

(iii) Industrial Engineer.

to examine proposals for creation of additional posts for existing projects|offices, and for the new projects|schemes. The Standing Establishment Committee meets regularly to consider the proposals if any.

10.57. It has been stated that during the period from 1st April, 1969 to 31st March, 1971, 59 persons were recruited in the scale beginning with Rs. 700|- and above per month. Out of these 50 persons were recruited from amongst the departmental officers, who have been appointed as a result of direct recruitment to higher posts, two deputationists were absorbed in the service of the Commission and seven were recruited from outside.

10.58. It has been further stated that posts in the Commission are created after the proposals are scrutinised by the Manpower Resources Cell headed by an Industrial Engineer. These proposals are, thereafter, considered by a Committee, set up for the purpose, before these are finally approved and sanctioned.

10.59. 37 persons were appointed against the newly created posts. These posts were created keeping in view the work-load and manpower requirements of the Commission. 22 persons were appointed against the vacancies arisen due to promotion, reversion of the deputationists, resignations and retirement. No one was appointed on deputation.

10.60. The Committee note the steps taken by the Administration to rationalise the staff strength of the Commission. In view of the specialised requirements of personnel to man the Oil Industry, and the fact that there is dearth of the type of persons required for manning the exploration and production activities of the Commission, the Commission has to pay greater attention to the training of its personnel so as to ensure that its employees are fully familiar with the latest technology, practice and procedure. O.N.G.C. is an enterprise which demands large expenditures of capital and competent technically skilled man-power with a feeling of dedication to the task. The Committee trust that the Commission, as has been the case all along, will continue to impart confidence in its personnel.

D. Rules and Regulations

10.61. The arrangements for the meetings of the Commission and of the various committees, preparing agenda and recording of minutes is done by the Secretary to the Commission. Besides, he also looks after Parliamentary work, processing of contracts, rules and regulations of the Commission, Book of Financial Powers, etc.

10.62. Under Section 32 of the ONGC Act rules and regulations of the Commission require prior approval of the Government of India. In terms of the Act, after framing the draft ONGC Recruitment|Promotion Regulations in the year 1966 the Commission sent them to the Government for approval on May 16, 1966. These regulations were drafted in consultation, with the technical directorates and the various unions, taking into consideration the job requirements of the posts. These regulations are still under finalization taking into account the suggestions made by Government. They have got to be promulgated in the Gazette of India. However, the regulations are being followed from the date these have been approved by the Commission.

10.63. Prior to the enforcement of these regulations, the recruitment to various posts in the Commission was made on the basis of the qualifications etc., laid down for posts at the time of creation of such posts and recruitment was generally resorted to on the Government pattern.

10.64. The question of promotion policy was discussed by the Commission with the Unions in a meeting, held in Dehra Dun, on November 5 & 6, 1971. It was decided that a copy of the Personnel Manual, alongwith latest circulars regarding recruitment and promotion would be given to each recognised Union within a fortnight. The Unions were to give their suggestions by the end of December, 1971. The Commission was to be prepared with their comments within two months from the receipt of the suggestion from the Unions are awaited.

10.65. The Ministry of Petroleum & Chemicals was requested on 27-5-1971 to approve certain modifications in the draft ONGC (Pay & Dearness Allowance) Regulations. In reply the Ministry asked ONGC on 29-10-1971 to clarify certain points in this regard. The matter was discussed and the points raised by the Ministry were clarified on 14-1-1972 and the Ministry was requested to accord approval to the proposed amendments to the draft Regulations already sent to them. The reply from the Ministry is awaited.* As such the Regulations have not yet been published in the Gazette.

10.66. The Committee find that there has been inordinate delay in framing, finalising and notifying after approval in the Gazette of India Recruitment|Promotion regulation and Pay & Allowances regulations etc. The Committee deprecate such avoidable delays in matters which affect the vital interests of workers in a key statutory organisation. The Committee would stress that the procedure for framing such regulations should be well laid out and the matter should be systematically followed up both in the offices of the Commission and the Ministry to ensure that these are finalised and notified without delay.

E. Vigilance Cell

10.67. ONGC set up a Vigilance Cell in April, 1965 to bring about (i) alertness in the Projects (ii) to take note of deliquency among the rank and file of the Commission and to punish them if they are found guilty.

10.68. The Chief Vigilance officer advises and guides the speedy disposal of vigilance office, in addition to the cases referred to him at headquarters. He also probes into any matter within the Commission from the vigilance angle. He also refers any vigilance cases to C.B.I. for investigation which may be beyond his scope with the approval of the Chairman. He also takes the necessary action for adopting measures with a view to eliminating opportunities of corruption and malpractices. He is primarily responsible for the maintenance of purity, integrity and efficiency of the organisation. He assists the Chairman in all matters pertaining to vigilance and provides a link between ONGC and the Ministry|CBI|CVC in vigilance matters.

10.69. It has been stated that the Chief of Vigilance and Control officer was appointed sometime in early 1965 and he proceeded on leave preparatory to retirement from the 16th February, 1970. Afterwards, the Chief of Administration, in addition to his own duties, looked after the vigilance work with effect from 23rd February, 1970

*At the time of factual verification, the Ministry of Petroleum and Chemicals informed as follows :

"Government's approval to Draft ONGC (Pay and Dearness Allowance) Regulations was communicated to the Commission on 18-2-1972."

till 29th December, 1970. Thereafter the Secretary to the Commission is looking after the vigilance work. It has been stated in a reply submitted to the Committee after the evidence of the representatives of ONGC was over, that "the appointment has been offered to a serving D.I.G. Police of the C.B.I.".*

F. Labour

10.70. There was no major strike in the Oil and Natural Gas Commission till before September, 1967. At the instance of the ONGC Employees Mazdoor Sabha, the employees of the Commission in the entire Western Region and at Kariakal, Jodhpur, Bombay and Dehra Dun went on strike on September 12, 1967. The strike was called off on September 25, 1967. 1.3 lakhs mandays were lost in the strike.

10.71. Subsequent to the strike by the workmen of the Oil and Natural Gas Commission in 1967, a Memorandum of Settlement for pay revision was signed between the Management and the workmen represented through Unions|Associations on 20th January, 1968 and a consent award was obtained from the National Tribunal in terms of such mutual settlement. The settlement is binding for a period of three years.

10.72. On industrial relations the Ministry of Petroleum and Chemicals stated in a note submitted to the Committee as follows:—

> "At the instance of the Ministry of Petroleum and Chemicals, Shri R. L. Mehta, Additional Secretary in the Ministry of Labour and Employment was requested to examine and report on the organisational set-up in the ONGC for handling labour relations and other connected matters. In April 1968, it was suggested by the Ministry that the Mehta Report be discussed in the ONGC's next meeting. He submitted his report in November, 1967. The consideration of the Mehta Report by the ONGC pended for a long time and has been adopted only lately in 1970. In the meantime, services of two senior officers experienced in Industrial Relations were obtained from the cadres of one of the State Governments. Since then there has been a distinct improvement in Industrial Relations of the Commission."

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*At the time of factual verification, the Ministry of Petroleum and Chemicals informed as follows :

> "A Chief Vigilance Officer in ONGC has been appointed some months back on deputation from C.B.I.; he took over charge on 1-11-1971."

10.73. ONGC has, however, stated in this connection as follows:—

"The industrial peace was sometimes disturbed on the issue of individual's grievances or due to inter and intra-union rivalry and also due to irresponsible leadership by some of the "Career Seekers."

10.74. In another note submitted to the Committee on Labour Management Relations, ONGC has stated that:—

"The Commission today has an industrial relations machinery enabling the workers individually as well as collectively to ventilate their grievances through (a) Darbar days, (b) Joint meetings at respective level (Projects as well as Regional Headquarters), and (c) Grievance Committees and Works Committees. In addition periodic meetings with the Unions are fixed to sort out problems across the table. As a result of these measures, the relations between the Management and the workers have been cordial. Apart from streamlining of the labour-management relations, these measures have facilitated a change of approach in the rank and file of the Unions."

10.75. In a written reply submitted to the Committee after the evidence of the representatives of ONGC was over, the Commission has stated as follows:—

"It is true that the negotiating machinery with the recognised unions has been devised at three tiers. In the first stage, all the difficulties, grievances, demands, etc., are expected to be taken up with Project heads either in the Grievance Committee, Works Committee or specially devised negotiating committee consisting of representatives of recognised unions and the head of the Project. In addition to this, a free for all day *i.e.* a day is reserved once in a week, on which any employee can go to Project head without obtaining the permission from immediate officers. This is the stage at the project level and such meetings are regularly held.

When grievances, difficulties, demands etc. are not settled at the project level, the Central Organisation of the recognised union takes up the matter at the regional level with the General Manager of the region concerned. Such meetings are also held regularly. This is the second tier.

The third tier is that all the recognised unions throughout Commission or any one of them can take any problem still unsolved in the first or second stage, at the head quarters level, when the Chairman himself presides, accompanied by top executives.

The delegation of powers to the Regional|Project Heads, does exist in the Commission as per the Book of Delegated Powers. What is expected at the first and the second tier stage is that the authorities will attend to the day-to-day grievances within the frame-work of the powers, delegated to by the Commission. Whatever difficulties|problems the Regional|Project heads are unable to solve, the same are attended to at headquarters level."

10.76. The Committee note the various steps taken by the Oil and Natural Gas Commission with regard to maintaining cordial labour-management relations. The Committee have taken up for examination this year the horizontal study of Personnel Policies and Labour Management in the Public Undertakings. They would, therefore, make their detailed recommendations in this regard in that Report.

10.77. Some cases relating to welfare of labour were brought to the notice of the Committee, when they visited the Western Region. The cases are discussed in subsequent paragraphs.

(i) *Liveries*

10.78. During their visit to the Western Region the Committee were given to understand that the supply the liveries to the employees of ONGC was irregular. In a reply submitted to the Committee after the evidence of the representatives of ONGC was over, the Commission has stated that "norms for supply of liveries and uniforms to the entitled staff have been laid down by the Commission. The uniforms and liveries have to be supplied by the heads of Directorates|Regions|Projects|Offices to the entitled staff according to the norms laid down by the Commission. Instructions have been issued from headquarters from time to time that liveries and uniforms should be supplied in time."

10.79. It has been further stated that "there were certain complaints from the ONGC Employees Mazdoor Sabha for non-supply of uniforms in time. The matter was discussed a number of times with them. They were assured that instructions will be issued to ensure supplies of liveries and uniforms to the employees in time.

Instructions have been issued in February, 1971 that indentors will take action 13 months in advance to place their requirements with the Stores Organisation. The Stores Organisation will in turn place the supply order 12 months in advance, to ensure that there is no delay in supply of liveries and uniforms."

(ii) *Medical Aid*

10.80. The ONGC Employees Mazdoor Sabha also complained that emergency vehicles were not provided at the drill-site for transport of injured personnel. The ONGC has informed the Committee in a written reply submitted after the evidence of the representatives of ONGC was over that "First aid boxes, equipped with life-saving-drugs are provided at each drill-site. Employees trained in First-aid or as Compounder is posted at each drill-site. Vehicles are available at drill-site to transport the injured persons to the nearest Dispensary|Hospital. On complain of the ONGC Employees Mazdoor Sabha, the General Manager, Western Region was instructed to look into this matter and ensure provision of emergency vehicles at each drill-site."

10.81. The Committee need hardiy stress that ONGC should take effective and prompt action to resolve the genuine difficulties of workers.

G. Casual Labour

10.82. During their visit to the Western Region of the ONGC the Committee were informed that O.N.G.C. had a larger number of contingent or casual labour. The Committee desired to know the exact number of casual labourers employed. The Committee were informed that each Region had been employing casual labour on *ad hoc* basis from time to time and no precise details about the total strength of casual labour was available. In order to check further over staffing the Commission had placed an embargo on further engagement of casual labour in O.N.G.C. This, however, did not help much because the Regions started employing labour and calling them contingent labour. The Committee were also informed that orders had since been issued to stop payments of wages to such labour by whatever name it was called. It was expected that this stoppage of payment would enable the management to know the magnitude of the problem and the exact number of such employees in their organisation.

10.83. One of the points raised before the Committee by the Union representatives pertained to casual appointment of persons by Project officials, which later caused difficulties. The Committee note

with concern the manner in which the different authorities in the different Regions of ONGC have been recruiting casual or contingent labour. There should be some norm for making such recruitment. A system should be devised whereby it should be possible to know the number of such labourers at any given time. Large scale recruitment of casual labour in the opinion of the Committee leads to the problem of their regularisation. It is possible, because of age, lack of experience or other disqualifications, it may be difficult to regularise the appointment of a large number of such employees. The Committee are anxious that such a situation should be avoided by putting in a purposeful check on casual appointments.

XI

CONCLUSION

In pursuance of the Industrial Policy statement of 1948, the Government of India had decided to have exploration for and development of oil and natural gas resources in the various regions of the country under the public sector. Consequently, towards the end of 1955 an Oil and Natural Gas Directorate was set up, as a subordinate office under the then Ministry of Natural Resources and Scientific Research. Subsequently on 14th August, 1965, the Directorate was raised to the status of the Oil and Natural Gas Commission with certain enhanced powers although it continued to remain a subordinate office of the Government under the then Ministry of Mines and Fuel. On 15th October, 1959 the status of the Oil and Natural Gas Commission was further raised to that of a statutory body by virtue of the Oil and Natural Gas Commission Act, 1959, as the premier organisation in the Public Sector engaged in the exploration and exploitation of India's resources of crude oil and natural gas.

11.2. The main functions of the Oil and Natural Gas Commission subject to the provision of the Act, *inter alia* are "to plan, promote, organize and implement programmes for development of petroleum resources and the production and sale of petroleum and petroleum products produced by it and to perform such functions as the Central Government may, from time to time assign to it."

11.3. However, the work of production and sale of refined products has since been transferred to the Refineries Division of Indian Oil Corporation by Government of India in pursuance of recommendations of Committee on Public Undertakings (1964-65) contained in para 151 of their Fifth Report (3rd Lok Sabha).

11.4. The Commission has so far been able to discover oil|gas from its fields in Ankleshwar, Cambay, Kalol, Nawagam, Kosamba, Dholka and Kadi in Gujarat and Rudrasagar and Lakwa in Assam so as to establish the annual production rate of about 4 million tonnes of crude oil. The Commission has ambitious targets of raising the present production to 5.5 million tonnes by the end of the Fourth Five Year Plan and to step up the rate of production in the subsequent years by intensifying their programmes of exploration.

11.5. The Committee note that while the requirements of crude oil would increase from 18.46 million tonnes in 1970 to 26.50 million tonnes in 1974 the degree of self-sufficiency in terms of indigenous production as compared to import would decrease from 36.9 per cent in 1970 to 33.2 per cent in 1974. For filling up the gap, the Committee note the country is dependent on major international oil companies. The import bill in terms of foreign exchange is estimated to increase from Rs. 94 crores in 1969-70 to over Rs. 186 crores in 1974-75. The Committee expect that Government will give all assistance, including financial provision and allocation foreign exchange, to the ONGC in implementation of its programmes to achieve self-sufficiency in this strategic field in the seventies. The Committee would also suggest that a comprehensive review of the progress made should be carried out and in particular stress the need for drawing up in depth and in time the next operational plan for 1974—79.

11.6. The Ministry should draw up an integrated plan for implementation with a view to attain self-sufficiency in crude oil at the earliest to save the heavy drain on precious foreign exchange which is expected to rise to Rs. 186 crores in 1974-75. The Ministry should have a separate task force cell to ensure systematic follow up and for taking steps for implementation of time-bound programme of Ten Year Plan to obviate the import of crude oil, at the earliest.

11.7. The Committee are glad to note that the National Fuel Policy question is under examination of the Planning Commission and the Ministry of Petroleum and Chemicals, and recommend that the National Fuel Plan should endeavour to coordinate the activities of all the parties engaged in the production of different kinds of fuels. The ONGC should also take the help of other scientific organisations like BARC, CSIR, etc. for processing into service latest technological developments.

11.8. The Committee after careful examination of the organisational set up, reiterate their earlier recommendation that the Government should have a full time Chairman with the authority of the "Chief Executive" with a view to expeditious implementation of work in the fields.

119. For optimum utilisation of men, material and equipment adequate delegation of powers should be given to the Central Managers of different regions. The headquarters should more appropriately concentrate on policy and planning.

11.10. The Committee recommend that Government should review sections 15 and 32 of the ONGC Act, 1959 and arrange to give adequate powers to ONGC to frame its rules and regulations and exercise greater autonomy in the selection and execution of projects.

11.11. The Committee stress that the procedure for framing such rules and regulations should be well laid out and the matter should be systematically followed up both in the offices of the Commission and the Ministry to ensure that these are finalised and notified without delay.

11.12. The relations of ONGC with the different State Governments, where the ONGC is working, deserve special attention so as to facilitate quick decision and smooth working for example in the matter of acquisition of land, fixation of price of gas etc. The Committee stress the need for closer coordination between the Commission and the State Governments.

11.13. The Committee note that because of a number of variables such as topography, type of work, climatic conditions etc. the result of the study undertaken by the Directorate of Geology could not be effectively made use for working out a standard cost, etc. While the Committee recognise the difficulties in working out a uniform norm or standard cost for geological survey, they feel that a systematic area-wise and work-wise compilation of figures should help considerably in framing the estimates on realistic basis and judging the performance of parties.

11.14. The Committee note that while there has generally been shortfall in the meterage drilled and the number of wells sunk, the follow up in the matter of testing wells has lagged far behind. The Committee observe that planning for exploration, drilling and testing is not fully integrated in the ONGC. They recommend that there should be a time-bound programme for testing a well soon after it is sunk. The results of testing should be correlated with the surveys which had preceded drilling so as to derive guidelines for future exploration and drilling work.

11.15. The Committee note that the reason for variation of actual cost and standard cost of drilling has been due to increase of expenditure on various components of the work. The Committee feel that there is scope for reduction on the cost of drilling which can be achieved with proper planning and control.

11.16. The Committee note the activities of the ONGC in surveying the continental shelf of the country and notice that the job was being undertaken through hired agencies. A stage has come for the Commission to raise its own team of experts, capable of undertaking seismic surveys of the continental shelf without depending exclusively on foreign agencies. The Committee recommend that ONGC should develop/acquire technique of surveys and equip themselves adequately to undertake the work on their own.

11.17. The Committee feel that the progress in the matter of acquiring the mobile platform or in taking a decision to go in for drilling in the Gulf of Cambay has been slow. The Committee hope that with the appointment of the Member (off-shore) in the Commission to look after the off-shore ventures of the Commission, decisions in this regard would be taken expeditiously.

11.18. The finding of oil in Aliabet should boost the morale of the Commission's personnel and encourage them to intensify their efforts in this region. This should encourage formation of plans to look for oil in the adjacent and more promising fields in the Gulf of Cambay. The Committee feel that country has paid a heavy price for the Aliabet project and not to make use of the expertise gained would therefore be unwise.

11.19. Looking to the extensive areas ONGC is covering on land and the present assessment of large areas of oil bearing off-shore area of India's continental shelf, the Committee feel that there is a good case for the off-shore operations—both survey and drilling to be looked after by an independent agency. The Committee recommend that Government may consider of relieving ONGC of the operations pertaining to off-shore survey and drilling and setting up another organisation independent of ONGC for conducting off-shore survey and drilling as these need separate planning and expertise in the interest of efficiency and attaining self-reliance in this crucial fuel resource in the nearest future.

11.20. The Committee note that so far as the transport of crude from Gujarat oil-fields is concerned, most of the difficulties have been overcome and pipeline laid for assured supply to Koyali Refinery.

The Committee stress that there should be close co-ordination between ONGC and the Refinery and a perspective plan should be drawn up so that supplies to the Refinery can be stepped up in keeping with its expansion programme etc.

11.21. While noting that the Rudrasagar and Lakwa oil fields have a potential of supplying a million tonnes of crude oil, the Committee suggest that Government should urgently consider the question of refining this crude at the existing refineries at Gauhati and Barauni pending establishment of the second refinery in Assam. The Committe suggest that there should be a co-ordinated programme for development of oil fields in this area to synchronise with the existing and proposed refining capacities.

11.22. The Committee understand that in Ankleshwar (Gujarat the gas is being flared for technical reasons as it is not possible to transport gas separated at half atmosphere, through pipline. In the opinion of the Committee much of the criticism about flaring of gas would be avoided, if ONGC were to explain the technical reasons for doing so through their publicity media in a lay man's language.

11.23. The Committee note from the "Feasibility Study For A Gas Compressor Station at Ankleshwar to transport Additional gas to Baroda" that on an investment of Rs. 100 lakhs, the Commission would be able to have a return of 38.8 per cent before taxes and 17.33 per cent after taxes and that the entire investment would be paid back after 3—5 years, even after setting off taxes. In view of the favourable economic aspects and the over-riding need to utilise a valuable energy resources like gas for productive purposes, the Committee would like Government to take decision about suitably compressing the gas and putting it to industrial use.

11.24. The Committee also suggest that ONGC should identify the areas where the demand of gas is expected to increase and take necessary steps well in time to meet the need of prospective industrial consumers.

11.25. The Committee note that Hydrocarbons India (P) Ltd. has not been able to life in full and dispose of its ownership of crude produced from its overseas off-shore concession in Persian Gulf. The Committee also find that the venture has resulted till 1970 in a cumulative loss to ONGC of Rs. 15.59 crores. The Committee note that Government are now thinking of utilising "Rostam" and "Raksh" crude mixed with other crudes for processing in existing refineries and also adaption of the spare capacity available in the

Barauni Refinery to take up processing this crude. Another proposal is to provide for utilisation of this crude in the projected new refinery at Goa. The Committee emphasise that Government should without further loss of time examine in depth the economics and possibilities of utilisation of "Rostam" and "Raksh" crudes in either the Government owned or private sector refineries vis-a-vis the cost of importing crude from elsewhere into the country, keeping in view the relative qualities and characteristics of these crudes, the end-products which can be derived from them and the consumption pattern of petroleum products in the country. The Committee would like Government to take a most rational decision in national interest about the disposal of our share of crude from these oil-fields of Iran so as to derive the maximum benefit and cut down the losses.

11.26. The Committee recommend that the ONGC should be careful in the utilisation of the foreign exchange made available by the Government for acquiring new and sophisticated equipment and instruments which should result in the long run in corresponding saving in the quantum of foreign exchange to be spent on the import of crude oil. They recommend that the Commission should place before the Government proposals for 'a complete project' including the foreign exchange requirement instead of approaching the Government piecemeal. The future requirements of ONGC for rigs should be procured from the sources, while can deliver the goods of the right type and requirements, instead of being tied down with the availability of foreign exchange from any particular source.

11.27. The Committee also recommend that the procedure for sanction of foreign exchange should be streamlined that room for avoidable delay is negligible.

The Committee note that at the meeting of the Commission held in August, 1971, it was decided in principle that 11 rigs should be considered "as not available for active service". The Committee would like the Government and the ONGC to undertake a critical review of the rigs which are borne on their inventory with a view to locate those which are unserviceable and should be disposed off and those which can be put into service after execution of repairs where necessary. The Government should take an overall view about the adequacy or otherwise of these rigs and take firm action to equip themselves with the requisite number of rigs of suitable design.

11.28. The Committee also note that HEC Ranchi was manufacturing|assembling 3 rigs for ONGC, but so far ONGC had received only one rig and that too could not be used due to non-receipt of some of the components. The Committee would like that apart from examining the reasons for delay, the suitability and performance of the rigs manufactured at HEC should be carefully evaluated. The Committee *inter-alia* observe that another field in which it is essential to reach self-sufficiency pertains to pipes, including pipes, and tubings, drilling equipment and other stores, which are required in very large numbers for exploration development and transmission of oil. The Committee suggest that the Ministry of Steel and Mines, Ministry of Industrial Development, Directorate General of Technical Development and the Ministry of Petroleum|ONGC to comprehensively review the manufacturing capacity within the country and take concerted measures to achieve self-reliance in this crucial field by a specified date.

11.29. The Committee note that ONGC has been carrying a heavy inventory of Rs. 33.42 crores as on 1st April, 1969. The tendency of accumulating unnecessary stores not only ties up capital, but also results in unnecessary expenditure on their care and maintainence. The Committee feel that the Electronica Data Processing Equipment, already available with the ONGC should be more fruitfully utilised for an effective inventory control.

11.30. The Committee note with concern that unserviceable stores valued at Rs. 12.03 lakhs were put to auction between January 1968 and January, 1969 and a sum of Rs. 0.80 lakhs was realised and that the balance of stores valued at Rs. 5.44 lakhs had been kept to be used again as raw material. The Committee are surprised to note that stores once declared 'unserviceable' had been retained for use again as raw material. Apparently, the procedure for declaring a particular store as 'unserviceable' is not sound and needs to be reviewed with a view to prevent the disposal of serviceable stores without proper scrutiny.

11.31. The Committee regret that even after a lapse of several years cost and financial accounting have not been introduced in an integrated manner so as to facilitate prompt reporting to management. The Committee would like ONGC to give highest priority to this work so that the Management are fully seized of financial aspects in taking decisions and can exercise contemporaneous check on field and workshop operations in the interest of efficiency and economy.

11.32. The Committee suggest that the comments of Audit should receive serious consideration at all levels and necessary follow up action should be taken in each case promptly.

11.33. The Oil and Natural Gas Commission has made a forceful plea before the Committee on Public Undertakings for becoming an integrated Oil Company. At present the ONGC looks after the exploration for and production of crude oil and gas, whereas the Indian Oil Corporation looks after the refining of crude oil and marketing of petroleum products. It is, however, the considered view of the Government that the Oil and Natural Gas Commission should be maintained as a separate organisation unfettered by activities of a purely commercial nature relating to the refining and sale of petroleum products. During the course of evidence the Chairman, ONGC informed that what they had in mind was that there should be some kind of financial integration between IOC, marketing and refining and the ONGC, so that the profits in one sector could go partially to meet the expenditure on exploration. After careful examination the Committee concur with the Government's point of view that at the present stage of development it is necessary that an organisation like ONGC should devote itself primarily to the task of exploration and production so that India is able to reach self-sufficiency at the earliest. This is, however, not to deny that the two demands of ONGC for adequacy of funds for exploration and an incentive bonus comparable to Indian Oil Corporation deserve serious consideration. The Committee would like Government to evolve a satisfactory arrangement whether by way of a parent company having holdings both in ONGC, and Indian Oil Corporation or at Government level so that ONGC feel reassured about availability of adequate funds for a meaningful programme for exploration, proving and production and grant of a comparable bonus to enthuse the workers engaged in the vital task of production of oil.

NEW DELHI;	M. B. RANA,
April 19, 1972	*Chairman,*
Chaitra 30, 1894 (*Saka*).	Committee on Public Undertakings.

APPENDIX I

(Vide Para 1.45)

A summary of the Techno-Economic Report of the Hydro-Reserves of ONGC's fields and development thereof

The Techno-economic Report prepared by the Russian Experts (working under Dr. Shaevskee) and the officers of the ONGC was submitted to the Commission in the first week of September, 1971. The report was presented and discussed in detail by the Commission with the Soviet experts on 14th September, 1971 to 18th September, 1971. The report envisaged two variants of exploration drilling as a consequence of which all the related calculations on geophysical work, development drilling, oil field development and oil production, economics etc. were also done for two variants. The summary conclusions of the two variants envisaged in the report for the period 1971—1975 are given below:—

Exploration drilling:

Cambay Basin: The variant I envisages drilling 204 wells (390,000 m) of which 187 wells (340,000 m) are planned in land and 17 wells (50,000 m) in off-shore. The variant II envisages drilling of 175 wells (330,500 m) of which 165 wells (300,000 m) are planned on land and 10 wells (30,500 m) in off-shore.

The rise in reserves were estimated according to variant I based on the effectiveness of drilling for different stratigraphic units and separately for stratigraphic traps. The effectiveness used was 60 t/m for placene objectives, 100 t|m for Eocene objectives and field each of 2.5 million tonnes in Miocene and in stratigraphic trap, giving a rise of reserves of 25 million tonnes. An effectiveness of 100 t/m was used for off-shore giving a rise of reserves of 5 million tonnes. Assam-Arakan Basin: The variant I envisages drilling of 97 wells (380,000 m) as against 57 wells (220,100 m) envisaged in variant II.

The rise in reserves were estimated according to variant I by estimating effectiveness of drilling separately for the already discovered fields and the fields which are likely to be discovered.

Other Basins: A common plan of drilling has been prepared for the other basins, namely Rajasthan (4 wells—16000 m), Punjab (2 wells—9000 m), Ganga (2 wells—8000 m), Cauvery (8 wells—20,000 m), Bengal (2 wells—9000 m), Kutch (5 wells—15000 m) and Andamans (1 off-shore well—3000 m).

Geophysics:

The Techno-Economic report envisaged a common plan of work for either variants of drilling plan as far as the Seismic and gravity-magnetic surveys are concerned. This plan is as follows:—

Sl. No.	Basin	No. of party years 1971—75 Seismic	1971—75 Gravity-Magnetic
1.	Cambay land	38	..
2.	Assam-Arakan	17	5
3.	Rajasthan	9	6
4. 5.	Cutch Saurashtra	4	5
6.	Bengal	20	..
7.	Ganga	5	2
8.	Punjab	5	..
9.	Cauvery, Godavari, Krishna, Mahandal	23	..
10.	Jodhpur, Nagore	..	2
11.	Vindhyan	..	..
12.	Pranhita-Godavari	..	2
13.	Off-shore areas	4	..
14.	New oil and gas bearing basin to be discovered in 1971—75	5	..

The same plan for seismic exploration will be able to meet the "structure" requirement for both the drilling variants because of the following reasons:—

1. The exploratory drilling Plan is either of the variants for Cambay basin and for other basins is not very much different.
2. There is a significant difference between variants I and II of the drilling plan for Assam-Arakan basin. However, the additional drilling meterage in variant I is to be drilled on exposed structures which we do not call for significantly increased seismic exploration.

There are however, two variants so far as the well logging surveys are concerned. The well logging surveys are directly related to the volume of drilling and hence the two variants have been calculated in accordance with the volume of drilling envisaged in the two variants of drilling plan. This plan is as follows:—

Sl. No.	Basin	Variant I No. of party 1971—75	Variant II No. of party 1971—75
1.	Cambay land	38	30
2.	Assam Arakan	43	24
3.	Other basins land	18	18
4.	Off-shore	5	5

Drilling

As per variant-I is planned to drill 1,310,000 m during 1971—75 which includes 850,000 m of exploratory drilling and 460,000 m of development drilling whereas according to Variant-II 900,400 m are planned which include 630,000 m of exploratory drilling and 269,800 m of development drilling.

The initial commercial and cycle speeds for majority of fields for the year 1971 are identical in both the variants. The commercial and cycle speeds for 1972 and subsequent years for variant-II are slightly less than those of variant-I due to the fact that rate of improvement in speeds in case of variant-II has been taken somewhat less than taken for Variant-I. Besides, the difference in the commercial and cycle speeds in the two variants basin-wise and for the Commission as a whole can be explained by different volumes of drilling in differnt areas.

Development of oil-fields and production of oil:

The Techno-Economic Report considers two variants of exploration which are based on different criteria for estimating the effectiveness of exploratory drilling. This results in two variants for the expected increase in oil reserves. The increase of oil reserves for the period 1971—75 has been determined at 64 million tonnes in variant I, and at only 30.8 million tonnes in variant II.

Consequently, the quantum of development drilling envisaged in the two variants is also different. It may be noted that during 1971—75, little development drilling has been proposed in Ahmedabad and

Lakwa (Barails) in variant II but 12 wells with a metrage of 19,200 in Ahmedabad and 24 wells with a metrage of 90,000 in Lakwa (Barails) have been considered for variant I. Variant II considers the prospects of these two fields uncertain and therefore, does not envisage any appreciable drilling in these two areas.

Another difference between variants I and II is the amount of recoverable reserves which is likely to be available from oil-fields like Kalol, Ahmedabad, Sobhasan Sanana, Lakwa (Barails) Goleki etc. Already, according to the current estimates, the recoverable reserves in Sanand and Sobhasan seem to have shrunk to half. In Kalol oilfields, horizons IX and X are currently showing uncertain production behaviour.

The anticipated rise in production to compensate for the drop in production from existing oilfields, due to this gradual depletion, during the next years will depend on the anticipated rise in recoverable reserves in new areas which has been considered as 64 million tonnes and 30.8 million tonnes for variants I and II respectively.

Economics

So far as geological and geophysical field programme is concerned, both the variants envisages 75 geological field party years 130 seismic field party yearse and 22 gravity magnetic field party years during the period 1971—75.

However, there is a marked difference in the drilling metreage envisaged to be drilling under two variants. While the first variant stipulates drilling of 1,310,000 metres (850,000 m exploratory and 460,000 m development) Variant II envisages drilling of 900,400 metres (630,600 m exploratory 269,800 development). There is little difference in total production during the five years. As already given above, variant I stipulates the production of 28:62 million tonnes against 26.32 million tonnes planned in variant II. There is however some difference in the rate of production in the year 1975-76 under two variants. The first variant presumes the production at 8m tonnes and the second variant at 6.8 million tonnes.

Under variant I, the total likely expenditure during the year 1971—75 is Rs. 362 crores against Rs. 280 crores under variant II. The revenue expected under variant I and II is of the order of Rs. 339 crores and Rs. 313 crores respectively. This leads to a deficit of about Rs. 23 crores variant I and Variant II is likely to yield a surplus of Rs. 33 crores.

APPENDIX II

(*Vide para No.* 3.77)

Details of rigs shown as non-operating due to lay off, transportation and under check during the years 1966-67 *to* 1970-71.

The reasons for laying off-etc. of the rigs are as under:—

1. 1966-67

(*A*) *Laid Off Rigs*

(1) *Rig* 2*DH*-1: This rig was laid down at Anklesh war in December, 1965. Due to inadequacy of locations with appropriate depth range, it could not be deployed but its pumps were deployed for water injection at Ankleshwar. Action is in hand at present for deployment of this rig for drilling at Dongri in the Ankleswar Project.

(2) *Rig BU*-75-10: This rig was laid down at Ankleshwar. The rig has been declared as unfit for future operations.

II.1967-68

(A) *Laid Off-rigs*

(1) Rig 2DH-1 } As stated above.
BU-75-10 }

(B) *Idle rigs* (*under transport*)

(1) *Rig H*-2500: The rig was purchased from M|s. SNAM on 15.10.1966, when it was under deployment at Balh Deep well No. 1. The rigging down at this well was carried out upto the 2nd November, 1966. Subsequently, repair and maintenance of the rig and equipment were carried out at Jawalamukhi. The maintenance work of this rig continued till the commencement of the first stage of transporation of the rig to Bahufort, Jammu in April, 1968.

(2) *Rig-3D-3*: The rig down operation of 3D-3 rig was started on 19-12-1966 at Jawalamukhi and was transferred to Sibsagar. The rig as such could not be used immediately after its transfer to Sibsagar as the original sub-structure was damaged during transit and had to be extensively repaired at Sibsagar, which was expected to take

considerable time. Hence, the rig equipment, *viz.*, draw work, Rotary table, Slush pump, etc., etc., were being utilised as replacement equipment for equipment going for capital overhauls of similar units of rigs in service so that these rigs are more intensively utilized and are not kept waiting in the field for the rig-equipment to be given capital overhaul in the workshop. The repaired sub-structure was later used as spare structure to speed up drilling.

(C) *Rigs in Transit|Stores.*

2. rigs which were to be received from USSR were still in transit.

III. 1968-69

(A) *Laid-Off-rigs*

(1) Rig 2DH-1 (2) Rig BU-75-10	As stated above

(2) *Rig BU*-75-11: The rigging down operations at the last well with this rig were strated on 28-4-1967 and then the rig was laid off. The condition of its mechanical equipment was very bad. Later it was decided to use this rig as standby.

(B) *Idle Rig*: The position relating to H.2500 Rig is already explained in the Audit Report on pages 30.31.

(C) *Rig under check up*: The rig 5d-7 was earmarked for drilling Aliabet Off-shore well No. 1. Before its deployment there, the rig was under thorough check up and repair.

The details of deep drilling rigs not in operation during the years 1969-70 and 1970-71 are given below:—

(I) *Year* 1969-70: The following 8 deep drilling rigs (excluding 5LD-I rig which was being used in I.P.E.) were not in operation at the end of the year 1969-70.

(*i*) 2DH-1 (*ii*) BU-75-10 (*iii*) 3-D-3 (*iv*) BU-75-11	Same as in earlier year.
(*v*) 4 LD-2	The rig 4LD completed its last well at Nawagam Project in June, 1968, after which it was earmarked for repairs. In the meantime, the mast of 4LD-4 rig operating at Ahmedabad Project was badly damaged while lowering on 25-6-68. Therefore, the mast of rig HLD-2 was transferred to 4-LD-4 rig.
(*vi*) BU-75-5	The rig completed its last well in March, 1969. The rig has been declared as unifit for future operations. The equipment and structures of the rig are being used as replacements for quick rig-building and for repair/capital overhauls.

(*vii*) BU-75-3	. The rig has been declared as unfit for future operations.. The equipment and structures of the rig are being used as replacements for quick rig building and for repair/capital overhauls.
(*viii*) 3D-13	. The rig completed its last well in May, 1969 and was thereafter sent tostores so that it could be deployed further after the results of the additional extensive surveys in West Bengal become available.

(II) Year 1970-71 : The following deep drilling rigs (excluding 5LD-1 which is being used in IPE) which were not in operation at the end of the year 1970-71.

(*i*) 2DH-1 (*ii*) BU-75-10 (*iii*) 3D-3 (*iv*) BU-75-11 (*v*) 4LD-2 (*vi*) BU-75-5 (*vii*) BU-75-3 (*viii*) 3D-13	The reasons for non-operation of these rigs have been given above.
(*ix*) BU-75-6 (*x*) BU-75-7 (*xi*) BU-75-8 (*xii*) (BU-75-13	These rigs have been considered as unfit for future operations. The equipment and structures of these rigs are being used as replacements for quick rig-building and for repair/capital overhauls.
(*xiii*) 4LD-4 (*xiv*) 4LD-5	The conditions of mechanical assemblies of the rigs were very poor.
(*xv*) 5D-4	. The rig has been considered as unfit for further use on the basis of the bad condition of its equipment, sub-structure and other non mechanical assemblies.
(*xvi*) 3D-1	. This rig was laid off considering the relatively shall volume of drilling work available in Assam. The various components of the rig were, however, used as standbys.
(*xvii*) 3D-5	. This rig was also laid off considering the relatively small volume of drilling work then available in Assam. The rig was, however, put in operation, again, after repairs, in June, 1971.
(*xviii*) Nat-45-1	. The rig was laid down in November, 1970 because of the bad condition of its mast and sub-structure. The rig has, however, been re-deployed since October, 1971 after replacing its mast and sub-structure.

APPENDIX III

(*Vide* para *No.* 8:85)

Blow out Preventor at Bodra

On immediate inspection of th said HYDRIL at the drill site it was found that the rubber element of the same was highly wornout and damaged. The Hydril was opened and inside body of the BOP was found corroded (mud cut at some places) and rubber oilseals damaged. On testing the Hydril, it was found that the same was leaking. It was, therefore, as per advice of Mr. Kuksov, Dir. of Drilling, decided in consultation with the Project Technical Officers and Russian Drilling Engineer, to xxplore the possibilities of getting the same, repaired in a suitable commercial workshop at Calcutta.

Since the inside surface was of 10" cameron BOP corroded and pitted, it was necessary to first machine the same, remove pittings & then put additional metal and again machine it to correct size. Putting additional metal by welding was not advisable because it was not possible to get a perfect smooth surface and, therefore, metal spraying was considered best. It may be mentioned that this was a specialised process and very few firms were capable of doing this job. Repairs of Hydril BOP consisted of mainly three parts:—

(i) Initial cutting, preparing the surface for metallising with nickel-chrome stainless steel, grinding the same to the original size of the bore.

(ii) Initial cutting of the piston, preparing the surface and metallising by nickel-chrome stainless steel on the portions 28"x10" length and grinding to the original size.

(iii) Fabrication of oil-seals of suitable sizes and specifications.

Accordingly, as per decision held in the meeting on 7-4-67 between Mr. Nogaev, Chief Soviet Adviser, Mr. Trifanov Chief Drilling Engineer & Consultant and Mr. A. K. Kuksov, Dir., of Drilling, immediate action was taken to carry out the repairs and manufacture at Calcutta. ....

As such type of repair of BOP was probably undertaken for the first time by the Commission, it was not sure whether the same would be done satisfactorily and, therefore, it was decided to fabricate, as an alternative arrangement an adopter flange (10"x12") at the same time so that 12" Hydril (300 p.s.i.) (below) and 10" Cameron BOP (5000 p.s.i.) (top) could be installed if other efforts fail. During fabrication of the said flange, some defects were observed that the stud-holes & grooves for the seal-rings, were not according to the specification. The defects were, however, got rectified and the flange was taken delivery from the firm on 4-4-67. On receipt of the same, 12" Hydril (below) and 10" Cameron BOP (on top) were installed and hooked up with necessary manifold lines and the hooked up was completed in 20-4-67, as per design approved by the Director of Drilling (dt. 12-2-67). In order to accommodate the said BOP hook up and flow-line, it was necessary to raise the height of the rotary beams by about 200 mm. and accordingly the job was completed on 24-4-67 by welding suitable channels. Meanwhile, one new type of Hydrometer brake assembly, which had been received from Sibsagar, was installed. BOPs were anchored with derrick substructures and after changing the position of the penumatic tongs, attempts was made to test the BOPs by operating koomy control. It was observed that while the 500 p.s.i. Hydrill BOP was functioning satisfactorily but the rod piston of the power operator of Cameron BOP was broken. The rod-piston was sent to workshop and after necessary repairs by means of welding, the same was received on 25-5-67. It may be mentioned that during the repair of rod-piston, the lip-seal of the operator-assembly was damaged by the workshop (outside). The operator was re-assembled with the rod-piston, the lip-seal of the operator-assembly was damaged by koomy control, but unfortunately, the rod-piston gave way again from the portion where the same had failed earlier. As such, it was decided to fabricate one new rod piston instead of repairing the same again. And accordingly, the work order was placed with a local workshop. In connection with the fabrication of the rod-piston, it was necessary to dismentle the other set of the operator-assembly for the original rod-piston, which was to be supplied to be supplied to the workshop as a sample. According, after dismantling the same, it was found on 6-6-67, that the female thread part of the lock-screw of the assembly was broken and the same was subsequently sent to workshop for repair.

Meanwhile, during the time, when the rod-piston was under fabrication, that 10" Hydril BOP, which had been under repair, was received on 11-6-67 at the drill site. The said BOP was operated on 12|13-6-67 at 1500 p.s.i. by means of koomy control on the ground. During the testing it was found that the top head gasket was leaky and immediate action was taken for the manufacture of the gasket locally, Necessary arrangement was also simultaneously made to dismantle the BOPs hook-up (12″ hydrill and 10″ Cameron BOP) for installation of 10″ Hydril and Cameron BOP, as per the earlier decision.

Both Cameron operator as well as 10" Hydrill were installed on 26-6-67 on receipt of the newly fabricated rod piston. Hydrill BOP was again operated on 31-6-67 on 1500 p.s.i. (by koomy control) and was found in order.

Installation of 10″ Hydrill BOP was completed on 24-6-67 alongwith manifold lines, etc. Pressure testing of BOPs was undertaken on 26-6-67 by closing the upper ram of the Cameron BOP; at 200 atms. and found leakage through BOP flanges and manifelt lines. It was further noticed at the time of operating the lower ram of the Cameron that same was not functioning properly. In order to ascertain the reason for improper functioning of the BOP, the lower rams and operator were dismantted and it was detected on 27-6-67 that the body of the lock-screw which had been rementalled earlier, was heavily damaged. 10″ Hydrill BOP was pressure tested next day by cementing unit at 200 atms, and it was observed that the pressure in the koomy control lines was rising alongwith the rise of the pressure created in the well. The BOP was dismantled and presence of mud and water, contaminated oil inside the chamber of the Hydrill BOP was noticed on 29-6-67. It was further revealed that the oil seals of the said Hydrill BOPs were also damaged. Fresh oil seals were manufactured and the BOP was again pressure tested by Cementing Unit and leakage was observed through oil-seals at 100 atms. After opening the Hydrill BOP, the original oil-seals were found to be damaged also. Meanwhile, the 500 p.s.i. 10″ Cameron BOP was installed with an adopter flange (10″x12″ made of mild steel). After installation of the above, 3000, p.s.i. 12″ Hydrill was installed over the same and the job was completed on 11-7-67. On testing BOPs on 12-7-67 at the 200 atms. leakages were observed through adopted flange (which was fabricated locally) and also through original oil seals. They were subsequently cleaned and re-assembled. As per the meeting, held in the project with Mr. Nogeav, Chief Soviet Advisor and Mr. Trifanov, C.D.E.&C. on 15-7-67 installation of 5000 p.s.i. 10" Cameron below and 3000 p.s.i. 12" Hydrill on the top (different from earstwhile ideas) was taken up and the same was completed on 18-7-67. This hook-up in order, after which, the drilling through residual cement was tested on 20-7-67 at 200 atms and found to be inside the casting and shoe was resumed for further drilling w.e.f. 21-7-67.

APPENDIX IV

(*Vide para* 3·95)

Statement showing the comparative study of standard costs with the actual costs of wells drilled during the period from October. 1968 *to March,* 1969

(Cost per metric)

Serial No.	Rig No.	Well No.	Area	Status of Well	Actual	Standard	Reasons for variations
					Rs.	Rs.	
1.	BU-75	N-51	Nawagam	Development	687·10	619·26	Excess in the actual cost is due to increase in cycle period more expenditure on preparatory cost manpower and services.
2.	5LD-1	D-7	Dhelka	Exploratory	856·61	690·00	Excess is due to increase in expenditure on civil works, manpower and P.O.L.
3.	5D-8	Asjo-I	Mehsana	,,	869·94	785·44	Excess in actual cost is due to increase in cycle days and in the cost on ervices and drilling days.
4.	4LD-III	Kadi-5	,,	,,	901·88	750·34	Increase is due to more expenditure on man power. materials (POL) and lubricants and services.
5.	BU-75	ANK-184	Ankloshwar	,,	593·64	528·17	Excess in actual cost is due to more expenditure on manpower, bits, cement and transport.

6	BU-75	ANK-185	Ankleshwar	Development	594·57	518·17	Icrease in actual cost is due to more expenditure on manpower, chemicals, others transport, cementation and services.
7	BU-75	ANK-186	,,	,,	573·17	518·17	Increase in actual cost is due to more expenditure on manpower, chemicals, others transport, cementation and services.
8	3-D-II		Karaikal	Deep well	904·43	699·73	Increase in actual cost is due to more expenditure on prepratory works manpower bits, POL, chemicals, others and services and much increase in cycle days.
9	URB-4PM		Nagudi	Structural	1,646·80	548·43	Increase in actual cost is due to more expeinditure on POL, cement others and services.
10	URB-4PM		Karaikudi	Structural	620·27	548·43	Increase in actual cost is due to mere expenditure on preparatery works, manpower bits POL, and other services.
11	5D-10	RDS-48	Assam	Development	641·31	457·66	Excess is due to more expenditure on preparatory works, man power, others, services and increase in cycle days.
12	3D-1	LKW-74	Assam	Development	644·15	461·19	Increase is due to cycle days.
13	3D-4	LKW-29	,,	Exploratory	660·76	515·32	Do.
14	3D-8	LKW-43	,,	,,	574·30	515·32	Do.
15	3D-5	RDS-53	,,	Development	523·42	448·72	Do.
16	3D-7	RDS-54	,,	,,	714·79	481·23	Do.
17	3D-6	RDS-55	,,	Dry Well	532·94	448·72	Do.
18	5D-10	RDS-51	,,	,,	606·60	457·66	Increase in cycle days, manpower and services.
19	3D-2	NAJ-1	,,	Exploratory	815·81	550·46	Increase in the cost of POL and lubricants.
20	3D-4	LKW-75	,,	Developments	493·68	461·19	Do.

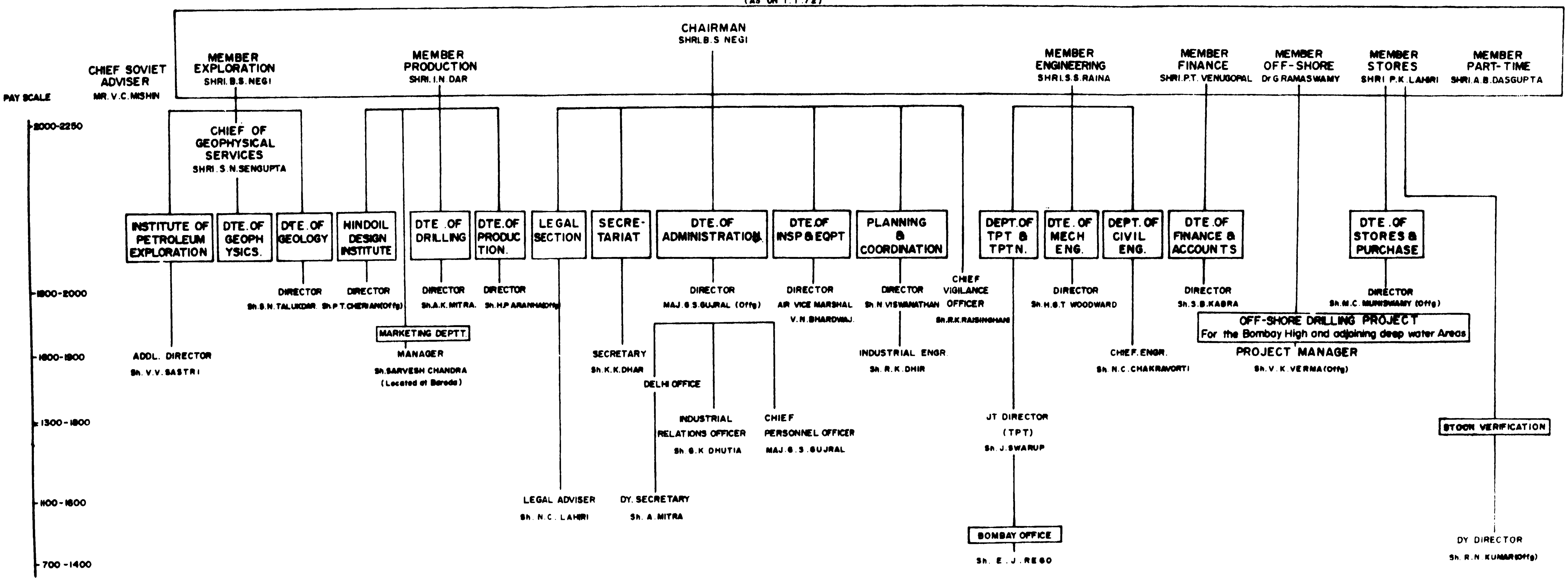
Serial No.	Rig No.	Well No.	Area	Status of Well	(Cost of metre) Actual	Standard	Reasons for variations
					Rs.	Rs.	
21	3D-14	LKW-80	Assam	Development	533·15	461·19	Increase in the cost of POL and lubricant.
22	3D-10	LKW-44	„	Exploratory	704·67	448·72	Do.
23	BU-75 XII	K-113-A	Ahmedabad	Development	772·70	473·41	Increase in cycle days/drilling period.
24	BU-75-V	K-106	„	„	1106·95	693·55	Increase in manpower cost.
25	BU-75 VII	K-122	„	„	858·68	Do.	Increase in Services.
26	NAT-45 I	K-128	„	„	499·75	423·30	Increase in cycle days.
27	BU-75 VII	K-126	„	„	706·98	693·55	Increase in cost due to manpower.
28	BU-75 KII	K-127	„	„	734·72	693·65	Increase in services.
29	BU-75-V	K-105	„	„	1,166·93	693·55	Do.

NOTE.—The actual cost does not include the incidence of Headquarters, Regional Offices, overheads and deprecintion as those factors have not been included in the standard cost.

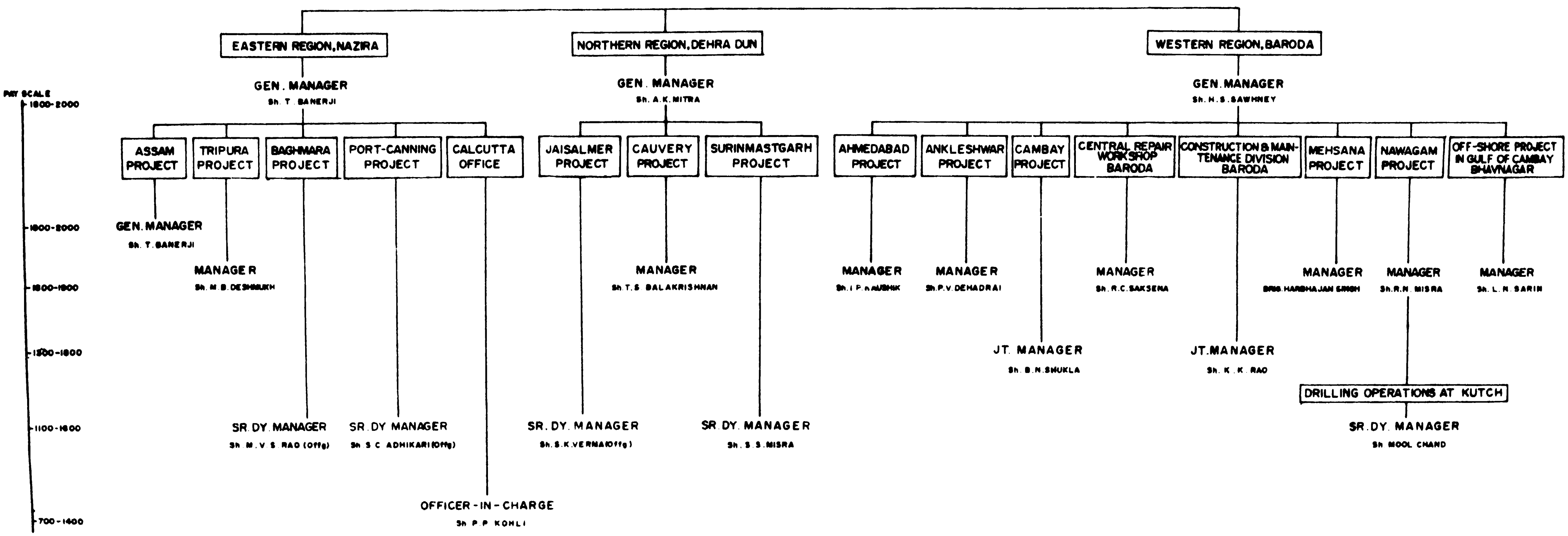
APPENDIX V
(VIDE PARA NO. 10.49)

ORGANISATION CHART OF THE OIL & NATURAL GAS COMMISSION

(AS ON 1.1.72)



FIELD ORGANISATION



APPENDIX VI

Summary of conclusions|recommendations of the Committee on Public Undertakings contained in the Report.

Sl. No.	Reference to Para No. in the Report.	Summary of conclusions/ recommendations.
1	2	3
1	1.46 & 1.47	The Committee note that while the requirements of crude oil would increase from 18.46 million tonnes in 1970 to 26.50 million tonnes in 1974 the degree of self-sufficiency in terms of indigenous production as compared to import would decrease from 36.9 per cent in 1970 to 33.2 per cent in 1974. For filling up the gap, the Committee note the country is dependent on major international oil companies, whose role in this regard has not always been in the best interests of the country. The Government is often faced with a tug of war for fixing price of the crude oil to be imported; in fact the prices of crude have been sought to be revised upwards no less four times by these Oil Companies since December 1970. The import bill in terms of foreign exchange is estimated to increase from Rs. 94 crores in 1969-70 to over Rs. 186 crores in 1974-75. The Committee also note that during the first three years of the Fourth Plan, there has hardly been any increase in the production of crude oil which has been at around 3.6 million tonnes from the oil fields of Oil and Natural Gas Commission. The Committee further note that the O.N.G.C. have an ambitious target of raising the production to 5.5 million tonnes by the end of the Fourth Plan. The O.N.G.C. have also prepared a comprehensive Ten Year programme for 1969-70. After the critical review of

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		this Ten Year Programme by the Soviet Experts, who had played such a valuable role in the initial phase of exploration and development of crude oil resources in the country, they have outlined two variants for exploration and development in their techno-economic report. The Committee expect Government to take a decision on these alternatives with the least possible delay so that the Plan schemes can be implemented in earnest in a concerted and coordinated manner. The Committee note the assurance given by the official representatives of the Ministry that all assistance including financial provision and allocation of foreign exchange would be given to the O.N.G.C. to implement the programme. The Committee would like Government to keep a keen watch on the concrete measures taken in implementation of the Plan schemes so that the O.N.G.C. could be extended assistance promotly to overcome any difficulty which may be encountered in the field. The Committee need hardly suggest that a comprehensive review of the progress made should be carried out at the end of each year so that the programme for the next year could be modified and augmented in the light of experience gained. The Committee would in particular stress the need for drawing up in depth and in time the next operational Plan for 1974-79 based on prospects, logistics and economics and with priorities duly determined so that the O.N.G.C. can concentrate its energies on its implementation with a view to facilitate achievement of self-sufficiency in this strategic field in the Seventies.
2	1.48	The Ministry should draw up an integrated plan for implementation with a view to attain self-sufficiency in crude oil at the earliest to save the heavy drain on precious foreign exchange which is expected to rise to Rs. 186 crores in

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		1974-75. The Ministry should have a separate task force cell to ensure systematic follow up and for taking steps for implementation of time-bound programme of Ten Year Plan to obviate the import of crude oil, at the earliest.
3	1.49 & 1.50	During the discussion on the demands for grants, in respect of the Ministry of Petroleum and Chemicals in Lok Sabha on the 6th July, 1971 suggestions were made by Members for evolving a National Fuel Policy with particular reference to the role of petroleum products in the economic development of the country. The Committee note that the National Fuel Policy question is under examination of the Planning Commission and the Ministry of Petroleum and Chemicals has also appointed a Study Group in this connection. They recommend that the National Fuel Plan should endeavour to coordinate the activities of all the parties engaged in the production of different kinds of fuels, as early as practicable and the Ministries concerned should also get together to evolve the National Fuel Policy which is so vital to the country's requirement.
4	1.51	The Committee would also suggest that the O.N.G.C. should take the active help of other scientific organisations such as BARC, CSIR, etc. for pressing into service latest scientific and technological developments in the interest of intensifying oil exploration programme and achieving self-reliance at the earliest.
5	2.10 & 2.11	The Committee find that the Government desire that the Chairman of the Commission should function primarily in the role of a co-ordinator and expect the Commission to function on the 'principle of collective deliberations and joint responsibility'. After careful examination of the views of the Government, the Committee

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		conclude that they are unable to accept their view-point as merely designating the Chairman as Coordinator would not clothe him with an effective authority. In an expanding organisation demanding quick decision-making, the power to take prompt decision is a primary pre-requisite and this cannot be fulfilled unless the Chairman has the power to overrule the dissenting views of Members in the overall interests of the organisation.
		The Committee after careful consideration are compelled to reiterate their earlier recommendation that the Government should arm the full time Chairman with the authority of the "Chief Executive" of the Commision with a view to expeditious implementation of work in the various fields.
6	2.14 & 2.15	The activities of the Commission are technical in nature. To gulfil its objectives effectively technical background at highest level is vital, and the senior level appointments deserve to be recruited out of the organisation itself. Moreover, continuity of eperience at Commission level for an effectively long period is a must. The Commission should also be allowed to function unhindered by outside (including ministerial) interference as far as possible. The Committee therefore recommend that:—
		(i) The Chairman, now a full time Member of the Commission, should be granted a tenure of at least five years which should not normally be reduced.
		(ii) Chairman should be invested with full authority to overrule, if necessary, the decision of the other members of the Commission in the interest of the efficient working of the Commission.

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		He should be designated as the Chief Executive Head and given the requisite powers.
		(iii) Secretary/officials of the Ministry should not be appointed Members of the Commission and deputation from Government Departments and other Public Undertakings should not ordinarily be allowed.
		(iv) Functional members should be well-versed in their respective technical fields.
		(v) Appointment of Member should be made in consultation with the Chairman.
		(vi) Procedure for appointment of Members of the Commission should be reviewed every 5 years.
7	2.16	At present the Member (Exploration) is also performing the duties of the Chairman. The Chairman has to function as Member (Administration) and is also incharge of Planning and Control, Secretariat, Vigilance and Legal Affairs. Needless to say that in a big organisation like the ONGC, the Chairman has to perform onerous duties and it is too much to expect Member (Exploration) to do justice to his duties both as Member (Exploration) and the Chairman. Knowing fully well that the captain of the team has to carry on the work, it is unfortunate, the Government has not filled up the post of the Chairman on a regular basis for over a year. The Committee hope that the Government will soon appoint a person to perform the duties of the Chairman exclusively.
8	2.17	The Committee have dealt with the importance of maintaining harmonious relations with

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		workers at all levels of the organisation in Chapter X. The Committee expect the Chairman and Members of the O.N.G.C. to set a high example of dedication so that the workers at all levels have a sense of participation and adventure in the common endeavour to achieve self-sufficiency in this crucial field of petroleum.
9	2.27	The Committee feel that for optimum utilisation of men, material and equipment, adequate delegation of powers to the appropriate authorities in O.N.G.C. is absolutely essential. If management personnel at various levels are to be called to account for achievement it is obligatory that they should have the necessary powers to act on their own. The Committee, therefore, recommed that General Managers of different regions should be given full delegation of powers commensurate with their duties and responsibilities. The headquarters should more appropriately concentrate on policy and planning, leaving the, General Managers, Project Managers and other field officers free to handle day to day work. The Committee note that O.N.G.C. is undertaking a comprehensive review of the delegation of powers. The Committee expect that the powers of the General Managers, Project Managers and other officers in the field would be suitably enhanced keeping in view besides the above observations the need for settlement of grievances/demands of labour except those involving policy and financial matters.
10	2.43	The Committee find that non-statutory Public Undertakings including Indian Oil Corporation do not require the approval of the Government for framing their rules and regulations. These undertakings enjoy comparatively greater autonomy in exercise of their powers and do not

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		require the previous approval of the Central Government for framing their rules and regulations as is required by the O.N.G.C. under Section 32 of the O.N.G.C. Act, 1959. The Committee feel that the functions and duties of the O.N.G.C. are more susceptible of comparison with some of the non-statutory undertakings, e.g., I.O.C. The Committee feel that the restrictions imposed upon the O.N.G.C. under sections 15 and 32 of the Act have the effect of impeding the efficient working of the Commission. The Committee recommend that Government should re-examine the position and give adequate powers to O.N.G.C. to frame its rules and regulations and exercise greater autonomy in the selection and execution of projects. The Committee recommend that Sections 15 and 32 of the O.N.G.C. Act may be suitably amended, as necessary as early as possible.
11	2.45	The procedural ineptitude has obscured the need of urgency. The relations of O.N.G.C. with the different State Governments, where O.N.G.C. is working, deserve special attention so as to facilitate quick decision and smooth working for example in matter of acquisition of land, fixation of price of gas, provision for accommodation, construction of approach roads, recognition of labour unions, etc. The Committee, therefore, stress the need for closer coordination between the Commission and the State Governments.
12	3.16 to	In the years 1966-67 to 1968-69 although overall targets in respect of geological field parties were generally fulfilled, the shortfalls were noticed in respect of shallow drilling continuously for three years. Moreover, during the year 1969-70, the geological parties deployed in Andaman Islands showed a shortfall in achievement of semi-detailed mapping to the extent of 275 sq. km. (abour 53 per cent), which they

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		attributed to the fact that despite the promise made by the Andaman Administration a boat could not be supplied to the Geological party for covering the coastal area.
		The Committee note that the percentage of productive days to field days in case of semi-detailed mapping has shown a rising trend from 1966-67 to 1968-69 from 71.69 to 76.63 but in the year 1969-70 it has come down to 74.5.
		The Committee note that in pursuance of an earlier recommendation made by them on work norm and standard cost, the Directorate of Geology had undertaken a study based on the performance of geological parties area-wise, work-wise and year-wise. Critical study of the results have, however, revealed that because of a number of variables such as topography, weather, accessibility, availability of labour, communication, type of work, socio-economic climate, local conditions, etc., it has not been found possible to work out a work norm or standard cost. While the Committee appreciate the difficulties inherent in working out a uniform norm or standard cost for geological survey, they feel that if figures are compiled systematically area-wise and work-wise these should help considerably in framing the estimates on realistic basis and of judging the performance where the area and the work are of similar nature. The Committee have no doubt that if the Commission earnestly persist in their efforts to compile data systematically and closely analyse it they would have before long reliable norms to guide and evaluate the work of geological surveys in the field.
		The reasons for the inability of the Andaman Administration to supply a boat to the Geological party should be looked into by Government with a view to finding lacuna if any, and obviate recurrence, in the matter.

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13	3.35 to	From the details furnished by the Commission to the Committee and the evidence given by the Commission/Ministry, it is observed that overall targets of survey work fixed for gravity-*cum*-magnetic parties by the Commission were attained except in the year 1967-68, the shortfall being in Gujarat only in 1966-67, Gujarat, Rajasthan, U.P., Assam and Orissa in 1967-68 and Assam in 1968-69. The Commission have assigned these shortfalls to factors like "breakdown of vehicles and equipment, inadequate repair facilities, poor accessibility of the area, development of defects in the gravity meter, etc." As far as the targets and achievements seismic parties are concerned, the Committee find that there were shortfalls in certain areas viz., Gujarat and Madras in 1966-67, Gujarat in 1967-68 and Rajasthan in 1968-69. The Commission had indicated that these shortfalls were also due to "breakdown of vehicles and equipment, inadequate repair facilities, poor accessibility of the area and delayed commencement of operations." The Committee note that for Gravity Magnetic survey, the percentage of productive days to field days rose from 46.59 in 1966-67 to 71.6 in 1969-70. Normally, the Committee would have expected that with the improvement in the percentage of productive days to field days, the average cost per Station/L.K.M. would also come down, but instead they find that the average cost rose from Rs. 131.70 in 1966-67 to Rs. 256.89 in 1968-69 (Figures for 1969-70 are not available). The Committee would like ONGC/Government to look into the reasons for this rise in the average cost per Station/L.K.M. despite improvement in the percentage of productive days to field days and take remedial measures to ensure that the cost is kept to the minimum consistent with work achievement.

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		The Committee would also like to point out that the percentage of productive days to field days increased for seismic offshore surveys from 19.77 in 1966-67 to 20.52 in 1967-68. The Committee consider that the percentage of productive days to field days is very much on the low side and every effort should be made to increase the percentage. The Committee are further perturbed to find that in spite of the fact that there was some increase in the percentage of productive days to field days in 1967-68 as compared to 1966-67, the average cost per Station/L.K.M. rose from Rs. 2,034.26 per Station/L.K.M. in 1966-67 to Rs. 3,198.44 in 1967-68. The Committee would like ONGC/Government to carefully analyse the reasons for this perceptible increase in the average cost per Station/L.K.M. in spite of the fact that the percentage of productive days to field days had improved. The Committee need hardly point out that as off-shore surveys are bound to increase, it is imperative that every effort is made to keep the average cost per Station/L.K.M. to the minimum.
		The Committee note that the O.N.G.C. are seized of the problem of working out the standard cost for geophysical survey and that with this objective in view, cost reports for four years from 1964 to 1968 have been prepared and analysed. It was, however, noticed that there was a difference of as much as 40 per cent in the average cost of geophysical surveys carried out in 1966-67 and 1967-68 and, therefore, it had been decided to ascertain actual cost of operation of two more years before working out the standard cost. The Committee hope that the relevant data must have been collected by now and standard cost for geophysical survey worked out in consultation with Finance and Audit so as to provide a yardstick for evaluating the performance of parties in the field.

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14	3.51	The Committee do not feel happy to note that the volume of work to be done in respect of seismic survey in the Jaisalmer area was not specified in the contract itself and it was therefore not found possible to verify whether the performance of the contractor was reasonable or otherwise. The Committee find that the cost of seismic survey work per line Km. being done by ONGC in the area is very high and would stress that every effort should be made to bring it down by more efficient and greater utilisation of men and equipment.
15	3.82 to 3.84	The Committee note that in the year 1968-69 as against the target of 2,76,500 metres and 126 wells, the Commission drilled 2,87,874 metres and 124 wells; in 1969-70 against the target of 2,71,342 metres and 127 wells, the Commission drilled 2,31,283 metres and 109 wells, and in 1970-71 against a target of 2,14,060 metres and 109 wells, the Commis in drilled 1,69,003 metres and 90 wells. The Committee regret to note that there is shortfall both in the meterage drilled and the number of wells except in the case of meterage in the year 1968-69. The Committee note the achievement in the number of wells completed yearwise but are constrained to note that as many as 82 wells drilled have not been fully tested. The Committee expect that as soon as drilling is completed in a particular well, the follow-up action of testing should follow as a matter of routine. Since the number of wells awaiting testing is large, the Committee feel that the planning of exploration, drilling and testing is not fully integrated in the ONGC. The Committee would like ONGC to go into the reasons for delay in commencing testing of wells. The Committee would recommend that the programme of testing a well should be time-bound. Timely testing of wells would provide surer clue whether exploration and drilling work should be intensified or modi-

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		fied in the light of the results achieved. The Committee also recommend that the results of testing should be correlated with the surveys which had preceded drilling so as to derive guide lines for future exploration and drilling work.
		The Committee have also noted that during the year 1966-67, 13 rigs were laid off or not used. In 1967-68, 8 rigs were laid off or not used, in 1968-69, 8 rigs were not used. In 1969-70, 8 rigs were not in operation and in 1970-71 as many as 18 rigs were not in operation. They were not used as either they were laid off or were under repair or transport.
		The Committee note that at the meeting of the Commission held in August 1971 it was decided in principle that 11 of the rigs should be considered "as not available for active service". It was also decided that before these rigs were treated as condemned a Survey Board should inspect the same and report and also assign a value to the recoverable parts of these rigs. The recommendations were to be placed by the board before the Commission for further decision. Government are still awating the results of the follow-up action taken in the matter by the Commission. The Committee are constrained to observe that in a matter of such urgent importance as availability of rigs for service or otherwise there should have been so much delay. The Committee would like Government and ONGC to undertake a critical review of the rigs which are borne on their inventory with a view to locate those which are unserviceable and should be disposed of and those which can be put into service after execution of repairs where necessary. Government/Commission should then take an overall view about the adequacy or otherwise of these rigs as compared to the present assignment for exploration and development and take timely measures to equip

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		themselves with requisite number of rigs of suitable design and make in the interest of timely and efficient execution of the plan programme.
16	3.92 & 3.93	The Committee note that as against the project depth of 5,000 metres to be reached in drilling Borda well by March, 1967, only 3,315,80 metres were drilled by February, 1967 when further drilling was stopped. The well was sealed at 4,198 metres and divided into 9 horizons. Production test conducted of these horizons did not show encouraging results and well was abandoned, after incurring expenditure of Rs. 2.40 crores. The Committee regret to note that there was change in decision with regard to setting up the derrick for the Bodra well. The foundation plans had to be altered after the tenders had been accepted for the foundation works as instructions were received that four legged derrick type from Sibsagar would be used instead of "A" type derrick contemplated earlier. Accordingly, the tenders were re-invited. The foundation plans were again revised on the advice of the consultants. Thus, it appears in retrospect the Seismic data collected before starting the drilling at Bodra well in West Bengal needed improvement. The data collected by drilling 4,198 metres at Bodra well although of importance to ONGC, may not be commensurate with the huge expenditure on the well. The Committee expect the Commission to draw lesson from this experience and recommend that careful and effective survey should be carried out before selecting a site for drilling in future and to ensure that such lapses will not occur again.
17	3.97	The Committee note that the reasons for variation between the actual cost and standard cost of drilling have been chiefly due to increase in cycle period, increase in expenditure on civil works, more expenditure on man power and P.O.L., increase in cost of services, increase in

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		number of drilling days and increase in expenditure on chemicals, cementation, transport and other materials. In the opinion of the Committee, the reasons assigned for the wide variations can be checked with proper planning and control. The Committee feel that there is scope for reduction in the cost of drilling. The existing mud pumps could be replaced by more powerful ones capable of drilling to great depths. Efforts should also be made (i) to improve the quality of drilling mud, (ii) to procure drilling bits of better quality and more suitable for drilling through the expected rock formations, (iii) to procure drilling pipes with better quality and with factory fitted tool joints, (iv) to give more emphasis on proper maintenance of drilling rig and machinery and create better facilities, (v) to procure better and additional coring, fishing, drilling stem testing, lifting and transportation equipment.
18	4.11 to 4.14	The object of entering into a contract with M/s. Technoexport was to conduct seismic survey in the various prospective parts of the Continental shelf of the Gulf of Cutch and Coromandal Coast to obtain information regarding the structures and other geological conditions, which is necessary for making a broad preliminary assessment of the oil and natural gas prospects in any areas. The performance during the original contract period *i.e.* 1st August 1964 to 3rd October, 1965 indicates that out of total 429 days (excluding voyage days from Russia to India), actual survey work was done only for 152 days and the actual line kms. covered were 6,351 out of 9,600 line kms; thus leaving a shortfall of 3,249 line kms. The performance during extended period of contract from 4th October, 1965 to 3rd January, 1967 indicates that out of the total of 457 days, the ship was engaged in actual survey work for 183 days. The actual line kms covered by the survey were 8,272.1

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		line kms. against the target of 6,160 line kms. The Committee regret to note that the objectives for carrying out seismic survey in the various prospective parts of the Gulf of Cutch and Coromandal Coast was not fulfilled during the different stages of the contract. Besides, it is also noted that the Commission accepted a higher offer on the consideration that it would involve lesser expenditure in foreign exchange. Moreover, the extension of contract was made to link it up with another agreement with SNAM which envisaged the use of drilling platform of SNAM to be brought from Italy and also to complete the Seismic Survey of the continental shelf of India. Unfortunately, the Committee find that these objectives failed to materialise. The targets set out in the contract could not be achieved and the submission of the Report of the contractor on the Seismic Survey was also behind schedule. The Committee note, the Report indicated the presence of two structures *viz.* "Bombay High" and "South Tapti" in which deep exploratory drilling was recommended but no exploratory drilling has yet commenced. The Committee are concerned to find that the sense of urgency in commencing deep off shore drilling has been lost by the Commission.
19	4.18	The Committee note the activities of the ONGC in surveying the continental shelf of the country and notice that the job was being undertaken through hired agencies. A stage has come for the Commission to raise its own team of experts, capable of undertaking seismic surveys of the continental shelf without depending exclusively on foreign agencies. The Committee recommend

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		that the modern methods and techniques of seismic survey including the latest equipments of magnetic seismic survey be acquired. They also hope that the personnel concerned will be trained properly to handle these equipments for successful execution of the job.
20	4.23	The Committee very much regret to note the undue delay in processing a proposal both at the ONGC level and at the Government level has resulted in withdrawal of an offer of sale of a second hand seismic survey ship by a foreign party. The arguments whether the ship in question was suitable to the requirements of the ONGC or not and whether the offer was not considered on grounds of short validity period seem unconvincing. The Committee would like Government to take expeditious decision in the matter so that ONGC have the services of a fully equipped seismic ship for carrying out the requisite survey.
21	4.29	The Committee appreciated this daring deed of all officers and men of ONGC for their perseverence and courage and congratulate ONGC for designing and fixing "off-shore" platfrom.
22	4.39	The Committee can hardly over emphasise the need for urgently discovering new reserves of oil both on off-shore and on land. The Committee have a feeling that the progress in matter of acquiring the mobile platform or in taking a decision to go in for drilling in the Gulf of Cambay has been slow. The Committee expect that with the appointment of the Member (off-shore) in the Commission to look after the off-shore ventures of the Commission, decisions in this regard would be taken expeditiously. One of the reasons for going in the off-shore areas of the Gulf of Cambay and the adjoining areas off the Arabian Sea, is the likely extension of the known petroliferous sedimentary basin of Gujarat into the aforesaid off-shore area and in the

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indications of the presence of large structures in the area. In this context the presence of oil in the very first venture in under-sea drilling is gratifying to note. Whether the strik of oil is commercially viable or not, it has shown presence of oil in these structures. It brightens the prospects of finding oil in off-shore continental shelf. The Committee appreciate the fixing of the rig at Aliabet ahead of schedule. Subsequently the project suffered a set back and work had to be suspended for several weeks due to defect in the mud circulation system of rig and unfavourable weather. The finding of oil should boost the morale of the Commission's personnel and encourage them to intensify their efforts in this region. This should encourage plans to look for oil in the adjacent and more promising fields in the Gulf of Cambay. The country has paid a heavy price for the Aliabet project and not to make use of the expertise gained would be unwise.

The time lag between the submission of the report of the Soviet off-shore seismic team and the decision to commence drilling in the area recommended by them is big. The Committee realise that decision in a delicate matter like this involving huge investment is not easy to arrive. Nonetheless our search for crude oil to become self-sufficient is necessary. At this juncture one can hardly afford to go slow in a matter so vital to the country.

Looking to the extensive area ONGC is covering on land and the present assessment of large areas of oil bearing off-shore area of India's continental shelf, the Committee feel that there is a good case for the off-shore operations both survey and drilling to be looked after by an independent agency. The Committee recommend that Government may consider of relieving

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		ONGC of the operations pertaining to off-shore surveys and drilling and setting-up another organisation independent of ONGC for conducting off-shore survey and drilling as these need separate planning and expertise in the interest of efficiency and attaining self-reliance in this crucial fuel resource in the nearest future.
25	5.13	The Committee find that so far as the transport of crude from Gujarat oil fields is concerned, most of the difficulties have now been overcome and pipeline laid for assured supply to Koyali Refinery. The Committee need hardly stress that there should be close co-ordination between ONGC and the Refinery and a perspective plan should be drawn up so that supplies to the Refinery can be stepped up in keeping with its expansion programme etc.
26	5.14	As far as Rudrasagar and Lakwa Oil fields in Assam are concerned the Committee are not clear whether the real constraint arises from the fact that exploration and drilling operations in these fields have not yet conclusively established commercial production or for want of transport facilities or for lack of capacity in the Refineries. The Committee need hardly point out that most pressing problem is of reducing, if not eliminating, our dependence on imported crude. It is, therefore, imperative that the known reserves of oil in Lakwa and Rudrasagar fields are fully exploited and the transport bottlenecks overcome suitably. The capacity in the Refineries at Gauhati or Barauni should also be suitably augmented if necessary to refine this available crude. If, however, the intention is that the supply of crude from Rudrasagar and Lakwa oil fields should be stepped up only when the Refinery comes up at Bongaigaon then the Committee expect Government/O.N.G.C. to clearly state and publicise the decision to obviate any misgivings.

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		In that case, the Committee would also expect Government/ONGC to draw up a coordinated programme for development of Lakwa and Rudrasagar oil fields to synchronise with installation of refinery at Bangaigaon.
27	5.21	In the opinion of the Committee much of the criticism about flaring of gas could be avoided, if O.N.G.C. were to explain the technical reasons for doing so through their publicity media in a layman's language. The impression that the supply of gas from O.N.G.C. is not regular should be dispelled by them. It is likely that the demand of gas in the Gujarat region may increase in the future. The Committee would suggest that ONGC should identify the areas where the demand of gas is expected to increase and take necessary steps well in time to meet the need of prospective industrial consumers.
28	5.33 & 5.34	The Committee find that consistency of approach in regard to the allotment of work of designing of the Kalol-Nawagam-Koyali Pipeline was lacking. The Committee are not able to appreciate how ONGC/Ministry thought of negotiating designing work with a foreign firm when the Hind Oil Design Institute of ONGC/Engineers India Ltd. (a public sector undertaking) could undertake the same and thus save valuable negotiations. The result of the vacillating policy was delay in the designing and commissioning of the pipeline. The Committee is of the view that the Government should have shown greater alertness and firmness in deciding the award of the contract to an indigenous organisation. Now that the Kalol-Nawagam-Koyali Pipeline has been commissioned and regular production has commenced from the Ahmedabad Project, the Committee trust that adequate care has

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		been taken to see that the capacity of the pipeline would meet in full the present and future requirements of an expanding refinery like Koyali.
	5.47	The Committee note that the Lakwa and Rudrasagar fields of O.N.G.C. have an optimum production potential of 1 million tonnes per annum between them. This potential was developed some years ago and has hardly been put to use for want of refining capacity at Barauni/Gauhati. The Committee note that Government have now taken a decision to set up a Refinery at Bongaigaon in Assam to refine this crude and this refinery is likely to go on stream in 1974. The Committee deprecate delay of several years in putting to effective use the production potential of one million tonnes estabalished in Lakwa and Rudrasagar fields which could have saved the country some part of the valuable foreign exchange which is being expended to import crude oil from abroad. The Committee would like Government to lose no further time in ensuring that the new Refinery is brought up expeditiously and in the meantime the crude potential at Lakwa and Rudrasagar are utilised to the extent feasible by transporting it by suitable means to the existing Refineries at Barauni/Gauhati.
29	6.21 and 6.22	The Committee note that the real purpose in entering into a joint structure agreement and capital participation to the extent of 16-2|3 per cent with the National Iranian Oil Company (NIOC) was to develop oil resources in the offshore area of the Persian gulf to meet the requirements of crude for the country. The Committee find that the venture has resulted till 1970 in a cumulative loss to ONGC of Rs. 15.59 crores. The Company has been able to establish production of crude oil in no more than two fields

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		of Rostam and Raksh only. Out of its share of 65,17,146 barrels (till July, 1971) Hydrocarbons India (P) Ltd. lifted 24,37,670 barrels only, thus resulting in underlifting to the extent of 40,79,476 barrels or roughly 62.6 per cent of the share.
		The Committee note that Government are now thinking of utilising this crude mixed with other crudes for processing in existing refineries and that they are also contemplating adaptation of the spare capacity available in the Barauni Refinery to take up processing of Rostam crude. Another proposal is to provide for utilisation of this crude in the projected new refinery at Goa. Government claim that they are able to sell Rostam crude at comparable prices to Japan and other countries which are already processing crude with sulphur content. The Committee need hardly emphasise that Government should without further loss of time examine in depth the economics and possibilities of utilisation of Rostam and Raksh crudes in either the Government owned or private sector refineries *vis-a-vis* the cost of importing crude from elsewhere into the country, keeping in view the relative qualities and characteristics of these crudes; the end-products which can be derived from them and the consumption pattern of petroleum products in the country. The Committee consider that had Government carried out a thorough analysis of the problem earlier or made more vigorous efforts to dispose of crude there would not have been shortfall to the extent of 62.6 per cent in our lifting of crude from Rostam and Raksh oil-fields. The Committee would like Government to take a most rational decision in national interest about the disposal of our share of crude from these oil fields of Iran in which Government have made substantial investments and suffered already a cumulative loss of over Rs. 15 crores

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		so as to derive the maximum benefit and cut down the losses.
30	6.26	The Committee note that steps have already been taken to bring the Hydrocarbons India (P) Ltd. within the purview of Audit by the Comptroller and Auditor General of India-first through a resolution by the Board of Directors and then by amending the ONGC Act suitably. The Committee recommend that this should be done at the earliest.
31	6.28	The Committee find that the number of Indian Personnel for training and for employment in IMINOCO, the parent Company is negligible. In addition to the two persons already trained there are two more Indians with them one for training and one in their employment. The Committee would suggest that Hydro-Carbons India (P) Ltd. should persuade IMINOCO to accept more Indians for employment and training so that ONGC may be able to gainfully draw upon their experience and expertise in furthering off-shore drilling programme in the country.
32	7.30 to 7.34	The Committee understand that certain items of spohisticated equipment for drilling have either been procured or are on order or are being processed. In the opinion of the Committee there is a big scope of reducing the number of idle days, which is due to a number of avoidable reasons like waiting for mud chemicals, shortage of equipment, etc. It is essential that loss of time on account of fishing and complications should be reduced to the minimum possible extent. Use of better type of drill pipes bits and fishing tools can result in higher speed. Application of latest sophisticated tools should help ONGC in achieving this objective.

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Oil exploration is a very risky venture and because of this risk considerable diversification of efforts are needed to have a chance of a successful oil exploration programme. Slackness in taking initiative in the matter of selection of equipment has to be avoided. The Committee recommend that the Commission should plan out the requirements of equipment in advance on a realistic basis and acquire them matching their perspective planning.

At present ONGC is chiefly using rigs from Russia and Rumania, which were considered to be the latest at the time of purchase some ten years back. They have as many as ten types of these rigs. Maintenance of these rigs poses a problem as far as requirement of spare parts is concerned. ONGC should go in for standardisation of rigs. It is possible to procure rigs of the same type and capacity for similar depth range.

The Committee find that at present some rigs are surplus and no proposal has been submitted by ONGC to the Government recently for buying rigs. The Committee would like the Commission to do a careful evaluation of existing rigs and make assessments of requirements of rings project-wise with a view to locate the unserviceable and repairable rigs and the type of rigs, best suited for drilling in the different projects. The Committee would urge the ONGC to take an early decision with regard to rigs awaiting development. The Commission should dispose of such of those rigs on which the expenditure involved in repairs would not be commensurate with the efficiency of the repaired rig. This would help ONGC to rationalise its inventory. If need be, a suitable programme for replacement of old rigs and deployment of improved types of mud pumps to improve the efficiency of rigs should be drawn up. The Commission

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		has decided to write off 10 old rigs on the basis of the present condition of rigs. A detailed survery of all the components pertaining to these rigs is being carried out. In the opinion of the Committee, such an exercise should have been done earlier.
		From the facts placed before the Committee it appears that as far as the Oil and Natural Gas Commission are concerned, non-availability of foreign exchange from any particular source is no longer a hindrance. Government provide the necessary foreign exchange to enable the ONGC to get the required equipment. The Committee recommend that the ONGC should be careful in utilising the foreign exchange for acquiring new and sophisticated equipment and instruments, which should result in the long run in corresponding saving in the quantum of foreign exchange to be spent on the import of crude oil. They recommend that the Commission should place before the Government proposals for "a complete project" including the foreign exchange requirement instead of approaching piecemeal. The future requirements of ONGC for rigs should be procured from the sources, which can deliver the goods of the right type and requirement, instead of being tied down with the availability of foreign exchange from any particular source.
33	7.35	The Committee are surprised to know that in spite of the Chairman, ONGC being a Director on the Board of Oil India Ltd., no comparative evaluation of performance of rigs of the two organisations has been undertaken. The Committee are of the view that such an evaluation would be useful to both of them and expect that it should be undertaken without any further loss of time.

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34	7.44	Though the enquiries have attributed the blow out to 'operational and administrative failure', perhaps a better type of a Blow Out Preventor could have saved the situation.
35	7.59 to 7.61	The need for developing indigenous capacity to manufacture rigs within the country cannot be over-emphasised. It deserves utmost consideration of all the concerned authorities, but the way manufacturing/assembling of the three rigs at the Heavy Engineering Corporation, Ranchi, has progressed leaves much to be desired. So far ONGC has received only one rig and that too has not put to use as some of the components are still awaited. The reasons for the delay in the assembling/manufacturing programme of rigs should be looked into and necessary measures taken to overcome these delays. The Committee would also like that the suitability and performance of the rigs manufactured at the Heavy Engineering Corporation should be carefully evaluated so that the necessary improvement could be effected in the new rigs to be manufactured.
		The Committee need hardly point out that as Heavy Engineering Corporation have lot of spare capacity available it could be gainfully utilised in the manufacture of rigs of suitable designs and other equipments best suited to the requirements of ONGC and other public undertakings engaged in drilling, mining, etc.
		The Committee recommend that there should be greater coordination, amongst the ONGC, the HEC and the Administrative Ministries concerned with a view to plan and frame their programmes in a more fruitful way according the needs of each other. The Committee recommend that Government should give all assistance to undertakings to achieve this objective.

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36	7.62 to 7.64	The Committee appreciate the Commission's programme of substantially bearing the cost of tooling required for development and asking the manufacturers to develop items against educational orders as also bearing the cost of sample. Another field in which it is essential to reach self-sufficiency pertains to pipes including seamless pipes which are required in very large numbers for exploration, development and transmission of oil. The Committee consider that since India has already valuable experience in the field of manufacture of pipes, it should be possible to manufacture special types of pipes including seamless pipes required for the oil industry. The Committee would stress that both Government and O.N.G.C. should make concerted efforts to achieve self-reliance in drilling equipments and other stores required for oil exploration and development programme.
37	8.6	The Committee have noted with concern that there had been unnecessary stock-piling of bits and that of spare parts for imported transport equipment, because of incorrect assessment of requirements. The tendency of accumulating unnecessary stores not only ties up capital, but also results in unnecessary expenditure on their care and maintenance. The Committee understand that the ONGC has already acquired an Electronic Data Processing Equipment. The Committee feel that the computer should have been available in all its regional offices and should have been fruitfully utilised so that inventory position is readily available at any point of time to avoid duplication of orders. The Committee expect that with the appointment of

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		Member of the Commission exclusively incharge of Purchases and Stores, the system of inventory control will improve. The Committee note that the Commission has not so far classified the inventory separately into indigenous items and imported items. Segregation of inventory into indigenous and imported items is a very essential item of inventory control in the opinion of the Committee. The Committee trust that ONGC will expeditiously take necessary steps to classify the inventory holdings accordingly.
38	8.16	The Committee note that lists of slow-moving and non-moving items of imported stores and spares could be prepared only in September, 1971. Although it was estimated that stores and spares of the value of Rs. 1.71 crores approximately could be declared surplus, so far slow-moving and non-moving items worth Rs. 7.31 lakhs only have been declared surplus and stores worth Rs. 51.58 lakhs have been assessed and awaiting declaration as surplus. Since declaration of surplus is a continuous process, the Committee would stress that exercise of identification of surplus items in slow moving and non-moving stores and spares should be completed as early as possible and suitable action taken for their disposal.
39	8.17	The Committee find that currently ONGC is having an inventory of excess holdings to the tune of Rs. 1.56 crores and an inventory of non-moving items to the tune of Rs. 0.15 crores *i.e.* Rs. 1.71 crores as against a closing balance as on 31st March, 1969 of Rs. 25.090 crores. This means nearly 7 per cent of ONGC inventory holding needs to be disposed of. The Committee hope that energetic steps are being taken by ONGC in reducing their holdings of inventory. The procedure for determination and disposal of such items should also be reviewed expeditiously.

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40	8.18	The Committee note with concern that unserviceable stores valued at Rs. 12.03 lakhs were put to auction between January, 1968 and January, 1969 and a sum of Rs. 0.80 lakhs was realised and that the balance of stores valued at Rs. 5.44 lakhs has been kept to be used again as raw material. The Committee are surprised to note that stores once declared 'unserviceable' had been detained for use again as raw material. Apparently, the procedure for declaring a particular store as 'unserviceable' is not sound and needs to be reviewed with a view to prevent the disposal of serviceable stores without proper scrutiny. The Committee hope that the system of fixing a minimum reserve price is followed in each case while auctioning the unserviceable stores.
41	8.19	The Committee have also noted that in Ahmedabad lots of different sizes of belts numbering 2000 to 3000 were stored in a heap and most of them had lost their original shape and had creaked. The value of the stores had not been intimated. This manner of stacking the belts is regrettable. The reasons for non-observance of the stacking procedure should be looked into, respectively fixed and necessary action taken to obviate recurrence of such losses.
42	8.23	The Committee note that the Commission placed an order for the supply of Kenflo Super Concentrate valued at Rs. 2.06 lakhs for preparing oil base mud without making an assessment about its requirement. The mud-chemical was purchased in June, 1963 and till May, 1969 only three drums of the mud-chemical were issued for use. The Committee regret to note that undue haste was exhibited by the Commission in purchasing the mud-chemical, which could not be utilised gainfully.

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43	8.31	The case of purchase of bits of incorrect specifications, which resulted on account of defective documentations, is regrettable. The Committee hope that efforts being made to either return them to the supplier or to sell them off to some party within the country would prove successful and ONGC saved of a loss of Rs. 22.69 lakhs on this account.
44	8.36 and 8.37	The Committee note that as in June, 1971 out of a total of 108553 indigenous items of stores and spares for which stock cards are maintained, maximum/minimum limits have been fixed by the Commission only in respect of 11022 items of recurring consumption and that indigenous stock items of stores and spares are reviewed once a year. The Committee emphasise the need for fixing the stock limits in respect of the remaining items after making a thorough assessment of fast moving and slow moving items.
		The Committee understand that the imported items are constantly kept under review at headquarters through EDP reports in respect of each Directorate. The Committee consider that if these reviews are carried out in depth, there should be no question of any imports taking place for in excess of the requirements. In fact, the Committee would suggest that the review should also serve another purpose of seeing how far the items which are intended to be imported could be substituted by indigenously produced goods.
45	8.48	The Committee trust that ONGC will gain from the experience of the contract and plan their future requirements on a realistic basis keeping in view their perspective drilling programme. As suggested by the Government, the Committee would also stress that all proposals for new equipment should be submitted to the Government in the form of a complete project

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		report rather than piecemeal as is being done now. This would go a long way to obviate the need for reducing or increasing the order, after it has been contracted.
46	8.59	The Committee note that physical verification of stores is carried out every year in accordance with the provisions of Rule 17(1) of the Oil and Natural Gas Commission Rules, 1960 and that the instructions have been issued in connection with the deficiencies pointed out by the Stock Verification Team. The Committee trust that the instructions issued will be borne in mind by all concerned in the Commission and that constant endeavours would be made by the Commission to bring down the figure of discrepancies as early as practicable.
47	8.67	The Committee note the efforts made by the Commission to secure control over the capital assets and also find that investigation in respect of credits and debits noticed, as a result of census of capital items, is proceeding. They hope that the differences would be resolved expeditiously and a clear picture of capital assets will emerge out soon.
48	8.79	The Committee regret to note that the system of inventory control in the past had not been upto the mark, in as much as due to an error in the figures of stock in hand an emergency arose for purchase of casing pipes from abroad. It was feared that had the pipes not been purchased immediately, it would have become necessary to lay off a number of rigs. But the Committee are surprised to note that in spite of the emergent purchases being made, the supplies were not received according to the delivery schedules laid down in the contracts. The matter in which these pipes were purchased in emergent basis is also not very clear. The Central Bureau of Investigation is currently examining this case. As

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		such the Committee would not like to comment on it.
49	8.80	The Committee would however like to emphasise the need for an all out effort for developing indigenous sources of supply of the casing pipes of the size and specifications required by the Oil and Natural Gas Commission. The Committee would like the Ministry of Steel and Mines, Ministry of Industrial Development, Directorate General of Technical Development and the Ministry of Petroleum ONGC to comprehensively review the manufacturing capacity within the country and take concerted measures to achieve self-reliance in this crucial field by a specified date.
50	8.85 and 8.86	It would thus be seen that the lower tender in respect of purchase of tubings from Japan were not communicated to the administrative Ministry in anticipation of non-availability of foreign exchange from a particular country without ascertaining from the Ministry of Petroleum, its administrative Ministry. They suggest that in such matters it should be obligatory for the Public Undertakings to approach the Ministry of Finance through their administrative Ministry rather than direct, and this practice should be strictly followed.
		As in the case of casing pipes, in the case of tubings it is highly desirable that the country should be self-sufficient. Avenues for manufacturing the desired types of tubings should be explored and every endeavour made to become self-sufficient in this regard by a specified date.
51	8.93	The Committee observe that the stacking of pipes received under different contracts was mixed up and it was not possible at the time of

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		their use to distinguish pipes received under another contract nor to ascertain whether the pipe had been used and tested within guarantee period. The Committee would stress that the machinery for checking of stores and spares at the time of their receipt is geared up so that the defects in the stores and spares may be noted right at the time of their receipt instead of their being noticed at the time of use.
52	8.94	The Committee would also suggest that ONGC should segregate its inventory under each contract so as to avoid any difficulty in future specially when there is dispute over wrong specification of the items supplied.
53	9.10	The Committee find that despite Government's decision in 1968 that they would supply finances to O.N.G.C. in the form of capital for exploration and loan for development the accounting and budgetary procedures were not revised, until recently, to reflect accurately the above position. It is a moot point whether the entire cost for pipeline construction should be debited to production expenditure and none to exploration head. Similarly it is not clear as to what would be the most appropriate head to debit cost of project housing. The Committee find that Government have already asked Malaviya Committee to specifically go into all aspects of equity: loan ratio and to recommend removal of any financial disincentives that may be coming in the way of exploration and production by O.N.G.C. The Committee would like Government to go into all aspects of the matter and take an equitable decision which would make for a vigorous and meaningful programme for exploration and production.

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54	9.14	The Committee note that in the present procedure the profit and loss accounts for a particular year is prepared only for commercially producing fields and only a portion of the total expenditure in respect of similar fields, which are not commercially producing is charged to profit and loss account. The Committee also note from the balance sheet as on 31st March, 1970 that out of a total expenditure of Rs. 101.16 crores incurred by ONGC so far on development on areas other than producing properties, a sum of Rs. 8.30 crore has been written off during the year 1969-70 and the balance of Rs. 92.86 crores has been shown in the balance sheet to be written off in the coming years. The expenditure incurred by ONGC on development etc. of areas other than producing properties during the year 1970-71 and also the brought forward expenditure as on 31-3-1971, was Rs. 118.61 crores. Of this a sum of Rs. 10.04 crores was written off against the revenues (in the P & L Account) during the year leaving a balance of Rs. 108.57 crores as on 31-3-1971. The percentage of profit before tax to capital invested is showing a downward trend. The profits from the commercially producing fields as compared to the total capital invested (both in exploration and development) does not reflect the correct position, as the capital investment is in two different channels. Similarly much of the glamour from the profits is taken away, when the quantum of expenditure incurred on the development of areas other than producing properties to be written off in future, is taken into consideration.
55	9.20	The Committee recommend that the procedure for sanction of foreign exchange should be so streamlined that room for avoidable delay is negligible. As a step in this direction, the Committee would like Government to examine whether the administrative Ministry should be

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		empowered to sanction the foreign exchange on schemes already approved in principle by Finance Ministry without making another reference to that Ministry as is the existing practice. In the opinion of the Committee, the administrative Ministry should call for from ONGC quarterly report of anticipated expenditure involving foreign exchange in detail, examine their reasonableness and thereafter obtain the sanction of the Ministry of Finance (Department of Economic Affairs).
56	9.26	The Committee are anxious that this matter in reconstitution of the Economy Committee and also that this Economy Committee did not meet from June, 1967 to December, 1970. The Committee recommend that the Economy Committee should meet periodically say at least once in every three months to study and resolve the objections raised by the Internal Audit Parties. The Committee would stress that the comments of Audit should receive serious consideration at all levels and necessary follow up action should be taken in each case promptly.
57	9.33	The Committee are anxious that this ematter should be settled quickly. The ONGC and the Railway Board, both being different limbs of Government, it is not desirable to carry on this kind of discussion and a long-distance correspondence. The matter might have been settled by a conference between the Finance Member of the ONGC, Financial Adviser to the Petroleum Ministry, the Financial Commissioner, Railways and representative of the Petroleum Ministry. The Committee need hardly emphasise that in matters like these there should be a complete and a fruitful coordination amongst all the concerned authorities.
58	9.50 to 9.52	The Committee feel that while it would be legitimate for ONGC to take into account the

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		cost of production of natural gas as well as the royalty which is to be paid to the State Government is has to be borne in view that natural gas is a fuel resource of basic importance for industrial development of Gujarat which is situated far away from the coal areas and does not have any industrial fuel except gas and petroleum. The Committee, therefore, need hardly stress that in fixing the price of gas hereafter Government should keep this important consideration in view so as to assure supply of natural gas for power, fertilisers and other basic industries at a resonable rate.
		The Committee note the ONGC's statement that there is no difficulty in meeting the requirements of industry, in the contiguous areas, for supply of gas. The Committee would like ONGC to publicise the availability of gas so that it can be used in ever larger quantities for industrial purposes. The larger use of gas should also yield economies of scale to ONGC. The Committee would also stress the need for taking effective measures to ensure that the cost of generation and supply of gas are reduced to the minimum so as not to burden the industry.
		As regards the flaring of the gas the Committee would like to recall that when they visited the Ankleshwar Oil fields it was understood that the Commission was examining the economics of suitably compressing the gas and putting it to industrial use. The Committee have been supplied a copy of the "Feasibility Study For a Gas Compressor Station at Ankleshwar to transport additional gas to Baroda". It is claimed in the study that on an investment of Rs. 100 lakhs, the Commission would be able to have a return of 38.81 per cent before taxes and 17.33 per cent after taxes and that the entire investment would be paid back after 3-5 years, even after setting

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		off taxes. In view of the favourable economic aspects and the over-riding need to utilize a valuable energy resource like gas for productive purposes, the Committee would like Government to take decision in the matter without delay and draw up a firm programme for supply of additional gas to meet among others the requirements of Heavy Water Plant at Baroda.
59	9.55	The Committee regret that even after a lapse of several years cost and financial accounting have not been introduced in an integrated manner so as to facilitate prompt reporting to management. The Committee would like ONGC to give highest priority to this work so that the Management are fully seized of financial aspects in taking decisions and can exercise contemporaneous check on field and workshop operations in the interest of efficiency and economy.
60	9.60	The Committee trust that with the introduction of the revised forms of budget, proper coordination and tighter control will be exercised by the ONGC in its ever increasing activities.
61	9.64	The Committee recommend that energetic efforts should be made by the Commission to settle all outstanding claims expeditiously. The Committee also suggest that a careful scrutiny of the shipping documents should be undertaken contemporaneously to enable claims for short landing being lodged without any loss of time, so as to obviate any loss on account of time-barred or incomplete claims.
62	9.65	The Committee note that customs claims to the tune of Rs. 50.88 lakhs are outstanding. The Committee would urge that a careful analysis of the claims should be made with a view to taking appropriate steps for their realisation. Since this matter has been pending for a number of years,

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		the Committee would suggest that reasons for these outstandings should be gone into claim-wise and the matter taken up at the highest level if necessary, in the interest of expeditious finalisation.
63	9.66	The Committee would emphasise the need for prompt clearance of goods both at the Railways and at Ports to obviate incurring of demurrage charges.
64	9.67 & 9.68	The headquarters of ONGC should also keep a careful and continuous watch on claims for short-landing and custom-refunds which are pending beyond six months to ensure their expeditious settlement. The Committee would also urge that contemporaneous action should at least now be taken to claim refund from customs for cases which may arise hereafter so that such arrears do not occur.
65	10.15	The Committee agree that at the present stage of development it is necessary that an organisation like ONGC should devote itself primarily to the task of exploration and production so that India is able to reach self-sufficiency at the earliest. This is, however, not to deny that the two demands of ONGC for adequacy of funds for exploration and an incentive bonus comparable to Indian Oil Corporation deserve serious consideration. The Committee would like Government to evolve a satisfactory arrangement whether by way of a parent company having holdings both in ONGC and Indian Oil Corporation or at Government level so that ONGC feel reassured about availability of adequate funds for a meaningful programme for exploration, proving and production and grant of a comparable bonus to enthuse the workers engaged in the vital task of production of oil.

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66	10.20	The Committee are neither impressed by the manner in which the project for steel foundry, in conjuction with the State Government was taken up for execution at Roorkee without thorough investigation nor by the post-haste manner in which it is being abandoned to cause avoidable loss. The climate of recession has since given way buoyancy in production. The Committee would like ONGC/Government to re-examine the project in all its aspects and reach a firm decision in the best public interest.
67	10.45	The cases relating to the purchase of Nazira property and the compensation for tea bushes are under investigation by the Central Bureau of Investigation. Since the Central Bureau of Investigation is investigating the matter, the Committee would not like to comment on it. The cases were handed over to the Central Bureau of Investigation in or before August, 1970 and during the evidence of the representatives of the Commission and the Ministry, the Committee were given to understand that the investigations were in progress. The Committee are not aware at what stage the investigations are. It is nearly 1½ years that the C.B.I. is seized of the matter. The Committee would only like to suggest that investigation in such cases should not be spread over long period because with the passage of time much of the need, and possibly evidence, is lost. Keeping the ends of justice in view, the Committee would urge the C.B.I. to complete the investigations and submit the report to the Government as early as practicable.
68	10.60	The Committee note the steps taken by the Administration to rationalise the staff strength of the Commission. In view of the specialised requirements of personnel to man the Oil Industry, and the fact that there is dearth of the type of per-

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		sons required for manning the exploration and production activities of the Commission, the Commission has to pay greater attention to the training of its personnel so as to ensure that its employees are fully familiar with the latest technology, practice and procedure. ONGC is an enterprise which demands large expenditures of capital and competent technically skilled manpower with a feeling of dedication to the task. The Committee trust that the Commission, as has been the case all along, will continue to impart confidence in its personnel.
69	10.66	The Committee find that there has been inordinate delay in framing, finalising and notifying after approval in the Gazette of India Recruitment/Promotion regulation and Pay and Allowances regulations etc. The Committee deprecate such avoidable delays in matters which effect the vital interests of workers in a key statutory organisation. The Committee would stress that the procedure for framing such regulations should be well laid out and the matter should be systematically followed up both in the offices of the Commission and the Ministry to ensure that these are finalised and notified without delay.
70	10.76	The Committee note the various steps taken by the Oil and Natural Gas Commission with regard to maintaining cordial labour-management relations. The Committee have taken up for examination this year the horizontal study of Personnel Policies and Labour Management in the Public Undertakings. They would therefore, make their detailed recommendations in this regard in that Report.
71	10.81	The Committee need hardly stress that ONGC should take effective and prompt action to resolve the genuine difficulties of workers.

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72	10.83	One of the points raised before the Committee by the Union representatives pertained to casual appointment of persons by Project officials, which later caused difficulties. The Committee note with concern the manner in which the different authorities in the different Regions of ONGC have been recruiting casual or contingent labour. There should be some norm for making such recruitment. A system should be devised whereby, it should be possible to know the number of such labourers at any given time. Large scale recruitment of casual labour in the opinion of the Committee leads to the problem of their regularisation. It is possible, because of age, lack of experience or other disqualifications, it may be difficult to regularise the appointment of a large number of such employees. The Committee are anxious that such a situation should be avoided by putting in a purposeful check on casual appointments.

GMGIPND—L.S. II—520 (Aii) L.S.—30-5-72.