Report of the Comptroller and Auditor General of India

for the year ended March 2004

Union Government (Commercial)

Public Sector Undertakings

Petroleum Sector

No. 6 of 2005

CONTENTS

PREFACE

A reference is invited to the prefatory remarks in the Report of the Comptroller & Auditor General of India – Union Government (Commercial) No. 1 of 2005 where a mention was made that reviews on the performance of Companies/ Corporations by the Comptroller & Auditor General of India are presented in separate Reports. This Report for the year ended March 2004 has been prepared incorporating the audit findings noticed during transaction audit of the Public Sector Undertakings (PSUs) in the Petroleum Sector. The following PSUs under the administrative control of the Ministry of Petroleum and Natural Gas are covered in the Report:

1. Bharat Petroleum Corporation Limited (BPCL);
2. Bieco Lawrie and Company Limited (BLC)
3. Bongaigaon Refineries and Petrochemicals Limited (BRPL);
4. Chennai Petroleum Corporation Limited (CPCL);
5. Engineers India Limited (EIL);
6. GAIL India Limited (GAIL);
7. Guru Gobind Singh Refineries Limited (GGSR);
8. Hindustan Petroleum Corporation Limited (HPCL);
9. IBP Company Limited (IBP);
10. Indian Oil Corporation Limited (IOCL);
11. Kochi Refineries Limited (KRL);
12. Mangalore Refinery and Petrochemicals Limited (MRPL)
13. Oil and Natural Gas Corporation Limited (ONGC);
14. Oil India Limited (OIL);
15. ONGC Videsh Limited (ONGC Videsh).

Important audit findings noticed as a result of test check of transactions carried out by the PSUs under the administrative control of the Ministry of Petroleum and Natural Gas, conducted by the officers of the C&AG of India during 2003-04 and earlier years wherever relevant and also early part of 2004-05 under Section 619(3)(b) of the Companies Act, 1956 are included in this Report.

31 draft paragraphs and five reviews were forwarded to the Secretary, Ministry of Petroleum and Natural Gas for furnishing their replies. Replies to 20 paragraphs and four reviews were not received from the Ministry.

OVERVIEW

Oil and natural gas are the largest conventional source of primary energy in the world and constitute a critical input for economic growth together with other forms of primary energy viz. hydro electricity, nuclear power and coal. In the year 2002 the worldwide consumption of primary energy was 9,405 million metric tonne of oil equivalent, of which the share of hydrocarbons was 62 per cent. Thus, it is clear that the business of exploration, production, refining and marketing of hydrocarbons, generically known as 'petroleum sector' constitutes a very vital sector in the national economy. Considering the growing importance of oil and natural gas in our economy an attempt has been made to review the performance of the Public Sector Undertakings in this sector and present a separate Report.

The Report consists of following six chapters: -

Chapter-1	Petroleum Sector Profile
Chapter-2	Follow up action on audit reviews in the last five years' Audit Reports
Chapter-3	Three reviews on some of the activities of PSUs in Petroleum Sector
Chapter-4	Paragraphs on individual transactions of PSUs in Petroleum Sector
Chapter-5	Two Reviews on IT Audit
Chapter-6	Corporate Governance in Oil PSUs

This Audit Report includes reviews on Branching and capacity augmentation of northern region pipelines of Indian Oil Corporation Limited, Arbitration cases, Production sharing contracts and IT audit in respect of re-engineering project (Manthan) of Indian Oil Corporation Limited and pay roll application in Oil and Natural Gas Corporation Limited. These themes were selected in audit for review on the basis of their relative importance in the functioning of concerned organisation. It also includes 31 paragraphs in respect of eight PSUs. The draft paragraphs were finalised after taking into consideration the replies of the Management of PSUs. The draft paragraphs were also forwarded to the Ministry of Petroleum and Natural Gas under whose administrative control the PSUs are working for its replies/comments within a period of six weeks. Replies to 20 paragraphs from the Ministry were awaited.

The audit observations included in this report highlight deficiencies in the Management of PSUs having serious financial implications. Some of these are:

Review on Branching and Capacity augmentation of Pipelines in Northern Region-IOCL

Increase in the pipe size of Mathura-Tundla Pipeline without approved proposals for extension of the pipeline to Kanpur and Gwalior and for expansion of Mathura refinery rendered the expenditure of Rs.6.20 crore on increased pipe size infructuous.

(Para 3.1.5)

Due to delayed review of the demand-supply position, the Company incurred an infructuous expenditure of Rs.2.24 crore on the capacity augmentation of the Panipat-Ambala-Jalandhar sections of the Mathura-Jalandhar Pipeline.

(Para 3.1.6)

An expenditure of Rs.66.68 crore incurred on Phase–II augmentation of Kandla-Bhatinda Pipeline was avoidable as the throughput did not at any time justify this augmentation.

(Para 3.1.9)

Encashment of the bank guarantees of the contractor in excess of requirements resulted in payment of interest of Rs.70.29 crore.

(Para 3.1.10)

Review on Performance of Production Sharing Contracts with private exploration and production companies -ONGC

Since 1991, the Government invited foreign and domestic private sector companies to participate in the development of oil and gas fields, fully/partly discovered, and the exploratory blocks. The audit results of the production sharing contracts (PSC) between the Government, ONGC and the foreign and domestic private sector companies, in respect of medium-sized fields, were examined and incorporated in the CAG's Audit Report of 1996. This report contains a follow-up of the Audit review of the issues raised in the previous Audit Report and the performance of the production sharing contracts.

(Paras 3.3.1 and 3.3.3)

The major issues of 'non-reimbursement of past costs to ONGC', 'import parity price not made applicable for gas produced by national oil companies (ONGC and OIL)' and 'non-finalisation of agreement for sale of crude oil and gas with the Government's nominees (IOCL and GAIL)' raised in the CAG's Audit Report of 1996 remained unaddressed in spite of the assurances given to Audit by the Government.

(Para 3.3.4)

Gas price allowed to different JVs was higher than the price it was sold by GAIL to consumers. ONGC was asked by the Government to meet the loss suffered by GAIL on this account and consequently it absorbed an adverse impact of Rs.4265 crore upto March 2004 in respect of five medium-sized fields.

(Para 3.3.4 ii)

The non-finalisation of the Agreements for sale of crude oil and gas led to non-recovery of Rs.277.15 crore for transportation of gas by ONGC and short payment of Rs.300.59 crore to ONGC towards processing charges in respect of Panna/Mukta gas.

(Para 3.3.5 i)

Transportation charges and processing charges in respect of Tapti field had not been finalised and the provisional tariff affected the Government/ONGC take.

(Para 3.3.5 ii)

Deficiencies in PSC of Ravva JV led to the disputes over calculation of profit petroleum, such as computation of pre-tax rate of return (PTRR) and payment of production bonus (Rs.47.56 crore) to ONGC.

(Para 3.3.5 iii)

The recovery of levies by the Government was adversely affected due to absence of defination of 'wellhead value' of gas on which the royalty was to be calculated and a provision in PSCs in deviation with draft PSCs approved by ONGC Board on payment of royalty/cess on the Government's share of profit petroleum.

(Para 3.3.6 i and ii)

ONGC was obliged to bear 100 per cent royalty in respect of pre-NELP exploratory blocks (Rs.228.78 crore upto March 2004 in respect of two blocks) irrespective of its participating interest in JVs.

(Para 3.3.6 iii)

Irregularities on individual transactions

The irregularities pointed out are broadly of the following nature:

- Undue favours to contractors/violation of contractual obligations of Rs.288.10 crore in two cases.
- Loss of revenue of Rs.82.37 crore in five cases due to weaknesses in the control systems.
- Wasteful/infructuous expenditure of Rs.65.56 crore in seven cases.
- Avoidable excess expenditure of Rs.45.69 crore in nine cases.
- Idle investment and blocking of funds of Rs.28.22 crore in five cases.

Gist of some of the important paragraphs included in the Report is as follows:

Engineers India Limited suffered a loss of Rs.2.60 crore in recommending incorrect specifications in October 1999 in the consultancy work relating to transfer pipelines.

(Para 4.1.1)

Defective planning and lack of foresight of Indian Oil Corporation Limited (IOCL) resulted in infructuous expenditure of Rs.8.95 crore in 1999-00 on replacement of pipeline with higher diameter at Kandla Port.

(Para 4.1.2)

IOCL purchased land for an amount of Rs.2.78 crore in July 1998 to set up an LPG Bottling Plant at Bhilwara (Rajasthan) without carrying out detailed feasibility study. The project was subsequently abandoned thereby resulting in blockage of Rs.2.78 crore besides infructuous expenditure of Rs.37.90 lakh.

(Para 4.1.3)

IOCL incurred an infructuous expenditure of Rs.2.17 crore during 2000-01 on an abandoned project as it decided to shift its depot from Satna to Bagha without

considering liability of providing employment to local people and without entering into contract with Hindustan Petroleum Corporation Limited for sharing cost of railway siding, which were necessary for economic viability of the depot.

(Para 4.1.4)

Creation of computerised loading facilities by IOCL at Karnal bottling plant in July 1998 and September 2000 without proper planning resulted in an infructuous expenditure of Rs.2.01 crore out of which only facilities costing Rs.79 lakh only could be purposefully used.

(Para 4.1.5)

Failure to consider financial position of vendors before award of contracts and consequent delay in supply/installation of gas compressors led to flaring of low-pressure gas and consequent loss of revenue of Rs.71.02 crore during the period between August 2001 and December 2003 to Oil and Natural Gas Corporation Limited (ONGC).

(Para 4.1.6)

Imprudent decision of Bharat Petroleum Corporation Limited (BPCL) to augment the tankage capacity at Haldia refinery led to an idle investment of Rs.11.35 crore made in April 2000/March 2003.

(Para 4.2.1)

BPCL decided (February 2002) to surrender 56,779 square metres of land procured at Navalur to re-site the existing Depot at Hubli. This resulted in an infructuous expenditure of Rs.1.88 crore.

(Para 4.2.2)

Hindustan Petroleum Corporation Limited (HPCL) incurred additional expenditure of Rs.1.39 crore on outsourcing the bitumen filling work keeping its own plant idle during October 2000 to April 2004.

(Para 4.2.3)

Delay in surrender of land by IBP Company Limited (IBP) to Railways resulted in an avoidable payment of rent and other expenses amounting to Rs.3.66 crore during the period April 2000 to November 2002.

(Para 4.2.4)

The decision of IBP to take possession of an unsuitable piece of land and delay in deciding to dispose it of in July 1994 and October 1994 resulted in blockage of Rs.1.08 crore.

(Para 4.2.5)

IOCL failed to comprehensively assess the demand for low sulphur heavy stock which led to under utilisation of Storage tanks and railway siding constructed at a cost of Rs.8.40 crore and commissioned during December 1999 to March 2001.

(Para 4.2.7)

The IOCL made an idle investment of Rs.4.03 crore in the bitumen emulsion plant made in April 1999 due to improper assessment of future demand of bitumen emulsion.

(Para 4.2.8)

ONGC incurred an infructuous expenditure of Rs.38.86 crore during 1999-00 to 2001-02 in setting up offshore facilities and re-entry in a well without assessing fully the hydrocarbon potential of the gas field.

(Para 4.3.1)

ONGC incurred an infructuous expenditure of Rs.9.32 crore during 1999 on re-entry of an already drilled exploratory well due to negligence in measuring length of casing pipes and consequential short-landing of the casing in the well.

(Para 4.3.2)

Failure of HPCL to supply necessary inputs timely to the contractor resulted in Visakh Refinery loosing the benefit of Rs.14.95 crore, during 1997-98 to June 2000-01, towards price reduction for the delay in completion of the contract.

(Para 4.5.2)

Due to delay in surrendering the tank the IBP suffered a loss of Rs.1.28 crore towards its rental charges for the period from April 2001 to December 2002.

(Para 4.5.3)

ONGC awarded work for operation and maintenance of three multi support vessels to an incompetent party and suffered a loss of Rs.205.05 crore during 2001-02 and 2002-03 as poor performance of the contractor led to non-availability of own vessels.

(Para 4.5.4)

Due to delay in requesting IOCL for marketing its products within the country instead of exporting to avail benefits of excise duty exemption for north eastern refineries, the Bongaigaon Refinery and Petrochemicals Limited (BRPL) had to suffer a loss of Rs.4.09 crore for the exports made during the period March-August 2002.

(Para 4.6.1)

The BRPL failed to avail exemption of sales tax benefits on export sales and thereby incurred avoidable expenditure of Rs.1.21 crore during the period from July 2000 to August 2001.

(Para 4.6.2)

HPCL failed to avail of timely customs duty exemption, which resulted in an additional interest cost of Rs.3.36 crore during November 2001 to April 2003.

(Para 4.6.3)

IOCL transferred petroleum products to its locations outside Andhra Pradesh during April 2002 to June 2003 as stock transfer instead of requesting HPCL to execute the supplies and attracted avoidable purchase tax amounting to Rs.10.39 crore.

(Para 4.6.4)

ONGC incurred an avoidable expenditure of Rs.22.19 crore due to its failure to avail exemption of customs duty on goods imported for use in non-designated areas during the period from June 1999 to July 2001.

(Para 4.6.5)

Due to lack of proper follow up ONGC could not obtain essentiality certificate from the Directorate General of Hydrocarbons for availing the benefit of 'Nil' customs duty, which resulted in avoidable expenditure of Rs.3.82 crore in May-July 2000.

(Para 4.6.6)

Injudicious concessions extended by BRPL to a private sector company in supply of Naphtha from July 2000 to April 2002 resulted in undue favour of Rs.28.81 crore to a customer and loss of Rs.54.22 crore on account of bad debts written off in the accounts.

(Para 4.7.1)

HPCL failed to review its credit policy to Ferro Alloys Corporation Limited, which resulted in loss of Rs.3.69 crore plus interest during December 1998 to March 1999.

(Para 4.7.2)

ONGC could not realise sales dues of Rs.509.07 crore towards supply of natural gas to 33 consumers between April 1979 to May 1992 as well as interest thereon amounting to Rs.1,875.07 crore due to disputes raised by these customers in regard to the revised price of gas remaining unresolved.

(Para 4.7.3)

Some of the highlights in respect of Reviews on IT Audit

Review on Re-engineering Project (Manthan) of Indian Oil Corporation Limited

Instead of doing the rollout of the project beyond the first 99 sites by in-house expertise as per plan, the work was assigned to five outside consultants entailing an additional and avoidable expenditure of Rs.9.56 crore.

(Para 5.1.4)

Due to delay of over two years from September 2002 to November 2004 in completion of the IT re-engineering project (Manthan) the Company could not derive the projected benefits of Rs.358 crore per annum from on-line integrated business processes and optimisation in Supply Chain Management.

(Para 5.1.6)

Appointment of vendor for delivery of 'add-ons' software packages was done without inviting global tender. The bid was finalised after a delay of 25 months in evaluation of techno-commercial bid, waiving important tender conditions.

(Para 5.1.8)

The Company failed to identify and allocate Rs.20.32 crore as the cost of manpower deployed from various divisions towards implementation of the project.

(Para 5.1.9)

The Company had not been able to provide adequate training to all users for operating in the new technological environment.

(Para 5.1.13)

The Company had failed to appreciate the possible risks of not keeping the off-site data back up at site(s) other than their Primary Data Centre before 'go-live' of sites. Instances of breakdown of leased links interrupting the business transactions occurred at sites, which were not put on the three tiers Communication Network.

(Paras 5.1.14 and 5.1.31)

Although 'As Is' business processes continued to be in operation, their non-incorporation as 'To Be' business processes in the ERP Software resulted in gaps in the functionalities provided by SAP.

(Para 5.1.17)

Adequate sign-off procedures were not followed by the Company at the time of 'go-live' of SAP which resulted in uploading the data without purification. This was confirmed when Audit noticed that data in respect of lube inventory was not correctly uploaded at depot at Ajmer in December 2003 which resulted in difference of Rs.2.63 crore (May 2004) in the physical inventory and stock as per SAP.

(Paras 5.1.23 and 5.1.36)

The Management had not carried out any independent certifications. No post implementation review of the system was conducted by outside agencies.

(Para 5.1.45)

The Company had not been able to identify any tangible benefits of the project so far. None of the Critical Success Factors had been achieved despite implementation of SAP at 292 sites (March 2004).

(Paras 5.1.9 and 5.1.45)

Review on pay roll application in Mumbai Region of Oil and Natural Gas Corporation Limited

There was a provision in the payroll application to store and process data relating to advances to employees and monitor its recovery with interest but due to incomplete data entry such opportunity was not used which led to creation of incomplete and unreliable database.

(Para 5.2.9)

Over payments and short recoveries of various allowances and advances to the staff illustrated weakness in payroll system being operated by Mumbai Region. This resulted in an excess and irregular payment/short recovery totaling Rs.4 crore during 2001-02 out of which an amount of Rs.12.18 lakh has been recovered subsequently by the Management after having pointed out by Audit.

(Para 5.2.11)

CHAPTER: 1

PETROLEUM SECTOR PROFILE

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PETROLEUM SECTOR PROFILE

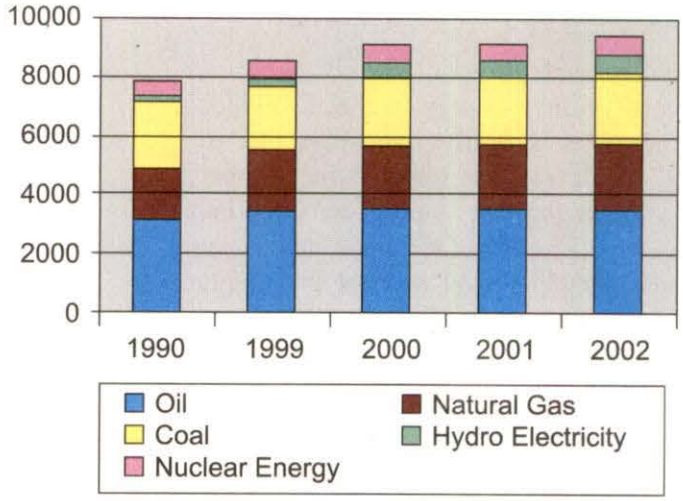
1.1 Introduction

Hydrocarbons i.e. oil and natural gas, are today, the largest conventional source of primary energy in the world. Together with other forms of primary energy viz. hydro electricity, nuclear power and coal it constitutes a critical input for economic growth. In 2002 the world consumption of primary energy was 9,405 million tonne (MMT) of oil equivalent[♣] (OE). The share of primary energy consumption worldwide contributed by the hydrocarbon sector in 2002 was 62 per cent, which makes it clear that the business of exploration, production, refining and marketing of hydrocarbons, generically known as 'petroleum sector' constitutes a very vital sector of global economy. In fact, it is the petroleum sector, which, along with financial sector, assumes the character of a prime mover of global economy.

1.2 Consumption Hydrocarbon

Graph-1

World Primary Energy Consumption (In MMT)



As shown in Graph-1, oil, coal and natural gas form the bulk of primary energy consumption. While the consumption of oil shows a steady increase from 3,135 MMT OE per annum in 1990 to 3,523 MMT OE per annum in 2002, the consumption of natural gas has gone up from 1,771 MMT OE per annum in 1990 to 2,282 MMT in 2002. Hydro electricity consumption has also registered a significant growth from 189 MMT OE per annum in 1990 to 592 MMT OE per annum in 2002.

1.3 Per capita consumption of Hydrocarbon

Table-1 gives the average percentage of per capita consumption of hydrocarbon during the period 1999-2002, in some developed and developing countries. In India the average per capita hydrocarbon consumption during the above period worked out to 41 per cent of primary energy consumption.

[♣]*oil equivalent is a unit of energy based on the approximate energy released by burning of crude oil.*

Table-1

Average percentage of per capita hydrocarbon consumption of primary energy

Developed Countries	1999	2000	2001	2002
USA	64.98	64.96	65.32	65.08
Canada	56.97	56.16	57.28	58.63
France	51.75	51.27	51.61	50.81
Germany	62.25	60.95	61.27	61.00
United Kingdom	73.35	73.95	72.85	73.87
Japan	13.18	13.27	13.83	12.81
Brazil	53.92	52.28	56.44	54.90
Poland	32.20	34.06	33.62	33.78
China	29.51	32.79	30.30	25.93
Indonesia	84.09	82.61	81.25	81.63
Malaysia	90.53	92.86	91.09	89.72
India	**40.00**	**40.63**	**41.94**	**40.63**

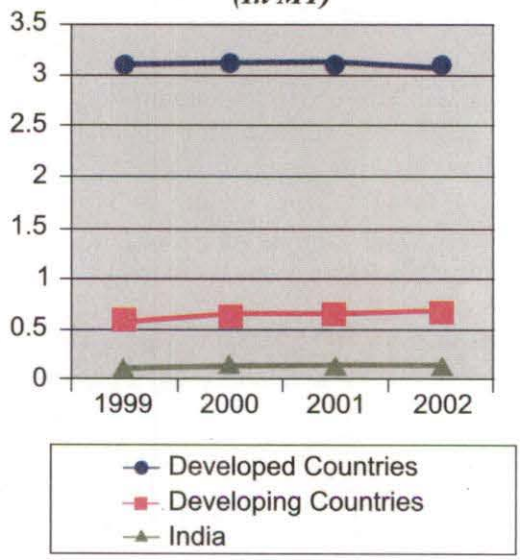
The above figures also indicate that the hydrocarbon dependency and the per capita primary energy consumption in the developed and developing nations has remained static over a period.

The average per capita consumption of primary energy in the developed nations is nearly five times that of the developing nations. India's per capita primary energy consumption is 0.32 MT OE per annum as compared to the average per capita primary energy consumption of developing countries which is 1.12 MT OE per annum.

In the case of hydrocarbon consumption also a similar picture emerges. As shown in Graph-2 the per capita hydrocarbon consumption in developed nations is 3.09 MT OE per annum, way ahead of the developing nations where the consumption is 0.63 MT OE per annum. India's per capita hydrocarbon consumption stands at 0.13 MT OE per annum.

Graph-2

Average per capita consumption of Hydrocarbon of developed, developing countries and India (In MT)



1.4 Indian contribution in the world scenario

1.4.1 Oil and gas reserves

Table-2

	Unit		1998	1999	2000	2001	2002
Crude oil	MMT	World	143400	140400	143000	143000	142700
		India	716	660	703	732	741
Natural Gas	Billion Cubic Metres	World	146311	146368	150047	154999	155706
		India	675	648	760	763	751

Table-2 above indicates the reserve position of oil and gas in India vis-à-vis the world. It may be seen therefrom that the reserves of oil and gas in India form negligible part of the world reserves. While there is increase in world reserves of natural gas between 1998 and 2002, declining trend is noticed in respect of crude oil. In India, however, crude as well as gas reserves have gone up marginally during the same period. In 2002 gas reserves in India have dipped slightly as compared to the previous year.

As would be evident from Graph-3 and Table-3 below, the crude oil reserves in India went down from 739 MMT in 1990 to 733 MMT in 2003, with the offshore resources being marginally higher at 394 MMT than the onshore resources that stood at 339 MMT.

Graph-3

Crude Oil Reserves (Proved)

(In MMT)

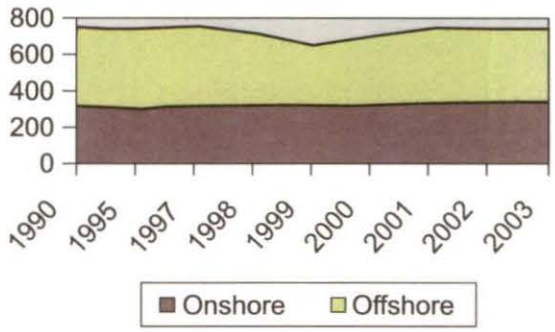


Table-3

Crude Oil Reserves (Proved)

In MMT

AREA	1990	1995	1997	1998	1999	2000	2001	2002	2003
Onshore	307	301	310	311	308	317	326	332	339
Offshore	432	431	437	405	352	386	406	409	394
Total	**739**	**732**	**747**	**716**	**660**	**703**	**732**	**741**	**733**

Similarly, Graph-4 and Table-4 indicate the reserves of natural gas in India for the period 1990-2003. It is evident therefrom that the natural gas reserves went up from 686 billion cubic metres in 1990 to 854 billion cubic metres in 2003. The offshore reserves formed nearly 62 per cent of the total reserves in 2003.

Graph-4

Natural Gas Reserves (Proved)
(In Billion Cubic Metres)

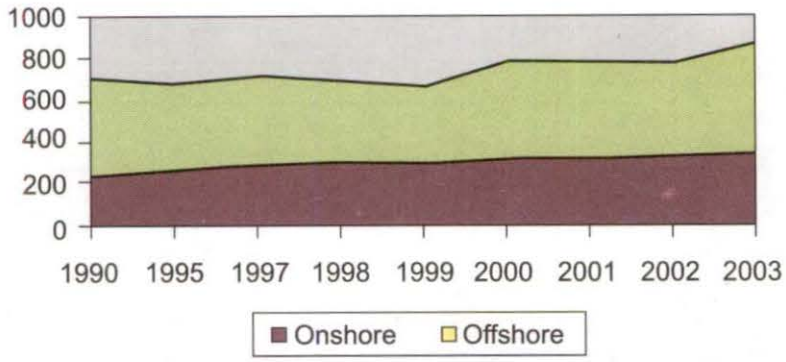


Table-4

(In Billion Cubic Metres)

Area	1990	1995	1997	1998	1999	2000	2001	2002	2003
Onshore	229	253	274	277	279	299	301	315	327
Offshore	457	407	418	398	369	461	462	436	527
Total	**686**	**660**	**692**	**675**	**648**	**760**	**763**	**751**	**854**

Source: MOPNG

1.5 Production of Oil and Natural Gas

1.5.1 Even as the oil and gas reserves did not show any substantial accretion the proportion of oil and gas produced also remained more or less constant. Production of oil and gas during the five-year period ending 2003-04 averaged 32,566 TMT[♣] per annum and 30,197 million cubic meters per annum. Also offshore oilfields continued to remain the major source of both oil and natural gas. ONGC continued to be the dominant producer with a 78 per cent share in the total production. The share of joint venture producers (JVPs) was significant at 15 per cent. This is evident from the Table-5 below:

Table-5

Crude Oil ('000' Tonnes)		1999-00	2000-01	2001-02	2002-03	2003-04	Average per cent share
ONGC	On shore	7921	8428	8635	8445	8384	**78**
	Offshore	16727	16629	16073	17559	17681	
	Total	**24648**	**25057**	**24708**	**26004**	**26065**	
OIL	On shore	3283	3286	3183	2950	3002	**9**
	Offshore	-	-	-	-	-	

♣ ***Thousand metric tonne***

	Total	3283	3286	3183	2950	3002	
JVPs/Private	On shore	94	77	71	75	74	13
	Offshore	3924	4006	4070	4013	4240	
	Total	4018	4083	4141	4088	4314	
Natural Gas (Million CM)							
ONGC	On shore	5478	5555	5615	5871	5779	79
	Offshore	17774	18465	18426	18373	17805	
	Total	23252	24020	24041	24244	23584	
OIL	On shore	1729	1861	1619	1744	1880	6
	Offshore	-	-	-	-	-	
	Total	1729	1861	1619	1744	1880	
JVPs/Private	On shore	197	309	624	1111	1307	15
	Offshore	3268	3287	3430	4296	5184	
	Total	3465	3596	4054	5407	6491	

Source: MOPNG Annual Report 2003-04

1.5.2 Cost per tonne of crude

Cost per tonne of crude produced by ONGC and JVPs and cost per tonne consumed by downstream companies for the last two years ending March 2004 are given in Table-6 and Table-7.

Table-6 (In Rupees)		
Upstream sector		
Company	2002-03	2003-04
ONGC	6052	6127
JVPs	1268	1317

Table-7 (In Rupees)		
Down stream Sector		
Company	2002-03	2003-04
IOCL	10520	10217
BPCL	11020	10215
HPCL	10979	10737

It may be seen therefrom that the cost per tonne of crude in the case of ONGC went up, while in the case of down stream companies it has declined. Further, the cost of crude for JVPs is substantially low because of their higher production and absence of levies/ reduced levies.

1.5.3 Refinery's operating cost

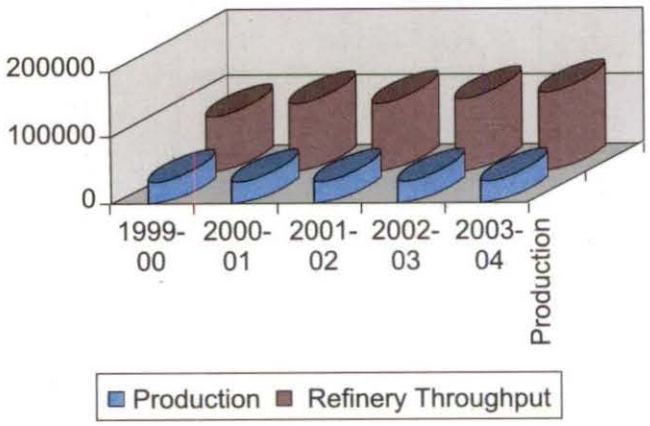
The operating cost per ton of crude oil for the major refineries as reflected in Table-8, shows that HPCL continues to record the lowest operating cost for the last two years, while the highest operating cost per tonne has been recorded by CPCL.

Table-8		
Operating cost (In Rupees)		
Company	2002-03	2003-04
IOCL	329	328
BPCL	413	416
HPCL	274	302
CPCL	583	615
BRPL	716	516
NRL	402	431

Table-9 (In Rupees) Marketing cost		
Name of the Company	2002-03	2003-04
IOCL	585	614
BPCL	781	805
HPCL	408	446

The marketing cost per tonne incurred by major oil companies as shown in Table-9 indicates that HPCL incurs the lowest marketing cost per tonne while BPCL incurs the highest.

Graph-5
(In TMT)



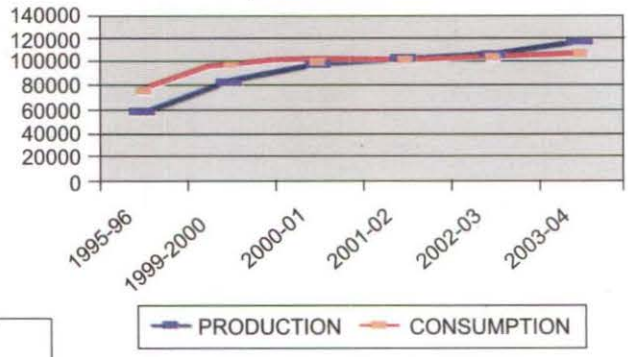
1.5.4 Consumption of crude

It may be seen from Graph-5 that the production of crude continued to be way below the consumption, even as the gap between the two widened from 54,015 TMT in 1999-00 to 88,460 TMT in 2003-04. India was able to meet only 30 per cent of the demand, leading to import of crude for domestic consumption.

1.5.5 Production and consumption of Petroleum products

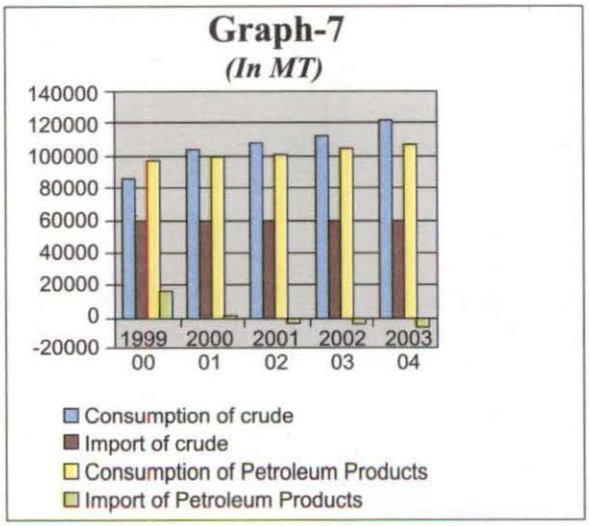
It is evident from Graph-6 that the production as well as consumption registered a growth in the period from 1995-96 to 2000-01. The gap between production and consumption narrowed considerably and the trend reversed in the year 2001-02 onwards as production overtook consumption.

Graph-6
(in TMT)



1.6 Import Intensity of Petroleum Products

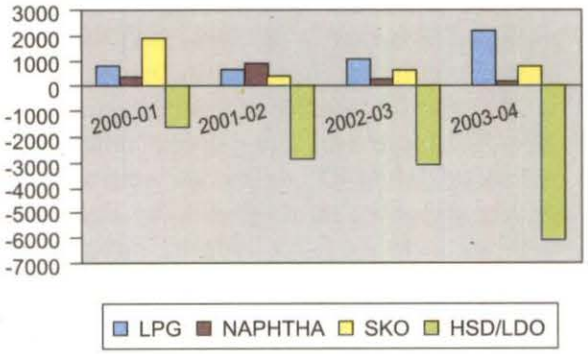
Graph-7
(In MT)



It is evident from Graph-7 that while the import of crude went up from 57,805 TMT in 1999-00 to 90,434 TMT in 2003-04, in the case of petroleum products India moved from net imports of 15,861 TMT in 1999-00 to net exports of 6,723 TMT in 2003-04.

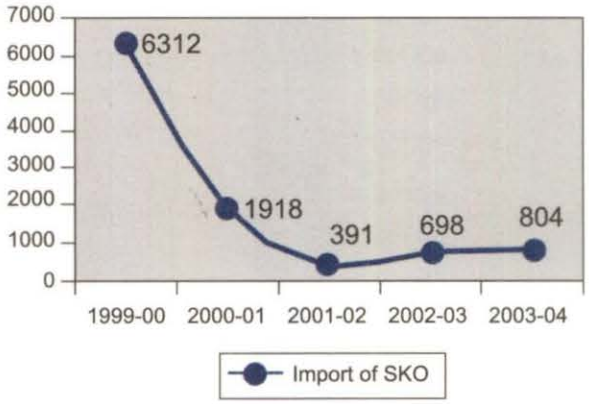
Graph-8 shows the net import profile of some petroleum products in India. While the import of Liquefied Petroleum Gas (LPG) went up from 852 TMT in 2000-01 to 2,182 TMT in 2003-04, the net import of Naphtha went down from 283 TMT in 2000-01 to 195 TMT in 2003-04. On the other hand, the net export of HSD/LDO went up from 1,597 TMT in 2000-01 to 6,085 TMT in 2003-04. The details of consumption, import and export of petroleum products for the last five years ending March 2004 are given in Annexure-1.

Graph-8
(In TMT)

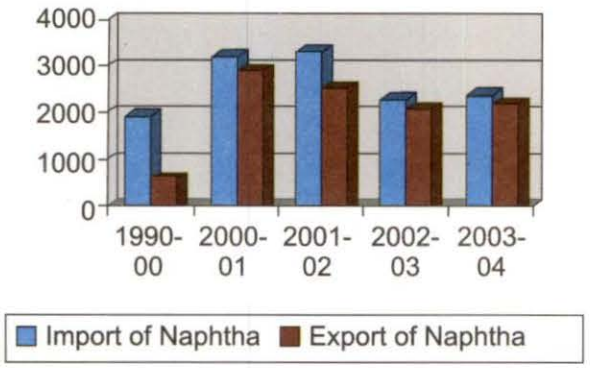


Graph-9 shows the import of Superior Kerosene Oil (SKO) during the last five years ending March 2004. It may be seen therefrom that owing to rise in domestic availability of SKO in recent years the import of SKO has dropped sharply from 6,312 TMT in 1999-00 to 391 TMT in 2001-02, going up only marginally to 804 TMT in 2003-04.

Graph-9
(In TMT)



Graph-10
(In TMT)



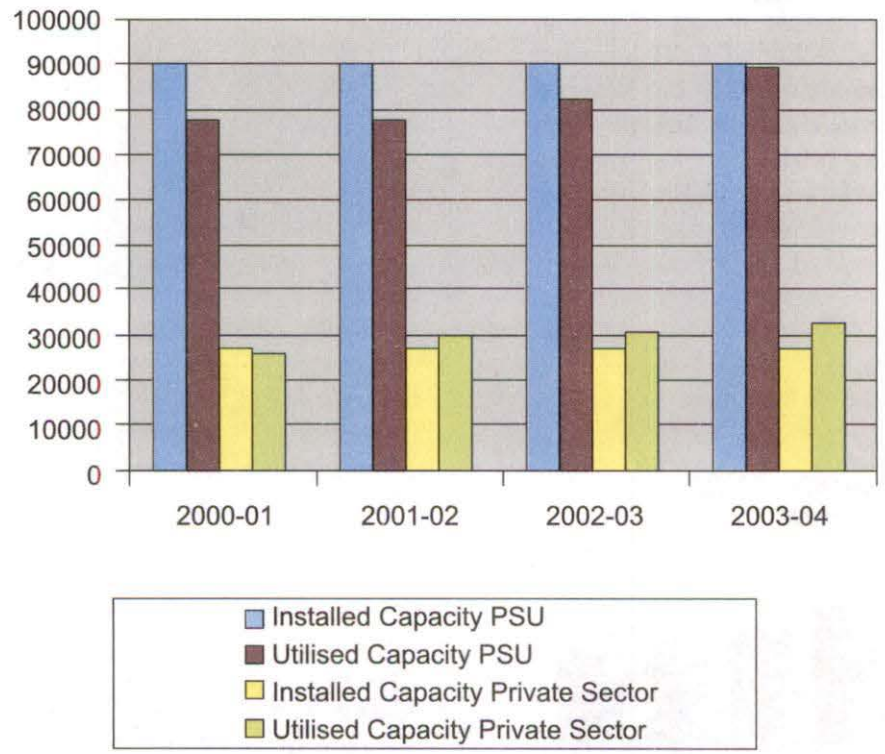
The position of import and export of Naphtha has been given in Graph-10. In the case of Naphtha, both import and export have taken place simultaneously. While non-availability of customer specific product and attractive commercial terms from overseas suppliers leads to import of Naphtha, the domestic oil companies resort to exports as the realisation from exports was better than the domestic prices owing to duty drawback benefits on export of naphtha.

1.7 Refining Capacity Utilisation

There is an improvement in the availability of petroleum products as the refining capacity utilisation has recorded an increase especially after the entry of private players. An analysis of the refining capacity of public sector oil companies in India vis-a-vis the capacity utilisation as indicated in Graph-11 reveals that while the installed capacity remained constant at 89,968 TMT during the period from 2000-01 to 2003-04, the capacity utilisation has steadily increased from 77,411 TMT in 2000-01 to 89,496 TMT in 2003-04. In capacity utilisation variations have been noticed among PSUs with BPCL recording more than 100 per cent utilisation and HPCL recording more than 90 per cent utilisation, while IOC refineries were able to record only 88.33 per cent utilisation. In the private sector the refinery setup by Reliance Industries Limited at Jamnagar exceeded its installed capacity from 2001-02 onwards (details in Annexure-2). Today, India is at a stage where its production of petroleum products has exceeded the demand for them.

Graph-11

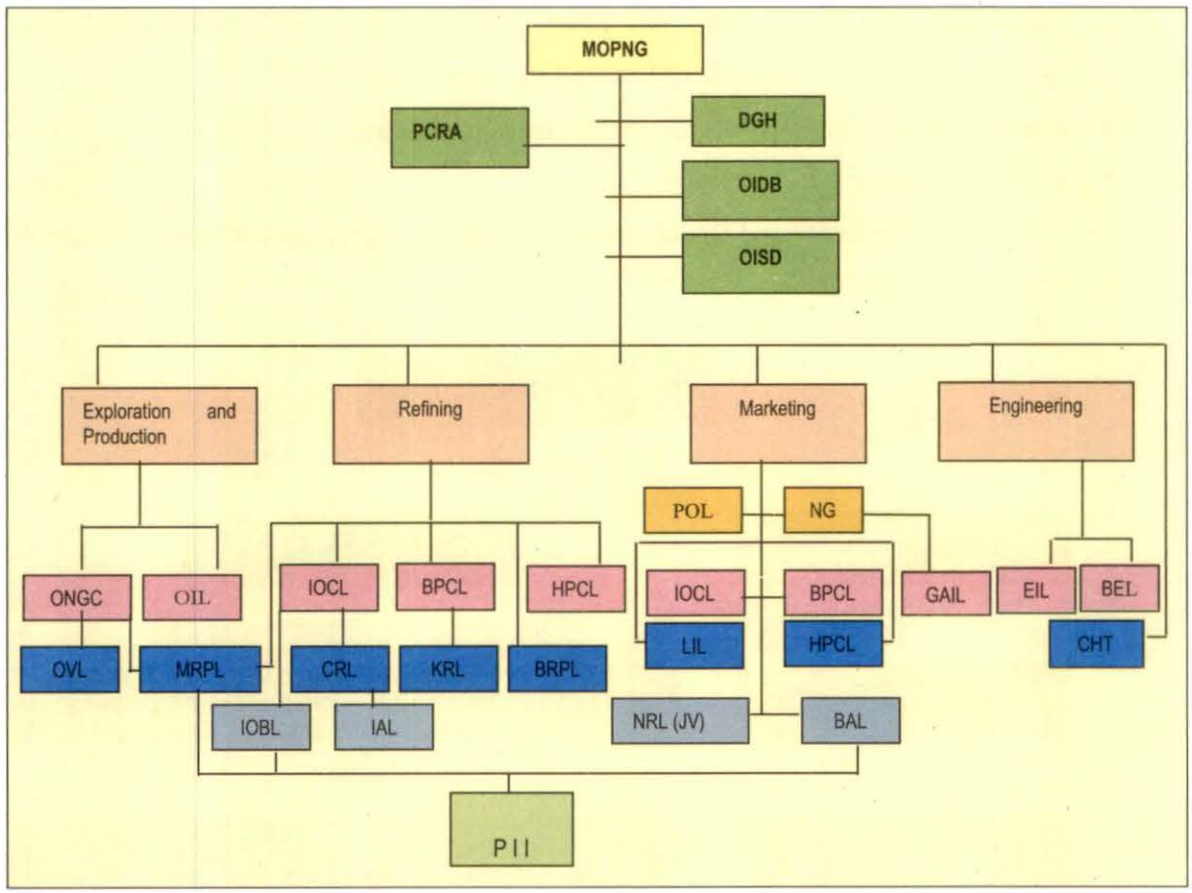
(In TMT)



1.8 Role of Ministry of Petroleum and Natural Gas

The Ministry of Petroleum and Natural Gas (MOPNG) is concerned with the exploration and production of oil and natural gas (including import of LPG) and the refining, distribution and marketing, import, export and conservation of petroleum products. MOPNG gets its authority under item number 53, list I, seventh schedule, Article 246 of the Constitution of India. The Ministry comprises five different wings, viz., Administration, Exploration, Refinery, Marketing and Finance. The chart below shows the organisational setup in MOPNG and organisations and PSUs that come under the Ministry.

Organisational Chart of the Ministry of Petroleum and Natural Gas



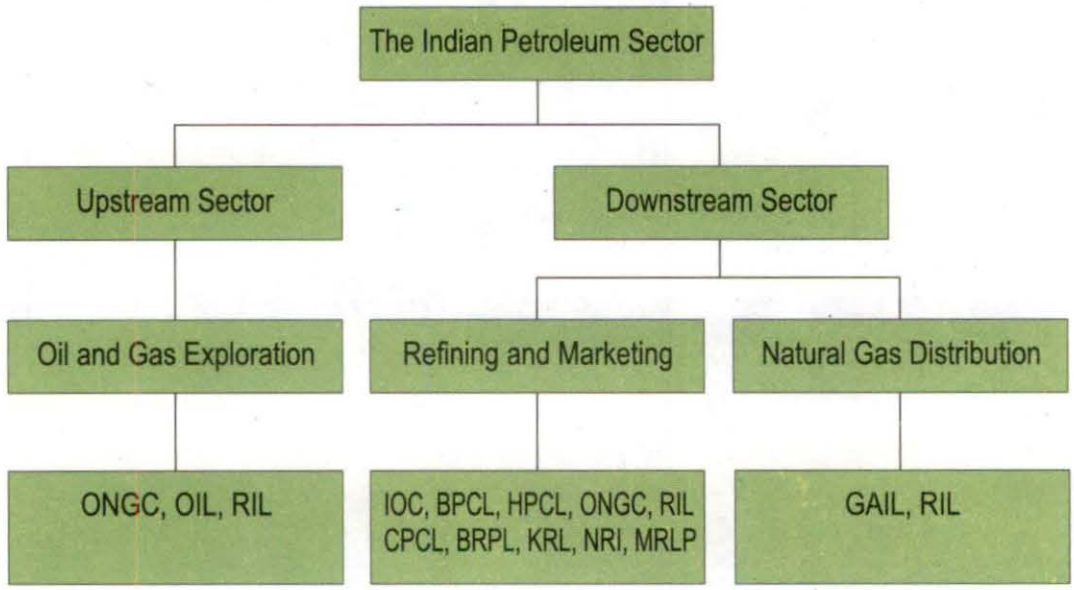
Important areas of work allocated to the MOPNG are to regulate and control:

- Exploration and exploitation of petroleum resources, including natural gas and coal bed methane;
- Production, supply distribution, marketing and pricing of petroleum including natural gas and petroleum products;

- Oil refineries including lube plants;
- Additives for petroleum and petroleum products;
- Lube blending and greases;
- Planning, development and control and assistance to all industries dealt with by the Ministry;
- All attached or subordinate offices or other organisations concerned with any of the subjects specified in this list;
- Planning, development and regulation of oilfield services;
- Public sector undertakings dealing with subjects e.g., Engineers India limited and IBP Company Limited, together with their subsidiaries, except those which are specifically allotted to any other Ministry/Department;
- Administration of various acts enacted for oil related issues.

1.8.1 Public Sector

The structure of Upstream and Downstream oil companies in the Indian Petroleum sector as of now is indicated below:



CPCL: Chennai Petroleum Corporation Limited, KRL: Kochi Refineries Limited, BRPL: Bongaigaon Refinery and Petrochemicals Limited, NRL: Numaligarh Refinery Limited, MRPL: Managalore Refinery and Petrochemicals Limited, RIL: Reliance Industries Limited

The shareholding pattern of the PSUs wherein Government holds majority shares are as follows:

Name of the Company		Percentage of shareholding by GOI
1.	Oil and Natural Gas Corporation Limited	74.15
2.	Indian Oil Corporation Limited	82.03
3.	Hindustan Petroleum Corporation Limited	51.01
4.	Bharat Petroleum Corporation Limited	66.20
5.	GAIL (India) Limited	57.35
6.	Engineers India Limited	90.39
7.	Oil India Limited	98.13
8.	Biecco Lawrie and Company Limited	57.00

ONGC is the major player in the upstream sector while IOCL is the major player in the downstream sector. A new trend of vertical integration began with the acquisition of MRPL by ONGC, whereby the Company entered the business of refining and marketing. Taking the trend of vertical integration forward the downstream sector is entering the E&P business with IOCL in consortium with other Companies being awarded 11 exploration blocks in New Exploration Licensing Policy (NELP) and two blocks under CBM I. IOCL has also acquired 27 per cent participating interest in the onshore exploration block in Assam and Arunachal Pradesh Region. It has subsidiaries like IBP, BRPL, CPCL, IOBL, Lanka IOC Private Limited, IOTL in the refining and marketing business, while BPCL has KRL and NRL as its subsidiaries. OVL, a wholly owned subsidiary of ONGC, has acquired/discovered producing properties in Vietnam, Russia and Sudan.

1.8.2 Emergence of the private sector

The Government of India has been inviting private investment in exploration of oil and gas in the country since 1980s. However, initial efforts to attract private investment were limited to offshore areas only. Since 1991, the Government of India offered exploration blocks almost on regular basis for both onshore and offshore areas and announced six bidding rounds till 1995. In 1996-97 Government of India reviewed the policy of inviting investment in exploration of oil and gas. A NELP was accordingly formulated in 1997-98, which provides a level-playing field to the private investors by giving the same fiscal and contract terms as applicable to national oil companies for the offered exploration acreage. Under NELP production sharing contracts for 90 exploration blocks have already been signed. The JVs and the private players have contributed 4,314 TMT to the production of crude oil and 6,491 (million cm) to the production of natural gas in 2003-04 which constitutes 14 per cent of the total hydrocarbon production in the country.

In the refining sector Reliance Industries Limited has set up their refinery at Jamnagar, Gujarat with a capacity of 27 MMTPA[♣] in 1999-00. With the commissioning of this refinery the imports of petroleum products have come down from 16.6 MMT in 1999-00

[♣] ***Million metric tonne per annum***

to 7.8 MMT in 2003-04. The export of petroleum products has gone up from 8.36 MMT in 2000-01 to 14.62 MMT in 2003-04.

1.8.3 Emerging Business Strategies

Joint Ventures

Out of a total of 146 Production Sharing Contracts signed during the last 12 years, the production has started only in respect of five mid sized fields (Panna, Mukta, Ravva, Mid and South Tapti and Kharsang) and in 10 out of 24 small sized discovered fields. In the remaining 14 small-sized discovered fields (Mator, PY-1, Wavel, Allora, Amguri, Dholsan, Kanawara, Modhrea, N. Balol, N. Kathana, Sanganpur, Unwara, Ognaj and Karjisan) the production has yet to start.

Out of 35 exploration blocks awarded during four to nine rounds under pre-NELP, one block CY-OS-90/1 (PY-3 field) started producing oil during 1997 and two fields Lakshmi and Gauri have started producing oil/gas during November 2002 and March 2004 respectively. As per the details supplied by the Directorate General of Hydrocarbons (DGH) about 28.40 MMT of crude oil has been produced from these blocks/fields during the period 1994 to 2004 as indicated in Table-10 below. The bulk of the production is from five discovered fields originally belonging to NOCs, mainly ONGC.

Table-10

Sl. No	Year	Oil (in MMT)	Gas (in MMSCM)
1	1994-95	0.25	88.02
2	1995-96	0.65	334.06
3	1996-97	1.35	510.00
4	1997-98	2.51	1680.75
5	1998-99	3.04	2874.08
6	1999-00	4.02	3464.64
7	2000-01	4.04	3596.00
8	2001-02	4.14	4053.80
9	2002-03	4.09	4993.34
10	2003-04	4.31	5990.46
	Total	28.40	27585.15

Source: Director General of Hydrocarbons

Various exploration rounds have been initiated in the last two decades under pre-NELP and NELP with policy packages being improved upon in each round so as to attract more private investment in the hydrocarbon sector. However NOCs continue to be the largest investors in this sector. Full details of investments made each year in the sector under various segments of business are given in Annexure 3. It would be observed that in the midsized fields the total investment of both private companies and NOCs in the five fields is US$ 1333 million. In the exploration blocks awarded during Pre-NELP rounds, the total investment is US$ 897 million. The total investment in the blocks awarded during three rounds of NELP has been US$ 794.6 million (NELP I-517.9 million, NELP II-US$ 240.9 million and NELP III US$ 35.8 million).

The PSC's of various JV provided that profit petroleum should be shared between the Government and JV's. The revenue received by the Government of India as its share of profit petroleum from the seven fields as shown in Annexure 4 till March 2003 was to the tune of US$ 2328.79 million.

Coal Bed Methane

Coal Bed Methane (CBM) is stated to be an environment friendly and clean fuel similar to Natural Gas. The estimated CBM resources of India are to the tune of 850 billion cubic metres (BCM). To give impetus to its exploration and production the Government has formulated a CBM policy. Contracts have been signed with PSUs/Private Companies for exploration and production of CBM in 13 blocks under two rounds of CBM policy and in three blocks on nomination basis. The estimated investment in these blocks upto 2003-04 has been about Rs.560 crore and commercial production of CBM from some of these blocks is expected to start in 3-4 years.

1.8.4 Pricing of petroleum products

Administered Price Mechanism

In July 1975, Oil Co-ordination Committee (OCC) was set up as per the Government resolution of July 1975 for administering Oil Industry Pool Accounts, based on the interim recommendations of the Oil Price Committee (OPC). In 1976, the OPC recommended the discontinuance of the import parity price. The OPC suggested that the domestic cost of production should be the determining factor for pricing of petroleum products. The Administered Price Mechanism (APM) was evolved on the recommendations of the OPC and came into existence in December 1977. Under this mechanism refineries were allowed to retain cost of crude, refining cost and reasonable return on investment out of the sale proceeds. The same set of principles was extended to marketing and distribution companies as well. Government of India also fixed the price of finished products and the returns of oil companies were de-linked from the price at which the goods were finally sold.

The main objective of the OCC was to ensure uninterrupted supplies of the products and balance the prices of Petroleum Products throughout the country by keeping the selling prices of respective products uniform. For achieving this, the expenditure incurred by the oil companies in excess of the recovery through pricing was reimbursed by OCC and saving in expenditure and extraordinary incomes were recovered from the oil companies. This way, the pool accounts were self balancing and the reimbursements and surrenders were matching.

Main pool accounts operated were:

(i) Crude Oil Price Equalisation (COPE) Account;

(ii) Cost and Freight (C&F) Adjustment Account;

(iii) Freight Surcharge Pool (FSP) Account;

(iv) Product Price Adjustment (PPA) Account.

As the reimbursement exceeded the surrenders by the oil companies due to non-revision of the prices of petroleum products to consumers in line with the cost of production, the pool account started showing deficit. This gap widened to around Rs.20,000 crore at the time of dismantling of APM from April 2002. Since the funds available with OCC were not sufficient to meet the dues to the oil companies, the Government issued bonds to the oil companies in April 2002 in lieu of the balance due from OCC to these companies.

Dismantling the Administered Price Mechanism

A Strategic Planning Group known as 'R' group appointed by the Government in January 1995 recommended the gradual phasing out of APM in the hydrocarbon sector and introduction of free marketing mechanism. Based on this recommendation the consumer prices of all products except motor spirit (MS), high speed diesel (HSD), aviation turbine fuel (ATF), kerosene for public distribution (PDS kerosene) and LPG used for domestic cooking (domestic LPG) were decontrolled from 1 April 1998. From 1 April 2001 the pricing of aviation turbine fuel (ATF) was also decontrolled.

- On 1 April 2002, all the products were removed from the APM. However, right of fixing retail selling prices of the products LPG (domestic) and SKO (PDS) was retained by the Government. The under recoveries by the oil companies on account of these products are partially reimbursed by the Government through a body called Petroleum Planning and Analysis Cell (PPAC), which came into existence from April 2002 in place of OCC and operates on Government budgetary support. The functions of PPAC are to operate the above two subsidy accounts, settle the dues of the OCC with oil companies and facilitate transition from APM to non-APM regime.
- As regards the pricing of petrol and diesel, post-APM, the oil marketing companies (OMC) entered into agreements with the refineries as per which the former pay to the latter the import parity prices of petrol and diesel, revised on fortnightly basis, taking into account the international prices of these products. The OMC, in turn, review the domestic consumer prices fortnightly. However, the right of revision of the retail selling prices of petrol and diesel was also not given to the oil companies upto July 2004 and even now, remains beyond the OMCs' powers.

Price banding

From August 2004, MOPNG has issued circulars to all the oil companies to fix the retail selling prices of the products within a reasonable price band. The price band is to be based on the average international prices of the previous fortnight provided that the exchange rate adjusted C&F product price was within the band of 10 per cent around the mean of (i) last three months rolling average prices and (ii) last one year's average prices. In case the C&F prices breach the ceiling due to high volatility OMC should keep the prices in the band and approach the MOPNG for revision of prices. Prices in farflung areas should not exceed prices at the nearest supply points. These directives by the Government have reinstalled the controls that were sought to be dismantled with the dismantling of the APM.

1.9 Financial Results of PSUs in the Petroleum Sector

The Financial results of some of the Petroleum sector PSUs for the year 2003-04 are as shown in Table-11 below:

Table-11

(Rs. in crore)

PSU	Investment in Shares by Government	Dividend paid on Government Equity for the year 2003-04	Sales Turnover	Market Capitali-sation	Net worth	Profit Before Tax (PBT)	Percentage of PBT to Net worth
ONGC	1,057	2,537	32,526	1,25,432	39,982	13,638	34.11
OIL	210	294	3,145	N.A.	4,029	1,482	36.78
IOCL	959	2,012	1,30,203	57,945	21,998	9,691	44.05
HPCL	173	381	56,333	17,224	7,743	2,904	37.50
BPCL	199	348	52,516	14,378	5,849	2,669	45.63
GAIL	485	388	11,296	1,80,123	7,443	2,812	37.78
Total	**3,083**	**5,960**	**2,86,019**	**3,95,102**	**87,044**	**33,196**	**38.14**

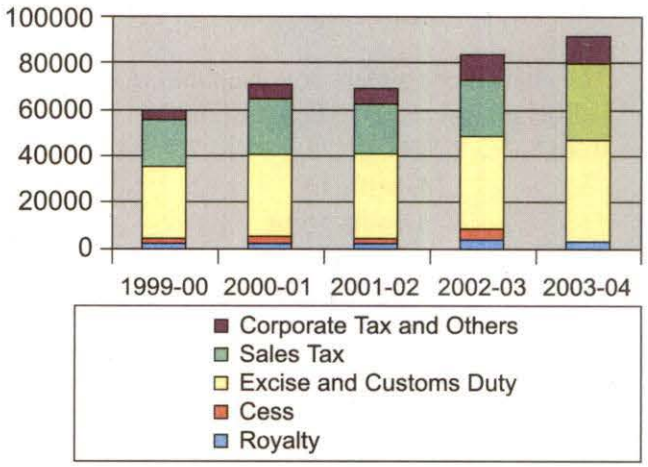
As could be seen from the above, on the equity capital investment of Rs.3,083 crore in these six PSUs the Government received dividend of Rs.5,960 crore, which works out to 193 per cent of the investment. The total sales turnover and profit before tax during 2003-04 were Rs.2,86,019 crore and Rs.33,196 crore respectively. On total networth of Rs.87,044 crore in the above six PSUs the overall percentage of PBT worked out to 38.14 per cent.

1.9.1 Contribution by Petroleum sector to National Exchequer

The Petroleum Sector contributes to the national exchequer by way of royalty, cess, excise and customs duty, sales tax and corporate tax etc. Of this the maximum contribution comes from excise and customs duty followed by sales tax as may be seen from Graph-12. The overall contribution has gone up from Rs.59,943 crore in 1999-00 to Rs.92,445 crore in 2003-04. The details are contained in Annexure-5.

Graph-12

(Rs. in crore)



1.10 Inventory Holding

Table-12 below shows the inventory of stores and spares and raw materials and their consumption by the oil sector PSUs for the period from 1999-00 to 2003-04.

Table-12

(Rs. in crore)

Year	Inventory value of Raw Materials in stock	Inventory value of stores and spares in stock	Consump-tion of raw materials during the year	Consump-tion of stores and spares during the year	Percentage of raw materials in stock to consump-tion during the year	Percentage of stores and spares in stock to consumption during the year.
1999-00	5319.63	2660.27	152277.96	1086.06	3.49	244.95
2000-01	4846.03	2646.35	199310.16	1132.52	2.43	233.67
2001-02	5032.98	2779.34	178183.86	1058.00	2.82	262.70
2002-03	7185.47	2975.12	217882.74	1150.71	3.30	258.55
2003-04	7619.89	3952.14	233006.85	1123.60	3.27	351.74

It may be seen from Table-12 above that the percentage of stock of raw material as compared to the consumption decreased from 3.49 in 1999-00 to 3.27 in 2003-04. On the other hand, the percentage of stock of stores and spares to consumption increased from 244.95 in 1999-00 to 351.74 in 2003-04.

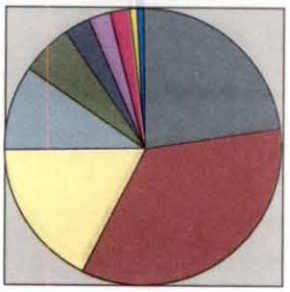
1.11 Sale to bulk consumers

As indicated in Graph-13 and Graph-14 the main bulk consumers of HSD countrywide are Railways, State Transport undertakings (STUs) and major private industrial users. Total consumption of HSD by major consumers showed a declining trend from 8,641.9 TMT in 2000-01 to 7,844.2 TMT in 2003-04.

The main consumers of Naphtha are fertilizer industries, power/steel sector and petrochemical sector. The consumption of Naphtha by the major consumers also declined from 8,075.9 TMT in 2000-01 to 7,069.6 TMT in 2003-04.

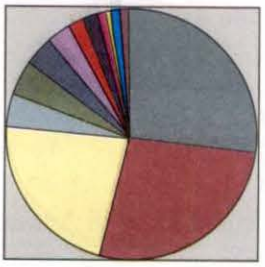
Graph-13

1999-2000



Graph-14

2003-04



Bulk Consumers of HSD

Power and fertilizer industries are the major consumers of natural gas. The consumption of natural gas in the power sector has gone up from 8,714 MCB in 1998-99 to 11,478 HCB in 2003-04. Details of HSD, naphtha and natural gas consumption by major consumers are contained in Annexure-6.

1.12 Employment profile of oil PSUs including indirect employment

The number of people employed in the sector went down from 1.38 lakh in 1998 to 1.3 lakh in 2003. The major chunk of the personnel was employed in the exploration and production activity followed by the marketing field.

Table-13

Activities	1998	1999	2000	2001	2002	2003
Exploration and Production	52909	51656	50942	50049	49540	48237
Refining	25294	37619	27019	27178	25322	26451
Marketing	37943	41806	41110	40852	41865	40561
Pipelines	3782	3803	4180	4196	4094	4092
Research and Development	2832	2869	2858	2723	2797	2330
Others	15249	13580	13293	9990	9992	8256
Total	138009	151333	139402	134988	133610	129927

1.13 Research and Development expenses incurred by the major PSUs

As is evident from Table-14, expenditure on Research and Development (R&D) in IOC and BPCL showed a decline from Rs.90.42 crore in 2002-03 and Rs.18.98 crore to Rs.85.50 crore and Rs.13.83 crore in 2003-04 respectively. However, ONGC and HPCL recorded a rise in expenditure, which stood at Rs.93.83 crore and Rs.2.46 crore respectively in 2003-04. The total expenses on R&D in the four major oil companies recorded a marginal increase from Rs.171.12 crore in 1999-00 to Rs.195.62 crore in 2003-04.

Table-14

(Rs. in crore)

Name of PSUs	Year				
	1999-00	2000-01	2001-02	2002-03	2003-04
ONGC	71.04	82.18	80.28	92.93	93.83
IOCL	77.00	78.00	68.63	90.42	85.50
BPCL	21.70	20.60	37.10	18.98	13.83
HPCL	1.38	1.55	1.05	1.21	2.46
Total	171.12	182.33	187.06	203.54	195.62

1.14 Strengths, weaknesses and opportunities in the Petroleum sector

The Petroleum sector in India has a huge infrastructure in the form of assets and technical knowhow for exploration, production and marketing activities. We also have adequate domestic refining capacity (125.97 MMT as on 1 April 2004) and the availability of petroleum products is adequate to meet present demand (except LPG).

Crude oil security is of particular concern for India with high crude oil import dependency, which presently stands at 69 per cent of the domestic consumption. The gap between domestic crude availability and consumption of crude indicates the vulnerability of the Indian economy to crude oil imports. The increasing international prices of crude would also impact the economy. A matter of concern would also be the absence of any substantial finds of crude oil reserves in the recent years.

Consequent on liberalisation of Petroleum sector, the Government of India is encouraging participation of foreign and Indian companies in the exploration and production activities to supplement the efforts of national oil companies to narrow the gap between supply and demand. Further the Government is encouraging oil sector PSUs to venture abroad to access exploration blocks and oil producing properties for equity oil either on its own or through strategic alliances/joint ventures. These initiatives have provided new opportunities for the petroleum sector. The recent gas found in the Krishna Godavari basin by RIL and in Rajasthan by M/s. Cairn Energy Limited could show the way for emergence of gas as an alternative to petroleum products.

CHAPTER: 2

FOLLOW-UP ACTION ON REVIEWS IN THE LAST FIVE YEARS' AUDIT REPORTS

CHAPTER: 2
FOLLOW-UP ACTION ON REVIEWS IN THE LAST FIVE YEARS' AUDIT REPORTS

2.1 *Introduction*

Some of the main reviews throwing light on different activities relating to petroleum sector and which have been printed in the last five years' Audit Reports of the Comptroller and Auditor General of India in respect of Union Government (Commercial)-Public Sector Undertakings were: -

- Avoidable expenditure on creation of excess capacity by Oil and Natural Gas Corporation Limited (Audit Report No.4 of 2001);
- Marine logistics support services in Oil and Natural Gas Corporation Limited (Audit Report No.4 of 2002);
- Purchase, transportation, marketing of natural gas and extraction of liquid hydrocarbons by GAIL (India) Limited (Audit Report No.4 of 2004);
- Saurashtra exploration project of Oil India Limited (Audit Report No.4 of 2004).

This chapter contains a brief on audit conclusions/recommendations made in the above reviews, the Action Taken Notes (ATN) thereon of the Government and the audit remarks on the ATN.

2.2 *'Avoidable expenditure on creation of excess capacity' relating to Oil and Natural Gas Corporation Limited (Chapter 6 of Audit Report No. 4 of 2001)*

2.2.1 *Background*

Neelam oilfield of Oil and Natural Gas Corporation Limited (ONGC) denominates the combined structure of B-131 Southern and B-132 Northern located in Bombay Offshore. The 'Delineation Reports' for both structures were prepared in July 1988. The Institute of Reservoir Studies (IRS) of ONGC prepared, in March 1989, a Technological Scheme for development of the Neelam oilfield and based on that a Feasibility Report (FR) was submitted by ONGC and was cleared by the Government of India in February 1991. The development of the field started in June 1989 and full-scale production started from July 1994.

Performance of the Neelam oilfield during the period July 1994 to March 1999 vis-a-vis production facilities created on the field was reviewed in Audit.

The ATNs on the audit findings were furnished by the Ministry in December 2003.

2.2.2 The salient audit findings and action taken thereon by the Management/Ministry were as follows:

(i) Creation of excess capacity

ONGC had created (July 1994) processing capacity and supporting facilities and pipeline network in the Neelam oilfield for six MMTPA*, even though the expected peak output, as per Technological Scheme for the development of the field in the initial nine years, was only four MMTPA. The estimates of reserve had been grossly overstated as was also clear from the production profile of the field during the period 1994-95 to 1998-99. All through these years the actual oil production steadily declined and was far below the projected production profile. Audit brought out the following shortcomings: -

(a) Preparation of Feasibility Report with inadequate inputs

The Delineation Report of 1988 was based on 2D seismic data collected between the period 1977 and 1984. It had been clearly recommended in the Report that collection and interpretation 'at the earliest' of 3D seismic data, which is more accurate and reliable, was necessary to know the precise structure configuration of the field and fault, if any. ONGC carried out 3D seismic survey in November–December 1989, and the interpretation report, which suggested that the structure of the field was steeper than earlier envisaged, thus, pointing towards the possibility of reserves being smaller than anticipated, was available only in 1992.

Thus, the Technological Scheme for development of the field prepared in March 1989 was not based on accurate information of the relative seismic data and the Feasibility Report submitted by ONGC to the Government for development of the Neelam oilfield on the basis of IRS's Technological Scheme was not well-founded.

The Ministry in the ATN did not accept the audit findings arguing that in the Exploration and Production industry it is a common practice for companies to take calculated risks and put up facilities depending upon upside potential of the field. It was further argued that delayed action would have entailed loss of early cash flows and time value of money and that the Delineation Report had clearly mentioned that the capacity of 'Process Platform' should be such that it had a potential for processing oil from the nearby fields which were likely to be discovered.

Audit did not accept these arguments being generic in nature and as these did not explain satisfactorily why 3D data was not interpreted early enough. While it is true that creation of additional facilities at a later stage might have involved some extra cost, investment without adequate exploration work and ignoring the available information resulted in mismatch of facilities created with the actual potential of the Neelam oilfield. Steps also needed to be taken to avoid recurrence of such instances in future.

**Million Metric Tones Per Annum*

(b) Non-utilisation of early information regarding gas cap

Based on the presumption that southern part of the Neelam oilfield had no gas cap, ONGC had estimated that geological reserves would have 196 MMT (total oil 167.967 MMT) and recoverable reserves of 61 MMT of oil and oil equivalent of gas. The doubt expressed in the Delineation Report with regard to presence of gas cap was disregarded. This presumption, however, proved to be erroneous, as drilling of five wells between June 1989 and December 1989 confirmed the presence of gas cap in the southern part. It was only in 1995 when IRS took up reservoir simulation study in the field and the geological model was updated after incorporating drilling results of the development wells, that the estimated geological and hydrocarbon reserves were revised downward from 167.967 MMT to 110.88 MMT of oil.

The Ministry argued in the ATN that presence of gas cap became known only in 1993-94, by which time more development wells had been drilled in the area and put on sustained production.

The argument was not acceptable, as information about gas cap was known to ONGC in 1989 itself when five exploratory wells drilled indicated higher availability of gas. But this information had not been considered seriously by ONGC before executing the Neelam Offshore Project.

(ii) Loss due to flaring of associated gas

Associated gas requires to be compressed before its transportation for further use. While ONGC created excess capacity for processing of oil, the capacity created for processing associated gas, which occurs along with oil, either as free gas or in solution, was much less than required. In the absence of adequate compression facilities gas had to be flared on site in volumes above that mandated for technical reasons. ONGC created gas dehydration and compression capacity of 2.56 MMSCMD♠. But the actual gas availability was much in excess of the compression capacity, which was mainly due to discovery of southern gas cap.

The Ministry in the ATN argued that major portion of flaring done for technical reasons, was unavoidable. It added that creation of gas compression facilities were set up on the basis of the gas production estimates as reflected in the Technological Scheme prepared by IRS and incorporated in the Feasibility Report submitted to the Government. However, actual Gas-Oil-Ratio was higher which led to the flaring of gas. However, the compressor capacity at site was enhanced from 2.56 to 3.84 MMSCMD in order to reduce the gas flaring.

The contention of the Ministry was not acceptable because the development plans of Neelam oilfield could have been suitably modified by ONGC after it became known in 1989 that gas cap did actually exist in the southern part of the field.

Audit observed that flaring continued in the Neelam oilfield and that during 2003-04 itself 72.04 MMSCM of gas was flared.

♠ ***Million Metric Standard Cubic Metres Per Day***

2.3 *'Marine logistics support services in Oil and Natural Gas Corporation Limited' (Chapter 4 of Audit Report No. 4 of 2002)*

2.3.1 Background

The logistics services to support the offshore operations of ONGC are met through offshore supply vessels (OSVs), which may be owned and hired. Even when OSVs are hired, their operation and maintenance may be outsourced. Besides being deployed on standby duty, cargo and rig move duties; OSVs are also deployed to meet contingencies such as fire, emergency and evacuation of personnel.

Audit reviewed the assessment of OSV requirement, their deployment and performance, upkeep and maintenance of owned OSVs and related contracts during the period 1995-96 to 1999-00. Fixation of charter hire rates for Indian National Shipowners Association (INSA) vessels from inception to date (March 2001) was also examined in Audit. The action taken notes on the audit findings were furnished by the Ministry in December 2003 and December 2004.

2.3.2 The salient audit findings and action taken thereupon by the Management/Ministry were as follows:

(i) Norms for deployment of OSVs not fixed

During the period 1995-96 to 1998-99 even as the number of actual duty stations came down from 45 to 42, the number of 57 OSVs deployed remained unchanged because of absence of approved norms. In spite of in-house efforts as well as reports of external consultants in the matter, the required norms had not materialised. It was argued that norms could not be accepted for two reasons (i) vessels owned by ONGC could not be disowned and (ii) vessels hired from INSA members could not be dehired without the approval of the Government.

The Ministry in the ATN merely summarised the norms worked out in various in-house reports and by outside consultants. It did not address the core issue relating to the rationale of having so many studies while there was an in-built constraint in adopting any norms for deployment of OSVs.

(ii) Rates for long-term charter hire of INSA vessels

ONGC hired 25 OSVs from INSA members during 1983 to 1985. During this period the charter rates, which were earlier around US$ 4500 per day, crashed to below US$ 3000 per day. In view of this development the Indian Ship owners sought from the Ministry of Surface Transport and Ministry of Petroleum and Natural Gas suitable measures for losses. A Committee set up by the Ministry evolved (March 1984) a market driven formula, which was approved by the Government in August 1984, with a floor rate operating during depressed markets and ceiling rate operating during boom markets. The day rate calculated by the committee, however, slowly metamorphosed into a cost-based formula with complete protection for operators against market volatility, thus, depriving ONGC of the advantages of a competitive market price. Since during the period, ONGC was operating under the cost plus regime the impact of protected OSV hire rates was ultimately borne by the petroleum product consumers.

The Ministry in the ATN reported that it had decided to do away with the concept of market, floor and ceiling rates and instead adopted 'normative rate' i.e. a cost-based formula, after the committee appointed by the Government had considered the practical aspects of operations of OSVs and indigenisation of OSVs industry from larger national perspective on a longterm basis.

(iii) Force majeure clause not included in the contract

The model contract between ship owners and ONGC prepared by Director General (Shipping) incorporated a force majeure condition, according to which a vessel could be de-hired in the inverse order of their hire dates in the eventuality of vessels being rendered surplus due to substantial reduction in the requirement of OSVs. However, in the actual contract signed by ONGC with ship owners no such provision was incorporated, thus, depriving ONGC of the opportunity to reduce the fleet size in its offshore operations.

The Ministry argued in the ATN that during 1991-93 OSV requirement had actually increased. Consequently no loss had been suffered by ONGC due to non-inclusion of force majeure clause in respective contracts.

The argument advanced by the Ministry at ATN stage to justify non-incorporation of force majeure clause in OSV contracts is not acceptable because on verification of facts it was noted that there was an overall drop in the number of duty points required to be serviced by OSVs during the period in question. Moreover, even if the requirement of OSVs had really increased that would not diminish the merit of having a 'force majeure' clause in the OSV contracts.

(iv) Excess deployment on standby duty

The total requirement of 22 standby vessels worked out in May 1992 through an in-house study was further revised to 25 OSVs in October 1996. The actual deployment of OSVs on standby duties for the period from 1995-96 to 1998-99 exceeded these worked out norms by four to seven OSVs in different years. The cost of deploying OSVs in excess of normative requirement amounted to Rs.85.61 crore.

The Ministry in ATN did not accept audit findings stating that the OSVs were multipurpose duty vessels and that Audit had not considered the overlapping of duties.

This was not acceptable, as Audit had based its findings on the monthly standby duty hours recorded in the internal reports generated by ONGC and the standby duty hours so considered did not include OSVs hours utilised for other duties.

(v) Higher deployment on supply duty

The quantity of cargo delivered by OSVs per trip to various duty stations like rigs/installations was much below the storage capacity at each operation and also well below the deliverable capacity of OSVs. OSVs, thus, made more number of trips and resultantly more number of OSVs were deployed on supply duties than required.

The Ministry in the ATN stated (December 2003) that Marine Logistics had no control on the requirement of rigs/installations and it was purely decided by the particular user department and that there was no designated OSV for a particular rig/installation.

The ATN was not acceptable, as it did not bring out corrective measures to address the issue.

(vi) Non-utilisation of water maker

Facility of generating potable water through the water maker had been provided on all owned and hired rigs as well as platforms to cater to the requirement of water supply. However, in most of the platforms and owned rigs these water makers were either not operational or water generation was insufficient. As a result, the shortage of potable water was made good through supplies delivered by OSVs. This was, however, not cost effective. The expenditure on potable water supplied through OSVs amounted to Rs.63.83 crore during the period from 1995-96 to 1999-00.

The Ministry (December 2003) while admitting that the cost of producing water from water maker was cheaper than the water delivered through OSV, stated that transportation of water through OSV is resorted to, as water produced offshore is not sufficient as water makers mostly worked on heat recovery system.

The ATN is not acceptable, as it did not bring out any corrective measures to reduce dependence on water supply through OSV. The audit finding regarding non-functioning of water makers was also not addressed in the ATN.

The Ministry further stated (December 2004) that the water makers at the production installations were in working condition and therefore these production installations were not being supplied water through OSVs. Also action had since been taken to put the defective water makers of drilling rigs in operation so as to reduce the dependence on potable water.

The action taken would be verified in next Audit.

(vii) Discrepancy in delivery of fuel

A review of the bulk voyage statements of five out of 52 OSVs for the years 1999-00 and 2000-01 showed discrepancies in the quantity of fuel delivered by OSV and that acknowledged by the installations/rigs.

The Ministry in the ATN (December 2003) attributed the discrepancy to the difference of readings of OSVs vis-à-vis the reading of rigs. However, it also stated that drilling section of ONGC had been asked to have the flow meters on board rigs calibrated. Also, Remaining on Board (ROB) survey through independent surveyors of all OSVs on their arrival to Base was reported to have been introduced on regular basis. This was expected to regulate subsequent actions like supply of fuel to vessel, recovery of fuel cost during non-compensable down time etc. The Ministry further informed (December 2004) that the supply vessels had been equipped with calibrated flow meters to monitor the quantity of fuel supplied.

On verification of records Audit observed that no ONGC representative ROB and the vessels operated through private operation and maintenance operators. Therefore, ONGC had no means to check quantity of various materials on board as accounted for by private operators. ROB survey reports had also brought out some instances where quantity of fuel ROB was more than that accounted for, which was sufficient indication of the fact that accounting of quantities by OSV operators was not free from discrepancies. The efficacy of the calibrated flow meters and their impact on the discrepancies would be verified in Audit in due course.

(viii) Handling of bulk cargo

Bulk cargo consisting of barytes and cement was being loaded without regard to specific requirements or requisitions from the offshore rigs. The percentage of cargo remaining on board to cargo loaded during 1995-96, 1996-97, 1997-98, 1998-99 and 1999-00 constituted 58.21 per cent, 44.79 per cent, 45.02 per cent, 42.74 per cent and 36.06 per cent respectively. The number of sailings without delivering the cargo was also high.

The Ministry in the ATN stated (December 2003) that barytes and cement were not regular consumables like fuel and water and hence it was not possible to ascertain the average monthly or daily requirement of a particular installation.

The ATN was not acceptable to Audit as it indicated the non-seriousness of the Ministry/ONGC in addressing the issue.

The Ministry further stated (December 2004) that as per the industry practice the stability of vessel was maintained by cargo. Hence the entire cargo could not be delivered.

The requirement of cargo on board for stability of the vessels remained to be testified in Audit.

(ix) Consumption of fuel

Audit review of the fuel consumption of OSVs for the three years ending March 2000 revealed that in 1997-98 and 1999-00 per hour fuel consumption by owned OSVs was more than that of hired OSV. Audit also observed that even when the OSVs were berthed at the jetty/port there were wide variations in fuel consumption by owned and hired OSVs. Analysis of fuel consumption at Nhava Base revealed that there was no check on fuel consumption.

The Ministry in ATN stated (December 2003) that fuel consumption was a complex phenomenon and depends on various factors and that Audit had not considered all these factors. It further stated (December 2004) that Management has taken serious view regarding fuel consumption and continuously carrying out Energy Audit to bring fuel consumption to minimum. ONGC is also taking constructive efforts to minimise the fuel consumption.

The ATN was not acceptable because both owned and hired OSVs were operating in the same environment and the 'complex phenomenon' or factors would apply to both owned

and hired OSVs. Therefore, there was a need for corrective measures to have control on consumption of fuel.

(x) Loss due to non utilisation of Global Positioning System-Assisted Improved Navigation System

In order to improve navigation, reporting position of cargo and traffic management, Global Positioning System-Assisted Improved Navigation System (GAINS) was handed over to Logistics department of ONGC in April 1998. In spite of this the daily activities of OSVs continued to be regulated entirely on radio and GAINS had not been put to effective use. This resulted in infructuous expenditure of Rs.3.75 crore spent on procurement and commissioning of the system.

The Ministry argued (December 2003) that in order to economise the expensive INMARSAT billing through which GAINS communicates with Nhava the frequency of reports was kept to the minimum. It further stated (December 2004) that the system had been used in some vessels for navigational aid for fixation of voyage course and guidance.

The ATN was not acceptable, as ONGC should have considered the high cost of billing before acquiring the system and consider disposal of the system if it was not likely to be used effectively.

(xi) Non-availability of Offshore Supply Vessels

A comparison of the downtime of owned OSVs and hired OSVs showed that during the years between 1995-96 and 1997-98 the downtime of owned OSVs was considerably higher. The cost of the total downtime worked out to Rs.179.36 crore.

The Ministry in the ATN stated (December 2004) that 16 OSVs had been handed over to Shipping Corporation of India on cost plus basis for operation and maintenance. Remaining 15 OSVs had been handed over to M/s. ICAL under new contracts where a lumpsum was paid to the contractor for operation and maintenance and the repairs and maintenance charges are borne by ONGC. Corrective action was taken immediately to improve the health of the vessels. This resulted in increased availability of vessels.

(xii) Poor maintenance of the Offshore Supply Vessels by the operators

Since 1990-91 the operation and maintenance contract of owned vessels had been awarded to private parties. The defects noticed in OSVs at the time of handing over and taking over (HOTO) from old operators to new contractors of the OSVs were normally the responsibility of the outgoing operator. It was noticed in Audit that there were abnormal delays in the settlement of HOTO defects resulting in poor upkeep of OSVs for prolonged period and leading to further deterioration of OSVs as well as increase in downtime. Even the responsibility in respect of defects noticed during HOTO in 32 ONGC vessels between August 1996 and June 1997 had not been decided upto November 1998. As of September 1998, Rs.66.71 lakh had been spent on rectification of these defects by ONGC and estimated expenditure of Rs.2.80 crore was yet to be incurred. This indicated that only bare minimum repairs had been carried out and the

major repairs for which no liability was fixed on the contractors were yet to be carried out.

The Ministry in the ATN stated (December 2004) that ONGC had taken initiatives and corrective action to repair the defective equipments of OSVs and thus, increasing their capabilities. It added that contracts of all defaulting contractors had been cancelled and firms debarred for future business.

(xiii) Avoidable expenditure incurred on repairs of six vessels

In terms of the agreement entered into with M/s. Urmila and Company for operation and maintenance of ONGC owned vessels, the operator was required to keep the vessels in good running condition. Further, the operator was required to pay for the cost of repairs and bear all charges, which were required to be incurred to make the vessels fully operational. Though ONGC had noted the unsatisfactory maintenance of vessels on the part of the contractor it was compelled to extend the contracts because the new contracts could not be finalised in time. Finally the contract was terminated (March 1994) owing to poor performance. However, instead of getting the OSVs repaired from the outgoing operator as per the agreed terms and conditions ONGC got these repaired at its own cost after taking over from the operator, thus, incurring avoidable expenditure of Rs.14.02 crore.

The Ministry in the ATN stated (December 2004) that to avoid such a situation in future ONGC had handed over the operation and maintenance of owned OSVs to Shipping Corporation of India on cost plus basis.

2.3.3 Introduction of 'Offshore Logistics Module' in SAP♦ system

In addition to above, in the ATN of December 2004, the Ministry emphasised that after introduction of Offshore Logistics Module in SAP system there would be effective control over deployment of OSVs on supply duty, number of trips to various duty stations, fuel consumption, discrepancies in delivery of fuel and the handling of bulk cargo.

However, the efficacy of the 'Offshore Logistics Module' in SAP system remained to be testified in Audit.

2.4 'Purchase, transportation, marketing of natural gas and extraction of liquid hydrocarbons by GAIL' (Chapter VIII of Audit Report No. 4 of 2004)

2.4.1 Background

The main objective of GAIL (India) Limited (Company) is the construction of pipelines and transportation of natural gas. The Company has also set up plants for extraction of liquid hydrocarbons, viz. LPG♠, Propane, Pentane etc. The Company is also producing and marketing polymers and transporting LPG. The performance of the Company in the purchase, transportation and marketing of natural gas and extraction of liquid

♦ *Systems Applications and Products in data processing*
♠ *Liquified Petroleum Gas*

hydrocarbons for the period 1998-99 to 2002-03 was reviewed and audit findings printed in the Audit Report No 4 of 2004 (Commercial). Highlights of the review were as follows:

2.4.2 Salient audit findings

- The Company purchased the gas from Panna-Mukta and Tapti Fields operated by Private Sector Joint Venture, at 119 per cent of the International price. This resulted in an additional payment of Rs.212.86 crore to the Joint Venture.

- Gas from the Tapti field having low calorific value was being accepted by the Company since June 1997 at the normal price (without discount) as the Gas purchase and sales agreement was not executed (August 2003). The loss suffered on this account was Rs.43.68 crore.

- The Company purchased gas from joint ventures at a price higher than the price at which it sold to its customers. The higher cost of gas purchased from joint ventures amounted to Rs.3477 crore upto March 2003.

- Defective metering of supply from Hazira Bijaipur Jagdishpur pipeline of the Company resulted in short billed quantity of 1848.173 billion K cal valuing Rs.66.23 crore from April 1999 to March 2003.

- Despite shortage of actual availability of gas, allotment and supply of gas to Reliance Industries Limited was increased without recovering transportation charges and by making cuts in the supply to priority sectors like power generation and fertilizer. This resulted in loss of Rs.20.74 crore on account of transportation charges to the Company.

- The gas availability was not adequate to meet the requirements of company's LPG Plant at Usar. The Company went ahead in implementing the project at a cost of Rs.297.80 crore without a mid-term appraisal, rendering the investment infructuous.

2.4.3 Action taken note from the Ministry in respect of the above review was awaited (January 2005).

2.5 'Saurashtra Exploration Project of Oil India Limited' (Chapter IX of Audit Report No. 4 of 2004)

2.5.1 Oil India Limited (OIL) decided (July 1993) to drill four exploratory wells (one in North East Coast and three in Saurashtra Offshore) to arrive at a conclusive decision about the presence of hydrocarbon in those areas. On the basis of global tender, Essar Oil Limited (Contractor) was selected for the purpose. But scrutiny of the technical bid revealed that the Contractor failed utterly when deployed by ONGC on earlier occasion.

Incompetence of the Contractor also came to light more prominently while they were engaged in the drilling work. Notwithstanding this, the Company continued with the contract and was ultimately compelled to terminate the same. The Management also failed to encash performance guarantee bond.

The imprudent decision to award the drilling work to the Contractor resulted in infructuous expenditure of Rs.74.03 crore apart from involving the Company in an arbitration case.

The review was issued to the Ministry in May 2003. The reply and action taken note on the said review were not received (January 2005).

CHAPTER: 3
REVIEWS

CHAPTER: 3
REVIEWS

Indian Oil Corporation Limited

Branching and Capacity Augmentation of pipelines in Northern Region

Highlights

Increase in the pipe size of Mathura-Tundla Pipeline without approved proposals for extension of the pipeline to Kanpur and Gwalior and for expansion of Mathura refinery rendered the expenditure of Rs.6.20 crore on increased pipe size infructuous.

(Para 3.1.6)

Due to delayed review of the demand-supply position, the Company incurred an infructuous expenditure of Rs.2.24 crore on the capacity augmentation of the Panipat-Ambala-Jalandhar sections of the Mathura-Jalandhar Pipeline.

(Para 3.1.7)

An expenditure of Rs.66.68 crore incurred on Phase–II augmentation of Kandla-Bhatinda Pipeline was avoidable as the throughput did not at any time justify this augmentation.

(Para 3.1.10)

Encashment of the bank guarantees of the contractor in excess of requirements resulted in payment of interest of Rs.70.29 crore.

(Para 3.1.11)

3.1.1 Introduction

The Pipelines division of the Indian Oil Corporation Limited (Company) which was earlier part of Refineries and Pipelines division became a separate division with effect from January 1998. The division had two pipelines viz. Mathura-Jalandhar Pipeline (MJPL) and Kandla-Bhatinda Pipeline (KBPL) in the Northern Region.

The functions of the pipelines are:

- delivery of crude oil to refineries through its crude oil pipelines;
- taking delivery of finished products at the refineries;
- delivery of finished products at the terminals[♠] of the Marketing division.

The pipelines have *en route* pump stations and delivery stations.

[♠] ***A large storage site from where finished products are distributed to local area.***

3.1.2 Conceptualisation of pipeline projects with regard to source/characteristics/ tap-off point-wise requirement is done by the Projects (Planning and Systems) division in consultation with Corporate Planning, Marketing and Refinery divisions. The Corporate Planning division prepares product distribution plans commencing at the stage of product source at the refinery upto various consumption centres. This plan is based on various parameters including consumption of petroleum products and end-use patterns, demand and availability of products. The basis of assumption adopted by the Corporate Planning division is the report of the sub-group of the Planning Commission, which determines the demand for petroleum products during the Plan period. The major assumptions adopted by the sub-group for determining the demand for petroleum products during ninth and tenth Plans were as follows:

- Gross Domestic Product growth during the ninth and tenth Plans would be 6.5 per cent;
- Growth in the population as projected by the Planning Commission;
- Growth in the production of vehicles as per Association of Indian Automobile Manufacturers/National Council of Applied Economic Research;
- Administered prices would continue for Motor Spirit (MS), High Speed Diesel (HSD), and Superior Kerosene Oil (SKO) till the end of ninth Plan with a gradual tapering of subsidies on Liquified Petroleum Gas (LPG).

3.1.3 Scope of Audit

This review conducted during July 2003-October 2003 covers branching and capacity augmentation activities undertaken by the Company during 1998-99 to 2003-04 on two major product pipelines of the Northern Region viz.

- Mathura-Jalandhar Pipeline (MJPL) and
- Kandla-Bhatinda Pipeline (KBPL).

The objective of the review was to see whether the branching and capacity augmentation of Northern Region pipelines was well-planned and well-executed and done as per requirements.

3.1.4 Mathura-Jalandhar Pipeline (MJPL)

The pipeline was commissioned during 1982 in a phased manner to cater to the requirements of petroleum products viz. SKO, MS, HSD and Aviation Turbine Fuel in the North and North-Western parts of the country comprising the states of Uttar Pradesh, Delhi, Punjab, Haryana, Himachal Pradesh and Jammu and Kashmir and strategic Defence and Aviation Centres. The Pipeline has a length of 526 kms consisting of three pipeline sections viz. (i) Mathura to Delhi 147 kms with 16" diameter pipeline (ii) Delhi to Ambala 214 kms with 14" diameter pipeline and (iii) Ambala to Jalandhar 165 kms with 12.75" diameter pipeline. MJPL was linked with KBPL at Panipat, in June 1995 to facilitate the pumping of petroleum products delivered at Panipat through KBPL and also those of the Panipat Refinery.

3.1.5 Project planning and implementation

The review of branching and capacity augmentation activities of MJPL disclosed lack of coordination and monitoring and lacunae in planning amongst the various divisions of the Company for expansion of branch pipelines as detailed below:

3.1.6 Lack of co-ordination amongst the various divisions of the Company in the revision of pipe size: Extra expenditure of Rs.6.20 crore.

In January 1998, the Board of Directors of the Company, based on the proposal of the Project Appraisal Group, approved a proposal of laying 60 kms long 10" diameter feeder pipeline with a capacity of 0.8 MMTPA from Mathura to Tundla by January 2001 to deliver petroleum products at Tundla.

Subsequently, an Inter-Divisional Working Group on Infrastructure Development of the Company, suggested (May 1999) the extension of Mathura-Tundla Pipeline (MTPL) to Kanpur and laying a branch pipeline from Tundla to Gwalior. The reason cited was the expansion of Mathura Refinery by 2002-03. Considering the product requirements in Tundla, Gwalior and Kanpur the throughput in MTPL was also anticipated to increase to 1.784 MMTPA in 2002-03 and 2.72 MMTPA in 2011-12.

Based on higher throughput projections for the pipeline, the Planning and Projects Committee of the Board of Directors revised (September 1999) the pipe size of MTPL from 10" to 16" with the scheduled date of completion being September 2001. MTPL was accordingly completed in February 2002 and commissioned in February 2003 with 16" pipe at a cost of Rs.45.10 crore (including an extra expenditure of Rs.6.20 crore incurred due to use of 16" pipe size instead of 10" pipe size).

Audit observed that neither the expansion of the Mathura Refinery nor the extension of the pipeline to Kanpur and Gwalior was taken up by the Company. Resultantly, the actual utilisation of the pipeline during 2003-04 was 0.23 MMTPA only against the pipeline capacity of 1.20 MMTPA. The extra expenditure of Rs.6.20 crore incurred due to increase in pipe size was thus rendered infructuous.

The Management stated (November 2003, May -June 2004) that: -

- a proposal was moved for Tundla-Gwalior Pipeline during November 2002, but the same was not pursued as the internal rate of return of the project was very low;
- use of 16" pipe instead of 10" pipe for Mathura-Tundla Pipeline was considered keeping in view the products requirement at Kanpur and Gwalior through this branch line, but non-availability of products at Mathura Refinery for Gwalior was known from Marketing division only in March 2003. Extension of MTPL to Kanpur and Gwalior would be taken up along with future refinery expansion/evacuation plan as the present level of product movement requirement ex-Mathura did not justify immediate extension.

The Ministry stated (December 2004) that project approval was taken in June 1998 based on the then prevailing supply/demand position. However, during 2000-01 the supply/demand growth did not favour expansion of Mathura Refinery and extension of pipeline to Gwalior/Kanpur.

The reply of the Management/Ministry is not acceptable as: -

- the viability of the Tundla Gwalior project was assessed in November 2002 and not before the implementation of the MTPL project with larger diameter. The availability of products for transport, demand and supply position and internal rate of return should have been assessed before revising the pipesize and incurring the expenditure;
- approval of the Board had not been taken for execution of works of Kanpur and Gwalior branch pipelines before execution of the work of MTPL with a higher diameter pipe;
- no proposal for expansion of Mathura Refinery was initiated by the Company based on which throughput requirements for Kanpur and Gwalior were worked out and larger diameter pipeline was laid on Mathura-Tundla section;
- the proposal for extension of MTPL to Kanpur lacked justification because the requirement of petroleum products at Kanpur was already being met by Barauni-Kanpur Pipeline.

Thus, lack of proper co-ordination amongst the Pipeline, Marketing and Refinery divisions, led to wasteful expenditure of Rs.6.20 crore on increasing the pipe size.

3.1.7 Inadequate monitoring of the capacity augmentation of the Panipat-Ambala-Jalandhar Section: wasteful expenditure of Rs.2.24 crore

Based on throughput and demand growth projections made by the Marketing division (1998), the Company decided (November 1998) to augment the capacity of Panipat-Ambala (PA) section (103 kms) from 3.6 MMTPA to 4.5 MMTPA and Ambala-Jalandhar (AJ) section (165 kms) from 2.45 MMTPA to 3.1 MMTPA by installing one intermediate pump station each between the PA and AJ sections at an estimated cost of Rs.68.52 crore by May 2001.

While the work was under implementation, the Inter-Divisional Group in a meeting (December 2000) decided to defer the implementation of the augmentation work after considering the under-utilisation of PA and AJ sections and reckoning the demand position prevailing at that time. The decision was agreed to by the Board of Directors of the Company (March 2001). However, the Company had incurred an expenditure of Rs.2.49 crore, which ultimately proved to be wasteful. It was also observed that at the time of approval of augmentation, the actual throughput (1997-98) was 2.56 MMTPA in PA section and 1.56 MMTPA in AJ section which continuously declined to 1.97 MMTPA and 1.30 MMTPA respectively in 2000-01 as detailed below:

(in MMTPA)

Year	Throughput for Ambala	Throughput for Jalandhar
1997-98	2.56	1.56
1998-99	2.37	1.43
1999-00	2.12	1.37
2000-01	1.97	1.30

The Management stated (May/November 2003 and May 2004) that:

- the demand supply projections were worked out by the Company on the basis of the Planning Commission data;
- Rs.34.50 lakh had been charged to revenue since it pertained to staff costs on the project management and material worth Rs.1.48 crore was transferred to other units/projects, out of which material worth Rs.25.23 lakh had been consumed;
- when it was observed in the year 2000 that the actual demand throughput requirements for PA and AJ sections were lower, a decision was taken to defer the implementation of the project.

The Ministry stated (December 2004) that the proposal was initiated considering the buoyant situation of growth of petroleum product demand prevalent in the year 1998. Subsequently, there was reduction in growth rate of petroleum products. Since such a decline in growth was required to be evaluated on longterm basis, the project was continued.

The reply of the Management/Ministry is not tenable as the Company mainly relied on the data of the Planning Commission and initiated the work on that basis. Further, the Company took more than two years to take decision (December 2000) to defer the project (24 months had already passed, out of the scheduled completion period of 30 months) despite a continuous declining trend in actual throughput during 1998 to 2000. A regular and timely review of the project could have avoided/ minimised the procurement of stores and wasteful expenditure of Rs.2.24 crore (Rs.2.49 crore less material used Rs.25.23 lakh).

3.1.8 Kandla-Bhatinda Pipeline (KBPL)

KBPL, the largest multi-product pipeline in India, traverses from foreshore terminal at Kandla through the states of Gujarat, Rajasthan and Haryana and terminates in Punjab. The pipeline has a length of 1443 kms consisting of three sections viz. (I) Kandla to Panipat (1113 kms with 22" diameter) (ii) Panipat to Bhatinda (218 kms with 14"diameter) and (iii) branch pipeline from intermediate pump station at Kot to Salawas (Jodhpur) (112 kms with 10.75" diameter). Constructed at a cost of Rs.1853 crore, the pipeline was put into operation in a phased manner during December 1995 to June 1996. The initial capacity of the pipeline was six MMTPA, expandable up to 11.5 MMTPA by providing additional pumping units. The capacity of the pipeline increased to 8.8 MMTPA after augmentation (September 2002).

3.1.9 Pipeline projects

The review of construction and capacity augmentation projects of the KBPL disclosed lack of planning as detailed below:

3.1.10 Lack of proper planning in the capacity augmentation of KBPL-Avoidable expenditure of Rs.66.68 crore

Within a year of the commissioning of KBPL the Company felt (January 1997) an immediate need for augmentation of its capacity to 7.5 MMTPA (Phase-I) upto Panipat to meet the projected throughput requirements. The Company augmented the capacity (September 1999) by installation of one pumping unit each at Sidhpur and Sanganer at a cost of Rs.42.62 crore.

Before completion of the capacity augmentation (Phase-I) of KBPL, the Company took up (July 1998) a further augmentation of pipeline capacity from 7.5 MMTPA to 8.8 MMTPA (Phase-II). The phase II augmentation of the capacity was completed in September 2002 at a cost of Rs.66.68 crore. When the Phase-II augmentation was considered by the Company in July 1998, the pipeline had recorded only 5.67 MMTPA utilisation which was less than the capacity of 7.5 MMTPA after the first phase of augmentation and was even less than the original installed capacity of six MMTPA. Therefore, based on the actual throughput performance of the pipeline, Phase-II augmentation at the cost of Rs.66.68 crore taken up in July 1998 was not justified.

The position of installed capacity, supply plan meeting target and actual throughput for the last five years ended 31 March 2004 was as follows:

(in MMTPA)

Sl. No.	Description	1999-00	2000-01	2001-02	2002-03	2003-04
1.	Installed capacity	6.78*	7.5	7.5	8.58*	8.8
2.	Supply Plan Meeting target	5.29	4.58	4.92	4.20	3.99
3.	Actual throughput	6.90	5.93	5.60	5.09	5.00

*Pro-rata as the pipeline was augmented during the year.

It may be seen that the actual throughput in the pipeline during the years 1999-2000 to 2003-04 ranged between 6.90 MMTPA to 5.00 MMTPA and remained less than even the original installed capacity of six MMTPA throughout this period except during 1999-00 when it was 6.90 MMTPA. The expenditure of Rs.66.68 crore on the Phase-II augmentation was, therefore, not required.

The Management stated (December 2003 and May 2004) that:

- throughput projections were re-worked in October 1999 after augmentation that indicated marginal reduction in throughput projections as compared to the projections worked out during formulation of the expansion proposal. After reviewing the matter, a decision was taken to proceed with implementation of the augmentation scheme as by that time,
- the overall progress of work had already been achieved by 25 per cent;
- commitments of Rs.23 crore had been made;

- works at Kandla and Sanganer stations were at an advanced stage of completion and it was thought that the implementation of the expansion scheme would facilitate in meeting the peak demand.

The reply of the Management, thus, proved that the augmentation, though not required, had to be continued as *fait accompli*. Thus, the expenditure of Rs.66.68 crore incurred on Phase-II augmentation was avoidable since the throughput did not, at any time, justify such further augmentation.

The Ministry stated (December 2004) that augmentation to 8.80 MMTPA was anticipated considering increasing trend of demand prevalent in 1998. The capacity utilisation in 1999-00 was 115 per cent. Subsequently there was reduction in growth rate of petroleum products, which affected the throughput of the pipeline.

The reply is not tenable because the Company initiated both Phase-I and Phase–II augmentations simultaneously without waiting for the actual utilisation of the pipeline after Phase-I augmentation. The throughput always remained less than the capacity after Phase-I augmentation.

3.1.11 Lack of proper assessment of funds before invocation of Bank Guarantees in execution of KBPL Payment of interest of Rs.70.29 crore

The contract for design, execution and commissioning of KBPL with an initial design capacity of six MMTPA was awarded (August 1993) to a Consortium led by M/s. Skoda Export Company Limited (Contractor) as a lumpsum turnkey composite works contract for a total value of Rs.1,093.38 crore. The project was scheduled to be completed by February 1995.

While executing the project, the Contractor did not provide, as envisaged in the contract, the master project schedule, due to which effective monitoring of the project activities was hampered. The Contractors failed to keep up their commitments and, thus, the project could not be completed as scheduled in February 1995. The pipeline was taken into operation in phases starting from December 1995 to June 1996, without Supervisory Control and Data Acquisition (SCADA) system*, and Permanent Cathodic Protection (PCP) system♦. The Contractor did not give a firm milestone to complete these balance jobs and there was extremely slow progress in the residual jobs.

Due to delays and non-completion of work by the Contractors as per schedule and to get the unfinished works completed at the risk and cost of the Contractor the Company encashed 11 Bank Guarantees (BGs) aggregating to Rs.176.96 crore in October 1996. The Company also terminated the contract (June 1997). The balance works were got completed by M/s. Corrtech International, Ahmedabad (Rs.1.50 crore) and M/s. ECIL, Hyderabad (contract value Rs.8.95 crore) respectively at the risk and cost of the Contractor. Thus the BGs of Rs.176.96 crore encashed by the Company were much in excess of the requirements of Rs.10.45 crore to complete the balance works. The Contractor invoked the arbitration clause and based on the negotiated settlement with the

**System is used for monitoring and control of pipeline.*
♦System to provide protection from corrosion.

Contractor and awarded by the Arbitrator (February 2001) the Company had to pay an interest of Rs.70.29 crore to the Contractor due to encashment of the BGs.

The Management stated (December 2003 and May 2004) that:

- the BGs were encashed for non-performance and to provide the Company with funds to get the balance works completed at his risk and cost;
- the amount was deposited in the bank account and the Company saved interest to the extent of the prevailing SBI prime lending rate;
- interest paid on encashed BGs can be treated as compensated by the notional interest saved by the company on this amount.

The Ministry stated (December 2004) that based on the final settlement arrived at with the party, the payment of interest on the amount of BGs encashed was made.

The reply of the Management/Ministry is not tenable as

- encashment of BGs for the amount of Rs.176.96 crore was not justified as the amount of Rs.10.45 crore only was required for the execution of the balance works;
- the Company also could not utilise the money as the need did not arise. The negotiating committee felt that the demand of the Contractor for interest was genuine;
- the Company has not worked out and intimated the amount of interest actually saved on the amount of BGs encashed and deposited in its special current account;
- there was no provision in agreement regarding the payment of interest on the amounts of BGs encashed for non-performance of contract.

3.1.12 Conclusion

The Pipelines division undertook the execution of the projects for laying of branch pipelines and capacity augmentation of different sections of existing pipelines based on anticipated throughput projections. However, after completion/commissioning of the projects, the actual results achieved indicated that the branching and augmentation of the major projects were executed on the basis of defective planning and lack of proper coordination amongst various divisions of the Company. Consequently, the expenditure incurred proved wasteful and the installed capacity could not be used.

The Ministry stated (December 2004) that proposals were now being put up in a comprehensive manner involving marketing/refineries and pipeline parts as a whole. Pipeline-linked marketing tap-off points were being integrated and implemented by Pipelines division. The Company had been taking initiatives to bridge the identified gaps in the performance area.

The effectiveness of fresh initiatives being taken by the Company can be commented on only after their implementation.

Oil and Natural Gas Corporation Limited

Review on Arbitration Cases

Highlights

Non-finalisation of rates before hiring of vessels and supply of gas without finalisation of price led to disputes over the rates/price and consequent reference to arbitration in two cases.

(Para 3.2.6 ii)

Ambiguity/lacuna in clauses of contracts led to disputes and reference to arbitration in four cases, and eventually these being decided against ONGC.

(Para 3.2.6 iii)

The number of cases handled at a time by an arbitrator ranged between one to 20 cases and there was no clear-cut policy for payment of fee to the arbitrators. The arbitrators were appointed from outside the regions, in deviation with its policy.

(Para 3.2.7)

There was no uniform policy in different regions of ONGC in regard to appointment of advocates and payment of fee to them.

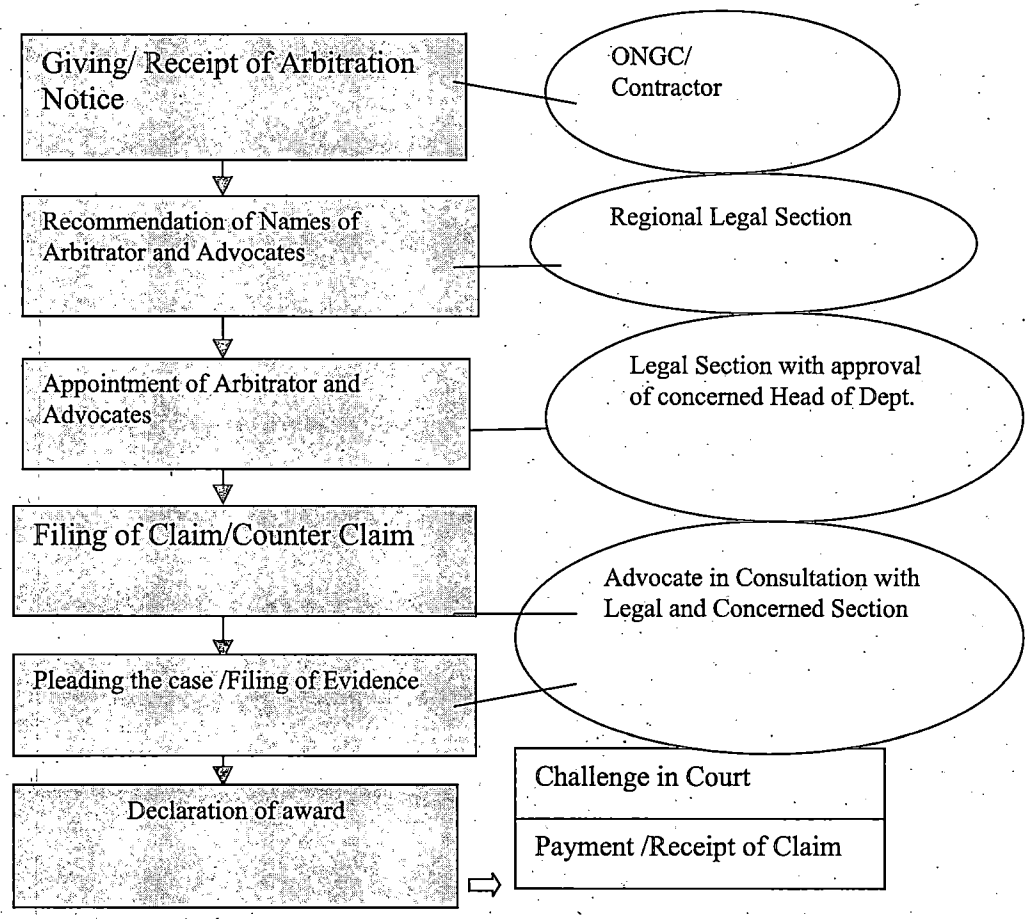
(Para 3.2.8)

3.2.1 Introduction

In terms of the existing contractual provisions of various contracts in Oil and Natural Gas Corporation Limited (ONGC), arbitration was generally the forum agreed to for resolution of disputes with the contractors that could not be solved by mutual settlement. Arbitration clause in the contracts stipulated that if any dispute or difference at any time arose between the parties, the same would be referred to arbitration in accordance with the provisions of the Indian Arbitration Act and Rules made thereunder. The clause also stated the place, language and procedure for appointment of arbitrators.

3.2.2 System description

The functional wings in ONGC entered into various contracts for goods and services. Arbitration clause was provided for in the contract as per the requirements of the Indian Arbitration Acts, 1940 and 1996. Once a dispute arose, the arbitration clause was invoked. The process of arbitration is given below:



In order to handle the legal matters ONGC in each of its regions established legal sections, headed by the Deputy General Managers/Legal Officers, who reported to the Chief General Manager (Legal Services) at the corporate level who, in turn, reported to the Director (HR).

As per the guidelines contained in the compendium of important circulars of ONGC, the appointment of arbitrators was to be done in accordance with the following instructions.

Criteria	Category of arbitration
Arbitration matters involving claim below Rs.20 lakh	ONGC officer above E-6 (Deputy General Manager) level was appointed as arbitrator
Contract value above Rs.20 lakh but below Rs.1 crore	Sole arbitrator
Contract value of Rs.1 crore and above	Arbitration tribunal
Contract with foreign parties	Arbitration tribunal

3.2.3 Scope of Audit

This review was conducted during February 2004 to June 2004 and covers 195 arbitration cases out of 212 existing/settled cases in the five regions of ONGC {Dehradun, Mumbai Region Business Centre (MRBC), Western Region Business Centre (WRBC), Southern Region Business Centre (SRBC) and Eastern Region Business Centre (ERBC)}. These include 126 (out of 136) live cases existing as on 31 March 2004 and 69 cases (out of 76 cases) settled during the last six years (1998-99 to 2003-04).

3.2.4 Audit Methodology

- The Audit team studied the provisions of the Indian Arbitration Acts 1940 and 1996;
- collected various circulars relating to arbitration matters issued by the corporate office of ONGC and studied them;
- reviewed Board Agenda relating to arbitration matters;
- scrutinised the report of the internal committee constituted by ONGC to review various issues relating to arbitration and the recommendations of such committee relating to arbitration process;
- framed a questionnaire and check list for scrutinising files relating to arbitration cases and
- scrutinised the legal section files relating to arbitration matters pending before the Arbitrators.

3.2.5 Audit Objectives

The Audit Objectives of the review were as under:

(i) To ascertain whether ONGC followed effective contract management practices, which could have prevented disputes in the contracts.

(ii) To ascertain whether ONGC set up a mechanism for handling the arbitration cases in an effective, efficient and economical fashion.

3.2.6 Findings relating to Audit Objective-I

Audit observed that there were cases where the disputes could have been avoided had ONGC managed the contract properly. The details are as follows:

(i) Failure to ascertain availability of tools to be imported from USA

(a) ONGC, during October 2000, awarded a contract for upgradation of seismic survey vessel M.V.Sagar Sandhani to Western Geco International Limited. The vessel was to be handed over by the contractor on 9 July 2001. However, the handing over of the vessel was delayed due to restrictions imposed by the US Government on supply of the 'Geo hydrophones' to be fitted on the vessel. Consequently, the vessel was handed over to ONGC on 5 May 2002, after a delay of nine months and 28 days. ONGC deducted US$ 8.53 million (Rs.41.50 crore) for excess engagement of vessel, liquidated

damages etc. The contractor went into arbitration in September 2003 mainly on the grounds of 'force majeure*' situation.

(b) ONGC gave a letter of award to M/s. Halliburton Offshore Services, Inc. (HOSI) in March 2001 for hiring electro-logging services. As per projected requirement the Reservoir Monitoring Tool (RMT) was a critical tool to be used. This tool was a proprietary tool of HOSI, which had its head Office in USA. Following the letter of award, HOSI was unable to mobilise RMT due to restrictions imposed by the US Government. As such ONGC terminated the contract in December 2001 on account of non-mobilisation of RMT tool. The contractor went into arbitration in December 2001 for wrongful termination of the contract and non-payment of its dues. The contractor claimed an amount of US$ 26 million (Rs.126.56 crore) plus Indian Rs.11.38 crore.

In both the above cases, the disputes leading to arbitration were rooted in ONGC's inability to foresee uncertainty associated with the availability of tools proposed to be sourced from USA.

The Management stated (January 2005) that both the above contractors were firms registered outside India (i.e. Norway and Cayman Islands respectively) and they had quoted for the above equipment. Therefore, it was not expected that they would fail to obtain the equipment from USA.

The Management reply is not tenable because both the equipment were defence sensitive and invited US sanctions against India following the nuclear tests conducted by India in 1998. Had ONGC ascertained whether sanctions were imposed on these equipment by USA and a suitable clause linked in the contract for alternate equipment, in case of non-availability of these equipment, the disputes and the reference to the arbitration could have been avoided. Further, the above case was subsequently referred to an Outside Expert Committee, which gave its recommendation in September 2004, but the copy of the award was not made available to Audit.

(ii) Non finalisation of rates/terms before entering into contract

In the following cases the contractors went into arbitration owing to ambiguity in regard to rates/ad hoc rates at which their services were being hired.

(a) ONGC entered into a contract with M/s. Great Eastern Shipping for deployment of two vessels (Malaviya-2 and Malaviya-8) on 31 December 1990. The charter hire rates were not agreed to between ONGC and the contractor. Consequently it was decided to hire the equipment /vessel on interim ad-hoc rate of Rs.58,374 pending finalisation of the rates by mutual consent. The vessels were deployed from 31 December 1990 to 31 March 1991. However, the contractor and ONGC were unable to arrive at a mutually agreed rate. The contractor went into arbitration claiming an amount of Rs.42.96 lakh towards difference in rates (market rate: Rs.80,000 per day less ad-hoc rate: Rs.58,374 per day)

****The contract had a 'force majeure clause' according to which, in the event of either party being rendered unable by force mejeure (i.e. acts of God, war, fire, floods, Acts/Regulations of respective Governments etc.) to perform any obligation under the contract, the relative obligation shall be suspended for the period during which such cause lasts.***

for the period from 31 December 1990 to 31 March 1991. The arbitrators declared an award in favour of the contractor in November 1997, stating that the ad-hoc rates considered, while hiring the vessels, did not reflect market rates for similar vessels.

The Management did not respond to the above audit observation (January 2005).

(b) ONGC commenced supply of gas to seven gas consumers in April 1989 without finalising an agreement and signing the contract specifying the terms and conditions. The Agreement entered into with the parties in December 1991 provided for recovery of transportation charges also. Accordingly ONGC recovered these charges from April 1989 i.e. from the commencement of supply. The gas consumers served a notice to go in for arbitration (December 1992/February 1993) disputing the recovery of transportation charges by ONGC for the period from April 1989 to May 1991 and claimed a refund of Rs.2.50 crore. ONGC appointed its arbitrator in 1994 but the consumers' arbitrator died subsequently and the court appointed a new arbitrator in April 1999. The decision of the arbitration was awaited (January 2005).

The Management stated (January 2005) that the gas consumers were billed to pay for the transportation charges as the contract signed in December 1991, effective from April 1989, provided for the transportation charges.

The fact remains that, in both the above cases, the non-finalisation of rates before entering into the contracts resulted in the disputes and consequent reference to arbitration.

(iii) Lacunae in contract clauses

(a) ONGC placed a supply order (November 1998) on M/s. Suria Paint & Oil Works, Chennai, for supply of linseed oil valued at Rs.39.32 lakh. The supply order provided that 'the material sampled/bonded and accepted after lab test was liable for further testing at the destination and if found substandard, the supplier was liable to replace the same'. Accordingly the material was tested at Chennai on 31 December 1998. On being found to be conforming to the specifications, it was dispatched to Nhava and 100 per cent payment was released. ONGC re-sampled and tested the material at Nhava and it was found that the paint did not conform to specifications. ONGC, therefore, asked the supplier (February 1999) to replace the material. When the supplier failed to comply, ONGC initiated arbitration proceedings, claiming from the supplier an amount of Rs.40.06 lakh. The claim was, however, rejected by the Sole Arbitrator (December 2001) stating that clause number ten of the supply order stated that the same sample of linseed oil sampled/bonded at Chennai and accepted after lab test should have been tested at the destination and that the relevant clause in the contract did not allow for taking a fresh sample.

The Management stated (January 2005) that the contract had a clear provision for further sampling and testing of the material at the destination.

The reply was not tenable as the contract stipulated only the testing of the samples at the destination and the contract was silent about fresh sampling at the destination. In order to avoid dispute, ONGC should have had an explicit and clear clause in the contract for fresh sampling at the destination.

(b) ONGC awarded a contract (May 1992) for construction of warehouse complex at Uran to M/s. My Construction Company. After completion of work the contractor claimed extra amount of Rs.17.71 lakh for providing extra thickness of fibreglass and removing encroachment on the land. ONGC refused to pay the amount and the contractor went into arbitration in January 1995. The arbitrator allowed (June 2001) the extra claim made by the contractor (Rs.17.71 lakh) on the plea that the contract had not specified the thickness of fibreglass and the hut owners were not the original land owners (as per contract terms only solving of the problems raised by original land owners was the responsibility of the contractor). Thus, due to lacunae in the contract clauses ONGC had to bear an additional expenditure of Rs.17.71 lakh.

The Management stated (January 2005) that the contract was drawn in line with standard practice. The Management added that the issue regarding vacation of encroachment had been found to be addressed in the bidders' conference and the agency had, at that time, not raised any query regarding the thickness of the fibreglass.

The reply is not acceptable because, in order to avoid dispute, the contract should have specified the thickness of the fibreglass and explicitly stated the responsibility of the contractor towards the removal of encroachment. The contractor took advantage of the absence of clear terms in the contract and, therefore, the arbitration award went against ONGC.

(c) ONGC placed a supply order (April 1988) for supply of port point depressant (PPD) on M/s. Dai-Ichi. The order had provision for placement of repeat order of upto 50 per cent of the original ordered quantity. ONGC accordingly placed repeat orders in February 1990/January 1992,which contained a delivery schedule for the supply of material. These repeat orders could not be executed due to disputes raised by the supplier over some of the terms of the repeat orders. However, while finalising the amended repeat order (October 1992) no delivery schedule was specified. The supply was delayed (February 1993) and resulted in ONGC recovering an amount of Rs.24.06 lakh towards liquidated damages. The supplier went for arbitration. The arbitrator allowed (March 2001) the supplier a refund of liquidated damages on the ground that the amended repeat order did not provide for a specific delivery schedule. Thus, by failing to specify a delivery schedule in the amended repeat supply order ONGC placed itself in a disadvantageous position during the arbitration proceedings.

The Management stated (January 2005) that the supplier raised various issues in February 1992 but did not comment on the delivery schedule given by ONGC to the supplier in January 1992 and the letter provided that all other terms and conditions of the order would remain unaltered. However, the arbitrator held that the rights and liabilities were to be governed by the amended repeat order of October 1992.

The reply is not acceptable because the delivery schedule was a variable factor and the same should have been specified in the amended order. The contractor took advantage of the absence of the delivery schedule in the amended order by referring the matter to arbitration.

(d) ONGC entered into a contract with M/s. Birla Technette Gas Exploration Limited (February 1993) for drilling of oil wells in Gandhar belt at Ankleshwar Asset on meter

rate basis. In 1998, the contractor went into arbitration to pursue its claim for payment of cost of escalation of fuel (high speed diesel) and lubricants amounting to Rs.1.07 crore on the ground that the contract contained the following clause.

'If there is a change in or enactment of any law in India or interpretation of existing law in India after the date of opening the price bid which result in substantial variation in operating cost (increase or decrease) to contractor under this agreement, the variation in cost (increase or decrease) will be discussed and mutually agreed to between the two parties and the increase/reduction in cost will then be borne by/or reimbursed to operator'.

It was observed that the term substantial variation in the clause of the contract was ambiguous, as the same was not expressed in quantitative terms. As such, the ambiguity in regard to the substantial variation in operating cost was left to interpretation in any manner. The party thus took advantage of this ambiguous term used in the contract and filed a claim for Rs.1.07 crore on account of price escalation of high speed diesel and other lubricants. The award went in favour of the contractor (June 2000).

The Management, while endorsing the audit observations, stated (January 2005) that the improvement in the contract clauses was a continuous exercise and they had since prescribed a standard clause regarding change in law to take care of the shortcoming in the contract clause.

It would thus emerge that a substantial number of arbitration cases were grounded in inadequate attention to detail in drafting of contracts, which left scope for disputes with the contractors and led to arbitration proceedings against ONGC.

(iv) Deployment of hired equipment after expiry of contract period

ONGC entered into a contract with M/s. Sedco Forex, during May 1995, for hiring rig Trident- II at a day rate of US$ 22,000 per day. The contract was initially for a period of one year and could be extended by ONGC in two instalments of six months each at mutually agreed price. As per terms of the contract, at the end of contract/extended period (13 May 1997), the well in progress/wells on platform on which rigs were deployed, were to be completed by the contractor at the same day rate. The rig was, however, deployed by ONGC on a new well no. B-121 'D', that was spudded (July 1997) after the expiry of the extended period of contract, without fixing a mutually agreed price. The contractor claimed higher day rates for rig deployment after expiry of the contract period, which ONGC refused to pay. The contractor went into arbitration in August 1997. The arbitrators in their award (September 1998) accepted its claim for payment at higher rate and allowed it an amount of US$ 2.54 million (Rs.10.04 crore).

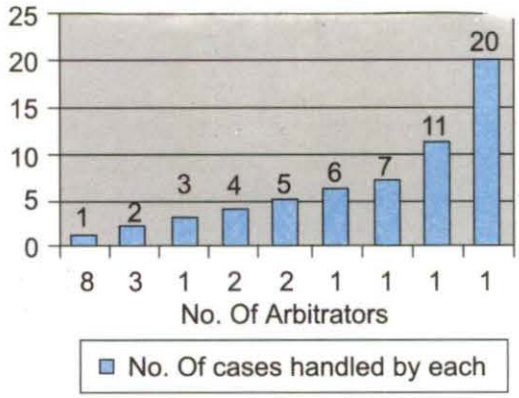
The Management stated (January 2005) that the well 'D' was initially not planned to be completed by Trindent-II as it was not a conventional well but it was released as a conventional well after May 1997. The Management added that the well 'D' was spudded prior to 13 May 1997 but the Arbitrator did not consider it under the category of 'wells in progress'.

The Management reply is not tenable because as per the Well Completion Report the well 'D' was spudded in July 1997 (i.e. after the expiry of the extended period of the contract) and hence the well could not be considered to be a 'well in progress'. Had the well been released as conventional well and spudded before the expiry of the extended contract period, the reference of the dispute to arbitration could have been avoided.

3.2.7 Findings relating to Audit Objective-II

Appointment of Arbitrators

(i) ONGC had not framed a clear policy relating to distribution of cases among the arbitrators. The basis on which a case was assigned to an arbitrator was not recorded. In WRBC and MRBC regions of ONGC, Audit found that the cases with arbitrators varied from one to 20 cases with an arbitrator at a time.



(ii) The retired High Court/ Supreme Court judges, who were on the panel of ONGC as arbitrators, were entitled to and accorded facilities equivalent to Directors of ONGC with regard to accommodation, travelling, local conveyance etc. In order to bring economy in legal expenses, ONGC's Corporate office vide circular no. Legal/HQ/ARB/98 dated 10 July 1998 had emphasised that in order to minimise cost it should be ensured that arbitrators were invariably appointed from the place where the arbitration proceedings were likely to be held. However, Audit found that of 72 cases in MRBC, in 38 cases the arbitrator was from outside the region. Similarly, of eight cases in WRBC, in three cases the arbitrator was from outside the region.

(iii) ONGC had not framed a clear-cut policy for payment of fee to arbitrators. Payment of fees was determined on case to case basis. The fees of the arbitrators were not fixed at the time of empanelment but decided by the arbitrators themselves at the time of appointment. ONGC did not have any control in respect of arbitrator's fees and generally a fee demanded by the arbitrators was accepted. The fee was generally on 'per sitting basis' and not on 'per case basis'. This resulted in increase in legal expenses with each additional sitting.

Audit felt that ONGC might consider approaching institutions like the Indian Council of Arbitration, which charged lump sum fee per arbitration case on the basis of amount of claim of individual cases and a one-time registration fee, for settlement of disputes.

The Management, while noting the audit observations, stated (January 2005) that instructions had been issued in November 2004 that the appointment of arbitrators should be made with prior consultation with Chief, Legal services and utmost care would be taken to make the system more effective. The Management also assured that it would work on the suggestion of Audit for approaching the institutions like Indian Council of Arbitration.

3.2.8 Appointment of Advocates

ONGC had also not framed any clear-cut guidelines/procedures for appointment of advocates for pleading its cases in arbitration or for payment of fees to them. There was no uniformity in the procedure followed by ONGC in different regions for appointment of advocates as well as payment of fees to the advocates. The following comparative table shows the difference of procedures being followed in various regions: -

	MRBC	WRBC	SRBC	Other regions/locations			
				Dehradun	New Delhi	CRBC	ERBC
Fees	In the range of Rs.4500 to Rs.7500 per day	Rs. 5000 per hearing	On the basis of fee schedule fixed by the High Court	Rs.1000 per hearing (Rs.2000 outside Dehradun)	Rs.500 (Jr. Advocates) Rs.2500 (Middle Level Advocates)	Rs.4000 per hearing	Rs.750 (Jr. Advocates) Rs.2000 (Middle Level Advocates)
Maximum fees per case	No max. limit	Rs. 60,000-	No max. limit	No max. limit	No max. limit	No max. limit	No max. limit

During the year 2002, the Internal Audit Department of ONGC had conducted a study relating to procedure for appointment of advocates by its various regions and it observed that various regions were not following uniform guidelines or system for empanelment of advocates. The time interval of their empanelment was irregular. Across the regions, there was no uniform list of services required to be provided by the advocates. Although the findings of the Internal Audit were presented to the Board of Directors of the Company by the Director (Finance), no remedial/corrective action was taken by ONGC to streamline the procedure for appointment of advocates.

The Management stated (January 2005) that they had the schedule of fee for different places duly approved considering the locations and the status of the advocates. The Management added that a working committee of Senior Officers of Law Department was constituted to look into the report on 'System of empanelment of advocates and periodic review of their performance'.

The fact remains that no resolute action was taken (December 2004) on the recommendation of Internal Audit for having uniform guidelines as regards the time interval for empanelment of advocates, the list of services to be provided by them and the procedure for appointment of advocates.

3.2.9 Pendency of arbitration cases

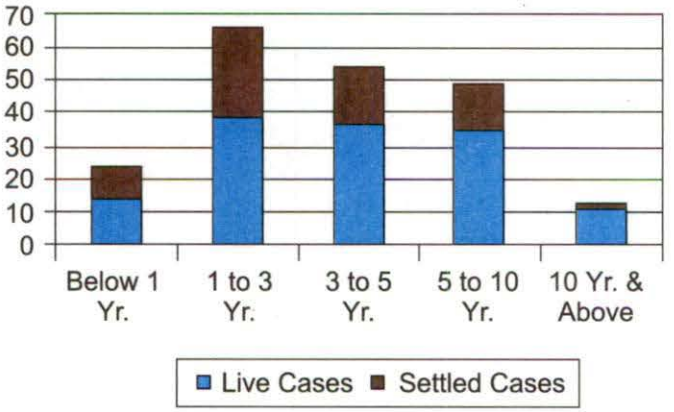
The table below shows the pendency of arbitration cases in ONGC.

(Number of arbitration cases)

Years	MRBC		Dehradun/CRBC/ ERBC		WRBC		SRBC		Total	
	Live	Settled	Live	Settled	Live	*Settled	Live	Settled	Live	Settled
1<	13	4	0	6	1	NA	0	0	14	10
1-3	17	14	15	12	7	NA	0	1	39	27
3-5	17	8	15	9	4	NA	1	0	37	17
5-10	20	9	14	4	1	NA	0	1	35	14
>10	7	1	4	0	0	NA	0	0	11	1
Total	**74**	**36**	**48**	**31**	**13**	**-**	**1**	**2**	**136**	**69**

* Details in respect of 7 settled cases of WRBC were not available.

ONGC had 11 arbitration cases going on for more than 10 years. The highest pendency (seven) was in MRBC region. Of the cases settled, it was noticed that the largest number of cases were settled between one to three years.



The Committee on Public Undertakings (1992-93) also had taken note of inordinate delays and recommended that a time-bound program should be drawn up in settling the cases through conciliation/negotiations.

Audit found that ONGC had taken a policy decision (July 1998) to resolve the disputed cases by conciliation through an Outside Expert Committee (OEC). However, despite the formulation of the policy, ONGC took considerable time to initiate and approve the proposals for referring the individual cases for settlement by OEC. In respect of MRBC, three cases pending before arbitrators for more than 10 years were being referred to OEC. Proposal for referring the cases to OEC was submitted in January 2003 to ONGC corporate office, whose approval was still awaited (December 2004). It was also observed that in two cases in WRBC the time taken for constituting the OEC was eight and 12 months respectively. In two cases in MRBC, ONGC took nearly a year to constitute OEC, resulting in the contractor refusing to refer the cases to OEC. Consequently, the arbitration proceedings had to be recommenced.

Audit found that OECs took an average time of 10.6 months, to settle the five cases referred to them, which was substantially less then the average period of 46 months taken for settlement of cases referred for arbitration. In view of the above it is recommended that ONGC should refer cases to OEC expeditiously so as to settle them in a timely fashion.

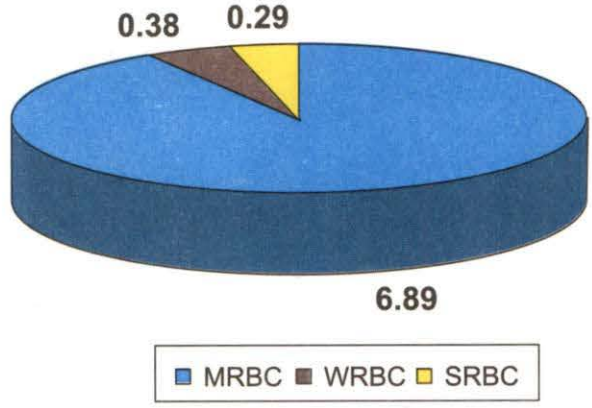
The Management, while accepting the audit observations, stated (January 2005) that instructions had been issued to all senior legal executives to go in for suitable arbitrators considering their age, knowledge, integrity, experience and disposal rate so as to have expeditious disposal of the cases. The Management added that, as per policy of ONGC, consent of the parties were sought for reference of their cases to OEC for conciliation instead of going for arbitration, so as to minimise cost and time.

3.2.10 Cost of arbitration

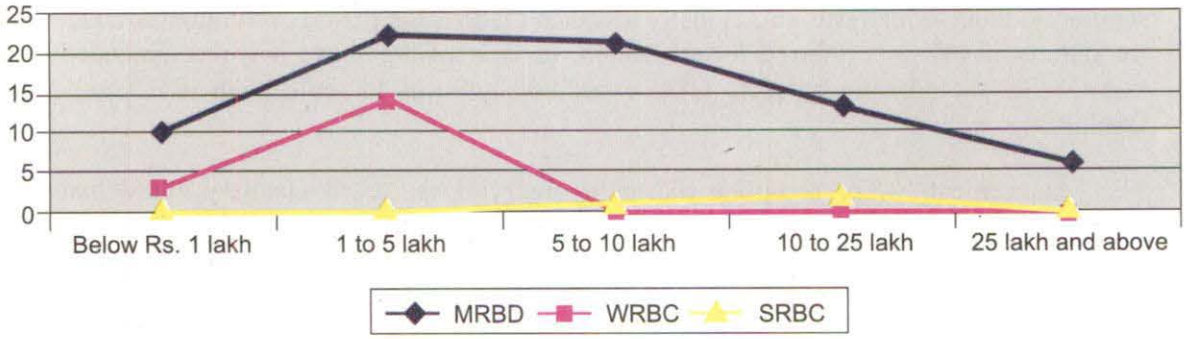
The total cost of arbitration during the period under review was Rs.7.56 crore. The largest expenditure on this count was incurred by MRBC, which spent Rs.6.89 crore on arbitration. The region-wise detail of the cost is given in the table below:

(Rs. in crore)

Region	Settled	Live	Total
MRBC	2.80	4.09	**6.89**
WRBC	0.11	0.27	**0.38**
SRBC	0.17	0.12	**0.29**
Total	**3.08**	**4.48**	**7.56**



The cost per arbitration case ranged from Rs.44,000 to Rs.48.58 lakh. The details for three regions are given below. Most of the cases in MRBC region cost between Rs.5 lakh to Rs.10 lakh, while most of the cases in WRBC region cost Rs.1 lakh to Rs.5 lakh. SRBC had only three cases of which two cases cost Rs.10 lakh to Rs.25 lakh each.



(Number of arbitration cases)

Region	Below Rs.1 lakh	Rs.1 lakh to 5 lakh	Rs.5 lakh to 10 lakh	Rs.10 lakh to 25 lakh	Rs.25 lakh and above	Total
*MRBC	10	22	21	12	6	**71**
*WRBC	3	14	0	0	0	**17**
SRBC	0	0	1	2	0	**3**
Total	**13**	**36**	**22**	**14**	**6**	**91**

* Details of the cost in respect of 39 cases of MRBC and 3 cases of WRBC were not available.

3.2.11 Defence of the case

Audit found that in some of the arbitration cases ONGC failed to produce records before arbitrators.

(i) ONGC placed an order for the first time on M/s. Ruchika Cables (December 1989) for supply of 100 CDP seismic cables. ONGC was to supply connectors to the party for fixing the cable. The firm intimated (January 1993) that the cables were ready and waiting for connectors. ONGC supplied connectors without obtaining any security for the same. A joint inspection of the material supplied by the contractor was carried out (July 1994). The cables did not conform to the specifications and were rejected. ONGC cancelled the order and asked the firm in September/October 1994 to return the connectors. As the party did not respond, ONGC filed a case against the firm (July 1997) for the recovery of the cost of connectors along with interest amounting to Rs.36.31 lakh. During the arbitration proceedings, the arbitrator directed ONGC (September 2001) to submit a copy of Joint Inspection Report indicating rejection of cables. But ONGC could not submit the Joint Inspection Report as the concerned file had been stolen. Thereafter, more than three years had elapsed but ONGC could not submit the required Report before the arbitrator. The case was pending in arbitration.

The Management accepted the audit observation and stated (January 2005) that the 'First Information Report' and 'non-traceable reports' were filed with the arbitrator and pronouncement of the award was expected soon.

The Arbitrator announced the award on 20 January and directed ONGC to pay Rs.3.76 lakh to the firm towards cost of 76 cables and connection charges thereof, which the firm had already done, and the firm to return the balance connectors to ONGC.

(ii) M/s. Birla Technette Gas Exploration Limited was awarded a contract for the work of drilling of oil wells on meter rate basis in Gandhar belt at Ankleshwar Asset. The contractor initiated (1998) an arbitration case to pursue its claim for refund of Rs.33.20 lakh recovered by ONGC towards damages caused to the oil well due to negligence on the part of the contractor and interest thereon. It was observed that the recovery made by ONGC on account of damages of oil wells was as per the terms and conditions of the contract but ONGC failed to establish in the arbitration proceedings, the negligence on the part of the contractor that caused damage to the oil wells. The arbitrators allowed (June 2000) the full claim of the contractor.

The Management stated (January 2005) that the arbitration award was challenged in the Court as none of the arbitrators had technical knowledge regarding the well and its difficulties.

The Management's contention is not tenable because ONGC was to appoint one of the arbitrators of the arbitration tribunal and, therefore, it was responsible for not appointing a technical person as arbitrator.

3.2.12 Collection of award

Audit found that in the following cases ONGC was unable to collect the award given by the arbitrator.

(i) ONGC entered into a contract with M/s. Geo Consultant Instrument, USA (August 1980) for providing services at a total cost of US$ 0.78 million (including US$ 0.18 million towards consultancy). The firm was paid a processing fee of US$ 0.43 million and a consultancy fee of US$ 0.12 million between 1980 and 1983 without obtaining any guarantee or security. The firm defaulted and failed to deliver required services, as it did not undertake the work as envisaged in the contract. ONGC invoked (October 1988) the arbitration clause of the contract, five years after default had occurred. Though the arbitrator gave an award of US$ 0.55 million (Rs.2.67 crore) in favour of ONGC (January 2002), ONGC was unable to collect the award as later investigations through the Indian Embassy in USA revealed that the firm was non-existent.

The Management stated (January 2005) that action was being taken to engage an advocate for filing the original award in District court, Dehradun, for making it a decree.

(ii) ONGC placed a supply order (October 1993) for procurement of 292 drums of pipes/lubricants on M/s. M J Enterprises, Kolkata, at a total cost of Rs.13.09 lakh. However, the material supplied failed to meet the declared specifications and the supplier

did not replace the same. ONGC initiated (January 1997) arbitration for recovery of an amount of Rs.7.48 lakh with interest. The arbitrator awarded an amount of Rs.6.82 lakh with interest in favour of ONGC in October 1997 but the same could not be executed, as the whereabouts of the firm were not known.

The Management accepted (January 2005) that in the absence of the whereabouts of the contractor the awards/decree were pending for execution.

3.2.13 Conclusion/recommendations

A more efficient and effective contract management mechanism may reduce the incidence of disputes and arbitration in ONGC. It also needs to frame clear policies relating to appointment of Arbitrators and Advocates, payment of fees and time period for finalising the cases in order to ensure timely and economical settlement of cases. Timely pursuance of the conciliation mechanism may also help ONGC in settlement of pending cases.

The Management, while appreciating the audit observations, stated (January 2005) that ONGC was initiating process to further improve the policy regarding engagement of advocates and arbitrators and assured that it would continue in its endeavour to constantly improve the systems, procedures and contract management programme.

The review was issued to the Ministry in October 2004; its reply was awaited (March 2005).

Oil and Natural Gas Corporation Limited

Performance of Production Sharing Contracts with Private Exploration and Production Companies

Highlights

Since 1991, the Government invited foreign and domestic private sector companies to participate in the development of oil and gas fields, fully/partly discovered, and the exploratory blocks. The audit results of the production sharing contracts (PSC) between the Government, ONGC and the foreign and domestic private sector companies, in respect of medium-sized fields were examined and incorporated in the CAG's Audit Report of 1996. This report contains a follow-up of the Audit review of the issues raised in the previous Audit Report and the performance of the production sharing contracts.

(Para 3.3.1 and 3.3.3)

The major issues of 'non-reimbursement of past costs to ONGC', 'import parity price not made applicable for gas produced by national oil companies (ONGC and OIL)' and 'non finalisation of agreement for sale of crude oil and gas with the Government's nominees (IOCL and GAIL)' raised in the CAG's Audit Report of 1996 remained unaddressed in spite of the assurances given to Audit by the Government.

(Para 3.3.4)

Gas price allowed to different JVs was higher than the price it was sold by GAIL to consumers. ONGC was asked by the Government to meet the loss suffered by GAIL on this account and consequently it absorbed an adverse impact of Rs.4,265 crore upto March 2004 in respect of four medium-sized fields.

(Para 3.3.4.ii)

The non-finalisation of the Agreements for sale of crude oil and gas led to non-recovery of Rs.277.15 crore for transportation of gas by ONGC and short payment of Rs.300.59 crore to ONGC towards processing charges in respect of Panna/Mukta gas.

(Para 3.3.5 i)

Transportation charges and processing charges in respect of Tapti field had not been finalised and the provisional tariff affected the Government/ONGC take.

(Para 3.3.5 ii)

Deficiencies in PSC of Ravva JV led to the disputes over calculation of profit petroleum, such as computation of pre-tax rate of return (PTRR) and payment of production bonus (Rs.47.56 crore) to ONGC.

(Para 3.3.5 iii)

The recovery of levies by the Government was adversely affected due to absence of defination of 'wellhead value' of gas on which the royalty was to be calculated and a

provision in PSCs in deviation with draft PSCs approved by ONGC Board on payment of royalty/cess on the Government's share of profit petroleum.

(Para 3.3.6 i and ii)

ONGC was obliged to bear 100 per cent royalty in respect of pre-NELP exploratory blocks (Rs.228.78 crore upto March 2004 in respect of two blocks) irrespective of its participating interest in JVs.

(Para 3.3.6 iii)

3.3.1 Introduction

(i) Efforts to involve foreign and domestic private sector companies in the business of exploration and production of oil and gas in India began as early as 1973. In 1974, however, a major hydrocarbon discovery was made by Oil and Natural Gas Corporation Limited (ONGC) in Bombay High and production therefrom started flowing two years later in 1976. Though the initiative to involve private sector apparently went into the background, it was continued through the 1980s on a low key. Three rounds of bidding between 1980 and 1986 did not yield any concrete results. Meanwhile consumption of petroleum products kept rising and domestic production of hydrocarbons reached a plateau. Consequently, import intensity of Indian Petroleum sector became a critical factor in the management of the economy. Responding to this situation, the Government decided in 1991 to invite foreign and domestic private sector companies to participate in the development of discovered oil and gas fields and, in some cases, partially developed by the national oil companies (NOCs) viz. ONGC and Oil India Limited (OIL).

(ii) The decision to involve private sector in the development of discovered and partially developed oil fields licensed to NOCs was an adhoc measure taken to meet the then existing foreign exchange crisis. However, the Government, in 1993, introduced a policy of round-the-year bidding for exploratory blocks. A further step forward was taken in 1997 with the announcement of New Exploration Licensing Policy (NELP) to rationalise overall policy framework for the hydrocarbon sector. Consequently, upto 2003-04, 10 rounds of bidding (pre-NELP six rounds and four rounds under NELP) were held and with the experience gained, the package of incentives to attract private investment, both domestic and foreign, in the hydrocarbon sector was improved upon from time to time. Annexure-7 maps out these developments in detail.

(iii) Under the pre-NELP initiative, 20 medium-sized and 64 small-sized fields were offered (August 1992/October 1993) for development under the production sharing arrangement with private sector companies. The Production Sharing Contracts (PSCs), however, materialised in respect of only 29 fields comprising of five medium-sized and 24 small-sized fields, the contracts for which were signed* between September 1994 and February 2001. ONGC had a participating interest of 40 per cent in PSCs in respect of medium-sized fields. However, it had no participating interest in PSCs in respect of small-sized fields.

**PSCs were signed between the Central Government and the contractor (private sector/foreign companies and ONGC).*

3.3.2 Issues raised in Audit Report, Union Government No.5 (Commercial) of 1996

Audit examined PSCs relative to three medium-sized fields *viz.* Panna/Mukta, Mid & South Tapti and Ravva during 1995-96. The results of Audit were incorporated in the CAG's Audit Report, Union Government No. 5 (Commercial) of 1996. The salient issues raised in the Audit Report were as under:

- PSC signed with Enron Oil and Gas India Limited[♣] (EOGIL) – Reliance Industries Limited (RIL) consortium did not provide for the past cost reimbursement of Rs.676.52 crore to ONGC in respect of Panna/Mukta and Mid & South Tapti fields (Paras 2.15 to 2.20).

- There was discrimination against ONGC for reimbursement of pre PSC expenditure (Rs.7.58 crore) relative to other parties of PSC (Paras 2.23 to 2.25).
- Signature and production bonuses paid to ONGC by private companies were not based on well defined rationale (Paras 2.26 to 2.29).

- There were infirmities in PSC on account of un-guaranteed production and undefined operating expenditure (OPEX) levels (Paras 2.35 and 2.36).

- Joint Venture (JV) operated Panna/Mukta fields at higher costs as compared to their bid projections and also to ONGC's costs while operating the field prior to PSC (Paras 2.40 to 2.42).

- Concessions given to JV in the form of frozen royalty and cess on oil were not specifically apprised to the Government (Paras 2.44 to 2.46).

- PSCs of Panna/Mukta and Mid & South Tapti fields did not indicate detailed abandonment procedures (Paras 2.47 and 2.48).

- PSCs had left no level playing field for NOCs as compared to JVs in matters of price for crude oil and natural gas, royalty, cess, and customs duty etc. (Paras 3.1 to 3.7).

3.3.3 Scope and objectives of present Audit review

(i) A follow-up of the issues raised in the previous Audit Report on PSCs between the Government on the one hand and ONGC and the private parties on the other, was carried out during July-September 2004 with reference to records available in the Ministry of Petroleum and Natural Gas (MOPNG), Director General of Hydrocarbons (DGH), Petroleum Planning and Analysis Cell (PPAC) and the offices of ONGC connected with the implementation of PSCs relating to three medium-sized development fields viz. Panna/Mukta, Tapti and Ravva covered in the earlier Audit Report. In addition, records relating to two small-sized exploratory blocks viz. CY-OS-90/1 (PY-3 field) and CB-OS/2 (Lakshmi field), in respect of which PSCs were executed between 1995 and 1998 and in which ONGC held a participating interest of 40 per cent were also examined in Audit.

[♣] ***Participating interest of EOGIL has since been taken over by BG Exploration and Production India Limited.***

(ii) The objectives of Audit were broadly as under:

- To verify the extent of compliance with assurances given by the Government in response to issues raised in the CAG's Audit Report No.5 of 1996 (Commercial) and its consequential impact on the performance of PSCs (Para 3.3.4);
- To examine other issues thrown up during implementation of PSCs and their impact on the quantum of ONGC as well as the Government take[♣] (Paras 3.3.5 and 3.3.6);
- To ascertain the overall performance of PSCs and assess the post-award economics of oil field development projects undertaken under different PSCs (Para 3.3.7) and
- To study the Government monitoring over JV operations (Paras 3.3.8).

3.3.4 Follow-up on the Government assurances in response to the Audit Report of 1996

The follow-up by the Government/ONGC on various assurances given in response to certain issues raised in CAG's Audit Report of 1996 is discussed below:

(i) Reimbursement of past costs

ONGC had incurred substantial past costs[♦] in developing the oil/gas fields offered for JV operation. However, PSCs did not provide for compensation of past costs to ONGC. This was discussed in Paras 2.15 to 2.20 of CAG's Audit Report No.5 of 1996(Commercial). In pursuance of CAG's report, the Government appointed a Group of Ministers (GoMs) comprising Deputy Chairman, Planning Commission, Finance Minister and MOPNG to review the issue of past cost compensation to ONGC. In October 1997, MOPNG requested ONGC to make a representation to GoMs on net past costs calculation (after adjusting for ONGC share in JVs, tax benefits already derived by ONGC, production already taken by them and any benefit taken by inclusion of these costs under Administered Price Mechanism) in medium and small-sized fields. Based on a presentation by ONGC, GoMs recommended (October 1997) to MOPNG that the issue be settled by the Government and NOCs after approval by the Cabinet. ONGC communicated (December 2002) details of field wise net past cost of Rs.997.77 crore for reimbursement. However, MOPNG felt (April 2003) that ONGC's claim for past cost compensation could be processed only after the claims were established to its satisfaction through Petroleum Planning and Analysis Cell (PPAC) which in turn asked ONGC (February 2004) to submit field-wise cost data along with complete reconciliation with its books of accounts of respective years. It also asked ONGC to link up the same with cost data submitted in the past.

The Management stated (January 2005) that the matter was being pursued with MOPNG/PPAC for an early decision in the matter and the additional details called for by PPAC in respect of Ravva field were submitted in November 2004.

The fact remains that the reimbursement of past costs remained unsettled (January 2005).

[♣] *Take refers to revenues arising from JV operations.*

[♦] *Costs incurred by ONGC in carrying out the petroleum operations in the contract area prior to effective date (date of signing of contract) in respect of fields offered under JV.*

(ii) Import Parity Price not applicable to gas produced by NOCs

In Para 3.1 of CAG's Report No.5 of 1996 Audit commented about the discrimination between NOCs and JV regarding payment of oil/gas price. International crude and gas price was payable to JVs under the respective PSCs whereas NOCs were receiving an administratively determined lower price for the crude produced by them. Similarly, the gas price committed under different PSCs was based on 'fuel oil parity price', which was again more than the administered price payable to NOCs. Responding to the concerns expressed by Audit in this behalf MOPNG fully endorsed (January/July 1996) the concept of providing level playing field to NOCs and stated that under the New Exploration Policy the question of paying NOCs the international price for the crude produced by them was being considered. While the Government had since allowed (March 2002) NOCs the international price for crude, it had not decontrolled natural gas price. Consequently NOCs continued to receive, for the natural gas produced by them, a price that was substantially lower than the international price as well as the price allowed to JVs in terms of respective PSCs. This will be evident from the table below, which gives a comparative picture of natural gas prices received by JVs and NOCs vis-à-vis international price.

Table-1

(in US$/MMBtu)

Year	International fuel oil parity price	Panna/ Mukta and Tapti price	Ravva price	Consumer price (price charged by GAIL to consumers)	Producer price (price payable to NOCs)
2000-01	3.89	3.11	2.96	1.57	1.28
2001-02	3.19	3.11	2.96	1.51	1.20
2002-03	4.17	3.11	2.96	1.48	1.13
2003-04	4.14	3.11	2.96	1.56	1.25
2004-05	4.85	3.11*	2.96	1.59	1.19

**In accordance with the pricing formula given under article 21.5.13 (d) of Tapti PSC, the gas price was revised upward in July 2004 (after seventh years of commencement of production) to US$ 4.85 MMBtu.*

As brought out above, PSCs of different JVs provided for purchase of gas produced by JVs by NOCs at predefined price band which was substantially higher than the price received by NOCs on their own production of gas as well as the price at which NOCs could sell the gas to consumers. Consequently GAIL, which purchased the gas from JVs as the nominee of the Government, could not recover the price it paid from the consumers. The Government, in order to offset this loss, asked (September 1997) ONGC to compensate GAIL to the extent of the price differential, which during the period 2001-02 to 2004-05 ranged from US$ 1.52 MMBtu to US$ 1.63 MMBtu in the case of Panna-Mukta and Tapti fields and US$ 1.37 MMBTu to US$ 1.48 MMBTu in case of Ravva field. The total financial impact thus absorbed by ONGC with reference to each JV, till March 2004, is given in the table below:

Table-2

(Rs. in crore)

JV Field	Amount
Panna/Mukta	1095
Mid & South Tapti	2674
Ravva	369
Ravva satellite	127
Total	4265

This extra financial liability on ONGC would substantially reduce its effective take in JVs.

The Management stated (January 2005) that the gas subsidy was a policy decision and pertained to the Government. The Ministry's response was awaited (March 2005).

(iii) Non-finalisation of Crude Offtake and Sales Agreement (COSA) and Gas Sales and Purchase Agreement (GSPA)

As per terms and conditions of PSC the Government and/or its nominees (GAIL and IOCL) were to enter into a crude offtake and sales agreement with the constituents of the 'Contractor'. Also a crude oil lifting procedure was to be agreed upon by the parties as soon as possible but not later than two months after the effective date of the contract. In para 2.50 of CAG's Report No.5 of 1996 Audit had commented about the non-finalisation of Crude Offtake and Sales Agreement (COSA) in respect of medium-sized fields offered under JV operation viz. Panna/Mukta, Mid & South Tapti and Ravva. MOPNG in its reply had stated that the agreements were likely to be finalised soon and had also assured Audit that in future care would be taken to finalise the crude offtake and sales agreement in a timely manner. However, till date (January 2005) neither COSA nor GSPA had been finalised in respect of any of the medium-sized fields given over to JVs almost ten years ago. The non-finalisation of COSA and GSPA was also observed in respect of small-sized fields viz. Asjol, Barkol, Lohar, Dholka and Wavel in respect of which PSCs were entered into subsequently, during February/March 1995.

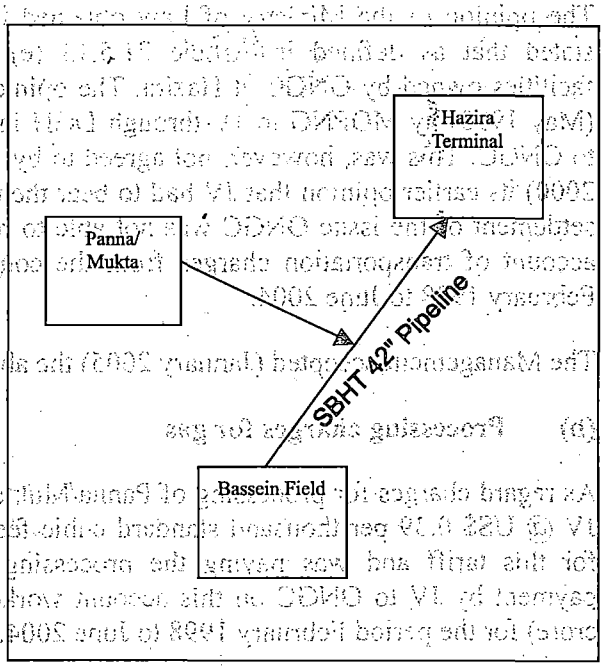
The Management stated (January 2005) that COSA for Panna-Mukta oil could not be finalised due to dispute between JV and IOCL on the transportation charges and the delivery point and, therefore, COSA was being finalised keeping these two issues parked. GSPA with GAIL could not be finalised due to difference on its primary terms and conditions.

Audit examined the issues under dispute and observed that disagreements were due to ambiguities prevailing in the PSCs already signed. However, in the absence of definitive COSA and GSPA the petroleum operation of JV was regulated by interim agreements which, in turn, had adverse impact on different elements of the Government take, such as levies and profit petroleum which are presently being calculated and remitted to the Government on adhoc basis. These issues are discussed in the following paragraphs.

3.3.5 *Formulation and Implementation of Production Sharing Contracts*

(i) Panna/Mukta PSC

As per PSC, Panna/Mukta gas was to be dispatched from Offshore Processing Platform through a gas export pipeline of JV, connected to ONGC's South Bassein Hazira Gas Trunk (SBHT) export pipeline (see diagram below). As would be observed the Panna/Mukta gas was to be processed at ONGC's Hazira Terminal and received by GAIL for the purchase of JV gas, downstream of ONGC's facilities at Hazira.



Before finalisation of PSC for Panna/Mukta field, ONGC was of the view that for utilisation of its pipeline and processing facilities for transportation of JV gas, the cost on incremental basis would be determined by an internationally recognised expert in the field selected by the Operating Committee of JV from a group of three internationally recognised experts selected by ONGC. Both the partners of the consortium selected for JV i.e. EOGIL and RIL had, before signing of PSC, shown willingness to pay transportation and processing charges on an incremental cost[♠] basis even though their bid was for 'ex-platform' delivery of gas as well as oil and no transportation and processing charges were envisaged at the bidding stage. However, in the signed PSC no reference was made to the payment of transportation charges to ONGC.

(a) Transportation charges for gas

PSC for Panna/Mukta had not explicitly spelt out the liability of JV towards transportation charges that would, in the ordinary course, had been payable to ONGC either by JV or GAIL. There was difference of opinion between JV and GAIL on the interpretation with regard to the delivery point and the liability for transportation charges of gas through ONGC's pipeline system. According to JV, the delivery point of gas as per Article 21.5.13 (a) (iv)[♦] of PSC was offshore and, therefore, transportation charges for JV gas from offshore to onshore should be borne by GAIL whereas GAIL was of the

[♠] ***Incremental cost means additional cost to be incurred by ONGC for transportation and processing of JV gas.***

[♦] ***Article 21.5.13 (a) (iv) of PSC defines delivery point as: 'Delivery Point means the upstream weld at the underwater connection between seller's pipeline and ONGC underwater gas transmission line or lines which transport Gas from Bassein field to the Hazira area'.***

view that as per Article 21.5.13 (e)♥ of PSC, the delivery point of gas was onshore i.e. ONGC's Hazira Terminal and thus transportation charges should be borne by JV. Thus the different provisions of PSC lend themselves to conflicting interpretation by different parties, which itself underlines an infirmity in drawing up the contract.

In the absence of any reconciliation of views on the delivery point, between JV and GAIL, MOPNG instructed GAIL (January 1998) to make to JV adhoc payment of 90 per cent of the sales values and to withhold ten per cent amount, to be kept in a separate 'escrow account', towards transportation charges till finalisation of the issue. JV meanwhile was treating the withheld amounts along with interest♣ thereon, as 'receivable' in its books of accounts.

The opinion of the Ministry of Law obtained by MOPNG in the matter in April 1998 stated that as defined in Article 21.5.13 (e), delivery point should be downstream facilities owned by ONGC at Hazira. The opinion of the Ministry of Law was conveyed (May 1998) by MOPNG to JV through DGH instructing it to pay transportation charges to ONGC. This was, however, not agreed to by JV. The Ministry of Law reiterated (May 2000) its earlier opinion that JV had to bear the transportation charges. Thus, due to non-settlement of the issue ONGC was not able to recover an amount of Rs.277.15 crore on account of transportation charges from the commencement of gas delivery to date i.e. February 1998 to June 2004.

The Management accepted (January 2005) the above audit observation.

(b) Processing charges for gas

As regard charges for processing of Panna/Mukta gas, ONGC was raising the invoices on JV @ US$ 0.39 per thousand standard cubic feet (MSCF). However, JV had not agreed for this tariff and was paying the processing charges @ US$ 0.0585/MSCF. Short payment by JV to ONGC on this account worked out to US$ 64.64 million (Rs.300.59 crore) for the period February 1998 to June 2004.

Audit observed that till date (January 2005) no consensus had been arrived at between ONGC and the 'Companies' for appointment of an internationally recognised expert even though seven years had elapsed since JV commenced utilising ONGC's facilities. The non-receipt of transportation and short receipt of processing charges by ONGC had also held up the finalisation of GSPA between JV and GAIL. This had also affected the

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♥*Article 21.5.13 (e) of PSC stated that 'parties acknowledge that Gas is to be received by GAIL at Hazira downstream of separation and sweetening facilities owned and operated by ONGC. In order to compensate ONGC for the cost of ownership and operations of these facilities contractor shall make payments to ONGC on the basis of the cost fixed on an incremental basis by an internationally recognised expert who shall be selected by two members of the operating committee from a panel of three internationally recognised experts selected by ONGC. In case there is no agreement between the companies and ONGC on the advice tendered, the matter shall be referred to the Government. The decision of the Government shall be final and binding on all the parties.*

♣*Article 18.5 of PSC provides that all amounts unpaid by the Government by the due date shall, form the due date, bear interest calculated on a day-to-day basis at the LIBOR plus one percentage point from the due date computed daily until paid.*

payment of royalty and profit petroleum[♣] to the Government because royalty on gas was calculated on wellhead value, which in turn was calculated by deducting processing and transportation charges from the sale value.

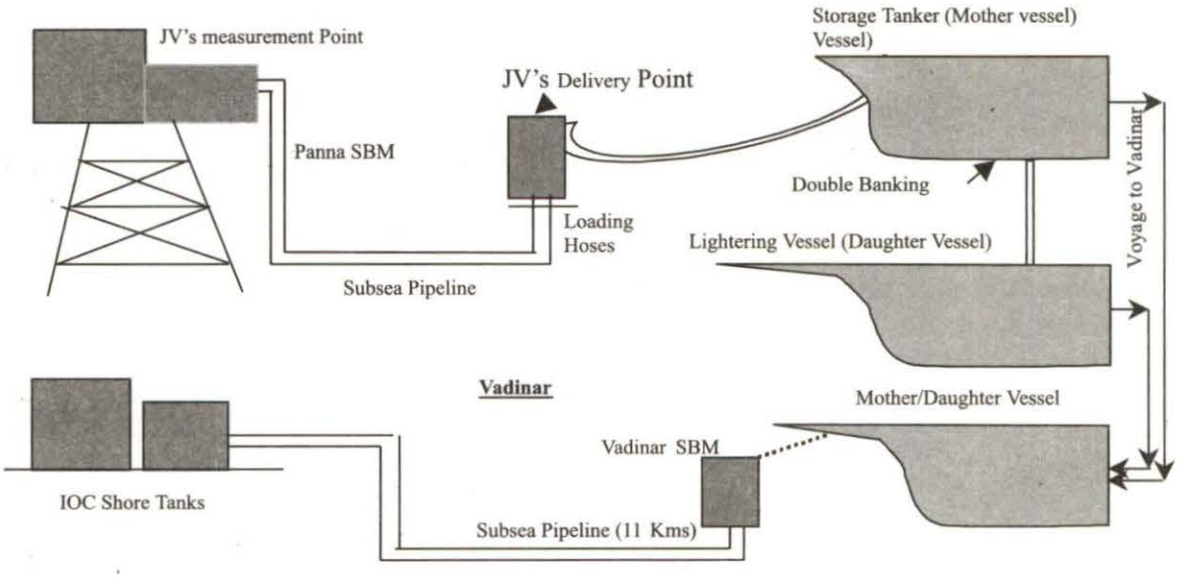
The Management while admitting the above facts stated (January 2005) that ONGC's efforts to finalise the processing fee through appointment of sole expert was not eliciting favourable response.

The reply is not acceptable as the matter was not referred to the Government for decision as per Article 21.5.13 (e) of PSC, according to which, in case of disagreement between the Companies and ONGC, the decision of the Government was final and binding on all the parties.

(c) Delivery point for crude oil

PSC of Panna/Mukta field provided for evacuation of crude oil through tanker. The crude oil of Panna/Mukta field was pumped through Single Buoy Mooring (SBM) into a storage tanker called mother vessel, hired from Shipping Corporation of India (SCI), by means of floating hoses, then lighterage operations are carried out through daughter vessels also hired from SCI for supply of crude oil to the SBM of IOCL at Vadinar on Gujarat coast. During monsoon, however, mother vessel itself makes the voyage to Vadinar to ensure safety of SBM in Panna/Mukta field. The following diagram gives graphical presentation of this arrangement for evacuation of crude oil: -

Panna/Mukta Crude Evacuation at Panna Offshore - Schematic



[♣] *JV was calculating the profit petroleum by considering 90 per cent of sale value i.e. the actual sales realisation from GAIL.*

The delivery of crude oil by JV was to be on FOB (Free on Board) basis. As per international practice, in case of sale of crude oil on FOB basis the buyer's tanker is required to be filled up within 36 hours and the buyer is under obligation to bear the tanker cost within this period. The present crude oil production of JV is about 26,500 barrels of oil per day (BOPD). With this rate of production 12 and 27 days, respectively, were taken for loading cargo size of 40 Thousand Metric Tonne (TMT) and 90 TMT, being deployed by JV for evacuation of crude. The payment of detention charges of these tankers beyond 36 hours, thus, became a point of dispute between JV and IOCL, the nominee of the Government for purchase of crude. MOPNG was of the view that JV should bear the detention charges of tankers as per international practice. JV, however, was of the view that delivery point as per Article 1.27[♣] of PSC was the point at which petroleum reached the upstream weld of the outlet flange of the delivery facility, which in Panna/Mukta case, was SBM. Hence storage tanker being a facility in the downstream of the delivery point did not come under the purview of JV. Consequently the associated costs were not to be borne by it. IOCL as well as DGH on the contrary contended that JV had to ensure loading of crude oil free from water within 36 hours as per international practice, which JV would not be able to ensure without a storage facility, which in the present case was being met by the 'mother vessel'. JV, however, contended that all tanker related costs should be borne by IOCL because (a) at the time of signing of PSC, the Government was aware that Panna/Mukta crude was to be evacuated through tanker, (b) at the time of submission of bid/signing of PSC production profile of the bidder was known to the Government, (c) the Government had approved both bid and the development plan without any provision for tanker or storage facility and finally (d) OPEX did not include tanker costs.

MOPNG decided (March 1995) that contractor should be asked to create a storage facility at the offshore delivery point and in case the need arose the cost of such facility can be considered beyond CAPEX (capital expenditure) limit of the project provided in PSC. The contractor was accordingly asked to hire a tanker for serving as storage facility and to bear all charges of hiring such tanker till JV created an independent offshore storage facility. JV, thus, had borne the tanker cost amounting to US$ 67.29 million (Rs.219.97 crore) till March 2004 but under protest and without prejudice to its position. Consequently it was also accounting this expense for cost recovery purpose.

Given the peculiar arrangement existing in the Panna/Mukta field at the time of bidding and the background of both, the bid as well as development plan of consortium being silent on this aspect, PSC was not appropriately worded. On the contrary, contradictory provisions on the subject were incorporated in the contract and the term 'delivery facility' left undefined which led to different interpretations of PSC provisions by JV and IOCL/DGH. The inclusion of tanker cost for cost recovery also reduced the net cash flow to the Companies, which, in turn, also adversely affected the Government take in profit petroleum.

The Management confirmed (January 2005) the above facts and figures.

[♣] ***Delivery point means, except as otherwise herein provided or as may be otherwise agreed between Government and the Contractor, the point at which petroleum reaches the upstream weld of the outlet flange of the delivery facilities either offshore or onshore and different delivery points may be established for purpose of sales to the Government, export or domestic sales.***

(ii) Transportation and processing charges for Mid & South Tapti Gas

PSC of Mid & South Tapti provided* for JV to lay its own gas export line to Hazira and an option was given to it to either use ONGC's onshore facility at Hazira for processing of Tapti gas or to construct its own onshore terminal before delivery of gas to GAIL at Hazira. In the Management Committee meeting of JV (December 1995) it was decided that JV would lay a pipeline connecting with ONGC's existing 42" SBHT pipeline and utilise ONGC's pipeline and Hazira terminal for transportation and processing of Tapti gas as well as associated condensate prior to sale to GAIL. This decision was taken to ensure that the capacities already generated by ONGC with respect to transportation and processing at Hazira were optimally utilised. Since the Companies (EOGIL and RIL) were insistent on laying a separate line for which ONGC would had to bear 40 per cent share of expenditure, the Government (DGH) decided (February 1996) that tariff to be charged from JV should be based on avoided cost of JV facilities. However, agreement for calculation of tariff for transportation and processing charges as well as mandatory transportation and processing losses of gas and condensate could not be reached between ONGC and JV. While ONGC proposed a tariff of US 27 cents/MCF of gas, the Companies were ready to pay only US14 cents/MCF. After prolonged negotiations JV agreed (June 1997) to an interim tariff of US 18 cents/MCF and an interim agreement (MOU) was executed in June 1997 to that effect between JV (as shipper) and ONGC (as transporter).

The Management, while confirming the above facts, stated (January 2005) that based on the transportation and processing tariff and the draft gas transportation agreement worked out by an international consultant, a high level negotiating team was negotiating the tariff with JV.

The fact remains that no definitive transportation and processing agreement between JV and ONGC had been signed and the adhoc arrangement referred to above continued till date (January 2005) due to disagreement over tariff and transportation/process losses of gas. The provisional tariff affected the overall take of the Government as well as of ONGC the impact of which could not be quantified.

(iii) Ravva PSC

PSC of Ravva JV provided for sharing of profit petroleum between contractor and the Government on the basis of Post Tax Rate of Return (PTRR) actually achieved by the

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**Appendix 5: Committed Development Work Programme for Tapti Block stated for laying export gas pipeline by JV from Tapti field to ONGC's onshore reseperation facility located at Hazira. Appendix-I dealing with payment for use of onshore plant stated that 'parties acknowledge that gas is to be received by GAIL at Hazira downstream of receiving and separation facilities owned and operated by ONGC. In order to compensate ONGC for cost of ownership and operation of these facilities, Contractor shall make payments to ONGC on the basis of the costs fixed on an incremental basis by an internationally recognized expert who shall be selected by two members of the operating committee from a panel of three internationally recognised experts selected by ONGC. In case there is no agreement between the companies and ONGC on advice tendered, the mater shall be referred to Government. The decision of Government shall be final and binding on all parties.'*

Company (ies) at the end of the preceding financial year. PSC further provided that the value of profit petroleum to be shared between the Government and the contractor shall be determined for each quarter on a cumulative basis. Pending finalisation of accounts, delivery of profit petroleum shall be taken by the Government and the contractor on the basis of provisional estimated figures of the contract cost, production, price, receipts, income, etc. However, within 60 days after the end of the financial year, the final calculation of profit petroleum would be made based on the actual figures.

Ravva JV reached profit petroleum regime during 1999-2000. Audit observed that the profit petroleum of this field was being shared on a provisional basis due to the disagreement between contractor and the Government over the manner in which the profit petroleum was to be calculated. The issues leading to these disagreements are discussed in the succeeding paragraphs.

(a) Computation of Post-tax Rate of Return (PTRR)

The method for computation of PTRR has been laid down in Appendix-D of PSC. Clause 2 of this Appendix states that PTRR earned by Company (ies) in the contract area over any period would be net cash flow of Company (ies) arising from the contract area for each year separately after taking into account cost petroleum, profit petroleum and other incidental incomes as reduced by cost related to exploration, development and production of oil and gas in the contract area as well as the notional income tax payable by Company (ies) on the profits and gains from the contract area. Clause 7 of the Appendix states that the notional tax liability in respect of contract area shall be determined for each Company comprising the contractor as if the contract of petroleum operations by the Company in contract area constitutes the sole business of the Company. Consequently, two sets of notional income tax calculations were made, one for the Companies as a whole and the other for each individual Company. During the relevant period *viz* 1994-2004 the rates of corporate tax in respect of domestic Companies ranged between 46 and 35 per cent whereas for the foreign Companies it ranged between 50 and 40 per cent. Thus, foreign Companies had an inherent advantage in calculating PTRR with reference to notional income tax for each individual Company whereas in the case of domestic Companies advantage lay in calculating PTRR with reference to aggregate notional income tax payable by Companies as a whole. This difference of approach in computation of PTRR by foreign and domestic Companies was facilitated by the fact that in the relevant clauses of the PSC two different wordings viz 'Company' and 'Company (ies)' were used. Thus, ambiguity in the wordings of the contract resulted in different computation of profit petroleum and individual stake of different parties to the contract.

The Management stated (January 2005) that the issue was referred to arbitration and it awarded that PTRR calculation should not be performed individually for each Company but on joint basis.

The fact remains that the ambiguity in the wordings of the contract led to undue advantage to the foreign Companies.

(b) Base development cost

Operator in April 2002 moved a resolution for inclusion in the base development cost[*] a sum of US$ 37.92 million on account of certain works, which were yet to be approved in the Management Committee because the Operator had failed to indicate the major elements of these costs. Operator, however, included these items of work as base development cost without the above resolution having been passed by the Operating Committee and reckoned the same for computing PTRR. This resulted in increase of cost petroleum and payment of lesser profit petroleum to the Government to the extent of US$ 5.69 million (Rs.24.68 crore).

The Management stated (January 2005) that the issue of approval of the additional base development cost was under discussion for settlement.

The Management's contention is not acceptable because the Operator had incurred certain expenditure in excess of CAPEX limit specified in PSC and hence the Operator should not have been allowed to include the same as base development cost for the purpose of computation of profit petroleum until the requisite details of the costs were provided by them and approved by the appropriate authority as per PSC.

(c) Payment of production bonus to ONGC

As per the PSC, ONGC was to receive production bonus at the rate of US$ 1.8 million for production of every five million barrels of oil. However, beyond production of 100 million barrels, PSC stipulated that production bonus could be payable to ONGC at mutually agreed rates subject to a ceiling of US$1.8 million over five million barrel tranche. Audit observed that as of July 2004, i.e. the ten year of production, Ravva field had already produced 130 million barrels of oil. However, bonus in respect of production achieved beyond 100 million barrels was pending agreement over the rate of bonus. While ONGC had been insisting on continuation of bonus at the rates at which it has been paid for the first 100 million production, the operator is unwilling to pay bonus at this rate. It would, thus, appear that provision for a negotiated settlement of rates beyond production profile of 100 million barrels in respect of Ravva oil field was not judicious because having once parted with control over the oil field it should have been obvious to the Government/ONGC that the benefit, pending negotiation would remain with the operator.

As consensus had not been reached on the rate of payment of Production Bonus beyond 100 million barrels, ONGC could not receive Production Bonus of Rs.47.56 crore[♥] so far (January 2005).

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[*] ***Article 15.5 of PSC interalia states that the contractor shall be entitled to recover out of cost petroleum the aggregate of development costs incurred under the Ravva Development Plan limited to Base Development Cost plus five per cent. The parties also agreed that for the purposes of this Article the Contractor's Base Development Costs shall be sum of US$ 188.98 million. Article 15.5 (e) (iii) (ee) further states that in the event that the Contractor's Base Development Costs are exceeded by more than five per cent as a result of a variation to the Ravva Development Plan then the Management Committee shall at the request of the Operator consider and promptly approve the same.***

[♥] ***US $1,800,000 x (130-100/5) x 44.04=Rs.47.56 crore (as on 31 March 2004).***

The Management stated (January 2005) that the Companies had since offered 75 per cent of US$ 1.8 million for every five million barrels of oil beyond 100 million barrels and upto 125 million barrels and the same had been approved by the ONGC Board as an interim measure.

The fact remains that due to the scope left in PSC for negotiation over the rate of bonus in respect of production achieved beyond 100 million barrels, ONGC remained at a disadvantageous position because it was not able to recover the production bonus at the original rate provided for in the PSC.

3.3.6 Payment of statutory levies

In respect of medium/small-sized discovered fields and pre-NELP exploratory blocks awarded under JV arrangement the Government froze the rate of royalty and cess in respect of crude oil at Rs.481per MT and cess at Rs.900 per MT respectively, throughout the contract period. However, royalty on natural gas was made applicable at 10 per cent of wellhead value of gas. In the case of discovered/partially developed medium/small-sized fields liability for statutory levies was on the basis of participating interest of JV partners in PSC. In respect of pre-NELP exploratory blocks the Government designated ONGC as licence holder and made it liable to bear 100 per cent royalty and cess irrespective of its participating interest in the respective JVs.

Audit examined the correctness and timely remittance of statutory levies in respect of medium-sized fields. The impact on ONGC's take due to 100 per cent liability towards payment of statutory levies was also examined.

The findings of Audit from this examination are discussed below:

(i) Calculation of wellhead value of gas

Sub-section 4 of section 6A of Oilfields (Development & Regulation) Act, 1948 empowers the Central Government to amend the schedule to the said Act, by notification, so as to enhance or reduce the rate at which royalty shall be payable in respect of any mineral oil, subject to the condition that the rate of royalty in respect of any mineral oil shall not be fixed so as to exceed 20 per cent of the sale price of any mineral oil at the Oil fields or the oil wellhead, as the case may be.

In the absence of a definition of 'value at wellhead' either in the Act or in PSC, each party to PSCs was paying royalty on gas on the basis of its wellhead value arrived at by deducting the processing and transportation charges from the sale value of gas. However, Audit observed that no uniformity exists in reckoning different cost element in computing wellhead value and the parties to different PSCs were considering different cost elements for this purpose. This is evidenced from Annexure-8.

The Management stated (January 2005) that, on the specific instructions of MOPNG, ONGC had been making the payment of royalty on invoice price and it had requested MOPNG in December 2000 to prescribed the methodology for determination of the wellhead value. The Government had constituted a committee to suggest the methodology; its report was awaited (January 2005).

In the absence of a specific definition of wellhead value either in the Act or in PSC, scope was left open for calculation of royalty on gas on varying basis, which might result in short-collection of the Government revenue. This lacuna had not been plugged by the Government (January 2005).

(ii) Payment of royalty on the Government's share of profit petroleum from Panna/Mukta and Tapti JV

The draft PSC of Panna/Mukta, Mid & South Tapti was circulated to all parties to the contract (including ONGC) for vetting. The Board of Directors of ONGC approved the draft PSC on 22 December 1994 and the contract document was signed between the contractor and the Government on the same day. Audit observed that the provisions regarding payment of statutory levies to the Government, as approved by the ONGC Board and those incorporated in the signed PSC were not identical. The draft PSCs of both the JVs *ibid*, as adopted by the ONGC Board, stated that 'parties comprising contractor shall be liable for payment of royalty @ Rs.481 per MT and cess @ Rs.900 per MT for oil and royalty @ ten per cent of wellhead value for gas respectively on their participating interest', whereas Article 15.6.1 of signed PSC stated that 'the constituents of the contractor shall be liable to pay royalties and cess on their participating interest share of crude oil and natural gas saved and sold in accordance with the provisions of this agreement'. This difference between the draft and the actual PSC led to dispute between JV and the Government over payment of statutory levies on the Government share of profit petroleum. JV was of the view that it was not liable for payment of statutory levies on the Government's share of profit petroleum owing to specific provision of Article 15.6.1, paragraph six of preamble of PSC[*] and paragraph two[◊] of the Government's resolution granting the mining lease (ML) to JV and published in the Extraordinary Gazette of India on 7 December 1995. DGH was, however, of the view (June 2000) that royalty which was payable by any holder of ML in respect of any mineral oil mined and collected by it from the lease area at the rate specified in the Schedule was a statutory requirement and was subject to modification only with legislative approval, as per the provisions of sub-section 3 of section 6 and section 7 of Oilfields (Regulation & Development) Act 1969[^]. Therefore, the holder of ML was required to pay royalty on total production of petroleum including the Government's share therein.

The Government started receiving profit petroleum from Panna/Mukta and Tapti fields from 2000-01 and 1999-00, respectively. MOPNG issued notice to the constituents of the contract in September 2002 for payment of outstanding royalty on the Government's share of profit petroleum amounting to Rs.64.96 crore along with a penalty of Rs.36.51

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[*] ***The Government is satisfied that it is in the public interest to enter into this contract on terms different from those specified in section 12 of the Oilfields (Regulation and Development) Act, 1948, and the Government is entering into this agreement on the terms and conditions specified herein.***

[◊] ***The grant of mining lease is subject to the terms and conditions to be intimated to the lessee and as per the production sharing contract signed on 22 December 1994.***

[^] ***Subsection (2) of section 6 state that ' the holder of ML shall pay royalty in respect of any mineral oil mined quarried, excavated or collected by him from the lease area at the rate for the time being specified in that schedule in respect of mineral oil.' Sub section 3 states that 'subject to sub section 2 no royalty shall be payable in respect of crude oil, casing head condensate or natural gas which is unavoidably lost in operation of production of petroleum operation'. Section 7 states that 'the power of modification to the existing lease is with the House of People'.***

crore. In November 2002 the constituents of the contract paid their share of outstanding royalty (excluding penalty) on the Government's profit petroleum, under protest and without prejudice to the contractor's position. The contractor further stipulated that it continued to believe that it was not liable to pay royalty on the Government's share of profit petroleum. Till March 2004 JV paid US$ 2.92 million (Rs.12.67 crore) towards royalty and US$ 3.15 million (Rs.13.66 crore) as cess for Panna/Mukta and US$ 11.70 million (Rs.50.77 crore) as royalty on Tapti towards the Government's share on profit petroleum.

Audit observed that (a) in the case of Panna/Mukta and Tapti JVs the main dispute over the payment of statutory levies arose due to the wording of Article 15.6.1 of the PSC which was different from the draft provision approved by ONGC Board and (b) even though the Ravva PSC was evaluated during the same round of bidding in which Panna/Mukta and Tapti fields were evaluated, and was signed much ahead of the PSCs of Panna/Mukta and Tapti i.e. in October 1994, it did not contain any such provisions. Article 17.2 of Ravva PSC which stipulated that the contractor would be liable for payment of royalty and cess, therefore, did not correlate the royalty to be paid by each party to its participating interest in JV. Therefore, JV partners of Ravva were paying royalty for the entire crude produced including the Government's share of profit petroleum.

The Management stated (January 2005) that both industry and the Government were passing through a learning curve and that different contractor parties were involved in Panna-Mukta, Tapti and Ravva respectively.

The reply is not acceptable, as it does not explain the reasons for adopting wording in PSCs of Panna/Mukta and Tapti different from the stand taken by the ONGC Board. The Ministry's response in the matter was awaited (January 2005).

(iii) Payment of 100 per cent royalty and cess in exploratory blocks by ONGC

As pointed out above, in respect of Pre-NELP exploratory blocks the Government designated ONGC as licence-holder and made it liable for payment of 100 per cent statutory levies, ML/PEL charges, land compensation etc. irrespective of its participating interest. Considering the huge financial implication of this decision, estimated by ONGC to be between Rs.1388 crore and Rs.6451 crore with reference to projected production profile of the first three out of 26 Pre-NELP blocks viz. PY-3, Lakshmi and Gouri, ONGC requested the Government (May 1997) to exempt it from payment of statutory liability in respect of pre-NELP exploratory blocks.

ONGC had borne Rs.228.78 crore upto March 2004 on the share of other JV partners of the two blocks (PY-3 and Lakshmi where production had commenced). Consequently ONGC's investments in these blocks became a loss-making proposition as the projected NPV to ONGC worked out to be negative. ONGC's request for reimbursement of royalty & cess payable on such blocks was considered by a Group of Ministers (October 1997) as well as by a Committee of Secretaries (February 1998) which both recommended that ONGC should be reimbursed for the actual liabilities undertaken by it on behalf of other partners in PSCs. However, the final resolution of the matter was still pending with the Ministry (January 2005) and ONGC continued to pay 100 per cent statutory dues in

respect of Pre-NELP JVs irrespective of its share of participating interest. The entire cost of royalty and cess incurred by ONGC on behalf of other partners of PY-3 JV was not allowed as a set-off against its share of profit petroleum and ONGC paid under protest Rs.8.05 crore upto 2003-04.

(iv) Late payment of royalty in Panna/Mukta

Section 23(1) of PNG rules 1959 states that all licence fee, lease, royalties and other payments under these rules shall, if not paid to Central Government or State Government, as the case may be, within the time specified, be increased by ten per cent for each month or portion of a month during which such fees, royalty or other payments remain unpaid. It was noticed that there was delay in payment of royalty by JV operating in Panna/Mukta field. Instead of making the first payment of royalty immediately after it fell due in July 1995, the actual payment was made in November 1995. The Pay & Accounts Office (PAO), MOPNG served a demand notice (March 1996) upon JV for Rs.4.20 crore towards penalty for delayed payment of royalty and rejected (April 1996) the stand taken by JV that the delay was on account of late payment by the Government's nominee i.e. IOCL. It insisted (September 1996) for payment of Rs.5.25 crore inclusive of incremental penalty. Audit noted that the matter remained unresolved till date (January 2005) even as according to PNG rules and conditions of ML it was the primary responsibility of the licensee to pay the statutory levies (royalty) based on the production extracted. The fact whether or not the sale proceeds had been received had no relevance to the legal right of the Government to receive royalty as specified. There was also no provision in the PNG rules for waiving any such penalty. In fact, section 23(2) of the PNG rules specifies that if any license fee, royalty or other payment due in respect of a license or lease is in arrears for more than three months, the Central Government or the State Government, with the prior approval of Central Government, may cancel such licence or such lease. From the correspondence made available to audit it was observed that this issue was not pursued vigorously by the PAO of MOPNG, resulting in non-compliance with PNG rules as well as delay in realisation of the Government dues.

3.3.7 Overall Performance of PSCs

(i) The overall performance of various JVs in terms of production (projected and actual), revenue, cost of petroleum product, levies and taxes collected and share of profit derived by ONGC and Government of India is given in the table below:

Table-3

Element	Unit	Panna/Mukta			Tapti			Ravva		
		As per PSC through out contract period	Actual as on 31.3.04	Percentage of actual to PSC figures as on 31.3.04	As per PSC through out contract period	Actual as on 31.3.04	Percentage of actual to PSC figures as on 31.3.04	As per PSC through out contract period	Actual as on 31.3.04	Percentage of actual to PSC figures as on 31.3.04
Contract Period	Years	25	10		25	10		25	10	
Revenue	US$ in MM (millions)	3559.00	2066.14	58.05	2417.51	1312.95	54.31	2007.05	3276.30	163.23
Contract cost	US$MM	2303.00	1149.15	89.08	1114.90	652.94	58.56	1039.55	1216.33	117.00
Total profit petroleum	US$ MM	1290.00	916.99	73.00	1302.61	660.01	50.67	967.50	2059.97	212.92
Companies shares of profit petroleum	US$ MM	716.40	522.68	73.00	625.25	316.80	50.67	480.39	741.59	154.37
ONGC profit petroleum	US$ MM	477.60	348.46	73.00	416.84	211.20	50.67	320.26	494.40	154.37
GOI profit petroleum	US$ MM	62.00	45.85	73.94	260.52	132.00	50.67	166.84	823.98	493.87
CAPEX	US$ MM	577.00	534.00	92.55	545.00	375.00	68.81	188.98	319.00	168.80
OPEX	US$MM	757.19	246.37	32.54	294.80	138.39	46.94	182.85	169.60	92.75
Production of Oil plus condensate	MM Barrels	146.00	67.28	46.08	13.31	4.30	32.30	100.75	124.50	123.57
Production of Gas	Billion Cubic Metre	10.30	6.50	63.11	31.38	12.60	40.15	2.55	3.40	133.33

Note (a) *Actual figures taken from the year end statement of ' operator' for March 2004 and DGH letter no DGH/CC/51/2004r dated 24 August 2004.*

(b) *Projected revenue, contract cost and profit petroleum were taken from the Bid documents.*

(c) *Projected CAPEX, OPEX and production were taken from PSC.*

The following observations have, however, been made by audit in regard to actual performance of these contracts:

(ii) Economics of JV for Mid & South Tapti

The main bid evaluation criterion for award of fields under JV operation was the highest share of project Net Present Value (NPV) to the Government and ONGC. Under this criterion future cash flows as well as projected expenses were discounted to present value at the rate of ten per cent per annum to arrive at NPV during the contract period. NPV to the Government included its share of profit petroleum, income tax and levies. NPV to

ONGC included signature and production bonuses, past cost compensation, if any, and its share of profit petroleum.

PSC for Mid & South Tapti gas field was signed during December 1994 between the contractor (consortium of EOGIL and RIL) and ONGC on one part and Government on the other part. This bid registered the highest aggregate NPV of US$ 652.56 million, which included NPV of US$ 587.12 million for both the Government and ONGC and US$ 65.44 million for the Companies. The actual consumer price of gas even at the time of floating the tender and award of field under PSC was only US$ 1.49 per MMBtu; yet the Government evaluated the bids considering the floor price of gas at US$ 2.11 per MMBtu throughout the contract period. To that extent NPV computations made for the purpose of evaluating various bids were not realistic in as much as the impact of price differential in purchase price and sale of gas was not reckoned for the purpose of computing NPV. Subsequently, however, the Government directed ONGC (September 1997) to bear the differential JV gas price and consumer gas price {see Para 3.3.4 (ii)}. Considering that ONGC had already absorbed price differential of Rs.2,674 crore upto March 2004, it is evident from computation made by Audit (Annexure-9) that at the end of tenth year (seventh year at end of production) i.e. 2004 the Government take (including ONGC) from Tapti field was negative to the extent of US$ (-)15.974 million (Rs.69.31 crore).

According to Article 21.5.13 of the PSC of Tapti field JV could sell gas to GAIL in the price band of US$ 2.11 MMBtu to US$ 3.11 MMBtu during the initial seven years after production commences. However, as per Article 21.5.13 (d) of PSC, in the subsequent years it had the option to raise the price as per a given formula. Consequently, JV raised the gas price to US$ 4.85 MMBtu with effect from July 2004 {refer to para 3.3.4(ii)}. This would raise the price differential to be borne by ONGC further to US$ 3.26 MMBtu {i.e difference between JV price of US$ 4.85 and consumer price of US$ 1.59, as per para 3.3.4(ii)}. Considering the projected increase in production in the Tapti field from 5.09 MMSCMD to 6.71 MMSCMD from October 2004, NPV of the Government take including that of ONGC would turn even more negative.

The Management stated (January 2005) that, as intimated to ONGC in November 2004, MOPNG had taken a decision according to which the additional gas produced by Panna-Mukta, Tapti and Ravva JVs beyond the average availability level of the year 2003-04 would be sold by GAIL at a price in terms of the respective PSC. In case GAIL was unable to do so, JVs would market these additional volumes directly, effective from April 2005, at a price higher than the price offered by GAIL.

The fact remains that the Government's direction of September 1997, asking ONGC to bear the differential in JV gas price and the consumer price, was issued without properly assessing its impact on the financial working of ONGC. MOPNG's recent decision, as mentioned above in the Management reply, may give some relief to ONGC in future but largely there remained an overall uncertainty in regard to the impact of the Government's policy of September 1997 on the financial working of ONGC.

3.3.8 Government's monitoring of joint ventures

(i) Government Audit of JV operations

As per Article 25.5 of PSC, the Government shall have right to Audit the accounting records of the Contractor in respect of petroleum operation as provided in the Accounting Procedure♦ laid down in the PSC. It was, however, observed that the Government (DGH) did not exercise its rights in a timely and effectively manner. The first such Audit♠ by the Government, of Panna/Mukta and Tapti JV for the accounting records from 22 December 1994 to 31 March 1998 was carried in September 1999 and the relevant Audit observations were notified to the Contractor in December 2001 i.e. after 26 months. Subsequent Audit of the accounting records from 1 April 1998 to 31 March 2002 was carried out in September 2003 and Audit exceptions were notified on 14 June 2004 i.e. almost six months late. Arrangements for Audit by the Government of JV accounts were, therefore, far from satisfactory and need urgent attention of MOPNG.

(ii) Insurance

PSC provides that 'the contractor shall, during the term of the contract, obtain and maintain insurance coverage for and in relation to the petroleum operations for such amount and against such risk in accordance with generally accepted international operating practices as are set forth therein and shall furnish to the Government certificates evidencing that such coverage is in effect'.

Audit examined the compliance with the above provision of PSC and observed that though PSC did not explicitly provide for each participant to carry a separate insurance policy, each constituent of Panna/Mukta and Tapti JVs was securing insurance to cover its participating interest. Though this arrangement was agreed to by the Government it suffered from an infirmity in as much as participants could take respective insurance policy on terms, which might not be comparable and not necessarily compatible with the aggregate interests of JV. Consequently constituents of JVs were covering different types of risks to different extent. DGH could not produce to Audit the insurance certificate in respect of Panna/Mukta and Tapti JV except for the year 2001-02. 'Operator' had sent the certificate only in June 2001 and ONGC had sent its certificate in September 2001. It was also observed that the JV property to the extent of ONGC share was not covered for the first 40 days of 2001-02. This exposure of JV property to risk had not been objected to by DGH; nor had it pointed out non-submission/late submission of insurance certificates by different JV partners.

The Management stated (January 2005) that ONGC already had a policy for all its assets in place in December 1994 when the JV operations started and therefore, it did not join the JV policy in order to avoid duplication of cost. It further stated that 40 day's delay in 2001-02 was due to placement failure on account of hardening of insurance market.

♦ ***Accounting Procedure 1.9.1 limits the Government's right to inspect and audit the books of account within two years or such longer period as may be required in exceptional circumstances from the end of a financial year. Further, Accounting Procedure 1.9.4 stipulates that audit observations shall be notified by the Government to the Contractor within 120 days after the completion of audit.***

♠ ***Audit undertaken through private firms appointed by the Government.***

The fact remains that non-monitoring of insurance provisions may attract huge risk, which is evident from the fact that JV property remained un-insured without any objection from monitoring body. Further, the adherence to generally accepted international practices needs close monitoring which was not being done.

3.3.9 Conclusions

(i) The major issues of 'non-reimbursement of past costs to ONGC', 'import parity price not made applicable for gas produced by NOCs' and 'non-finalisation of agreements for sale of oil and gas (COSA and GSPA)' raised in the CAG's Audit Report of 1996 remained unaddressed in spite of the assurances given to Audit by the Government in 1996.

(ii) Deficiencies in formulation of production sharing contracts led to disputes over the transportation/processing charges for Panna/Mukta and Tapti gas, delivery point/facilities for Panna/Mukta crude oil and in case of Ravva joint venture over the computation of post-tax rate of return and the production bonus. These disputes, in turn, led to non-finalisation of agreements for sale of gas/oil and consequent non-recovery/short-recovery by ONGC towards transportation & processing charges and production bonus.

(iii) The Government decision for ONGC to bear the differential between JV gas price and consumer gas price made NPV of the Government (including ONGC) in respect of Mid & South Tapti gas field negative.

(iv) The Government did not adhere to PSC provisions relating to the Government audit of joint venture operations and the insurance of joint venture assets in a timely and effective manner.

3.3.10 Recommendations

(i) Utmost care should be taken in the formulation of production sharing contracts so that scope is not left for (a) varying interpretation of the words/clauses contained in the contract and (b) negotiation in fixation of quantum of the liabilities and rights of the joint ventures and their constituents. The disputed issues arising out of ambiguities in the various provisions of PSC should be resolved and agreements for sale of gas/oil (COSA and GSPA)of joint ventures finalised expeditiously.

(ii) ONGC, being a commercial undertaking, needs to be provided level playing field particularly in regard to the pricing of gas and the payment of statutory levies (royalty/cess) on gas and oil.

(iii) As royalty of natural gas is based on 'wellhead value' of the gas, the term 'wellhead value' and the method for its computation need to be prescribed by the Government without delay.

(iv) The Government's monitoring over the joint venture operations needs to be strengthened to ensure fair implementation of the production sharing contracts and adequate protection of the national assets.

The review was issued to the Ministry in December 2004; its reply was awaited (March 2005).

CHAPTER: 4

PARAGRAPHS ON TRANSACTION AUDIT OBSERVATIONS

CHAPTER: 4
PARAGRAPHS ON TRANSACTION AUDIT OBSERVATIONS

Engineers India Limited

4.1 Project Planning and Execution

4.1.1 Loss due to recommending incorrect specifications

The Company suffered a loss of Rs.2.60 crore in recommending incorrect specifications in the consultancy work relating to transfer pipelines.

Engineers India Limited (Company) entered (February 1998) into a contract with Indian Oil Corporation Limited (IOCL) for undertaking project management, process design, detailed engineering, procurement, tendering for construction work, inspection and expediting for AU-V project at Gujarat Refinery. The Company prepared the material requisition (August 1998) for transfer pipelines of Feed Preparation Unit (FPU) Revamp as per the terms of the contract and recommended procurement of SS-410S (32" dia) transfer pipelines to IOCL. IOCL placed orders on the suppliers (January 1999) at a cost of Rs.1.05 crore, which were received in October 1999. IOCL, however, raised doubts on the correctness of SS-410S clad metallurgy for FPU transfer lines on account of high corrosion rates with an expected life of one year only. It, therefore, became necessary to replace the transfer lines with SS-316 L clad metallurgy. Accordingly, IOCL requested the Company (October 1999) to take immediate corrective action besides compensating the loss. The Company accepted the mistake (November 1999) and IOCL placed orders with the revised specifications at a total cost of Rs.1.20 crore (January 2000). The work was completed in April 2000 after a delay of four months.

IOCL recovered an amount of Rs.1.32 crore (October 2002) as landed cost spent on the pipelines with incorrect specifications from the amount payable to the Company against another project besides levying liquidated damages of Rs.1.28 crore. The efforts made by the Company to re-utilise the transfer line material in some other project or to sell the same did not materialise. These pipelines continued to lie at the project site in an open area for more than four years.

The Management stated (March 2004) that such error in consultancy business could not be totally eliminated. They further stated that there was chance of utilising the pipelines in some of the future jobs to be taken up by them. They also stated that the Company would be liable only to the extent of 20 per cent of the modification cost on account of any error or omission. The reply is not tenable as the contract provided that in the event of faulty engineering i.e. error or commission in technical studies performed by the consultants, they shall furnish corrective technical studies and engineering as might be required without any additional cost to the owner. Since the changes warranted in this case were due to the mistake on the part of the Company, the entire loss was to its account. Besides, the Company as a Project Management, Design and Engineering

Consultant was not expected to make fundamental errors in recommending technical specifications. IOCL had since recovered the full amount from the final payment of another project and conveyed to the Company that the matter was closed (October 2002). The Company also provided for the amount as bad debts in its accounts during the years 2000-01 to 2003-04.

The Company, thus, suffered a loss of Rs.2.60 crore due to recommendation of incorrect specifications for the transfer pipelines for the work executed for IOCL.

The matter was reported to the Ministry in March 2004; its reply was awaited (January 2005).

Indian Oil Corporation Limited

4.1.2 Infructuous expenditure in replacement of pipeline

Defective planning and lack of foresight of the Management resulted in infructuous expenditure of Rs.8.95 crore on replacement of pipeline with higher diameter at Kandla Port.

In October 2000, Indian Oil Corporation Limited (IOCL) completed laying of 24" diameter pipeline, in replacement of the existing 16" diameter pipeline from Kandla jetty to the main terminal at Kandla Port at a cost of Rs.8.95 crore. The Board of Directors of IOCL had approved the project in May 1998 and the work thereon commenced in June 1999, on the premise that the demand for Petroleum, Oil and Lubricants (POL) at the main terminal of Kandla Port Trust owned by IOCL would rise from 9.10 MMTPA[◆] in 1996-97 to 18 MMPTA by the turn of the century. Contrary to this, the actual quantity handled by IOCL at the main terminal as well as foreshore terminal at Kandla Port during the years 1999-00 to 2001-02 ranged only from 0.118 MMT to 3.04 MMT, rendering the entire expenditure of Rs.8.95 crore infructuous.

Audit revealed (October 2001) that the projection of demand of 18 MMTPA made by IOCL was based on the Report (December 1996) of the Industry Working Group on Kandla Port. However, at the time of approval and initiation of the work, IOCL did not take into consideration subsequent significant developments in the region like (a) enhanced refinery capacity in the country with the commissioning of Panipat Refinery, Essar Refinery, expansion of Gujarat Refinery and Reliance Refinery at Jamnagar and (b) impact anticipated with the commissioning of Jamnagar-Kandla pipeline by the end of 1999. Since, as a result of these developments, POL traffic to Kandla Port was likely to fall steeply, the projected viability was at a very high risk from the beginning. Though the Management, in September 1999, did consider a proposal to abort the pipeline project, the decision was taken to go ahead with the work as about 85 per cent of the work had already been completed and extra expenditure was involved in dismantling the facilities already created. However, the scope of work was reduced by dropping establishment of a booster pumping facility that was expected to cost Rs.18.17 crore.

[◆] *Million Metric Tonnes Per Annum*

The Management stated (August 2004) that the project work relating to replacement of the pipeline with higher diameter was part of recommendation submitted by the Industry Working Group in December 1996, which was approved by the Government. The Management further stated that had Reliance Refinery (commissioned in July 1999) been delayed, the facility could have been of vital importance for maintaining product supplies to North and Northwest.

The reply of the Management is not tenable as it failed to take due cognisance of inherent risks of the project, which were examined and clearly identified by IOCL's Project Appraisal Group in September 1997 and its Shipping Department in February 1999, and foresee, well in time, the apparent underutilisation of the facility in future. The Shipping Department had intimated to the Engineering Department as early as in February 1999 that there would be no traffic to Kandla. Had the progress of the Reliance Refinery and other industry developments identified by various groups of IOCL been given due cognisance in time, i.e. before approval or commencement of the work, the infructuous expenditure of Rs.8.95 crore could have been avoided.

The matter was reported to the Ministry in June 2004, its reply was awaited (January 2005).

4.1.3 Infructuous expenditure due to wrong estimation of demand

Indian Oil Corporation Limited (Company) purchased land to set up a LPG bottling plant at Bhilwara (Rajasthan) without carrying out detailed feasibility study. The project was subsequently abandoned, thereby resulting in blockage of Rs.2.78 crore and infructuous expenditure of Rs.37.90 lakh.

The Company envisaged (June 1996) setting up of LPG bottling plant at Bhilwara in Rajasthan in order to bridge the gap between projected demand and availability of the LPG bottling capacity in the State of Rajasthan. Accordingly, the Company acquired (July 1998) 40 acres of land on 99 years lease from the Government of Rajasthan, for Rs.2.78 crore (including Rs.18.22 lakh registration charges). In addition, the Company also spent Rs.37.90 lakh towards construction of boundary wall. The lease deed was executed in November 1998. At the time of acquiring the land in 1998, the Company did not review the validity of the demand projections considered in June 1996.

Within three months of acquisition of land, the Executive Director, Marketing (Northern Region) of the Company recommended (September 1998) deferment of the project as it would be profitable to continue the existing arrangement of supplies from Ajmer instead of Bhilwara. Again in December 1998 he recommended dropping of the proposal stating that the available bottling capacity in the State in 2002 would be more than the estimated demand and the proposal was not economically viable. The Company, therefore, deferred the project. The project was again reviewed by the Company at the end of the year 2000 and was dropped (February 2001). The Company made efforts to return the land to the Government of Rajasthan and obtain refund of the money paid. However, no refund could be obtained (July 2004).

The Management stated (January 2004) that:

- demand projections were worked out assuming per capita consumption of 147 kg per annum from 1995-96 and an increase of two kg per year till 2001-02. However, the projections could not materialise and the actual consumption came down to around 136 kg per annum in 1998-99;
- the matter of refund had already been taken up with the Government of Rajasthan.

The reply of the Management is not tenable because:

- as admitted by the Management no detailed feasibility and financial viability study had been conducted for Bhilwara Plant prior to acquisition of land. The detailed feasibility study should have preceded the purchase of land and pre-project activities;
- no refund had been received from the Government of Rajasthan (July 2004).

Thus, abandonment of the LPG plant which was taken up without any detailed feasibility study, resulted in blockage of funds amounting to Rs.2.78 crore for the last six years apart from an infructuous expenditure of Rs.37.90 lakh on the boundary wall.

The matter was reported to the Ministry in February 2004; its reply was awaited (January 2005).

4.1.4 Infructuous expenditure due to defective planning and decision making

IOCL incurred an infructuous expenditure of Rs.2.17 crore on an abandoned project as it decided to shift its depot from Satna to Bagha without considering liability of providing employment to local people and without entering into contract with HPCL for sharing cost of railway siding, which were necessary for economic viability of the depot.

In May 2000, Indian Oil Corporation Limited (IOCL) decided to shift its depot at Satna to a nearby land at Bagha in Madhya Pradesh at an estimated cost of Rs.27.12 crore, including the cost of railway siding for unloading of products that was proposed to be shared with Hindustan Petroleum Corporation Limited (HPCL) which were also resiting their depot at Bagha. The decision to shift the depot was taken keeping in view a notice served by the District Collector, Satna on IOCL to shift the depot to a safer place away from main town, after occurrence of a fire accident in the depot in June 1997. The land at Bagha, on which the depot was to be shifted, had been acquired by IOCL at a cost of Rs.1.50 crore on the basis of an agreement with the District Administration to use the land exclusively for construction of an Liquified Petroleum Gas bottling plant and give employment to 28 project-affected persons (PAPs). The plan to construct the bottling plant was, however, dropped subsequently (August 1998).

It was noticed in audit that the liability on account of employment to be given to 28 PAPs was not disclosed in the proposal submitted to the Board of Directors for approval of shifting of the depot. The profitability and the cash flow analysis was worked out without taking this factor into account. Further, IOCL started the project at Bagha and incurred an expenditure of Rs.5.42 crore without entering into a contract with HPCL for sharing cost of railway siding. Meanwhile, HPCL backed out of the project on the issue of offering

employment to PAPs. They maintained that they would join only if PAP problem was not thrust on them. Resultantly, IOCL had to re-examine the economic and project justification taking into account the PAP and HPCL factors. In March 2001, while reviewing economic viability of the project, IOCL observed that they did not need any additional manpower at the depot, as it was a case of resitement only and decided to drop the resitement of Satna depot to Bagha.

In September 2002, the Board of Directors decided to drop the project, transfer the material valuing Rs.3.25 crore to other locations and write off the balance expenditure of Rs.2.17 crore (Rs.5.42 crore minus Rs.3.25 crore).

In June 2004, the Management stated that the District Magistrate was approached for takeover of the land by the State Government who clarified that in terms of the agreement, in case the land at Bagha was not used for the purpose of acquisition or the use was stopped subsequently, the land along with the property/building constructed thereupon was liable to forfeiture and no compensation was payable to the Company. However, the matter of surrendering the land and refund of the deposit was being pursued with the Advocate General of the State Government.

Thus, due to defective planning and decision-making, IOCL incurred an infructuous expenditure of Rs.2.17 crore.

The matter was reported to the Ministry in June 2004; its reply was awaited (January 2005).

4.1.5 Infructuous expenditure on idle computerised loading facilities

Creation of computerised loading facilities at Karnal bottling plant without proper planning resulted in an infructuous expenditure of Rs.2.01 crore out of which only facilities costing Rs.79 lakh could be purposefully used.

Indian Oil Corporation Limited (Company) proposed to pump the entire LPG production of Panipat refinery through pipeline to Karnal from where the surplus LPG, after meeting the bottling requirements of Karnal bottling plant, was proposed to be dispatched to other plants. The Company accordingly decided (June 1995) and created computerised facilities for LPG tank truck loading at a cost of Rs.2.01 crore at the Karnal bottling plant {Tank Lorry Filling Shed, pump house, purging unit for bulk trucks and centralised control room at a cost of Rs.1.22 crore (July 1998) and loading arms* for tank lorry filling at a cost of Rs.79 lakh (September 2000)}. Before creating the facilities the Company did not assess/project the availability of the surplus quantity of LPG proposed to be dispatched to other locations.

These facilities could not be put to use as adequate surplus LPG for loading to other locations was not available after meeting the requirements of Karnal bottling plant. Subsequently, the Company used loading arms as a replacement to the existing Tank

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** Attachment used for loading /unloading of products*

Lorry Decantation facilities♦ in Karnal and centralised control room for housing the Karnal Area Office which was earlier located in the Company's own marketing complex adjoining the Panipat Refinery. The other facilities continued to remain idle (July 2004).

The Management stated (January/May/July 2004) that the LPG bottling plant at Karnal was utilised to the maximum capacity (upto 149 TMTPA♠ against the rated capacity of 88 TMTPA) resulting in reduced availability of surplus LPG at Karnal for loading to other locations. Though it resulted in idling of the loading facilities, the LPG demand of the adjoining consumption zones was met economically because movement to other locations would have resulted in additional transportation cost. As per the latest projections, the LPG production at Panipat Refinery was expected to increase from the present level of 200 TMTPA to 900 TMTPA from the year 2006-07 and it was expected that these facilities could then be put to use. The Ministry also reiterated (September 2004) the views of the Management.

The reply of the Management/Ministry is not tenable as: -

- the Company did not assess/project the availability of the surplus quantity of LPG that was proposed to be despatched to other locations;
- the Company was aware that the actual bottling capacity was generally much more (130 per cent to 150 per cent of the rated capacity) than the rated capacity of the LPG bottling plants; this aspect should have been considered before setting up of the handling facilities;
- the computerised control room was being used for housing the Area Office which was earlier in the Company's own building; this was not the purpose for which it was originally envisaged;
- the facilities had idled for four to six years.

Thus, improper planning resulted in an infructuous expenditure of Rs.2.01 crore out of which only facilities costing Rs.79 lakh being the value of the loading arms could be purposefully used (March 2004).

Oil and Natural Gas Corporation Limited

4.1.6 Loss due to avoidable flaring of gas

Failure to consider financial position of vendors before award of contracts and consequent delay in supply/installation of gas compressors led to flaring of low-pressure gas and consequent loss of revenue of Rs.71.02 crore during the period between August 2001 and December 2003.

Due to increased production of low-pressure gas in Gandhar fields and non-availability of gas compression facility, Oil and Natural Gas Corporation Limited (ONGC) was flaring

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♦ *Facilties used for unloading LPG in case of sick wagon/tank lorry/tank trucks.*

♠ *Thousand Metric Tonne Per Annum.*

the gas in the air. In order to arrest the flaring, the Board of Directors of ONGC approved (November 1998) installation of compressors within 32 months i.e. by July 2001. After finalisation of bid evaluation criteria, ONGC invited tenders in May 1999 and placed work order on Bharat Pumps and Compressors Limited (BPC), in September 2000 for supply of seven compressors within 12 months and on Engineering Projects (India) Limited (EPI), in October 2000, for installation and commissioning of the compressors by 5 January 2002.

BPC supplied only one compressor in time and the remaining compressors were supplied in phases between October 2001 and December 2002 against the contractual date of September 2001. The compressors were commissioned, also in phases, between December 2002 and January 2004, more than one year later than the scheduled date of July 2001 approved by the Board. During the interim period, ONGC hired two compressors. The capacity of the hired compressors was not adequate to compress the entire quantity of the available low-pressure gas and hence, ONGC had to flare the remaining gas in air. The value of gas flared during the period between August 2001 and December 2003 worked out to Rs.73.72 crore. The delay in adhering to the time schedule led to loss of revenue of Rs.71.02 crore to ONGC (after taking into consideration liquidated damages of Rs.2.70 crore recovered from BPC).

Audit observed that ONGC not only took excessive time in placement of the work orders but also selected parties (BPC and EPI) that were facing financial problems right from the beginning, which led to further delay in execution of the project. In fact, BPC did not have funds to open letters of credit (LC) for import of necessary parts like gas engine. It could not provide even bank guarantee for obtaining ten per cent advance payment from ONGC as per the terms of supply order and ONGC paid the advance against indemnity bond to arrest the delay. In March 2002, when BPC again asked for extra-contractual financial support from ONGC for opening of LC, ONGC had to make an extra contractual advance payment of Rs.6 crore in June 2002 in order to arrest further delays. In the case of EPI also, ONGC had to agree to release the progressive payments of bills within 15 days, against 45 days as per the contract.

In August 2004, the Management/Ministry stated that ONGC had followed standard established procedure for procurement of high value compressors through International Competitive Bidding. The contractors fulfilled the bid evaluation criteria and were found to be techno-commercially acceptable.

The reply is not tenable because the essence of the project was the timely commissioning of the compressors, as it involved the commercial interests of ONGC as well as the proper utilisation of valuable natural resources of the country. Therefore, due consideration should have been given to the state of financial affairs of the vendors in their selection for the project. It was noticed in audit that, while BPC had a negative networth in 1998-99 and stood referred to Board of Industrial and Financial Reconstruction since 1992, EPI also had huge negative networth and consistently incurred huge loss in the three years ended March 1999 (i.e. the period before the award of contracts). Thus, there were adequate indications that these parties might default in timely execution of the project, which ONGC failed to consider in selection of the vendors.

Bharat Petroleum Corporation Limited

4.2 Asset Acquisition and Utilisation

4.2.1 Idle investment due to unrealistic assessment of requirement

Imprudent decision of the Management to augment the tankage capacity at Haldia without realistic assessment of its requirement led to an idle investment of Rs.11.35 crore.

Bharat Petroleum Corporation Limited (Company) was having a tankage capacity of 45,200 Kilo litre (KL) for the storage of various petroleum products at its Haldia coastal terminal. Although, the tankage capacity of 25,000 KL earmarked for High Speed Diesel (HSD) and 3,000 KL earmarked for Superior Kerosene Oil (SKO) was more than sufficient to meet the requirement due to low throughput in the terminal, the Company assessed (February 1999) that the existing tankage capacity would be inadequate for receiving multiple products, full tanker parcel size or for handling simultaneous operation of product receipt from Haldia Refinery and tanker discharge. Despite the low capacity utilisation of existing facilities, the Company augmented its capacity by constructing (April 2000) additional capacity of 31,000 KL (HSD–2 X 12,500 KL and SKO-2 X 3,000 KL) at a total cost of Rs.10.43 crore. These additional capacities could not, however, be put to use due to low throughput in the terminal and the Company, for smooth evacuation of Naphtha from Numaligarh Refinery Limited (NRL), converted (March 2003) two tanks of HSD of 12,500 KL each into Naphtha tanks at a total cost of Rs.92 lakh. This facility also could not be utilised yet (August 2004) due to non finalisation of evaluation work with NRL.

The Management contended (June 2003) that the tankage at Haldia was augmented to meet the demand of West Bengal and neighbouring States, which were economical to feed from Haldia in order to meet the future demand. It further contended that additional tankage had been created keeping in mind the long-term requirement of the Company in the deregulated scenario and that it was essential for the export/coastal evacuation of the increased production of NRL Naphtha through Haldia. The Ministry endorsed (January 2005) views expressed by the Management.

The contention of the Ministry/Management is not tenable in view of the fact that (i) the assessment was made without analysing the data relating to the utilisation of capacities in earlier years and any market survey was not conducted to assess the future requirement of petroleum products in the hinterland locations that could economically fed ex-Haldia and (ii) the existing tankage capacity remained underutilised during the last two years prior to taking decision for augmentation of capacities in February 1999 as the Company handled 16,055 KL and 15,547 KL of HSD, 3,662 KL and 3,132 KL of SKO on an average monthly basis during the years 1997-98 and 1998-99 respectively. This low utilisation of existing facilities did not warrant further augmentation of the tankage capacity at Haldia.

Thus, the imprudent decision of the Company to augment the tankage capacity without realistic assessment of its requirement led to an idle investment of Rs.11.35 crore.

4.2.2 Infructuous expenditure on development of land

The Company incurred an infructuous expenditure of Rs.1.88 crore on development of land subsequently earmarked for surrender.

The Hubli POL♦ depot of Bharat Petroleum Corporation Limited (Company) did not have adequate infrastructure facilities. The Railways as a part of their gauge conversion policy were also requesting the oil industry to resite the existing depots located on meter gauge at Hubli to new location on broad gauge line.

The Company acquired 63,602 square metres (15 acres) of land at Navalur in July 1997 from Karnataka Industrial Area Development Board (KIADB) at a tentative cost of Rs.67.50 lakh on lease for a period of 11 years. The lease could be converted into sale subject to payment of cost finally fixed. The Company incurred an expenditure of Rs.4.64 crore towards land development (Rs.90 lakh), construction of compound wall (Rs.56 lakh), materials (Rs.2.92 crore), security cabin (Rs.3 lakh), lube oil godown (Rs.17 lakh) and other expenses (Rs.6 lakh).

However, the Company decided (February 2002) to abandon the Depot project at Navalur on the ground that the project was economically unviable in the rapidly changing market conditions. The Company approached KIADB (May 2002) to surrender 56,779 square metres of land after retaining 6,823 square metres for lube oil godown. However, the land was yet to be surrendered (September 2004). This resulted in avoidable expenditure of Rs.1.31 crore being the proportionate cost of land development and construction of boundary wall on the land subsequently earmarked for surrender.

The Company stated (July 2003) that they had made a review of the project proposal in the light of impending deregulation and changing scenario and it was found economically unviable and hence decided to abandon the project. The Company added that certain risk elements were inherent in the changing business and could not be avoided. The Ministry endorsed the views of the Management (August 2004).

The reply is not tenable as dismantling of the Administered Pricing Mechanism and move to Market Determined Pricing System was anticipated even in 1997. Hence the decision to undertake the work of land development and construction of compound wall should have been carried out prudently after a thorough review of the utilisation aspects.

Thus, procurement of land without proper study and the subsequent decision to abandon the Depot project resulted in an avoidable expenditure of Rs.1.31 crore and loss of interest to the extent of Rs.57 lakh calculated at the rate of 12 per cent per annum (July 2004).

♦ *Petrol, Oil and Lubricants*

Hindustan Petroleum Corporation Limited

4.2.3 Avoidable expenditure due to offloading of bitumen filling work while keeping in house facility idle

The Company incurred additional expenditure of Rs.1.39 crore on outsourcing the bitumen filling work when its own plant remained idle.

The Visakha Refinery of Hindustan Petroleum Corporation Limited (Company) has a Bitumen Filling Plant (BFP) originally commissioned in May 1985 at a cost of Rs.8.18 crore. The BFP was operational till September 1997 when it was damaged due to a fire accident. After carrying out repairs at a cost of Rs.25.85 lakh, it was put back into service in January 1999.

Despite having its own BFP, the Company decided to outsource the work of bitumen filling. It placed (June 2001) a work order retrospectively on M/s. Baba Containers Manufacturers (BCM) for filling bitumen into drums, loading them into trucks, invoicing the customer etc. at a cost of Rs.128 per MT for a period of one year from 1 October 2000. This was extended from time to time and in December 2003 without re-tender, it was extended upto 30 September 2005 with a provision to extend it for a further period of two years at the same price, terms and conditions. For transportation of the bitumen in bulk from the Visakha Refinery/Visakha Terminal to the contractor's site, the Company entered (November 2000) into a contract with another party. The Company spent Rs.1.85 crore from 1 October 2000 to 30 April 2004 on transportation and filling of bitumen while its own bitumen filling plant was lying idle, which lacked justification.

The Management stated (May 2004) that:

- The decision to outsource the bitumen filling activity was taken in view of low offtake of 6.269 TMT[♣] during 1998-99 and 12.486 TMT during 1999-2000 and safety aspects of running bitumen drum filling plant in proximity to a major refinery processing unit;
- There were no idling costs as the BFP had 'fully paid out'. The manpower was also redeployed elsewhere;
- As against the outsourcing cost of Rs.128 per MT, the in house filling cost was about Rs.200 per MT based on packing of 36 TMTPA[♦].

The contention of the Management is not tenable due to the following:

- the low offtake in the years immediately after fire accident was a temporary phase as is evident from the fact that the Company placed orders on BCM at an average of 54 TMTPA in subsequent years;

[♣] *Thousand metric tonne*

[♦] *TMTPA–Thousand Metric Tonnes per Annum*

- as regards the safety aspects, the BFP was functioning in the same place for 15 years without any problem. If there were any such concerns, the Company should not have invested Rs.26 lakh on its repair and refurbishment;
- the Company's contention that outsourcing was more economical than doing it in-house is not correct since while the cash outflow on account of outsourcing was Rs.128 per MT, the cash element (variable expenses) of in house cost of Rs.200 per MT was only Rs.56.20 per MT. Further, there was nothing on record to show that the decision to outsource was taken after due consideration of comparative advantage as above;
- 'BFP had fully paid out' is not factual since its written down value as on 31 March 2003 was Rs.83.23 lakh and Rs.47.07 lakh had been charged as depreciation thereon during 2003-04;
- deployment of manpower elsewhere is also not correct as Rs.7.33 lakh had been charged as salary and wages to BFP during 2003-04.

Thus, the Management's decision to outsource the filling of bitumen without any analysis of costs of alternatives, resulted in an additional expenditure of Rs.1.39 crore (Rs.1.85 crore minus Rs.46 lakh being the cost of in-house filling) on 82,805 MT of bitumen filled/handled by the outsourcing agency during October 2000 to April 2004.

The matter was reported to the Ministry in May 2004; its reply was awaited (January 2005).

IBP Company Limited

4.2.4 Avoidable expenditure due to delay in surrender of land

Delay in surrender of land to Railways resulted in an avoidable payment of rent and other expenses amounting to Rs.3.66 crore.

IBP Company Limited (Company) was having a petroleum product depot on 8309 square metres land at Shakurbasti on lease from Railways. Due to changed policy of Railways for moving the petroleum products on full rake basis and inadequate tankage capacity at the depot, the Railways had stopped (1985) loading tank wagons to the Shakurbasti depot. Consequently, the major operations of the depot were closed and the depot was used as a Central Inventory Point for storage of lubricants/greases and for filling of lubes in barrels. In October 1998, the Board of Directors decided to shift the activities of Business Group (Petroleum) to Manesar and as such Manesar became the Central Inventory Point for storage and distribution of lubricants and filling of small containers etc. After a delay of two years the Company decided (March 2000) to close the Shakurbasti depot and dispose of the balance stock. The Company finally handed over the land on 22 November 2002.

The delay in surrendering the land cost the Company Rs.3.66 crore (rent Rs.2.38 crore, property tax provision Rs.25.35 lakh, Central Industrial Security Force-deployment expenses Rs.1 crore and power and fuel Rs.2.16 lakh) from April 2000 to November 2002 for the lease hold land.

The Management stated (February 2003) that though the decision to close the depot was taken in 1999, the process of redeployment of staff and shifting of stock etc. involved time.

The Ministry stated (July 2003) that the Company had a large stock of lubricants worth Rs.4.50 crore and engineering goods worth Rs.one crore and decided to clear this stock and also decided not to receive product from any location. Further the labour union had resorted to agitational approach to shifting of Shakurbasti operations and hence the Company needed time to resolve the issue of redeployment of manpower.

The reply of the Management /Ministry is not tenable since the Management had delayed the decision of closure of the Shakurbasti depot from October 1998 to March 2000 and further delayed handing over of land. The Management could have better planned the closure of Shakurbasti depot with an eye on the high cost of retaining the land unnecessarily. Even after settlement with the labour union in July 2001, the Management took more than 15 months to close the depot and surrender the land. Thus, delay on the part of the Management resulted in an avoidable expenditure of Rs.3.66 crore.

4.2.5 Blockage of funds due to acquisition of unsuitable land

The decision of IBP Company Limited to take possession of an unsuitable piece of land and delay in deciding to dispose it of resulted in blockage of Rs.1.08 crore since 1993.

IBP Company Limited (Company) approached Meerut Development Authority (MDA) for allotment of approximately ten acres of land at Partapur, Meerut, to develop a storage/distribution depot to meet the requirements of petroleum products in the areas of Uttar Pradesh. MDA offered a plot of 8.397 acres of land in April 1992 at a cost of Rs.1.08 crore. The Company accepted the offer of MDA and deposited Rs. one crore as an advance in June 1992. The Company considered the plot as just sufficient to accommodate the facilities and requested MDA to allot additional land of approximately seven acres in contiguity of the earlier plot for additional tankage to be built by 1999-00. MDA then allotted total land in two plots measuring around 16 acres (including plot offered in April 1992) for the value of Rs.2.06 crore payable by July 1992. However, the allotted land was in two non-contiguous plots separated by a public road.

In spite of not getting contiguous plots the Company released a further payment of Rs.90 lakh in July 1992 followed by Rs.10 lakh in August 1993 and also took possession of the smaller plot (7.53 acres) in July 1994 and larger plot (8.397 acres) in October 1994. MDA, thereafter, demanded balance payment in November 1994. The balance amount was withheld by the Company as MDA did not make the two plots contiguous. The amount of Rs.32.93 lakh representing balance cost of land (Rs.6.34 lakh), freehold charges (Rs.4.13 lakh), lease rent (Rs.20.63 lakh), fencing and documentation charges (Rs.1.83 lakh) was however, released in January 2000 though the plots were not made contiguous. The Company also paid an interest of Rs.53.77 lakh on the withheld balance to MDA. The Company constructed the depot on the smaller plot, while the larger plot was lying unutilised (July 2004).

Though the plot could neither be made contiguous nor could be utilised since 1994, the Company decided to dispose it of only in 2002. The possibility of surrendering the land to MDA also did not materialise as MDA had surplus land available with them and were not interested in taking back the land from the Company.

The Management stated (July 2004) that:

- MDA had assured that they would resolve the matter of closing down the said road;
- smaller plot which was offered subsequently and on which facilities were put up was more suitable being next to Indian Oil Corporation Limited and Hindustan Petroleum Corporation Limited and resulted in saving of railway siding and pipeline receipt facility;
- in the event they were able to dispose of the land to Bharat Petroleum Corporation Limited (BPCL), the current price would fetch a substantial amount which would be many times more than the total cost paid for both the plots.

The reply of the Management is not tenable as:

- the Company paid for and took possession of the land without settlement of the material issue of contiguity of land;
- the amount of Rs.1.08 crore remained blocked since 1994. It is not correct for the Company to try to compare it with the current price of land. The Company is not in real estate business;
- BPCL informed Audit (April 2004) that they had not made any formal proposal for purchase of land at Partapur from the Company. They were examining the feasibility of purchasing the land (April 2004).

The incorrect decision of the Company to take possession of an unsuitable piece of land and delay in decision to dispose it of resulted in blockage of Rs.1.08 core.

The matter was reported to the Ministry in May 2004; its reply was awaited (January 2005).

4.2.6 Extra expenditure due to delay in surrendering vacant quarters

As a result of Management indecision, 140 vacant quarters could not be surrendered in time, which resulted in avoidable expenditure of Rs.82.68 lakh towards maintenance and service charges.

IBP Company Limited (Company) was having 197 quarters of different categories in the housing colony of National Thermal Power Corporation Limited (NTPC) at Korba. These quarters were constructed by NTPC at the request of the Company at a cost of Rs.2.17 crore. As per agreement (September 1982), the quarters were licenced for a period of 40 years and the Company was to pay licence fee at the rate of Rs.2.65 per square meter per annum, in addition to service charges, for sharing of common amenities at mutually agreed rates on monthly basis. Further, in terms of the agreement, the Company could surrender all or any of these quarters with the consent of NTPC after giving six months notice of its intention and, in such an event, NTPC would refund the amount paid by the

Company for construction after deducting depreciation as per the Income Tax Act and Rules made thereunder.

As the occupancy rate of these quarters started to decline due to transfer and voluntary retirement scheme for employees, the Company wanted (December 1998) to surrender 36 quarters. NTPC was willing to accept the surrender provided the quarters were handed over in blocks (January 1999). The Company, however, did not take any action and in the meantime the number of vacant quarters increased to 140 by May 2002 on which it had to incur extra expenditure of Rs.82.68 lakh towards maintenance and service charges before surrendering the same in December 2003.

The Management/Ministry, while accepting (December 2003/May 2004) the loss, attributed the delay in handing over the vacant quarters to NTPC, which took a long time in deciding the depreciation rate to be charged. They further contended that since NTPC desired to accept quarters in blocks, quarters lying vacant in the block could not be surrendered due to occupancy of other quarters in the same block.

The contention of the Ministry/Management is not tenable in view of the fact that (i) NTPC had given its consent to take back the vacant quarters in January 1999 whereas the Company decided only in June 2002 to give six months' notice as per provisions of the agreement for surrender of quarters (i.e. after a delay of about 41 months), (ii) though NTPC's desire to accept the flats in blocks was outside the scope of the agreement, the Company did not pursue the matter accordingly and (iii) even to honour NTPC's desire in its own interest, the Company could have made entire block vacant by shifting the occupants from the blocks sought to be surrendered expeditiously to other blocks.

Thus, due to delayed action of the Management, the Company had to sustain an extra expenditure of Rs.82.68 lakh towards maintenance and service charges of vacant quarters.

Indian Oil Corporation Limited

4.2.7 Investment in idle assets

Indian Oil Corporation Limited constructed LSHS♣ tanks and railway siding at a cost of Rs.8.40 crore at their Wellington Island terminal. Barring movement of two rakes during commissioning in March 2001 the siding had not been utilised, resulting in idle investment of Rs.5.60 crore besides payment of lease rental of Rs.70 lakh as of December 2003. The tanks constructed at a cost of Rs.2.80 crore remained severely under-utilised.

The Board of Directors of Indian Oil Corporation Limited (Company) approved (January 1996) a proposal for construction of 24,500 KL LSHS storage tanks and railway siding along with total revamping of terminal at a cost of Rs.22.35 crore at Wellington Island terminal. The Company envisaged a demand for LSHS at 5.7 lakh MTPA♦ for three

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♣ *Low Sulphur Heavy Stock*
♦ *Metric Ton Per Annum*

power plants being set up by the Kerala State Electricity Board and one plant of Karnataka Electricity Board at Yelahanka.

The storage and handling facilities were meant for import of LSHS for further distribution. The railway siding was intended to move LSHS by rail to Yelahanka, near Bangalore. The Company procured (December 1998) 2.99 acres land on lease from Cochin Port Trust for construction of the railway siding.

The storage tanks and railway siding constructed at a cost of Rs.2.80 crore and Rs.5.60 crore were commissioned during December 1999 to February 2001 and March 2001 respectively.

Scrutiny in audit (October 2002) revealed that against the envisaged movement of 1.5 lakh MTPA, only 2 rakes totaling 1,965.299 MT of LSHS were moved to Yelahanka in March 2001 during commissioning of the railway siding. The rake movement since then had not taken place as the product was moved from the Company's Gujarat refinery (Koyali) to Yelahanka directly. As against the proposed LSHS off-take of 4.2 lakh MT per annum for the power plants in Kerala, the total movement during the last four years (2000–01 to 2003–04 upto January 2004) was meagre 1.43 lakh MT for the plant at Brahmapuram only. The demand for LSHS for the other two power plants did not materialise. The Company had no firm commitment of demand for these two power plants from the Kerala State Electricity Board.

Thus, the railway siding constructed at a cost of Rs.5.60 crore remained virtually idle since commissioning. Besides, the Company incurred an expenditure of Rs.70 lakh on lease rental (@ Rs.14 lakh per annum) for the idle railway siding during the period from January 1999 to December 2003. Also, the storage tanks constructed for LSHS were grossly underutilised as the projected demand for LSHS did not materialise.

The Management stated (July 2004) that the railway siding was not in use and they were able to meet the demand of the power plant only because of the storage capacity available at Wellington Island.

The reply of the Company is not tenable as domestic production of LSHS was sufficient to meet the demand and there were no imports during the period 1990-91 to 1998-99. Further, the Company failed to take cognisance of the impact on the supply of LSHS subsequent to commissioning of their own refinery at Panipat in October 1998, which resulted in surplus at Koyali. This was before the award of Letter of Intent (March 1999) placed with RITES for construction of the railway siding. The Company also did not review the project for downsizing after Bharat Petroleum Corporation Limited entered into fuel supply agreement (January 1999) with the Kerala State Electricity Board for supply of LSHS to one of their power plants. Further, the Company had sufficient storage capacity available at Wellington Island besides the four tanks specially constructed for imports.

Thus, the expenditure of Rs.8.40 crore incurred on storage tanks and the railway siding during the period 1999 to 2001 was avoidable, as the Company failed to comprehensively assess the demand for LSHS with reference to the facts available with them before incurring the said expenditure.

The matter was reported to the Ministry in April 2004; its reply was awaited (January 2005).

4.2.8 Idle investment in bitumen emulsion plant

Company's inability to make a proper assessment of future demand for bitumen emulsion led to an idle investment of Rs.4.03 crore in bitumen emulsion plant.

The Haldia unit of Indian Oil Corporation Limited (Company) had been marketing small quantities of bitumen emulsion, an improved quality of conventional bitumen, by processing bitumen as per formulations of the Company, through private parties. In the light of the directions of the Ministry of Surface Transport (Road Wing) to their field staff to use bitumen emulsion for repairs during monsoon and renewal coat in the immediate pre monsoon period and recommendation for using the same for tack coat work also, the Company anticipated that the demand of bitumen emulsion in the eastern region would become ten thousand metric tonne (TMT) per annum by the year 1998 which would gradually increase to 25 TMT by the year 2009. In anticipation of the above requirement, the Company decided (February 1997) to set up its own bitumen emulsion plant (Plant).

Accordingly, the Company set up the Plant of 47.5 TMTPA[◊] capacity (the minimum size available in the market) in April 1999 at a cost of Rs.4.03 crore. As per the demand projections made in the initial proposal, the Company should have produced and marketed 53 TMT of bitumen emulsion during the period from April 1999 to March 2003. Against this projected demand, the Company could produce 6.07 TMT of bitumen emulsion only during the above period. As such there was a gross underutilisation of capacity, which led to an idle investment of Rs.4.03 crore made on the plant.

The Management stated (July 2003) that (i) in case the demand of bitumen shifted from conventional bitumen to eco-friendly bitumen emulsion, as expected, it would have lost both bitumen sales and crude throughput; as such it felt necessary to set up its own facility for bitumen emulsion to safeguard its throughput loss and (ii) it was expected that demand would shift towards bitumen emulsion with the growing concern towards environment. The Ministry endorsed (April 2004) the views of the Management.

The contention of the Ministry/Management is not acceptable due to the reasons that (i)) no data with respect to the market size of bitumen emulsion was available with the Company for making future projections, (ii) against the existing installed capacity of 1.31 lakh MT in the country, actual production of bitumen emulsion was only 22.5 TMT during the year 1995-96 and the target for 1996-97 was only to the tune of 32 TMT. As such, in the absence of any reliable data and with such a low utilisation of existing installed capacity in the country, the Company did not have any reason to believe a spurt in demand of bitumen emulsion to the extent that would require more installed capacity after utilising the existing installed capacity in full and (iii) future expectation of increase in demand with the growing concern towards environment was not based on any authentic data and thus, did not merit investment of Rs.4.03 crore.

[◊] *Thousand Metric Tonne Per Annum*

Oil and Natural Gas Corporation Limited

4.3 Exploration

4.3.1 Infructuous expenditure on a single exploratory well

ONGC incurred an infructuous expenditure of Rs.38.86 crore during 1999-00 to 2001-02 in setting up offshore facilities and re-entry in a well without assessing fully the hydrocarbon potential of the gas field.

Oil and Natural Gas Corporation Limited (ONGC) had, in mid-nineties, drilled three exploratory wells in GS-23 field in Krishna-Godavari offshore. Out of these only one well 'GS-23-1' was found gas-bearing and was temporarily abandoned for re-entry at a future date. In July 1996, the Southern Region of ONGC, in consultation with IOGPT[*], IEOT[◊] and IRS[▽] developed a scheme for exploitation of gas from GS-23-1 and its contiguous field GS-15 by setting up two independent offshore platforms with a connecting sub-sea pipeline for the gas collection. At this stage, however, delineation activities of the two fields were in progress and estimation of integrated hydrocarbon potential was yet to be completed.

A Feasibility Report on the above scheme was prepared in March 1997, which envisaged a total production of 218.62 MMSCM[▲] gas from the well GS-23-1. Based on the fact that the field was still being explored and the reservoir behaviour was yet to be fully understood, in July 1997, the Director (Finance) asked the Director (Exploration) to ensure fully that after the facilities were put in place, the actual hydrocarbon reserves would not fall much below the projected level and, in case of any doubt, advised to wait for 3D seismic survey or any other exploratory data before undertaking the scheme. In response, the Director (Exploration) stated (September 1997) that the scheme was reviewed and found viable. The proposal was then put up to the Chairman and Managing Director, who also advised a 3D seismic survey of the gas fields before undertaking the project. The Southern Regional Management, however, communicated (February 1998) that the scheme was independent of any 3D survey as it involved exploitation of gas from the existing wells. ONGC's Board of Directors approved the scheme in June 1998.

The work of creation of offshore platform and the sub-sea pipeline was awarded to M/s. Clough Engineering Limited, Australia, in October 1999 without conducting the 3D survey. The total cost incurred in building the offshore platform for GS-23-1 along with construction of the sub-sea pipelines was Rs.28.08 crore. After installation of the platform and the sub-sea pipeline, ONGC re-entered the well GS-23-1 in September 2001 at a cost of Rs.10.78 crore and put the well on production. Within five months, i.e. in February 2002, the well ceased to produce gas due to low hydrocarbon potential and high water-loading. The well could produce only 3.26 MMSCM of gas as against the projection of 218.62 MMSCM i.e.1.49 per cent of the total estimated gas production. The actual revenue generated from gas and oil sales from this well was only Rs.1.24 crore. In

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[*] *Institute of Oil and Gas Production Technology*
[◊] *Institute of Engineering and Ocean Technology*
[▽] *Institute of Reservoir Studies*
[▲] *Million Metric Standard Cubic Metres*

April 2003, the Reserve Estimate Committee (REC) stated that the recoverable reserve in the entire GS-23 field was 'Nil'.

Thus, creation of offshore facilities and re-entry of the well without fully assessing hydrocarbon reserve potential of the field led to an infructuous expenditure of Rs.38.86 crore (Rs.28.08 crore plus Rs.10.78 crore).

The Management stated (July 2004) that (i) uncertainties with regard to predictive aspects of reservoir behaviour and production patterns had only limited relationship with the acquisition and interpretation of seismic data, (ii) the producing sand in GS-23-1 was tested conclusively and based on the results the gas production scheme was finalised, (iii) GS-23 field had ultimate reserves of 223 MMSCM of free gas of which GS-23-1 accounted for 168.6 MMSCM.

The reply is not tenable as 3D seismic data indicates a better picture of geological formations, which help in ascertaining the hydrocarbon potential more accurately. In fact, the Director (Exploration) had approved, in June 1994, a proposal for inviting tender for carrying out 3D seismic survey in GS-23 and GS-15 field. However, ONGC invited the tenders in June 1999 and awarded the work order in November 2001. Thus, the scheme was not independent of 3D survey. The 3D seismic data collected during 2001-02 was yet to be interpreted. Had ONGC conducted 3D seismic survey, obtained the data and interpreted it expeditiously in order to obtain a complete and more reliable assessment of the hydrocarbon potential of the field or waited for its results before creation of the offshore facilities, it could have avoided the infructuous expenditure in GS-23-1 well. As regards the revision of the recoverable reserves from 'Nil' in April 2003 to 223 MMSCM subsequently, the basis of such revision was not made available to audit. The fact remains that the expenditure of Rs.28.08 crore incurred on creation of offshore facilities and Rs.10.78 crore on the well became infructuous.

The matter was reported to the Ministry in June 2004; its reply was awaited (January 2005).

4.3.2 Infructuous expenditure due to negligence in measuring length of casing pipes

ONGC incurred an infructuous expenditure of Rs.9.32 crore on re-entry of an already drilled exploratory well due to negligence in measuring length of casing pipes and consequential short-landing of the casing in the well.

Oil and Natural Gas Corporation Limited (ONGC) drilled an exploratory well 'MRAB' in Assam Arrakan Basin and lowered casing pipes in the well during February 1998 to May 1998. However, the actual length of the pipes used was shorter than the required length mentioned in the drilling plan. This resulted in short-landing of the casing pipes in the well by 11 metres and termination of the drilling in June 1998, after testing only two 'objects*' out of six identified 'objects' for assessing the potential oil-bearing zones. To complete testing of the remaining four objects, ONGC re-entered the well on 6 December

** 'Objects' are those strata of the drilled well which are not covered by the casing pipes and used to test for presence of hydrocarbons on the basis of geophysical examination reports.*

1998 by 'sidetracking♦'. The rig deployed in the well remained occupied on the well till 20 June 1999 when it was transferred to another project. In this process, due to the short-landing of casing pipes, ONGC used up additional 179 days (197 days between 6 December 1998 and 20 June 1999 less 18 days planned for testing of the remaining four objects), which could have been avoided had ONGC engineers taken special care in measurement of the casing pipes to avoid short-landing of the casing pipes, as required by the guidelines to achieve success in lowering of casing in deep wells. The infructuous expenditure on re-entry worked out to Rs.9.32 crore, on the basis of proportionate allocation of the total expenditure of Rs.25.76 crore incurred on the project (in 495 days between 10 February 1998 and 20 June 1999) to the additional 179 days (i.e. Rs.25.76 crore x 179/495 days=Rs.9.32 crore).

A departmental enquiry into the case conducted by ONGC concluded (June 1999) that even though the required number of casing pipes had been lowered into the well, the length written (after measurement) on the body of the casing pipes was more than the actual length measured. This resulted in short-landing of casing pipes by 11 meters. However, no individual responsibility could be fixed and the personnel in charge were let off with mere warning to exercise more care in future.

In June 2004, the Management stated that the sidetracking of the well was not entirely necessitated by short-landing of casing alone but also because of technical complications arising due to failure of setting the bridge plug at the desired depth for block cementation. It also stated that an enquiry was set up which weighed the overall situation and serious punishment on the entire crew was not felt appropriate, as stringent penalisation of entire crew could have severely affected the morale of other officers in an already disturbed area.

The reply is not tenable as the well completion report clearly stated that the sidetracking was resorted to because of the short-landing and subsequent parting of casing. Further, the prescribed guideline for taking special care in measurement of the casing pipes was not followed and though the personnel responsible for the negligence were identified in the enquiry report, no action was taken by the Management to avoid recurrence of such expensive negligence in future.

The matter was reported to the Ministry in June 2004; its reply was awaited (January 2005).

♦ ***By sidetracking is meant a situation when drilling is carried out obliquely from a depth shallower than upto which the well has been initially drilled.***

Bharat Petroleum Corporation Limited

4.4 Production Performance

4.4.1 Supply of sub-standard material and resultant loss

Supply of sub-standard bitumen to the Public Works Department, Bikaner without carrying out adequate quality control tests and delay in its disposal by Bharat Petroleum Corporation Limited resulted in a loss of Rs.96.70 lakh.

Bharat Petroleum Corporation Limited (Company) supplied (December 1996) 1500 MT bitumen valuing Rs.1.25 crore (including taxes and freight) to the Public Works Department (PWD), Bikaner. The bitumen supplied was not found to be in conformity with the standards as it had lower ductility[♦]. Accordingly, PWD claimed refund (December 1997) of full amount paid by them including freight charges. The Company proposed to improve the quality of bitumen supplied by blending it with a higher grade bitumen at the site itself but this was not accepted by PWD (December 1997).

The Company, therefore, refunded (March 1998) the full amount deposited by PWD to them. The bitumen returned by PWD was finally disposed of for Rs.63 lakh in September 2003 after more than five years. The delay in disposal of the bitumen for five years also cost the Company a rent of Rs.34.70 lakh towards storage.

The Management stated (May/December 2003) that:

- ductility tests were not carried out so frequently as ductility was normally within the permissible limits;
- based on the observations during this incident the ductility test was being carried out on all the product quality certification samples;
- bringing the product back to Mumbai was costly and they were not able to firm up a viable proposal for correcting the product, resulting in delay in disposal of the product.

The reply of the Management is not tenable since:

- failure to conduct ductility tests on the presumption that ductility was normally within the permissible limit, led to the supply of sub-standard bitumen;
- the Company failed to initiate timely action to dispose of the material and took more than five years resulting in an avoidable payment of rent of Rs.34.70 lakh.

Thus, inadequate quality control tests before supply of material followed by inordinate delay in disposal of material, resulted in a loss of Rs.96.70 lakh to the Company (Rs.1.25 crore being value of bitumen plus Rs.34.70 lakh rental charges less Rs.63 lakh recovered on disposal of bitumen).

♦ *flexibility*

The matter was reported to the Ministry (January 2004); its reply was awaited (January 2005).

GAIL (India) Limited

4.5 Contract Management

4.5.1 Avoidable expenditure due to contracting more demand than required

Contract demand of 2,800 KVA against the requirement of 1,800 KVA resulted in avoidable expenditure of Rs.92.95 lakh to the Company due to service line charge and fixed power supply charges.

GAIL (India) Limited (Company) got power requirements for its Samakhiali Intermediate Pumping Station assessed (August 1999) from Engineers India Limited (Consultant). Though the Consultant had assessed the requirement of the Station as 521 KVA to 1,654 KVA per month for the years 2001 to 2008 and 1,906 KVA to 2,889 KVA per month for the years 2009 to 2012, the Company entered into a contract (July 2000) for a demand of 2,800 KVA from a 66 KV feeder with the Gujarat Electricity Board (GEB). The actual consumption of power at the Station during December 2000 to March 2004 ranged between 212 KVA and 1,751 KVA per month except from November 2003 to January 2004 when it ranged from 1,823 KVA to 1,932 KVA. Based on the actual power consumption, the Company approached GEB (March 2001) for reduction in the contract demand, which was rejected by GEB as the minimum agreement period of two years was not over. The Company then had to approach GEB again in December 2002 whereby GEB agreed to reduce the demand to 1,800 KVA subject to installation of specified Current Transformer and Potential Transformer. The Company installed these transformers in December 2003 after placing purchase order and work order and the demand was accordingly reduced by GEB with effect from 1 January 2004.

As the fixed demand charges and service line charges were based on the contract demand, the Company could have saved Rs.92.95 lakh (Rs.83.95 lakh on account of fixed demand charges and Rs.9 lakh on account of proportionate service line charges) during the period from December 2000 to December 2003 if it had initially entered into contract for a demand of 1,800 KVA considering the assessment by the consultant for the initial years.

The Ministry stated (April 2004) that:

- the Consultants had calculated the power requirement as 2,800 KVA;
- obtaining power from GEB is a very time-consuming exercise and hence even prior to selection of the main equipment, power requirements were calculated by the Consultants based on the average/worst scenario basis;
- the Company had requested (March 2001) GEB for reduction in the contract demand but GEB rejected their request because of their voltage level policy under which the contract demand for 66 KV supply was to be 2,500 KVA. As a special case GEB agreed for reduction in contract demand from 2,800 KVA to 1,800 KVA.

The reply of the Ministry is not tenable as:

- the demand of 2,800 KVA was required during the year 2012. For the initial eight years i.e. from 2001 to 2008 the maximum demand assessed by the consultant ranged between 521 and 1,654 KVA only;
- in the present case, the Company got the power allocation from GEB (December 1999) within four months of its application in August 1999;
- the GEB had declined (March 2001) to entertain the request of the Company for the reason of minimum agreement period of two years not being over. The Company could have obtained the contract demand load of 1,800 KVA from GEB initially in 2000 itself as it did subsequently.

Thus, the Company incurred an avoidable expenditure of Rs.92.95 lakh by entering into an agreement for 2,800 KVA instead of 1,800 KVA.

Hindustan Petroleum Corporation Limited

4.5.2 Failure to supply necessary inputs timely to the contractor resulted in foregoing the benefit of price reduction

Delay in providing free issue materials and utilities to the Contractor resulted in foregoing the right of price reduction benefit of Rs.14.95 crore.

In order to conserve and upgrade the environment, Visakh Refinery of Hindustan Petroleum Corporation Limited (Company) was setting up therein Diesel Hydro de-sulphurisation Unit (DHDS) Project and associated utilities so as to supply High Speed Diesel with 0.25 percent weight (max) sulphur with effect from 1 April 1999, as per the commitment given to the Supreme Court of India. In order to de-sulphurise the diesel, several processing units were proposed to be put up under DHDS Project for which Engineers India Limited (EIL) were consultants. The Company invited tenders (June 1997) and based on the recommendation of the consultants (December 1997), awarded the contract upon Larsen & Toubro Limited (Contractor), being the lowest bidder at a total lumpsum contract price of Rs.304.16 crore against EIL's estimate of Rs.325.62 crore and the work was completed at a cost of Rs.309.46 crore (May 2000).

The contract stipulated the following milestones for achievement:

- Sea Water Cooling Tower ready for commissioning by due date of 24 December1998;
- DHDS Block ready for commissioning (except reformer and sea water cooling tower) by 24 April 1999;
- Commissioning of the entire DHDS Block i.e., DHDS Unit, Hydrogen Unit (excluding reformer) utilities and offsite to be completed within one month from the date plant made ready for commissioning.

While the first milestone was achieved on 11 December 99 as against the contractual date of completion of 24 December 1998, the second milestone was achieved on 21 May 2000 against the due date of 24 April 1999. The third milestone was, however, achieved in time as stipulated in the contract. Against the delay, the Company levied total damages of Rs.21.66 crore. After successful completion of the project (June 2000), a Committee was constituted by the consultants to review the request of the Contractor (February 2000) for granting extension of time till actual date of completion of each milestone.

The Committee recommended (December 2001) granting of extension of time till the actual date of achieving the first milestone upto 11 December 1999 and in respect of second milestone upto 19 May 2000 as the major delay was attributable to the Company in providing site clearance, engineering inputs, free issue of materials and utilities for pre commissioning and a delay of two days only was on the part of contractor for which the Committee recommended (May 2003) price reduction and levying of damages, which worked out to Rs.6.64 crore.

The functional directors considered the views of the consultants and recommended to the Board (May 2003) extension of time for completion of the contract and levy of penalty of Rs.6.64 crore and refund of net damages of Rs.15.02 crore as against the original damages of Rs.21.66 crore imposed on the contractor. The Board of Directors approved the proposal (June 2003). It was, however, observed that a sum of Rs.6.71 crore was actually levied as penalty and accordingly a refund of Rs.14.95 crore was made to the Contractor (September 2003). Thus, due to its failure to supply the necessary inputs in time, the Company suffered a loss of Rs.14.95 crore on this account.

The Management stated (November 2004) that the delay in free issue of materials and utilities was due to delay on the part of the sub-vendors against whom suitable action was taken as per the provisions of respective purchase orders. It further stated that a fire accident in September 1997 was the prime reason. The replies of the Management are not convincing, as the Management had not furnished the amounts recovered from the sub-vendors against the loss of Rs.14.95 crore. Further, attributing the delays to the fire accident is also not correct as this contract was awarded in December 1997 by which time the impacts and implications of the fire accident were well known to the Management.

The matter was reported to the Ministry in October 2004; its reply was awaited (January 2005).

IBP Company Limited

4.5.3 Avoidable loss in hiring of tank

Due to delay in surrendering the tank of higher capacity, the Company had to sustain a loss of Rs.1.28 crore towards rental charges for idle facilities.

In view of deregulation of Furnace Oil (FO) with effect from 1 April 1998, IBP Company Limited (Company) felt it desirable to facilitate the import of FO for a few large FO consumers. Accordingly, the Company hired (March 1999) a storage tank for FO of 10,157 KL capacity at Budge Budge initially for a period of three years at a hire charge of Rs.75 per KL per month. The Company, however, signed a faulty agreement to the

extent that it did not include any provision for premature exit in its interest from the contractual obligation.

Meanwhile, the Oil Marketing Companies reduced their selling prices of FO and the Government of India put a ban (June 2000) on interstate movement and also on appointment of agents for selling such products. These developments made imports of FO unattractive and the Company's plan for FO import facilitation for actual users collapsed. Thus, in the changed circumstances it became obvious to the Company that the hired capacity of 10,157 KL would not be utilised. But due to contractual obligation the tank could not be de-hired before the expiry of the agreed period of three years. The Company's stocks of FO decreased from 8,203 KL in August 2000 to 520 KL on 1 March 2001 when it again procured two small consignments of 555 KL in March 2001 and 1,648 KL in November 2001. After selling 1,508 KL therefrom during the period of two years (346 KL in 2001-02 and 1,162 KL upto December 2002), the Company surrendered the tank on 1 January 2003 by disposing of the leftover quantity to IOCL (holding Company) and incurred avoidable hire charges of Rs.1.67 crore from April 2001 to December 2002 and suffered a loss of 1.28 crore (after adjusting Rs.39.26 lakh contribution received from sale of FO during the above period).

The Company could have avoided this loss, had it included the exit clause in the agreement of hiring the tank or else it could have at least reduced the loss by Rs.42.53* lakh had it surrendered the tank immediately on expiry of contract period in March 2002.

The Management stated (June 2003) that it was genuine business failure on account of unexpected market development in a deregulated scenario. It, however, remained silent on the issue as to (i) why the agreement was signed without any exit clause and (ii) why the tank was not surrendered in March 2002 (immediately after the expiry of contract period) especially when FO import facilitation plan collapsed after the ban was imposed on interstate movement of FO/appointment of agent etc. in June 2000. However, no attempt was made to fix responsibility for this loss.

The matter was reported to the Ministry in May 2004; its reply was awaited (January 2005).

Oil and Natural Gas Corporation Limited

4.5.4. Loss due to award of a contract to an incompetent party

Infirmities in bid evaluation criteria and inadequate due diligence in assessing the financial capability of the bidders led to award of work for operation and maintenance of three multi support vessels to an incompetent party. Subsequent poor performance of the contractor led to non-availability of the vessels. The loss to ONGC on account of non-availability of vessels worked out to Rs.205.05 crore.

In February 2000, Oil and Natural Gas Corporation Limited (ONGC) invited tenders for Operation and Maintenance (O & M) of its three Multi Support Vessels (MSVs) meant to

**Hire charges of Rs.75.42 lakh for April 2002 to December 2002 minus Rs.32.89 lakh corresponding contribution from FO sale during the above period.*

service and operate in Mumbai High Oil Fields, with the due date for submitting the bids by April/May 2000. However, some of the Hon'able Members of Parliament (MsP) in their communications to the Ministry expressed (May/June 2000) doubts about the appropriateness of Bid Evaluation Criteria (BEC), in as much as it did not make it essential for the prospective bidders to prove their financial capability. The Regional Tender Committee (RTC) of ONGC, in pursuance of this concern, asked the bidders (June 2000) to submit letters from Nationalised/Scheduled Indian Banks supporting their creditworthiness for a sum of Rs.10 crore per vessel, the estimated investment required by the contractors towards O & M cost per vessel before being re-imbursed by ONGC. In September 2000, RTC approached the Executive Purchase Committee for adopting the above criterion in assessing financial capability and short-listing of the bidders, which was in addition to the existing criterion based on past turnover of the bidders. However, in October 2000, the Executive Purchase Committee asked for fresh tenders to be invited after incorporating in the BEC suitable parameters to judge the financial capability of the prospective bidders. In November 2000, ONGC was also advised by the Ministry to re-formulate the BEC in regard to financial capability of prospective bidders, as the matter pertained to costly vessels that provided various important services to offshore platforms, which yielded half the production of ONGC.

Audit revealed (May 2004) that the BEC incorporated in the fresh tender invited in December 2000 did not make it mandatory for the prospective bidders to prove their creditworthiness and the bidders were required to qualify with reference to either of the two financial parameters viz. minimum turnover of Rs.18 crore during the two preceding years or creditworthiness of Rs.10 crore per vessel.

On evaluation of eight bids that were received in response to the fresh tenders, the bids of Ganesh Benzoplast Limited (GBL) for two vessels and Ganesh Anhydride Limited (GAL) for one vessel, being the lowest financial bids for the three MSVs, were found acceptable and the contracts were awarded to them in April 2001. Both the parties were, however, sister concerns as they belonged to the same group of companies.

GBL and GAL were not able to run and maintain the MSVs satisfactorily due to lack of adequate working capital, as they could not make payment to their back up contractors who in turn withdrew their support. The dockyards where the vessels were dry-docked and the statutory authorities were also not paid their dues, as a result, the authorities withdrew the seaworthiness certificate of the vessels. As of March 2003, the liability accrued by both the contractors aggregated to Rs.24.53 crore and the three MSVs were not available for a total of 375 vessel days upto March 2003 and the same were in need of major repairs. The non-availability of the vessels, in turn, seriously affected the work relating to release of drilling locations and installations of new platforms, besides accumulation of inspection, maintenance and repairs jobs. Further, the oil installations of ONGC in Mumbai High were put to grave risk owing to inadequate coverage for fire fighting facilities. In March 2003, ONGC terminated the contract with both the parties and awarded the contract to Shipping Corporation of India Limited, a public sector undertaking, on nomination basis. Meanwhile, ONGC had to meet its critical requirements by charter hired vessels. It estimated a loss of Rs.205.05 crore (on the basis of the chartered rate per day of the vessels) due to the non-availability of its vessels, on account of the under performance of the contractors.

Audit observed (May 2004) that in one of the Hon'able Member of Parliament's communications to ONGC, it was clearly cautioned (March 2001) that GBL was a very unscrupulous company, which had forged (September 1999) a letter on ONGC letterhead to get their bank guarantee, related to an earlier tender, released. The forgery case was under investigation (November 2004) by Central Vigilance Commission (CVC). He further stated that the requirement of turnover alone could not be an appropriate criterion for assessing the financial soundness of the contractors as the same could be manipulated by booking dummy transactions. However, ONGC did not attend to the matter with due seriousness and it failed to ensure the financial soundness of the bidders since the creditworthiness of the bidders was made only an optional parameter. Sufficient scope was, thus, left open for the bidders to pass through the tender process without proving their financial capability.

In July 2004, the Management stated that:

- upto July 2003, the financial criterion was never a standard condition in ONGC for determining the BEC;
- GBL had qualified the creditworthiness criteria against the first tender invited in February 2000 when clarifications were sought from all the bidders, even though, GBL/GAL qualified on the basis of operational turnover against the fresh tender invited in December 2000;
- its vigilance section had already investigated the forgery case but it could not establish the involvement of GBL.

The fact remains that (i) GBL/GAL were shortlisted on the basis of turnover despite all the cautions received by ONGC to bring stringent criterion in BEC for ensuring financial soundness of the bidders (ii) the significance of the parties having been exonerated by the initial internal vigilance enquiry diminished as the forgery case against GBL was referred to and was under investigation by CVC. It was apparent that ONGC failed to show due diligence in formulation of BEC and undue bias in favour of the parties could not be ruled out.

The matter was reported to the Ministry in July 2004; its reply was awaited (January 2005).

Bongaigaon Refinery and Petrochemicals Limited

4.6 Statutory Levies

4.6.1 Failure to avail of the benefits of excise duty exemption

Due to delay in requesting IOCL for marketing its products within the country instead of exporting, so as to avail benefit of excise duty exemption on domestic sales granted for north-eastern refineries, the Company had to suffer a loss of Rs.4.09 crore.

Bongaigaon Refinery and Petrochemicals Limited (Company) entered into an agreement with M/s.Indian Oil Corporation Limited (IOCL) (March 1999) for marketing its

petroleum products. As per the agreement, IOCL would ensure evacuation of the entire product of the Company produced in its Refinery as per the production schedule.

In order to overcome the constraints of small-sized units of the northeast, the Government of India granted 50 per cent excise duty exemption from 1 March 2002 to the north-eastern refineries. The exemption was, however, not available for any petroleum products, if exported. Though the excise duty exemption was available since 1 March 2002, the Company requested IOCL as late as in August 2002 not to export its products but to market the same within the country to avail the benefits of excise duty exemption. Meanwhile, IOCL had already exported 17,984 KL of High Speed Diesel and 3,572 KL of Motor Spirit of the Company during the period from May to September 2002 after which it stopped exporting the Company's products. Consequently, the Company had to forgo the benefits of excise duty exemption of Rs.4.09 crore on the exported quantity.

The Management, while accepting the loss, stated (June 2003) that (i) IOCL took the decision of export of Company's products keeping in view the overall economics as export of their own Barauni refinery products would have been costlier and (ii) had IOCL not exported Company's products, the same would have to be carried over a long distance resulting in considerable freight under-recovery. The reply is, however, silent as to why the Company requested IOCL so late in August 2002 not to export its products but to market the same within the country for availing the benefit of excise duty exemption.

Further, the reply is also not tenable in view of the fact that (i) the impact of freight under- recovery was negligible as it was only 2.26 per cent of the total revenue during the year 2002-03 as compared to excise duty exemption not availed of 9.29 per cent and (ii) export had caused the Company to suffer a loss of Rs.4.09 crore. The matter was referred to IOCL (May 2004) for comments; their reply was awaited (January 2005).

Thus, due to delay in making the request to IOCL not to export its products but to market the same within the country to avail the benefit of excise duty exemption granted by the Government of India, the Company had to forgo the benefit of excise duty exemption on its products exported during the period from May to September 2002 and suffer a loss of Rs.4.09 crore.

The matter was reported to the Ministry in June 2003, its reply was awaited (January 2005).

4.6.2 Avoidable payment of sales tax

The Company failed to avail exemption of sales tax benefits on export sales and thereby incurred avoidable expenditure of Rs.1.21 crore.

Bongaigaon Refinery and Petrochemicals Limited (Company) entered into an agreement with M/s.Indian Oil Corporation Limited (IOCL) (March 1999) for marketing its petroleum products. As per the agreement, IOCL would furnish exemption certificate of sales tax to the Company for all export sales at the end of the month to enable the Company to finalise the payment of sales tax as per provisions of the Central Sales Tax Act, 1956, according to which export sales did not attract sales tax.

During the period from July 2000 to August 2001, the Company transferred 36,289 MT of light diesel oil (LDO) to IOCL out of which IOCL exported 27,534 MT. As per the arrangement, the Company raised invoices against IOCL by charging Central Sales Tax (CST) at the rate of four per cent on ex-refinery price and deposited the same to Sales Tax Authorities. This included Rs.1.21 crore in respect of the proportionate CST on the quantities of LDO exported by IOCL. The Company could not claim sales tax exemption benefits available for export sales as the export of its product was neither recorded separately by IOCL for the fulfillment of the provisions of the agreement nor the Company made/asked IOCL for any arrangement for keeping separate records for export of their products to enable them to avail/claim this benefit. As such the Company had to suffer a loss of Rs.1.21 crore by not availing sales tax exemption benefits on export sales. The matter was referred to IOCL (May 2004) for comments; their reply was awaited (January 2005).

While accepting the loss, the Management contended (June 2003) that what happened was beyond their control as the export was made from the pool of LDO which consisted of products of the Company and other North Eastern Refineries and it was not possible for IOCL to identify particular consignment of the Company from which the LDO was to be exported.

The Management's contention is not tenable in view of the fact that in terms of the provisions of the agreement, the Company was to obtain exemption certificate of tax for all export sales at the end of the month and for this purpose identification of the consignment of the Company from which exports were made should have been done as per contract. The matter was not taken up by the Company vigilantly in order to watch their own financial interest.

Thus, the Company had to incur an avoidable expenditure of Rs.1.21 crore by paying CST on export sales which were otherwise exempted and could have been avoided had the Company requested IOCL to maintain proper documentation of export of their product immediately after noticing (June 2000) that IOCL was planning for export and when they gave their consent for the export.

The matter was reported to the Ministry in June 2003; its reply was awaited (January 2005).

Hindustan Petroleum Corporation Limited

4.6.3 Delay in availing of customs duty exemption resulting in blocking up of borrowed funds and consequent loss of interest

Lack of efficient day-to-day administration resulted in delays in utilisation of customs duty exemption benefits leading to additional interest cost of Rs.3.36 crore.

In terms of para 7 (2) of the Export and Import Policy 2002-2007, prior to manufacture of export products an exporter can apply for an advance licence to import permitted inputs free of duty under Duty Exemption Scheme and can latter discharge the export obligation within the allowed time period mentioned on the licence.

The Visakha Refinery (the Unit) of the Company imports crude and exports petroleum products viz. furnace oil, low sulphur heavy stock, motor spirit and naphtha processed from it. As such it is entitled to custom duty exemption benefits on the import of crude under Annual Advance Licence Scheme even before exporting the petroleum products. The Unit applied and obtained two Annual Advance Licences, one in November 2001 and the other in October 2002. The first licence was for exemption of custom duty on the import of crude of FOB value US$ 93.75 million (Rs.455.63 crore) after 7 November 2001. The Corporate Office, Mumbai transmitted the licence to the Unit only on 3 January 2002 i.e after a delay of 56 days. The Unit, which received the licence on 8 January 2002, got it registered on 21 February 2002 i.e. after a further delay of 43 days. As a result, the Unit could not utilise the licence on crude, which was imported between 23 November 2001 to 20 January 2002. It availed the duty exemption of Rs.45.49 crore on subsequent imports of crude from 9 February 2002 to 19 June 2002.

It received another licence for exemption of customs duty on import of crude of FOB value US$ 103.20 million (Rs.494.33 crore) after 25 October 2002. The second licence was issued on 25 October 2002, the Unit received it on 1 November 2002. It needed correction in the name of Port, which took about 53 days i.e. 25 December 2002. The Unit got it registered and availed it on 28 March 2003 after a further delay of 93 days. As a result the unit could not avail customs duty exemption on import of crude received from 12 November 2002 to 30 December 2002. It utilised the licence for duty exemption of Rs.48.95 crore on import of crude only from 28 March 2003 to 10 April 2003.

Thus, there were delays ranging from 78 days to 159 days in availing the customs duty exemption to which the Company was entitled to under the advance licences. Consequently, Rs.94.44 crore of borrowed funds of the Company were blocked with an avoidable additional interest burden of Rs.3.36 crore thereon @ ten per cent per annum from November 2001 to April 2003.

The Management stated (April 2004) that due to wrong indication of port of registration and address of the Company in the advance licences issued by DGFT[$], Mumbai, there was delay in obtaining the advance licences duly rectified. Further, the delay was primarily due to customs authorities not allowing them to utilise advance licences for import on account of custom revenue targets and it was not attributable to improper planning.

The contention of the Management is not tenable as the delays were due to lack of internal controls of the organisation and could have been avoided had the Management been sensitive to controlling costs and having an efficient day to day administration. As for the revenue authorities denying the benefits, the matter has been taken up separately.

The matter was reported to the Ministry in May 2004; its reply is awaited (January 2005).

[$] *Director General of Foreign Trade*

Indian Oil Corporation Limited

4.6.4 Avoidable expenditure on purchase tax

Indian Oil Corporation Limited resorted to purchase of petroleum products at their Visakha terminal from Hindustan Petroleum Corporation Limited for transfer to its locations outside Andhra Pradesh which attracted avoidable purchase tax amounting to Rs.10.39 crore.

As per the provisions of Andhra Pradesh General Sales Tax Act, 1957 sale of petroleum products from one Oil Marketing Company (OMC) to another is exempt from tax within Andhra Pradesh (AP). However, sale of products from one OMC to another within AP and its subsequent stock-transfer by the purchasing OMC to its locations outside AP, attracts purchase tax @ 10 per cent for Motor Spirit (MS), High Speed Diesel (HSD) and Light Diesel Oil (LDO) and eight per cent for Superior Kerosene Oil (SKO). Product movement from one OMC to another by way of sale outside AP is subject to four per cent Central sales tax.

Indian Oil Corporation Limited (Company) purchased petroleum products (MS, HSD, LDO and SKO) at their Visakha terminal from Hindustan Petroleum Corporation Limited (HPCL) and despatched these products to locations outside AP during April 2002 to June 2003. The Company purchased these products from HPCL without payment of sales tax, as transactions between OMCs within AP are exempt from payment of sales tax. During the said period the Company, after purchase from HPCL, despatched these products to its units by way of stock-transfers outside AP. This attracted purchase tax amounting to Rs.18.80 crore. Had the Company placed the order on HPCL for the supply of products to its various locations as final destination, it would have incurred only Rs.8.41 crore as Central sales tax on the movements of these products. Thus, the system of stock-transfer of products by the Company to its locations outside AP resulted in avoidable expenditure of Rs.10.39 crore (Rs.18.80 crore minus Rs.8.41 crore) on account of purchase tax.

The Management stated (April 2004/January 2005) that because of purchase tax involvement, HPCL was requested for direct supply of products from Visakha refinery to the Company's interstate locations and accordingly stepped up its tank wagon loading at HPCL siding. This led to bunching/idling of tank wagons due to non-availability of night shift operation at HPCL siding. Efforts made with HPCL for third shift operation were not fruitful due their internal labour problems. Subsequently, after resolving internal problems, HPCL introduced three-shift operation on need basis for ~~in~~ tank/wagon loading from its siding and the process became streamlined gradually.

The reply of the Company is not tenable as supply from HPCL refinery directly to the Company's interstate locations was in vogue earlier also. Further, HPCL confirmed (September 2004) that its railway siding was operating in two shifts since April 2000 till date which was more than sufficient to meet the product requirement of IOCL as well as other industry members.

Therefore, failure of the Company to co-ordinate supplies to its interstate locations directly through HPCL during April 2002 to June 2003 resulted in avoidable expenditure of Rs.10.39 crore.

The matter was reported to the Ministry in May 2004; its reply was awaited (January 2005).

Oil and Natural Gas Corporation Limited

4.6.5 Failure to avail zero customs duty benefit

Oil and Natural Gas Corporation Limited incurred an avoidable expenditure of Rs.22.19 crore due to its failure to avail exemption of customs duty on goods imported for use in non-designated areas.

The Customs Act, 1962 provides for transshipment of imported goods, without payment of customs duty, to offshore operational areas that do not fall under the jurisdiction of Indian Customs, unless the Government has notified these areas as 'designated areas' for bringing the same under the Customs Act. The goods cleared on a transship permit under Section 54 or warehoused in a customs bonded warehouse under Section 59 of the Customs Act and subsequently taken to the 'non-designated areas' were exempt from customs duty provided an Export Shipping Bill is filed with customs authorities under Section 69 of the Customs Act.

During 1999-00, Neelam project of Oil and Natural Gas Corporation Limited (ONGC) shipped three solar mars gas turbines to M/s.Solar Turbine International Company, USA, on 'repair and return' basis. The gas turbines were re-imported after repairs between June 1999 and April 2000 by paying Rs.5.29 crore as customs duty. Similarly, SHG platform of ONGC shipped five gas turbines/generators during October 1999 to December 2000 to M/s.Rolls Wood Group, UK for overhaul and re-imported the same between April 2000 and July 2001 by paying Rs.16.90 crore as customs duty. Audit observed that the Neelam project and the SHG platform were located in the non-designated areas but ONGC failed to avail the zero customs duty benefit, resulting in avoidable expenditure of Rs.22.19 crore.

In July 2004, the Management stated as follows:

- since ONGC had already forwarded the list of these offshore platforms to the Government for notification thereof as designated areas as early as 1994, it was improper and incorrect to take the customs duty benefit in respect of such locations;
- to reduce the cost of production per barrel of oil, its experts in the field advised in October 2000 that the zero customs duty benefit could be availed on goods imported for consumption in non-designated areas. Therefore, Neelam project availed zero customs duty benefit for around one and a half years till February 2002 when the Customs Act was extended to these locations by notification of the Government and thus, the payment of the customs duty in the past was an one-time event.

The reply is not tenable because until the offshore locations were notified as designated areas by the Government, the zero customs duty benefit was available to ONGC if the

prescribed procedure was followed, even though it had written to the Government for notification of its offshore locations as designated areas. Further, even after the clear advice of the experts in October 2000 for availing the zero customs duty benefit in respect of Neelam project and SHG platform, ONGC paid, in May 2001 and July 2001, the customs duty on turbines re-imported after repairs for use in its SHG platform. This indicated that there did not exist proper internal control to ensure availing of maximum customs duty benefit.

The matter was reported to the Ministry in June 2004; its reply was awaited (January 2005).

4.6.6 Non-availing customs duty benefit

Due to lack of proper follow up Oil and Natural Gas Corporation Limited could not obtain essentiality certificate from the Directorate General of Hydrocarbons for availing the benefit of 'Nil' customs duty, which resulted in avoidable expenditure of Rs.3.82 crore.

Customs Notification of February/April 1999 exempted payment of customs duty on the goods meant for use in areas for which Petroleum Exploration Licence (PEL)/Mining Licence (ML) was issued or renewed after April 1999. For availing the concession Oil and Natural Gas Corporation Limited (ONGC) had to produce an Essentiality Certificate (EC) from Directorate General of Hydrocarbons (DGH). However, due to lack of co-ordination in following up with concerned agencies, ONGC could not avail the benefit of exemption resulting in avoidable payment of customs duty amounting to Rs.3.82 crore during May/ July 2000.

ONGC had placed orders in October 1999 for import of goods meant for use in Assam and Krishna Godavari (KG) projects for which it had already applied for grant/re-grant of PEL. These goods arrived at the Indian ports between May 2000 and July 2000 and ONGC got them cleared after payment of aggregate customs duty amounting to Rs.3.82 crore. Audit, however, observed that PEL for KG project was granted on 14 February 2000 (for block-1A) whereas the goods were cleared from Chennai port on 9 May 2000. In respect of Assam, the PEL was granted on 22 May 2000 while the goods were received at Kolkata port on 6 July 2000. Thus, it was possible for ONGC to complete the processes necessary for availing the benefit of 'Nil' customs duty.

The Management replied (July/October 2003) that though the date of issue of PEL for KG project was 14 February 2000 it was actually received on 20 April 2000. Similarly PEL of Assam Project was actually received on 3 July 2000. Therefore, time available for obtaining EC from the DGH was insufficient.

The reply is not tenable since DGH interacts with ONGC to finalise the work programme requirement in the PEL areas before recommending issue of PELs to the Government. EC is made available to the ONGC at short notice (in a matter of a day or so). In the case of KG project ONGC had 20 days time to obtain the EC even after considering the date of receipt of PEL as 20 April 2004 as stated by ONGC. In the case of Assam Project the reply is factually incorrect since PEL was issued by the Government on 22 May 2000 and

only an amendment had been issued on 12 June 2000 and ONGC could have applied and obtained EC based on the PEL of May 2000.

Had the ONGC monitored and followed effectively the issue of PELs with respective State authorities, the payment of Rs.3.82 crore as customs duty could have been avoided by availing the Nil customs duty benefit.

The matter was referred to the Ministry in March 2004: its reply was awaited (January 2005).

Bharat Petroleum Corporation Limited

4.7 Marketing and Credit Policy

4.7.1 Undue favour to a customer

Injudicious concessions extended by Bharat Petroleum Corporation Limited to a private sector company in supply of Naphtha resulted in undue favour of Rs.28.81 crore to a customer and loss of Rs.54.22 crore.

BPCL, while having accepted the decision (June 2000) of the Oil Industry to withdraw credit and discount facilities from customers, went against the decision by agreeing to give National Organic Chemicals Industries Limited (NOCIL) a discount ranging from Rs.200 per MT to Rs.600 per MT on declared price as well as credit of 60 days during the period between July 2000 and March 2001. On the request of NOCIL, BPCL further increased the credit period to 90 days and offered a discount of Rs.570 per MT with effect from 1 April 2001 with a condition that, as security, NOCIL should create mortgage on its property in favour of BPCL. On 15 August 2001, BPCL temporarily suspended the credit supplies as NOCIL had failed to create a mortgage on its property and the outstanding dues had gone upto Rs.134.61 crore.

In the hope of recovering the accumulated dues, BPCL resumed supplies on 21 August 2001 on cash and carry basis, at heavy discounts ranging between Rs.1,433 and Rs.1,748 per MT, with the condition that NOCIL would make the payment towards outstanding dues in mutually agreed instalments. Also, it was reiterated that NOCIL should mortgage its property in favour of BPCL but NOCIL failed to meet its commitment and the plant of NOCIL was shut down on 22 November 2001. NOCIL's plant again worked for a brief period from 5 March 2002 to 16 April 2002 and supply of Naphtha was made this time by BPCL at Refinery Transfer Price (RTP)[◊] against advance payment resulting in discount of Rs.1,105 per MT to Rs.1,170 per MT.

NOCIL's plant was closed down in May 2002 and was not reopened (June 2004). Finally BPCL initiated legal action in June 2002 and filed a winding up petition for realisation of outstanding dues. The issue of payment of outstanding dues of Rs.111.22 crore was mutually settled with NOCIL in December 2003 for a full and final payment of Rs.57 crore and the balance of Rs.54.22 crore was approved for write off by the Board of

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[◊] *Refinery Transfer price is the price at which the products are transferred from Refinery to Marketing.*

Directors of BPCL. NOCIL paid Rs.57 crore as full and final settlement by December 2004.

Thus, BPCL's decision to extend discounts and credit facilities to NOCIL, despite the decision of Oil Industry to withdraw both discount and credit facilities from the customers, resulted in undue benefit of discounts of Rs.28.81 crore between July 2000 and April 2002 besides loss of Rs.54.22 crore due to non-recovery of billed dues.

The Management/Ministry (March 2003/January 2004) replied that:

- NOCIL consumed 25,000 MT Naphtha per month and any change in the consumer would have created containment problem in BPCL refinery;
- export of Naphtha by BPCL, as an option, would have reduced its sale realisation;
- continued operation of NOCIL plant was essential for recovery of outstanding dues;
- the winding up petition would put pressure on NOCIL to dispose of its properties and settle BPCL's dues.

The reply is not tenable in view of the facts that (i) NOCIL was in deep financial crisis since 1999 and could, therefore, in no way import Naphtha without a credit facility (ii) containment in its refinery would not have been a major problem for BPCL as it met 52 per cent of Naphtha requirement of NOCIL by drawing the same from HPCL refinery during the year 2000-01 (iii) though the option of exporting Naphtha was not attractive, it would still have been financially a better proposition, as the loss due to lower export price would have been only marginal. Also, BPCL did exercise the option of exporting Naphtha after the closure of NOCIL plant in May 2002. It clearly failed to secure its financial interests.

Hindustan Petroleum Corporation Limited

4.7.2 Loss due to extension of unsecured credit facility

Failure of the Company in reviewing its credit policy to FACOR resulted in loss of Rs.3.69 crore plus interest.

Visakhapatnam Regional Office (Unit) of Hindustan Petroleum Corporation Limited (Company) supplied its products to Ferro Alloys Corporation Limited (FACOR), Vishakhapatnam. The Unit used to extend an unsecured interest bearing (@ 18.5 per cent per annum) credit facility to FACOR. While this arrangement continued, FACOR's financial conditions worsened with the networth getting completely eroded due to losses. By the time FACOR was referred (November 1998) to Board of Industrial and Financial Reconstruction (BIFR), it already owed the Unit Rs.66.45 lakh plus interest against the supplies made prior to 1998. Of this, Rs.38.20 lakh related to period before March 1995. However, disregarding the above pointers, the Unit extended the credit facility without recording any reasons therefor and made further sales of Rs.3.03 crore from December 1998 to March 1999 on credit, taking the total dues from FACOR to Rs.3.69 crore plus interest. In December 2000, the Company filed a petition before BIFR to include its name under creditors list of FACOR and also sought permission to take legal action against the

party with no result. The Company has been unable to realise Rs.3.69 crore plus interest due from FACOR so far (April 2004).

The Management stated that credit facility to FACOR was continued as it was a major customer having a long association of over two decades and the storage facility was already set up by the Company at FACOR premises. The credit facility beyond 1998 was further extended with a view to supporting the customer during bad times and not to lose business to the competitors. The Ministry confirmed (July 2004) the views of the Management.

The reply is not tenable as FACOR had been defaulting on payment of principal amount for as many as three years and it had not paid any interest at all. This should have made the Unit review its policy of further extending unsecured credit. Once it was known that FACOR was referred to BIFR, prudence required that the Unit should have avoided making further credit sales to FACOR.

Thus, the Company suffered a loss of Rs.3.69 crore plus interest due to its failure to review its credit policy to FACOR.

Oil and Natural Gas Corporation Limited

4.7.3 Non-realisation of dues towards sale of natural gas

ONGC could not realise sales dues of Rs.509.07 crore towards supply of natural gas to 27 consumers in private sector (Rs.78.57 crore) and six consumers in public sector (Rs.430.50 crore) for the period from April 1979 to May 1992 as well as interest thereon amounting to Rs.1,875.07 crore due to disputes raised by these customers in regard to the revised price remaining unresolved.

Dues from consumers in private sector:

ONGC was directly marketing natural gas produced by it to industrial consumers, both in private and public sector, under formal contracts till the marketing function of the gas was handed over to Gas Authority of India Limited (GAIL) in May 1992. In 1979, ONGC increased the natural gas price based on thermal equivalence of alternate fuel. However, 19 consumers in the private sector formed an 'Association of natural gas consuming industries of Gujarat' and challenged (March 1979) the increased price in the Gujarat High Court. The Court passed an ex-parte interim order restraining ONGC from discontinuing the gas supply and also permitting the consumers to continue to pay the price of Rs.504 per thousand cubic metres i.e. the rate contained in the then existing contracts. In November 1982, the High Court fixed an interim price of Rs.1000/- per thousand cubic metres for the consumers and in July 1983, it gave the judgment in favour of the consumers. Thereupon ONGC appealed in the Supreme Court (September 1983) and in May 1990 the Supreme Court upheld the right of ONGC to charge the gas price based on the thermal equivalence with alternative fuel for the period upto 29 January 1987. In July 2001, the Supreme Court also upheld the claim of ONGC for interest on delayed payment, as per the terms of contracts. From 30 January 1987, the Government fixed the gas price under Administered Price Mechanism (APM) but all the consumers

including 19 consumers forming the Association continued to pay only the interim price fixed by the High Court. The status of dues from these 19 gas consumers (grouped under categories I, II and III) and 14 other consumers in the private sector not covered under the Consumers' Association, as on 30 September 2004, was as follows:

Category –I: Consisting of 10 gas consumers who offered to pay principal arrears.

ONGC could realise an amount of Rs.28.92 crore towards principal arrears and interest thereon from five consumers only. One consumer who was referred to BIFR made a one-time payment of Rs.4.97 crore. The recovery of interest at compounded rate from the remaining four consumers was pursued through the Supreme Court, as they did not accept ONGC's offer of April 2002 to accept the interest even at simple rate. The Supreme Court, however, upheld (April 2004) ONGC's decision to recover the interest at simple rate and directed ONGC to reduce its claim in respect of two consumers covered under Drug Price Control as per their demand. Further development in regard to settlement of dues from these four consumers was awaited (December, 2004).

Even after fixation of APM price by the Government, effective from 30 January 1987, these four consumers continued to pay at the interim price. The principal arrears of Rs.9.47 crore on this account remained un-realised (December 2004). The claim was being pursued through a legal suit filed in District Courts of Gujarat since 1993.

Category –II: Consisting of four gas consumers who did not offer to pay even the principal arrears

In May 1994, ONGC filed a petition in the Gujarat High Court for execution of the Supreme Court's decision against the four consumers who did not pay even the principal arrears. The decision of the court on this petition was awaited (December 2004). The principal arrears of Rs.10.84 crore and interest thereon of Rs.42.15 crore remained unrealised (December 2004). One of these consumers (principal arrears: Rs.9.36 crore and interest thereon: Rs.36.34 crore) was under liquidation since January 2001.

Category –III: Five gas consumers who were either facing BIFR proceedings or were under liquidation at the time of Supreme Court's decision of May, 1990

In respect of these parties, ONGC filed claims (August 1990 to November 1999) with the official liquidator for recovery of principal arrears of Rs.41.99 crore and interest thereon (Rs.165.63 crore at simple rate). However, no recovery could be made so far (December 2004).

14 consumers in private sector who were not covered by the 'Consumers Association' and the Supreme Court's order of May 1990. These consumers had not paid the principal arrears of Rs.16.18 crore (including Rs.1.75 crore pertaining to pre-APM price) and interest thereon of Rs.55.04 crore at the simple rate. Having no financial security/commitment to recover the dues, ONGC filed legal cases against these consumers, which were also pending in various courts in Gujarat since 1993.

Thus, as ONGC had not obtained any financial security/commitment to ensure recovery of dues it could not recover the principal arrears of Rs.78.57 crore and interest of Rs.398.30 crore from private sector consumers as per details given below:

(Rs. in crore))

Details of dues from Private Parties	Principal arrears			Interest (at simple rate) upto September 2004
	Supplies prior to 30 January 1987	Supplies after 30 January 1987	Total	
Four consumers of category-I	0.09	9.47	9.56	135.48
Four consumers who did not offer to pay principal arrears (category-II)	7.59	3.25	10.84	42.15
Five consumers which were either sick or under liquidation (category-III)	27.93	14.07	41.99	165.63
Other 14 consumers not covered by Supreme Court decision	1.75	14.43	16.18	55.04
Total	**37.36**	**41.22**	**78.57**	**398.30**

Dues from PSU consumers

Seven gas consumers in the public sector had not agreed to pay the revised price fixed by ONGC, the interim price fixed by the Gujarat High Court in November 1982 and even APM price fixed by the Government in January 1987. ONGC since recovered an amount of Rs.63.88 crore (October/November 2004) towards the principal arrears from the Gujarat Electricity Board and the interest amount was settled at Rs.86.99 crore to be received in 60 instalments, the first instalment of which was received in December 2004. The principal arrears from the other six consumers amounted to Rs.430.50 crore as per details given below:

(Rs. in crore)

Name of PSU	Principal dues for supplies upto 29 January 1987	Principal dues for supplies from 30 January 1987 to May 1992 (APM price)	Total	Dues towards interest at simple rate
Central Government PSU				
IFFCO*	217.52	0.33	217.85	728.16
Heavy Water Plant	49.82	9.20	59.02	247.16

**Indian Farmers Fertiliser Cooperative Limited.*

Gujarat State PSU				
GSFC♣	112.74	5.36	118.10	391.92
GNFC*	0.00	0.10	0.10	0.43
GIDC♦	0.41	0.00	0.41	1.71
BMC♠	20.01	15.01	35.02	107.39
Total	**400.50**	**30.00**	**430.50**	**1476.77**

In terms of the Government's order of 30 January 1987, ONGC submitted (May 1987) details of dues from PSU consumers to the Ministry and requested it to take up the matter with the Administrative Ministries and the Committee of Secretaries for recovery of the arrears. The PSU consumers, except Heavy Water Plant (under the Department of Atomic Energy), did not even sign the contract for supply of gas due to non-settlement of arrears for the period from April 1982 to 30 January 1987 but ONGC continued supply of natural gas to them till May 1992 without insisting on contract or settlement of price arrears. Heavy Water Plant, however, signed the contract with a provision that the decision of the Government would be binding in respect of arrears on gas supply upto 29 January 1987. The final decision of the Government was still awaited (December 2004).

Meanwhile the marketing of natural gas was taken over by GAIL from May 1992 from ONGC. As per the memorandum of understanding (MOU) entered into between ONGC and GAIL in December 1990 for handing over of marketing activities, GAIL was to provide all assistance to ONGC to liquidate the above arrears, including stoppage of supply of gas to any specific consumer. Yet, ONGC was unable to recover the dues. It was only in December 2002 that ONGC requested GAIL to examine the possibility of coercive action, like stoppage of gas, against the defaulting consumers. ONGC also requested the Ministry (February 2002/April 2003) to take up the matter with the Administrative Ministries and the Committee of Secretaries.

In May 2004, ONGC also issued a legal notice to IFFCO, presently being non-PSU, demanding settlement of dues within 30 days from date of notice. However, IFFCO denied its liability and the recovery of dues was awaited (December 2004).

It was observed that there was no financial security/commitment from these PSU consumers for payment of dues. Further, ONGC did not have any business relation with them that could be leveraged for settlement of dues.

The Management stated (December 2004) that ONGC was taking all possible efforts to realise the dues by initiating all the available legal recourses. It added that the process was time consuming and considering that the dues were very old, it would take time to

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♣*Gujarat State Fertiliser Corporation Limited.*
**Gujarat Narmada Valley Fertiliser Corporation Limited.*
♦*Gujarat Industrial Development Corporation.*
♠*Baroda Municipal Corporation.*

recover the dues. In case of PSUs, based on the notice of stoppage of supply issued by GAIL, it was expected to coerce the consumers for payment of dues.

The fact remains that a large amount of dues remained unrealised due to continued supply of gas without financial security/commitment from the defaulting consumers. Also, the dues became old because no resolute action was taken during 1990 to December 2002 either by ONGC or the Ministry against the defaulting PSUs to effect recovery of the dues.

The matter was referred to the Ministry in January 2005; its reply was awaited (January 2005).

Indian Oil Corporation Limited

4.8 Entitlement

4.8.1 Indiscriminate payment of overtime allowance to some employees at Haldia Refinery

Absence of effective controls on overtime resulted in abnormal payment per employee per month from 251 hours to 440 hours involving financial implication of Rs.78.03 lakh.

According to the rules of the Company, overtime should be authorised only under exceptional circumstances. On an average, there are 720 hours per month out of which normal shift hours at the rate of eight hours per day for 26 days work out to 208 hours. A normal worker also needs some time for rest and sleep for which the Factories Act, 1948 (Section 52) and West Bengal State Factories (Exemption) Rules, 1982 prohibits working for more than ten days consecutively without a full day holiday and for more than two shifts continuously respectively. This leaves a balance of only 224 hours for which an employee can avail overtime. Therefore, any figure of overtime in excess of 250 hours is not only in contravention of these enactments but also is prima facie suspect.

A test check of overtime records for the years 2001-02 and 2002-03 revealed that in contravention of the statutory provisions Haldia Refinery engaged workers to perform shift duty in excess of two shifts continuously which ranged from three shifts to even 14 shifts and paid overtime allowance (OTA) upto 440 hours per month. A further scrutiny of payment of overtime involving 251 hours or more per month per employee for the years 2001-02 and 2002-03 revealed the following:

Overtime hours per month	No. of employees		OTA amount (Rs. in lakh)	
	2001-02	2002-03	2001-02	2002-03
401 and above	-	1	-	0.83
351-400	2	3	1.30	1.75
301-350	16	5	9.11	2.84
251-300	90	45	41.97	20.23
Total	108	54	52.38	25.65

From the above, it would be seen that Haldia Refinery paid overtime allowance for 251 hours to 440 hours in 162 cases involving a financial implication of Rs.78.03 lakh for the years 2001-02 and 2002-03.

The Management stated (April 2004) that increase in the number of overtime hours was due to exigencies of work or absence of reliever and shortage of manpower. However, the Management has decided to form a Committee of Senior Officers to investigate the entire matter.

The reply of the Management is not tenable as the payment of overtime for such number of hours was improbable and indicated fraud in booking and payment of OTA and absence of effective controls.

The matter was reported to the Ministry in May 2004, its reply was awaited (January 2005).

CHAPTER: 5
IT AUDIT REVIEWS

CHAPTER: 5
REVIEWS ON IT AUDIT

Indian Oil Corporation Limited

Re-engineering Project (Manthan)

Highlights

The Company failed to evolve a long range plan and strategy, duly documented with performance indicators and targets.

(Para 5.1.4)

The Company could not develop adequate in-house expertise even after implementation of 99 sites as per their plan. The rollout beyond 99 sites was assigned to five outside consultants entailing an additional and avoidable expenditure of Rs.9.56 crore.

(Para 5.1.4)

An exclusive Committee to monitor all aspects of 'Manthan', the IT re-engineering project, which impacts all aspects of the functioning of the Company, was absent for most part of the project.

(Para 5.1.5)

Heavy reliance was placed on the consultant firm, which was appointed after inviting limited tender. Extra payment of Rs.33.27 lakh was made to the Consultants for selection of Enterprise Resource Planning software and vendor, which was not in the work scope of the Consultants.

(Para 5.1.6)

Non-synchronisation of various phases of project resulted in a delay of over two years from September 2002 to November 2004 in completion of the project and the Company could not derive the projected benefits of Rs.358 crore per annum from on-line integrated business processes and optimisation in Supply Chain Management.

(Para 5.1.6)

Appointment of vendor for delivery of add-ons software packages was done without inviting global tender. The bid was finalised after a delay of 25 months in evaluation of techno commercial bid, waiving important tender conditions.

(Para 5.1.8)

The Company had not been able to identify any tangible benefits of the project till now.

(Para 5.1.9)

The Company failed to identify and allocate Rs.20.32 crore as the cost of manpower deployed from various divisions towards implementation of the IT re-engineering initiative.

(Para 5.1.9)

The Company had not effectively communicated the IT roadmap to all levels of the organisation. It had also not been able to provide adequate training to all users for operating in the new technological environment.

(Paras 5.1.11 and 5.1.13)

The Company had failed to appreciate the possible risks of not keeping the off-site data back up at site(s) other than their Primary Data Centre before 'go-live' of sites. Instances of breakdown of leased links interrupting the business transactions occurred at sites, which were not put on the three tiers Communication Network.

(Para 5.1.14)

Primary Disaster Recovery Centre within the same premises as of Primary Data Centre, exposed it to the same immediate risks of physical disaster. Site selection of Alternate Disaster Recovery Centre also did not take into account all the threats to the centre.

(Para 5.1.14)

Non-configuration of all 'As Is' and 'To Be' business processes into SAP. Although the processes continued to be in business operations, their non-incorporation in the ERP Software had resulted in gaps in the functionalities provided by SAP and the business processes.

(Para 5.1.17)

Adequate sign-off procedures were not followed by the Company at the time of 'go-live' of SAP which resulted in uploading the data without purification. This was confirmed when Audit noticed that data in respect of lube inventory was not correctly uploaded at depot at Ajmer in December 2003 which resulted in difference of Rs.2.63 crore (May 2004) in the physical inventory and stock as per SAP.

(Paras 5.1.23 and 5.1.36)

Data loaded on SAP was authorised only by the Middle Management and not by Head of Department of the site.

(Para 5.1.36)

The Management had not instituted any system of regular reviews for ensuring the fulfilment of the quality assurance commitments made contractually by the Consultants, vendors and suppliers of annual maintenance services.

(Para 5.1.45)

Neither the evaluation of compliance and performance of the Availability Plan had been conducted by the Internal Audit Department of the Company nor was any post implementation review of the Availability Plan conducted by outside agencies.

(Para 5.1.45)

None of the Critical Success Factors had been achieved despite implementation of SAP at 292 sites (March 2004).

(Para 5.1.45)

5.1.1 Introduction

The Indian Oil Corporation Limited. (Company) has an annual turnover of Rs.1,30,203 crore (2003-04) and commands 51 per cent share of petro product market of all the PSUs of the country. Its operational infrastructure consists of 10 refineries having 7,575 kms of pipeline and marketing network of 22,465 retail outlets.

In 1996 the Company felt a need for IT[♣] re-engineering as it observed that over the years several need based modules were developed leading to creation of islands of information which lacked integration across the Company. Towards this the Company appointed M/s Price Waterhouse Associates (PWA) (April 1997) after limited tendering as Consultants to the IT re-engineering project (Manthan). The scope of the project broadly included developing a corporate IT strategy, formulation of design parameters for core integration of functional modules to be used at all the units of the Company from Board room to the refineries and upcountry sales offices, developing the required system architecture, determining the needs for upgradation and addition of hardware and software, integrating the existing modules as well as new modules and standardisation and implementation of the integrated system across the Company. The project was to be carried out in four stages, namely, Conceptualisation and Design, Development and debugging, Trial Implementation and Stabilisation and Standardisation. The project was to be completed in 29 months (i.e. September 1999).

Under the project, the Company, on the advice of the Consultants, selected SAP[♠]/R3 along with the associated oil and gas specific software IS-OIL and CIN as the ERP[♦] solution for customisation and implementation across the Company, integrating important functions such as Finance and Controlling, Human Resources, Production Planning, Sale and Distribution, Material Management, Plant Maintenance, Project System and Quality Management. This was to be supplemented with 'add-ons' i.e. additional software solutions, which could be seamlessly integrated into the ERP environment. The 'add-ons' addressed vital functions such as demand forecasting, distribution planning, crude selection and refinery planning.

[♣] ***Information Technology.***

[♠] ***Systeme, Andwendungen, Produkte in der Datenverarbeltung which, translated into English, means Systems, Applications, Products in data processing.***

[♦] ***Enterprise Resource Planning- refer to Annexure 13***

The Company had implemented (March 2004) SAP/R3 at 292 out of 530♥ sites scheduled to be completed by September 2002 (as per the initial targets) at a cost of Rs.182 crore (against the initial estimate of Rs.95.95 crore including hardware software and consultancy). The 'add-ons' were still at various stages of implementation as detailed in paragraph 5.1.6 below.

5.1.2 Audit scope and methodology

In order to assess the IT governance framework and to evaluate various components of planning and execution of such a large IT project, Audit felt a necessity to benchmark the processes with globally accepted frameworks. Accordingly, COBIT♣ was chosen as the standard frame of reference. Details about COBIT and Audit methodology are given in Annexures 10, 11 and 12.

The audit was conducted between August 2003 and June 2004 at 25 sites and at the Corporate IT System Department. Detailed audit findings for each of the four domains are given in succeeding paragraphs.

5.1.3 Planning and organisation

Audit assessed whether the Company's planning and strategy were aligned to ensure that contribution of IT was aligned with the achievement of the business objectives and whether the strategic vision was planned, communicated and managed for optimum results.

5.1.4 Defining a strategic IT plan

The Audit objective was to seek assurance that there existed a strategic IT plan to strike an optimum balance of IT opportunities and IT business requirements as well as ensuring its further accomplishment. However, Audit found an absence of enterprise oriented, documented IT long range strategic and short range implementation plan.

Till 1996, IT was implemented by the Company on an 'as needed' basis in response to specific business requirements and IT development was decentralised at the divisional level rather. This resulted in the development of a variety of need-based modules leading to 'islands of information' lacking on-line integration with all the business functionalities across the Company and technological gap in areas like software development and networking infrastructure.

The job of analysing the business requirements of the existing available technology and the benefits which would be derived from ERP Software implementation was assigned by the Company (June 1997) to the Consultants (PWA), at a cost of Rs.30.42 crore. The Consultants were appointed without resorting to global tender and since then had a major

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♥ ***Reduced to 429 sites (June 2004).***

♣ *Control Objectives for Information and related Technology.*

influence in aspects like selection of ERP vendor, add-ons vendor etc, which were not in their initially given mandate.

PWA developed a Conceptual Technology Plan (CTP) for the IT re-engineering project. Though the CTP set forth strategies for various aspects of IT architecture that needed to be closely aligned with the requirements for implementation in the target areas, it was essentially a Project-oriented Plan. Though the CTP did address the functional and operational requirements including performance, safety, reliability, compatibility, security and legislation of ERP Solution (SAP/R3) the Company failed to evolve a long range strategy and plan, duly documented with performance indicators and targets.

For the on-going process of identifying future trends and regulatory conditions relating to IT development the Company placed heavy reliance on the Consultants, without a corresponding emphasis on the development of in-house expertise, to ensure continuation of the IT re-engineering efforts and future direction. This is clearly shown by the fact that the rollout beyond 99 sites was assigned to five consultants entailing an additional and avoidable expenditure of Rs.9.56 crore though the Board had decided (March 1997) that the task of 'go-live' beyond 99 sites (including 22 pilot sites) would necessarily be done by the in-house trained engineers.

The Company replied (January 2005) that, keeping in view the target date of rolling out of the software at 330 locations, the expenditure of Rs.9.56 crore was incurred towards appointment of five consultants. At approximately 90 locations in-house resources were deployed exclusively for rollout.

The reply is not tenable as approval of Rs.9.56 crore was necessitated due to non-development of adequate in-house expertise and non implementation of SAP at 99 sites within 29 months from the date of approval for the appointment of Consultants as envisaged.

5.1.5 Inadequate system for the monitoring and evaluation of IT plans

Audit observed that the Steering Committee constituted in 1996, for the evaluation of Manthan and the status of the Project, held only four meetings over a period of seven years (1996-97 to 2003-04). The last meeting of the Steering Committee was held on 30 March 2000 after which the Committee was discontinued. From February 2000 the monthly progress report of Manthan was being placed before the Corporate Management Committee (a Committee constituted for the evaluation of all corporate projects). Thus, it is seen that an exclusive committee to oversee all aspects of Manthan, IT re-engineering project which would impact all aspects of the functioning of the Company, was absent for most part of the project. This led to delays in implementation and deficiencies in various processes remaining undetected, causing delay of two and a half years and denial of expected benefits of Rs.358 crore per annum as described later.

The Management stated in their reply (January 2005) that a system to place the monthly progress report of Manthan Project before the Corporate Management Committee had commenced from August 1999 and a designated core group headed by the Executive

Director monitored the progress of the project. It also stated that presentations on the progress of the project were made to the full Board, Audit Committee of the Board, Project Evaluation Committee of the Board as well as Executive Committee of the Board.

The reply of the Management is not acceptable as the Corporate Management Committee was on no occasion convened specifically to review the progress of Manthan Project. The monthly progress of the Manthan Project was reported along with those on other projects in the Company. Moreover, the status reports were placed only sporadically before the various committees.

During Audit it was also seen that the Management had decided (June 2004) to reduce SAP implementation from duly identified 530 sites to 429 sites due to non-availability of Leased Line Links and other technical problems. Since the Management had not comprehensively deliberated the issues involved in SAP implementation, the benefits that were originally envisaged on implementation of SAP at all the identified sites, could not be availed of. Alternatively, the plan should have duly been developed after addressing the key issues, requirements and foreseeable limitations, if any, regarding the number and location of actual sites that were to be identified in order to have a realistic perspective plan for the Company, duly encompassing the scope and coverage of the IT re-engineering project.

5.1.6 Project management

Audit aimed at finding whether the processes satisfied the requirement of setting priorities and delivering the project on time and within budget.

Audit observed that frequent modifications and non-adherence to the time-schedule originally envisaged, resulted in the denial of the projected benefits of Rs.358 crore per annum from on-line integrated business processes and optimisation in Supply Chain Management as detailed below:

The Company, while making a business case for implementing the IT re-engineering initiative, projected a benefit of Rs.358 crore per annum due to implementation of ERP and Rs.215 crore per annum due to implementation of add-ons. This benefit was supposed to flow after implementation of the project from (i) inventory optimisation (Rs.147 crore), (ii) reduction in transportation expenses (Rs.70 crore), (iii) saving in banking cash (Rs.33 crore), (iv) reduction in demurrage costs (Rs.31 crore), (v) discount through accounts payable management (Rs. 30 crore), (vi) reduction in cheque holding time (Rs.15 crore), (vii) reduction in accounts receivable (Rs.12 crore), (viii) reduction in time overrun in project implementation (Rs.11 crore) and (ix) reduction in communication expenses (Rs.9 crore). The benefits from 'add-ons' were expected to flow from crude mix optimisation (Rs.115 crore) and yield improvement in refineries (Rs.100 crore).

The position of target dates and actual dates of completion are given in Annexure 14.

From the Annexure 14 it is evident that there was a delay of 30 months apart from extra time of 14 months (July 1998 to September 1999) taken for selection of software/software vendor which was not provided in the project schedule. This resulted in denial of projected benefits of Rs.358 crore on a yearly recurring basis as stated in the cost-benefit analysis submitted to the Board (July 1998). This delay in ERP implementation also caused a delay in the implementation of 'add-ons'.

It was also observed by Audit that the Management had revised the implementation schedule for the Project due to delay in the selection of ERP Software (SAP/R3) although its procurement was required to be synchronised with the completion of Stage I by the Consultants. Moreover, the task of selection of ERP was subsequently entrusted to the Consultants, at a further cost of Rs.33.27 lakh and the scope of the work, thus, stood modified.

It was further observed in Audit that as per the terms of the purchase order (August 1999), the vendor was to supply the software SAP/R3, within 30 days which had to be extended subsequently to 75 days from the date of receipt of the purchase order.

The Management stated (April 2001) that the delay in the supply of software was due to non-finalisation of the contractual and legal issues. The Management further replied (January 2005) that the total delay in implementation of the project was only six/seven months, hence it could not be concluded that the organisation had lost Rs.358 crore on yearly recurring basis for a much longer period as a result of delay in implementation of ERP.

This reply of the Management is not borne out by facts as the delay, when calculated by comparing the final target date with the actual implementation date, as shown in the table, was 30 months for ERP implementation and seven months for implementation of 'add-ons' (Phase-I).

5.1.7 Non-synchronisation of different items of conceptual technological plan/work plan

Audit revealed that there were deficiencies in synchronisation of various stages of the CTP implementation as neither the completion of the Local Disaster Recovery Centre (DRC) nor that of the alternative Disaster Recovery Centre at Sanganer (Jaipur) was synchronised with 'go-live' plan of SAP/R3. In a highly centralised ERP environment non-availability of alternate offsite DRC is an unacceptable operational risk.

5.1.8 Managing IT investment

The Audit objective was to see whether a system was in place to ensure that funding and control over financial resources was adequate.

The project estimates (including software, hardware and consultancy costs) of Rs.95.95 crore in March 1997 escalated to Rs.273 crore in September 2002; Rs.182 crore had been spent on the project (March 2004).

Limited tenders were issued (September 2000), based on the recommendation of the Consultants (PWA), to only three parties (M/s. Tata Honeywell, M/s. Aspentech Inc and M/s. Invensys India Private Limited). The Company took 25 months to finalise the tender (October 2002) and waived three important terms and conditions of the General Conditions of Contract (GCC) in the selection of 'add-ons' *viz.* condition of visiting the sites of vendors by Company representatives, users' feedback of projects implemented by the vendors and submission of 100 per cent bank guarantee (The Company accepted 50 per cent bank guarantee including 10 per cent performance guarantee). The Company, thus, failed to avail the benefits of competitive bidding. It was also not clear how the Management assured itself of the suitability of the vendors for such a critical and costly project without observing important conditions as described above. The Management also failed to hedge the risk by waiving the condition of 100 per cent bank guarantee. No justification for the waiver of the terms and conditions of GCC was on record.

The Management stated (January 2005) that all such software solutions needed a critical review of the functionalities offered. Out of the three vendors, two of the vendors had their Headquarters outside India and, therefore, required constant interaction with their principals for any deviation in the contract conditions required to be finalised with the Company. They had finalised the tender in the optimum time for finalising such a gigantic Supply Chain Management project of the Company.

The Management reply is not acceptable to the extent that the recommendation of the Consultants for the limited tender to three vendors deprived the Company of the benefits of competitive market in the field of Supply Chain Management System suppliers. The Company took more than two years in the finalisation of techno-commercial bids and finally accepted the deviations after waiving important tender stipulations.

5.1.9 Cost benefit monitoring

Audit observed that after commencement of implementation of ERP there was no effective system in position to regularly monitor, by benchmarking performance with predefined performance indicators, the evaluation of the realisation of both tangible (like inventory optimisation and reduction in transportation expenses as discussed in paragraph 5.1.6 above) and intangible benefits (reduction in lead time and improved customer service, warehouse management expected to reduce the book and physical stock discrepancies and tracking of complete history of each product to assist in trouble shooting) that were anticipated and realised on a project of such magnitude and investment outlay.

The Management stated (January 2005) that though there was a well defined cost monitoring process to compare the actual expenditure/commitments vis-à-vis the budgetary amounts in the organisation, the quantified tangible benefits accruing from the implementation of ERP could be determined for the entire organisation once the system was operational for at least six months at all units of the organisation; the intangible benefits such as uniform coding structure for material master, unique customer code, unique vendor/service providers code, common chart of accounts, centralised price update and a robust communications system had already accrued to the organisation.

The reply of the Company is untenable in view of the following:

(i) Though by April 2004 in three out of four divisions (Refineries, Pipelines and Research and development) Manthan had been implemented, the Company, in the absence of predefined performance indicators, could not even identify, let alone have a preliminary qualitative assessment of, the tangible benefits even though more than six months had passed after the implementation in these divisions;

(ii) The reply of the Company also does not address the key and fundamental benefits that would accrue in terms of improved visibility of information, leading the way towards enterprise transformation and evolution of performance indicators for measuring and regularly evaluating the Return on Investment;

(iii) The intangible benefits quoted by the Management are 'To Be' processes and not benefits;

(iv) As regards the robust communication system, the same is to be viewed as a fundamental pre-requisite for the effective functioning of the centralised architecture and not as a benefit of IT re-engineering efforts.

It was also observed during audit that the Company failed to identify and allocate Rs.20.32 crore as the cost of manpower deployed from various divisions towards implementation of the IT re-engineering initiative. Proper apportionment of identified costs for a project is necessary for post implementation cost benefit study.

5.1.10 Communication of Management aims and directions

The objective of audit was to seek assurance that processes existed to ensure user awareness and understanding of the Management aims and directions.

5.1.11 Absence of continuous communication program and checking compliance

It was observed during Audit that:

❖ There was no effective plan in position to communicate the IT Roadmap and IT Vision to all levels of the organisation. Though the Corporate Vision was communicated to officers upto the Middle Management level, the IT Strategic Planning was not communicated to all levels of Management and users. It remained confined to the higher echelons of Management (members of Steering Committee and Review Committee and the Heads of Divisions);

❖ In the absence of any documented IT Implementation Plan, the task of communicating, involving, mobilising and educating the users regarding the new capabilities available in the technological environment did not take place. Further, even the decisions of the Top Management and the Work Plan of the Consultants were not communicated to the users across the various functional divisions of the Company.

The Management stated (January 2005) that the IT plan as well as progress of implementation was continuously communicated across the organisation by hosting the information about implementation progress of the project on the intranets of the organisation and also through the Manthan Infokits circulated in the organisation.

The reply is not tenable because the measures taken such as disseminating information on intranet and Manthan Infokits etc. by the organisation did not seem to be sufficient to address the specific requirements of end users since it was observed during the audit of 25 units where SAP was implemented, that users at different levels including the end users in most of the units, had no communication about the IT vision and IT plans of the Company.

5.1.12 Management of human resources

Audit assessed whether the Management had been able to maintain a motivated and competent workforce and impart training in a structured manner.

5.1.13 Insufficiency of IT trained staff and absence of regular IT training of users

Based on the identified needs, the Management should define the target groups, identify and appoint trainers, and organise timely training sessions. A training curriculum for each group of employees should be established and training alternatives should also be investigated (internal or external site, in-house trainers or third-party trainers, etc.). This is especially true of implementation of ERP projects where IT re-engineering is closely aligned with business processes re-engineering.

However, in Audit it was observed that the Company did not have a formal, documented detailed training plan for its employees. As a result the capabilities and familiarity with the new system varied widely.

The Management stated (February 2004) that initially Consultants gave training to the core team (BASIS Group) and thereafter the core team provided on-site training to the users at the time of implementation of SAP. But during audit it was found that the training was inadequate and was not according to training courses prepared by the Consultants. At the pilot sites the users, under different categories, were not imparted the requisite formal training for performing their daily business transactions in an optimal manner in the new technological environment. User feedback during the audit of 25 sites indicated that due to the absence of skill upgradation, through adequate training and awareness, the users at most of the units were not comfortable in the ERP environment (May 2004).

The Training Software costing Rs.1.06 crore was not used to impart training to the users. The organisation, thus, failed to comprehensively address the necessity for institutionalising education and training program focused on Corporate IT Systems in a manner that would ensure its strategic alignment with business processes. This hampered the efforts of the Company to get full benefits of the latest technology.

The Management, in its reply stated (January 2005) that the Corporation had adequate IT professionals to take care of the requirements in the organisation and a large number of users from the functional groups in the organisation had acquired technical skills to operate even the complicated SAP software. It was not correct to infer that formal training in relation to IT was confined to only the Information Systems group and large number of training programmes had been organised for end users, functional users and internal audit.

The reply of the Management is not tenable because the necessity to appoint five consultants, by paying them Rs.9.56 crore, to rollout the project beyond 99 sites shows that even after 65 months sufficient in-house skill was not generated. The training was actually imparted to personnel in functional group of Corporate Office (Information Systems Department). Hence, mobilisation and education of the end-users regarding the new capabilities available in the transitional environment did not take place. The Management also failed to furnish any document in support of their reply regarding utilisation of training software. Moreover, the user feedback, as found by Audit, indicated that the training was inadequate to equip the users for their designated roles.

5.1.14 Assessment of risks

The Audit objective was to seek assurance that the Management had identified and implemented important decision factors to respond to actual or perceived threats.

Audit found that the onsite Disaster Recovery Centre (DRC) was located within the compound of the main processing centre though the consultants had suggested it to be located at least 10 kms away. Moreover, the alternate DRC was being constructed at Sanganer (Jaipur) 300 kms away. While the onsite location of DRC exposed it to the same immediate risks of physical disasters as the main processing centre, the alternate DRC, because of its geographical location, was also susceptible to strategic threats. The organisation clearly failed to comprehensively assess the risks to its operation in case of a physical disaster/threat.

The Management stated (January 2005) that the Company was well aware about the risk identification and impact analysis of any disaster and a four tier Risk Management System had already been instituted in the organisation and was being implemented in the organisation, commensurate with the number of sites going live.

The reply is not tenable. Though the Company had followed four tier Risk Management System as per recommendation of the Consultants (PWA), it had failed to appreciate the strategic significance of Remote Disaster Recovery Site at Jaipur which was approved in September 2002 but had not yet been commissioned (December 2004).

5.1.15 Acquisition and implementation

Important aspects of organisation's acquisition and implementation plans and strategy regarding IT solutions are covered in this domain. Audit assessed whether the IT solutions identified, developed and acquired were adequately implemented and integrated into the business processes of the Company. This was done by examining:

- acquisition and maintenance procedures of application software and technological infrastructure,
- development of procedures for operation requirements and service levels and
- circulation of user procedures, operational and training manuals.

The domain is divided into high-level control objectives. The relevant audit findings are detailed below:

5.1.16 Acquisition and Maintenance of application software

The Audit objective was to see whether the organisation was successful in acquiring and maintaining desired automated functions, which effectively supported the business processes.

Audit observed a number of deficiencies in the acquisition process of the application software, which are detailed below:

5.1.17 Non-configuration of all 'As Is' and 'To Be' business processes into SAP

During the testing of the Finance and Controlling Module and the Human Resources Module, Audit observed that some of the 'As Is' processes had not been mapped and configured into the SAP Software as 'To Be' processes. Although the processes continued to be in operation, their non-incorporation in the ERP Software had resulted in gaps in the functionalities provided by SAP and the business processes. Moreover, it was observed that there was no structure within the SAP, which could enable comparison and analyses of which of the 'As Is' processes were omitted and which had been mapped and configured into 'To Be' processes.

5.1.18 Configuration of business processes

Although business processes were configured and tested as per the documented Testing Strategy and Plans, Audit observed gaps and deviations, which are detailed below:

- Area Office, Chandigarh, was found not using the sub-modules such as-Receipt and Issue of Stationery, Subscription Vouchers (SVs) and Transfer Vouchers (TVs) Control and On-line Reconciliation of SVs and TVs. The Management stated (May 2004) that these processes, though provided for in SAP, were not practicable with the resources available at the Area Office. This shows the inadequacy of the training strategy of the Company.

- At Mathura Refinery and Pipeline Head Office, Noida, Project Monitoring was not being done through SAP (June 2004). The existing Software *'Primavera'* was being used for the purpose.

- At Mathura Refinery, sub-modules like previous employers details, property details; passbook details were not being used (June 2004).

- Plant Maintenance Module was not being used in the LPG Plants, Depots and Terminals. Instead existing Software was being used.

- The Human Resource Department of Mathura Refinery was using (June 2004) existing software 'Integrated System for Human Resource' *(I-SHURE)* which had no interface with SAP. The Management stated (June 2004) that the Company was in the process of procuring and installing an additional software (access control system)

from M/s Tata Honeywell at a cost of Rs.25 crore, which was likely to be implemented by August 2004. This showed that all the needs of the Company were not mapped into the IT re-engineering efforts.

- Although interface between the users and the machine (Software, Hardware and Networking) had been established through training scripts, it was observed during Audit Evaluation and Testing of the SAP Modules implemented at various sites that the users had not been imparted training in the handling of software and hardware. Further, there was no procedure to impart cross-functional training and knowledge.

- It was observed during the audit of Ambala Terminal (May 2004) that there was no validation check on the date of Instrument (cheque, DD etc.) as the field properties were set as alpha numeric instead of date field. Further, Audit observed during testing that a cash receipt and bank deposit slip could be generated even for a post-dated cheque. Thus, the system had no validation check/control on the field, i.e., date of instrument. This had resulted in acceptance of both pre-dated and post-dated cheques.

- Testing of SAP implementation at the Panipat Refinery (pilot site) revealed that the end users dealing in bank deposit slips had encountered problems in customised sub-modules in the preparation of non-SBI deposit slips. This shows that process to differentiate between SBI cheques and non-SBI cheques were not defined and incorporated into the system.

- In a case at the Mathura Refinery Terminal it was found that a transport truck was loaded with material worth Rs.3.75 lakh although there was no balance at credit in the account of the party. This shows non-incorporation of proper validation check in the system.

- At the same Terminal, in another case, it was noticed that despite a party having deposited a sum of money towards the shipment of a product, the same could not be cleared, as there was no balance in the account of the Party. This shows no real time updation of records in this case.

- It was also noticed that in the case of outstation cheques, outstation charges were not being debited to the concerned user accounts at Mathura Refinery Terminal (June 2004) immediately, thereby resulting in incorrect accounting. This shows that processes were not defined and incorporated in the system to identify outstation cheques and calculate charges accordingly.

The absence of adequate validation checks assumes considerable significance in a large on-line network system where iterative transactions could be voluminous, thereby adversely affecting the reliability of data generated by the system. The above illustrations also highlight the necessity for examination of the customisation process by obtaining feedback from the end users.

The Management accepted the specific observations listed above and stated (January 2005) that the System Design Reassessment for addressing the logical and technical discrepancies would be an on-going exercise and carried out by various functional teams at Corporate Office (Information System). It further stated that with the implementation

of SAP at various units and increasing awareness of the end users about the functionalities of various modules of the SAP, more and more end users would make use of these functional modules. The use of legacy and existing software was only a temporary phenomenon and would gradually phase out. As regards cross-functional training, the details of the software were known to the officers working in Corporate Office (Information Systems) who were only authorised to carry out any modification required by the end users.

The reply shows that instead of having a structured training plan to educate and train users for optimal utilisation of the system and ensure that there was no discrepancy between the technological capability of the workforce and the available functionality of the system, the Management had adopted a 'learn as you work' approach. This approach is unsuitable for such a large IT re-engineering project which not only brings in new technology but also seeks to change the existing ways of working of the organisation.

5.1.19 Porting of master data

During the field audit of SAP implementation it was observed that Management had not communicated the Data Migration Strategy in the absence of which no sign-off of input data and migrated data could be done at the time of 'go-live'. On the date of implementation, the existing application software was terminated and the running data at the close of the day was uploaded onto the application and the transactions were commenced with the uploaded Master Data, treating the same as opening balances of the current transactions.

5.1.20 Source data without Audit trail

It was also observed that at the time of 'go-live' of ERP, the closing balances of running transactions were frozen and uploaded into the application as the opening balances. Thus for tracing the source data, there was no Audit trail in existence and the user had to take recourse to the legacy system for the same.

The Management accepted (January 2005) that though the closing balances of transactions had been frozen and uploaded into ERP as the opening balances on the day of 'go-live', the Company was planning to collect the detailed transactions constituting those balances and replace the opening balances by the transactions. The exercise would be taken up after stabilisation of the system by 1 April 2005.

5.1.21 Development and maintenance procedures

Audit assessed whether the Company had ensured proper use of the applications and the technological solutions put in place, by adequately circulating the various manuals.

Audit evaluation revealed that:

- Though the Users Procedure Manual had been documented and communicated through Intranet, the end user lacked awareness about the utilities of system software as the users had not been given adequate and regular training to operate the software. The Consultants at the time of implementation of SAP/R3 at a particular site gave

only awareness training which according to some users was not sufficient to understand the operational technicalities; User Operating Manual/Guidelines were only communicated to a limited group (Core-Group). As a result the end user lacked awareness about the utilities of system software. Similarly the documented Operation Guidelines/Manual, Quality Control Manual, System Security Controls and business requirements had not been adequately communicated for the benefit of the end users.

5.1.22 Installation and accreditation of the system

The Audit objective was to seek assurance that the Management had verified and confirmed that the IT solution was fit for the intended business purposes of the organisation.

5.1.23 No sign-off of the SAP implementation and standardisation

IT installation and accreditation of 'To Be' business processes in SAP/R3 Software was certified and signed-off only by the Process Owners and Core-group responsible for software implementation. The Management stated (June 2004) that the signing off of the completion of ERP Implementation by the Consultants (PWA) and standardisation certification from them had not yet been obtained.

5.1.24 No parallel run of the existing system

It was observed that no parallel run was conducted at any site after ERP implementation. In the absence of a parallel run, performance analysis and critical evaluation of the new system as against the existing system could not be done.

5.1.25 Record of baseline configuration was missing in SAP/R3

It is necessary to ensure that a record of baseline configuration items is kept as a checkpoint to return to, after changes. Although the baseline configuration had been preserved as 'As Is' process these were not mapped into SAP/R3. Thus, for changes after go-live, the user had to revert to Manuals of 'As Is' business processes which was time-consuming and also defeated the purpose of an Online Information System.

5.1.26 Delivery and Support

This domain essentially addresses the aspects relating to the actual delivery of the required services like traditional security operations, system security and maintenance of business continuity. Audit examined whether the services and support processes had been properly designed and implemented by the organisation to ensure the same.

The domain is divided into high-level control objectives. The relevant Audit findings are detailed below.

5.1.27 Management of third party services

The Audit objective was to see whether implementation was done according to the agreed terms and conditions with the third party service providers.

5.1.28 Extra payment to SAP India for AMC due to defective planning

It was observed in Audit that the free maintenance services for SAP software were valid for a period of 12 months commencing from 1 October 1999 and thereafter the software was covered for preventive maintenance under an AMC*, for which the Company paid an amount of Rs.4.85 crore for a two-year period commencing from 1 October 2000. However, implementation of the first go-live was on 1 August 2001.

The above sequence reflects the absence of effective planning and synchronisation, resulting in the denial of benefits including those resulting from coverage through free maintenance service, which were to accrue to the Company through ERP.

The Management stated (January 2005) that during the AMC vendors upgraded the version of software and gave online support services. Hence it was wrong to say that there was absence of effective planning and synchronisation in the software procurement, customisation and implementation.

The reply is not acceptable. Had the ERP been implemented at 99 sites timely by 30 September 1999 it could have been covered under free maintenance period (1 October 1999 to 30 September 2000). The Company paid Rs.4.85 crore for maintenance contract for two years upto September 2002 when only 16 sites had been covered under ERP. Thus the payment was made for underutilised maintenance services.

5.1.29 Management of performance and capacity

The Audit objective was to see whether optimal use was made of the internal reporting processes. It was observed in Audit that though the Management had developed a system of users' feedback to take corrective action, no record of rectifications made was kept for future reference. In the absence of the required documentation of action taken on the feedback, the system improvement objective was limited.

5.1.30 No development of trend analysis and reporting system

The reports with regard to customer queries were to be adequately analysed and acted upon and trends were to be identified. During the audit it was observed that no procedure was in place to assure adequate reporting with regard to customer queries and resolution, response times and trend identification. Thus, one very important benefit of an ERP solution was not being availed of.

5.1.31 Ensuring continuous service

The objective of Audit was to seek assurance that systems were in place that made sure that IT services were available as required and there was minimal business impact in the event of a major disruption. To have an effective Continuity Plan the Management should provide for Continuity Plan Maintenance procedures aligned with Change Management and Human Resources procedures and needs to have regular testing of the plan. Audit, however, observed that since the Disaster Recovery Plan had not yet been fully

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**Annual Maintenance Contract*

implemented, the integrity of Continuity Plan including testing and its maintenance could not be determined. It also observed that neither the local DRC nor the alternative DRC at Sanganer (Jaipur) was synchronised with 'go-live' Plan of the ERP solution. Though the Board decided (July 1998) to implement Disaster Recovery Plan by duplicating the servers at a suitable site duly interconnected in order to have safe arrangement in the event of untoward incident at the central site the approval was sought only after four years in July 2002. The alternative DRC at Sanganer (Jaipur) was still under construction (June 2004). In a highly centralised ERP environment non-availability of alternate offsite DRC for a Company, which plays an important role in national defence preparedness, poses a very high and unacceptable risk. This assumes even greater importance as the project had already gone live and the Company had dispensed with the legacy systems without maintaining offsite back-up storage. This aspect is to be viewed in the context of the Company having already faced a recovery problem during a major breakdown at their Data Centre in Gurgaon, in August 2002, which highlighted the need for off-site storage.

The Management stated (January 2005) that the Metro Disaster Site at Gurgaon, which was under implementation during August 2002 i.e. at the time of major breakdown of the Data Centre, was fully commissioned only by November 2002. The malfunctioning of the system happened due to logical error and reversion to stand-alone systems at units (legacy system). A part of Business Continuity Plan was resorted to, to meet this exigency.

The reply of the Management shows that the Company only had an onsite DRC, as of now, which faced the same physical threats as the main servers and in no way obviated the threat to the Company's operation. The Company had also faced hardware and networking failure for 48 hours in August 2002 when the transactions in critical business divisions were switched over to legacy system. Similarly, another breakdown occurred at marketing terminal at Bijwasan on 26 and 27 September 2003 when the legacy system was brought back to conduct the business of the terminal.

5.1.32 Ensuring system security

The Audit objective was to see whether the organisation had a plan to safeguard information against unauthorised use, disclosure or modification, damage or loss.

Audit observed that though the project had already gone live and become operational, the Company had not yet documented an IT Security Policy. Since, the Management was still in the process of preparing the IT Security Policy, the assessment of the impact of implementation and monitoring of IT plan on the business requirements of the Company could not be evaluated.

At the Ajmer Depot, the users were found doing multiple jobs by sharing of passwords with one another; users in the Supply and Delivery Department were found using the password of the Depot Manager.

It was also found that though the Management had developed a system of communication of incidents of security lapse/errors and response by the BASIS Group through email, the e-mail boxes were emptied regularly both by the users and the members of the BASIS Group. Consequently there was no record of incident handling which could be used as

input/feedback for future developments for trouble-shooting. The system of taking corrective action through e-mail without keeping a record would deprive the Management of deriving the benefits of past experience in trouble-shooting.

5.1.33 Management of problems and incidents

The Audit objective was to identify processes to resolve problems and investigation of the causes to avoid recurrences.

5.1.34 Problem tracking and Audit trail

It was observed that there was no system of problem tracking and therefore no Audit Trail could be established in the absence of a Problem Management System whereby the record of all the operational events are kept. Consequently, all operational events such as incidents, problems and errors that were not part of the standard operation were not recorded and analysed in a timely manner.

5.1.35 Management of data

The Audit objective was to find whether the Company had controls in place to ensure that data remained complete, accurate and valid.

5.1.36 Source document uploaded without proper checking and authorisation in SAP

It was observed during Audit that the data loaded on SAP was authorised only by the Middle Management and not by Head of Department of the site. This poses the risk of inaccurate data being posted into the system. For example, Audit found that data in respect of lube inventory was not correctly uploaded in December 2003, at the Ajmer Depot, resulting in discrepancies amounting to Rs.2.63 crore between the physical stock and the stock as per the application. The problem remained unresolved (May 2004). Thus the Management had failed to follow appropriate Data Migration Procedures to ensure the integrity of the input data at the time of 'go-live'.

5.1.37 No archiving policy

The Management should implement policy and procedures for ensuring that archive meets legal and business requirements. Audit observed that though the Consultants (PWA) recommended that the data should be archived on a regular basis at milestone points, each time when there was a change to the system and when an upgrade for the software was released, the Company had not developed any policy regarding archiving of data.

In the absence of archiving and documentation thereof, the preservation of data for the purposes stated above, in respect of critical business processes could not be ensured. Accessing of significant data could, thus, become a time-consuming exercise without any certainty regarding its availability.

5.1.38 The management of operations

The Audit objective was to see whether processes existed which would ensure that IT support functions were performed regularly and in an orderly fashion.

Audit of locations revealed that instructions of what to do, when to do and in what order, were neither documented nor communicated to users. Thus, IT support operations were informal and intuitive and there was high dependence on the skills and abilities of individuals.

5.1.39 Monitoring

This domain essentially addresses the Management oversight of the organisation's control processes for providing assurance on the system. Audit reviewed the adequacy of the monitoring processes and how much these had been successful in continuous improvement of the system.

The domain is divided into high-level control objectives. The relevant audit findings are detailed below: -

5.1.40 Monitoring of the process

The Audit objective was to identify processes which ensure the achievement of performance objectives set for the IT processes.

5.1.41 Absence of reporting to Senior Management for decision making

There was a need to submit status reports to Senior Management regarding achievement of planned objectives, deliverables obtained, meeting of performance targets etc and any such information as may be required by the Senior Management for monitoring and review regarding the progress made towards achievement of the identified goals. Such reports could greatly facilitate Management in initiating timely action and controlling the effective progress of the Project.

However, Audit found that Business Warehousing and portal for Management Reporting as recommended by the Consultants had not been installed (June 2004). In the absence of the same, Management reporting through SAP was virtually absent. Though basic measurements to be monitored had been identified and assessment methods and techniques had been defined, the processes had not been adopted across the entire organisation and decisions were made based on the expertise of a few individuals.

5.1.42 Assessment of Internal Control adequacy

The Audit objective was to seek processes, which ensure the achievement of the internal control objectives.

5.1.43 No document on Management reporting on Internal Control

During the audit it was observed that there was no document on Management Reporting on Internal Control. There was no system of cross checking of the authenticity and

accuracy of business transactions executed in the new IT environment. The performance monitoring scripts that contained the corrective action parameters were also not examined by the Technological heads.

5.1.44 No Independent Audit of operational security and internal control assurances

Operational security and internal control assurance should be established and periodically repeated, with self-assessment or independent audit to examine whether or not the security and internal controls are operating according to the stated or implied security and internal control requirements.

It was observed during audit that the Operational Security and Internal Control Assurance were neither subjected to self-assessment nor to Independent Audit in order to examine whether or not the security and internal controls were effective and operating according to the stated or implied security and internal control requirements. Thus, there was a need for assessment of the adequacy of internal control mechanisms and institutionalisation of suitable systems and for the generation of Exception Reports for taking necessary corrective action.

5.1.45 Obtaining independent assurance

The Audit objective was to see whether the organisation obtained independent assurance to increase confidence and trust amongst the organisation, customers and third party procedures.

It was observed during audit that the Management had not carried out any independent certifications and accreditation for effectiveness evaluation. There was no independent assurance of compliance with laws, regulatory requirements and contractual commitments. No third-party service provider review and benchmarking was carried out. In the absence of the above, it would be difficult to instill confidence and derive assurance both from within the organisation and amongst customers and third-party service providers, that IT services duly addressed and satisfied the business requirement.

IT Management should also seek internal audit involvement in a proactive manner before finalising IT services solutions. It was observed during Audit that Internal Audit Department of the Company was not involved in the IT Re-engineering Project (Manthan) and there was no proactive Internal Audit involvement prior to the finalisation of IT services and during the implementation. It was also observed that none of the critical success factors had been achieved despite implementation of SAP/R3 at 292 sites (Total 530 sites subsequently revised to 429 sites) and there was no involvement of internal audit in monitoring the critical success factors brought out in the 'Availability Plan'. Moreover, no 'Post Implementation Review' was conducted by any external agencies for these critical success factors. This was indicative of weaknesses in monitoring of performance indicators.

Executive Director (Optimisation) of the Company stated (January 2004) that the Company was in the process of development of IT System, which would help the Internal Audit Department to conduct the Audit of IT System. The Management further stated (January 2005) that once the system was configured, total involvement of the Internal

Audit Department to study the system configuration, customised to generate various reports, was ensured from early 2002 and Internal Audit Department had been carrying out audit of the configured system and providing their observations on the system configured and implemented.

However, no report of the Internal Audit Department was made available to Audit (January 2005).

The Management in their reply (January 2005) had no comments to offer in respect of observations in paragraphs 5.1.19, 5.1.23, 5.1.24, 5.1.25, 5.1.29, 5.1.32, 5.1.34, 5.1.36, 5.1.37, 5.1.38, 5.1.41, 5.1.43 and 5.1.44.

5.1.46 Conclusion and recommendation

The Company, which decided to implement ERP solution, a state of the art technology, towards its IT re-engineering efforts and spent vast sums of money had failed to get full benefits of the system. This was a result of deficiencies in planning, monitoring, training and communication of the Company's vision to all levels of the organisation, which led to delays, reliance on outside experts and lacunae in integration and implementation of the project. The Company also failed to comprehensively assess the risks and frame an effective mitigation strategy for the same.

The system is working because of the expertise and involvement of individuals but improvements were not ingrained into all the relevant processes of the organisation as a whole.

In order to complete all aspects of the re-engineering effort and exploit the full potential of the technology, the Company needs to focus on areas such as training, monitoring the processes and taking and analysing user feedback to plan and improve processes.

The Review was issued to the Ministry in January 2005; its reply was awaited (March 2005).

Oil and Natural Gas Corporation Limited

Payroll application in Mumbai Region

Highlights

The payroll application was completely input-dependent for the accuracy of outputs. There was very little validation control embedded in the application to automatically detect input errors.

(Para 5.2.4)

There is a provision in the payroll application to store and process data relating to advances to employees and monitor its recovery with interest but due to incomplete data entry such opportunity was not used which led to creation of incomplete and unreliable database.

(Para 5.2.9)

In 44 cases, the basic pay was drawn more than maximum of the pay scale, which indicated that basic pay was not linked with scale of the pay. Management subsequently recovered Rs.35,832 from an employee. The slab-wise professional tax deductions incorporated in the payroll program were different from rates prescribed which resulted in short recovery of Rs.4.26 lakh.

(Para 5.2.10)

Over payments and short recoveries of various allowances and advances illustrated weakness in payroll system. This resulted in an excess and irregular payment/ short recovery totalling to Rs.4 crore out of which an amount of Rs.12.18 lakh has been recovered subsequently by the Management after having pointed out in Audit.

(Para 5.2.11)

5.2.1 Introduction

Oil and Natural Gas Corporation (ONGC) is one of India's largest companies having an experience of 40 years in the exploration and production of oil and gas. It has, over the years, developed comprehensive IT infrastructure both for technical and administrative functions. The payroll function in respect of employees in its Mumbai Region was computerised in 1975. The Payroll application program was modified to meet the new requirements of the Company. The program was recast in 1999 to make it Y2K* compliant and reinstalled at the EDP♦ facility at the Mumbai Regional Head Quarters at Vasudhara Bhavan, Bandra. The Personal Claims Sections (PCS) of 14 different units of the Region send the input data through floppies to EDP section for batch processing every month to generate the payroll for around 6,800 employees of the region.

** Year 2000*

♦ Electronic Data Processing

5.2.2 System description

The hardware used in the EDP section at Mumbai Regional Head Quarters is VAX 4200 with VMS 6.0 as operating system. While the main application in the EDP section was developed in VAX COBOL♠, data input was done at different locations on personal computers using a variety of application software like Fox BASE, Dbase etc.

5.2.3 Input Management by Personal Claim Sections

The payroll application is based on the principle of "Posting by Exception" whereby the PCS enter into the database, on a monthly basis, only the changes to the employee's entitlement in pre-designed input formats, namely the card codes numbering one to nine. These cards contain recurring (for regular payments/recoveries) and non-recurring (for arrear payment/recovery of excess paid) codes for data input. The card codes, after being filled in, are then copied in floppies and forwarded to the EDP section. While Card Code 1 form contains static data about an employee and is to be entered only at the beginning of an employee's account, card codes 2 to 9 contain such data, which could change an employee's remuneration for that particular month. In case no changes are required and the employee's remuneration remains the same as in the previous month, no card code data is transmitted to the EDP section.

Entitlements of an employee would comprise both recurring and non-recurring elements, each one designated by a specific data code. Only the data received from the units under the recurring codes of the pay elements are validated and screened by the EDP section. The data received against the non-recurring codes such as operational allowance and Conveyance Maintenance Reimbursement Expenditure are, however, taken into the final output without subjecting it to validations except numeric and list checks in the EDP section because it is backed up by a specific office order duly validated by respective PCS.

5.2.4 Processing in EDP Section

The Payroll application in the EDP section has two batch processing modules namely 'Payval' and 'Paycal'. The 'Payval' is run to validate the data for data type errors and perform some basic checks in regard to the name, uniqueness of Employee Identification Number (namely Contributory Provident Fund Number) etc. After completion of this process in the EDP section, the error list is sent to the PCS again for rectification. The representative of PCS manually verifies the errors, rectifies the same and gets the approval of the competent authority. The 'Payval' module in the EDP section again validates the rectified data. These procedures are expected to go on till all the errors are completely rectified.

The second module namely 'Paycal' is run to compute the pay and allowances of an employee for the month. This process generates two main output files viz. Pay file that contains the dues and recovery details for the month for all the employees and the Output

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♠ *Propriety Software of Vax Server*

Master file[♣] that contains the recurring pay and recovery data of an employee besides the special codes and personal details. The hard copy of the pay bill report generated through the Payroll system is sent to respective locations for verification manually and approval of the Drawing and Disbursing Officers. This is followed by generation of main reports like pay slip and Last Pay Certificate and other reports like bank schedules, journal vouchers, acquittance roll and so on.

The EDP section also simultaneously sends the data in floppies to the concerned banks relating to the net amount payable to the employees. This is followed by the bank schedule. The locations receive the Cash/Bank Bill (which serves as acquittance roll) from the EDP section, based on which they draw a cheque in favour of each bank for the total amount of the salaries payable for the month by different banks. Based on the data received from the EDP section by the banks, employee's accounts are credited with designated amounts.

Audit observed that the Payroll application was completely input-dependent for the accuracy of outputs. There was very little validation control embedded in the application *perse* to automatically detect input errors. A foolproof input management system, therefore, is absolutely essential for ensuring reliability and integrity of the system.

5.2.5 Scope of Audit

Audit of Payroll application was conducted for Mumbai Region covering the Regional Head Office and its 14 units located around Mumbai. Audit covered the year 2001-02 which was extended to earlier periods wherever required.

5.2.6 Audit Objectives

The basic objective of audit was to ascertain the reliability and integrity of the Payroll Application.

5.2.7 Audit Methodology

The Payroll data (Pay data files, transaction and master files) for the period 2001-02 was received from EDP section in the fixed length flat file format. In addition to the examination of system procedures, substantive tests were also carried out to check the reliability of payroll data using the interrogation software IDEA[♦]. The necessary evidence to support audit observations was collected from the manual master data like registers for long-term advances and short-term advances as well as source documents like claims, authorisations and other payroll documents.

[♣] ***The Output Master File of the current month will be used as Input Master File of the succeeding month.***

[♦] ***Interactive Data Extraction and Analysis software.***

5.2.8 Audit Findings

The following deficiencies were noticed in payroll application:

5.2.9 Deficiencies of input management procedures and their Impact on data integrity and completeness

It was observed in audit that there was no unique reference number on the input forms used by PCS that could be used for cross-referencing the source document and to establish an audit trail. It was also observed that no input control register was maintained at any PCS to keep track of the total number of input documents received during a period. Thus, there was no way to ascertain that all the inputs required to be generated by the PCS had indeed been generated on the basis of authentications/office orders received from the Personnel and Administration section, the competent authority in such cases.

The Management in its reply stated that (i) the unique reference was always the Contributory Provident Fund (CPF) number of the employee, (ii) PCS officers were keeping all the source documents in a separate file, which could be verified by linking with the CPF number and (iii) though the system might not be perfect the source document could be located for audit purpose from the relevant files. The Management's view is not tenable as the CPF number. could only trace an employee's claim in the system and not the source document which is an authentic record duly approved by the competent authority. Further, the problem highlighted in audit concerns the internal control system within the organisation and not the availability of documents for the purpose of Audit. In its latest reply (December 2004) the Management stated that the deficiencies pointed out by audit had been taken care of in the new system.

Although there is a provision in the payroll application to store and process data relating to total amount of interest bearing loans sanctioned and disbursed to each employee, the PCS had not been furnishing complete data on this score to the EDP section. If this had been done it would have facilitated monitoring of loan instalment recovery against the sanctioned loan.

An extraction from the EDP pay file of February 2002 (YTD* columns) with regard to all interest bearing advances viz. House Building Advance (HBA), Car and Scooter advances revealed the following discrepancies:

Type of advance	Particulars of Discrepancies	Number of cases	Range of delay
HBA	Cases where recovery of principal was completed but interest recovery was not commenced	101	1 to 12 months
HBA	Cases where the recovery was yet to be started but disbursement of maximum amount of advance of Rs.7.50 lakh had already been made.	7	
Car	Cases where recovery of interest on advance was not commenced though principal amount of advance was completely recovered.	24	
Scooter	Cases where recovery of interest on advance was not commenced though principal amount of advance was completely recovered.	98	

** Year to date*

From the above table it is evident that the delay in input extends upto 12 months.

All these facts show that though the application provides the opportunity to monitor the recovery of advances and interest once it is manually fed, due to incomplete data entry, such opportunity was not being used in the cases tabulated above.

The Management stated that in cases where the details of original amount of loan and date of drawal was not available in old cases, dummy amount such as '999999' was reflected in payslip. Also the recovery of interest was calculated and entered into the system, manually. The Management did not clarify why the details of original amounts of loan etc. were not available, nor did it indicate the basis for treating these cases as old, or the reasons due to which the data got eroded, or the authenticity of these manual calculations. This led to creation of incomplete and unreliable database relating to the recoverable advances. The Management in its reply (December 2004) stated that in the new system under SAP*, advances would be paid after checking all the rules such as entitlements, eligibility, limits, seniority etc. These checks were built into the Payroll module of the new system to ensure that the recoveries were made in the relevant month.

5.2.10 Programming error

Basic pay exceeding the maximum of the scale of pay

Audit review revealed that in 44 cases basic pay drawn was more than the maximum of the scale of pay indicating that in the application the basic pay was not being linked with the scale of pay. The Management confirmed the audit observation in its reply and attributed the discrepancy to non-updation of designation code and stated that the code had since been corrected. It also stated that the lapse had no financial implication. However, verification of the reply revealed that in respect of CPF number 45,166, the Management subsequently recovered an amount of Rs.35,832 being excess pay drawn on account of above discrepancy. This clearly demonstrates that non-updation of designation code could have financial implications. Moreover, it is also evident that the relevant data lacked reliability.

Short recovery of professional tax

As per the amended provisions of the Maharashtra State Tax on Professions, Trades, Callings and Employments Act, 1975, different rates of professional tax to be deducted from the salaries of different classes of employees (with effect from 1 April 2000) were prescribed. An examination of pay bill data for the year 2001-02 and payroll program relating to deduction of professional tax revealed that the slab-wise professional tax deductions incorporated in the payroll program were different from the rates prescribed in the above mentioned Act. It was noticed that more than 95 per cent of the employees came under the slab of salary more than Rs.10,000 per month and therefore invited a recovery of Rs.200 per month (Rs.300 in the last month of the financial year). However, the program previously designed to recover only Rs.175 per month, the then prescribed rate of professional tax, was not updated to ensure deduction of Rs.200 per month as per

**Systems Applications and Products in data processing.*

revised rates effective from April 2000. This resulted in short recovery of Rs.4.26 lakh in the case of 4236 employees during the year 2001-02.

The Management stated that the short recoveries were on account of non-availability of professional tax circulars and that necessary corrections were carried out in the program. In its reply (December 2004), the Management stated that the recoveries had been made and a proper mechanism to update the rates in the new system had also been established.

5.2.11 Overpayments due to weaknesses in the system

An analysis of the data for the year 2001-02 revealed innumerable cases of overpayments and short recoveries that illustrated the weaknesses in the payroll system.

Allowance	Over - payment/ Under - recovery	Reasons	Recovery	Management's reply
Furniture Advance	Rs.2.65 lakh	Recovery was discontinued in 104 cases without any recorded reasons.	--	In the new system proposed to be implemented under SAP advances will be paid after checking all rules.
Conveyance Maintenance Reimburse-ment Expenditure (CMRE)	Rs.0.66 lakh	The reimbursement of CMRE was not properly regulated during the authorised absence of employees. Employees who were on leave for more than 30 or 60 days were being paid full amount contrary to the rules.	Rs.0.66 lakh	The proposed new system takes care of the errors pointed out by Audit.
Conveyance Maintenance Reimburse-ment Expenditure	Rs.4.83 crore	3338 employees who had drawn reimbursement charges (Rs.1.65 crore) for bus/season ticket/ group bus charges etc. had also been paid CMRE during the year 2001-02 in contravention of rules.	Rs.1.71 lakh	The new system proposed to be implemented takes care of the errors pointed out by Audit.
Operational Allowance	Rs.2.21 crore	Allowance paid to employees who did not belong to the specified categories of	---	Management has refuted the audit contention on the basis of circulars and

		officials engaged in operational activities in onshore areas indicating that the payroll application had no control over the eligibility criteria as specified by ONGC in allowing the operational allowance to its employees		office orders claiming that the payment was admissible to those employees. However, these circulars do not bear the approval of Board of Directors, which is the competent authority.
Drill Site Compensatory Allowance	Rs.5.46 lakh	Allowance was not excluded by the payroll system while determining total salary payable to 117 employees of Mumbai Regional Business Centre who were on extraordinary leave for various periods.	Rs.5.46 lakh	The new system takes care of the errors pointed out by Audit.
Productivity Allowance	Rs.0.36 lakh	43 officials were paid this allowance during the period they were on extraordinary leave, though not admissible.	Rs.0.09 lakh	The new system takes care of the errors pointed out by Audit.

5.2.12 Conclusion

The Payroll Program used at ONGC (Mumbai Region) is not an online application package. It is an old batch processing system having lots of limitations. The performance of the system is highly dependent on manual checking and verification during all stages of data processing i.e. from preparation of source documents till final verification of pay bills generated by the system. It is completely input dependent and therefore, all the manual checks envisaged to maintain the system have to be strictly adhered to. ONGC (MRBC) has been relying on this system and has been treating it on par with a real time online system without realising its limitations. This resulted in an excess and irregular payment/short recovery of Rs.4 crore from employees under various pay heads during the year 2001-02, out of which an amount of Rs.12.18 lakh has been recovered by the Management after having been pointed out by audit.

ONGC should make a concerted effort to streamline the existing system immediately well before the implementation of SHRAMIK*, in order to avoid problems during switchover from the existing system. The amounts programmed to be paid under various pay heads by the legacy Payroll system would have to be validated systematically and

**New payroll system under System Applications and products in data processing environment.*

adequate physical verification procedures have to be adopted and enforced by the supervising officers to prevent recurrence of such irregularities.

The Management has recovered to some extent the excess payments made based on audit comment. However, it did not undertake any exercise to check whether such payments had been made in other regions outside audit scope.

The new SHRAMIK system under SAP/R3 planned to be implemented in the Mumbai Region after January 2005 appears to take care of the design control deficiencies pointed out by Audit. As to how the system actually performs can be commented on only after its implementation.

The review was issued to the Ministry in January 2005; its reply was awaited (March 2005).

CHAPTER: 6

CORPORATE GOVERNANCE IN OIL PSUs

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6.1 Introduction

Corporate governance is the system by which Companies are directed and controlled by the management in the best interest of the stakeholders and others ensuring greater transparency and better and timely financial reporting. The objectives of corporate governance are fulfilled by setting up appropriate structure and functioning mechanisms for the Board of Directors and Audit Committees, as laid down by the Companies Act, 1956.

6.2 Audit Scope and Objectives

This study aims to ascertain whether the Public Sector Undertakings (PSUs) in the Petroleum Sector have an effective corporate governance mechanism. This objective has been further split to examine the setup and functioning of the Board of Directors and of the Audit Committees in the following PSUs in the petroleum sector:

1. Oil and Natural Gas Corporation Limited (ONGC),
2. ONGC Videsh Limited,
3. Indian Oil Corporation Limited (IOC),
4. Bharat Petroleum Corporation Limited (BPCL),
5. Bongaigaon Refinery and Petrochemicals Limited (BRPL)
6. Chennai Petroleum Corporation Limited (CPCL),
7. Hindustan Petroleum Corporation Limited (HPCL),
8. Kochi Refinery Limited (KRL),
9. Guru Gobind Singh Refineries Limited (GGSR),
10. Mangalore Refinery and Petrochemicals Limited (MRPL),
11. IBP Company Limited (IBP).
12. Gas Authority India Limited (GAIL)

6.3 Audit Findings

The audit findings vis-a-vis the audit objectives of this study are detailed below:

6.4 Setting up of proper and effective Audit Committee Mechanism

In order to ensure transparency and accountability, clause 49 of the Listing Agreements read with Section 292A of the Companies Act, 1956 lays down the provisions for constitution of Audit Committee. Audit examined whether the Companies covered by the current study had complied with the above-mentioned provisions.

6.4.1 Formation of Audit Committee

In all the PSUs examined by Audit, the Audit Committee had been formed as per requirements of Clause 49 of the Listing Agreement and Section 292A of the Companies

Act, 1956. The Audit Committee in ONGC had been renamed as Audit and Ethics Committee (November 2002).

6.4.2 Functioning of Audit Committee

In all the Companies the Audit Committee was functioning effectively. The Board had also specified the terms of reference of the Audit Committee in the PSUs. The Audit Committees in most of the PSUs had the power to investigate any activity within its terms of reference. In respect of IOC, a new Whistle Blower Policy had been approved by the Board, under which any individual coming across an unethical or improper practice would be able to approach the Audit Committee for protection from unfair termination or unfair and prejudicial practices adopted by the Management. However, the following deviations were observed in the functioning of the Audit Committee in respect of BPCL, CPCL, GGSR, HPCL, KRL, MRPL and ONGC:

- The Audit Committee of BPCL, CPCL, KRL, HPCL and ONGC had not undertaken any investigation into the matter in relation to the items specified in section 292A. Nor had any such item been referred to the Committee by the Board. However, the Audit Committee of BPCL, HPCL and ONGC had full access to the records of the Company;
- In the case of ONGC and BPCL, the Chairman of the Audit Committee had been appointed by their Board of Directors instead of being elected by the members from amongst themselves;
- In respect of MRPL the follow up action taken on investigation by the Audit Committee was not discussed by the Board;
- In GGSR and KRL the Chairman of the Audit Committee did not attend the Annual General Meeting.

6.4.3 Role of Audit Committee in reviewing with the Management, external and internal auditors

In all the PSUs the adequacy of the internal control system was reviewed by the Audit Committee from time to time and the Management was advised, wherever required, to take necessary action for strengthening the internal control system. In ONGC Videsh Limited, the Audit Committee observed that the Internal Audit system required strengthening and that it was continuously watching the progress in this regard. In case of GAIL the Audit Committee had observed the following deficiencies in Internal Audit:

- Frequency of Internal Audit was inadequate;
- Internal Audit was not technically sound in the absence of technical staff in the Internal Audit Department;
- The Internal Audit system was not commensurate with the size and nature of the Company and its activities;
- Internal Audit could not obtain time bound replies from the Company.

6.5 Effective functioning of Board of Directors

One of the main pillars of Corporate Governance is a Board of Directors controlling and managing the Company in the best interests of the stakeholders. Detailed provisions have been laid down under clause 49 of the Listing Agreement for achieving this objective. An appraisal of the compliance of various provisions under this parameter was made in Audit:

6.5.1 Constitution of the Board of Directors

In all the PSUs the Board was constituted as per the requirements of Corporate Governance. The Board had an optimum combination of executive and non executive directors with not less than fifty per cent of the Board of Directors comprising non executive directors. However, in the case of KRL, out of 11 directors on the Board, only two were independent directors as against the requirement of one-third. Induction of more number of independent directors was under consideration. In no PSU was the director found to be a member in more than ten committees or acting as a Chairman of more than five committees across all Companies in which he was a director.

6.5.2 Vacancy position in the Board of Directors

The Board of Directors was generally found to be adequately staffed. Deviations were noticed, however, in respect of ONGC, BPCL, BRPL and IBP. While in ONGC during 2003-04 posts of two executive directors and two non official directors remained vacant from time to time, in respect of IBP the Director (Marketing) in IOC was holding the additional charge of the posts of Managing Director and Director (Marketing). In BPCL one post of Director was vacant. In respect of BRPL there were only nine Directors against 15 as per the Articles of Association.

6.5.3 Holding of Board Meetings

In all the PSUs the Board Meetings were being held regularly and the requisite information placed before the Board. The quality of the minutes of the Board Meetings was also found to be adequate in all the PSUs.

6.5.4 Attendance at the Board of Directors' Meetings

The attendance at the Board of Directors' Meetings was found to be adequate in all the PSUs except for the following three PSUs:

- In GAIL the attendance of non-executive directors was not regular. Similarly, the Government nominee director attended only seven out of a total of 11 meetings held.
- In IOC three to four directors did not attend eight meetings out of 14 meetings.
- In ONGC Videsh three non-executive directors did not attend the meetings regularly.
- Board of Directors of GGSR held five meetings during 2003-04. One independent director attended only one meeting and the Government nominees attended only two meetings.

6.6 Setting up of a Strategy

In all the PSUs the Board had set up a strategy for the Company which was consistent with its vision except for MRPL which had so far not prepared its 'Vision and Mission' statement stating its recent takeover by ONGC as one of the reasons. The Company was in the process of preparing the same.

6.7 Disclosure in the Annual Reports

All the PSUs were making adequate disclosures on Corporate Governance in the Annual Reports except for GGSR, which did not make a mention about Corporate Governance in its Annual report.

6.8 Conclusion

Audit found that the PSUs in the petroleum sector were generally functioning as per requirement of the Companies Act and clause 49 of the listing agreement for the achievement of the objectives of Corporate Governance.

(T.G. SRINIVASAN)
Deputy Comptroller and Auditor General
Cum Chairman, Audit Board

New Delhi
Dated : 24 April 2005

Countersigned

(VIJAYENDRA N. KAUL)
Comptroller and Auditor General of India

New Delhi
Dated : 26 April 2005

ANNEXURES

Annexure-1
(referred to in Para 1.6)
STATEMENT SHOWING CONSUMPTION, IMPORT AND EXPORT OF CRUDE OIL AND PETROLEUM PRODUCTS

I Consumption of Petroleum Products

A. PUBLIC SECTOR (in thousand tonne)

Products	1999-00	2000-01	2001-02	2002-03	2003-04
1	2	3	4	5	6
1.Light Distillates	**20473**	**21770**	**22916**	**23567**	**24739**
LPG	6029	6613	7310	8143	9092
Mogas	5909	6613	7011	7570	7921
Naptha	7970	8059	8128	7284	7072
NGL	91	6	27	32	35
Others	474	479	440	538	619
2.Middle Distillates	**54259**	**52854**	**50661**	**50555**	**50213**
SKO	10731	10714	10114	9707	9403
ATF	2197	2249	2256	2269	2473
HSDO	39287	37938	36515	36534	36625
LDO	1512	1399	1202	1413	1145
Others	532	554	574	632	567
3 Heavy Ends	**15919**	**15362**	**15515**	**16002**	**15964**
FO/LSHS	11579	11360	11616	11652	11385
Lubes/Greases	915	797	819	938	904
Bitumen	2879	2618	2428	2847	3114
Petroleum Coke	328	414	367	335	308
Paraffin Wax	53	43	45	41	43
Other Waxes	89	62	51	13	20
Others	76	68	189	176	190
TOTAL(A) (Excluding RBF)	**90651**	**89986**	**89092**	**90124**	**90916**

B. PRIVATE SECTOR

Products	1999-00	2000-01	2001-02	2002-03	2003-04
1.Light Distillates	**4058**	**7544**	**6702**	**8188**	**9172**
LPG	392	403	418	208	216
MS	0	0	0	0	2
Naptha/NGL	2831	3614	3600	4645	4628
Benzene	33	8	0	0	0
Reformate				2061	2618
Others	802	3519	2684	1274	1708
2.Middle Distillates	**1175**	**613**	**778**	**1510**	**1521**
SKO	1167	593	318	698	804
HSDO	8	20	31	110	245

LDO	0	0	390	650	438
Others	0	0	39	52	34
3. Heavy Ends	**1202**	**1931**	**3860**	**4304**	**4944**
FO/LSHS	874	1293	1366	1086	1088
Lubes/Greases	328	246	318	312	577
Bitumen	0	96	156	139	6
Raw Petroleum Coke	0	34	1431	2228	2569
CBFS	0	230	75	74	177
Others	0	32	514	465	527
Total (B)	**6435**	**10088**	**11340**	**14002**	**15637**
TOTAL (A+B)	**97086**	**100074**	**100432**	**104126**	**106553**

II Imports/Exports of Crude Oil and Petroleum Products

(Qty: in thousand tonne, Value: Rupees in crore)

ITEM	1999-2000		2000-01		2001-02		2002-03		2003-04 [R]	
	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value
1	2	3	4	5	6	7	8	9	10	11
GROSS IMPORTS										
A. **Crude Oil**	57805	40028	74097	65933	78706	60397	81989	76195	90434	83528
B. Petroleum Products										
I. Light Distillates	**3504**	**3765**	**4018**	**5438**	**3967**	**4287**	**3366**	**4777**	**4553**	**6071**
1. LPG	1587	1801	853	1332	659	810	1073	1867	2182	3187
2. Naptha	1917	1964	3165	4106	3308	3477	2293	2910	2371	2884
II. Middle Distillates	**11319**	**9260**	**1919**	**2389**	**424**	**425**	**806**	**934**	**902**	**1012**
1. ATF	1	4	1	3	2	9	2	7	2	9
2. SKO	6312	5543	1918	2386	391	388	698	808	804	890
3. HSD	5006	3713	0	0	31	28	106	119	96	113
4 Others			0	0	0	0	0	0	0	0
III Heavy Ends	**1784**	**1160**	**3330**	**4266**	**2618**	**2537**	**2565**	**2495**	**2442**	**2594**
1.FO/LSHS	1377	865	1728	1309	1425	1030	1256	1084	924	786
2.Lubes /Others	407	295	1602	2957	1193	1507	1309	1411	1518	1808
Total (B)	**16607**	**14185**	**9267**	**12093**	**7009**	**7249**	**6737**	**8206**	**7897**	**9677**
Grand Total (A+B)	**74412**	**54213**	**83364**	**78026**	**85715**	**67646**	**88726**	**84401**	**98331**	**93205**

EXPORTS

Petroleum Products

I. Light Distillates	**714**	**659**	**4221**	**4935**	**5008**	**4927**	**4493**	**5475**	**5448**	**7100**
1. Naptha	583	520	2882	3273	2515	2234	2067	2325	2176	2653
2. MS	131	139	1202	1442	2406	2570	2336	3011	2979	4021
3. TAME	0	0	137	220	87	123	90	139	83	117
4. Reformate			0	0	0	0	0	0	210	309
II. Middle Distillates	**0**	**0**	**1757**	**2046**	**3084**	**2747**	**3875**	**4337**	**7841**	**6958**
1. HSD/ LDO	0	0	1597	1872	2890	2571	3178	3547	6181	6763
2. ATF	0	0	160	174	194	176	697	790	1660	195
III. Heavy Ends	**778**	**737**	**2387**	**691**	**1973**	**545**	**1921**	**1056**	**1331**	**968**
1. FO/LSHS	0	0	508	320	482	255	1120	902	1310	928
2. VGO/ Lubes	32	39	1879	371	272	211	101	109	17	36
3. Coke/ Bitumen	746	698	0	0	1219	79	700	45	4	4
Total	**1492**	**1396**	**8365**	**7672**	**10065**	**8219**	**10289**	**10868**	**14620**	**15018**

NET IMPORTS

A Crude Oil	**57805**	**40028**	**74097**	**65932**	**78706**	**60397**	**81989**	**76195**	**90434**	**83528**
B Petroleum Products	**15861**	**13487**	**902**	**4421**	**-3056**	**-970**	**-3552**	**-2662**	**-6723**	**-7104**
Grand Total	**73666**	**53515**	**74999**	**70353**	**75650**	**59427**	**78437**	**73533**	**83711**	**76424**

Annexure-2
(referred to in para 1.7)

Statement Showing Installed capacity and Utilisation of Refineries

(In thousand tonne)

Refinery	Installed Capacity as on 1 April 2003	CAPACITY UTILISED					
		1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
(a)PUBLIC SECTOR	**89,968**	**68,538**	**74,052**	**77,411**	**77,620**	**82,015**	**89,496**
IOC,Gujarat	13,700	10,935 (80%)	11,109 (81%)	12,006 (88%)	11,697 (85%)	12,434 (91%)	12,758 (93%)
IOC, Mathura	8,000	8,909 (111%)	8,125 (102%)	7,133 (89%)	8,031 (100%)	8,207 (103%)	8,248 (103%)
IOC,Panipat @@	6,000	2,208 (37%)	4,153 (69%)	5,707 (95%)	5,822 (97%)	6,101 (102%)	6,338 (106%)
IOC, Haldia	4,600	4,714 (102%)	4,105 (89%)	3,873 (84%)	4,026 (88%)	4,513 (98%)	4,518 (98%)
IOC, Barauni	6,000	2,204 (37%)	3,411 (57%)	3,122 (52%)	2,876 (48%)	2,994 (50%)	4,304 (72%)
IOC, Digboi	650	553 (85%)	603 (93%)	678 (104%)	653 (100%)	581 (89%)	602 (93%)
IOC, Guwahati	1,000	836 (84%)	914 (91%)	707 (71%)	656 (66%)	458 (46%)	8,91 (89%)
CPCL, Manali	6,500	6,101 (94%)	6,377 (98%)	6,046 (93%)	6,123 (94%)	6,176 (95%)	6,387 (98%)
CPCL,Nari manam	1,000	644 (64%)	636 (64%)	579 (58%)	566 (57%)	643 (64%)	6,53 (65%)
BPCL, Mumbai	6,900	8,878 (129%)	8,907 (129%)	8,683 (126%)	8,744 (127%)	8,711 (126%)	8,757 (127%)
KRL,Kerala	7,500	7,770 (104%)	7,830 (104%)	7,520 (100%)	6,797 (91%)	7,580 (101%)	7,854 (105%)
HPCL, Mumbai	5,500	5,203 (95%)	6,007 (109%)	5,575 (101%)	5,641 (103%)	6,078 (111%)	6,108 (111%)
HPCL, Visakhapat-nam	7,500	3,861 (51%)	4,555 (61%)	6,405 (85%)	6,706 (89%)	6,851 (91%)	7,592 (101%)
BRPL, Assam	2,350	1,653 (70%)	1,905 (81%)	1,488 (63%)	1,475 (63%)	1,463 (62%)	2,126 (90%)
NRL, Numaligarh	3,000	0	215 (7%)	1,451 (48%)	2,307 (77%)	1,879 (63%)	2,200 (73%)
ONGC, Tatipaka$	78	0	0	0	13 (17%)	93 (119%)	91 (117%)
MRPL, Mangalore @	9,690	4,069 (42%)	5,200 (54%)	6,438 (66%)	5,487 (57%)	7,253 (75%)	10,069 (104%)

b) PRIVATE SECTOR	27,000	0	11,912	26,033	29,654	30,544	32,345
RPL, Jamnager##	27,000	0	11,912 (44%)	26,033 (96%)	29,654 (110%)	30,544 (113%)	32,345 (120%)
Total (a+b)	1,16,968	68,538	85,964	1,03,444	1,07,274	1,12,559	1,21,841
Consumption		90,562	97,086	1,00,074	1,00,432	1,04,126	1,06,553

Source: MOPNG

@:Commenced production from 25 March 1996

@@:Commenced production from May 1998

##:Commenced production from July 1999

$:Commenced production from January 2002.

Annexure-3

(referred to in Para 1.8.3)

Statement showing investment in hydrocarbon sector

A. Medium sized fields **(In lakh US$)**

Sl. No	Year	Exploration Cost	Development Cost	Total
1.	1994-95	2.59	37.85	40.44
2.	1995-96	50.20	1654.15	1704.35
3.	1996-97	48.98	4350.29	4399.27
4.	1997-98	243.05	2044.41	2287.46
5.	1998-99	186.47	1433.01	1619.48
6.	1999-00	120.01	1012.42	1132.43
7.	2000-01	367.13	716.69	1083.82
8.	2001-02	60.62	703.87	764.49
9.	2002-03	91.75	95.99	187.74
10.	2003-04	13.09	98.10	111.19
11.	**Total**	**1183.89**	**12146.78**	**13330.67**
B. Exploratory blocks				
12.	1994-95	6.07	0.00	6.07
13.	1995-96	22.21	6.69	28.90
14.	1996-97	96.15	326.36	422.51
15.	1997-98	272.14	374.38	646.52
16.	1998-99	426.33	(-)6.11	420.22
17.	1999-00	246.21	5.73	251.94
18.	2000-01	883.97	2.88	886.85
19.	2001-02	535.97	1404.36	1940.33
20.	2002-03	1004.02	1321.50	2325.52
21.	2003-04	1284.00	756.00	2040.00
22.	**Total**	**4777.07**	**4191.79**	**8968.86**
C. NELP-I (Exploratory Blocks)				
23.	2000-01	299.45	0.00	299.45
24.	2001-02	1294.34	0.00	1294.34
25.	2002-03	1651.86	12.03	1663.89
26.	2003-04	1836.36	84.53	1920.89
27.	**Total**	**5082.01**	**96.56**	**5178.57**
D.NELP-II (Exploratory Blocks)				
28.	2001-02	337.10	0.00	337.10
29.	2002-03	721.25	4.68	725.93
30.	2003-04	1261.05	85.41	1346.46
31.	**Total**	**2319.40**	**90.09**	**2409.49**
E. NELP-III (Exploratory Blocks)				
32.	2003-04	357.86	0.00	357.86

Source: Director General of Hydrocarbons

Annexure-4

(referred to in Para 1.8.3)

Statement Showing Revenue Gained by GOI through its share in Profit Petroleum of various Joint Ventures

(Amount in US$)

Name of the field		95-96	96-97	97-98	98-99	99-00	00-01	01-02	02-03		Total
Panna-Mukta	Due	0	0	0	0	0	5673815	10713081	14152062	0	30538958
	Paid	0	0	0	0	0	5278349	10573857	140324461	0	156176667
Mid Tapti	Due	0	0	0	0	0	33186951	32167441	34560799	0	99915191
	Paid	0	0	0	0	0	33184436	32167334	34089179	0	99440949
Ravva	Due	0	0	0	0	0	58179788	77283189	162456316	0	297919293
	Paid	0	0	0	0	0	58193975	81878075	121834544	0	261906594
Kharsang	Due	0	0	0	0	92136	284277	285910	422750	0	1085073
	Paid	0	0	0	0	26942	281211	287353	422750	0	1018256
Dholka	Due	27969	79001	102014	65979	164211	156567	134606	138623	0	868970
	Paid	0	0	0	273186	165988	156568	127791	140733	0	864266

Hazira (Fig in Rs)	Due	0	0	9216182	0	39904185	104779940	549134233	1128106606	0	1831141146
	Paid	0	0	0	340000	39904437	104694573	559772543	1102193200	0	1806904753
PY-3	Due	0	0	0	0	0	0	0	1842406	0	1842406
	Paid	0	0	0	0	0	0	0	2476985	0	2476985
	Total due	**27969**	**79001**	**9318196**	**65979**	**40160532**	**202261338**	**669718460**	**1341679562**		**2263311037**
	Total paid	**0**	**0**	**0**	**613186**	**40097367**	**201789112**	**684806953**	**1401481852**		**2328788470**

Source: DGH records.

Total revenue due: ***US $ 2263. 31 million***

Total revenue paid ***US $ 2328.79 million***

Annexure-5
(referred to in Para 1.9.1)

Contribution of Petroleum sector to National Exchequer

(Rs in crore)

	1998-99	**1999-00**	**2000-01**	**2001-02**	**2002-03**	**2003-04**	**Total**
Royalty from crude oil	1708	2049	2272	2486	3187	3263	14965
Royalty from gas	437	547	608	659	596	NA	2847
Oil Development cess	2751	2716	2728	2678	5047	NA	15920
Excise and customs duties	21513	32662	35912	36377	41465	45341	213270
Sales tax	13490	18106	23375	20090	28137	31081	134279
Corporate tax and others	2621	3863	5345	7027	12002	12760	43618
Total	**42520**	**59943**	**70240**	**69317**	**90434**	**92445**	**424889**

Annexure-6
(referred to in Para 1.11)

Statement Showing the Major Consumers of HSD, Naphtha and Natural Gas

HSD **(in TMT)**

USER	1999-2000	2000-01	2001-02	2002-03	2003-04
STUs	1276.8	1811.2	1946.6	2080.7	2137.8
Others (Pvt.)	1922	3009.9	2336.6	2141.6	2063.7
Railways	998.4	1630.3	1672.3	1651.0	1759.5
Others (Govt.)	578.1	448.5	467.9	365.5	365.2
Power Plants	328	375.1	362.2	312.7	331.5
Marine	164	279.4	312.8	315.4	316.7
Coal	145.1	313.1	307.9	242.5	254.0
Defence	NA	115.7	189.8	167.5	152.2
Mining	11.3	74.3	32.8	122.0	126.2
Fisheries	112.3	187.4	174.5	130.5	125.1
Cement	44.8	87.7	72.7	76.5	67.9
Steel	31.8	72.5	78.2	45.5	47.6
Textile	6.7	195	168.7	72.7	40.2
Auto Mfgr.	5.7	11.3	6.7	17.7	28.3
Sugar	5.7	30.5	48.6	37.98	28.29
Total	**5630.7**	**8641.9**	**8178.3**	**7779.8**	**7844.2**

Source: IOC Sales statement for five years.

Naphtha

(in TMT)

	1999-2000	2000-2001	2001-2002	2002-2003	2003-04
Fertilizers	3890.8	3872.8	3836.0	3639.0	3925.0
Power/steel	2308.4	2405.9	2217.0	2411.0	2217.8
Petro-chemicals	1331.4	1648.5	2090.0	1276.0	919.5
Processors	315.6	148.7	0.0	10.0	7.3
Total	**7846.2**	**8075.9**	**8143**	**7336**	**7069.6**

Natural Gas

(in Million Cubic Metre)

Industry	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
(a) Energy Purposes						
1. Power Generation	8714	8829	8801	9214	10510	11478
2. Industrial Fuel	3005	2329	2870	2979	2939	3099
3. Tea Plantation	147	140	151	147	119	142
4. Domestic Fuel	193	250	335	485	654	93
Captive use/LPG Shrinkage	911	4840	5004	5339	5409	4865

Others	0	36	38	70	136	1263
Total (a)	12970	16424	17199	18234	19767	20940
(b) Non Energy Purposes						
1 Fertilizer Industry	8869	8592	8440	7957	7955	7889
2.Others	0	1203	1402	937	1215	942
3.Petro Chemicals	650	666	779	909	1027	1128
Total (b)	9519	10461	10621	9803	10197	9959
Grand Total(a+b)	22489	26885	27820	28037	29984	30899
Percentage to Grand Total						
Energy Purposes	58	61	62	65	66	68
Non-Energy Purposes	42	39	38	35	34	32

Annexure-7

(Referred to in Para 3.3.1 (ii))

Mapping of development in hydrocarbon policies

No.	Particulars	Medium-sized discovered/producing fields	Small-sized discovered fields	Pre-NELP exploratory blocks	NELP exploratory blocks
1	Period of bidding	1992	1991 and 1993	1993 to 1995	1997 onwards
2	Rounds	One	Two	Six	Four
3	PSC signed	5	24	28	90
4	Licence-holder	All constituent of PSCs according to their participating interest	All constituent of PSCs according to their participating interest	NOCs irrespective of participating interest	Constituents of PSCs according to their participating interest
5	Participating interest by NOCs	40 per cent	Nil	Upto 40 per cent	NOCs to compete for acreage. Companies are free to have 100 per cent participating interest.
6	Carried interest of NOCs	Nil	Nil	30 per cent exercisable on commercial discovery	Nil
7	Liability for payment of	Constituent of the PSCs according to their	Constituents of the PSCs according to their	100 per cent liability on NOCs irrespective	All constituent of PSCs according to their

	royalty/Cess	participating interest	participating interest.	of their participating interest. Other participants thus exempted from payment of royalty and cess.	participating interest
8	Rate of royalty	Royalty and cess were frozen throughout the contract period @ Rs.481/MT and Rs 900/MT respectively for crude oil. Royalty on gas was @ 10 per cent on wellhead value of gas	Royalty and cess were frozen throughout the contract period @ Rs.481/MT and Rs 900/MT respectively for crude oil. Royalty on gas was @ 10 per cent on wellhead value of gas	Royalty and cess were frozen throughout the contract period @ Rs.481/MT and Rs 900/MT respectively for crude oil. Royalty on gas was @ 10 per cent on wellhead value of gas	Exemption from payment of cess. Royalty on land areas payable at 12.5 per cent for oil and 10 per cent for gas. Royalty on offshore areas @ 10 per cent for oil as well as gas. Only half of the royalty payable in the initial seven years from commencement of commercial production in deep water areas to generate an incentive for deep water exploration.
9	Customs duty	Completely exempted	Completely exempted	Completely exempted	Completely exempted
10	Price	International price	International price	International price	International price
11	Tax structure	Rate of corporate	Rate of corporate	Rate of corporate	Seven years tax holiday

		income tax leviable as per the provisions of the Income Tax Act for Indian companies.	income tax leviable as per the provisions of the Income Tax Act for Indian companies.	income tax leviable as per the provisions of the Income Tax Act for Indian companies.	from the data of commencement of commercial production
12	Marketing of oil/gas	Government had first option to purchase 100 per cent PSC production	Government had first right on purchase of 100 per cent JV production	Government had first right on purchase of 100 per cent JV production	Freedom to market the crude oil/gas discovered in domestic market
13	Sharing of profit petroleum between contractor and the Government	Based on post-tax investment multiple (IM) achieved by the contractor or post tax rate of return	Based on post-tax IM achieved by the contractor or post tax rate of return	Based on post-tax IM achieved by the contractor or post tax rate of return	Based on pre-tax IM achieved and is biddable.

Annexure-8

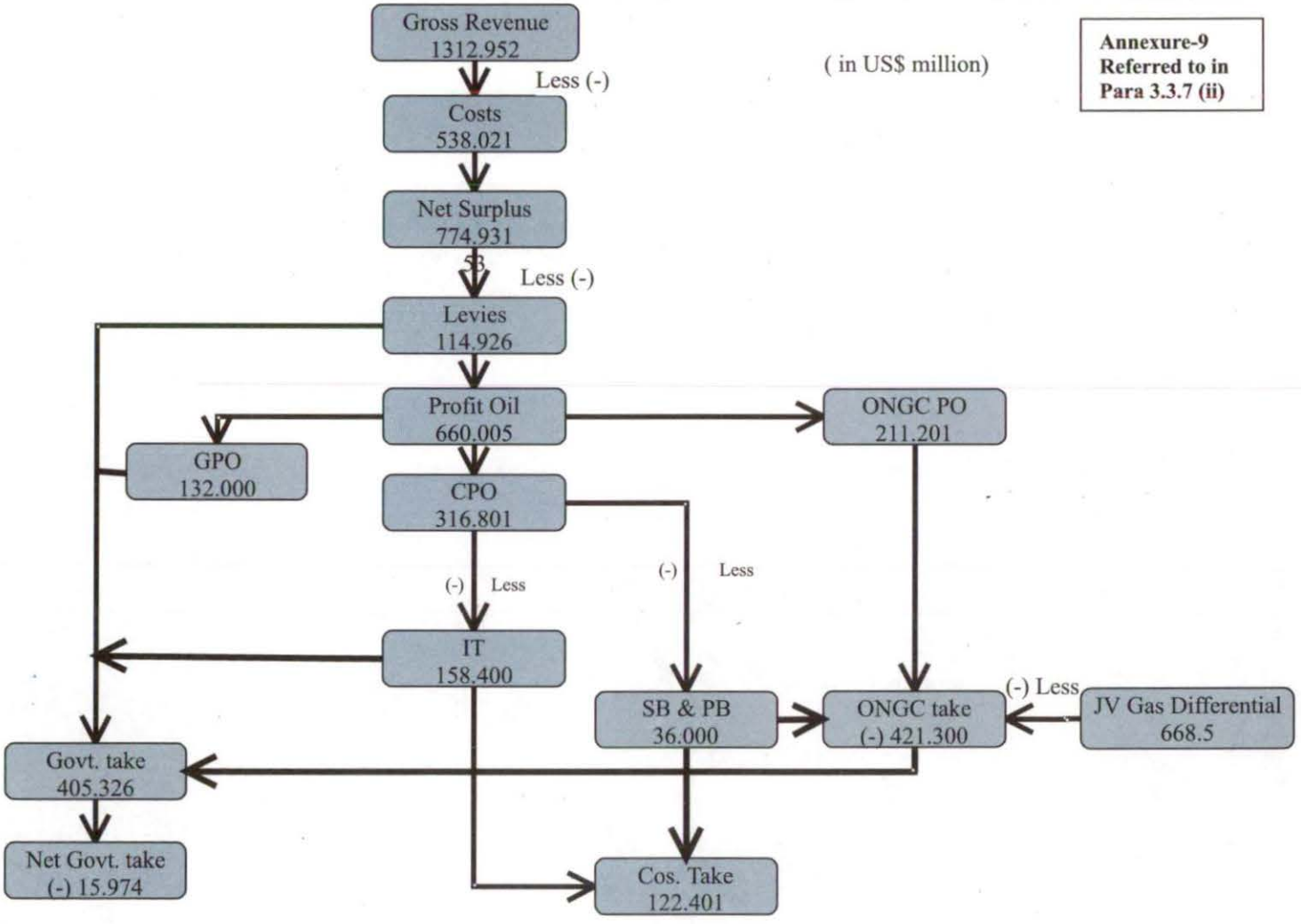
(referred to in para 3.3.6 (i))

Method adopted by different PSCs for calculation of wellhead value

Name of party/JV	Elements deducted from sale price for working out wellhead value of gas
Panna-Mukta & Tapti	Transportation charges and processing charges, amortized processing and transportation investment (capital expenditure) and operating expenses for processing and transportation which are all in the nature of post wellhead expenditure.
Ravva	The actual expenditure in respect of transportation and treatment costs were aggregated in common cost pool and unit cost was determined by dividing the common transportation and treatment cost by total barrels of oil equivalent (i.e oil plus oil equivalent of gas) to arrive at post wellhead cost per BOE (Barrel of Oil Equivalent). This unit cost per BOE was then applied to arrive at cost per 1000 SCM' of gas, for the purpose of calculation of royalty on the gas.
Lakshmi	Routine production and treatment expenses, depreciation and interest on capital employed & royalty on gas.
ONGC	ONGC pays royalty on gas on sale price
OIL	Value of wellhead is derived backwards from sale price after deducting gas collection and compression cost.

(in US$ million)

Annexure-9 Referred to in Para 3.3.7 (ii)



Annexure-10
(referred to in Para 5.1.2)

COBIT framework

- COBIT (Control Objectives for Information and related Technology) was first released by the Information Systems Audit and Control Foundation (ISACF) in 1996. Since then COBIT has been enhanced with existing and emerging international technical, professional, regulatory and industry-specific standards.

- COBIT helps meet the multiple needs of Management by bridging the gap between business risks, control needs and technical issues.

- Business orientation is the main theme of COBIT. It is designed to be employed not only by users and auditors, but also as comprehensive guidance for Management and business process owners.

- The control objectives make a clear and distinct link to business objectives and are defined in a process-oriented manner following the principle of business re-engineering. At identified domains and processes a high level control objective is identified and rationale provided to document the link to the business objectives. In addition, considerations and guidelines are provided to define and implement the IT control objective.

- The classification of domains where high level control objectives apply (domains and processes), an indication of the business requirements for information in that domain as well as the IT resources primarily impacted by control objectives, together form the COBIT framework. The framework has identified 34 High-Level Control Objectives and 318 Detailed Control Objectives.

Methodology of Audit under COBIT

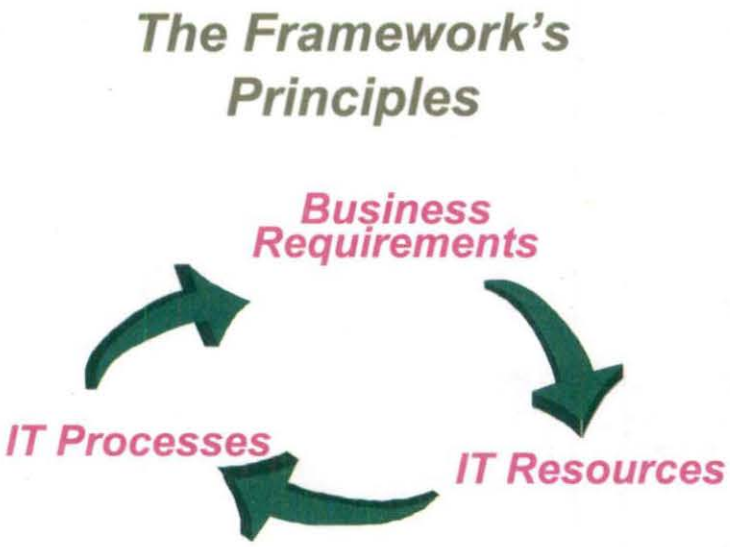
- In an organisation there are three levels of IT efforts in the management of IT resources.

- Starting at the bottom are the Activities and Tasks needed to achieve a measurable result. Activities have a lifecycle concept while tasks are more discrete. The lifecycle concept has typical control requirements different from discrete activities.

- Processes are then defined one layer up as a series of joined activities or tasks with natural control breaks.

- At the highest level, processes are naturally grouped together into Domains. Their natural grouping is often confirmed as responsibility domains in an organisational structure and is in line with the management cycle or lifecycle applicable to IT processes.

Thus, the conceptual framework can be approached from three vantage points.



(i) Business Requirements are classified into Quality (Quality, Cost and Delivery), Fiduciary (Effectiveness and efficiency, Reliability of information and Compliance of laws and regulations) and Security (Confidentiality, Integrity and Availability);

(ii) IT Resources consist of People, Application, System, Technology, Facilities and Data;

(iii) IT Processes are divided into Domains, Processes and Activities.

- To satisfy business objectives, information needs to conform to certain criteria, which COBIT refers to as business requirements. These are Quality, Effectiveness, Efficiency, Confidentiality, Integrity, Availability, Compliance and Reliability

In a System Development and Management four broad Domains are identified

(i) Planning and organisation: This domains covers strategy and tactics and concerns the identification of the way IT can best contribute to the achievement of business objectives.

(ii) Acquisition and implementation: To realise the IT strategy, IT solutions need to be identified, developed or acquired as well as implemented and integrated into business process.

(iii) Delivery and Support: This domain is connected with the actual delivery of required services, which range from traditional operations over security and continuity aspects to training.

(iv) Monitoring: All IT processes need to be regularly assessed over time for their quality and compliance with control requirements.

All the control measures will not necessarily satisfy the different business requirements for information to the same degree. Various degrees are as follows:

➢ Primary is the degree to which the defined control objectives directly impact the information criterion concerned.

➢ Secondary is the degree to which the defined control objectives satisfy only to a lesser extent or indirectly the information criterion concerned.

➢ Blank could be applicable. However, requirements are more appropriately satisfied by another criterion in this process and/or by another process.

- The control over an IT process and its activities with specific business goals ensures delivery of information to the business that addresses whether the required information criteria are measured by Key Goal Indicators. It is enabled by creating and maintaining a system of process excellence and control appropriate for the business. It considers Critical Success Factors that leverage specific IT Resources and are measured by Key Performance Indicators.

Key Goal Indicators as defined are:

- Increased level of service delivery;
- Availability of systems and services;
- Cost efficiency of processes and operations;
- Confirmation of reliability and effectiveness;
- Staff productivity and morale.

Critical Success Factors are:

- IT performance is measured in financial terms, in relation to customer satisfaction, for process effectiveness and for future capability and IT management is rewarded based on these measures;

- The processes are aligned with the IT strategy and with the business goals; they are scalable and their resources are appropriately managed and leveraged;

- A business culture is established, encouraging cross-divisional co-operation and teamwork, as well as continuous process improvement;

- Goals and objectives are communicated across all disciplines and are understood;

- A continuous process quality improvement effort is applied;

- The required quality of staff (training, transfer of information, morale, etc.) and availability of skills exist (recruit, retain, re-train).

Key Performance Indicators are:

- ✓ System downtime;
- ✓ Throughput and response times;
- ✓ Amount of errors and rework;
- ✓ Number of staff trained in new technology and customer service skills;
- ✓ Benchmark comparisons;
- ✓ Number of non-compliance reporting;
- ✓ Reduction in development and processing time.

- COBIT provides Maturity Model for control over IT processes, so that the Management can map where the organisation is today, where it stands in relation to the best-in-class in its industry and to international standards and where the organisation wants to be (refer to Annexure 11).

Annexure-11
(referred to in para 5.1.2)

Generic Process Maturity Model

- **Non- Existent:** Complete lack of recognisable processes.

- **Initial/Ad hoc:** There is evidence that the organisation has recognised that the issues exist and need to be addressed. There are, however, no standardised processes but instead there are ad hoc approaches.

- **Repeatable but Intuitive:** Processes have been developed to the stage where similar procedures are followed by different people undertaking the same task. There is no formal training or communication of standard procedures and responsibility is left to the individual.

- **Defined Process:** Procedures have been standardised and documented and communicated through training. It is, however, left to the individual to follow these processes.

- **Managed and Measurable:** It is possible to monitor and measure compliance with procedures and to take action where processes appear not to be working effectively.

- **Optimised:** Processes have been refined to a level of best practice. IT is used in an integrated way to automate the workflow. Providing tools to improve quality and effectiveness, making the enterprise quick to adopt.

Annexure-12
(referred to in Para 5.1.2)

Audit Methodology for project-manthan

The special features of the Audit Methodology followed in the Performance Audit of Information Technology (IT) Re- engineering Project (Manthan) are given below:

- Performance Audit has been conducted of an ongoing IT Project of substantial investment outlay of approximately Rs.300 crore.
- The Project is complex and is characterised by the involvement of multiple third parties including consultants, software and hardware suppliers, maintenance contractors and the Department of Telecommunications.
- Performance Audit has been conducted in conformity with the methodology as enunciated in the COBIT framework.
- Performance Audit has been conducted of an ongoing IT Project thereby reviewing the emerging transitional changes in Systems Development Implementation upto June 2004.with an evaluation of the IT System and with an emphasis on IT Governance, an increasingly significant concept, that is essential for the success of Enterprise Governance* as it integrates and institutionalises the best practices of Planning and Organising, Acquiring and Implementing, Delivering and Supporting and Monitoring IT performance , with a view to ensuring that the information and technology in the enterprise, support its business objectives.
- Accordingly, Audit had to orient its approach duly focusing on ascertaining whether the enterprise was in a position to optimise and obtain full advantage of its information, thereby maximising benefits, capitalising on opportunities and consequently gaining competitive advantage.
- With a view to ensuring the commencement and timely completion of Performance Audit within a pre-determined timeframe and with due regard to ensuring and facilitating the process of a proper appreciation and understanding of the COBIT Framework and its various components by the Corporate Management Audit ensured the following:

(i) a system of regular inter-action between the Audit Team and the Management;

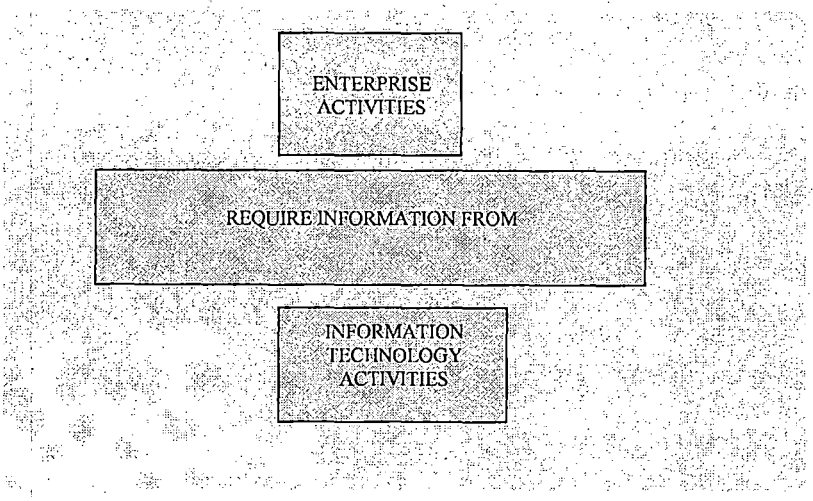
(ii) emphasising the need for swift responses from the Management to Audit Observations;

**Enterprise Governance has been holistically defined as " the set of responsibilities and practices exercised by the board and executive management with the goal of providing strategic direction, ensuring that objectives are achieved, ascertaining that risks are managed appropriately and verifying that the organisation's resources are used responsibly" (Information Systems Audit and Control Foundation, 2001.*

(iii) emphasising the need for providing the requisite documentation for substantiation of the Management replies furnished through interviews, replies to Audit memoranda and questionnaires;

(iv) Presentations were made to the Senior Management of the organisation regarding the methodology proposed for adoption while conducting the Audit. It included a detailed coverage of the following:

- An Executive Summary;
- The Framework of Domains, Processes and Control Objectives covering 34 High-Level Control Objectives and 318 Detailed Control Objectives;
- Management Guidelines;
- Audit Guidelines;
- The concepts of Maturity Model, Critical Success Factors, Key Goal Indicators.



A presentation was, in turn, made by the Electronics Data Processing Management regarding the highlights and salient features of the ERP Project Manthan. These meetings provided an effective platform for Audit and Management interface and, thus, facilitated the process of understanding the entity and its environment, both prior to the commencement of implementation of the Project and thereafter.

Other significant features of the Methodology included:

- Preparation and issue of detailed questionnaires for each of the four Domains (395 in all) under COBIT, for ensuring clear and comprehensible components for facilitating the receipt of responses from the Management.

- Structured interviews and collection of Audit evidence through Questionnaires and Check lists. More than 35 Structured interviews/ Meetings with a coverage of more than 100 officers were held at various levels, followed up by a process of collection of documentation.

- 25 out of 99 pilot sites were visited by the Audit Team for on-site evaluation of the IT System and collection of Audit Evidence. In addition offices of Members Audit Board of other regions gave the material for nine sites.

- Management confirmation of Minutes of Meetings held and continuous interaction at all levels with Management of the audited entity during the period.

- The following documents were examined in detail:

- Deliverables issued by the Consultants (Deliverables-1 to 14);
- Installation Manual;
- Operations Manual;
- Security and Authorisation–Roles and Transactions;
- SAP Testing Strategy;
- System Landscape and Hardware Sizing Document, Testing, Country India Reference and Info Data Base Servers;
- Proposed Codification Structure for Company's Chart of Accounts;
- Disaster Recovery Guide for Data Centre and Emergency Procedure;
  The Consultant designed the above documents.

In addition to the above the following documents were also reviewed during the Performance Audit:-

- Documents relating to the Selection Procedure of ERP vendors;
- Copies of Purchase Orders and Agreements with ERP vendors and the Consultants;
- Purchase Orders–Annual Maintenance Contracts;
- General Conditions of Contract;
- Personnel Manual;
- Administration Manual.

Annexure-13
(referred to in Para 5.1.1)

Enterprise Resource Planning (ERP)

(i) Enterprise Resource Planning system is a packaged business software system that enables an organisation to manage and synergise the efficient and effective use of its resources:
- Materials,
- People,
- Machinery, Plant and Equipment.

It integrates all facts of business operations.

(ii) Important attributes of ERP are its ability to:

- Automate and integrate the majority of an organisation's business processes;
- Share common data and practices across the entire organisation;
- Produce, access and analyse information flows in a real-time environment that would support decision-making at all levels by providing the required information to the right people at the right time and in the proper format;
- Elimination of redundant data and procedural operations;
- Flexibility to allow for customisation;
- Compulsive use of best practices because of software;
- Increased efficiency hence reduced costs;
- Adaptability to a changing business environment;
- Reduced cycle times;
- Functional interaction among various modules.

(iii) Precautions necessary for successful implementation of an ERP system include:

- Effective cost control mechanisms due to large investment outlays as rapid implementation would result in shortened ROI (Return on Investment) periods;
- Avoidance of mismatches between the proposed model, the ERP functionality and the customisation process so as to ensure avoidance of extended implementation time-frames, higher costs and the loss of user confidence;
- Adherence to a well-planned and realistically assessed and structured time schedule for implementation and commissioning;
- Effective vendor management.

  Ensuring effective integration and interface with the surviving legacy systems.

Annexure-14

(referred to in Para 5.1.6)

Statement showing the target and actual date of implementation of ERP software SAP/R3

Description	Proposed date of start / Actual date of start	Initial target date of completion / Revised target date of completion	Actual date of completion	Delay in months with reference to the revised target dates.
Stage-I Conceptualisation and design	April 1997 / July 1997	October 1997 / December 1997	July 1998	seven months
Selection of ERP Software/vendor and diversion of the scope of work of Consultants	--- / July 1998	--- / ----	September 1999. The Company paid Rs 33.27 lakh to Consultants for SAP selection	--
Stage-II Development, Testing and Implementation of SAP at 99 sites	August 1998 / October 1999	September 1999 / 36 Months (as per revised Targets) October 2002	October 2003	12 months
Roll out beyond 99 sites (Implementation of SAP at 429 sites)	October 1999 / November 2003	September 2002 / December 2003	November 2004	11 months
Delay in the implementation of Supply Chain Management System (add- ons)				
Supply Chain Management system (Phase-I)	June 2001 / October 2002	April 2002 / 16 months February 2004	September 2004	seven months
Supply Chain Management System (Phase-II) including integration with ERP.	December 2001 / October 2004	April 2002 / September 2005	---	----

Glossary

APM	Administered Price Mechanism
BOE	Barrels of Oil Equivalent
BOPD	Barrels of Oil Per Day
CAPEX	Capital Expenditure
COSA	Crude off take and sales Agreement
DGH	Directorate of Hydro Carbon
EOGIL	Enron Oil and Gas (India) Limited
GAIL	GAIL (India) Limited
GoM	Group of Ministers
GSPA	Gas Sales and Purchase Agreement
IOC	Indian Oil Corporation
JV	Joint Venture
MCF	Thousand Cubic Feet
ML	Mining Lease
MMBtu	Million British Thermal Unit
MMSCMD	Million Standard Cubic Metre per Day
MOPNG	Ministry of Petroleum and Natural Gas
MSCF	Thousand Standard Cubic Feet
NANG	Non Associated Natural Gas
NELP	New Exploration Licensing Policy
NOC	National Oil Companies
NPV	Net Present Value
OCM	Operation Committee Meeting
OIDB	Oil Industry Development Board
ONGC	Oil & Natural Gas Corporation Limited
OPEX	Operating Expenditure
PAO	Pay and Accounts Office
PEL	Petroleum Exploration License
PMT	Panna, Mukta & Tapti
PP	Profit Petroleum
PPAC	Petroleum Planning and Analysis Cell
PSC	Production Sharing Contract
PTRR	Post-Tax Rate of Return
RBI	Reserve Bank of India
RIL	Reliance India Limited
SBHT	South Bassein Hazira Gas Trunk
SBM	Single Buoy Mooring System
SCI	Shipping Corporation of India
SR	Southern Region
TT	Telegraph Transfer
WR	Western Region