18

STANDING COMMITTEE ON
PETROLEUM & NATURAL GAS
(2012-13)
FIFTEENTH LOK SABHA

MINISTRY OF PETROLEUM & NATURAL GAS

LONG TERM PURCHASE POLICY
AND
STRATEGIC STORAGE OF CRUDE OIL

EIGHTEENTH REPORT

LOK SABHA SECRETARIAT
NEW DELHI
May, 2013/ Vaisakha, 1935 (Saka)

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Presented to Lok Sabha on 08.05.2013
Laid in Rajya Sabha on 08.05.2013

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Shri Aruna Kumar Vundavalli - Chairman

2 Shri Ramesh Bais
3 Shri Subhash Bapurao Wankhede
4 Dr. Mehboob Beg
5 Shri Sudarshan Bhagat
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SECRETARIAT

1.	Shri A.K.Singh	Joint Secretary
2.	Smt. Anita Jain	Director
3.	Shri H.Ram Prakash	Deputy Secretary

INTRODUCTION

I, the Chairman, Standing Committee on Petroleum & Natural Gas having been authorised by the Committee to submit the Report on their behalf, present this Eighteenth Report on 'Long Term Purchase Policy and Strategic Storage of Crude Oil'.

2. The Committee took evidence of the representatives of the Ministry of Petroleum and Natural Gas at their sittings held on 27.8.2012 and 27.2.2013.

3. The Committee considered and adopted the Report at their sitting held on 02.05.2013.

4. The Committee wish to express their thanks to the representatives of the Ministry of Petroleum and Natural Gas and the Public Sector Undertakings/Organisations concerned for placing their views before them and furnishing the information desired in connection with examination of the subject.

6. The Committee also place on record their appreciation for the valuable assistance rendered to them by the officers of the Lok Sabha Secretariat attached to the Committee.

New Delhi;
6th May, 2013
16 Vaishakha,1935 (Saka)

ARUNA KUMAR VUNDAVALLI,
Chairman,
Standing Committee on Petroleum & Natural Gas.

REPORT
PART-I

Introductory

With rapid economic growth and the increasing energy requirement of Indian households, the issue of Energy Security has assumed importance. In view of the country's high dependence on imported crude oil, volatility of oil prices in the international market as well as perpetual political instability in some of the major oil exporting nations/regions, it is imperative to ensure uninterrupted supply of crude oil to our country's large and well spread out chain of refineries throughout the year.

International Oil Market – Historical background

1.2 The international oil industry in early 1950's was controlled by large multinational oil companies namely Anglo-Persian Oil Company (now BP); Gulf Oil, Standard Oil of California (SoCal) and Texaco (now Chevron); Royal Dutch Shell; and Standard Oil of New Jersey (Esso) and Standard Oil Company of New York (Socony) (now ExxonMobil). The host governments did not participate in production or pricing of crude oil and acted only as competing sellers of licences or oil concessions. Countries like Venezuela, Libya, Iran, Saudi Arabia and Soviet union started asserting their independence on oil production.

1.3 Between 1965 and 1973, global demand for oil increased at a fast rate with an average annual increase of more than 3 million barrel/day during this period. Most of this increase was met by OPEC which massively increased its production from around 14 million b/d in 1965 to close to 30 million barrel/day in 1973. During this period, OPEC's share in global crude oil production increased from 44% in 1965 to 51% in 1973. These oil market conditions created a strong seller's market and significantly increased OPEC government's power relative to the multinational oil companies.

1.4 The oil industry witnessed a major transformation in the early 1970s when some OPEC governments stopped granting new concessions and started to claim equity participation in their existing concessions, with a few of them opting for full nationalization. As owners of crude oil, governments had to set a price for third-party

buyers. The concept of official selling price (OSP) or government selling price (GSP) entered at this point and is still currently used by many oil exporters.

1.5 During the 1979 crisis, spot crude prices rose faster than official selling prices. Oil companies were able to capture the entire differential between official selling prices and the spot prices by buying from governments and selling in the spot market or through term contracts with other companies having no direct access to producers. This was unacceptable to OPEC and governments started selling their crude oil directly to third-party buyers by abandoning their long-term contracts, the producers had the freedom to sell to buyers who offered the highest mark-up over the marker price. The result was that the majors lost access to large volumes of crude oil that were available to them under long-term contracts.

1.6 With the continued decline in demand for its oil, OPEC saw its own market share in the world's oil production fall from 51% in 1973 to 28% in 1985. In 1986 and for a short period of time, Saudi Arabia adopted the netback pricing system to restore the country's market share. Soon after other oil exporting countries followed suit. The netback pricing system provided oil companies with a guaranteed refining margin even if oil prices were to collapse. Under this system, refineries had the incentive to run at a high capacity leading to an oversupply of petroleum products.

Current Pricing Regime

1.7 The current market-related oil-pricing regime is based on formula pricing, in which the price of a certain variety of crude oil is set as a differential to a certain marker or reference price. The emergence and expansion of the market for crude oil allowed the development of market-referencing pricing of spot crude markers such as spot West Texas Intermediate (WTI), Dated Brent and Dubai, which are being used even currently.

1.8 The Price of a barrel of oil is highly dependent on both its grade, determined by factors such as its specific gravity or API and its sulphur content and location. WTI is a light sweet crude oil used as a bench mark in oil pricing and its properties and production sites makes it ideal for being refined in United States. Brent crude is also a sweet light crude oil though not as light and sweet as WTI, sourced from North Sea. The Dubai crude has the highest sulphur content among the three and it considered to

be heaviest. The WTI and Brent Crude Oil are traded on New York Mercantile Exchange (NYMEX) and Intercontinental Exchange, London respectively.

1.9 Sweet and sour refers to the level of sulphur, an undesirable impurity that is dangerous and pollutive. Sweet crude oils contain less sulphur; sour crude oils contain more sulphur.

1.10 The top ten countries having proven crude oil reserves furnished by the Ministry are given under:

Oil: Proved Reserves			
S.No.		At the end 2011	
	Country	Thousand Million Tonnes	Thousand Million barrels
1	Venezuela	46.3	296.5
2	Saudi Arabia	36.5	265.4
3	Canada	28.2	175.2
4	Iran	20.8	151.2
5	Iraq	19.3	143.1
6	Kuwait	14.0	101.5
7	United Arab Emirates	13.0	97.8
8	Russian Federation	12.1	88.2
9	Libya	6.1	47.1
10	Nigeria	5.0	37.2
Source : BP Statistical Review of World Energy, June 2012			

I. LONG TERM PURCHASE POLICY:-

(A) INDIAN SCENARIO

1.11 India has about 213 MMTPA of crude oil refining capacity , out of which about 135 MMTPA is owned and operated by the Indian PSU oil companies. Since production of indigenous crude oil is not adequate, Indian oil companies resort to import of crude oil to meet the requirements of their refineries. During 2011-12, the indigenous production of crude oil was only 38 MMT, and therefore, a total of 172 MMT of crude oil

was imported by Indian oil companies out of which 96 MMT was imported by PSU oil companies.

1.12 Asked about the share of India in total crude oil import across the Globe, the Ministry in a written reply informed that:

> 'As per BP Statistical Review of World Energy June 2012, total crude oil imports during 2011 were 1894.7 Million Metric tonnes (MMT). Oil Companies in India has imported 171.7 Million metric tonnes (MMT) of crude oil i.e. 9.1% of global crude oil imports'.

1.13 The top ten oil importing countries/Region furnished by the Ministry is given as under:

Crude oil imports during 2009 to 2011

S.No.		2009		2010		2011	
	Country/Region	**Million Tonnes**	**% of World**	**Million Tonnes**	**% of World**	**Million Tonnes**	**% of World**
1	Europe	513.3	27.1	465.1	24.8	464.2	24.5
2	USA	442.8	23.4	456.1	24.3	445	23.5
3	China	203.5	10.8	234.6	12.5	252.9	13.3
4	Other Asia Pacific	228.6	12.1	225.5	12.0	224.4	11.8
5	Japan	176.5	9.3	184.8	9.9	177.3	9.4
6	India*	159.3	8.4	163.6	8.7	171.7	9.1
7	Singapore	46.3	2.4	39.9	2.1	55.1	2.9
8	Canada	39.1	2.1	28.9	1.5	26.6	1.4
9	Australasia**	22.8	1.2	29.0	1.5	26.8	1.4
10	North Africa	18.4	1.0	12.3	0.7	21.0	1.1
	World Total	**1892.5**	**100.0**	**1875.8**	**100.0**	**1894.7**	**100.0**

Source : BP Statistical Review of World Energy June 2010,2011,2012

** Data includes RIL(SEZ) data and is for financial year*

**Australasia, as per BP Statistical Review of World Energy, June 2012, stands for Australia and New Zealand. (Reply4(ii))

1.14 The details of indigenous crude oil production during last five years as furnished by the Ministry is given under:-

Indigenous Crude oil Production From 2007-08 to 2012-13 (Apr-Sep)						
						In TMT
	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
CRUDE OIL						(Apr-Sep)
BOMBAY HIGH	15508	14977	14250	14002	13399	6256
SOUTH GUJARAT	2154	2030	1915	1822	1680	734
NORTH GUJARAT	3901	3758	3870	3935	3949	1891
KG-ONSHORE	278	289	303	305	305	144
CAUVERY	299	265	240	234	247	126
ASSAM - ONGC	1290	1223	1189	1149	1203	605
EASTERN OFFSHORE					39	25
OIL (Assam, Arunachal & Rajasthan)	3095	3468	3572	3586	3843	1903
PANNA/MUKTA	1900	1615	1756	1213	1310	562
PY-3	162	116	65	153	50	0
RAVVA	2362	1951	1600	1362	1340	555
KHARASANG	61	66	98	93	92	48
GUJ-ON SHORE	122	157	177	148	144	77
GUJ OFF SHORE	229	348	414	316	244	105
KG-DWN-98/3 (MA Oil)	0	130	502	1078	681	233
RJ-ON-90/1 (MANGALA)	0	0	447	5149	6552	4316
CONDENSATE						
HAZIRA-ONGC	2512	2823	2903	2972	2890	1480
M&S TAPTI-PSC	231.6	271.6	186.9	149.6	107.1	36.5
AMGURI	9.1	19.5	11.5	10.3	0.9	0.0
PY-1 (Condensate)			4.4	9.4	4.6	1.7
RJ-ON/6 (Condensate)				0.99	0.61	0.24
Total Condensate	2753	3114	3106	3142	3003	1519
GRAND TOTAL	**34115**	**33508**	**33505**	**37688**	**38081**	**19098**

Source : As provided by ONGC, OIL, DGH.

1.15 On being asked about the efforts put in by the Government /PSUs during last 5 years to Minimize crude oil dependence over foreign countries, the Ministry apprised as under:

> "In order to increase the crude oil production in the country as well as reducing import dependency on energy, Government/Oil PSUs have taken the following steps:

i. Offering of more unexplored areas for exploration through New Exploration Licensing Policy **(NELP)** bidding rounds.
ii. Implementing of Improved Oil Recovery (IOR)/Enhanced Oil Recovery (EOR) schemes in ageing fields.
iii. Induction of new technologies such as horizontal drilling, side tracking etc.
iv. Acquiring of oil/gas assets abroad by Oil PSUs.
v. Permission to carry out exploration in mining lease area.
vi. Research and development in other alternate sources of hydrocarbons such as Underground Coal Gasification (UCG)".

1.16 Crude oil is imported by PSU oil companies by way of Term Contracts and through Tenders. The major part (about 80%) of the crude oil imports is organized through Term Contracts and balance requirement is organized through spot Tenders. (Brief 2.2). The quantum of crude oil imported by Oil Companies from various countries during the last 5 years company-wise and country-wise are given below:

Table (A) Company-wise crude imports from 2007-08 to 2011-12

(Million Metric Tonne)

Company	2007-08	2008-09	2009-10	2010-11	2011-12
IOCL	45.73	47.78	47.89	50.44	52.64
BPCL	14.50	12.70	14.78	15.43	18.73
HPCL	12.46	11.50	11.58	10.39	12.54
MRPL	10.85	10.84	10.56	10.71	11.87
RIL	31.38	32.63	31.36	27.75	28.81
RIL-SEZ	6.75	4.62	29.46	35.77	35.00
ESSAR	0.00	12.70	13.62	13.09	12.14
TOTAL	**121.67**	**132.78**	**159.26**	**163.59**	**171.73**

1.17 The country-wise details of import of crude oil during past 6 years is given below:

Table (B) Country wise crude imports from 2007-08 to 2011-12

(Million Metric Tonnes)

	S. no.	Country	2007-08	2008-09	2009-10	2010-11	2011-12
Middle East	1	Saudi Arabia	26.99	25.94	27.14	27.39	32.52
	2	Iraq	14.29	14.39	14.95	16.83	24.11
	3	Kuwait	10.31	14.77	11.82	11.49	17.73
	4	Iran	19.49	21.81	21.20	18.50	18.11

	5	UAE	10.86	13.86	11.60	14.74	15.79
	6	Qatar	6	2.94	5.42	5.72	6.50
	7	Oman	0.49	0.28	5.39	5.05	2.60
	8	Yemen	2.19	0.66	2.92	2.90	1.28
	9	Neutral Zone	2.6	0.23	3.05	2.36	-
	10	Syria	-	0.08	0.23	-	-
		Sub Total	**89.73**	**94.96**	**103.72**	**104.98**	**118.64**
Africa	11	Nigeria	9.92	10.54	13.20	15.81	14.13
	12	Angola	4.34	5.31	8.99	9.95	9.01
	13	Egypt	1.89	2.26	3.05	1.76	2.83
	14	Algeria	0.3	0.26	1.83	2.65	2.07
	15	Equatorial Guinea	1.77	0.28	1.25	1.38	0.90
	16	Sudan	0.94	0.77	1.11	1.25	0.69
	17	Congo	-	0.25	1.46	0.91	0.53
	18	Cameroon	0.11	0.11	0.28	0.33	0.49
	19	Ivory Coast	0.15	0.14	0.15	-	0.17
	20	Libya	2.07	0.89	0.95	1.09	0.17
	21	Gabon	-	0.42	0.14	0.45	0.14
	22	Chad	-	-	0.29	-	-
	23	West Africa	-	-	0.24	-	-
		Sub Total	**21.48**	**21.23**	**32.94**	**35.58**	**31.14**
Asia	24	Malaysia	4.28	3.91	2.64	2.21	2.34
	25	Brunei	0.35	0.85	0.91	0.93	1.09
	26	China	-	-	0.14	-	-
	27	Singapore	-	0.14	-	-	-
	28	South Korea	-	-	0.26	0.13	-
		Sub Total	**4.63**	**4.90**	**3.95**	**3.27**	**3.44**
South America	29	Venezuela	1.17	7.56	7.30	10.40	9.56
	30	Brazil	-	-	2.56	2.88	3.79
	31	Colombia	-	-	0.85	1.33	0.89
	32	Ecuador	0.26	-	1.31	0.45	0.30
	33	Panama	-	0.07	0.07	-	-
		Sub Total	**1.43**	**7.64**	**12.10**	**15.05**	**14.53**
Eurasia	34	Azerbaijan	2.11	1.58	2.26	0.76	1.04
	35	Kazakhstan	-	-	0.13	-	-
	36	Russia	0.36	0.23	1.59	0.78	-
		Sub Total	**2.47**	**1.80**	**3.99**	**1.54**	**1.04**
North America	37	Mexico	1.37	2.15	1.89	1.28	2.28
	38	Canada	-	-	0.08	-	-
		Sub Total	**1.37**	**2.15**	**1.97**	**1.28**	**2.28**
	39	Albania		-	-	-	0.02
Europe	40	Norway	-	-	-	0.20	-
	41	Turkey	0.41	-	0.13	-	-

	42	UK	-	-	0.09	-	-
		Sub Total	**0.41**	-	**0.23**	**0.20**	**0.02**
Australia	43	Australia	0.17	0.09	0.36	1.69	**0.65**
Total			**121.67**	**132.78**	**159.26**	**163.59**	**171.73**

Source : Oil Companies and PPAC

1.18 Observing the huge dependence of OMCs on Middle East countries for crude oil, the Committee desired to know about the steps taken by MoPNG/OMCs to diversify the geographical sources, the Ministry in a written reply apprised as under:-

'IOCL

Middle East is the natural source of supply of crude oil to India due to its geographical proximity to the country. However, Indian Oil has been making efforts to diversify its crude oil import sources to other regions like Far East, West Africa, Mediterranean, Latin America etc. Efforts are also being made on continuous basis to enlarge the crude oil import basket, for which new crude assays from all parts of the world are sourced from suppliers and then technically evaluated to find their suitability for processing in Indian Oil refineries. During the last few years, Indian Oil has entered into new term contracts with National Oil Companies (NOCs) of countries like Angola, Brunei, Azerbaijan & Mexico. For 2013-14, new term contracts are being proposed with NOCs of Colombia, Venezuela & Brazil (all in Latin America) as well as NOCs of Qatar & Dubai (both in Middle East).

BPCL

BPCL imports its entire high sulphur crude oil requirement from NOCs based in Middle East through term contracts. Low sulphur crude oil is imported mainly from Far East, West Africa and Mediterranean regions. BPCL has been widening its crude oil import basket and has included grades from wide geographic areas like Canada, Russia, Australia etc. in its oil basket to diversify supply sources.

HPCL

HPCL has a wide basket of crude oils from all around the world including Middle East, West African, Mediterranean, North Sea, Far East and Latin America. HPCL has plans to set up a bottom up-gradation unit in its Visakhapatnam Refinery after which, it will be possible to source and process Latin American grades'.

1.19 When the Committee enquired about the diversification efforts of Ministry, the representatives from MoP&NG deposed before the Committee during the oral evidence as under:

"The import from Middle East, which were 72 per cent in 2008-09 have come down to 69 per cent last year; and this year, so far, it has been 63 per cent. Import from Africa has gone up from 16 per cent to 18 per cent and this year also, it is further likely to go up. The import from other countries is going up – from 12 per cent in 2008-09, it has gone up to 20 per cent. So, basically we as a nation are trying to diversify the sources and trying to go away from the dependence on the Middle East'. (proceeding 24/2 page 24)

1.20 On being enquired about the reasons for low crude oil purchase from countries like Venezuela and Canada having substantial proven reserves, the Ministry stated as under:-

"The quality of crude oil produced in countries like Venezuela and Canada are of low API, heavy, high acid grades that can be processed only by refineries having high complexity in their configuration (i.e., those refineries having bottom up-gradation units like Coker). The older refineries, being less complex, do not have the capability to process these heavy grades of crude oil'.

1.21 Guidelines issued by MoPNG regarding purchase of crude oil :

1. The extant policy for import of crude oil on term contract basis by the public sector oil companies, are as follows:-

(i) Where adequate quantities of suitable crude oils are not available from National Oil Companies (NOCs) at Official Selling Prices (OSP), terms contracts may be entered with such NOCs that have surplus crude oil for exports but do not have OSP.

(ii) Multi-national Oil Companies (MNCs), given in Annexure-I, may also be approached for sourcing the crude oil requirement. If it is considered necessary to expand the list of MNCs beyond Annexure-I, a proposal should be made to this Ministry after seeing the working of the modified policy for one year or so.

(iii) The supplier NOCs not having OSP or the short listed MNCs, to be approached in terms of (i) & (ii) above, should be the owner of equity oil of their own or the oil swapped with the equity oil of the supplier company.

(iv) The pricing basis for term contracts will be negotiated by the Empowered Standing Committee (ESC) within the mandate given by Ministry of Petroleum & Natural Gas. The ESC should seek the price mandate based on the following:-

a) The price quotes received against most recent tender(s) for the specific grade(s) of crude oil under consideration; or

b) The price level which ensures the crude oil net back equal to or higher than the crude oil being sourced at OSP under that category.

c) The pricing basis as mentioned above would take into account the impact of other commercial terms including payment terms etc.

(v) The quantity of crude oil to be imported for terms contracts on negotiated pricing basis shall be approved by Ministry of Petroleum & Natural Gas.

(vi) All possible efforts should be made first to maximize term Volumes with NOCs on OSP as pricing basis. Thereafter, attempt should be made to finalize terms contracts with NOCs not having OSP and term contracts with the short listed crude exporting MNCs.

2. HPCL, BPCL, KRL, CPCL and BRPL may exercise the option to import their crude oil requirement themselves under the actual user licensing policy or through IOC, within the extent ESC mechanism. Any company desirous of importing its crude oil requirement on its own should, after the company has acquired expertise for taking up crude oil imports, seek approval of this Ministry in this regard.

3. ESC will continue to coordinate allocating the available quantities of term crude among various public sector refineries.

1.22 The crude oil import guidelines of MoP&NG enumerates a list of 10 multinational oil companies having established credentials for purchasing crude oil. When asked as to when was the present list was made effective, the Ministry submitted a written reply as below:-

"The list of MNCs for purchase of crude oil was issued by MoP&NG vide letter No. P-24011/6/2000 dated May 21, 2001. However, a proposal has been received from BPCL to revise the list, which is under examination on industry basis".

1.23 As regards the method of crude oil purchase followed by OMCs ,the Ministry In a written reply informed as under:

"Oil Marketing Companies (OMCs) import their major part (about 80%) of the crude oil through Term Contracts with National Oil Companies (NOCs) and the balance through Tenders. OMCs prepare an annual Strategy Paper for import of crude oil every year, taking into consideration the following:

i. Techno-economic evaluation of different grades of crude oil for maximization of corporate margins,
ii. Processing needs of its refineries,
iii. Diversification of sources of supply to avoid dependence on a few countries / supply sources,
iv. Maintaining security of supplies
v. Existing business relationship with various term suppliers, and
vi. Country- to- country relationship.

The strategy so drawn out serves as the annual crude oil import plan of OMCs and covers the type, quantity and source of crude oil to be imported on term basis. Term Contracts are an important part of the strategy for ensuring supply security and all efforts are made by OMCs to cover a major portion of its total requirement of crude oil imports through Term Contracts".

1.24 Asked about the decision making mechanism in the purchase of crude oil by OMCs, the Ministry submitted the following reply:-

"As per the Strategy Paper approved by the Board of Directors of OMCs every year, attempts are made to maximize import of crude oil through term contracts. Accordingly, the entire quantity of High Sulphur (HS) crude oil requirement is met through Term Contracts, with the exception of a few cargoes of HS crude oil, which are procured from various NOCs only for trial processing to establish the technical feasibility of processing such crude oil in the OMCs refining system. Crude oil imports are finalized by OMCs only on 'principal to principal' basis. However, availability of Low Sulphur (LS) crude oil through Term Contracts with NOCs is very limited. Therefore, about 20% of the total import requirement predominantly low sulphur crude is procured by OMCs through tenders.

Tenders are finalized through the process of competitive bidding, in which the registered suppliers of OMCs participate. Broadly, three types of suppliers are registered with OMCs. They are NOCs, international oil majors and international oil traders. The tendering process consists of the following steps:

i. Tender enquiries are sent by OMC concerned to all registered suppliers.
ii. Evaluation of offers is carried out and comparative statement is prepared by OMC.
iii. Summary of evaluation of offers is put up by OMC concerned to the Empowered Standing Committee (ESC), comprising Chairman/C&MD of OMC, Director (Finance) and Director (Refineries) of OMC concerned, Additional Secretary & Financial Adviser and JS (Refineries).
iv. ESC finalizes award of crude oil imports based on the comparative evaluation of offers and other issues like prevailing market conditions, refinery requirements, presented by the OMC concerned".

1.25 When asked about the effect of the present policy on the price of crude oil being imported and whether the mechanism leads to increased prices ,the Ministry stated as under:

"Spot purchases are done through tender process inviting bids from all parties registered with an OMC. The offers are, then, evaluated for Net Corporate Realisation (NCR) using Linear Programming models. The evaluation process

factors in future prices of the crude & products, refinery units availability, product demand, shipping cost, exchange rate, insurance etc. The crude oil price offer which gives highest NCR is selected and is recommended to the Empowered Standing Committee (ESC) headed by respective Chairman/CMD.

PSU oil companies procure crude oil either through NOCs against term contract and/ or through spot tenders. The pricing of crude oil imported against term contracts is based on the respective monthly Official Selling Price (OSP) of the respective NOCs. The OSPs so declared by a NOC is uniformly applicable to all its term customers in a particular region of the world. Hence, the crude oil volume procured against term contracts would be at the best price for the particular grades. Purchases through tenders are finalized through the process of competitive bidding, and the offer giving maximum Net Corporate Realisation (NCR) to the Corporation is procured.

The PSU oil companies are not permitted to negotiate with the suppliers unlike the private and international oil companies. However, it does not necessarily mean that the present mechanism leads to increased prices. Further, the tendering process which is required to be followed by Oil PSUs does not permit them to procure distress cargoes that may be available at times'.

B. PURCHASE THROUGH TERM CONTRACTS / SPOT TENDERS

1.26 In an information furnished to the committee , the Ministry stated that Indian PSU oil companies are currently having Term Contracts for import of crude oil with NOCs of Angola, Azerbaijan, Brunei, Iran, Iraq, Kuwait, Malaysia, Nigeria, Saudi Arabia and the UAE. The country wise Term Contract volumes for each of the PSU oil companies planned during 2012-13 are tabulated below:

Region	**IOC**	**BPCL**	**HPC**	**MRPL**	**Total**
Middle East					
Iraq	13.5	1	2.25	0.55	17.3
Saudi Arabia	5.5	4.1	3	3.1	15.7
Kuwait	10	2.3	1	1.1	14.4
Iran	1.5	0.5	3	5	10
UAE	2	2.75	2.25	2	9
Total (A)	**32.5**	**10.65**	**11.5**	**11.75**	**66.4**
West Africa					
Nigeria	3	-	-	-	3
Angola	2	-	-	-	2
Total (B)	**5**	**-**	**-**	**-**	**5**
Others					
Malaysia	1.25	0.25	0.5	-	2
Azerbaijan	1	-	0.25	-	1.25

Brunei	0.65	0.38	-	-	1.03
Total (C)	**2.9**	**0.63**	**0.75**	**-**	**4.28**
Grand Total	**40.4**	**11.28**	**12.25**	**11.75**	**75.68**

1.27 The buyer and seller companies enter in to written oil purchase agreements mentioning therein all important details regarding quantity, quality, duration , port of loading, delivery, dispute redressal, demurrage, freight, insurance charges etc., and generally most of the Terms and Conditions mentioned in the contracts have got universal applicability.

1.28 The Committee on perusal of agreement signed between seller and buyer company found it to be enormously biased towards seller, often making seller responsible for damages caused, therefore desired to be apprised of the reasons for the same ,the Ministry stated as under:

> "As per the standard international practices, crude oil supply contracts are usually guided by the General Terms and Conditions (GTC) of the suppliers and are common to all buyers. A large portion of the crude oil sold world wide is by National Oil Companies (NOCs) of the oil producing countries and the terms of sale are predominantly in the favour of the NOCs".

1.29 Asked about the modalities involved in purchase of crude oil through term contracts and spot tenders, the Ministry furnished the following reply:

> "Term Contracts are finalized by OMCs with the National Oil Companies (NOCs) of oil producing countries having surplus crude oil. The pricing basis of majority of term contracts is as per the Official Selling Price (OSP). For term contracts with NOCs not having OSP, the pricing basis is the pricing formula which is agreed between the OMC and the NOC. The Term Contracts are of annual duration.
>
> Spot tenders are finalized through the process of competitive bidding, in which the registered suppliers (broadly NOCs, international oil majors and international oil traders) participate. Offers are invited against Tenders under a two-bid system. The offers received are evaluated by OMC concerned and put up to the ESC for consideration and approval. The ESC finalizes crude oil imports based on the comparative evaluation of offers received and other issues like prevailing market conditions, refinery requirements, etc. as presented by OMCs concerned".

1.30 When enquired about the feasibility of entering in to contracts in consideration of investments. The Ministry informed that OMCs, currently do not enter into term contract for a period beyond one year and there is no instance of OMCs entering into a contract in consideration of investment.

1.31 When asked about the reasons for entering only in Annual Term Contracts and about the efforts made to have longer duration contracts, the Ministry in written Replies furnished as below:-

> "The duration of the term contracts are as per respective supplier's terms & conditions. The National Oil Company (NOC) of the crude oil exporting countries prefer to have term contracts of one year duration, as it provides both the suppliers and the buyers the flexibility to revise the volume of term contract each year. Also, the NOCs do not prefer to have long term volume commitments in view of uncertainties in the crude oil market, their domestic demand scenario, strategic needs, etc. Indian Oil, for example, had in the past approached the NOC of Kuwait for a longer term contract, but the same did not materialize".

1.32 Asked to explain the advantage of term contract over spot tender the Secretary, MoP&NG deposed before the Committee as under:-

> "Term contract is always better because there at least we have the security of receiving the supplies. In the spot, they have to go to the market and buy it and get the supplies on a very short interval. The supply may or may not be available. Price also, in fact, at times is different from what is ruling. So, long-term contract is always better but it has not been possible for companies to enter into almost 100 per cent of their requirement through term contract. So, they have to depend somehow on spot also".

1.33 On being further queried as to when term contract is the preferred mode of purchase, and why 20% requirement is being met through spot purchases, the CMD, BPCL apprised as under:-

> "When we enter into a term contract we have no option but to take it. Plus or minus 10 per cent is the condition. We keep some quantity for the spot purchase, the reason being that the differential between high sulphur crude and low sulphur crude keeps varying. Sometimes it ranges between 2 dollars and 6 dollars. Depending on that situation we would like to procure more. If the differential is very high we would like to process more of high sulphur crude. If the differential narrows down, the low sulphur crude gives better yield in our refinery. The refinery configuration is such that we cannot process the entire high sulphur crude and the most of the term contract is based on the high sulphur crude only. Because low sulphur crude is hardly available for terming. High sulphur crude is the only crude available for term contract. We would like to have the flexibility of

processing the low sulphur crude as long as the difference between the low sulphur and the high sulphur is the minimum".

Explaining further, he stated:-

"In most of the term contract, crude is available and that is high sulphur crude. We would like to term those crude on term basis. There are two reasons. One is supply security because we would like to be assured of getting enough crude as and when we need and the second thing is low sulphur crude, very little low sulphur crude is available for term contract, only from south east Asia and West African countries which we term up. From low sulphur we get 80 per cent of diesel, kerosene and LPG whereas from high sulphur we get only 60 per cent or 70 per cent. If the price favours us, we would like to go for low sulphur crude, if not, then we would prefer to go for high sulphur crude. This is the economic decision that we take from time to time. Therefore, we keep this flexibility of 20 per cent to process high sulphur at the same time, meeting the security supply requirement. When I say both are equally good because term contract is entered into with national oil companies, Government companies sell on Official Selling Price (OSP) whereas low sulphur crude is procured through whatever is available on term from South East Asia and Far East and Nigeria and rest of it is imported by the tendering process. Tenders are floated to those parties who are registered with us. The registration process is very rigorous. Parties have to prove their financial credibility and everything else. Tenders are floated to only those parties. Once the offers are received, at times, we get premium, at times we get discounts. All the offers are evaluated and decision to award the contract is taken by the Empowered Standing Committee (ESC) where we have representative from the Board".

1.34 Asked to furnish details regarding the registration procedure for any interested oil supplier under spot purchases, the Ministry apprised as stated below:

"Any company interested in supplying crude oil to OMCs first needs to get themselves registered with OMCs. The company can download the Registration Form available on OMCs website, or it may seek a soft copy through an e-mail from OMCs.

The basic criteria for registration is that the company must have minimum three years' experience in physical crude oil trading including having handled a threshold volume of crude oil. The company has to also provide bank and trade references. Positive responses from at least two banks and two trade references would be required. The company has to also provide customer and supplier wise details of crude oil volumes traded during last three years.

In addition, company has to submit following documents:

(i) Audited financial statements for previous 3 years. The company should have made profit of minimum USD 1 million and should have positive net worth in each of the last 3 years.
(ii) Parent Company Guarantee (PCG), in case party is unable to provide its own financials and submits the financials of their parent company.

(iii) Notarized copy of certificate of incorporation.

Upon the company fulfilling the registration criteria, approval of the OMC's management is obtained for registering the Company".

1.35 When the Committee sought to know the probable causes of restricting the sweet crude percentage to 20% only, especially when 34% of global crude oil produced is low sulphur category, the Ministry in a written reply explained as below:-

"Presently, major requirement of High Sulphur (HS) crude is met through Term Contracts. Since availability of Low Sulphur (LS) crude oil from the term suppliers is very limited, the same is procured by OMCs through tenders".

"The main source of sweet crude oil for Indian refiners are West Africa, Mediterranean, North Sea, Russia and the Far East. Due to limited availability, only small volume term contracts are offered by the NOCs of countries in these regions, like Nigeria, Angola, Malaysia, Brunei, etc. The political situation in Libya, which is another major source of sweet crude, is not conducive for entering into term contracts at present. Unlike the Middle Eastern countries, where marketing of bulk of the sour crude oil is generally done by the NOCs of the respective countries, production of sweet crude oil in majority of the producing countries is shared amongst various oil majors, multinational oil companies and the NOCs of producing countries, thereby limiting the availability and offer of sweet crude oil with the NOCs for term contracts".

1.36 When asked as to whether there is any ceiling on purchase mode (Term or spot) for OMCs, the Ministry furnished the following:

"There is no ceiling on purchase of crude oil under Term Contract or Spot Tender. However, there is always an effort by OMC on maximizing imports through Term Contracts".

1.37 When asked to inform about the sources of crude oil and average percentage mix of term contract and spot tender entered in to by private sector companies namely M/s Reliance Industries Limited and M/s Essar Oil, the written reply stated as under:

"As per the information furnished by Reliance Industries Limited, Crude oil is sourced by them from various countries through Spot, Term and Tender purchases depending upon the crude availability & system of crude suppliers. Term purchases constitute 50-60% of total crude oil purchase in a year.

As per the information furnished by Essar Oil Ltd, Crude oil is sourced by them based upon techno-commercial considerations giving due weightage to long term availability of the crude oil, diversity of geographical source, refinery configuration

besides flexibility to change processing depending upon the economic environment, supply and demand balance in the region etc. Purchases of crude oil are done from National Oil Companies of oil rich countries, Oil Majors, International Oil Trading Companies across various geographies from the Far East to the Americas. The contracts are either on term contract basis or spot contract basis. The term and spot mix keeps changing depending upon the crude oil availability and refinery operations and refinery upgrade besides the demand situation. The share of term and spot keep changing based on the strategy of the company and market outlook. Typically, the term share during the last 3 years varied from 50% to 70% with the balance made up through spot purchases".

1.38 Observing the high volatility in crude oil prices during last few years, the Committee wanted to know whether OMCs have resorted to augmented purchase of crude oil through spot tenders to benefit from the lower prices in the market, the Ministry in its reply stated as under:

"The mix of HS and LS crude oil to be purchased in any year is decided based on techno-economic evaluation. While, majority of HS crude oil requirement is available through Term Contracts, the availability of LS crude oil through Term Contracts is very limited. Further, since the Term Contract volumes are normally required to be lifted on monthly/quarterly pro-rata basis, spot purchases provides the required flexibility in operations/planning due to fluctuations in product demand, LS – HS crude oil spread, product cracks, inventories, emergency shutdown of process units, slippage in planned shutdown days etc. Nevertheless, OMCs constantly make efforts to increase the Term Contract volumes for LS crude oil. In order to maintain the least possible inventory, the purchases made through spot tenders are finalized about two months in advance from loading month. The price of crude oil in the spot market fluctuate on daily basis".

1.39 The Committee desired to know as to whether OMCs do hedging in the purchase of crude oil, when cost advantages for OMCs by purchasing opportunity crude oil available in international market. During the oral evidence, the CMD BPCL submitted following information before the Committee:

"It can work either way. For example, Reliance lost huge money in hedging, but in our case, we have to take permission from the RBI. We can go up to a certain amount. It is a risky affair. So, at times it can work in your favour, but many times it can work against you. If it goes against you, then you are answerable to all kinds of queries.

When they hedge, they lose heavily and nobody questions because the have their own company, but when we lose we will be subjected to all kinds of queries and people will be held accountable. Who is going to answer to all these?"

1.40 The Secretary, MoP&NG further elaborated the above said point as under:-

"The cost of capital abroad is lesser. So, some companies are now raising money abroad at 4 per cent to 5 per cent for capital expenditure, and they hedge for foreign exchange. It is coming to about 8-10 per cent in terms of the capital cost, but that kind of hedging is much smaller amount. Here, we are talking about $ 150 billion, which is about Rs. 8 lakh crore, and even a 0.1 per cent margin on this can mean hundreds of crores of rupees going either way. This would be very risky for the Government companies to actually undertake because we can make money, but we can also lose money.

I think that the most important requirement is that there should be transparency in the procedure. As far as the Government companies are concerned, paramount requirement is that there should be transparency because public money is involved. This is the first requirement for these purchases".

1.41 On being queried by the Committee about the reasons for not allowing OMCs for reverse auction for procurement of crude oil which may prove immensely lucrative in discovering the best available price for crude oil, the Ministry apprised as under:

"Reverse auction is a web based application for procurement, where in bidders submit their bids by an electronic medium. The bidding process allows the bidders to see the lowest bid and revise their bids downward within the permitted time. Secrecy is, however, maintained about the identity of the bidders. The mechanism allows competition among the bidders for deriving the lowest price.

This mechanism of auction is mostly used in purchase of general items. However, in case of crude oil, the characteristics of each grade of crude oil is different with different price. For comparative evaluation of various grades of crude oil having different price, the worth of products from different grades of crude oil needs to be considered for evaluation of bids. Therefore, there are practical difficulties in arriving at the best offer in reverse bidding process as the crude oil grades at the lowest quoted price may not necessarily be the best crude for procurement.

Further, as per the prevalent practice for crude oil trading in the international market, the buyers procure crude oil through bilateral negotiations with individual sellers, these negotiations being carried out either on telephone, instant messaging applications (like yahoo messenger) or through exchange of e-mails. Also, some of the sellers and buyers (like the Indian PSU oil companies) adopt the tendering process for crude oil trading. It is understood that the reverse auction process is not adopted in the international market for trading in crude oil. Therefore, the international suppliers of crude oil would not be willing to adopt any new method like reverse auction which they are not familiar or comfortable with. Moreover, considering that it has always been and it will remain to be a sellers' market for crude oil, it would be difficult for the Indian PSU oil companies

to force majority of its international suppliers to adopt any new practice of trading crude oil".

1.42 The committee in this connection sought to know about the consequences, if seller company (NOCs or MNCs) are not able to provide the contracted quantity/quality, the Ministry furnished following reply:

"Any shortfall in contractual quantity to be supplied by a term supplier is met by OMCs from other term suppliers as additional volume over and above the contractual volume and through spot purchases. There is no policy guideline from MoP&NG in this regard".

CONFIGURATION OF PSU REFINERIES

1.43 The country's present refining capacity is 215.066 Million Metric Tonnes per annum (MMTPA) comprising 120.066 MMTPA by PSUs, 15 MMTPA is Joint Venture (JV) and 80 MMTPA in the private sector. At present, there are 22 refineries operating in the country, out of which 17 are in the public sector, 3 in the private sector and two are a JV. The private sector refineries belong to Reliance Industries Limited and Essar Oil Limited.

1.44 When the Committee asked to provide the details of allocation of oil to various refineries from the domestic production, the Ministry furnished following reply:-

"The allocation of crude oil to various refineries from the domestic production during the year 2012-13 was done on the following basis:

(i) The allocation of domestic crude oil to the Public Sector refineries was made in the following ratio:

S.No.	Company	Domestic crude allocation
1	Refineries of Indian Oil Corporation Limited (IOCL) and subsidiaries	47.0%
2	Refineries of Bharat Petroleum Corporation Limited (BPCL) and subsidiaries	32.7%
3	Hindustan Petroleum Corporation Limited (HPCL)	13.7%
4	Mangalore Refinery and Petrochemicals Limited (MRPL)/ Oil and Natural Gas Corporation	6.6%
5	Total	100.0%

(ii) Domestic crude oil, except in case of Mumbai High, was allocated to the closest refinery.

(iii) Domestic crude oil being produced in the North East was allocated to the North East refineries in the ratio of their refining capacity. In case of increase/reduction in actual production of North-East crude, the allocation to North-East refineries was adjusted proportionately.

(iv) The balance allocation was then made from Mumbai High (MH) crude oil to ensure overall allocation of crude oil in the ratio stated in para (i) above.

For Mumbai High crude, allocation was made on the basis of 90% of the projected availability. Any shortfall/surplus production of MH crude oil, compared to the quantity allocated, was distributed among the nominees as per the percentages mentioned above, so that the overall ratio remains the same".

1.45 On being enquired as to how does ONGC, OIL and Cairn India Ltd. fix their OSP to sell their oil products to domestic companies, the Ministry stated as under:

"ONGC supplies crude oil to PSU refineries namely IOCL (and its subsidiary CPCL), BPCL (and its subsidiary NRL), HPCL and MRPL, based on the annual allocation of domestic crude oil.

As decided by Government in November 1997 and as per notification of Government in March 2002, Crude oil price became Market Determined from 01 April 2002. In terms of MoUs/ Crude Oil Sales Agreements (COSA) with refineries, all the crude oil of ONGC (except North East Crude), are benchmarked to Nigerian sweet crude namely Bonny Light. North East crude is benchmarked to a basket of 13 different crude oils. Price of ONGC crude is linked to international price of Benchmark Crude oil with adjustments made for the quality including GPW (Gross Product Worth) differential of Benchmark crude vis-à-vis ONGC Crudes, taxes and duties, pipeline charges etc. Though prices of ONGC crudes are linked to international crude price, billing is made in Indian Rupees applying RBI Reference Rate.

Discount on crude prices due to sharing of under-recoveries of OMCs: Though, in normal course, a producer of crude oil is expected to get benefit of increase in international crude price but due to existing mechanism for sharing of under-recoveries of Oil Marketing Companies (OMCs) in vogue since 2003-04, domestic PSU oil producers viz. ONGC and OIL are not able to retain such price advantage. As per the mechanism for sharing of under-recoveries of Oil Marketing Companies, significant discounts as per government directives are extended by ONGC to Oil Marketing Companies/ Refineries from the crude oil prices. As a result, the net prices realized by ONGC for its crude oil produced from nominated blocks, are significantly lower than international crude prices. The gross price (pre-discount price) and net price (post-discount price) of crude

oil realized by ONGC during the period from 2003-04 to 2011-12 is tabulated below:

(USD/bbl)

Year	Gross (Pre-discount) Price	Subsidy Discount	Net (Post-discount) Price
2003-04	29.96	3.50	26.46
2004-05	43.20	5.41	37.79
2005-06	59.66	17.32	42.34
2006-07	66.33	22.11	44.22
2007-08	85.54	32.64	52.90
2008-09	86.15	38.45	47.70
2009-10	71.65	15.71	55.94
2010-11	89.41	35.64	53.76
2011-12	117.40	62.69	54.71
Note: Post-discount price is after considering total discount on crude oil.			

Crude oil produced by Joint Venture comprising of Cairn and ONGC from the block RJ-ON-90/1 is also benchmarked to Nigerian sweet crude, namely, Bonny Light with adjustments made for quality including GPW (Gross Product Worth) differential of Benchmark crude vis-à-vis JV Crude, taxes and duties etc'.

1.46 When asked about the mechanism of giving discounts to OMCs by upstream oil companies namely ONGC, OIL, the MoP&NG provided as under:-

'The discount is extended on provisional basis at the time of purchase, generally based on previous quarter's discount rate. As the quantum of under-recovery to OMCs is determined on quarterly basis, the amount required to be shared by the upstream companies by way of discount is also finalized at the end of a quarter and the difference between the provisional discount extended at the time of purchase and that finalized at the end of quarter is adjusted through future payments.'

1.47 The processing ability of Indian refineries to process sour & sweet crude oil grades is given below:

	Refinery	**Sour Crude %**	**Sweet Crude %**
IOCL	Bongaigaon	-	100
	Digboi	-	100
	Guwahati	-	100
	Gujarat	60	40
	Panipat	85	15

	Mathura	62	38
	Haldia	65	35
	Barauni	20	80
CPCL	Manali	70	30
	Narimanam	-	100
BPCL	Mumbai	55	45
	Kochi	55	45
NRL	Numaligarh	-	100
HPCL	Mumbai	76	24
	Visakhapatnam	80	20
MRPL	Mangalore	80	20

The actual % of Sour crude processing varies based on sour-sweet price differentials, product demand and economics during the year.

1.48 On being further asked about the instances of under utilisation of capacity by the refineries due to non-availability of required grade of crude, the Ministry stated as under:-

"The % capacity utilisation of PSU refineries from 2007-08 to 2011-12 is given below:

Refinery	2007-08	2008-09	2009-10	2010-11	2011-12
PSU Refineries					
IOCL GUWAHATI	92.0	107.6	107.8	111.8	105.8
IOCL BARUNI	93.9	99.0	103.1	103.5	95.5
IOCL GUJARAT	100.1	101.1	96.4	99.0	104.0
IOCL HALDIA	95.3	100.7	94.8	91.7	107.6
IOCL MATHURA	100.4	107.5	101.3	111.0	102.5
IOCL DIGBOI	86.7	95.9	92.4	100.2	95.7
IOCL PANIPAT	106.8	108.9	113.5	91.1	103.3
IOCL BONGAIGAON	85.9	92.1	94.5	85.5	93.1
Total IOC Refineries	**99.4**	**103.3**	**102.0**	**97.7**	**102.6**
CPCL MANALI	103.2	102.3	100.8	96.3	94.8
CPCL CBR	46.4	50.0	60.2	79.2	70.2
Total CPCL Refineries	**97.8**	**97.3**	**97.0**	**94.8**	**92.7**
HPCL MUMBAI	133.7	120.9	107.2	100.8	115.5
HPCL VISAKH	125.5	122.1	117.3	98.8	104.6
Total HPCL Refineries	**129.0**	**121.6**	**112.6**	**99.7**	**109.4**
BPCL MUMBAI	106.2	102.2	104.2	105.7	108.2

BPCL KOCHI	109.3	102.5	105.0	91.6	99.7
Total BPCL Refineries	**107.4**	**102.3**	**104.5**	**99.5**	**104.4**
NRL	**85.6**	**75.0**	**87.3**	**75.0**	**94.2**
MRPL	**129.5**	**129.9**	**105.7**	**107.1**	**108.2**
ONGC-Tatipaka	**80.8**	**107.7**	**70.5**	**87.2**	**106.1**
Total PSU Refineries	**106.7**	**106.4**	**103.3**	**98.4**	**103.2**

As per the information available, there has been some under utilisation of capacity in N-E refineries namely IOC-Digboi, IOC-Bongaigaon and Numaligarh due to non-availability of the required quantity of Assam crudes, and in CPCL's Cauvery Basin Refinery (CPCL CBR), which has been facing under utilization of capacity since inception due to non-availability of suitable crudes".

1.49 On being further asked whether any cost benefit analysis has been done by the Ministry to weigh the pros and cons of upgrading the configuration of public sector refineries so as to be able to process high sulphur crude, the Ministry Stated as under:-

"IOCL

The cost benefit analysis of upgrading the configuration of a refinery to process high sulphur crude depends primarily on the spread of low and high sulphur crude prices, as well as on differential price between distillate products and black oil. At IndianOil, studies are undertaken for configuration up-gradation / technological improvements, based on environment scan for above price differentials.

Following projects have been undertaken based on the outcome of such studies:-

a) Expansion of Panipat Refinery from 6 to 12 MMTPA, and further to 15 MMTPA – completed in 2006-07 & 2010-11.
b) Residue Up-gradation Project (RUP) at Gujarat Refinery – completed in 2010-11.
c) The grass-root refinery at Paradip, nearing completion, has been designed with a configuration suitable for processing high sulfur crude.

Apart from the above completed projects, following refinery up-gradation projects are being envisaged:

a) Residue up-gradation at Haldia Refinery.
b) Capacity augmentation and configuration up-gradation of Mathura Refinery.
c) CPCL's Resid up-gradation project for enhancement of high sulphur crude processing capability, yield improvement and reduction in pollution levels.

BPCL

A. Mumbai Refinery :

a) Mumbai Refinery was set up in 1955. Over the years BPCL is continuously upgrading the configuration & adopting new technologies to ensure processing of varied types of crude in Mumbai Refinery. Due to space constrains residue upgradation facilities have not been installed. Some of the recent major initiatives adopted at Mumbai Refinery are:

- Implementation of Refinery Modernisation Project (RMP)
- Revamp of Catalytic Reforming Unit (CRU) for production of Euro-3/4 grade MS.
- Implementation of Lube oil Base Stock (LOBS) plant to produce environment friendly superior grade Group 2 & Group 3 base oils.
- Implementation of FCC Gasoline Splitting facilities and revamps of Diesel Hydrodesulphurization unit for production of Euro-3/4 grade MS & Diesel.

b) Further, Mumbai Refinery is currently implementing the following projects:

- A state-of-the-art Continuous Catalytic Regeneration (CCR) Reformer (process licensor M/s Axens) at a project cost is Rs. 1827 Crores. This project will enable to upgrade naphtha while increasing Euro IV Motor Spirit production from 0.7 MMTPA to 1.1 MMTPA.
- Replacement of old Crude & Vacuum Distillation units with a new integrated Crude / Vacuum Distillation unit at a cost of Rs.1419 crores to enhance safety and mechanical integrity. This project will reduce energy consumption and improve yields of the refinery.
- Refinery Configuration study is being carried out with the consultancy from M/s EIL, to modernize the refinery for quality up-gradation of auto fuels and residue up-gradation. The study will identify suitable residue upgradation facilities and enable production of 100% Euro IV MS & HSD with capability to produce minimum 25% Euro V products.

B. Kochi Refinery :

a) Kochi refinery has implemented the Capacity Expansion cum Modernization Project (CEMP-II) which envisages Refining capacity expansion by 2 MMTPA and modernization of the refinery to produce auto-fuels conforming to Euro-III/ Euro-IV products. Capacity Expansion part of the project was commissioned by 2009. The modernization part was progressively commissioned by Feb 2011. A VGO HDS and NHT/CCR were implemented as part of the modernization of the refinery.

Both the units were licensed by M/s UOP. The CEMP-II project was implemented at a cost of Rs 3500 Cr. Post CEMP-II, the auto fuels produced from Kochi refinery is Euro-III/ Euro-IV (part) compliant.

b) Presently Kochi Refinery is implementing an Integrated Refinery Expansion Project (IREP), which envisages increasing the refining capacity addition by another 6 MMTPA and implementing process facilities to produce auto-fuels conforming to Euro-IV/ V specifications.

C. Numaligarh Refinery (NRL)

Existing capacity of NRL's refinery designed to process low sulphur crude is 3.0 MMTPA, which is sub-economic in size. Hence, exploring the possibility of upgrading NRL's refinery configuration for processing high sulphur crude is not an attractive proposition.

However, in order to saturate existing refining capacity and in order to achieve economic scale of operations, NRL has drawn up a plan for expansion of its refining capacity from 3.0 to 9.0 MMTPA by processing medium/high sulphur imported crude oil.

Incremental crude oil that would be necessary for the refinery expansion plan is envisaged to be imported through a suitable port in Odisha. Currently, pre-feasibility studies for the refinery expansion project are in progress. Actions have been initiated for conducting route survey for the crude oil pipeline from Odisha to Numaligarh.

I. <u>HPCL</u>

a) On the basis of cost benefit analysis, plans are underway to increase capacity of both Mumbai and Vizag Refineries to 9 and 15 MMTPA respectively along with installation of bottom up-gradation facilities at Vizag Refinery by 2016-17.

b) Environment and port constraints are major road blocks for expansion/up-gradation of Vizag and Mumbai Refinery respectively. Environmental moratorium has been imposed in the Vizag bowl area by MOEF till further orders. HPCL's application for expansion of Visakh Refinery from 9 MMTPA to 15 MMTPA for environmental clearance has been submitted to MOEF in January 2013.

c) In case of Mumbai Refinery, HPCL proposes to set up a Solvent De-asphalting unit which requires lesser space and achieves bottom up-gradation.

d) Also, HPCL have plans to put up a green field Refinery-Cum-Petrochemical complex along with bottom upgradation facilities at Barmer in the State of Rajasthan.

II. MRPL

As far as MRPL is concerned, the Company had done a detailed study for up-gradation and expansion of capacity. The up-gradation & expansion project work was commenced in 2008 and some of the units have already been commissioned. Remaining units are scheduled for commissioning progressively by next financial year".

C. PURCHASE OF CRUDE OIL

1.50 The crude oil purchase guidelines of MoP&NG provides for purchasing crude oil from the NOCs of oil surplus nations, which may or may not having official selling price and from the MNCs listed in the guidelines.

1.51 Asked to elaborate the official selling price determined by NOC's of supplier countries, the Ministry stated as under:

"Official Selling Prices (OSP) are the prices of crude oil that majority of the Middle Eastern producers and some of the producers in other parts of the world set for selling their respective crude oils. This is generally done on a monthly basis. The NOCs of various countries do not divulge their methodology of calculating OSPs. Therefore, this information is not available in the public domain".

1.52 In this regard, Secretary, MoP&NG during course of oral evidence stated as under:-

"These rates are decided by the country concerned and they change from month to month. OSP is declared by the respective national oil companies on a month to month basis and it is decided according to the quality of crude which they produce".

1.53 On being asked about the variation in OSP of seller countries and whether it varies with respective buyer for same month or is universal in its application, The Ministry apprised as under:-

"The Official Selling Prices (OSPs) are the prices of crude oil grades, that majority of the Middle Eastern producers and some of the producers in other

parts of the world set for selling their respective crude oil grades, generally on monthly basis. Different countries publish different OSPs for their different grades of crude oil. A single OSP cannot be used for all grades, since each crude oil has a different intrinsic yield value and has different quality parameters like sulphur content, API, distillate yield, etc. Also, some of the NOCs publish different OSPs for selling the same grade in different regions of the world".

"The NOCs of countries like Iran, Iraq, Saudi Arabia, Kuwait and Mexico sell their crude oil grades at different OSPs for different regions viz. Americas, Europe and Asia Pacific. Generally, all the countries in a specific region pay the same OSP for the same grade of crude. The NOCs of some of the other oil exporting countries like Abu Dhabi, Malaysia, Nigeria, Brunei etc. publish OSPs for their individual crude oil grades, which are uniformly applicable to all the countries/buyers globally".

1.54 The Committee enquired as to whether the large import of crude oil by India has got any bearing on fixing of official selling price, the Ministry informed as under:

"Prices for crude oil in the markets are reflective of the supply-demand fundamentals. Any change in supply-demand patterns, geo political developments, market sentiments etc. get reflected in the crude oil prices. India, being the 4th largest importer of crude oil, is a very significant player in the international oil market. Therefore, any major change in demand for crude oil by India has an impact on the global oil scenario".

1.55 When asked about the role of price of crude oil in exchanges like West Texas Intermediate, Brent and Dubai on prices of oil purchased by India, the Ministry in a written reply submitted the following:

"In the international oil market, crude oil is normally traded with linkage to reference or 'marker' crude oil. Various grades of crude oil are priced with linkage to the 'marker' with a premium or discount to reflect quality variations, supply demand balance, freight market, etc. The major marker crude oil are WTI, Brent and Dubai. WTI and Brent are traded on international exchanges like New York Mercantile Exchange (NYMEX) and Inter Continental Exchange (ICE). The process of price discovery takes place at these Exchanges and sets the base for prices of other marker crude oils as well. These prices are used by buyers and sellers across the world to settle trade deals. India purchases crude oil from the international market with linkage to marker crude oil grades. Hence, prices reflected on the Exchanges which set the base for the global oil prices, have an impact on import price of crude oil for India as well".

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1.56 In this regard when asked to inform about the particular crude oil linkages purchased by National OMCs, the Ministry informed as under:-

> "All the sour crude oil grades are purchased with linkage to price of the marker crude Dubai & Oman and all the sweet crude oil grades are purchased with linkage to the marker crude Brent. Though the sour crude oil benchmark is generally lower in terms of price, refineries process both sweet oil grades with linkage to Brent crude as well as sour oil grades with linkage to Oman & Dubai crudes, based on their demand pattern, complexity and configurations".

PRICE VARIATION IN SWEET/SOUR CRUDE

1.57 On being asked as to how does the prices vary for sweet and sour crude and how does the type of crude (sweet and sour) have bearing on the final products and profitability of the refinery, the Ministry furnished the following information:

> "Besides factors like supply-demand, market sentiments etc., price of a crude oil also depend on its intrinsic yield value. Sweet crude in general have better intrinsic yield value as compared to sour crude, and therefore command higher price. The prices for sweet crude are mostly benchmarked to marker crude oil Brent (Dated) and sour crude are benchmarked to marker crude Dubai/Oman average. The price of Brent (Dated) crude is generally higher than Oman/ Dubai crude price".

The reply further explained:-

> "Sweet crudes can be processed easily in less complex refineries due to lower sulphur content, whereas sour crudes require more complex refining processes to reduce the sulphur content to produce the products as per environmental norms. Hence, the prices of sweet crudes are generally higher than sour crudes. Traded price of crude oil also depends on geographical location, production volumes, the yield of distillates/ other products, product prices and Gross Product Worth. The prices of sweet and sour crudes are generally priced on bench mark Brent – for sweet crudes and Dubai – for sour crudes. The price of Brent and Dubai crudes during the past 3 years is given below':

($/bbl)

Year	Brent Average	Dubai Average	Brent-Dubai Differential
2010-11	86.73	84.14	2.59
2011-12	114.58	110.14	4.44
2012-13	110.12	106.97	3.15

Source: Platts

In the Refineries, various crude oil grades are processed and converted into finished products such as MS, HSD, LPG, ATF, Kerosene, etc. Since the treatment facilities for

both sweet and sour grades are the same, the refining cost of sweet and sour crudes is not separately ascertainable".

1.58 On being further asked about the probable reasons for difference in prices and availability of low sulphur versus high sulphur crude oil , the following reply was submitted by the Ministry:

> ”Availability of low sulphur (LS) crude oil is limited in global markets. The major oil exporting countries of the world are from Middle East region where there is hardly any availability of LS crude. The main sources of LS crude for Indian refiners are countries from West Africa (Nigeria, Angola, etc.), Mediterranean (Libya, Algeria, Azerbaijan), North Sea, Russia /Siberia, Far East, etc. Due to limited availability, only small volume term contracts are offered by NOCs of Nigeria and Angola. The political situation in Libya at present is not conducive for term contracts. Further, while the marketing of bulk of the high sulphur (HS) crude oil in the Middle East is generally done by the respective NOCs, production of LS crude oil is shared between various oil majors and the NOCs of producing countries, thereby reducing the availability of LS crude oil with the NOCs of the countries producing LS crude oil. About 34% of the global crude oil is of low sulphur (Sweet) category".

1.59 Asked about the effect of fluctuation in rupee value in currency market on purchase of crude oil at home and measures taken to manage the situation, the Ministry apprised as under:-

> "The payment for imported crude oil is made based on the exchange rate prevailing on the date of payment. The said exchange rate can be favorable or adverse as compared to the exchange rate that prevailed on the bill of lading date depending upon the currency market fluctuations. Said difference is accounted as exchange fluctuation loss/gain in the books of accounts. However, as the product prices are also based upon international prices which are converted into Rupee using fortnightly average exchange rates, this generally acts as a natural hedge against corresponding fluctuation suffered on crude oil. Hence, no risk mitigation step is considered necessary. OMCs have well defined foreign exchange risk management policy approved by their respective Boards."

1.60 The Secretary, MoPNG in this regard furnished following information during oral evidence:-

> "If the price goes up by one dollar and if we import the same quantity, roughly we will have to pay Rs.4,000 crore extra. If the price has gone up and if the quantity remains the same, that is passed on as under recovery. In fact, for one rupee depreciation, under recovery goes by almost Rs.9,000 crore and the same logic applies here. If I am buying one dollar in Rs.55 today, tomorrow if it becomes Rs.56 per dollar, then I have to spend one rupee extra for buying one dollar. So, I will have spend Rs.9,000 crore extra to buy the same quantity of dollars. That is the relationship. One rupee depreciation gives us a loss of Rs.9,000 crore, and

one dollar appreciation in crude price gives us a loss of approximately Rs.4,000 crore. It is more or less Rs.4,000 crore if there is an increase of one dollar in price. You can say it more or less – 170 million metric tonnes multiplied by one dollar, and it comes to that. It is not exactly the same translation because we are calculating it at the product stage but more or less, broadly speaking, we can interpret it like this".

1.61 In this regard when further enquired whether oil importing countries have got any forum to check and regulate the volatile pricing of crude oil by oil exporting countries, the Ministry furnished the following reply:-

"There is no forum for oil importing countries to regulate and check the fluctuation in the international price of crude oil based on pricing by major crude oil exporting countries. However, there are bodies like the International Energy Forum (IEF) and the International Energy Agency (IEA) for enhancing the cooperation amongst various players in the global energy industry. India is a member of the IEF. These forums facilitate dialogues and cooperation between the buyer and seller member countries".

1.62 As per Guidelines of Ministry of Petroleum and Natural Gas, HPCL, BPCL, KRL, CPCL and BRPL may exercise the option to import their crude oil requirement themselves under the actual user licensing policy or though IOC, within the extant ESC mechanism. In view of this, the Committee desired to know the prospects of having a single trading company, for importing crude oil on behalf of all the OMCs to take advantage from market fluctuations. The Ministry furnished following information in its reply:-

"Till July 1998, the entire requirement of crude oil import of the country was canalized through Indian Oil, the sole canalizing agency. Thereafter, with the need for private and joint sector refineries to procure their own requirement of crude oil, crude oil import was decanalized. Import of crude oil was further decanalized from April 2002, with all the PSU oil companies being permitted to import crude oil independently to meet their respective requirements. Since then, all the PSU oil companies have been importing their own requirement of crude oil. The private refineries have been importing their requirement of crude oil directly since inception, whereas the joint sector companies have been importing their requirement of crude oil through PSU oil companies as well as on their own. Each PSU oil company has been importing crude oil best suited to their refinery configuration through term contracts and tenders. The objective of the decanalisation of crude procurement is to allow respective refineries to maximize margins by sourcing the optimum mix of crude oil based on their specific requirement, demand pattern and refinery configuration. This provides required flexibility of operating refineries by respective oil companies".

D. EQUITY OIL

1.63 The Committee note that various Indian Oil Companies have been acquiring/investing in hydrocarbon assets around the globe. The main thrust in acquiring assets is through OVL, a wholly owned subsidiary company of ONGC.

1.64 Regarding the overseas equity stakes of ONGC, OIL and OVL, the Ministry provided the following details:-

> "ONGC Videsh Limited has stake in 30 projects in 15 countries of which 10 projects are operated by OVL, 8 projects are jointly operated and 12 projects are non-operated. Currently, OVL has oil and gas production from 10 projects in 8 countries, namely, Russia (Sakhalin-1 and Imperial Energy), Syria (Al-Furat Petroleum Company), Vietnam (Block 06.1), Colombia (MECL), Sudan (Greater Nile Petroleum Operating Company), South Sudan (Greater Pioneer Operating Company and Sudd Petroleum Operating Company), Venezuela (San Cristobal) and Brazil (BC-10). 5 projects where hydrocarbons have been discovered are at various stages of development and 14 projects are under exploration. The 30th project is the Pipeline project in Sudan.OVL's oil and gas production of just 0.25 MMTOE in 2002-03 grew year-by-year to a level of 8.753 MMTOE during 2011-12. In some of the producing assets, OVL has evacuation rights for the physical share of the crude oil and in some assets OVL does not have evacuation rights for the physical share of the crude oil but is entitled to its share of the crude revenue".

Sr No	Country	Projects	Partners and Participating Interests
1	Russia	Sakhalin-I (Offshore) Non-operated	OVL 20%; ENL 30% (Operator); Sodeco 30%; SMNG-S 11.5%; RN Astra 8.5%
2	Russia	Imperial Energy (Onland) Operated	OVL (100%)
3	Vietnam	Block 06.1 (offshore) Non-operated	OVL 45%, TNK 35%(Operator), PetroVietnam 20%
4	Colombia	MECL (Onland) Jointly operated	OVL 25%; SIPC 25%; Ecopetrol 50%. (25-50% PI in different fields)
5	Venezuela	SanCristobal, (Onland) Jointly operated	OVL 40%, PDVSA 60%.
6	Brazil	BC- 10 (offshore) Non-operated	OVL 15 %; Shell 50% (Operator), Petrobras 35%.
7	Sudan	Block 1, 2 & 4, GNPOC (Onland) Jointly operated	OVL 25%; CNPC 40%, Petronas 30%, Sudapet 5%.
8	South Sudan	Block 1, 2 & 4 GPOC (Onland) Jointly operated	OVL 25%; CNPC 40%, Petronas 30%, Nilepet 5%.
9	South Sudan	Block 5A (SPOC) (Onland) Jointly operated	OVL 24.125%; Petronas 67.875%; Nilepet 8%.
10	Syria	AFPC (Onland) Non-operated	Shell Syria (Operator)62.50% to 66.67 %, HESBV 33.33% to37.5 %

1.65 In the past OVL has regularly brought significant quantities of Nile Blend crude from Sudan to India. Some cargos of Sokol, crude from Sakhalin-1, Russia have also been brought to India. However, from energy security point of view, what is important is right/entitlement on share of crude oil and not the actual shipment of crude oil to India which is decided based on overall economics including freight charges etc.

1.66 When asked about the overseas equity stakes of our PSUs Oil marketing Companies, to ascertain the overall possible availability of crude oil in the coming years, the Ministry furnished following details:

The details of overseas equity stakes of Indian Oil (IOCL) are given below:

Name of the company	Country of asset	%of equity stake	Type of equity stake oil/money	Year of Production		Profit Share of oil.
				Target	Actual	
IndianOil	Iran (Farsi Block)	40	Participating Interest	Under exploration *		
	Libya (Area 86)	50	- do -			
	Libya(Block 102/4)	50	- do -			
	Libya(Area 95/96)	25	- do -			
	Gabon (Block Shakthi)	45	- do -			
	Nigeria(OML 142 Block)	17.5	- do -			
	Yemen (Block-82)	15	- do -			
	Yemen(Block-83)	15	- do -			
	Venezuela (Carabobo Project-1)	3.5	- do -			
	USA (Niobrara Shale Oil Asset)	10	- do -	Under production		150 boe/ day w.e.f. 1st Oct'12.

* Indian Oil has participating interest (PI) in 10 overseas blocks. These blocks are in different stages of petroleum operations.

- The details of Bharat Petroleum Corporation Ltd (BPCL) wholly owned subsidiary for upstream activities, BPRL's (Bharat Petro Resources Limited) overseas equity stakes are given below:

Sr No	**Name of the Company**	**Country of asset**	**% equity stake**	**Type of equity stake (oil/money)**	**Year of production**	**Profit share of oil**
1	BPRL International B.V.(N1)	Incorporated in the Netherlands	100% subsidiary of BPRL	Money	N.A. (This is a holding company).	NA
2	BPRL Ventures B.V. (N2)	Incorporated in the Netherlands, assets in Brazil	100% subsidiary of N1	Money	N.A. (This is the holding company of IBV Brasil Petroleo Ltda) which has interest in blocks which are in the exploration stage.	NA
3	BPRL Ventures Mozambique B.V (N3)	Incorporated in the Netherlands, assets in Mozambique	100% subsidiary of N1	Money	The block held by this company in Mozambique is in exploration stage.	NA

4	BPRL Ventures Indonesia B.V. (N4)	Incorporated in the Netherlands, assets in Indonesia	100% subsidiary of N1	Money	The block held by this company in Indonesia is in exploration stage.	NA
5	IBV Brasil Petroleo Ltd	Incorporated in Brazil, assets in Brazil	50-50 JV between N2 and Videocon Industries Ltd.	Money	The blocks held by this company in Brazil are in exploration stage.	NA

- The details of overseas equity stake of Hindustan Petroleum Corporation Ltd (HPCL) are as below:

Name of Company	**Country of Asset**	**% of equity stake**	**Type of equity stake oil/money**	**Year of Production**	**Profit share of Oil**
Consortium of **HPCL**, GSPC (Operator) & OIL	Egypt	GSPC (50%)- **HPCL(25%)**- OIL(25%)	PSC to be signed	PSC to be signed	PSC to be signed

However, the Ministry simultaneously informed that the production from none of these assets has been started.

1.67 On being asked as to how far does the participating interest held by our national oil companies in overseas assets would improve the demand supply scenario of India in coming years especially in view of considerable overseas fields still under exploration, the Ministry provided following information:-

"OVL, OIL, IOC and GAIL put together plan to produce 66.88 MMTOE of oil and natural gas from overseas during XII plan period. BPRL anticipates oil and gas production to commence from its overseas acreages after 2017. The details are as under:

Name of the Company	**Oil & Gas Production (MMTOE)**
OVL	61.84
OIL	3.08
GAIL	1.20
IOC	0.76
Others	-
Total	**66.88**

1.68 When asked about the details of the equity oil due to Indian companies from overseas assets during 2009-10, 2010-11 and 2011-12, has been sold, the Ministry stated as under:-

> "OVL has evacuation rights from most of its overseas producing assets including in Russia, Sudan, South Sudan, Colombia and Brazil. Indian refiners decide to buy OVL's equity share on technical and commercial considerations. The technical consideration is refinery ability to process the crude and commercial consideration includes the landed cost (crude cost, freight, insurance etc.) as the crude bought must be competitive when comparable to alternate crudes which are evaluated by the refiner.
>
> In the past OVL has regularly sold significant quantities of Nile Blend crude from Sudan to MRPL, an Indian refiner and an ONGC Group company. Further, some cargos of Sokol, the crude from Sakhalin-1 has also been sold to MRPL".

Total Annual sales quantity and the average realized price are as below:

Particulars	Annual Quantity Sold (MMBBL)	Average Realized Price (US $/BBL)
2009-10	34.8	64.57
2010-11	38.3	79.06
2011-12	34.8	106.42

The type of crude from different producing assets of ONGC Videsh Ltd is as under:

Project Name	Type of Crude
Sudan	Sweet
Venezuela	Sour
Syria	Sweet
Vietnam	Cond.
Brazil	Sweet
I E , Russia	Sweet
Colombia	Sour
Sakhalin I, Russia	Sweet

> "Equity oil is the crude oil that a company has the right to use/sell depending on its participating interest in an oil and gas asset. OMCs have not brought any equity oil from their foreign assets, at present".

E. TRANSPORTATION OF OIL

1.69 The OMCs enter into shipping contracts for hiring carriers from different shipping companies to bring oil. The Committee desired to be apprised about the shipping arrangements usually entered upon by OMCs, the Ministry in a written reply stated as under:

"The various mode of sea borne transportation used by OMCs are as under:

a) Voyage Charter: Employment of a vessel for a specific and certain voyage to load at one or more named ports and to be carried to discharging named port(s).
b) Time Charter: A contract for specified period to hire the vessel. The rent (hire) is paid based on the contract and it does not include fuel, port charges, canal tolls etc.
c) Contract of Affreightment (COA): An agreement providing for the transportation of a given amount of oil / voyages between two ports/region over a specified period of time. This is the extended form of voyage charter where certain number of voyages are covered under one contract at pre specified rate.

However, in general, size of vessel depends on the quantity of crude oil to be lifted and restrictions, if any, at load and discharge ports'.

1.70 Enquired about the variation in transportation cost incurred on bringing oil from different countries, the Ministry stated the following:

"OMCs import crude oil from Arab Gulf, West Africa, the Mediterranean and Far East countries. Depending on the parcel size and the geographical location and freight economics, the crude oil is imported in different vessel sizes like Very Large Crude Carriers (VLCC) (260 TMT), Suex Max (130 TMT) and Afra Max (80 TMT). The transportation cost consists of freight for vessel, which generally includes vessel hire charges, port charges, canal charges (like Suez Canal), insurance and any other dues as applicable in ports of loading and discharge".

1.71 When asked about the difference in cost of bringing crude oil through VLCC, Suex Max and Afra Max, the Ministry stated as below:-

"The transportation cost for bringing crude oil depends on various factors viz. distance between loadport and discharge port, size of the cargo, vessel availability, capability of handling vessels at loadport, positioning of vessels at a given time, market sentiment etc. For comparison purpose, typical transportation cost for bringing crude oil from Arab Gulf region to India through VLCC, Suezmax and Aframax vessels during 2012 is given below:

(in US$/bbl)

	West Coast (Vadinar)	East Coast (Paradip)
VLCC	0.49	0.99
Suezmax	0.70	1.42
Aframax	0.92	1.87

Source : IOCL

1.72 Asked about the transportation cost of bringing oil from Arab Gulf, Mediterranean and Far East Countries, the Ministry stated as under:-

> "The cost of crude oil transportation for IOCL from Arab Gulf, Mediterranean and Far East countries for the last 3 years is given below for comparison:

(in US$ /bbl)

Region	2012-'13 (Till Jan' 13)	2011-12	2010-11	2009-10
Arab Gulf	0.64	0.62	0.69	0.58
Far East	1.31	1.28	1.22	0.92
Mediterranean	-	-	-	2.48

Source : IOCL

1.73 In this regard, the Committee desired to know whether the transportation methods are similar throughout the globe for all importing countries or varies as per geographical location or being pursued on basis of development quotient of the buyer country, the MoP&NG in a written submitted the following:-

> "Crude oil transportation methods are not similar throughout the globe for all importing countries. It varies depending on the infrastructural facilities available at both load ports and discharge ports. Predominantly, crude oil is transported through ocean going vessels and through pipelines, wherever available"

1.74 When the Committee asked about the reasons for transporting small quantities of oil from countries, the Ministry in a written reply apprised as under:

> "Cargo quantities depend on parcel sizes offered by various suppliers and discharge port(s) restrictions. Cost benefit analysis of loading various sizes of tankers are, however, undertaken based on which the decisions to load particular size of cargoes are finally taken. OMCs do not purchase very small quantity of crude oil from far off countries".

1.75 When asked as to the justification for importing excess quantities of crude oil beyond the quantities actually needed to cater to the domestic demand, the Ministry submitted the following reply:

> "The OMC refineries are mainly focussed to meet the domestic demand of major petroleum products like LPG, MS, SKO, ATF & HSD and minimize their imports. There are various other products like Naphtha, FO etc. produced along with the major petroleum products while processing the crude oil due to the inherent property of crude oil. The surplus products are exported to the international market. In case export of these products are not undertaken, crude thruput at the refineries would have to be reduced, consequently, necessitating increase in uneconomic imports for meeting the domestic demand".

1.76 On being enquired whether OMCs have benefitted from the export of petroleum products, Ministry stated as under:

> 'The import of crude oil (83%) is more than the domestic crude oil requirement (75%) due to import of crude oil by three private sector refineries of RIL and Essar Oil Limited.
> Today country is not only self sufficient in meeting its demand for various petroleum products but also earns substantial foreign exchange by export of petroleum products. During 2011-12 the country exported 60.8 MMT of petroleum products worth US$ 59.3 billion'.

F. CONSTRAINTS LINKED WITH IMPORT

1.77 When asked to spell out the constraints and limiting factors faced by OMCs in sourcing crude oil for import, the Ministry stated as under:

> "Major constraint faced by OMCs while sourcing crude oil through term contracts is availability of desired grades and volume from the term suppliers. As most of the term suppliers also tie up their supplies with various other buyers, not much flexibility is available in terms of choice of grades and volume.
>
> Internationally, spot crude procurement are concluded over the counter by negotiations between the buyers and sellers. Oil PSUs being the public sector companies have to follow tendering process which may not always capture the best price opportunities.
>
> Further, Ministry of Shipping guidelines prevent OMCs from sourcing crude oil on CFR basis and require that cargoes be procured only on FOB basis so as to provide support to Indian shipping industry. This could add to the overall landed costs in terms of higher freight. This restriction also makes it difficult to source certain grades of crude oil which are available only on CFR basis".

1.78 On being asked to explain the difference between the terms CFR and FoB, the Ministry stated as under:

> "FOB is the abbreviation for 'Free On Board' which means, the seller delivers the goods at the port of shipment to the ship chartered by the buyer. Once the goods passes the ship's rail at the port of shipment, the buyer is required to bear all costs and risks of loss or damage to the goods. Therefore, in case of FOB delivery, the buyer arranges for the ship and insurance to cover the risks of loss of or damage to the goods. CIF is the abbreviation for 'Cost, Insurance & Freight'. Under CIf supplies, the seller bears the costs, and freight insurance to bring the goods to the named port of destination . The risk of loss or damage to the goods , as well as any additional costs due to events , occurring after the delivery, are transferred from the seller to the buyer".

1.79 Certain grades of crude oil are available only on CFR basis as Ministry of Shipping guidelines prevent OMCs from sourcing crude oil on basis other than FOB, the Committee sought to know about the grades available on CFR basis only and whether the matter has been taken up with shipping authorities to seek relaxation in these guidelines , the Ministry informed as under:

> "Crude oil grades from countries like Brazil, Russia (eg. Sokol), Canada (from Western Canada) etc., are generally, available only on CFR basis, due to operational/logistics reason. International oil companies also prefer delivering many of their grades on CFR basis. The issue has been taken up with MOS for allowing import of crude oil on CFR basis. Ministry of Shipping has reiterated that that Oil PSU may continue to adhere to the existing policy for crude oil/LPG imports and in the event of any difficulty, they may approach this Ministry for grant of NOC for import on CFR on a case-to-case basis".

1.80 When asked about the guidelines of MOP&NG/MoS in this regard, the Ministry informed as under:-

a) "The PSU oil companies, viz. BPCL, HPCL and IOCL were allowed by the Government of India to charter vessels directly for importing crude oil instead of going through Transchart, the chartering wing of the Ministry of Shipping (MoS), from the year 2005 (IOCL) and 2007 (BPCL & HPCL), with applicable regulations relating to chartering including those relating to Indian flag vessels and shipping on FOB basis, in order to utilize available Indian tonnage.

b) The PSU oil companies, while chartering the vessels directly, had initially imported crude oil on both FOB as well as CIF basis, taking into consideration the economics and availability of Indian tonnage. However, based on the advise by the Ministry of Shipping, the PSU oil companies

were in the year October 2007 advised by the MoP&NG to import crude oil only on FOB basis. Since then, the above mentioned three PSU oil companies have been importing all their requirement of crude oil only on FOB basis.

c) MRPL, (which does not have a chartering cell) is importing their requirement of crude oil through Transchart (MoS).

d) The matter of allowing PSU oil companies to import crude oil both on FOB and CFR basis had been taken up by MoP&NG with Ministry of Shipping in February 2012 and in January 2013. In its latest response in January 2013, the Ministry of Shipping has advised that OMCs may continue to adhere to existing policies for crude oil imports on FOB basis and in the event of difficulty, they may approach the Ministry of Shipping for grant of No Objection Certificate for importing on CFR basis on a case-to-case basis. It is pertinent to mention here that the private sector oil companies in India are allowed to import crude oil on CFR basis which enables them to derive the above mentioned advantages".

1.81 Infrastructure requirements for import of crude oil in Indian Ports is an important issue The Committee were interested to know the present level of available facilities at Indian Ports. As regards the infrastructural constraints in the Indian Ports, the following information was submitted by the Ministry in a written reply:

"1. Indian Oil (IOCL) is not facing any infrastructural constraints at its discharge ports at Vadinar and Mundra on West Coast and Paradip port on East Coast. However, it faces constraints at the following ports.

Chennai Port: The Port has three berths for petroleum tankers of which BD-3 is regularly utilized for crude oil discharge. The constraints at the berths are as under:

a) BD-1: Draft is 14.6 m and is suitable only for Afra Max tankers (100000 DWT).

b) BD-3 :

i) Draft is 16.5 m, and is suitable for Suez Max tankers. While the maximum DWT of Suez Max tanker is 140000 – 165000, Chennai Port is permitting only 140000 DWT max.

ii) The crude oil line (762 mm-30” dia) clamped portion of 25 - 30 m needs to be replaced

iii) Infrastructure for berthing VLCCs is not available at Chennai Port. VLCC berthing facility will financially benefit CPCL due to reduction in freight expenses.

iv) The existing 30” crude oil pipeline is nearly 40 years old, and hence, discharge rate & pumping pressure is restricted. Due to this, crude discharging time is more than 2.5 days for

Suez Max tankers, which leads to berth occupancy & congestion. Provision for replacing the existing 30" crude oil pipeline with 42" crude pipeline is awaiting environmental clearance.

Karaikal Port: The available draft is 12.5 m which is suitable for maximum LR-1 (45000 – 80000 DWT) tankers. The LOA is restricted to 225 m and beam is restricted to 32 m only.

Chidambaranar Oil jetty, Cauvery Basin Refinery: The available draft is 6.5 m which is suitable for MR tankers (30000 – 45000 DWT) only.

BPCL and HPCL have their refineries at Mumbai, whose port Jawahar Dweep (JD) has the following infrastructural constraints with regard to transportation of crude oil:

Jetty No. IV is the only jetty with common crude oil discharge line being used by both HPC and BPC refineries at Mumbai. In view of single jetty for both HPC/BPC refineries, only one tanker can berth at a time and, therefore, HPC/BPC refineries are incurring huge demurrage cost on crude oil tankers.

Jetty No.IV structure is more than 25 years old and is in a very dilapidated condition. It needs urgent repairs/upgradation in order to ensure safe and continuous operations.

It is learnt that Mumbai Port Trust have shelved their earlier proposal for construction of additional Jetty No.V for crude oil operations. This needs to be reviewed on top priority along with other allied infrastructure at Mumbai Port for discharging crude and other petroleum products.

Since there is no SBM at Mumbai, both HPC/BPC refineries are not able to get the freight advantage by engaging VLCC for transportation of crude oil.

MRPL import crude oil at New Mangalore Port which has a draft restriction of 12.5 - 14 meter and it has only 3 Jetties having overall length of 490 M for two Jetties (245 m for one Jetty). Hence vessels having more than 245 meter LOA are not able to be berthed at a time, if large LOA vessel get berthed in one Jetty, other Jetty will remain vacant.

MRPL has recently installed its own SPM at around 19 km. off the shore which is going to be commissioned shortly. With the commissioning of SPM, they will start importing crude oil in Suezmax vessels also".

1.82 When the Committee sought to know the steps taken to remove various infrastructural constraints hampering efficient offloading of oil cargos at various ports, the Ministry furnished the following information:-

"(i) IOCL faces constraint in transportation of crude oil through Haldia channel due to draft restrictions. In order to overcome the same, a pipeline has been laid from Paradip to Haldia. In addition, augmentation of this pipeline capacity is in progress and is expected to be completed by 2014.

(ii) Currently, Chennai Port does not have facilities for berthing VLCC. Hence, CPCL has been bringing crude oil in Suezmax tankers of about 140 TMT capacity. It is understood that Chennai Port is exploring the feasibility of providing infrastructure required for berthing VLCC tankers. However, CPCL is also planning to have an SPM off Ennore port with connecting pipeline to supply crude oil to Manali refinery.

(iii) Mumbai Port is having only one jetty namely Jetty No.IV capable of receiving larger parcel size of 90,000 MTs. This too is very old and requires urgent repair to ensure safe and continuous operations. Both HPCL and BPCL are receiving crude oil parcels thru Jetty No.IV and have a single discharge line connected to both the refineries. In view of the draft limitations at Mumbai Port, Suez Max tankers are loaded for 12.2 Mtrs. draft as against full draft of 17 Mtrs., thereby incurring additional freight of 35% for each tanker loading crude oil for HPC/BPC refineries in Mumbai. In view of single jetty for both HPC/BPC Refineries, only one tanker can berth at a time and, therefore, HPC/BPC refineries are also incurring demurrage on crude oil tankers. HPCL and BPCL have approached Chairman, Mumbai Port Trust for constructing another Jetty with higher draft of 17 Mtrs., so that Suez Max tankers with full load (140 TMT) can be berthed thereby achieving freight advantage. Decision on the project is yet to be taken".

1.83 It was learnt that Mumbai Port had shelved their earlier proposal for construction of an additional Jetty No. V for crude oil operation, the Committee sought to know the reasons for shelving of the project and action taken by the Ministry in this matter, the Ministry in a written reply stated as under:-

"The proposal of Mumbai Port for constructing new Jetty No.V has been inordinately delayed. The matter has been taken up by BPCL and HPCL with Mumbai Port Trust Chairman, several times. They are working on various alternatives".

On this issue, CMD, BPCL stated during the evidence as under:-

"Mumbai Port Trust is putting up a new Jetty No.5. In the meanwhile jetty No.4 has been refurbished in a way that it does not cause any accident. But there are other jetties where we can receive, for instance Bombay High is using those jetties for exporting their crude. Jetty No. 4 is the only one where we can receive higher parcels but yes we are incurring huge demurrage and that is another reason why our margins have gone down because demurrage adds to the cost of the crude".

He further added:-

> "We have taken up the matter with the Bombay Port Trust to upgrade their jetty to improve the draft of the place. We are in continuous dialogue with the Bombay Port Trust".

1.84 The Committee have been informed that a Single Buoy Mooring (SBM) (also known as Single-Point Mooring or SPM) is a loading buoy anchored offshore, that serves as a mooring point and interconnect for tankers loading or offloading gas or liquid products providing advantages like minimized freight charges ,reduction in wharfage charges, no dredging, cleaning of silt required as in the case of Crude Oil Terminal (COT), and higher pumping rate from SPM resulting in minimum time for crude unloading.

1.85 The Committee in this regard desired to know the plans of OMCs to build single point mooring facility of their own at various ports, the Ministry have informed the following:-

> "IOCL is using SPMs at three ports, namely Vadinar, Paradip and Mundra to discharge its crude oil tankers. IOCL owns two SPMs at Vadinar and three at Paradip. The SPM at Mundra is owned by Adani, which has been taken on lease by IOCL. CPCL is also planning to have an SPM off Ennore port.
>
> HPCL's Visakh refinery has an SPM facility for discharge of crude oil tankers, whereas Mumbai Refinery does not have SPM. As of now, there are no plans of HPCL to build single point mooring facility at Mumbai Port.
>
> BPCL's Kochi refinery has an SPM facility for discharge of crude oil tankers, where as Mumbai refinery does not have SPM. As of now, there are no plans of BPCL to build SPM facility at Mumbai Port".

1.86 In this regard, the CMD, HPCL, during the oral evidence, stated as below:-

> " Between HPCL, BPCL and Port Trust, we have also surveyed that area to see whether we can put up an SPM there. We have found that the SPM has to be put at a distance of about 60 kilometres. So, that was not feasible. Initially we started the Bombay Refinery of HPCL with 1.5 million tonne. Today we are at 16 plus million tonne. So, this congestion has grown over the years. There is a Port Coordination meeting every month in Mumbai. We have recorded the minutes of these meetings and we will send you all the details. We will submit full details as to how many times we have written to the Port Trust and MoSD".

1.87 The lack of requisite berthing facilities at ports leads to huge demurrage costs paid on account of cargos waiting at port, when asked as to the details of cost incurred towards demurrage by OMCs, the Ministry stated the following:-

> "The cost incurred towards demurrage by OMCs at various discharge ports in India during the last 3 years is given below:

(Figure in Rs. Crore)

Year	IOCL	BPCL	HPCL
2009-10	328.58	32	8.41
2010-11	120.55	24	20.59
2011-12	98.02	21	16.30

1.88 The Committee further wished to know the experiences of OMCs while loading, cargoes at foreign ports, the Ministry stated as follows:-

> "OMCs experience while loading cargoes at foreign ports is generally in line with the International standards and is satisfactory except for frequent delays at Iraqi load ports and delays in settlement of demurrage on account of delays".

II. STRATEGIC STORAGE OF CRUDE OIL

1.89 The major portion of country's crude oil import requirement is met from the oil-rich Middle-East countries. Disturbances in this region can lead to serious disruptions in India's crude oil supply chain. It, therefore, becomes necessary for India to construct a reserve for buffer supply of crude oil, to deal with any disruption in the supply chain due to external reasons such as political instability in the Middle East region, war, naval blockade, natural calamity etc. In exceptional circumstances, the buffer stock could also be used to deal with the situation of an abnormal increase in the world oil prices.

1.90 The Union Cabinet on 7.1.2004, while noting the need for a strategic crude oil reserve of 15 MMT in a phased manner, approved the construction of strategic crude oil reserves of 5 MMT, which was equivalent of about 14 days cover on consumption basis and 19 days cover on import basis. A Special Purpose Vehicle, namely Indian Strategic Petroleum Reserves Ltd (ISPRL) was formed on 16.6.2004 as a wholly owned subsidiary of Indian Oil Corporation Limited (IOC) to implement and manage the proposed strategic crude oil storage projects. The ISPRL became a 100% owned subsidiary of Oil Industry Development Board (OIDB) on 9.5.2006. OIDB is a statutory

board established under the Oil Industry development Act, 1974 for the development of the oil industry.

1.91 ISPRL is implementing the project at 3 locations, with Engineers India limited (EIL)- a Public Sector undertaking under the Ministry of Petroleum and Natural Gas as the Project Management Consultant (PMC). ISPRL is in the process of establishing the storages of 5.33 MMT at Visakhapatnam (1.33 MMT), Mangalore (1.5 MMT) and Padur (2.5 MMT).

1.92 When asked for update on the policy governing strategic storage of crude oil, the Ministry in its written reply stated the following:

> "The International Energy Agency (IEA), which has 26 OECD countries as its members follows the norm of holding oil stocks equivalent to 90 days of net oil import.
>
> In 2004, GOI decided to build 5 MMT of strategic crude oil storage in Phase I. Subsequently, the Integrated Energy Policy (IEP), approved by Cabinet in December 2008, also recommends that a reserve equivalent to 90 days of oil imports should be maintained for strategic cum buffer stock purposes.
>
> As per an Approach Paper prepared by MoP&NG in December 2009, the requirement of 13.30 MMT capacity was worked out to cover 90 days of storage of net import by 2019-20. DFRs are under preparation for 12.5 MMT crude oil storage".

(A) TYPES OF CAVERNS

1.93 When asked about the types of caverns proposed to be established, the Ministry furnished following reply:

> **"Underground Concrete Tanks**
>
> The principle of storage of oil in this system essentially employs primary containment by underground monolithic reinforced concrete tanks and secondary containment by external membrane manufactured from HDPE. In the unlikely event of any leakage of oil from the concrete tank, the secondary containment ensures collection of the same without polluting the surrounding ground or ground water regime. To confirm the efficacy of the installation, monitoring boreholes that penetrate the aquifers are installed on the downhill side of the tanks and are used to monitor the leakage of hydrocarbon vapours or liquids, if any in the ground or water table.

This type of facility is constructed in locations that have competent rock to give the required bearing capacity and which do not have a high water table as this can generate upward forces on the storage tanks. In other words, arid places are ideal for this type of storage. During the preparation of the PFR for the Phase II strategic storage projects, EIL had studied various locations for locating various types of storages and had found Rajkot to be an ideal location for Underground concrete tank storage. The location is an arid region and also has favorable geology and terrain for locating underground concrete tanks.

Underground Rock Caverns

Underground rock caverns are underground facilities consisting of one or more galleries, excavated in rock either through a vertical shaft or by an access tunnel. Location and geometry of such facilities are selected based on availability of favorable geological setting and geo-mechanical properties of the rock. The stored product is prevented from escaping by the principle of hydro-geological containment. The caverns are located at a depth where the water in the surrounding rock creates a counter pressure exceeding that of the stored product, thus preventing its migration outwards.

Salt Caverns

This storage technology used for storage of hydrocarbons, takes advantage of the natural sealing properties of rock salt against gaseous media and non-aqueous liquids. Generally, rock salt deposits occur world-wide, but are unevenly distributed around the globe. Moreover, these deposits must have a certain composition and internal structure, thickness, and depth range to be suitable for cavern construction and storage operation.

By applying the solution mining (or “leaching”) technology, caverns are constructed below ground with a small footprint on surface. Essentially, this is done by drilling a well down into the formation, and cycling water through the completed well. The water will dissolve and extract the salt from the deposit, leaving a large artificial cavity filled with brine. The (gaseous or liquid) hydrocarbons to be stored will be pumped into the cavern, thereby displacing the brine. Removal of hydrocarbon would involve pumping in brine.

Salt caverns have no internal lining and are only confined by the rock salt formation itself. Rock salt can be considered intrinsically tight when subject to the overburden pressure of an overlying rock column of some hundreds of meters thickness.The caverns are usually cylindrical in shape, several hundred metres in height and several tens of metres in diameter - and may have a volume of several hundred thousand cubic metres. They are the cheapest to construct, however in India, the only place that is blessed with suitable underground layers of salt is Bikaner in Rajasthan".

1.94 In this regard the CEO, ISPRL, explained further as stated below:

"It is like that number of locations we could have layers of salt below the ground deep inside Now, what we have to do is that these layers could be anywhere between 200 and 300 metres or even in some cases as thick as one kilometre or two kilometres wide. Now, what we do is that we just drill into the salt through a borehole and then dissolve the salt to create a large cavity and because salt is impervious you can store either crude oil or natural gas in such cavities. These are huge cavities, and some of them could be more than a kilometre long also, as in the U.S. you have such facilities. All the crude oil stored in the U.S. is in salt leached caverns".

1.95 Asked as to the construction and maintenance cost involved in each of the three types of caverns, the Ministry apprised as under:

"The differences in the three types of storages along with construction and maintenance cost (rough order of magnitude) are presented in the table below:

	Salt Caverns	**Concrete tanks**	**Rock Cavern**
Containment of Product	Based on natural sealing properties of rock salt	Based on primary containment by concrete and secondary containment by HDPE membrane	Uses the pressure of ground water to seal the product (hydro-geological containment)
Basic geological requirements	Thick underground layers of salt several hundred meters thick	Competent rock and where the ground water table is not at a high elevation (arid place)	Suitable rock without many faults and fractures and a ground water table which is permanent and steady.
Approx. construction cost[*1] (rough order of magnitude)	` 3350/ton	` 5400/ton	` 7660/ton
Approx. maintenance cost*[2] (rough order of magnitude)	` 29 crores (for 3.75 MMT)	` 30 crores (for 2.50 MMT)	` 57 crores (for 3.75 MMT)

[*1] The construction costs for the different types of storages are based on a) DPR prepared by EIL in July 2012 for salt caverns at Bikaner b) PFR prepared by EIL in August 2010 for underground concrete tanks at Rajkot c) DPR prepared by EIL in July 2012 for underground rock caverns at Chandikhol.

[*2] The maintenance costs for the different types of storages are based on a single turnover in a year for the storage capacity mentioned below the figures. These have been obtained from EIL and are based on the DPR/PFR prepared by EIL for the storages mentioned in the note for the Construction cost above. In case of a higher turnover the costs will be higher.

1.96 On being queried, whether strategic caverns can store different type of crude (high/low sulphur) and whether this would impact the construction and maintenance cost of caverns, the Ministry furnished the following details:-

> "The strategic caverns are designed to have separate compartments and each compartment is geo-technically designed to prevent intermingling of crude oil. Hence, crude oil of different types (high sulphur/low sulphur) can be stored in adjacent compartments without the risk of the high sulphur crude mingling with the low sulphur crude oil. As per ISPRL, this does not have any impact on the cost of construction"

1.97 Observing the huge funding needed for construction of these caverns, the Committee desired to know about using floating barges to store crude oil by OMCs, as followed in many countries, the Ministry stated as under:-

> 'Floating storage facilities are generally used by oil exporting companies/ traders. They stock up crude oil in floating storages for trading purpose. The capacity of floating barges being, are not economically viable for use as floating storage for crude oil by OMCs in India.'

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1.98 On being asked whether technologies used in constructing different storage, caverns are indigenous or imported and what steps have been taken towards indigenizing these technologies, the Ministry stated as under:

> "The technologies for all the three types of storages were not available in the country, however, to ensure that the technology is assimilated in the country, Engineers India Limited (EIL), a public sector organization under the Ministry of Petroleum and Natural Gas, was made the Project Management Consultant (PMC) for the Indian Strategic Petroleum Reserves Ltd (ISPRL) projects in Phase I wherein rock cavern storage was being used for the first time for the storage of crude oil. EIL is also the consultant for preparing the Detailed Feasibility Reports for the projects proposed to be implemented in Phase II, wherein two new storage technologies (i.e. Salt caverns & underground concrete tanks), are proposed to be used.
>
> While for the ISPRL projects in Phase I at Visakhapatnam and Mangalore, EIL has engaged a Foreign Back Up Consultant (FBC); for the project at Padur, EIL has not engaged a FBC and implementing the project on its own with only spot assistance".

1.99 In this regard, the CEO, ISPRL, while deposing before the Committee stated the following:

> "The first time we did the underground rock cavern project at Visakhapatnam, there was a back up consultant engaged by Engineers India Limited from

Sweden. For the second underground rock cavern project at Mangalore, we had technology from France and Geostock is the consultant. But for the third project, since the EIL was exposed quite a lot to this technology, it was only on spot that they took some help from the foreign consultant. There was no back up consultant for the third project.

Now for the new technologies in phase II salt-leached caverns, we are tying up with a German company and getting the technology from them. For the in-ground concrete tanks, we are tying up with a South African company and getting it done".

1.100 When asked about the current status of the projects, the Ministry submitted a project wise status of three salt caverns, which are in process of construction at Visakhapatnam, Mangalore and Padur:

"The current status of construction of 3 caverns at Vizag., Mangalore and Padur is given below:

Location	Progress as on 28.2.2013
Vizag	91.6%
Mangalore	75.4%
Padur	74.3%

These projects are expected to be commissioned progressively from early 2014 onwards. However, it is mentioned that across the world, such projects are completed in a time span of 7 to 8 years and scheduled completion of projects being implemented by ISPRL is well within the international benchmark. The project-wise reasons for delay are enumerated below**:**

1. Visakhapatnam

There has been a time over run due to poor geology encountered during excavation of the last bench in one of the galleries. A rock slide incident occurred on 7th April 2011, after almost 98% of all excavation was completed. This resulted in temporary suspension of work, for reassessing the safety of the entire cavern. The rectification and strengthening works are being taken up with all safety precautions and this is a time consuming activity. In view of the above, it is expected that there will be a time over run of approximately 24 months

2. Mangalore

The main reason for the delay is the time taken for land acquisition. MSEZL formally handed over the identified land to ISPRL on July 23, 2009. This was forty two months after the approval from the Government. Originally, as per the DFR, the filling and evacuation of the Mangalore and Padur projects were to be done through a tap-off taken from the 36 inch crude oil pipeline of MRPL. However, with the proposed expansion of the refinery, MRPL decided to have a

Single Point Mooring (SPM) for receipt of crude oil through Very Large Crude Carriers (VLCC) and Crude Oil Tankage (COT) near the land fall point. This was objected by Ministry of Environment and Forests (MoE&F). MoE&F were aware of the synergic approach taken between ISPRL and HPCL at Visakhapatnam and insisted that there shall not be any large above ground crude oil tankage near the land fall point and directed MRPL to tie up with ISPRL for using the cavern as a primary storage. As a result, the entire scheme for receipt and discharge of crude oil from the caverns had to undergo a change and involved protracted interaction amongst ISPRL, MRPL and MSEZL.

As the finalization of the basic engineering of the scheme was time consuming, it was decided to de-link the pipeline design and laying activity from the scope of aboveground works and float a separate tender for the pipeline works. This resulted in delay in basic engineering for the aboveground works by 5 months.

3. Padur

As per the latest progress of works at Site, the Padur project is likely to achieve mechanical completion by December 2013 and commissioning by April 2014. The reasons for delay are DFR approval (11 months), Land acquisition (33 months), Site surveys (26 months), Finalization of Basic engineering & Detailed Engineering (6 months). The order for procurement of line pipes has already been placed and deliveries have commenced. Tender for pipeline laying contract has been issued and is due on 21st March 2013. After due evaluation, placement of order is expected by May 2013, with a completion schedule of 12 months i.e. by May 2014. The pipeline forms an integral part of the project and its completion is mandatory for commissioning of the caverns. Scheduled commissioning of the project is expected to take 3 months after laying of pipeline i.e by August 2014. Some of these are concurrent delays.

(B) FUNDING FOR ISPRL PROJECTS

1.101 OIDB has been entrusted with the responsibility to render financial assistance for the promotion of all such measures as are in its opinion conducive to the development of oil industry: the strategic caverns are also being funded by the OIDB and has so far released an amount of Rs. 2251.88 crore (approx) to ISPRL upto 31/12/12.

1.102 As regards the cost required for the three ongoing projects, the Ministry in a brief note provided as under:

"For funding the strategic reserves, the Cabinet Committee on Economic Affairs (CCEA), in its meeting held on 6.1.2006, granted approval of the financing pattern for the 5 MMT strategic reserves estimated to cost about Rs. 11,267 crore (based on September 2005 prices), including the cost of filling crude oil. The capital cost of the three storages was estimated to be Rs. 2397 crore (Rs. 672 crore at Visakhapatnam, Rs. 732 crore at Mangalore and Rs. 993 crore at

Padur). The cost of filling up of the 3 reserves with crude oil was estimated to be Rs. 8,870 crore, assuming the average cost of the Indian basket of crude oil at US$ 55 per barrel and an exchange rate of US $ 1 =Rs. 44/- Since then, the international price of the crude oil has increased significantly. The average price of the Indian basket of crude oil, which was US$ 85.09 per barrel during 2010-11, rose to US$111.89 during 2011-12 and the average for the first quarter (upto 19.6.2012) of 2012-13 is US$109.69.

The cavern-wise anticipated fund requirement for filling crude oil in the caverns at the three locations is as follows (assuming the average crude oil price at US$ 115 per barrel and an exchange rate of US $ 1 = Rs. 55.4):

Location	Rs in Crore
Visakhapatnam (1.03 MMT*)	4,807
Mangalore (1.5 MMT)	7,001
Padur (2.5 MMT)	11,669
Total	23,477

*Additional crude storage of 0.3 MMT at Vishakhapatnam to be used by HPCL, has not been included in the above calculation as the cost of crude would be borne by HPCL.

1.103 As OIDB provides funds only for constructing the three caverns, the Committee wished to know about the funds resources for filling the crude oil in these caverns. A Ministry's representative stated the following during oral evidence :

" We have the problem about the financing of the crude oil, which should be going into the strategic reserves of Rs. 23,000 crores".

1.104 As regards the fund resources of the Board, the Committee have been informed that the required funds for various activities, envisaged under the Act, are made available by the Central Government after due appropriation by Parliament from the proceeds of cess levied and collected on indigenous crude oil. The proceeds of this duty are credited to the Consolidated Fund of India and sums of money, as the Central Government think fit, are made available to the OIDB after appropriation by the Parliament. The current rate of cess on crude oil produced in the country is Rs 4500 per tonne (w.e.f. 17th March, 2012) excepting on blocks under New Exploration Licensing Policy (NELP). Since inception and upto 31st december, 2012, the central government has collected more than Rs 122205 crore (provisional) as cess. out of this, OIDB has received an amount of Rs 902 crore (approx.).

1.105 This amount of cess so received by OIDB i.e. Rs 902 crore together with internal receipts generated as interest income on loans given to various oil sector companies and short term investment of surplus funds has contributed to Oil Industry

(Development) Fund to accumulate to Rs 10498 crore (approx.) as on 31st march, 2012.

1.106 When asked provide the status of funds available with OIDB, the Ministry submitted the following in a written reply:

> 'The OIDB corpus/capital fund as on 31.03.2012 was `10,497.77 crores.
> As on date, the fund deployment is as under:-
> a. Loans - `8,242.86 crores
> b. Investment in ISPRL against equity - `2052.14 crores
> c. Equity in BLL - `50.34 crores
> d. Fixed Assets – `160.89 crores'

(C) PROJECTS IN PIPELINE

1.107 The Integrated Energy Policy (IEP) recommends the creation of a reserve equivalent to 90 days of imports by 2011-12 or latest by 2012-13. The country's tappable storage capacity for holding commercial stocks is 22.20 MMT (on 1.09.2009). Further, the oil companies, mainly the PSUs, are constructing storages with tappable capacities totalling 3.29 MMT, which are scheduled to be operational by 2014. Add to this the 5.33 MMT capacity strategic storage being built by ISPRL, and the country would have an additional storage capacity of 8.62 MMT by 2014. Therefore, in 2014, the country's available storage capacity is projected to be 30.82 MMT. As per the Report on the Working Group on Petroleum & Natural Gas Sector for the 12th Five year Plan (2012-17), Domestic oil consumption will be 160.438 MMT for 2013-14. Based on this consumption with 30.82 MMT of storage, country's cover will be 70 days. The projected net oil imports for 2013-14 will be 170.55 MMT and basis this, the country's cover will be 66 days taking storage as 30.82 MMT. To cover the remaining days, the country will need to build additional capacity for crude oil storage, either in strategic reserve or through stock-holding obligations to be prescribed to the industry.

1.108 The Committee have been informed that basing on the pre-feasibility study done by EIL, the Ministry has accorded approval to ISPRL for preparation of DFRs for construction of storage of crude oil at four locations with a total storage capacity of 12.5 MMT. The locations identified and the technology proposed to be used for the storages is given in the table below:

Sl. No.	Location	Types of Storage	Capacity (MMT)
1.	Bikaner, Rajasthan	U/G Salt Caverns	2.5
2.	Rajkot, Gujarat	I/G Concrete Tanks	2.5
3.	Padur, Karnataka	U/G Rock Caverns	5.0
4.	Chandikhol, Odisha	U/G Rock Caverns	2.5
		Total	**12.5**

1.109 The OID Board in its 81st meeting held on 8th February 2011 decided that the work relating to the award of the four DFRs for establishing Crude Oil Reserves at Padur (Karnataka), Bikaner (Rajasthan), Rajkot (Gujarat) and Chandikhol (Odisha) for the second phase of the Strategic Reserves of Crude Oil should be handled by ISPRL. Accordingly, the DFR's are being prepared by ISPRL through EIL. As on date, EIL has submitted the draft report for Chandikhol and Bikaner project.

1.110 The Committee found that approximate construction cost for the rock type cavern is much more than salt cavern and therefore asked about the reasons for opting rock/concrete type cavern for the upcoming projects at Chandikhol and Padur over salt type, the Ministry informed that **t**hough the construction cost of rock caverns is more than the salt caverns,the salt caverns require huge salt domes or thick salt layers underground, which are not available at Chandikhol or padur. Hence, salt caverns cannot be constructed at other place in India except Bikaner.

1.111 The DFR's for Bikaner and Chandikhol have been prepared by Engineers India Ltd. (EIL) and submitted to Indian Strategic Petroleum Reserves Limited (ISPRL). These are under review by ISPRL. The DFR's for the other two locations, Rajkot and Padur, are expected to be ready by December 2012. The funding mechanism would be decided and approved by the government while approving DFR.

1.112 When the Committee asked about the problems on issues related with phase-II strategic reserve at Padur, the Ministry stated the following:

> "The Phase II strategic reserve at Padur was earlier planned for 5.0 MMT because of the excellent geology that is available in the Padur region. The 5.0 MMT facility would have required approximately 340 acres of land and could potentially generate a large number of Project Displaced Families (PDF) as there

were approximately 100 houses and a temple. The local population was therefore against the proposal and opposed the topographic survey and Geo Technical survey. Based on the advice of the local administration, satellite imagery survey was carried out and land requirement reduced to approx 150 acres by reducing the capacity to 2.5 MMT. The area chosen has only 20 houses and no place of worship. Also the agricultural activities are minimum in the identified plot.

The matter was taken up with DC Udupi, who advised to suspend the operations for a short while and later suggested to have the survey done through satellite imagery and select plot of land which would have minimum impact on the local villagers.

To take care of the shortfall in storage capacity, the capacity of Chandikhol and Bikaner is proposed to be enhanced to 3.75 MMT each from earlier envisaged 2.5 MMT".

(D) SAFETY OF CAVERNS

1.113 When asked about the safety, measures taken and preparedness to meet any untoward incident at these strategic structures, the Ministry submitted following reply:

"Underground works generally involve high risks, on account of geological surprises. Hence accident rates in underground works are high. However, Indian Strategic Petroleum Reserves Ltd (ISPRL) has adopted construction practices which are the best and has managed to keep the lost time accidents to a minimum. Access control, orientation/induction programs, workmen training, driver training etc are given the highest priority. Also high quality standards are being maintained. Thanks to the same, the projects are achieving national records in excavation as well as enviable records in safe man-hours. The safety records for the three projects are as follows:

- Visakhapatnam project had achieved more than 6.5 million safe man-hours before the rock slide incident.
- Mangalore project has achieved more than 5.0 million safe-man-hours
- Padur project has achieved more than 6 million safe man-hours.

ISPRL is also following the guidelines laid down by OISD and PESO to ensure that the facilities are completely safe during the operating phase. The very nature of the facility (underground rock caverns) also makes them very safe during the operation phase. IB has also inspected the facilities and their recommendations are being implemented".

1.114 A rock slide accident had occurred at construction site of vizag cavern. The committee desired to know the measures taken to check recurrence of such type of accidents in future, the Ministry furnished following details in its written reply:-

"There has been a time over run due to poor geology encountered during excavation of the last bench in one of the galleries of Visakhapatnam cavern. A rock slide incident occurred on 7th April 2011, after 98% of excavation work at the cavern was completed. This resulted in temporary suspension of work, for reassessing the safety of the entire cavern.

In order to avoid recurrence of accident at Visakhapatnam, the entire cavern was inspected and necessary strengthening is being carried out by installing rock bolts in the affected area to ensure that the stability of the cavern is increased. Close monitoring of the geology is also being done. This will ensure that such rock slides do not recur".

1.115 In a specific query, the Committee desired to know whether the Cavern at Vizag is prone to threat from natural calamities like earthquake and Tsunami due to its proximity to coast line. The Ministry stated the following :

"The underground rock caverns are the safest way of storing hydrocarbons. The caverns by the very nature of construction are safe from earthquakes. The aboveground facilities of these caverns are located between 10 to 70 meters above mean sea level, which will ensure that the facility is not affected by Tsunami".

1.116 When asked whether there are any chances of collapse or seepage/leakage from the structure into the sea or vice versa and about the potentiality of the threat to the aquatic life and surrounding eco-systems, the Ministry informed as under:

"The strategic storages at all the three places are being established in underground rock caverns. The hydro geological containment principle ensures that no seepage will take place from the cavern to the ground water/ environment. The storage cavities are created at a depth, where the ground water pressure is higher than the pressure of the product under all conditions of storage. It is a very well established system and the efficacy of the system has

been established through a number of projects in many developed countries globally. Hence, there is no threat to the surrounding eco-system".

1.117 In this connection, the CEO, ISPRL deposed before the Committee as under:-

"All the projects start only after environmental clearance is obtained. The good thing about this facility is that there cannot be a seepage out of the cavity because the very containment principle ensures that nothing can seep out of the cavity because the water pressure in the lock is always much higher than the pressure of what is stored inside the cavern. That is how we designed it".

PART-II

OBSERVATIONS / RECOMMENDATIONS

1. MINIMIZING DEPENDENCE OVER CRUDE OIL

The Committee note that the Indian crude oil imports have been steadily increasing and the country imported 159 MMT in 2009, 163.6 MMT in 2010 and 171.7 MMT in 2011. In the global scenario, the country is 6th largest importer of crude oil and it constituted 9.1 percent of total crude oil imports in 2011 increasing from 8.4 percent in 2009. The Committee find that though India is deficient in crude oil and importing 80 percent of its requirements, the energy mix of the country is predominantly skewed towards crude oil for its energy requirements.

Since natural gas has emerged as an important fuel worldwide because of inherent advantages over other fuels by being more fuel efficient and environment friendly, the Committee would like the Government to shift decisively to gas based consumption in preference to oil by increasing the percentage of gas imports in the overall import basket. Since, the discovery of huge deposits of shale gas worldwide has spawned off new hope in meeting future energy requirements, the Committee recommend that India should also take advantage of this development and promote use of gas in meeting its energy requirements so that dependency on crude oil could be brought down. The Committee therefore desire that MoPNG should prepare a strategic plan in this regard to consciously shift the energy consumption pattern.

2. NEED FOR A JOINT VENTURE COMPANY

The Committee note that the total crude oil import for 2012-13 by PSU oil companies is estimated at 120 MMT. Among these PSUs, import by IOC is placed at 66.3 MMT, BPCL at 22.80 MMT, HPCL at 17 MMT and MRPL at 14.40 MMT.

The Committee note that till July 1998, the entire requirement of crude oil imports was canalized through Indian Oil Corporation (IOC), the sole canalizing agency. Thereafter the crude oil import was decanalized and private and joint sector refineries were allowed to procure their own requirement of crude oil. Import of crude oil was further decanalized from April 2002, with all PSU oil companies being permitted to import crude oil independently to meet their refinery configuration through term contracts and spot tenders in accordance with the guidelines issued by MoPNG. The Committee ,however, note that purchase of crude oil is a complex process which involves negotiations of contract with NOCs or floating of tenders, shipping arrangements, unloading at ports, transporting to refineries etc. are to be made by the OMCs. The Committee also note that private refiners are able to procure crude oil at lower prices.

The Committee are of the view that lot of resources of OMCs are spent on this activity. Instead of all oil PSU's carrying out purchase of crude oil, the Committee recommend for the formation of a joint venture company promoted by all interested PSUs and entrusted with the work of importing of crude oil required for them in line with their refining specifications. The Committee desire that this company may be given enough flexibility as enjoyed by private sector refineries to carry out their operations including price negotiation, hiring of ships and negotiate better terms on freight etc. which will help PSUs save lot of work relating to imports.

3. COOPERATION AMONG OIL IMPORTING COUNTRIES

The Committee note that high volatility in crude oil prices which has fluctuated from $ 25 per barrel to $110 per barrel during the past decade has greatly impacted finances of developing countries like India which is required to import 80% of crude oil to meet its energy requirements. The Committee have been informed that if the price of crude oil increases by one dollar the country has to bear an extra burden of Rs 4000 cr. Though hardening in crude oil prices is largely due to increase in its demand, the Committee feel that extraneous factors including speculation, strategic cut down in production by oil exporting countries, geo-political factors like instability in oil producing regions etc. could also be reasons for higher prices of crude oil rather than supply-demand mismatch.

The Committee feel such high crude oil prices would be a burden on the finances of any country especially developing countries like India as it will restrict the allocation of funds for other social programmes like education, health and irrigation etc. While the Committee understand the need for price discovery in the market place in a free market scenario, it could not ignore the fact that this has led to huge volatility and one sided increase in prices has drained away precious resources from many developing countries like India .

The Committee learn that more than 90% of crude oil is imported by six countries/regions which also includes three Asian countries namely, China, India and Japan. Needless to say that demand in these countries have a bearing on the crude oil prices. The Committee however, note that though there are bodies like International Energy Agency (IEA) for enhancing the cooperation amongst various players in the global energy market, there is no forum for oil importing countries to strategize on the fluctuations in the international price of crude oil.

The Committee further note that the OMCs enter into contracts for supply of crude oil with National Oil Companies of oil exporting countries. As per the standard international practices, these contracts are guided by the General terms and conditions which are common to all buyers. The Committee have however, been informed that the terms of sale are predominantly in favour of NOCs.

In view of the above, the Committee would like to emphasize that fair price for crude oil is an imperative for equity and justice to global human community and therefore, recommend that MoPNG/Government should coordinate with other importing countries and take up the issue of fair prices for crude oil through international institutions.

4. DIVERSIFICATION OF SOURCES OF OIL SUPPLYING COUNTRIES

The Committee note that crude oil refining capacity of the country of both public sector and private sector is 213 MMTPA. The Companies procure bulk of their crude oil requirements from oil exporting countries depending upon the specification of their Refineries. The Committee further note that during 2011-12, out of 171.73 MMT of crude oil,69% was imported from Middle East, imports from Africa accounted for 18% while South America accounted for 8%. The Committee note that OMCs are working towards diversifying their crude oil sources to effectively tackle any possible supply disruption.

But surprisingly, the planned crude oil purchase of OMCs for the year 2012-13 from the middle east countries has again been scaled up to 79% against the smaller quantities of 5% from the West Africa and 7%, proposed to be purchased from other countries. The Committee have been informed that this is due to geographical proximity as well as due to type of crude required for the refineries. The Committee while appreciating the economic compulsions of importing from a neighboring region would caution the MoPNG/PSUs from excessive dependence on any one region for their procurement. The Committee therefore recommend that the concerted efforts should be made by MoPNG and PSUs to minimize the dependence on any single country or region to ensure that the country's crude oil supplies do not get adversely affected in case of geopolitical problems in any region and should plan accordingly for diversifying geographical sources.

5. REVIEW OF GUIDELINES

The Committee note that the guidelines laid down by the Ministry of Petroleum & Natural Gas to be followed by PSU OMC's with regard to import of crude oil had been last revised in 2001 and no changes have been made in the past 12 years.

The Committee note that these guidelines lays down the procedure to be followed by OMCs to enter into Term Contracts with NOCs and also provides a list of MNCs which can be approached for sourcing the crude oil requirements. The guidelines also specify the powers of Empowered Standing Committee of OMCs and that of Ministry in approval of these contracts.

The Committee are of view that these guidelines should enable the OMC's to follow a transparent and efficient procedure to import crude oil and should not place any hurdle in availing any opportunity to buy required type of crude oil at lower prices. The Committee feel that the guidelines has to reflect the present structure of the international oil market which has undergone lot of changes since 2001 and therefore recommend MoP&NG to review the guidelines in consultation with OMC's to widen their purchase opportunities by simultaneously providing for necessary safeguards and monitoring mechanisms to bring about transparency and accountability .

6. REVISION OF LIST OF MNCs IN THE GUIDELINES

The Committee observe that Public Sector Oil Companies enter into contract with National Oil Companies (NOC's) of oil exporting nations having surplus quantities of crude oil, which may or may not have Official Selling Price(OSP). This is in accordance with the guidelines issued by MoPNG in 2001. Besides, MNCs mentioned in the list as part of guidelines, may also be approached by OMCs for sourcing the crude oil requirements. The Committee note that this list which forms the basis of crude oil agreements entered between National OMCs and Multinational Oil Companies remained static since 2001.

In the changing market scenario and due to mergers and acquisitions, the Committee feel this list should be amended and regularly updated, thereby providing an authentic base for locating appropriate seller . The Committee would therefore, recommend Ministry of Petroleum and Natural Gas to revise this list immediately and also regularly review the MNC list in future in accordance with developments in the international oil market.

7. PURCHASE OF DISTRESS CARGOES

The Committee note that OMCs normally source their crude oil requirements through Term Contracts and Spot purchases to suit their refinery configuration. The Committee have been informed that there are opportunities that exist in the international oil market when sale of distress cargoes takes place at lower than market prices. However, the MoPNG guidelines does not permit OMCs to buy crude oil from distress cargoes.

The Committee are of the view, that in these days of high oil prices, any opportunity to procure crude oil at lesser prices should be made use of as it will reduce the cost of purchase and benefit OMCs to improve gross refining margins. The Committee therefore, recommend that MoPNG should allow OMCs to procure certain percentage of their annual crude requirement through distress sale route and review the experience after reasonable period.

Also the Committee have been given to understand that if an NOC is not able to supply adequate quantity of a crude at OSP, oil companies can buy such crude from NOCs or specified MNCs at other than OSP. However, it is necessary that such crude is seller's own equity crude or swapped with their own equity crude. The Committee have come to know that oil companies are losing the opportunity of procuring cheaper crudes because they are not swapped. The Committee feel that the guidelines should permit the OMCs to procure the required type of crude at cheaper cost with transparent procedure. Hence the Ministry should look at the present procedure and modify it so that different types of crude may be brought from different players incase the required quantity is not supplied by NOCs.

8. PURCHASE OF CRUDE THROUGH LONG TERM CONTRACTS

The Committee find that oil PSUs purchase about 80% of their requirements by term contracts with NOCs and 20% through spot purchase. The Committee have been informed that heavy crude (high sulphur) are purchased through Term Contracts. Even though 34% of global oil production is sweet crude (low sulphur), they are mostly consumed by the countries themselves and hence it is difficult to procure through term contract. Hence the OMCs buy low sulphur grade variety through Spot Tenders to suit their refinery configuration and also to improve the yield in the refinery.

The Committee have been informed that OMCs are trying to enter into Term Contract for purchase of low sulphur grades for its refineries which have not yielded results. The Committee are of the view that such issues should not be rest at PSUs level and need intervention and backing of the Ministry. The Committee desire that the Ministry of Petroleum and Natural Gas should take up the matter at the highest political level and matters should be pursued regularly at diplomatic level also.

The Committee have been informed that OVL has been acquiring overseas assets and production from these assets amounts to 8.75 MMTOE during 2011-12 some of which are sweet crude. The Committee note that OVL has regularly sold significant quantities to MRPL, an ONGC group company. Since the other OMCs are also in need of sweet crude for their refineries they may also be supplied by OVL. The Committee desire that OVL and other PSUs having overseas assets should give first priority to Indian refiners to meet their crude oil requirements before they sells their crude in the international market.

9. CRUDE OIL IMPORT ON CFR/FOB BASIS

The Committee note that crude oil purchased from various countries are transported on cargo ships. The Committee further note that there are different models of booking the cargo like FOB basis where the buyer arranges the ship and insurance to cover loss or damage to the goods, whereas in CIF the seller bears costs, freight and insurance and CFR includes Cost and Freight. The Committee further note that the guidelines issued by Ministry of Shipping provides that OMCs can source their crude oil on FOB basis only, which the OMC's have informed would increase transportation costs to them. This policy, however ,also adversely affects the opportunities of OMCs to purchase those grades of crude oil which are available solely on CIF/CFR basis and many a times at considerably cheaper rates. The Committee have also been informed that these shipping guidelines are relaxable and crude oil allowed to be purchased on CIF/CFR on case to case basis after approval by Ministry of Shipping. The Committee have been informed that international oil companies also prefer to supply crude oil on CFR basis only.

The Committee, therefore, recommend that the Ministry of Petroleum and Natural Gas may seek the power to approve import of crude oil on CFR/CIF basis by OMCs to itself from Ministry of Shipping. The Committee also desire Ministry to take up the matter with the Ministry of Shipping for relaxing the guidelines to enable OMCs to purchase on CIF/CFR basis so as to benefit from the opportunities in the market and for doing away with the need of approval of Ministry of Shipping in every case.

10. ALTERNATIVE PLAN FOR TRANSPORTATION OF CRUDE OIL

The Committee note that the country imports its crude oil requirements from different countries and regions like Middle East, Africa, Asia, South and North America, Eurasia, Europe etc. and that the crude oil is transported by cargo ships from these countries by using many important sea routes. The Committee are concerned with political turmoil and unrest in many regions of the world which may cause supply disruptions to the country.

Therefore, the Committee recommend that the MoPNG/OMCs should keep a watch on the geo political situation along the sea routes used by ships which transport crude oil to the country and keep alternative plans ready in case such need arises so that the country does not suffer the supply crunch.

11. INFRASTRUCTURAL CONSTRAINTS

The Committee have learnt that OMCs are incurring huge expenditure on account of demurrage costs on domestic ports due to lack of requisite infrastructure. The Committee have been informed that IOCL had incurred huge demurrage cost of Rs.328.58 cr, Rs. 120.55 cr, Rs. 98.02 crore for the years 2009-10, 2010-11 and 2011-12, BPCL had incurred Rs.32, 24, 21 crore and HPCL had spent Rs.8.41, 20.59, 16.30 crore respectively during the same period. The Committee have been informed that IOCL is facing multiple constraints at Chennai port major being the lack of berthing facility for Very Large Crude Carriers (VLCC). Similarly, Jawahar Dweep Port at Mumbai receiving crude oil supplies for BPCL and HPCL, is also ridden with constraints due to draft limitations, as the port has only Jetty no. IV which is very old and only capable Jetty for receiving larger parcel sizes. This Jetty IV also needs urgent repairs for continuous safe operations. Due to these draft limitations, HPCL and BPCL are incurring additional freight of 35% for each unloading tanker due to which OMCs incur huge demurrage costs. However, the Committee have been informed that the matter had been taken up with Mumbai Port Trust by HPCL and BPCL for construction of an additional jetty V which unfortunately got shelved earlier.

The Committee strongly feel that the huge demurrage cost amounting to about Rs.665 crores during the three year period incurred by OMCs are totally avoidable and not due to uncontrollable factors. The Committee also deplore the slackness on the part of concerned officials of OMCs/MoPNG over the years for not pursuing the matter with due seriousness. The Committee are also unhappy that Port Trust authorities have not been responsive to the infrastructure requirements for import of crude oil which is an indispensable activity for the development of the Country. The Committee therefore, recommend MoPNG/OMCs to intensify their efforts in pursuing the matter with concerned authorities for getting required infrastructure at various Ports handling crude oil imports.

12. STRATEGIC CAVERNS

The Committee note that work towards establishing the three strategic caverns at Vizag , Manglore and Padur having cumulative capacity of 5 MMT i.e. 1.33 MMT, 1.5 MMT and 2.5 MMT respectively is progressing. The Integrated Energy Policy recommends for creation of reserve equivalent to 90 days of crude oil import latest by 2012-13. The current tapable storage capacity for holding commercial stock is around 22.20 MMT and it is estimated that by 2014 an additional capacity of 8.62 MMT would also be established cumulatively creating a capacity of 30.82 MMT, sufficient to provide cover for 70 days. However, for the remaining coverage of 20 days, phase II strategic storage projects have been approved by MoPNG for generating an additional capacity of 12.5 MMT by establishing four caverns at Bikaner, Rajkot, Padur and Chandikhol. The preparation of Detailed Feasibility Report (DFRs) for these projects are also underway by Indian Strategic Petroleum Reserves Limited (ISPRL) through their consultant, EIL. However, the Committee have come to know that certain issues have impeded the progress of phase II project at Padur due to involvement of large number of Project Displaced Families (PDF) and therefore, the capacity of Padur Cavern has been reduced from 5 to 2.5 MMT to minimize its impact on local population.

Given the large requirement of funds needed for construction of caverns and to buy oil to store in these caverns and also taking into account the issues relating to project displaced families, the Committee would advise the Ministry to revisit the strategy of underground storage caverns and study various other options like floating barges, identifying proven and extractable oil wells and declaring them as strategic reserve, etc.

13. FUNDING FOR CONSTRUCTION OF CAVERNS

The Committee note that Oil Industry Development Board (OIDB) is financing the construction of caverns which are built by ISPRL, a wholly owned subsidiary and special purpose vehicle launched by MoP&NG for establishing strategic storage caverns in the country. The Committee have been informed that the construction cost of these caverns was estimated to be Rs.11267 crore in the year 2005 as per then market prices, comprising therein of Rs.2397 crore as the construction cost and Rs.8870 crore for filling the crude oil in these strategic caverns. The Committee have been further informed that the costs for these projects have now been revised and the capital costs stand at Rs.3958 crore for three storage caverns and the crude filling cost at Rs.23477 crore assuming an average crude oil price US$115 per barrel at the rate of Rs.55.40 per dollar.

The Committee desire that OIDB rendering financial assistance to these caverns and concurrently serving many other commitments, must not suffer fund crunch in order to ensure unhindered and timely completion of the projects. The Committee, therefore, recommend to MoPNG that it should highlight the need for adequate funds for its strategic storage activities and impress upon Ministry of Finance to increase the fund availability to OIDB.

14. FUNDS FOR CRUDE OIL FILLING IN STRATEGIC CAVERNS

The Committee are given to understand that in line with the increase in the average price of Indian basket of crude oil, the cost of filling of crude oil in three caverns has also shot up to Rs.23,477 crore from Rs.8870 crore, registering an increase of 165 percent since 2005. The Committee are constrained to point out that the huge funding needed for filling the caverns with crude oil is yet to be arranged as till now no funds have been allocated for the purpose. With an almost completed cavern at Vizag and other two at Mangalore and Padur nearing completion, the delay in arranging finances for crude oil filling is a matter of serious concern for the Committee pointing towards lack of adequate seriousness of authorities towards the project. The Committee, strongly recommend for an immediate action by MoPNG/ISPRL regarding the matter of allocation of adequate funds to fill the storage cavern with crude oil and desire to be apprised soon of the progress made.

15. SAFETY OF CAVERNS

The Committee note that ISPRL is constructing underground strategic caverns in the country for the first time. The Caverns are of different types namely concrete caverns, salt caverns and rock caverns. This implies different technology for each type of the cavern. However, the Committee note that all the three caverns that are under construction are of rock type cavern. The Committee have been informed that a rockslide accident occurred at construction site of Vizag cavern in one of its galleries after completion of 98 percent of excavation work causing delay in the project by 24 months. The Committee have also been informed that underground excavation works are filled with geographical surprises at every step and ISPRL is taking requisite remedial measures to avoid recurrence of such accident. The Committee therefore, desire ISPRL to take utmost care while executing their operations and must take necessary precautions for their forthcoming projects to ensure safe construction and operations of the project.

The Committee note that some of these strategic caverns are located near sea and hence there is a need to protect aquatic life from any harm due to leakages from the caverns. The Committee, have however, been informed that adequate studies have been done and measures taken to protect the aquatic life and also prevent any leakages from cavern.

Keeping this in view, the Committee recommend that ISPRL should factor all possible risks and damages in the neighborhood due to any untoward incidents like leakages, fire etc. to the environment and take all necessary preventive steps.

New Delhi
6th May, 2013
16 Vaisakha, 1935 (Saka)

ARUNA KUMAR VUNDAVALLI,
Chairman
Standing Committee on
Petroleum & Natural Gas

MINUTES
STANDING COMMITTEE ON PETROLEUM & NATURAL GAS
(2011-12)
FOURTHEENTH SITTING
(27.08.2012)

The Committee sat on Monday the 27th August, 2012 from 1500 hrs. to 1700 hrs. in Committee Room 'D', Parliament House Annexe, New Delhi.

PRESENT

Shri Aruna Kumar Vundavalli - Chairman

Lok Sabha

2 Shri Sanjay Singh Chauhan
3 Smt. Santosh Chowdhary
4 Shri Kalikesh N. Singh Deo
5 Shri Mukeshkumar Bheravdanji Gadhvi
6 Dr. Thokchom Meinya
7 Shri Mahabal Mishra
8 Shri Kabindra Purkayastha
9 Shri M.B. Rajesh
10 Shri C.L. Ruala
11 Shri Dhananjay Singh
12 Shri Uday Pratap Singh
13 Shri Sudarshan Bhagat

Rajya Sabha

14 Smt. Gundu Sudharani
15 Dr. Prabha Thakur
16 Shri Pankaj Bora
17 Shri Tapan Kumar Sen
18 Shri Shankarbhai N. Vegad
19 Shri Mansukh L. Mandaviya

Secretariat

1.	Shri A.K.Singh	-	Joint Secretary
2.	Smt. Anita Jain	-	Director
3.	Shri H. Ram Prakash	-	Deputy Secretary

Representatives of the Ministry of Petroleum & Natural Gas

1.	Shri G.C. Chaturvedi	-	Secretary
2.	Shri. Sudhir Bhargava	-	Addl. Secretary
3.	Dr. S.C.Khuntia	-	Addl. Secretary
4.	Shri L.N.Gupta	-	Joint Secretary

Representatives of Public Sector Undertakings

1.	Shri R.S.Butola	-	Chairman, IOCL
2.	Shri R.K.Singh	-	CMD, BPCL
3.	Shri S.Roy Choudhury	-	CMD, HPCL
4.	Shri P.P.Upadhyay	-	MD, MRPL
5.	Shri A.K.Purwaha	-	C&MD, EIL
6.	Shri Augustine Peter	-	Director General, Petroleum Planning & Analysis Cell (PPAC)
7.	Shri Rajan K Pillai	-	Chief Executive Officer, Indian Strategic Petroleum Reserves Ltd. (ISPRL)

2. At the outset, Hon'ble Chairman welcomed the representatives of the Ministry of Petroleum and Natural Gas and other organizations to the sitting of the Committee.

3. A brief power point presentation was made by the Ministry on the subject 'Long Term Purchase Policy and Strategic Storage of crude oil'. The Committee then discussed various aspects of the subject like the crude oil purchase policy, strategic plans for crude oil imports by PSUs, percentage of purchases on spot and long term contracts and benefits of each type of contract, diversification of supply sources for crude oil imports, etc. On the topic of strategic storage of crude oil Members discussed various aspects like different types of caverns, technology for these types of caverns, progress made in different projects, reasons for cost escalation etc. Ministry officials

clarified some of the queries raised by Members and on other points they have promised to send written replies.

4. * * * * * * * * * * * * * * * * *

5. A verbatim record of the proceedings of the sitting has been kept.

The Committee then adjourned.

MINUTES
STANDING COMMITTEE ON PETROLEUM & NATURAL GAS
(2012-13)
SIXTH SITTING
(27.02.2013)

The Committee sat on Thursday the 27th February, 2013 from 1500 hrs. to 1700 hrs. in Room No. '62', Parliament House, New Delhi.

PRESENT

Shri Aruna Kumar Vundavalli - Chairman

MEMBERS

LOK SABHA

2 Shri Subhash Bapurao Wankhede
3 Shri Sudarshan Bhagat
4 Shri Ram Sundar Das
5 Shri Kalikesh N. Singh Deo
6 Shri Baliram Jadhav
7 Dr. Manda Jagannath
8 Shri Dilipkumar Mansukhlal Gandhi
9 Shri Somabhai Gandalal Koli Patel
10 Shri P.L.Punia
11 Shri Dhananjay Singh
12 Shri Manohar Tirkey
13 Shri Thol Thirumaavalavan

RAJYA SABHA

14 Shri Sabir Ali
15 Shri Mansukh L. Mandaviya
16 Shri Ahmed Patel
17 Smt. Kusum Rai
18 Smt. Gundu Sudharani
19 Dr. Prabha Thakur

SECRETARIAT

1. Shri A.K.Singh - Joint Secretary
2. Smt. Anita Jain - Director
3. Shri H. Ram Prakash - Deputy Secretary

Representatives of the Ministry of Petroleum & Natural Gas

1.	Shri Vivek Rae	-	Secretary
2.	Shri Sudhir Bhargava	-	Special Secretary
3.	Shri S.C.Khuntia	-	Additional Secretary & Financial Advisor
4.	Shri L.N.Gupta	-	Joint Secretary (Refinery)

Representatives of Indian Oil Corporation Ltd.

1.	Shri R.S.Butola	-	Chairman, IOCL
2.	Shri R.K.singh	-	CMD, BPCL
3.	Shri S.Roy Choudhury	-	CMD, HPCL
4.	Shri Sudhir Vasudeva	-	CMD, ONGC
5.	Shri A.K.Purwaha	-	CMD, EIL
6.	Shri Arun Kumar	-	Secretary, Oil Industry Development Board
7.	Shri Augustine Peter	-	Director General (PPAC)
8.	Shri P.P.Upadhya	-	MD, MRPL
9.	Shri D.K.Sarraf	-	MD, OVL
10.	Shri S.K.Srivastava	-	MD, OIL
11.	Shri Rajan K Pillai	-	CEO (ISPRL)

2. At the outset, Hon'ble Chairman congratulated the new Secretary for taking charge of the Ministry of Petroleum and Natural Gas and then welcomed the accompanying representatives of the Ministry to the sitting of the Committee.

3. Thereafter a brief power point presentation was made by MoP&NG on the subject 'Long Term Purchase Policy and Strategic Storage of Crude Oil'. The Committee then deliberated upon the various aspects related to the subject such as crude oil, berthing facilities available at domestic ports for receiving crude oil carriers of different sizes, demurrage cost paid by OMCs due to want of infrastructure, construction cost and funding for ISPRL strategic cavern projects at Vizag, Manglore and Padur respectively, details of rockslide accident happened at Vizag with reasons and preparedness to check its recurrence, etc. Besides these the issues like exploration and production by ONGC, performance of PSU refineries vis-à-vis Private sector

refineries and scope of improvement in the former Shale gas exploratory efforts and success achieved etc. were also discussed.

4. The clarifications sought by the Members on various related to the subject were provided by the representatives of the Ministry. However, on some of the points to which the Ministry's officials could not readily respond, the Chairman asked them to furnish written information to the Secretariat.

5. A verbatim of the proceedings of the sitting has been kept in records.

The Committee then adjourned.

MINUTES
STANDING COMMITTEE ON PETROLEUM & NATURAL GAS
(2012-13)
ELEVENTH SITTING
(02.05.2013)

The Committee sat on Thursday the 02nd May, 2013 from 1500 hrs. to 1740 hrs. in Committee Room 'C', Parliament House Annexe, New Delhi.

PRESENT

Shri Aruna Kumar Vundavalli - Chairman

MEMBERS
Lok Sabha

2 Shri Ramesh Bais
3 Shri Sudarshan Bhagat
4 Shri Kalikesh N. Singh Deo
5 Shri Baliram Jadhav
6 Dr. Manda Jagannath
7 Shri Somabhai Gandalal Koli Patel
8 Shri P.L.Punia
9 Shri Dhananjay Singh
10 Shri A.K.S. Vijayan

RAJYA SABHA

11 Shri Sabir Ali
12 Shri Mansukh L. Mandaviya
13 Smt. Kusum Rai
14 Shri Tapan Kumar Sen
15 Smt. Gundu Sudharani
16 Dr. Prabha Thakur

SECRETARIAT

1. Shri A.K.Singh - Joint Secretary
2. Smt. Anita Jain - Director
3. Shri H. Ram Prakash - Deputy Secretary

Representatives of the Ministry of Petroleum & Natural Gas

1.	Shri Vivek Rae	-	Secretary
2.	Shri Sudhir Bhargava	-	Special Secretary
3.	Shri L.N.Gupta	-	Joint Secretary (Refinery)
4.	Shri. Neeraj Mittal	-	Joint Secretary (Marketing)

Representatives of Indian Oil Corporation Ltd.

1.	Shri R.S.Butola	-	Chairman, IOCL
2.	Shri P.K. Goyal	-	Director (Finance)
3.	Shri Rajkumar Ghosh	-	Director (R)
4.	Shri M. Nene	-	Director (Marketing)
5.	Shri V.S. Okhde	-	Director (PL)
6.	Shri A.M.K. Sinha	-	Director (P&BD)
7.	Dr. R.K. Malhotra	-	Director (R&D)

2. At the outset, Hon'ble Chairman welcomed the Members to the sitting of the Committee. The Committee then considered draft action taken Report on the subject 'Safety of Oil Installations' and draft Report on the subject 'Long Term Purchase Policy and Strategic Storage of Crude Oil' and adopted the same without any modifications.

3. The Committee authorised the Chairman to present/lay the above reports in both the Houses of Parliament.

4. * * * * * * * * * * * *

The Committee then adjourned.