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Report of the Comptroller and Auditor General of India on Pricing Mechanism of Major Petroleum Products in Central Public Sector Oil Marketing Companies

for the year ended March 2013

The Report has been laid on the table of the Parliament house on 18-07-2014





Union Government
Ministry of Petroleum and Natural Gas
No.14 of 2014
(Performance Audit)

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Comptroller and Auditor General of India

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PREFACE

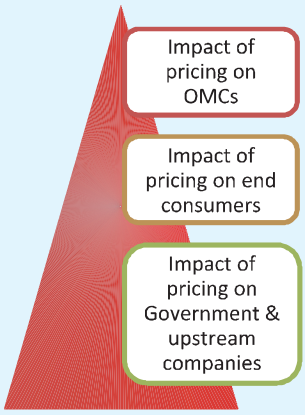
This Report of the Comptroller and Auditor General of India contains the results of the Performance Audit of Pricing Mechanism of Major Petroleum Products in Central Public Sector Oil Marketing Companies. The Audit covered the period from 2007-08 to 2011-12. The Report is based on scrutiny of documents/records of the Ministry of Petroleum and Natural Gas (MoPNG), Petroleum Planning and Analysis Cell (PPAC) in MoPNG, Ministry of Finance, Central Public Sector Oil Marketing Companies *viz.* Indian Oil Corporation Limited (IOCL), Bharat Petroleum Corporation Limited (BPCL) and Hindustan Petroleum Corporation Limited (HPCL). In addition, a sample of six refineries *i.e.* one refinery each from BPCL (Mumbai) and HPCL (Mumbai) and four refineries from IOCL (Koyali, Panipat, Haldia and Bongaigaon) were also selected for detailed study.

The Report has been prepared for submission to the President of India under Article 151 of the Constitution.

Audit wishes to acknowledge the cooperation extended by MoPNG, PPAC, MoF and OMCs in providing information, records, clarifications and discussions with the concerned officers, which facilitated completion of audit.

EXECUTIVE SUMMARY

Executive Summary



At present, there are three regulated products, viz., High Speed Diesel (HSD), Superior Kerosene Oil (SKO) for Public Distribution System (PDS) and Liquified Petroleum Gas (LPG) for Domestic use. Motor Spirit (MS) or Petrol has been de-regulated *with effect from* June 2010. Performance Audit of Pricing of Major Petroleum Products covering the period 2007-12 has been conducted with reference to the pricing methodology for regulated petroleum products to ascertain its effect on the stakeholders – *viz.*, Oil Marketing Companies (OMCs), the end consumers, the Government and upstream companies. The significant audit findings are as below:

- Refinery Gate Price(RGP) is arrived at by adding various cost elements associated with import of products to their FOB (Free on board) price, though it is the raw material or crude oil (and not the products) that is imported by the refineries. OMCs do not incur bulk of these expenses as majority of the products are processed in OMC refineries rather than being imported. In financial terms, import related elements charged at refinery gate on regulated products produced in refineries over and above the FOB price during 2007-12 worked out to ₹50,513 crore. After allowing for import related expenses on import of crude oil that were estimated at ₹23,887 crore during the above period, OMCs would be expected to derive a price advantage. However, this advantage does not appear to have been translated adequately in terms of efficiency improvements in refining margins, optimization of costs of production and improvements in yields. This, in turn, is sought to be attributed almost entirely to inherent problems of PSU refineries, *viz.*, vintage, uneconomical size, limitation of configuration, *etc.*

  (Para 3.1.1 & 3.1.2)

- OMCs have taken some initiatives towards technology up-gradation of existing vintage refineries. However, there is still scope for improvement especially Haldia refinery of IOCL and Mumbai refineries of BPCL and HPCL.

  (Para 3.1.3)

- OMCs uplift petroleum products from standalone/private refineries in order to fill the gap between production and domestic requirement at *RGP* (*i.e.* Trade Parity Price or TPP for MS and HSD and Import Parity price or IPP for other products). Private refiners export balance petroleum products at prices comparable to EPP/FOB, which are lower than TPP/IPP. Procurement at TPP/IPP affords an undue benefit to private refiners (Reliance Industries Limited and Essar Oil Limited), which was estimated at ₹667 crore on HSD in only one year, i.e. 2011-12. The benefit to stand alone PSU refineries on the same count was ₹1,428 crore during 2011-12.

  (Para 3.1.4)

- There is a mismatch between the actual transportation cost and the amount factored in the product pricing on account of freight. OMCs were compensated slightly higher than the actual cost, the compensation calculated based on actual cost incurred on various modes (and not on the actual mode of transport) of transportation and operating cost of pipelines.

  (Para 3.1.6)

- OMCs incurred excess marketing cost on sale of regulated products over the admissible rate fixed by the Government in all the years. While IOCL and BPCL could generate some surplus on marketing margin fixed on the regulated products, HPCL could not generate the desired return. Similarly, margin on retail investment was below the desired level in BPCL and HPCL.

  (Para 3.1.7)

- In order to meet the requirements of working capital in the context of delayed settlement of under recovery claims, OMCs sold oil bonds issued by Government at a discount suffering a loss of ₹3,994 crore. OMCs also incurred ₹22,802 crore towards interest on borrowed working capital and suffered an interest loss of ₹5,180 crore due to delay in release of compensation during 2007-08 to 2011-12. Delay in declaration of cash compensation also led to avoidable payment of interest of ₹381 crore on short payment of advance income tax by the OMCs.

  (Para 3.1.10)

- While Central taxes have been periodically rationalized, the State taxes vary widely and at ad-valorem rates which lead to a higher burden on customers with increasing product prices. Rationalization of State taxes along with a transition to specific tax is yet to be achieved.

  (**Para 3.2.2**)

- There was no uniform system of sharing of under recoveries amongst the stakeholders namely, OMCs, upstream companies and the Government leading to an uncertainty for both upstream companies and OMCs.

(Para 3.3.1)

- Delay in implementation of the mechanism to target subsidies to deserving consumers has led to increased under recoveries. Though the eligibility for subsidised LPG cylinders has been capped and the scheme for direct transfer of benefit for LPG cylinders launched, much progress has not been achieved on targeting PDS kerosene supplies.

(**Para 3.3.2**)

- Government implemented dual pricing policy on HSD in January 2013 with the bulk consumers of HSD paying non-subsidized market determined price. Subsequent to this change, there has been a rise in the retail HSD sales, and the share of bulk HSD sales in total HSD sales has declined to around 10 *per cent* in August 2013 as against annual average of 18 *per cent* during 2011-12. Appropriate checks are needed to prevent likely diversion of cheaper subsidized fuel which would dilute the positive impact of market pricing for bulk customers on under-recoveries.

(**Para 3.3.3**)

Chapter 1 Introduction

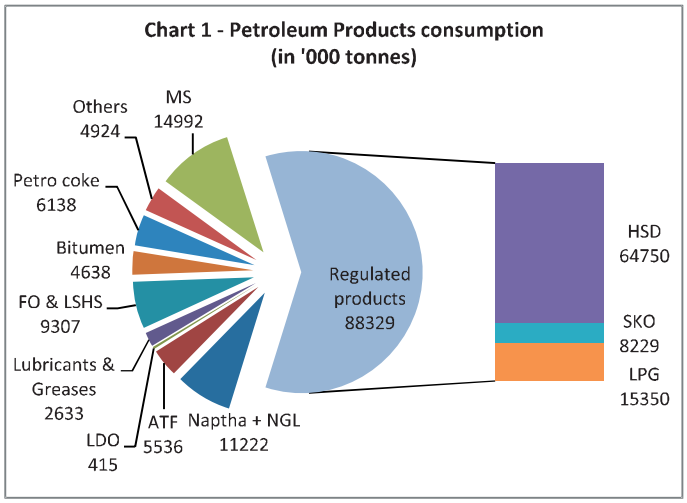
1.1 Petroleum Scenario in India

The hydrocarbon sector plays vital role in the economic growth of the country. Among all primary energy sources in the country, consumption of oil and natural gas is the second highest, after coal. Consumption of energy in India has shown an increasing trend from 1,203 Kilo Watt hour (KWh) in 1970-71 to 4,816 KWh in 2010-11(Compounded Annual Growth Rate-CAGR : 3.44 *per cent*) with a higher growth in consumption of oil and natural gas (CAGR 1970-71 to 2010-11: Oil 6.07 *per cent* and Natural Gas 11.25 *per cent*). The prices of most commonly consumed petroleum products *viz*. High Speed Diesel[1] (HSD, commonly called Diesel), Liquefied Petroleum Gas (LPG, Domestic), and Superior Kerosene Oil (PDS - SKO, commonly called Kerosene Oil) are regulated and these three products come under the category of regulated products. The prices of other major petroleum products, Motor Spirit[2] (MS, commonly called Petrol), Aviation Turbine Fuel (ATF), LPG – Commercial, SKO (other than PDS), Furnace Oil (FO), Naphtha, Low Sulphur Heavy Stock (LSHS), *etc*. are not regulated and are commonly referred to as non-regulated products.

1.1.1 Consumption and Supply of Petroleum Products

Consumption

Consumption of petroleum products was 1,28,946 Thousand Metric Tonnes (TMTs) during 2007-08. It progressively increased to 1,48,132 TMTs during 2011-12. Details of year wise consumption of regulated and non regulated petroleum products are given in **Annexure - I.** Consumption of petroleum products in the country during 2011-12 is shown in Chart 1. Regulated products *viz*. HSD (partially de-regulated in January 2013), LPG for domestic use or Domestic LPG and SKO supplied through the public



[1] ***Diesel: The price of HSD was deregulated for bulk consumers from January 2013.***
[2] ***Petrol: The price of petrol was deregulated from 25 June 2010.***

distribution system (PDS SKO) constituted 60 *per cent* of total consumption of petroleum products. During 2011-12, consumption of MS (which has been de-regulated since 25 June 2010) was 10 *per cent*. Other non-regulated products constituted the balance 30 *per cent* of total consumption.

Primary users of various petroleum products in the country are listed below:

Table 1
Primary users of various petroleum products in India

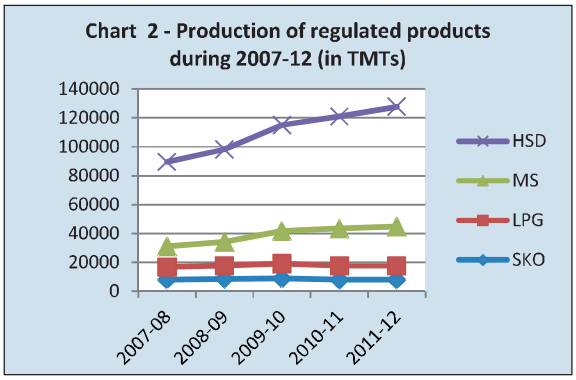
Major Products	Users
HSD	Public transport, Car users, Farmers, Genset users, Industries
LPG	Domestic consumers, Commercial consumers
SKO	Domestic consumers, Genset users, Industries
Naphtha	Industries (Fertilizers & others)
MS	Car users
ATF	Airlines
LDO(Light Diesel Oil)	Industries (as fuel)
Lubes	Car users, Public Transport, Farmers
FO	Industries, Commercial users (as fuel)
LSHS	Industries (as fuel)
Bitumen	Public works, Industries

Source: Standing committee on Petroleum and Chemicals (2001)

HSD is used in several sectors as an input and has a weightage of 4.67 *per cent* in the Wholesale Price Index (WPI), the highest amongst 670 commodities. For each Rupee increase in HSD price, the WPI is estimated to increase by 0.11 *per cent*. The impact on WPI of increase of one Rupee on SKO and MS prices would be 0.05 *per cent* and 0.02 *per cent* respectively while increase of ₹10/cylinder of domestic LPG would impact WPI by 0.02 *per cent*.[3] The prices of regulated products, thus, have a direct impact on the economy.

Supply

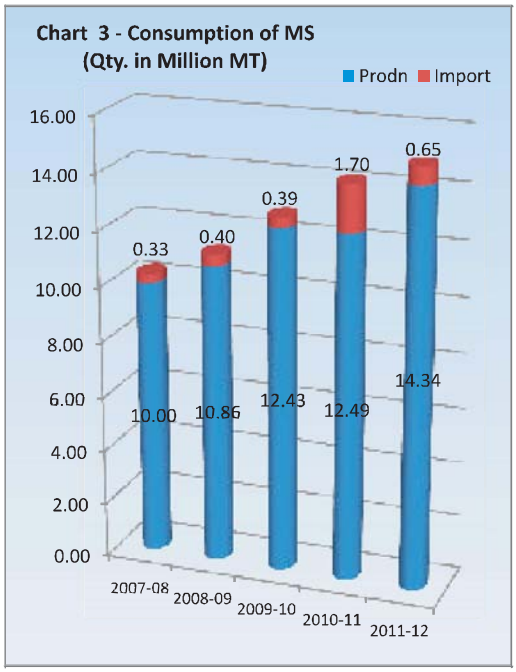
The demand is met through indigenous production and supplemented by imports. Details of production and import/export of petroleum products during 2007-12 are given in **Annexure-II and III.**

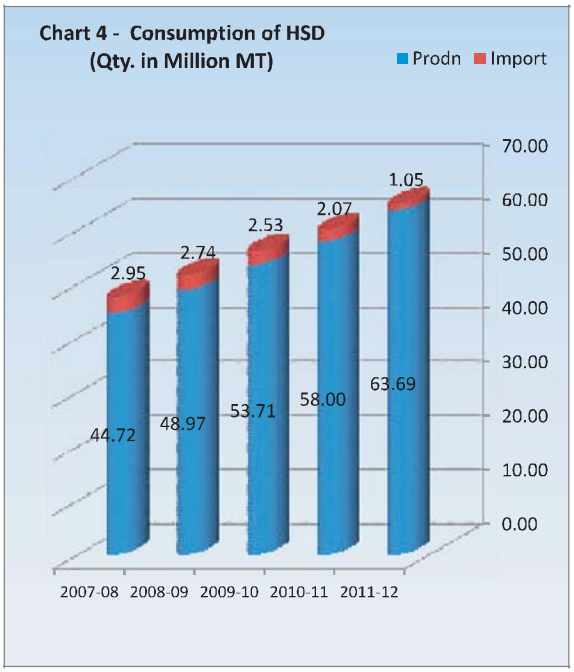


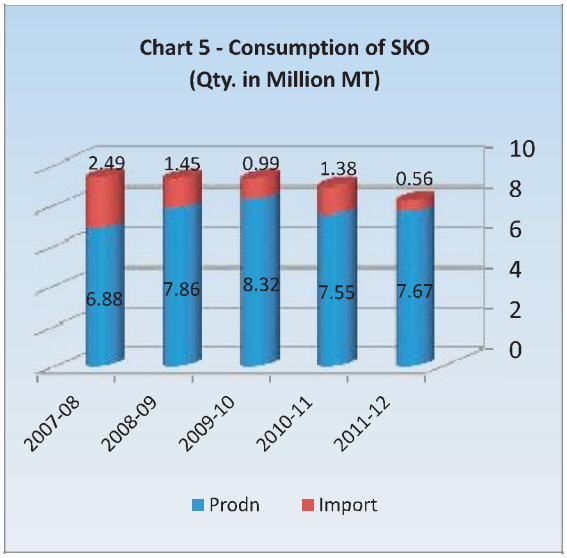
[3]***Source: Notes for Supplementaries of PPAC, MoPNG January 2013***

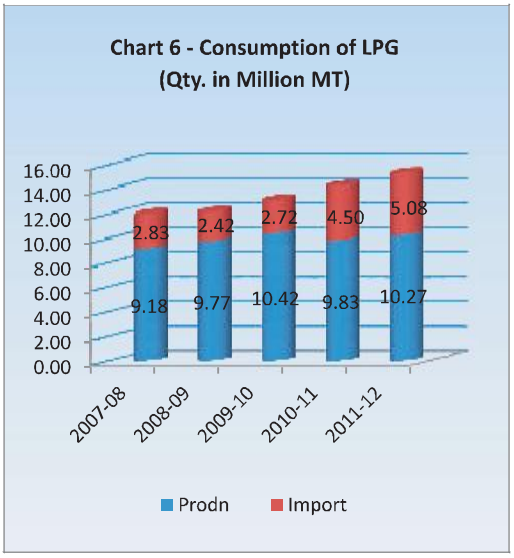
Production of petroleum products other than SKO, Light Diesel Oil (LDO) and LSHS showed an increasing trend during 2007-12. However, production of LPG and SKO remained lower than domestic demand during the above period and, therefore, had to be imported. Though domestic production of MS and HSD was higher than demand, OMCs had to import 2.14 *per cent* of the requirement of these products to meet quality standards. Production of regulated products *viz*. HSD, MS, SKO and LPG during 2007-08 to 2011-12 is shown in Chart 2.

Import of petroleum products in the country showed a decreasing trend from 22,462 TMT in 2007-08 to 14,997 TMT in 2011-12. Position of supply of regulated products *viz*. HSD, MS, LPG and SKO met through own production and import during 2007-08 to 2011-12 is given in Charts 3 to 6 below:







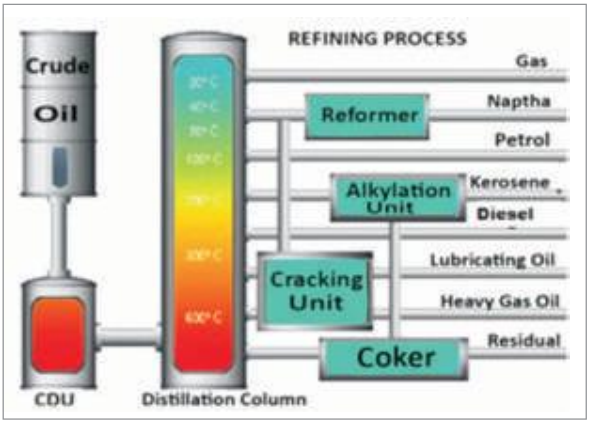


Government does not allow export of crude. However, the refining capacity of crude of Indian refineries is more than the domestic demand. India is a major exporter of petroleum products. Of the total exports of petroleum products made by South East Asia Region counties, exports of these products by India alone ranged between 13 (2008) and 21 *per cent* (2012).

1.2 Refining of petroleum products in India

1.2.1 Refining Process

Crude is refined by a process of fractional distillation to produce an array of refined petroleum products. The refining process involves four basic steps *viz*. Distillation, Cracking, Treating and Reforming.



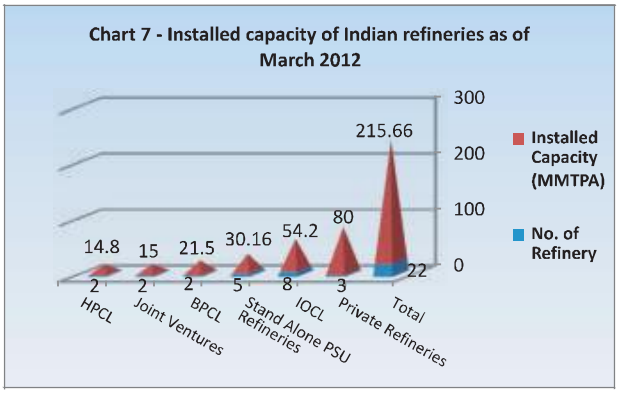
Distillation: *Distillation is the first step in refining of crude oil in distillation towers (CDU – Crude Distillation Unit) at atmospheric pressure for removal of more volatile components. During the process, the light materials (also known as light distillates) like propane and butane, vaporize and rise to the top of the column. Medium weight material i.e. middle distillates, including gasoline, jet and HSD fuels, condense in the middle. Heavy materials (heavy ends) called reduced crude oil condense in the lower portion of the atmospheric column.*

Cracking: *A process that breaks or cracks the heavier (higher boiling – point) petroleum fractions into more valuable products such as gasoline, fuel oil, and gas oils and decrease the amount of residuals.*

Reforming: *This uses heat, pressure and a catalyst (usually containing platinum) to bring about chemical reactions to upgrade Naphtha into high octane petrol and petrochemical feedstock.*

Hydro treating: *It is a way of removing contaminants/impurities from intermediate or final products.*

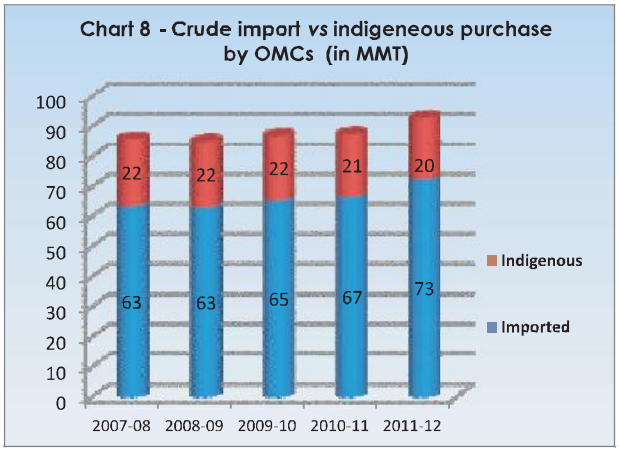
1.2.2 Refining capacity in the country



There are 22 refineries with a combined refining capacity of 215.66 million tonnes per annum (MMTPA) in the country as of 31 March 2012. Details of the installed capacities of refineries are given in Chart 7.

Of these, 19 refineries with a combined capacity of 135 MMTPA are in public sector (including Joint Ventures-JVs) while 3 with a combined capacity of 80 MMTPA are in private sector (Reliance Industries Limited -2 and Essar Oil – 1).

1.2.3 Sourcing of crude



The country is not self-sufficient in production of crude and depends largely on import. Import of crude increased from 1,21,672 TMTs in 2007-08 to 1,71,729 TMTs during 2011-12, while indigenous production of crude

increased only marginally from 34,130 TMTs in 2007-08 to 38,080 TMTs in 2011-12. In 2011-12, the ratio of imported to indigenous crude was 4.50:1. As could be seen from Chart 8, the sourcing of imported crude by Oil Marketing Companies (OMCs) has been increasing over the years.

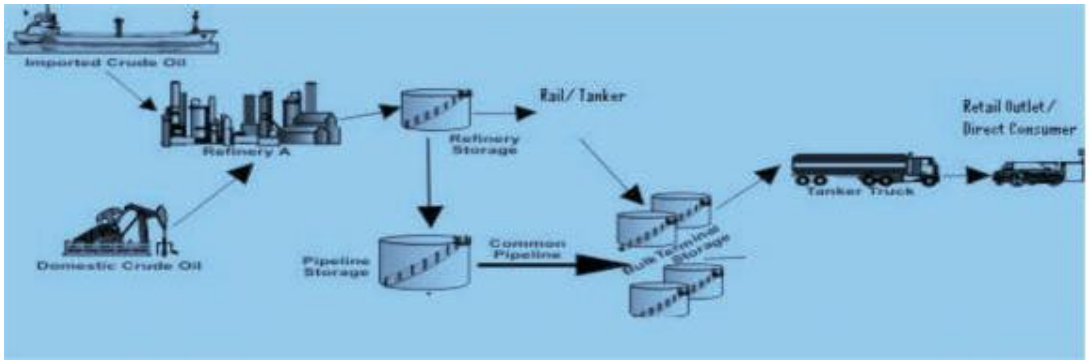
1.3 Marketing of Petroleum Products

1.3.1 Marketing activities

The marketing activities involve movement of products from refinery or port through pipelines/rail/vessels/road to the storage terminals/depots and distribution to the retail outlets/direct consumers. While LPG requires separate storage units and bottling plants where the product is bottled into cylinders, OMCs deliver MS and HSD to the retail outlets through owned/hired tank trucks. As regards PDS Kerosene, OMCs make the product available at the storage terminals/depots from where the State Governments (Civil Supplies Department) arrange to deliver it to PDS Kerosene delivery points.

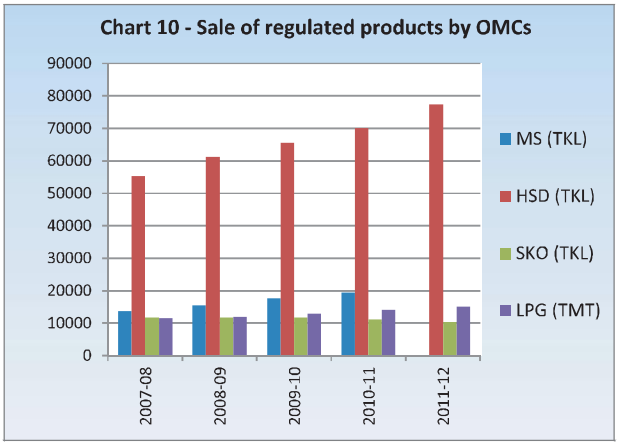
Marketing activities of OMCs are depicted in Chart 9.

Chart 9 - Marketing of the petroleum products by OMCs



1.3.2 Oil Marketing Companies (OMCs)

There are three major OMCs in the public sector, *viz*. Indian Oil Corporation Limited (IOCL), Bharat Petroleum Corporation Limited (BPCL) and Hindustan Petroleum Corporation Limited (HPCL) for marketing regulated petroleum products. Refineries in public sector supply regulated products first



to OMCs and then export the remaining quantity. OMCs also purchase regulated products from private refineries and import the balance to meet the demand. Private companies *viz*. Reliance Industries Limited (RIL), Essar Oil Limited and Shell India also have retail outlets for distribution of MS and HSD. However, the latter account for only 2966 outlets (7 *per cent*) against 42138 retail outlets operated by OMCs as of 1 April 2012. Details of year-wise sale of regulated products *viz*. HSD, MS, domestic LPG and PDS Kerosene by OMCs during the period 2007-08 to 2011-12 are given in Chart 10.

1.3.3 Essential elements in the price build-up of regulated products

The upstream oil PSUs *viz*. Oil and Natural Gas Corporation Limited (ONGC) and Oil India Limited (OIL) produce crude through their operations which is sold to PSU refineries for processing into petroleum products. Major requirement of crude is however, met through imports by PSU refineries. The raw material 'crude' is processed into various petroleum products in the refineries. It is seen that the cost of crude constitutes more than 90 *per cent* of the product cost. Due to inherent nature and complexity of production process, the refineries argue that one particular product cannot necessarily be identified with one particular process. To arrive at the cost of production of each product, joint cost is apportioned to all the products based on their sales realization (quantity produced X unit selling price) at the refineries.

The system of pricing the petroleum products being followed has some essential components or features, which are as under:

- **Import Parity Price (IPP)**: It represents the price that importers would pay in case of actual import of HSD, MS, LPG and SKO at the respective Indian ports and includes the elements of FOB (free on Board) price, ocean freight, insurance, customs duty, port dues *etc*.

- **Export Parity Price (EPP):** Represents the price which oil companies would realize on export of petroleum products i.e. FOB price + Advance Licence Benefit.

- **Trade Parity Price (TPP):** TPP consists of 80 *per cent* of IPP and 20 *per cent* of EPP.

- **Refinery Gate Price**: Refineries of OMCs, standalone PSUs (those refineries which do not have marketing outlets such as CPCL, MRPL *etc*.) and private refineries are paid TPP/IPP for the purchase of MS and HSD/Domestic LPG and PDS kerosene respectively by OMCs and are commonly known as Refinery Gate Price (RGP) or Refinery Transfer Price (RTP).

- **Marketing charges:** Marketing charges include marketing cost, marketing margin, inland freight, delivery charges *etc.*

- **Desired selling price (DSP):** This includes the weighted average of RGP, freight, Terminalling charges, marketing cost, marketing margin, return on working capital and retail pump outlet charges including return on investment.

- **Depot Price:** Depot Price, also known as ex-storage point price, is fixed by the GoI for regulated products, which is less than the DSP.

- **Under Recovery:** The difference between the Depot price as fixed by GoI for regulated products and the DSP as per the price build up (excluding taxes and dealers' commission).

- **Taxes:** Taxes include the excise duty levied on the products by Central Government, State levies *viz*. Value Added Tax/Sales Tax, entry tax and surcharge and octroi by local bodies. Presently, all these taxes and octroi of local bodies are forming part of the retail selling price of the products.

- **Dealer commission**: This is the rate determined by GoI on the products and paid by the customers.

- **Retail Selling Price (RSP):** The price at which OMCs sell the regulated products as decided by GoI including excise duty, VAT and dealers commission.

1.4 Evolution of pricing mechanism of Petroleum Products

The pricing of petroleum products *viz*. HSD, PDS kerosene and Domestic LPG are presently controlled by GoI. The price of HSD at refinery gate is being regulated at Trade Parity Price (TPP) while PDS Kerosene and Domestic LPG are priced at Import Parity Price (IPP) level. RSP to be paid by consumers for these three products is also fixed by GoI. The price of MS is market determined both at refinery and retail level since 25 June 2010 onwards.

GoI started regulating the oil prices from 1948. The main reason for regulating the prices is to insulate the domestic economy from the volatility of petroleum prices in the world market. Chronology of decisions of GoI in regulating prices of petroleum products is given below:

1.4.1 Pricing decisions (1948 – 1997)

During this period all petroleum products were kept under regulation.

1948 - Regulated the oil prices through Valued Stock Account Procedure agreed with Burmah Shell

1961 - 1969 - Adopted Import Parity Price (IPP) based on recommendations of Damle Committee (1961), Talukdar Committee (1965) and Shantilal Shah Committee (1969)

1974- Changed to 'Cost Plus basis' commonly known as Administed Pricing Mechanism (APM) based on Oil Prices Committee (OPC) recommendations

1984- Compensation to OMCs changed from flat rate on capital employed to 12 *per cent* post tax return on net worth and weighted average cost of borrowings based on recommendation of Oil Cost Review Committee(1984)

1997- Decided to dismantle the APM in a phased manner based on the recommendations of Strategic Planning Group on Restructuring of Oil Industry (R-Group) and Expert Technical Group set up in January 1995 and June 1996 respectively.

1.4.2 Pricing Decisions (1997 – till date)

1997-2006: Based on the Strategic Planning Group on restructuring of Oil Industries (R group) recommendations, GoI dismantled APM of petroleum products in a phased manner from 1997 to 2002 as APM model of pricing, according to the R group report, could not generate sufficient financial resources required for investments in technological up-gradation and did not provide strong incentives for cost minimization as the cost plus formula bred inefficiencies. As a first step, GoI de-regulated products *viz.*, Fuel Oil, LSHS and Naphtha in April 1998 and Aviation Turbine Fuel in April 2001, i.e., OMCs were given free hand to fix the prices of these products based on market conditions. Effective from April 2002, the prices of MS and HSD were also made market determined. However, de-regulation of HSD and MS prices was only for a short period of two years. In view of steep rise in oil prices in international market since 2004 onwards, GoI reintroduced control of retail sale prices of these two products. Effective April 2002, RGP of all petroleum products was calculated based on Import Parity Price (IPP[4]). This continued up to June 2006.

[4]IPP: It represents the price that importers would pay in case of actual import of HSD, MS, LPG and SKO at the respective Indian ports and includes the elements of FOB (free on Board) price, ocean freight, insurance, customs duty, port dues etc.

2006-2010: Subsequently, a Committee chaired by Dr. Rangarajan (February 2006) recommended introduction of Trade Parity Price (TPP[5]) in place of IPP as RGP for MS and HSD. The rationale for the change was that 20 *per cent* of MS and HSD production of the country was being exported. The recommendation was accepted by GoI and implemented from June 2006. Pricing of Domestic LPG and PDS Kerosene continued under IPP methodology.

Dr. Rangarajan Committee's recommendations accepted

- Adoption of Trade Parity Price (80 *per cent* Import Parity Price and 20 *per cent* Export Parity Price) for MS and HSD as Refinery Gate Prices with effect from June 2006.
- PDS kerosene only to BPL families but not implemented.

Based on the recommendation, GoI reduced the custom duty on MS and HSD periodically from June 2006 and charged excise on MS and HSD at specific rates (in place of earlier ad valorem rates) from March 2008. GoI also accepted the recommendation to restrict subsidized PDS Kerosene only to below poverty line (BPL) families, which was not implemented.

2010-2012: The Expert Group under the chairmanship of Dr. Kirit S Parikh recommended (August 2009) introduction of market determined price both at refinery gate and at retail level for MS and HSD. GoI decided (June 2010) that the price of MS and HSD would be market determined both at refinery gate and retail level. HSD, however, continued to be under regulation till 17 January 2013.

Kirit Parikh Committee's recommendations accepted

- MS price is market determined with effect from June 2010
- In principle approval for market determined price for HSD

January 2013: GoI freed (January 2013) the price of HSD for supply to bulk consumers and OMCs increased the prices for bulk supplies made directly from its installations by ₹9.25 per litre. The sale of HSD to bulk consumers has reduced to 10 *per cent* of total HSD sales in August 2013 as against the average sale of 18 *per cent* during 2011-12. GoI also directed OMCs to increase the price of HSD to retail consumers by ₹0.45 per litre from January 2013; fixed the entitlement of subsidized Domestic LPG cylinders at 9 (nine) per consumer from 2013-14, further increased to 12 cylinders per consumer in February 2014.

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[5]TPP: TPP consists of 80 per cent of IPP and 20 per cent of Export Parity Price (EPP)

Government's Vision for Downstream Sector and Tariff and Pricing Policy

The long term policy of the GoI in respect of refining and marketing is reflected in the Hydrocarbon Vision-2025 which envisages achievement of free pricing of products while continuing subsidized prices for some products in certain remote areas, which are to be identified and reviewed from time to time.

The Hydrocarbon Vision articulated a rational tariff and pricing policy that is vital to ensure healthy growth of the hydrocarbon sector and to protect the consumers as well. It identified the following action to be taken in the medium term:

i) Phase out existing subsidies as early as possible.

ii) Set up a Group of Experts to determine appropriate levels of tariffs and duties for introduction in a phased manner as early as possible.

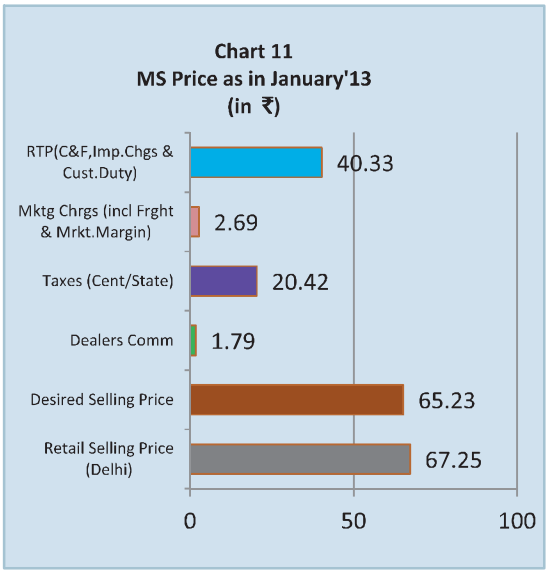
iii) Transfer freight subsidy on supplies to far flung areas and subsidies on products to fiscal budget. Necessity for concession is to maintain the supply line to hilly and remote areas, after decontrol of marketing.

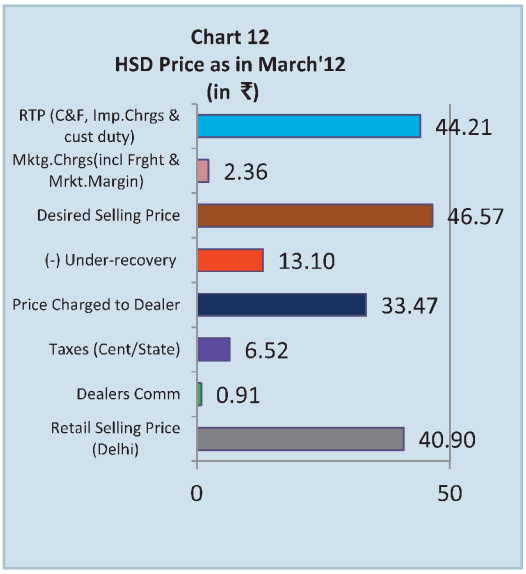
Hydrocarbon vision – 2025

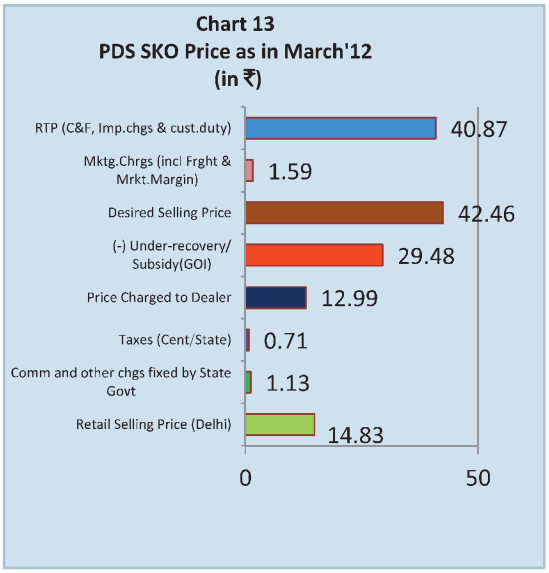
- Phasing out existing subsidies as early as possible
- Determine appropriate level of tariff and duties
- Transfer of subsidies to fiscal budget

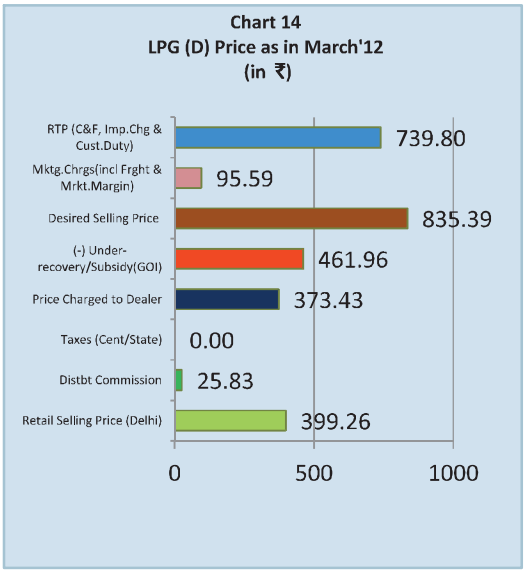
1.5 Price build-up of regulated products

The structure of price build up for MS, HSD, Domestic LPG and PDS Kerosene at New Delhi in March 2012/January 2013 is given in charts 11 to 14 below:









1.6 Compensation of under recoveries to OMCs

With the dismantling of Administered Price Mechanism (APM) in 2002, prices of MS and HSD were de-regulated. However, the prices of PDS Kerosene and domestic LPG could not be linked/aligned with international prices of products, which resulted in under recovery to OMCs. In order to distribute PDS Kerosene and Domestic LPG at subsidized rate (not reflecting actual international prices) to the end consumers, GoI decided (October 2003) that OMCs would absorb about a third of losses incurred on these two products from the surpluses generated on MS and HSD while the balance losses would be shared equally by the upstream

companies *viz*. ONGC, OIL and GAIL on the one hand and GoI on the other. However, the prices of MS and HSD were again brought under regulation (control) in 2004 due to unprecedented increase in the prices of crude and products in the international market and the under recoveries of these products were also compensated in the manner decided in October 2003.

Based on the recommendations of Kirit Parikh committee (February 2010), which included inter alia, "*Petrol being product of final consumption, increase in prices of petrol could be borne by motorized vehicle owners*", GoI de-regulated MS totally in June 2010. The burden sharing mechanism by GoI, thus, continues on three products namely - HSD, PDS kerosene and Domestic LPG.

Ministry of Finance (MoF) approves the method and amount of compensation on account of under-recoveries two to three times a year in consultation with MoPNG. The quantum of compensation is decided after analyzing (by MoF) the price of crude oil in international market, demand and consumption of sensitive petroleum products (MS - till June 2010, HSD, PDS Kerosene and Domestic LPG) in the country, financial condition of upstream companies to absorb a part of losses in the form of crude oil discount and OMCs, so that the latter are able to declare their quarterly results.

Chapter 2 Audit Approach

The pricing arrangement of petroleum products in the country was reviewed by the Comptroller & Auditor General of India in Audit Report (Commercial) No. 7 of 1989 of the Union Government covering the period up to 1987- 88 and again reviewed in Audit Report (Commercial) No. 19 of 1995 covering the period 1988 - 89 to 1993 - 94.

2.1 Audit objectives

The Performance Audit of pricing of petroleum products was conducted with a view to ascertaining:

- the impact of pricing methodology on OMCs, consumers, GoI and upstream companies; and
- the extent to which the actual cost of operations in OMCs matches with the stipulated norms considered for fixation of price and the effectiveness of the loss sharing mechanism set up by GoI.

2.2 Scope of Audit

Audit involved examination of records relating to the implementation of pricing mechanism of regulated products and consequent under recovery claims of OMCs *viz*. Indian Oil Corporation Limited (IOCL), Bharat Petroleum Corporation Limited (BPCL) and Hindustan Petroleum Corporation Limited (HPCL). Documents related to performance of six selected refineries of all three OMCs (HPCL refinery, Mumbai, est. 1954; BPCL refinery, Mumbai, est. 1955; IOCL refinery, Gujarat est. 1965, IOCL refinery, Haldia, est. 1974; IOCL refinery Bongaigaon, est. 1979 and IOCL refinery, Panipat, est. 1998) and documents regarding compensation of under recoveries that were made available, were also examined at MoPNG/Petroleum Planning and Analysis Cell (PPAC) and MoF. The period covered in audit is 2007-08 to 2011-12.

2.3 Audit Criteria

The following were the sources of audit criteria:

- Elements of cost factored in the norms considered for fixation of pricing formula, PPAC's instructions to OMCs from time to time regarding the pricing of petroleum products.
- Milestones set in the long term plan for de-regulating the petroleum products.

- Recommendations of various Committees including Parliamentary Standing Committee on Petroleum and Natural Gas
- Guidelines of GoI regarding loss sharing among the public sector upstream companies, OMCs and the Government.
- Key performance targets set in MoUs entered by OMCs with MoPNG.

2.4 Audit Methodology

An entry conference was held on 6 September 2012 with MoPNG, MoF, PPAC and OMCs where the audit objectives, scope, and methodology were discussed.

Audit was undertaken from September 2012 to February 2013. Documents relating to pricing of petroleum products that were made available, such as recommendations of various committees appointed by GoI, approval and implementation of these recommendations at MoPNG/PPAC and MoF, the burden sharing mechanism of under recoveries adopted at MoPNG, the system of approval of under recoveries and checks exercised at PPAC were examined. Records at OMCs relating to implementation of pricing of regulated products, cost audit reports of refineries and cost incurred in marketing, claims of under recoveries submitted by OMCs, MoUs with MoPNG and Board Minutes of OMCs were also reviewed. A sample of six refineries *i.e.* one refinery each from BPCL (Mumbai) and HPCL (Mumbai) and four refineries from IOCL (Koyali, Panipat, Haldia and Bongaigaon) were selected for detailed study.

Audit findings were first discussed in a pre Exit meeting in July 2013 and thereafter in an Exit conference on 21 February 2014, in which audit findings were discussed with officers of MoPNG, PPAC and OMCs.

2.5 Acknowledgement

We wish to acknowledge the cooperation extended by MoPNG, PPAC, MoF and OMCs in providing information, records, clarifications and discussions with the concerned officers, which facilitated completion of audit.

2.6 Structure of Audit Report

The findings of Audit are summarized in Chapter 3 under three broad heads:

- Chapter 3.1 – Impact of pricing methodology on Oil Marketing Companies;

- Chapter 3.2 – Impact of pricing methodology on consumers and;
- Chapter 3.3 – Impact of pricing methodology on upstream companies and GoI.

Chapter 3 Audit Findings

The pricing methodology of regulated petroleum products that has been in force between 2007 and 2012 was examined so as to ascertain its effects on the Oil Marketing Companies (OMCs), consumers and Government/up-stream companies. Major audit findings in these areas are discussed in the following paragraphs:

3.1. Impact of pricing methodology on Oil Marketing Companies

3.1.1 Pricing at the refinery gate

Regulated petroleum products are priced on an import parity basis, i.e., the products are priced as if they are imported into the country, though it is essentially the raw material (crude) that is imported. Transfer of products by refineries to the marketing companies was at import parity price (IPP) till June 2006. However, based on Dr. Rangarajan Committee recommendations, the price of MS and HSD at which these are transferred to marketing arm of Oil Marketing Companies (OMCs) was changed to trade parity price (TPP). TPP gives a weightage of 80 *per cent* to IPP and 20 *per cent* to Export Parity Price (EPP) effective June 2006.

- **Import Parity Price (IPP)** represents the price that importers would pay in case of actual import of product at the respective ports and consists of FOB, Ocean Freight, Insurance, custom duties and port dues
- **Export Parity Price (EPP)** represents the price which oil companies would realise on export of petroleum products and includes FOB and Advance License benefits
- **Trade Parity Price (TPP)** is equivalent to 80% of IPP and 20% of EPP.

The pricing methodology determines the price at the refinery gate based on the free on board (FOB) value of the product at a pre-determined location and adds a set of notional expenses to bring the product from that location to the destination port in the country. The FOB value at Singapore is considered for MS while for the other regulated products (HSD, SKO and LPG), the FOB at Arab Gulf is taken as the base price to arrive at the refinery gate price (RGP). The fortnightly/monthly average of the daily quotes of products, as published in Platts and Argus[6], is considered for this purpose. The elements added to the FOB value and the manner of their estimation is at table 2 below.

[6] ***Platts and Argus are the two globally accepted publications for arriving at petroleum product prices.***

Table 2
Elements added to the FOB to arrive at the RGP

i.	**Freight from Arab Gulf to India:** The applicable freight rate for MS and HSD for refinery ports (other than Haldia) is based on Average Freight Rate Assessment (AFRA) for the medium range vessel size. The assessment so derived is used to adjust the basic freight for sector Sitra (Bahrain) to the destination port. For Haldia refinery, 50 basis points are added. In case of PDS Kerosene and LPG Domestic, the designated loading port is RasTanura for price build up.
ii.	**Insurance charges:** Insurance charges of 0.1 *per cent* on Cost & Freight value (FOB plus freight) would be added for MS and HSD. In case of the other two products, it is the actual tariff rate set by General Insurance Corporation (GIC).
iii.	**LC Charges:** Letter of Credit charges of 0.225 *per cent* of FOB price +freight + Insurance.
iv.	**Ocean Loss:** This is equal to 0.5 *per cent* of the C& F value of the product for MS and HSD. In case of PDS Kerosene and for LPG Domestic, it is 0.212 *per cent* and 0.305 *per cent* respectively on C & F value.
v.	**Wharfage charges:** Wharfage charges at the destination ports plus service tax as applicable are considered.
vi.	**Duties and levies:** Basic Customs Duty as applicable for import of products on CIF value is taken into account.

Regulated petroleum products (MS, HSD, SKO, LPG) were largely (57 *per cent*) produced in12 refineries of OMCs in the country. The balance requirement is either procured from the Indian private and stand alone (those which do not have marketing establishments of their own) PSU refineries (34 *per cent*) or imported (9 *per cent*) into the country by OMCs and marketed.

Products from OMC refineries

Elements of costs added to FOB value namely freight, insurance, custom duty *etc.*, detailed at table 2 above, are not actually incurred in production of refined products in OMC refineries. However, being included in the pricing methodology or price build up, they form part of the refinery gate price (RGP), which refineries are compensated. As RGP is the basis for the retail sale price (RSP) and determination of under-recoveries, a higher RGP impacts the price at the retail level as well as the quantum of under-recoveries.

Addition of these notional elements had the effect of increasing RGP for refined regulated products processed in OMC refineries by ₹50,513 crore as indicated in table 3 below. This amount is based on the notional elements factored in under recovery claims of OMCs on sale of regulated products (MS –till June 2010, HSD, LPG – Domestic and PDS Kerosene). Care has been taken to exclude expenses on purchase of regulated products from private/standalone refineries and on import of these

products as in both cases, OMCs incur these expenses {purchase of these products from private and standalone refineries and imports are at TPP/IPP (FOB + other elements)} as given in table 3.

Table 3
Notional elements included in the price build up of regulated products during 2007-08 to 2011-12

(₹ in crore)

Element of cost	IOCL	BPCL	HPCL	Total
LC Charges	988	384	256	1,628
Insurance charges	388	154	101	643
Freight	9,335	3,444	2,380	15,159
Wharfage charges	817	315	211	1,343
Custom duty	17,101	6,982	4,461	28,544
Ocean loss	1,928	766	502	3,196
Total	**30,557**	**12,045**	**7,911**	**50,513**

Source: data of notional elements added to FOB as furnished by OMCs

As can be seen from the table above, the most significant element is the custom duty which accounts for 56 *per cent* of the total impact.

The FOB value for a product is the actual price of the product at the designated port and can, thus, be considered as an internationally benchmarked price. Being a price, it includes all costs as well as an element of profit for the refinery at the designated port. If the performance of the Indian refineries could be matched with such refineries, the amount worked out at table 3 above would be a source of benefit to the OMC refineries.

MoPNG pointed out (June 2013/January 2014) that the actual cost of production in Indian refineries is identical to the refinery gate price (FOB+ additional elements) arrived at in the price build up and, thus, the pricing methodology is not a source of benefit to the OMC refineries. In the exit conference (February 2014), MoPNG reiterated that out of the notional benefit of ₹50,513 crore worked out by Audit, ₹28,544 crore related to customs duty differential on crude and products import, which was recommended by Dr. Rangarajan Committee. This assertion needs to be viewed in light of the facts that:

(i) The 'actual cost' of production referred to by MoPNG is, as per cost audit reports and as per the studies by Cost Accounts Branch, MoF, an allocation of costs incurred by the refinery to the products on the basis of their sales realization (sale price X quantity sold) in view of the composite nature of the refining process. In fact, the composite nature of refining process has been cited as one of the

reasons for refineries being unable to arrive at the actual cost of production.

(ii) If the sale realization of a refined product is high, higher costs are allocated to it and vice versa. As the regulated refined products account for the bulk of sales realization of the refineries, the maximum share of costs gets allocated to these products. Cost of production is, thus, not based on actual value addition at each stage of processing, but on sales realization of the products.

(iii) MoPNG, while quoting Dr. Rangarajan Committee recommendation for allowing some effective protection to domestic refineries, argued for continuance of TPP/IPP based pricing to provide adequate refining margins for encouraging investment in expansion and modernization of the existing refineries. This amounts to an admission by MoPNG that Indian refineries do get a price protection in the IPP/TPP based pricing method.

MoPNG and OMCs had also pointed out that FOB – Arab Gulf is not truly reflective of market conditions and cannot be used to benchmark Indian refinery prices. It was stated that Arab Gulf is a crude producing region and its price quotes did not reflect the full cost price for a crude importing nation like India.

In this regard, it needs to be appreciated that the FOB – Arab Gulf prices as quoted by Platts and Argus (which forms the basis for the price buildup) are constructed prices based on FOB Singapore after netting back the notional freight for the sector (Singapore – Arab Gulf). The 'methodology and specification guide' of this publication (Platts and Argus) states that such a construction is done in the absence of an open market price for Arab Gulf.

A similar benchmarked price for Western India is quoted in the Platts publication (since June 2009), FOB-Western India being derived from the FOB Singapore by deducting the relevant freight costs. It is noticed that FOB-Western India is nearly identical to FOB-Arab Gulf quoted by Platts in its publication. Thus, in effect, the product prices are benchmarked with their actual price at Singapore (rather than Arab Gulf) which is not a crude producing region and also incurs attendant costs in import of crude. Besides, the constructed prices at Western India are deemed to be nearly representative of similarly constructed Arab Gulf prices. Further, refined products are actually exported from Western India at prices comparable to FOB-Western India.

It is pertinent to note that the High Powered Committee constituted by the Government under the chairmanship of Shri B. K. Chaturvedi

recommended (July 2008) pricing of products at refinery gate at FOB level prevailing at major petroleum trading centres. This Committee was of the view that the prices quoted for refined products internationally (FOB price) included items of cost like ocean freight, LC charges *etc.* on crude oil which the Indian refiners were also bearing. In fact, the Committee deemed that Indian coastal refiners were at an advantageous position compared to Singapore as the Singapore refiners sourced crude partly from Malaysia and Middle East, the distance involved being larger compared to Indian coastal refiners.

The Standing Committee on Petroleum and Natural Gas (2011-12) while reviewing the challenges of under recovery of petroleum products had also recommended that the components other than FOB price of petroleum products at Singapore/Arab Gulf should not be included in the refinery gate price (RGP). The Committee had opined that this would bring down the cost of petroleum products and consequently, reduce the under recovery burden. The Committee was of the view that when the price has been aligned to international market prices, there is no justification for including other additional costs.

Examination of data on production, export and import of petroleum products in the country during the five year period (2007-08 to 20011-12) revealed that production of petroleum products had been steadily increasing along with growth of exports and reduction of imports **(Annexure-II and III).** Production of all regulated products (except SKO) increased during the period 2007-12. In fact, the country has now reached a stage of surplus refining capacity resulting in export of sizeable quantity of petroleum products, especially MS and HSD, (53 *per cent* of MS and 24 *per cent* of HSD produced in the country were exported in 2011-12), though production of LPG and SKO in the country is not sufficient to meet the demand and continues to be imported. Products like MS and HSD are exported profitably at prices comparable to FOB/EPP mostly by private refiners. Thus, benchmarking RGP to FOB/EPP is also backed by trade statistics and may need to be looked at by MOPNG.

Allied cost on import of Crude

PSU refineries are not limited to the Western coast and nearly 78 *per cent* of crude processed in PSU refineries is imported, with OMCs incurring attendant expenses for import of crude oil. To estimate the expenses incurred by OMCs for importing crude oil used in production of regulated products, Audit apportioned the actual expenses incurred by OMCs during 2007-12 while importing crude oil in the volume ratio (i.e., based on volume of regulated products to total volume of production) by OMC refineries, which is indicated in table 4.

Table 4
Estimated cost incurred on import of crude

(₹ in crore)

Element of cost	IOCL	BPCL	HPCL	Total
LC Charges	29	26	21	76
Insurance charges	18	6	4	28
Freight	5,580	2,043	1,359	8,982
Wharfage charges	439	184	172	795
Customs duty	7,990	2,587	1,633	12,210
Ocean loss	1,050	511	235	1796
Total	**15,106**	**5,357**	**3,424**	**23,887**

Thus, even after deduction of relevant expenses incurred in import of crude oil during 2007-12, OMCs ought to have benefitted by ₹ 26,626 crore (₹ 50,513 crore from table 3 minus ₹ 23,887 crore from table 4).

The fact that OMCs are benefited by the pricing methodology had also been pointed out by the Cost Audit Branch of MoF in a study conducted on 'Under recovery of sensitive petroleum products' during 2007-08. The study was based on the data of import of crude by IOCL at Vadinar Port (which caters to Gujarat, Panipat and Mathura refineries), Haldia port (catering to Barauni and Haldia refineries) and by HPCL at Vizag port (catering Vizag refinery) for six months during April to September 2007. Actual attendant cost of import during this period was compared with the elements factored in the RGP. As per the report, the cost actually incurred on freight was lesser than the benchmark adopted in working out the RGP to the extent of 70 *per cent* (at Vadinar), 53 *per cent* (at Haldia) and 58 *per cent* (at Vizag). Higher saving at Vadinar was mainly due to better port facilities at Vadinar, which could accommodate VLCC[7] thereby reducing the average freight expenses. As far as ocean loss was concerned, the study revealed that actual cost was lower by 32 *per cent* and insurance was lower by 98 *per cent*.

It is also pertinent to note that nearly 20–22 *per cent* of crude is procured indigenously by OMCs. Associated costs for procuring crude indigenously are lower than the cost of import. As worked out by IOCL, the benefit in using indigenous crude *vis-à-vis* import has been ₹1,854.85 crore over the period 2007-08 to 2011-12.

Further, as per Crude Oil Sale Agreement (COSA) between the upstream companies and OMCs, the latter were liable to pay 50 *per cent* of the octroi/VAT/CST on the gross crude oil price (PPAC circular dated 1 April

[7] ***VLCC – Very Large Crude Containers***

2004). This has now been altered as crude oil price net of discount (MoPNG circular dated 31 May 2012). As the discount from upstream companies to OMCs is substantial (56.8 *per cent* of the price of crude oil in 2012-13), this has translated into a higher benefit to OMCs, the benefit in 2012-13 being ₹1,584.67 crore for purchases from ONGC alone (as noticed from the accounts of ONGC).

Another argument put forth by OMCs for continuing import parity based pricing is that OMCs incur expenses which are not factored in the pricing structure of regulated products. OMC refineries had been incurring additional expenses in the nature of entry tax and octroi on crude procurement which were not entirely passed on to the end consumer. As a result, IOCL, BPCL and HPCL had to absorb a net amount of ₹6,310 crore, ₹3,349 crore and ₹1,228 crore respectively during the period, 2007-08 to 2011-12.

MoPNG in its letter of 24 July 2012 has, allowed OMCs to pass on such State specific levies to consumers with prospective effect. Thus, the issue of State specific costs has been resolved effective July 2012. As regards the entry tax on crude oil in Uttar Pradesh and Maharashtra, MoPNG has issued an order allowing OMCs to recover the past dues as additional state specific cost during the three years (2014-17). Hence, presently, there are no major expenses being incurred by refineries which are not covered in RGP of regulated products.

MoPNG stated (June 2013/January 2014) that IOCL imported diesel through global tenders and incurred additional cost over the TPP rate (as per the pricing methodology) for the product during 2010-12. Besides, OMCs also made a loss of ₹1,397 crore in 2011-12 on import of LPG due to differential import cost *vis-à-vis* RGP. MoPNG further stated that OMCs are compensated on the basis of the existing GoI approved pricing mechanism of IPP/TPP on actual sales quantity of regulated products and it is incorrect to state that OMCs have been over compensated due to use of IPP/TPP pricing mechanism comparing the difference between some of the cost elements included in the IPP/TPP of products *vis-à-vis* incurred for the imported crude oil. According to MoPNG, this logic ignores the total cost on purchase of imported/ indigenous crude oil, refining cost and various other cost elements including irrecoverable taxes *etc.* incurred by the refineries.

MoPNG further stated (January 2014) that OMCs had to bear unmet under recoveries of ₹28,680 crore on sensitive petroleum products, interest cost due to delay in payment of under recoveries amounting to ₹18,349 crore, import losses of ₹4,927 crore and foreign exchange losses of ₹5,030 crore.

While acknowledging the concern of MoPNG on additional cost on import of diesel, (under-recovery on HSD being based on TPP which is lower than the IPP rates), it needs to be noted that import of diesel was necessitated due to the enforcement of quality norms in the country and such import was minimal at less than 2 *per cent* of the total requirement during 2011-12. Besides, the quantum of imports is declining and may further reduce in the coming years due to increased production of higher quality diesel in PSU refineries. As prices for Domestic LPG and PDS Kerosene are linked to IPP, the impact of import of these products has already been built into the pricing methodology. It also needs to be noted that while OMCs suffered loss on import of LPG in 2011-12, they gained on import of SKO (Kerosene) during the same period. The contention that crude costs and refining costs also needed to be considered is not tenable as the FOB price of products by its very nature takes care of all costs including crude and refining costs as well as a reasonable refining margin.

As has been stated by MoPNG, it is not possible to work out the actual costs of production of the products. Hence, Audit has estimated the over-compensation to OMCs based on the costs of import of products reimbursed to them which they did not actually incur. However as the refineries, particularly the refineries not situated on the Western coast, incur similar import related costs for crude, Audit has estimated the net over-compensation by adjusting this element.

Regarding the unmet under recoveries mentioned by MoPNG, exchange rate fluctuations and import losses are uncertain, being dependent on market conditions. In three of the five years (2007-12), there was a gain on the exchange rate fluctuations. In the matter of import of products, too, there were marginal gains in import of SKO in 2011-12. While over the period under review, there have been losses on this account, these factors could equally turn out to be favourable also. Besides, import losses are a result of high quantum of imports, particularly of LPG necessitated in part by the declining production of LPG (over 2009-10) against increasing demands. As mentioned in succeeding para 3.1.3 (iii), it is important to increase production of distillate yields (*e.g.,* LPG) to increase efficiency of the refineries as well as reduce import dependence. The issue regarding interest burden of the OMCs due to delay in settlement of under-recoveries has been commented separately in para 3.1.10 (B).

MoPNG also pointed out that PSU refineries suffered from inherent disadvantages of location, size and vintage. PSU refineries (with the exception of two) were built during the period 1901 to 1985 and, thus, did not have much operational flexibilities to compete with complex refineries being set up in the private sector in the country. MoPNG also stated that 'duty protection' has been reduced from 10 *per cent* in April 2002 to only

2.5 *per cent* in 2006 and considering TPP for petrol and diesel, 'nil' duty on PDS Kerosene and domestic LPG, CST/VAT incurred on indigenous crude and National Calamity Contingency Duty (NCCD) at ₹51.50 per MT paid on crude, the net effective protection to refineries was less than 1 *per cent*.

Besides, it was stated that OMCs had invested ₹28,000 crore on projects for auto fuel up-gradation and ₹10,886 crore in up-gradation of refineries in the last five years.PSU OMCs, which have planned 'Capex' of about ₹1,20,000 crore during the XII Five Year Plan(2012-17), would not have any internal resource generation to fund these projects.

While it is acknowledged that OMCs have invested in auto fuel up-gradation projects, it may be noted that a higher return is also guaranteed in the price structure for such up-graded fuel (such as Euro III & IV products) which would address the need for investment in such projects to some extent.

MoPNG also stated that an expert group headed by Shri Kirit Parikh has been constituted (May 2013) by GoI to revisit the existing pricing methodology of HSD, PDS Kerosene and domestic LPG and to suggest a formula for compensation of under-recoveries in an equitable manner. The expert group has since submitted its recommendations (October 2013) to GoI. The group has noted that "*there is no single or unique formula which can be said to represent the correct method for domestic prices in India that would not be distortionary with attendant ill effects for the economy from the distortions*" and has recommended that the market be freed from price controls at the earliest. It has suggested, *inter alia,* that the existing pricing formula for the regulated products be kept un-altered in the interim period - TPP for diesel and IPP for PDS kerosene and domestic LPG. The expert group has advised interim arrangements, product-wise, before prices are actually de-controlled. The expert group also recommended a contribution formula for up-stream companies with their percentage contribution varying between 40 *per cent* and 50 *per cent* of crude price.

Concerns regarding over-compensation to OMCs as well as private refiners due to use of TPP/IPP have, however, been raised in the report of the expert group itself by the representative of Finance Ministry along with reasonableness of using EPP as the pricing methodology.

The recommendations of the expert group on the pricing mechanism are presently under the consideration of GoI.

3.1.2 Investment in refineries for technology up-gradation

One of the objectives of the pricing mechanism, as identified by the expert group, is to see that sufficient returns are ensured to the refineries for long term sustainability of the petroleum sector and to ensure energy security of the country. As many of existing OMC refineries are quite old, un-economical in size and have limitations of configuration, the Rangarajan Committee (June 2006) had suggested continuance of protection in pricing of petroleum products (in the form of IPP/TPP pricing as refinery gate price) so as to generate a better margin for investment in technology up-gradation. Considering that a degree of protection has been available to the OMC refineries in the price build up since 2002 which was expected to fuel technology up-gradation in the refineries, investments made by OMCs during the period 2007-08 to 2011-12 in refineries and the operational performance of a sample of six OMC refineries over the same period were examined.

An analysis of the capital investments made by OMCs during 2007-12 on all activities indicated the following:

Table 5
Total investment *vis-à-vis* investment in technology up-gradation in existing refineries during 2007-08 to 2011-12 by OMCs

(₹ in crore)

OMC	Total capital investment	Investment in existing refineries		Total investments in refineries	Other investments including in Marketing segment	Per cent of refinery investment to total investment	Per cent of technology up-gradation & capacity addition to total investment
		Technology upgradation & capacity addition	Green fuels/ statutory requirement				
(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)=(v)/(ii)	(viii)=(iii)/(ii)
IOCL	46,270	7,520	10,825	18,345	27,925*	40	16
BPCL	13,169	3,012	2,246	5,258	7,910	40	23
HPCL	18,537	4,896	2,237	7,133	11,405	38	26
Total	**77,976**	**15,428**	**15,308**	**30,736**	**47,240***	**39**	**20**

**** This includes ₹15,197 crore incurred on diversification by IOCL, of which ₹15,070 crore was on Petro chemical project in Panipat refinery***

When compared to the total investment by OMCs (including investments in the marketing segment), the investment in existing refineries has been 38 to 40 *per cent* with technology up-gradation accounting for only 16 – 26 *per cent* during the five year period under review. A significant part of investment in the existing refineries has been made towards manufacturing cleaner fuels which was a statutory requirement.

MoPNG stated (June 2013) that technology up-gradation projects have been carried out leading to improvement of distillate yield and reduction in specific energy consumption and that as a result of such capital

expenditure, distillate yield of PSU refineries increased from 74 *per cent* in 2007-08 to 77 *per cent* in 2011-12 and high sulphur and heavy crude processing capacity increased from 49.9 *per cent* in 2006-07 to 54.6 *per cent* in 2011-12. MoPNG also furnished details of various projects already implemented and future plans for improving various efficiency parameters in the three OMCs.

Audit appreciates that OMCs have initiated technology up-gradation projects in refineries. However, these investments have not contributed to substantial improvement of efficiency or cost reduction in the refineries as evident from the study of the audit sample of six OMC refineries (four of IOCL and one each of BPCL & HPCL). Besides, the performance benchmarking study of 15 public sector refineries by Solomon Associates (2010-11) at the behest of the Centre for High Technology, MoPNG, had brought out a set of inefficiencies in the public sector refineries (energy efficiency, personnel efficiency, return on investment and net cash margin per barrel). As per the report, Indian PSU refineries are realizing the lowest return on their investment in comparison to their peers around the world.

Audit reports of C&AG in the past had commented on the insufficient investments in technology up-gradation and investment which did not yield desired results in existing PSU refineries. A reference is invited to Audit Report No.10 of 2010-11 regarding investments of ₹190 crore made in Panipat refinery for revamping of Residue Fluidised Catalytic Unit (RFCCU) and ₹2,630 crore in PX-PTA complex which failed to generate expected benefits. The same report had also commented on the low distillate yield from Mathura refinery due to the absence of 'Delayed Coker Unit' (DCU).

3.1.3 Operational performance of PSU refineries

A sample of six refineries comprising four of IOCL (Gujarat refinery, Haldia refinery, Panipat Refinery and Bongaigaon refinery) and one refinery each (Mumbai refineries) of BPCL and HPCL were selected for detailed examination. The impact of technological up-gradation has been examined in terms of (i) improvement in Gross Refinery Margin, (ii) improvement in ability to process high sulphur crude (to reduce input cost), (iii) increase in product yield pattern (to increase production of those products which give higher margin), and (iv) decrease in fuel and loss.

i. Gross refinery Margin (GRM)

The performance of any refinery is generally measured in terms of its Gross Refinery Margin (GRM). GRM is the difference between sales realization of products at a refinery and the input cost (including fuel and loss) for a particular period. It is normally indicated in terms of dollar per barrel. The GRM of PSU refineries including the selected six refineries and standalone

and private refineries in the country and benchmarked Singapore refineries for the period 2007-12 is given in table 6.

Table 6
GRM in PSU and private refineries

($/Barrel)

Company	Refinery	2007-08	2008-09	2009-10	2010-11	2011-12
IOCL	Barauni	6.16	(0.83)	3.57	3.91	0.39
	Gujarat	8.12	5.22	3.91	6.42	5.07
	Haldia	5.41	0.24	5.42	4.03	2.38
	Mathura	12.12	5.19	5.62	7.40	0.59
	Panipat	10.36	2.31	3.35	5.68	4.39
	Guwahati	8.61	18.23	7.44	10.04	11.94
	Digboi	21.90	26.46	18.61	16.98	14.85
	Bongaigaon	12.16	4.70	5.23	5.23	6.25
BPCL	Kochi	7.18	6.27	4.87	4.83	3.20
	Mumbai	4.60	4.48	1.78	4.23	3.12
HPCL	Mumbai	5.98	6.11	2.80	4.65	2.82
	Visakh	6.98	2.42	2.59	5.81	2.95
Standalone refineries	CPCL	8.47	1.22	4.75	5.02	4.16
	MRPL	6.93	5.33	5.46	5.96	5.60
	NRL	15.92	14.43	11.19	15.39	11.97
Private refineries	RIL, Jamnagar	15.0	12.20	6.60	8.40	8.60
	Essar, Vadinar	--	8.89	4.38	6.91	4.23
Singapore		7.64	5.78	3.53	5.20	8.27

Source: PPAC

GRMs of PSU refineries are lower compared to private and benchmarked Singapore refineries. Refineries in North-East states (Guwahati, Digboi, Bongaigaon and NRL) have indicated a higher GRM on account of significant tax concessions allowed to them. MRPL refinery, Gujarat refinery of IOCL and Kochi refinery of BPCL reported a steady GRM, comparable to private and international (Singapore) refineries during the five year period.

MoPNG stated (January 2014) that comparison of GRMs of various refineries was difficult due to difference in elements considered for its computation as well as the methodology. Besides, GRMs of Mumbai refineries of BPCL and HPCL were adversely affected due to octroi on crude oil processed by the refineries, which was irrecoverable till July 2012.

It further pointed out that PSU refineries were old and had lower complexities with limited scope to change the configuration or increasing the capacity significantly.

Audit appreciates the fact that many of the PSU refineries are old refineries, small in size and located inland (away from ports leading to additional expenses on transport), which would affect their performance. Audit also acknowledges that there are refinery specific issues like octroi on crude by Mumbai Municipal Corporation, entry tax being levied by some states like Uttar Pradesh on crude affecting the GRM of Mumbai refineries of BPCL & HPCL and Mathura refinery of IOCL which makes comparison among the refineries more difficult. Audit analyzed the efforts made by OMCs in regard to controllable parameters that would affect performance such as, reduction in input cost, improving sales realization by producing products with better yield and reduction in fuel and loss expenses. Results of this analysis are summarized below:

ii. Ability to process high sulphur crude

One way of improving GRM of a refinery is to maximize processing of heavier/high sulphur crude by carrying out required modifications in the refineries. Use of more high sulphur crude reduces input cost but increases production of heavy end products giving low or nil margins. The refinery would be compensated if these heavy end products are further processed through additional secondary unit like Delayed Coker Unit (DCU) or any such processing modifications, which increases production of value added products. The additional costs incurred for further processing get compensated by better margin earned from higher quantum of distillates produced.

High Sulphur (HS) crude is cheaper compared to Low Sulphur (LS) crude. The benchmark for LS crude is 'Brent' crude and for HS crude is 'Dubai'. The cost benefit of HS over LS crude was of the order of US$ 4.9 and 2.6 per barrel (average of price difference between Dubai and Brent crude) during 2011 and 2012 respectively. Hence, improving the ability of the refinery to process HS crude would lead to improved GRM through lower crude costs. In the six refineries studied, the percentage of high sulphur crude processed is given in table 7.

Table 7
Per cent of high sulphur crude processed in the selected six refineries

(Per cent)

Refinery	2007-08	2008-09	2009-10	2010-11	2011-12
Haldia (IOCL)	70.8	72.4	69.2	67.3	56.5
Bongaigoan (IOCL)	0	0	0	0	0
MR (BPCL)	50.0	52.0	49.0	41.0	48.0
MR (HPCL)	61.7	57.0	61.5	67.2	71.5
Panipat (IOCL)	78.3	74.4	73.7	72.5	72.0
Gujarat (IOCL)	26.6	23.0	25.6	27.5	40.6

- Haldia refinery processed only imported crude and over the years, the quantum of HS crude declined from 70.8 *per cent* to 56.5 *per cent* over 2007-08 to 2011-12.

- Bongaigaon refinery processed only LS crude during the period 2007-12 mainly sourcing from indigenous production. During 2011-12, the refinery had to import 13 *per cent* of its crude requirement, which was expensive LS crude. Mumbai refinery of BPCL maintained a stable 50:50 ratio of crude mix over the period 2007-10, which changed to 41:59 in 2010-11 and again to 48:52 in 2011-12.

- The Mumbai Refinery of HPCL processed more of HS crude, which increased from 61.7 *per cent* in 2007-08 to 71.5 *per cent* in 2011-12.

- Panipat Refinery is one of the modern refineries of IOCL. It maintained a stable ratio of HS and LS over the period 2007-12, which ranged from 72:28 (2011-12) to 78:22 (2007-08).

- In Gujarat refinery, Residual Up-gradation Project including DCU was commissioned in April 2011. The Coker unit is an additional secondary unit, which coverts heavy end products into light distillates. As a result, the refinery could process more HS crude in 2011-12 (40.6 *per cent*) over 2010-11 (27.5 *per cent*).

Projects/processing facilities that would increase production of value added products by processing higher proportion of HS crude have not been implemented in Haldia refinery of IOCL and Mumbai refineries of BPCL and HPCL. IOCL's Gujarat refinery improved its performance by implementing residue up-gradation project which was not attempted in the other three refineries. Thus, even among the PSU refineries selected for audit, there were significant variations in ability to process HS crude. While Panipat refinery had the necessary capabilities, Gujarat refinery made necessary modifications in this direction to process more of HS crude to reduce the cost. Haldia and Mumbai refineries did not take up projects to improve their capacity for processing HS crude.

MoPNG stated (June 2013/January 2014) that capacity of PSU refineries to process HS crude as a percentage of crude mix increased from 49.9 *per cent* in 2006-07 to 54.6 *per cent* in 2011-12. It further stated that crude processing capacity of Haldia Refinery had been augmented from 6 MMTPA to 7.5 MMTPA in January 2010 and actual tonnage of HS crude processed had increased since then, though the percentage of HS crude reduced over the years. The HS crude processing capacity of the refinery was constrained by the market demand of black oil products. It also stated that IOC was considering setting up delayed coker unit at Haldia refinery for up-gradation of black oil to value added products and, thus, enabling it to process more HS crude. In view of design metallurgy for processing LS crude, Bongaigaon refinery could not process HS crude. HPCL Mumbai refinery implemented Resid Fluid Catalytic Cracking Unit (RFCCU) project to convert heavier streams from Lube units and low sulphur bottoms into value added products like LPG, Petrol and Diesel. BPCL and HPCL Mumbai refineries had space limitations for installing secondary processing units for further bottom up-gradation and, hence, could not leverage on savings from sourcing high sulphur crude. MoPNG stated that many projects had been implemented at the refineries of BPCL and HPCL and some were in progress for expansion and upgradation including projects for enhancing refining capacity, high sulphur & heavy crude processing capability, distillate yield improvement, reduction in specific energy consumption *etc.* in order to address the gap identified with reference to energy efficiencies.

As admitted by MoPNG, Haldia refinery would not be able to increase proportion of HS Crude till the delayed coker unit is commissioned till which time increased crude capacity would not be translated into better GRMs. It is, therefore, essential that the refineries initiate appropriate action to consider suitable projects to enable processing of HS crude which would reduce costs leading to increased margins.

iii. Distillate Yields, Heavy Ends

The output of a refinery from crude processed comprises distillate yields (light and middle distillates) and heavy end products; the balance (i.e., the difference between output and input) being Fuel & Loss. Distillate yields such as LPG, MS, Naphtha, Benzene, Aviation Turbine Fuel (ATF), SKO, HSD, LDO, etc are high margin products. Heavy end products such as Furnace Oil, LSHS, Bitumen, Sulphur *etc.* are low or nil margin products in a refinery. The sale price of heavy end products is usually lower than the crude cost and, therefore, any improvement in the yield pattern, i.e., increasing the production of light and middle distillates and reducing the heavy end products also would improve GRM of refineries. Details of distillate yields produced in the selected six refineries is shown in table 8.

Table 8
Distillate yields produced in the selected six refineries

(Per cent)

Refinery	2007-08	2008-09	2009-10	2010-11	2011-12
Haldia (IOCL)	61.50	62.97	60.20	64.44	66.50
Bongaigoan (IOCL)	86.03	85.96	85.29	82.25	81.82
MR (BPCL)	74.64	73.94	76.25	80.64	79.57
MR (HPCL)	68.44	68.97	71.03	68.33	73.46
Panipat (IOCL)	76.25	78.94	79.11	79.63	80.37
Gujarat (IOCL)	71.14	71.34	70.39	70.50	77.80

- In Haldia refinery, there was improvement in distillate yields over the years, which increased from 61.5 *per cent* in 2007-08 to 66.5 in 2011-12. The increase in distillate yield was on account of increased processing of low sulphur crude and also due to Hydrocracker commissioning in February 2010. While the refinery gained in better distillate yields, it lost more in higher costs of LS input feed.

- Panipat refinery, being a new refinery (1998), continued to record better distillate yield over the years, which ranged from 76.25 in 2007-08 to 80.37 *per cent* in 2011-12.

- The distillate yields at Bongaigaon refinery decreased from 86 *per cent* in 2007-08 to 81.8 *per cent* in 2011-12, though the refinery processed only LS crude throughout the period.

- The distillate yield at Mumbai refinery of BPCL has been improving over the years, which ranged between 73.9 (2008-09) and 80.7 *per cent* (2010-11).

- In case of Mumbai refinery of HPCL, the distillate yield was low at 68.4 (2007-08), which increased to 73.5 *per cent* (2011-12).The improvement in distillate yield in HPCL Mumbai refinery was due to commissioning of FCCU in 2011.

- Gujarat Refinery of IOCL registered improvement in light and middle distillates at 77.8 *per cent* during 2011-12 over 71.14 *per cent* in 2007-08. An increase of about 7 *per cent* in the production of distillate yields in 2011-12 over the period 2007-11 was mainly due to commissioning of additional secondary unit including DCU, in the refinery. Thus, the refinery could increase the yield of light and middle distillates even using a higher proportion of HS crude in 2011-12.

MoPNG stated (June 2013/January 2014) that distillate yield of Bongaigaon refinery had come down with increased import of LS crude

due to reduced allocation of Assam crude. Besides, distillate yield was further reduced due to implementation of BS III quality norms from April 2010. However, it was admitted that in Haldia refinery, installation of residue upgrading units was required to improve both distillate yield and HS crude processing.

While some efforts at improving distillate yields were noticed, particularly in Gujarat refinery of IOCL, there remains a gap between refineries even when benchmarked among PSU refineries. Though necessary intervention has been identified for Haldia refinery, specific action in this regard was awaited.

iv. Fuel & Loss

GRM can also be improved by reducing/controlling 'fuel and loss' (F&L) expenses of refineries. As most PSU refineries were old and had increased their processing capacity over the years by adding new units in a phased manner, fuel and loss was higher compared to an integrated new refinery. Besides, addition of secondary units also adds F&L of the refinery. Details of F&L reported in the selected six refineries during the five year period are shown in table 9.

Table 9
Per cent of Fuel & Loss reported in the selected six refineries

(Per cent)

Refinery	2007-08	2008-09	2009-10	2010-11	2011-12
Haldia (IOCL)	8.9	9.1	9.1	10	9.4
Bongaigoan (IOCL)	BRPL was a separate company	5.2	6.6	6.9	8.9
MR (BPCL)	6.77	6.73	5.64	4.72	4.71
MR (HPCL)	6.86	6.64	7.64	7.60	7.88
Panipat (IOCL)	9.8	9.6	8.7	9.6	8.7
Gujarat (IOCL)	6.7	6.5	6.6	7.8	9.4

Haldia refinery did not show any improvement in F&L expenses, which was around 9 *per cent* during the period 2007-12. Panipat refinery could reduce F&L from 9.8 *per cent* in 2007-08 to 8.7 *per cent* in 2011-12. The reduction in F&L expense impacted the GRM of Panipat refinery by ₹466 crore in 2011-12 over 2010-11. This reduction was mainly due to various energy conservation schemes implemented by the refinery and also due to the expansion in processing capacity. Gujarat refinery reported F&L around 9.4 *per cent* in 2011-12, and had a negative impact of ₹764 crore in 2011-12 over the previous year. In the case of Bongaigaon refinery, it increased from 5.2 *per cent* in 2008-09 to 8.9 *per cent* in 2011-12.

Mumbai refinery of BPCL reported reduction in F&L (from 6.8 in 2007-08 to 4.7 *per cent* in 2011-12) due to consumption of Re-gassified Liquefied Natural Gas (RLNG) as fuel. However, F&L at Mumbai refinery of HPCL increased from 6.8 *per cent* in 2007-08 to 7.8 *per cent* in 2011-12.

Incidentally, the 'Solomon' report on performance benchmarking in PSU refineries had compared PSU refineries to similar sized peer refineries in the Asia Pacific region and placed all PSU refineries (including the six refineries test checked in Audit) at the bottom with reference to energy efficiency.

MoPNG stated (June 2013/January 2014) that F&L increased in PSU refineries after 1998-99 due to various fuel quality improvement projects which were added in the refinery configuration, addition of new secondary processing units and hydrogen units. It was further stated that there is improvement of energy efficiency in spite of increase in 'Fuel & Loss'. Though Solomon report on performance benchmarking places PSU refineries at the bottom with reference to energy efficiency, the energy efficiency measured in terms of MBN[8] for all IOC refineries had significantly improved from 67 in 2007-08 to 57 in 2011-12.

As discussed in the earlier paragraphs at 3.1.3 (i) to (iv), performance of any refinery is measured in terms GRM, which can be improved mainly by reducing input cost, increasing sales realization by improving production of value added products and by reducing fuel and loss expenses. Technology up-gradation in this direction would improve the GRM of refineries. The energy efficiency measured in terms of MBN has shown marked improvement especially in IOCL refineries. However, this improvement has not translated in terms of reduced F&L or into better GRM in many refineries of IOCL.

Though OMCs have taken some initiative in this direction as evidenced from the results of technology up-gradation in a vintage refinery like Gujarat, there is scope for improvement in other refineries especially Haldia of IOCL and Mumbai refineries of BPCL & HPCL. Improved performance of OMC refineries is the *sine qua non* for competition in a de-regulated and competitive market envisaged in the 'Hydrocarbon Vision – 2025'.

3.1.4 Purchase of products from Private/Stand alone refineries

OMCs uplift petroleum products from private/PSU stand alone refineries in order to meet the gap between production in own refineries and

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[8] ***MBTU/BBL/NRGF (MBN), where the term MBTU refers to total heat value of fuel and loss in thousand BTU, BBL refers to barrel of crude processed and NRGF is a derived factor that depends upon actual intake in both primary and secondary processing units as per industry standard.***

domestic requirement on commercial terms. Though prices of petroleum products at refinery gate were de-regulated, it is noticed that the PSU OMCs are purchasing refined products from the private/stand-alone refineries at TPP (for MS and HSD) and IPP (for SKO and LPG) for the designated port of delivery. In case the products are supplied out of the State (sourcing location), the refineries bear CST (at the rate of 2 *per cent*).

Private refiners export the balance petroleum products at prices comparable to EPP, which is less than the TPP/IPP received on supply to OMCs. To illustrate, the average TPP of HSD (BS III) during 2011-12 at Jamnagar was ₹40,031 per KL and average EPP of HSD (BS III) at the same location was ₹38,625 per KL. Actual export realization of Reliance Industries Limited (RIL) on HSD (BS III) during 2011-12 was only ₹38,823 per KL, slightly higher than the average EPP, Thus, procuring products from private and standalone refineries at TPP/IPP affords an undue benefit to the former. The benefit to private refiners for a single year (on HSD alone) is estimated at ₹667 crore as shown in table 10. This has been calculated based on the difference between the average TPP and EPP of HSD for 2011-12 after adjusting the actual CST and coastal freight borne by private refineries.

Table 10
Benefit accrued to RIL and Essar Oil in respect of HSD for the year 2011-12
(₹ in crore)

Particulars	RIL	EOL
Differential of TPP and EPP	1423	766
CST borne by Private refiners	808	304
Coastal freight borne by Private refiners[9]	311	99
Net benefit to private refineries	**304**	**363**

Note: For sales in Gujarat, no CST is leviable. Besides, sales tax applicable in such transactions is borne by the buyer.

Audit, thus, is of the opinion that there is scope for negotiation with the private refiners to rationalize the contracted sale price which would benefit OMCs.

The sales agreements entered by OMCs with the stand-alone PSU refineries also have provisions which are similar to those with private refiners. Thus, standalone PSU refineries *viz.* MRPL, CPCL and NRL, also benefitted by ₹601 crore, ₹500 crore and ₹ 327 crore respectively through sale of HSD to OMCs during 2011-12, on the same count.

[9] ***NCF and CST borne by refineries are as furnished by OMCs.***

MoPNG in its letter of June 13, 2006 had stated that OMCs should move towards a system in which they are able to pass on the burden of under recoveries to the refineries including private sector in a transparent manner as was done in 2005-06 and advised the OMCs to take necessary action while finalizing the supply contract for 2006-07. An expectation of burden sharing from private and stand-alone refineries amounting to ₹2,500 crore – ₹3,000 crore in 2006-07 through discounts to PSU OMCs was also communicated by MoPNG (June 2006).

On a specific audit query on the issue, IOCL confirmed that no discount had been received on purchase of products from private/standalone refineries for the period 2007-08 to 2011-12 and stated that details of discount received for 2005-06 could not be traced. The price clause in the sale agreement between OMCs and private/standalone refiners provided scope for revision on mutually agreed terms. It was, therefore, possible for OMCs to negotiate and obtain a discount on products from these entities.

MoPNG stated (June 2013) that, as per IOCL, private refineries were bearing CST and coastal freight for moving the product to OMC locations. If private refineries are paid EPP based price, CST & coastal freight will have to be borne by the purchasing OMC. It was also stated that the additional amount received by RIL (difference between TPP and EPP of HSD at Jamnagar) was essentially equal to the coastal freight and CST. It has been pointed out that pricing of the product at EPP would lead to lower realization to private refineries from domestic sale compared to export. This would induce private refineries to sell in the export market, resulting in lower domestic availability and import of products by OMCs.

The above argument ignores the fact that TPP/IPP being charged on supply of HSD/LPG/SKO is not the rate applicable to the source location (*e.g.* Jamnagar) but that of the delivery location (say, Mangalore, Kochi, Chennai, Haldia *etc.*). The IPP/TPP of products at all the port locations in the country (except Kandla) is higher than that of Jamnagar port. The difference between TPP of HSD at source location (Jamnagar) and delivery location reasonably compensates the coastal freight element (of an average of ₹450 per KL), borne by the seller. The difference in TPP of HSD (BS III) ranged from ₹51 per KL (Mumbai Port) to ₹552 per KL (Haldia Port) in 2011-12, depending the distance of the port location from Jamnagar. The coastal freight borne by private refineries during 2011-12 was in the range of ₹208 per KL (Mumbai port) to ₹644 per KL (Haldia port).Besides, such levies are only applicable to sales outside Gujarat and thus, the entire difference between TPP and EPP (or the rate of actual export realization) is a benefit to the private refineries. Even after considering CST borne by private refiners, there was a benefit of ₹667

crore on HSD for 2011-12 which they derived, as pointed out in table 10 leaving scope for price negotiation by OMCs with private refiners.

MoPNG stated (January 2014) that in case private refineries are paid EPP based price, CST and coastal freight will have to be borne by OMCs. It further stated that in addition to CST and coastal freight, private refineries have demanded an extra one dollar per bbl to account for more stringent specifications for BS III and BS IV Diesel. It has also been stated that if the additional amount of 1 USD per barrel demanded by the private refineries is also considered, the price payable would be very close to the present TPP. In the exit conference (February 2014), MoPNG reiterated that if the additional one dollar demand for quality adjustment is also considered, the benefit for private refineries as stated above would work out to only ₹190 crore on supply of HSD during 2011-12.

The reply citing the need for an additional dollar per barrel for quality is not convincing as the purchase price from private refineries already includes *inter alia*, a quality premium for Euro III/Euro IV products (which have been arrived by PPAC using a detailed methodology considering the parameters involved). Such quality premium would also be available if the price is based on EPP instead of TPP.

Continuance of protection in the pricing mechanism was intended to improve efficiencies and encourage appropriate investments in technology up-gradation in PSU refineries which has not been fully achieved. Though MoPNG has advocated continued support to these refineries through the pricing methodology, there is a strong case for review of this mechanism in view of the limited progress in improvement of the efficiencies of refineries (as evident from Audit test check) and consider an alternate transparent, target oriented mechanism in the case of poorly performing refineries.

3.1.5 Expenses related to marketing

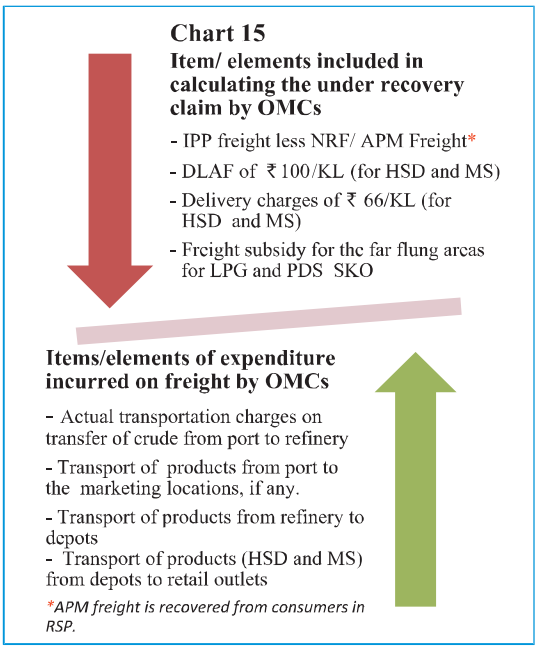
Expenses related to marketing are added to RGP of products to arrive at the desired selling price (DSP) for the OMCs. The expenses added include marketing freight, marketing cost, compensation on stock loss *etc*. A return to OMCs for the marketing activity is also built in DSP through a marketing margin. These elements of cost and return at pre-determined rates are fixed in the price build up to arrive at the DSP. OMCs however, transfer the regulated products to dealers at a price lower than the DSP, which is the depot price (DP) or the Ex-Storage Point price (ESPP) fixed by GoI to insulate the end customers. The difference between DSP and DP is made good to the OMCs through under-recoveries. Thus, OMCs recover their DSP partly through DP paid by the dealers (which is eventually

recovered from the end customer) and partly through under-recoveries (shared by GoI and upstream companies).

Elements included in the Desired Selling Price (DSP)

3.1.6 Freight costs

OMCs incur expenditure on freight due to transportation of products from refineries/ports through pipelines as well as rail/road/coastal movement. Details of the freight element included in the price build up of regulated products and compensated to OMCs are as below:



a) IPP freight: Freight entitlement of an OMC is worked out on the principle of import parity; as if the product is being imported and brought to the market via designated terminal/depot using cheapest mode(s) of transportation available. The All India Industry Weighted Average Freight based on these linkages on an equalized basis for all locations in the country is adopted and the freight so arrived at is included in the Depot Price. This IPP freight is considered for working out the under-recovery claims of OMCs after deducting the freight element being recovered by OMCs from consumers. In reality, however, only 6-8 *per cent* of regulated products (by volume) are imported, the balance being produced in Indian refineries. Thus, transportation routes and modes for the domestically produced 92-94 *per cent* regulated products are different from the routes and modes based on which entitlement for freight is built into the product prices.

b) Notional Railway Freight (NRF) or APM Freight: This represents the freight from refinery gate to various markets falling within the most economic supply zone (markets attached to the refineries based on least freight cost) of that refinery. These rates were frozen based on the freight at the time of dismantling APM in 2002. NRF is recovered by OMCs from consumers through retail sale price (RSP). The IPP freight less NRF component is claimed from Government as part of under-recovery.

c) Domestic Logistics Adjustment Factor (DLAF): In order to compensate the OMCs for the cost of movement of regulated products through other

than normal linkages and to ensure continuous supply of products, Government allowed ₹100/KL as DLAF to be included in the desired ex-storage point price of HSD and MS.

d) Delivery Charges: OMCs also incur delivery charges on road transportation for delivery of the product from the terminals/depots to retail outlets. Government allowed ₹66/KL towards delivery charges in under recovery calculations of MS and HSD. It was reduced to ₹56/KL from 2009-10. The remaining delivery charges were allowed to be included in RSP and collected from consumers. Since 01/08/2012 entire delivery charges are passed on in RSP.

e) Freight subsidy for far flung areas - OMCs also receive freight subsidy for sales of PDS Kerosene and Domestic LPG in the far-flung areas under 'Far-flung Subsidy Scheme, 2002' which covers part of the freight cost till the dealer/distribution end. Freight subsidy was frozen at 2002 levels and higher actual expense, if any, is passed on to consumers.

MoPNG constituted (July 2006) a group comprising representatives of the office of the Chief Advisor (Cost) and Director (F&A), PPAC to examine the price build-up of MS and HSD based on audited figures for the financial year 2005-06. Based on its report, MoPNG decided the rates at which expenses incurred in marketing the regulated products should be compensated in the price build-up.

Examination in audit revealed a mismatch between the rates fixed in the price build up and actual expenditure incurred. In particular, it was noticed that due to non-revision of NRF, the increase in freight costs (post 2002) had not been passed on to consumers in RSP, and was being borne in the form of under-recoveries. Besides, the IPP linkages fixed in 2002 were not revised regularly to consider new locations and newly commissioned pipelines. The desired revision was carried out only in 2011 leading to a higher under-recovery burden upto 2010-11.

A comparison of the data relating to the actual freight cost[10] incurred on transportation of regulated products *viz.* MS (up to June 2010), HSD, PDS Kerosene and Domestic LPG during the period 2008-09 to 2010-11 for IOCL, BPCL and HPCL vis-à-vis freight cost recovered through under-recovery claims and through RSP from consumers revealed the position indicated in table 11. Actual transportation costs of rail, road and coastal movement of regulated products and operating costs of pipelines were considered for the analysis.

[10] ***Pipeline freight cost was worked on the basis of actual operating cost of pipelines. Rail, coastal and road freight have been included on actual basis***

Table11
Freight claimed/recovered and freight actually in urred by OMCs

(₹ in crore)

Year	IOCL			BPCL			HPCL		
	Freight claimed/ recover ed	Freight cost incurred	Differ ence	Freight claimed/ recovered	Freight cost incurred	Differ ence	Freight claimed/ recovered	Freight cost incurred	Differ ence
2008-09	5,641	4,767	874	2,470	2,074	396	2,240	1,840	400
2009-10	6,017	5,158	859	2,717	2,346	371	2,437	2,077	360
2010-11	5,914	5,700	214	2,662	2,420	242	2,413	2,261	152
Total	**17,572**	**15,625**	**1,947**	**7,849**	**6,840**	**1,009**	**7,090**	**6,178**	**912**

Thus, OMCs were compensated on account of freight slightly higher than the actual cost incurred by them and the total impact worked out to ₹3,868 crore during the three year period 2008-09 to 2010-11.

MOPNG stated (June 2013/January 2014) that:

- Under IPP mechanism, inland freight is calculated linking the nearest designated port by cheapest available mode of transportation up to the respective installation/LPG plant.
- OMCs have been compensated only for the differential between inland transportation rates by cheapest modes and the lower freight recovered through the retail selling prices and, hence, there is no over compensation of freight to OMCs.
- For locations linked with pipelines, the tariff is benchmarked to the railway freight at a discounted rate of *75 per cent*, so as to incentivize use of pipelines to the maximum extent. OMCs needed to generate sufficient returns and surplus for future expansion of the pipeline network to meet increasing demand of petroleum products in the country.
- Petroleum and Natural Gas Regulatory Board (PNGRB) Regulations, 2010 notified the procedure for determination of pipeline transportation tariff, according to which the tariff shall be determined by bench marking alternate mode of transport (rail) at *75 per cent*. OMCs, thus, only follow the procedure notified by PNGRB.

The response of MoPNG needs to be viewed in the context of the following:

(i) Routes used for price build up for product movement are from the nearest port to the market which has little or no correlation with the actual transportation by OMCs from refineries to the market.

(ii) Thus, the costs estimated in the price build up differ from the actual expenses incurred by OMCs.

(iii) Besides, the pricing methodology affords a heavy surplus to the pipeline operation. Pipeline division of IOCL was compensated by ₹5,982 crore for transportation of crude to three inland refineries through the price build up over 2008-11, which is nearly four times the operating cost[11] of ₹1,519 crore of these pipelines during the same period. This is on account of transport of product through pipelines being reimbursed at 75 *per cent* of the railway freight in the price build up.

(iv) Operating cost of pipeline division had only been considered in the price build up, till the tariff notification of PNGRB in December 2010.

(v) While the need to generate reasonable return on investment in pipeline infrastructure is appreciated, there is a case for review of continuing this element in the price build up, considering its significant impact on increasing under-recoveries.

3.1.7 Investment in marketing segment and its return to OMCs

OMCs invest on creation of infrastructure for various marketing activities such as retail, LPG, aviation, new pipelines, terminals & depots, lubes *etc.* The investment made by OMCs in these segments during 2007-12 is given in the table 12.

Table 12
Investment by OMCs in various marketing segments during 2007-12

(₹ in crore)

OMC	Retail	LPG	Pipelines	Aviation, Lubes & others	Total
IOCL	3,770	4,973	1,509	342	10,594
BPCL	3,646	2,966	408	879	7,899
HPCL	3,631	3,451	1,025	3,297	11,404
Total	**11,047**	**11,390**	**2,942**	**4,518**	**29,897**

[11] ***Operating costs includes Utilities (power and fuel), direct employee cost, repairs and maintenance, depreciation and administration overheads- arrived at by allocating operating cost per KL obtained from IOCL over volume of regulated products sold by the inland refineries (Mathura, Panipat & Koyali)***

The above investments in marketing infrastructure encompass both regulated and non-regulated products (investment on ATF, lubes and laying of product pipelines are largely on non-regulated products). OMCs have the freedom to generate appropriate returns on investments including marketing investments on non-regulated products. For regulated products, the pricing formula allows a return on investment in retail segment in the form of marketing margin and a return on investment in retail outlets in the form of margin on retail outlet. The marketing costs on regulated products are also reimbursed through the pricing mechanism.

Marketing costs cover salaries and wages of employees in operating locations, administrative expenses and infrastructure handling and maintenance cost including depreciation relating to marketing setup. Marketing margin refers to return on net fixed assets deployed in marketing of various products by the OMCs. Marketing margin is provided as a reward on the investments made in the past and also for future investments, replacement of infrastructure for storage, handling and marketing. Margin on retail outlet charges is the return on investment exclusively towards assets deployed for retail pump outlets (restricted to only MS and HSD).

As stated in Para 3.1.6 above, the group constituted to examine the price build-up of MS and HSD based on audited results for financial year 2005-06 made the following recommendations for fixing marketing cost, marketing margin and margin on retail outlet charges:

- OMCs were to be compensated for marketing costs at ₹425/KL on the sales volume of MS and HSD with an escalation of 4 *per cent* every year. This rate was fixed based on the actual cost incurred by OMCs and the average escalation in various marketing cost elements during 2005-06. The group recommended that OMCs should contain their expenditure so that their expenses do not increase beyond the ceiling.

- Marketing margin was worked out allowing 18.09 *per cent* post tax return on net fixed assets deployed in 2005-06 (excluding retail pump outlet assets) for MS and HSD and was then fixed at the nominal value derived at ₹162 per KL. The Group recommended this rate on the premise that entire investment in assets is out of 'own funds'. The return was linked to assets emphasizing productive deployment of assets and avoiding inefficiencies.

- Margin on retail outlet charges was worked out allowing 18.09 *per cent* post tax return on net fixed assets deployed exclusively on

retail pump outlets in 2005-06 (for MS and HSD) and was then fixed at the nominal value derived at ₹263 per KL.

For PDS Kerosene and Domestic LPG, marketing cost was retained at the levels of ₹250/KL and ₹391/MT respectively and the marketing margin was retained at ₹97.59 per KL and ₹173.22 per MT respectively (as fixed in the Subsidy Scheme 2002).

Results of examination in audit of the above three elements factored in the price build up of regulated products are discussed in the following paragraphs.

i. Marketing cost

Information on actual marketing cost of regulated products (product wise) was called for from OMCs. As OMCs do not have a system of capturing the marketing cost product wise, they furnished data of total marketing cost and identifiable cost for products like LPG, ATF, Lubes *etc.* to arrive at the marketing cost for MS, HSD and Kerosene. Examination of the data furnished by OMCs on 'actual' marketing cost and the amount claimed by them (as a component of the price build-up) during 2007-12, revealed the position indicated in table 13.

Table 13
Actual marketing cost (including LPG filling cost) incurred v/s received as per pricing formula

(₹ in crore)

Particulars	2007-08	2008-09	2009-10	2010-11*	2011-12#
IOCL					
Actual marketing cost incurred	2,705.16	3,286.66	3,445.38	3,363.91	3,158.67
Received as per the admissibility	2,425.60	2,692.79	2,973.38	2,894.62	3,052.90
Excess incurrence over entitlement as per pricing formula	279.56	593.87	472.00	469.29	105.77
BPCL					
Actual marketing cost incurred	1,465.37	1,552.40	1,780.38	1,725.50	1,959.92
Received as per the admissibility	1,178.52	1,279.74	1,396.02	1,358.43	1,466.44
Excess incurrence over entitlement as per pricing formula	286.85	272.66	384.36	367.07	493.48
HPCL					
Actual marketing cost incurred	1,235.26	1,479.18	1,895.15	1,944.83	2,247.63
Received as per the admissibility	997.61	1,127.17	1,261.48	1,229.16	1,333.3
Excess incurrence over entitlement as per pricing formula	237.65	352.01	633.67	715.67	914.33

**** MS de-regulated in June 2010 and, hence, marketing cost on MS is only for first quarter of that year;***
 # Only three products during 2011-12.

While the marketing cost fixed per KL has not been revised, the growth in sales (along with 4 *per cent* escalation allowed for MS and HSD) would normally take care of the increase in marketing expenses. All OMCs incurred marketing expenses in excess of the amount admissible as per the pricing formula in all the five years. IOCL could control the marketing expenses, which showed a declining trend over the years especially in 2011-12. In respect of all OMCs, compensation received towards marketing cost was not sufficient to cover the actual costs for PDS (Kerosene). This is on account of non-revision of norms (to meet marketing cost) for PDS (Kerosene), which had been fixed in 2002 as well as the reducing sales volume.

The shortfall between marketing cost incurred and under recovery claim received showed a declining trend in respect of MS and HSD during 2008-09 to 2010-11, and in 2011-12, IOCL had a surplus amount of ₹250.40 crore.

In respect of BPCL and HPCL, the marketing cost showed an increasing trend over the years. Both these OMCs incurred excess marketing costs on all products in all the years. This was mainly due to augmenting of marketing infrastructure leading to higher depreciation cost.

Thus, the higher marketing cost over the admissible rate as per the pricing formula has adversely impacted the OMCs over the period of review.

ii. Marketing Margin

As stated in Para 3.1.7 above, marketing margin is linked to the assets deployed for marketing the regulated products (excluding retail pump outlet assets). A comparison of the marketing margin as per under recovery claim (based on the pricing formula) with the desired return of 18.09 *per cent* of net fixed assets related to marketing of regulated products in the respective years (2007-08 to 2011-12), indicated the position in table 14.

Table 14
Marketing margin received v/s desired in the pricing formula

Particulars	2007-08	2008-09	2009-10	2010-11	2011-12
IOCL			(₹ in crore)		
Marketing margin at 18.09% on net fixed assets deployed	1,014.08	880.36	859.50	810.30	866.82
Marketing margin received at the applicable rate	1,106.25	1,183.55	1,268.49	1,232.95	1,275.58
(Deficit)/surplus margin as per pricing formula	92.17	303.19	408.99	422.65	408.76
BPCL					
Marketing margin at 18.09% on net fixed assets deployed	493.34	500.02	585.78	535.23	573.84
Marketing margin received at the applicable rate	534.03	570.66	604.35	591.25	626.82
(Deficit)/surplus margin as per pricing formula	40.69	70.64	18.57	56.02	52.98
HPCL					
Marketing margin at 18.09% on net fixed assets deployed	407.01	434.92	519.29	523.49	565.69
Marketing margin received at the applicable rate	302.74	336.37	366.50	337.50	355.22
(Deficit)/surplus margin as per pricing formula	(104.27)	(98.55)	(152.79)	(185.99)	(210.47)

Compensation to IOCL through the price build up has been higher on account of marketing margin, which was, on account of the following:

- Net Fixed Assets (NFA) for marketing MS and HSD have reduced from ₹4,120.42 crore in 2007-08 to ₹3,590.40 crore in 2011-12. Fixing the marketing margin at a nominal value of ₹162 per KL for MS/HSD in the price build up has, thus, led to higher compensation on the same than the intended 18.09 *per cent* of NFA.
- Growth in sales volume of MS, HSD and Domestic LPG has also contributed to the higher marketing margin.

However, in the case of HPCL, the marketing margin received as per the pricing formula was less than the expected return (at 18.09%) over the fixed assets deployed on retail segment in all the years. Thus, the investment made on marketing segment could not fetch the desired return.

iii. Margin on retail outlet charges

The margin on retail outlet charges was fixed at ₹263 per KL, which intended a return on investment at 18.09 *per cent* on net fixed assets deployed for retail outlets. Comparison of the margin received as per under recovery claim (@Rs 263 per KL based on the pricing formula) with the desired return of 18.09 *per cent* of net fixed assets for the period 2007-10 (three years) revealed the position indicated in table 15. Analysis of data was restricted to three year period as MS was de-regulated in June 2010 and the investment in retail outlets by OMCs could not be segregated for MS and HSD.

Table 15
Margin on retail outlet investment received *vis-a-vis* desired (at 18.09%) in the pricing formula

(₹ in crore)

Particulars	2007-08	2008-09	2009-10
IOCL			
Margin at 18.09% on net fixed assets deployed on retail outlets	869.76	953.02	996.09
Margin received at the applicable rate	900.81	1003.65	1,093.35
(Deficit)/surplus margin as per pricing formula	31.05	50.63	97.26
BPCL			
Margin at 18.09% on net fixed assets deployed on retail outlets	567.81	641.31	677.84
Margin received at the applicable rate	456.75	504.42	534.44
(Deficit)/surplus margin as per pricing formula	(111.06)	(136.89)	(143.40)
HPCL			
Margin at 18.09% on net fixed assets deployed on retail outlets	495.26	560.91	623.06
Margin received at the applicable rate	377.44	428.14	467.75
(Deficit)/surplus margin as per pricing formula	(117.82)	(132.77)	(155.31)

IOCL could generate a return on investment higher than 18.09 *per cent* in all the three years. However, in respect of BPCL and HPCL, the growth in the sales volume from the retail outlets was not adequate to generate the desired RoI at 18.09 *per cent*. This was mainly because of higher investment in retail outlets without commensurate increase in sales revenue during the three year period under review.

Regarding the investment in marketing segment, MoPNG stated (January 2014) that the present mechanism is not on cost plus basis and cannot be revised on yearly basis and any excess/short realization at marketing cost and margin has to be absorbed by the OMCs. IOCL stated (June 2013)that many of the marketing storage locations/facilities would need replacement in near future and IOCL needs adequate funds for the purpose.

In view of the clarification of the Ministry for not updating costs involved in the marketing side, OMCs have to ensure that their costs and their sales volumes are maintained at optimum levels to justify adequate returns. However, the actual burden of costs and level of desired returns may also be reviewed periodically by MoPNG.

As referred in para 3.1.1, while OMCs are stated to have absorbed ₹28,680 crore as under-recovery, this was much lower compared to their commitment as per MoU signed annually with MoPNG. OMCs had committed to absorb under-recoveries of ₹89,426 crore.

MoPNG stated (January 2014) that MoU figures were assumed in view of uncertainty of receiving compensation from MoF and that OMCs had confirmed that it did not mean commitment from them.

OMCs were mandated to share one third of the under-recovery burden on LPG and SKO as per the burden sharing mechanism approved by Government in October 2003. While under-recovery burden on LPG and SKO during 2007-12 was ₹2,10,676 crore and one third of the under-recovery on LPG and SKO was ₹69,523 crore, OMCs had absorbed only ₹28,680 crore during this period for all regulated products. OMCs, thus, absorbed less compared to their own commitment as well as what was mandated in the under-recovery mechanism. It cannot be denied that higher efficiency of OMCs would have enabled higher absorption of under-recovery burden by them.

3.1.8 Inclusion of stock loss in price build up of domestic LPG benefitting OMCs

In the price build-up of desired price (DSP) for domestic LPG, stock loss at 0.25 *per cent* was added and OMCs claimed under recovery accordingly. OMCs had not incurred any stock loss on distribution of domestic LPG during the period 2007-08 to 2011-12. Instead, there were stock gains to OMCs over the period under review. Table 16 shows the amount factored in the under recovery claims of OMCs during the five year period towards stock loss and the actual gain reported by these companies.

Table 16
Impact of inclusion of stock loss of Domestic LPG in price built up

Year	IOCL		BPCL		HPCL		Total gain (MTs)	Total stock loss factored in U/R claims (₹ in crore)
	Stock loss factored in U/R claims (₹ in crore)	Stock gain (MTs)	Stock loss factored in U/R claims (₹ in crore)	Stock gain (MTs)	Stock loss factored in U/R claims (₹ in crore)	Stock gain (MTs)		
2007-08	41	3,196	21	1,237	20	8,051	12,484	82
2008-09	48	4,142	24	1,446	24	6,523	12,111	96
2009-10	44	3,716	22	6,195	22	8,790	18,701	88
2010-11	58	9,337	30	7,768	30	4,762	21,867	118
2011-12	74	11,500	39	8,415	39	8,722	28,637	152
Total	**265**	**3,1891**	**136**	**25,061**	**135**	**36,848**	**93,800**	**536**

Thus, OMCs claimed an amount of ₹536 crore during the period 2007-08 to 2011-12 towards stock loss though they had actually made a stock gain of 93,800 MT valuing ₹219 crore during the same period.

Audit, however appreciates that OMCs have been advised (April 2013) by MoPNG to exclude stock loss in the pricing formula of domestic LPG from 2012-13.

3.1.9 Inclusion of HFHSD in HSD sales increased under recovery

High Flash High Speed Diesel (HFHSD) is a variant of HSD and is used in diesel engines for naval applications and merchant navy, off-shore vessels and fishing trawlers. HFHSD was also sold by OMCs at the same regulated rate applicable to HSD. HFHSD, a product solely meant for shipping sector (and used by shipping companies), does not qualify for supply at regulated rates intended for mass consumption with significant contribution to the inflation index. Sale of HFHSD at the regulated rates has led to an increase in the under-recovery burden by ₹1,376 crore during 2007-12 as shown in the **Annexure-IV.**

MoPNG stated (June 2013) that HFHSD is a lower specification product considering its sulphur content, compared to other grades of HSD (BS–III & BS-IV). MoPNG further stated that no under recovery is incurred on sale of diesel to bulk consumers (including bulk sale of HF HSD for bunkering) with effect from January 18, 2013.

Audit appreciates the action taken in January 2013 to eliminate under-recovery on sale of HFHSD to bulk consumers. Had the action of de-regulating the product (HFHSD) been taken earlier, the under-recovery over 2007-12 would have been lower by ₹1,376 crore.

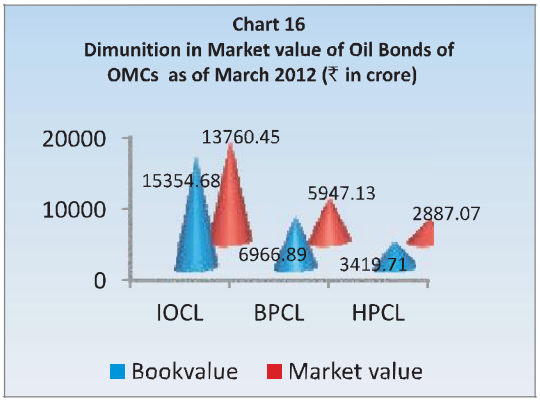
3.1.10 Compensation received by OMCs

OMCs are reimbursed their DSP through the depot price (DP) ultimately recovered from the end customers and the under-recovery reimbursed by GoI. The under-recovery was intended to be shared among the upstream companies, OMCs and Government though it has largely been borne by Government and upstream companies. However, in the absence of an explicit and consistent policy, the share of under-recovery to be borne by each stakeholder – Government, upstream oil companies and OMCs remains uncertain. Besides, the compensation is received late, which affects the OMCs adversely. These issues are discussed in the succeeding paragraphs.

A. Loss due to sale of oil bonds by OMCs

Government had issued Special Oil bonds valuing ₹1,45,385 crore[12] to OMCs for the period 2005-06 to 2008-09 on account of compensation towards under-recoveries. These bonds have long redemption period ranging from 3 to 17 years with maturity date in the years 2012 to 2026.

As the major component of compensation for under-recoveries is paid by GoI only after the end of the financial year, OMCs faced cash crunch in operations. This led to OMCs having to borrow from the market as well as selling oil bonds at a discount to meet their working capital requirements. As the special oil bonds did not have Statutory Liquidity Ratio (SLR) status, the banks were unwilling to buy such bonds and its market narrowed to Provident Funds and Insurance Companies alone. OMCs sold oil bonds at a discount and suffered a loss of ₹3,994 crore during 2007-08 to 2011-12 (IOCL: ₹2,275 crore; BPCL: ₹1,165 crore; and HPCL: ₹554 crore). Besides, OMCs made a provision of ₹1,751 crore as on 31 March 2013 in their accounts on Mark to Market (MTM) basis for the value of bonds held by them. GoI, however, has to redeem these bonds at par. The Standing Committee on Petroleum



[12]*Source: IX report of Standing Committee on Petroleum and Natural Gas (December 2011)*

and Natural Gas(2011-12), in its 9th report had recommended SLR status to oil bonds. However, this remained to be achieved.

MoPNG stated (June 2013) that:

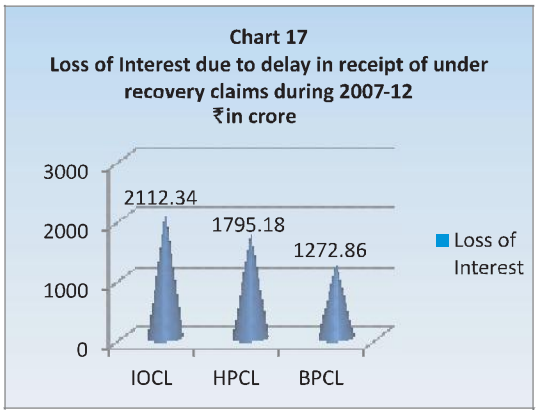
- OMCs were compensated for under recoveries through issuance of bonds during 2005-06 to 2008-09 only and they had no choice but to accept oil bonds issued by MoF irrespective of coupon rate, tenure and SLR status.
- It had put up a proposal to confer SLR status to the bonds with market linked interest rates to Cabinet Committee on Political Affairs (CCPA) in June 2008 on which no decision was taken.
- MoF informed (April 2012) that oil bonds are not part of market borrowing programme or market stabilizing scheme of GoI and cannot be granted SLR status as per advice of RBI.
- GoI had been providing cash compensation since 2009-10 to OMCs and issuance of oil bonds has been discontinued.

Audit appreciates that oil bonds have been discontinued since 2009-10. The reply, however, has to be viewed in the light of loss of ₹3,994 crore already incurred by OMCs which continued to hold bonds valuing ₹25,741 crore as on 31 March 2012, which did not help OMCs ease pressure on their working capital. However, as already stated GOI has to redeem bonds at par.

B. Impact on working capital due to delay in compensation of under-recovery

OMCs submit their audited under recovery claims to MoPNG through PPAC at the end of each quarter of financial year for settlement. PPAC test checks the claims received from OMCs and forwards the admissible claims to MoPNG. Timely receipt of under recovery compensation would help OMCs to manage their working capital requirement effectively and lessen dependence on borrowings. As against a settlement period of one month from the date of receipt of claim (as provided in MoPNG notification for 'PDS Kerosene and Domestic LPG Subsidy Scheme 2002'), the actual time taken in settling the claims of OMCs was seen to vary between 34 days and 310 days (IOCL: 38 days to 166 days; BPCL: 34 days to 254 days and HPCL: 42 days to 310 days) during the five year period 2007-08 to 2011-12. This delay affected the liquidity position of OMCs. The Standing Committee on Petroleum and Natural Gas (2011-12) in its 9th report had also noted that compensation was not received by OMCs in time because of which their quarterly financial results showed very inconsistent results.

The three OMCs incurred ₹22,802 crore (₹11,151 crore by IOCL, ₹5,285 crore by BPCL and ₹6,366 crore by HPCL) towards interest on working capital borrowing during 2007-08 to 2011-12. During the same period, the delay in compensation (beyond a month from submission of claim) contributed to an interest loss of ₹5,180 crore ((i.e. IOCL – ₹2,112crore, BPCL - ₹1,273 crore, HPCL - ₹1,795 crore based on the actual cost of working capital interest after considering exchange gain/loss as incurred).



One of the commitments of GoI in MoUs signed with HPCL (2010-11) was to compensate/pay interest in case of delay in settlement of under-recovery. IOCL had also included in the basic assumptions for financial targets of the MoU for 2012-13 that adjustments would be allowed on account of additional interest burden on borrowings caused by delayed receipt of compensation from GoI. However, GoI did not consider the loss of interest while compensating OMCs due to under recovery. MoPNG stated (June 2013/January 2014) that it was not possible to firm up estimated under recovery amount of OMCs and quantify the amount of cash compensation payable by GoI due to various factors. MoF was requested for an additional compensation of ₹4,588 crore during 2011-12 towards interest cost owing to delay in compensation and to set up a mechanism for cash compensation to OMCs on a monthly basis to which no response was received.

MoF stated during pre-exit conference (July 2013) that the delay in compensation was due to liquidity problems, competing pressures and burden sharing capacity of OMCs.

The fact remains that delay in settlement of under-recovery claims of OMCs has contributed to higher working capital requirements and increased interest burden on OMCs.

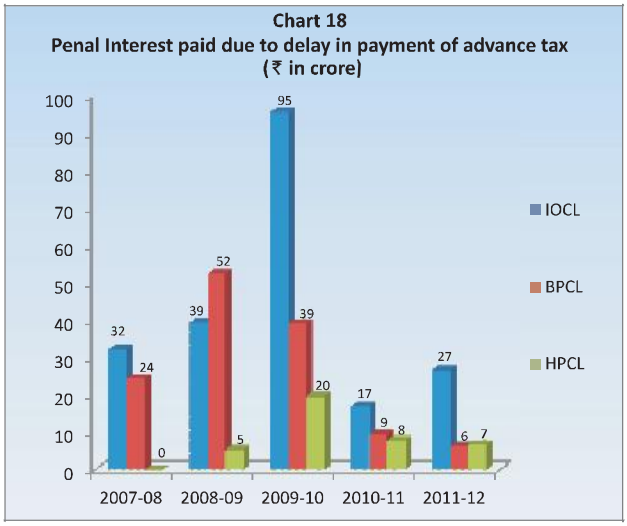
C. Delay in declaration of cash compensation led to payment of interest on short payment of advance income tax by the OMCs

Section 208 of Income Tax Act, 1962 makes it obligatory on the part of OMCs to pay advance tax for the financial year in case tax payable exceeded ₹5,000.

Advance tax on the current income as calculated under section 209 of the Act is payable in four installments between June and March of each financial year, failing which, the OMCs would be liable to pay simple interest for default in payment of advance tax under section 234B of the Act and for deferment of advance tax under section 234C of the Act.

OMCs calculate and pay advance income tax based on their quarterly financial results. Since the decision regarding the mechanism of sharing of under recovery burden was not declared in time, OMCs made short payment of advance tax every quarter. OMCs paid interest of ₹ 381.29 crore on short payment of advance income tax during 2007-08 to 2011-12, as shown in chart18.

Chart 18
Penal Interest paid due to delay in payment of advance tax (₹ in crore)



A paragraph on "*Avoidable payment of interest due to short payment of advance tax relating to IOCL and BPCL*" had been included (Para No. 13.6.1) in Audit Report No. 11 of 2007 (Commercial) wherein the avoidable payment of interest of ₹161.02 crore during 2000-01 to 2005-06 had been commented upon. IOCL and BPCL attributed this to the uncertainty in the amount of compensation/claim being released by Government from time to time and issue of notification after the due date for payment of advance tax.

The Standing Committee on Petroleum and Natural Gas (2011-12) in its 9th Report critically commented on the prevailing ad-hoc mechanism of under recovery sharing among OMCs, upstream oil companies and Government. It recommended that Government evolve a clear and fixed policy to fund under recovery of OMCs, which would ensure proper estimation of profits of these listed companies and also assist OMCs to overcome the problems leading to imposition of interest and penalty by tax authorities.

MoPNG stated (June 2013) that:

(i) Compensation or commitment thereto was not always received from MoF within a particular quarter. As such, it was not possible for OMCs to estimate advance income tax and they had to report quarterly financial results on actual basis.

(ii) Under recoveries incurred by OMCs depended on various factors, *viz.* changes in price of crude oil/petroleum products in the international market, exchange rate variation, revision in retail selling prices and growth in consumption of sensitive petroleum products. It was not possible to quantify the cash compensation payable by GoI at the beginning of the year.

(iii) It is difficult to evolve a fixed policy to fund under-recovery as it varies from quarter to quarter even in a particular year.

(iv) It has requested (February 2011) Chairman, CBDT to advise Chief Commissioner of Income Tax, Mumbai to expedite disposal of the pending application for waiver of interest of OMCs. MoF had intimated MoPNG that Chief Commissioners having jurisdiction over the case have been reminded for an early decision.

While concerted action from MoF, MoPNG and OMCs would be required to minimise the adverse impact of delays in finalizing the disbursement or reimbursement of under recoveries to OMCs, the under-recovery burden absorbed by OMCs was never higher than 21 *per cent* and in fact was 'nil' in 2008-09 and 0.3 *per cent* in 2011-12.Appropriate timely action by OMCs in refining the estimation of advance tax liability would have reduced the interest burden on short payment of advance income tax at least in the above two years.

The present pricing mechanism of major petroleum products provides for a higher compensation to the refiners. This has not translated into technical advancements and efficiency of the PSU vintage refineries to the desired level. The pricing policy also benefitted private/stand alone refineries by way of compensation for domestic supplies to OMCs at rates higher than their export realization. OMCs have been unable to control their marketing expenditure to remunerative levels impacting profitability. However, the manner and time frame in which the compensation pertaining to under-recoveries was being received adversely affected cash flows of OMCs along with attendant ill effects as stated above.

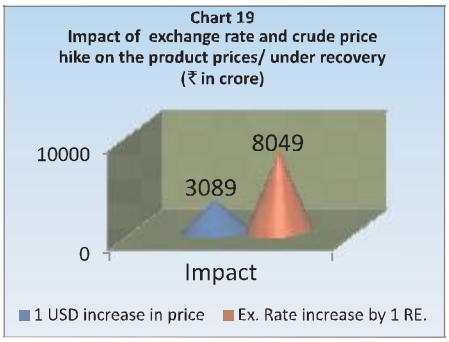
3.2 Impact on consumers

The price of the regulated petroleum products at the consumers' end is regulated by GoI. The 'build up' of the retail sale price (RSP) payable by the consumer is as below:

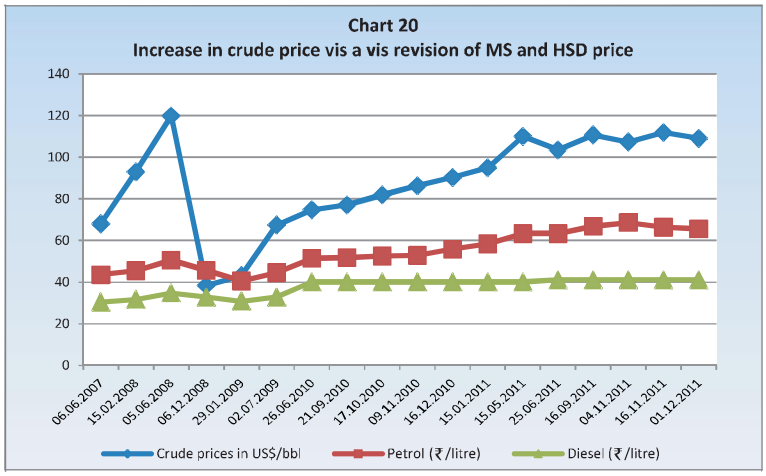
Depot price or DP (price charged to dealers by OMCs)
Add: Excise duty
Add: Dealer commission, RPO surcharge
Add: VAT/ Sales tax/ Other taxes
Retail Sale Price or RSP charged to consumer

3.2.1 Depot price

DP is fixed by GoI and is revised periodically. This is largely dependent on variations in the international FOB prices of the products and/or exchange rate variation of Indian Rupee to US dollar. The impact on product prices/ under recovery due to increase of one dollar FOB price is estimated at ₹3,089 crore, while devaluation of Indian rupee to a dollar (fall in exchange rate by one rupee) is estimated to have an effect of ₹8,049 crore, considering the sales volume of HSD, SKO and LPG in 2011-12 as depicted in Chart 19.



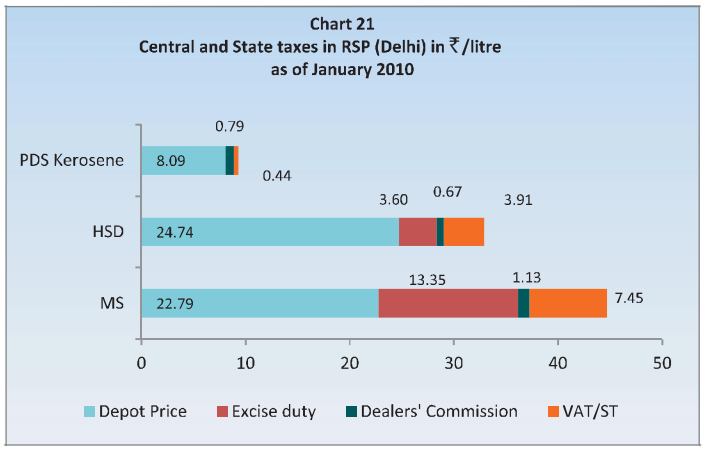
These variations may be passed on to the consumer through a revision of DP of products leading to an increased RSP at the consumers' end. In case of non-revision, it adds to the under recovery burden. The revisions carried out in RSP of MS and HSD *vis-à-vis* the crude oil prices over the period of audit (2007-12) is depicted in Chart 20. DP/RSP of Domestic LPG and PDS Kerosene were sparingly revised resulting in the burden being



largely borne through under recoveries without being passed on to consumers.

3.2.2 Taxation structure of Major Petroleum Products

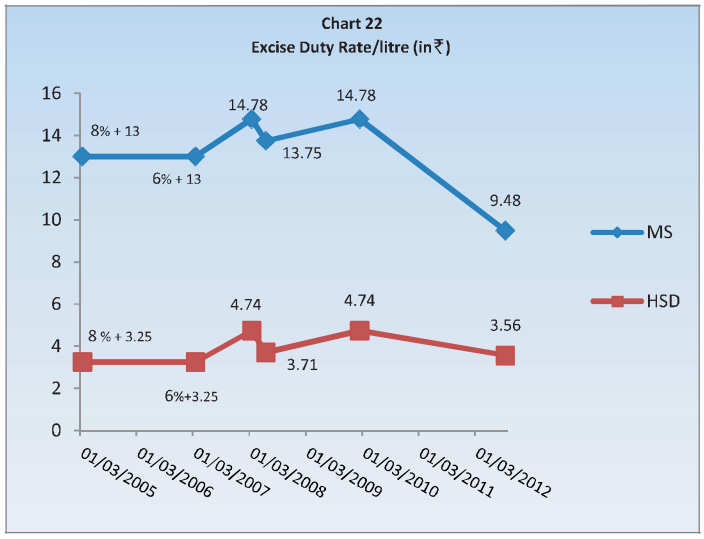
Taxes and duties imposed by both Central and State Governments constitute a major component of RSP of regulated petroleum products *viz.* MS (upto June 2010), HSD and PDS kerosene as indicated in Chart 21.



Excise duty accounted for 30 *per cent* of RSP of MS price and 11 *per cent* of HSD price as on January 2010 and was 'nil' on PDS kerosene and Domestic LPG in Delhi. State taxes namely sales tax/VAT on MS, HSD, PDS kerosene in Delhi accounted for 17 *per cent*, 12 *per cent* and 5 *per cent* respectively at the same time (January 2010).

A. Central Taxes

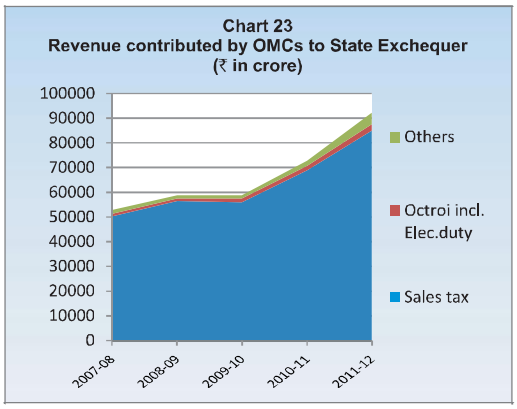
GoI rationalized the custom duty on crude oil and regulated products over the years. Custom duty rates over 2002-11 is shown in **Annexure-V.** Based on the recommendations of Rangarajan Committee, Government progressively reduced excise duty on MS and HSD over the last decade as shown in Chart 22. Besides, specific excise duty rates have been notified with effect from March 2008 which protects consumers (by avoiding exponential increase in tax elements in the event of increase in international prices) *vis-à-vis ad valorem* rate. The periodical revisions of custom and excise duty from January 2002 to 2011-12 are given in **Annexure-V and VI.**



B. State and local taxes on petroleum products

States levy sales tax/value added tax (VAT). Some States levy an additional entry tax. Besides, local governments in some cases levy octroi. While sales tax/VAT has traditionally been passed on to consumers, entry tax and octroi were partially absorbed by OMCs till 25 July 2012. Currently, OMCs are allowed to pass on these taxes leading to slightly higher retail prices to consumers.

(i) Sales tax/Value added tax and entry tax: State Governments have adopted ad-valorem rates of sales tax/VAT and entry tax resulting in higher retail prices at the consumers' end with every increase in the price of regulated products. There is a wide disparity in the rates of taxes across States. As on December 2012, sales tax levied by State Governments ranged from 9.63 to 25 *per cent* in respect of HSD ('nil' in Andaman and Nicobar Islands and Lakshadweep). VAT/sales tax on PDS kerosene (December 2012) ranged between 'nil' and 5 *per cent* (VAT/ST on PDS kerosene is 'nil' in 13 out of 35 States/Union Territories-UTs). In the case of Domestic LPG too, VAT/ST (December 2012) ranged between 'nil' and 5 *per cent* (VAT/ST on Domestic LPG is 'nil' in 15 out of 35 States/UTs). In four States *viz.* Karnataka, Madhya Pradesh, Odisha and Uttar Pradesh, there is an additional levy of Entry Tax ranging between 1 and 5 *per cent*. Position of sales tax/VAT prevailing in various States as of December 2012 is indicated in **Annexure-VII.** Thus, States received total revenue of ₹3,35,552 crore on taxes and duties from petroleum products during 2007-08 to 2011-12, as shown in Chart 23.



The Kirit Parikh Committee (February 2010) recommended that the Empowered Committee of State Finance Ministers {deliberating on a roadmap for the introduction of the Goods and Services Tax (GST)} should be given the task of rationalization of State taxes. The Standing Committee of Petroleum and Natural Gas (2011-12) in its 9th Report had also recommended that GoI should seriously pursue with the State authorities at appropriate level and a consensus should be brought to reduce sales tax to a uniform level.

MoPNG stated (June 2013/January 2014) that GoI had been requesting State Governments from time to time to rationalize their taxes on sensitive petroleum products and also to shift from the ad-valorem rates to specific tax component for providing relief to the consumers and that the issue raised by Audit on VAT would be taken up again with State Governments.

In the absence of rationalization of the taxes by State Governments, customers would continue to be impacted adversely. An integrated tax regime for petroleum products possibly with tax payable on value added at each stage of production, distribution and marketing would need to be put in place without delay.

(ii) State Specific Costs

While the central taxes/ state sales tax/VAT on product prices are included in the price build up and recovered from the customers, the local taxes *viz.* octroi and Entry tax by certain States levied on crude oil was not covered fully, as the IPP/TPP price build up is based on product prices and taxes levied on product prices.

During the APM period, State Surcharge Rates were recovered through the selling prices of petroleum products in the respective States and resultant under/ (over) recoveries were adjusted through Oil Pool account.

Post dismantling of APM, Government of India notified "The Irrecoverable Taxes Compensation Scheme, 2002" to compensate the oil companies for irrecoverable State taxes for the year 2002-03. The Scheme was not extended subsequently and OMCs were to bear the burden on irrecoverable State taxes from 2003-04 onwards.

The local taxes levied by Municipalities (like Mumbai BMC – 3 *per cent*) and entry tax levied by certain states (*e.g.*. Karnataka -1 *per cent*, Uttar Pradesh – 5 *per cent*, Bihar – 2 *per cent*, Assam – 2 *per cent* and Haryana – 2 *per cent*) on the Crude oil was not compensated fully to the OMCs. During 2007-08 to 2011-12, the OMCs had to absorb ₹10,887 crore on account of octroi and entry tax on crude. However effective 25 July 2012, all taxes including octroi has been allowed to be passed on to the customer. This would increase the burden on consumers.

MoPNG has also instructed that future changes in the amount of SSC resulting from incidence of the State/ Municipal levy/ tax *etc.* shall be given effect immediately within the respective state/ Municipal area.

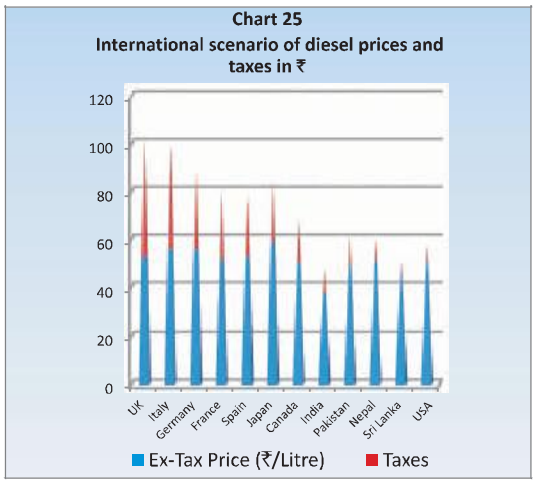
As regards the entry tax on crude oil in the state of Uttar Pradesh and Maharashtra, MoPNG issued orders allowing OMCs to recover the past dues as additional state specific cost during the three years (2014-17).

3.2.3 International scenario of taxation on MS, HSD, LPG and SKO

The prices and taxes paid by the consumer for regulated products across different countries were compared. As shown below, the prices paid by the end consumer in India for diesel, PDS SKO and domestic LPG have

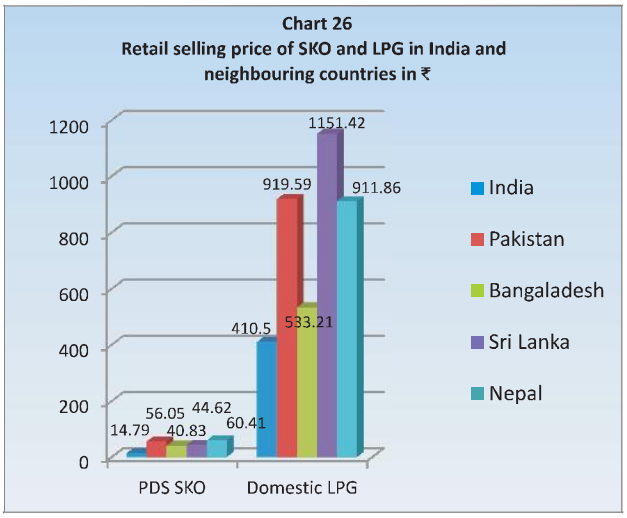
been maintained at a low level through price control. Taxation on MS and HSD in both developed and developing countries as of November 2012 is given in charts 24 & 25 below:





Source: Notes for supplementaries – PPAC(January 2013)

The ex-tax price and tax on MS per litre is the highest in UK which was ₹47.74 and ₹70.39 respectively (total price ₹118.13/litre). India stands at 5thlowest position in respect of total price of MS at ₹67.24 per litre. The percentage of tax on MS is much higher in Germany, United Kingdom, France, Italy and Spain (51 to 60 *per cent*) as compared to Indian taxes (includes excise duty and state sales tax/VAT) which is at 32 *per cent*. However, the tax on MS in India is highest as compared to the neighbouring countries *viz.* Pakistan, Sri Lanka and Nepal which ranged between 21 and 30 *per cent*.



Source: Notes for supplementaries of January 2013

In respect of HSD the price/litre in UK is the highest i.e. ₹103.35 (ex tax price - ₹52.64 and taxes – ₹50.71). India stands second lowest at ₹47.15 per litre (ex tax price - ₹37.21 and taxes ₹9.94) after Bangladesh which has a retail selling price of ₹40.82. Taxes imposed on HSD in eleven countries compared, which ranged between 9 *per cent* (Sri Lanka) and 49 per cent (UK) with India at 21 *per cent*. Taxes on HSD were higher in India compared to its neighbours *viz.*, Sri Lanka (9 *per cent*) and Nepal (16 *per cent*).

RSP of PDS Kerosene and Domestic LPG in India and the neighbouring countries are given in Chart 26. Rates of PDS Kerosene and Domestic LPG were lower when compared to neighbouring countries.

3.2.4 Inclusion of Retail Pump Outlet (RPO) Surcharge in RSP of MS and HSD benefitted OMCs

RSP of MS and HSD includes an element of RPO Surcharge paid by the end consumer. This surcharge is intended to help OMCs recover and reimburse the demand draft charges incurred by retail pump dealers while remitting payments through demand drafts/pay orders to them for the products purchased from OMCs. Since the above charges did not form part of the dealers' commission, it was included separately for reimbursement to the dealers. RPO surcharge was allowed at the rate of ₹35 per KL for MS and ₹20 per KL for HSD based on the recommendation by the group that conducted a study (November 2006) on marketing costs of MS/HSD. The dealers transfer the RPO surcharge to the OMCs who reimburse them based on their actual expenditure.

A review of the data relating to RPO surcharge collected by dealers and transferred to OMCs during 2007-08 to 2011-12 through RSP and actual reimbursement to the dealers by OMCs revealed that actual expenditure was much less than the amount of surcharge collected. This resulted in higher recovery from consumers leading to an undue benefit of ₹659 crore to OMCs as indicated in table 17.

Table 17
Excess collection of RPO surcharge

(₹ in crore)

	IOCL	BPCL	HPCL	Total
RPO surcharge collected by OMCs in RSP	394	218	175	**787**
Less: Actual DD charges reimbursed to Dealers	57	27	44	**128**
Net amount retained by OMC	**337**	**191**	**131**	**659**

MoPNG stated (June 2013) that OMCs incurred cost for converting mode of payment from DD/PO to e-transfer of funds and they had already absorbed cumulative under-recovery amount of ₹28,680 crore during 2007-08 to 2011-12, adversely affecting their profitability over the years. Ministry further stated that RPO surcharge forms part of RSP build-up which is not getting included in the under recovery calculations. It further stated that OMCs have been advised (April 2013) to reduce RPO surcharge recovered in RSP of HSD from the under/over recovery incurred on HSD for the FY 2012-13 onwards.

Audit appreciates the action taken by MoPNG on the issue pointed out. While the element of RPO surcharge does not affect under-recoveries, it does adversely impact the retail price at the customers' end.

3.3 Impact on Government and upstream companies

3.3.1 Funding of under recoveries on sale of regulated products

Funding of under recoveries on sale of regulated products is being done partly by budget allocation for LPG and SKO through 'LPG (Domestic) and SKO (PDS Kerosene) subsidy scheme 2002', the balance being shared among different stake holders, *viz.* Government, upstream oil companies and OMCs. Table 18 shows the actual under recovery on sale of LPG and SKO during the period 2007-08 to 2011-12 and amount allocated in the budget towards subsidy scheme 2002:

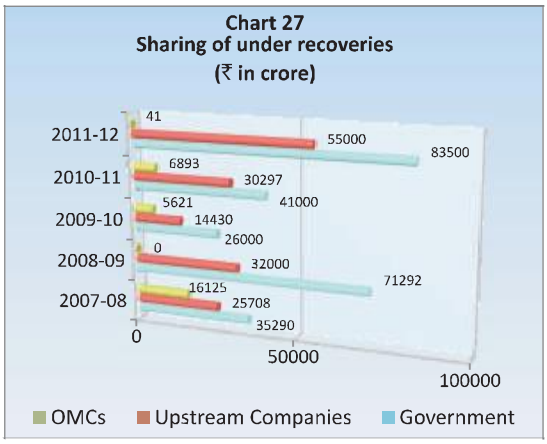


Table 18

Actual under recovery on sale of LPG and SKO during the period 2007-08 to 2011-12 and amount allocated in the budget towards subsidy scheme 2002

Year	Under recovery (on LPG & SKO) (₹ in crore)	Amount provided under the subsidy scheme (₹ In crore)	*Per cent* of provision in subsidy scheme to total under recovery
2007-08	34,625	2,669	7.7
2008-09	45,825	2,710	5.9
2009-10	31,621	2,792	8.8
2010-11	41,256	2,927	7.1
2011-12	57,349	3,023	5.3

The above table clearly indicates that the allocation to meet the under recovery on sale of LPG (Domestic) and SKO (PDS) is minimal ranging from 5.3 per cent to 8.8 per cent over the period 2007-08 to 2011-12. This is mainly on account of non-revision of 'LPG (Domestic) and SKO (PDS kerosene) subsidy scheme 2002', which have never been revisited since its inception.

There is a need to revamp the scheme to reflect more accurately the under-recovery / subsidy requirements for LPG and SKO and ensure that such amounts are budgeted for in the respective years.

MoPNG decided (October 2003) that OMCs would bear a third of losses on PDS Kerosene and Domestic LPG from the surpluses generated on sale of other retail products while the balance losses would be shared equally by the upstream companies (*viz.* ONGC, OIL and GAIL) and GoI. However, this decision was not implemented uniformly or consistently and the mechanism for sharing the burden of under recoveries of OMCs varied from year to year in practice during 2007-08 to 2011-12. Table 19 depicts the actual share of GoI, upstream companies and OMCs over 2007-08 to 2011-12 .

Table 19
Sharing of under recoveries on sale of regulated products among the stakeholders

Year	Share of under recoveries borne (in per cent)		
	Government	Upstream companies	OMCs
2007-08	46	33	21
2008-09	69	31	0
2009-10	57	31	12
2010-11	52	39	9
2011-12	60	39.7	0.3

Thus, GoI did not follow a consistent or uniform system of sharing under recoveries amongst the stakeholders. OMCs had not absorbed any under recoveries during 2008-09 and their share was 0.3 *per cent* in 2011-12.

Expert Committees, viz., Rangarajan Committee (February 2006), Kirit Parikh *Committee* (February 2010) and Parliamentary Standing Committee of Petroleum and Natural Gas (2011-12) in its 9th Report, had, *inter alia,* recommended an explicit and transparent policy for funding under recoveries of OMCs. This was yet to be achieved (February 2014).

3.3.2 Efforts at rationalizing under-recoveries

Under recoveries add to fiscal stress of GoI. A reduction in under recoveries on sale of regulated petroleum products is desirable, particularly in view of the mounting fiscal deficit. A review of action taken by GoI in this regard reveals the following:

A. Non-targeting of PDS Kerosene and Domestic LPG to BPL families

MoPNG conducted a comprehensive study in 2005 to assess the genuine demand and requirement of PDS Kerosene through National Council of Applied Economic Research (NCAER). The study revealed that 38.6 *per cent* of the PDS kerosene sold in 2004 had actually been diverted. NCAER

report recommended (October 2005) that subsidised PDS kerosene should be restricted to people with Below Poverty Line (BPL)cards. Besides, GoI accepted (June 2006) Rangarajan Committee recommendation to restrict the supply of subsidized kerosene only to BPL families. The Committee also recommended that subsidy on domestic LPG be confined to 'poor' segment.

Later in February 2010, Dr. Kirit Parikh in his report pointed out that if PDS kerosene was provided to BPL households through a system of smart cards with biometric identification, the requirement of PDS kerosene would be lower by a third. The report also recommended that subsidies on LPG to the targeted group such as BPL rural households could be delivered as entitlements or through direct cash transfers.

The Standing Committee of Parliament on Petroleum and Natural gas (2010-11) in its 8th report had also recommended exclusion of rich and affluent people including those holding constitutional posts, public representatives like MPs, MLAs/MLCs from those eligible for subsidized domestic LPG cylinders.

MoPNG has initiated action to restrict the supply of subsidized LPG cylinders to consumers to 9 cylinders (of 14.2 Kg) per annum in January 2013 (which has been further increased to 12 cylinders per consumer in February 2014). Progress in this direction has, however, been slow as indicated below:

- MoPNG had initiated action for introduction of smart card system for distribution of PDS Kerosene to BPL families in three states *viz.*, Maharashtra, Bihar and Uttarakhand in 2007. The proposal was later dropped on account of resistance from State Governments. States were not in favour of implementing the smart card scheme stating that this would create disparities amongst families not having LPG connections and dependent on PDS Kerosene *vis-à-vis* others.

- MoPNG initiated steps to revive the smart cards scheme in January 2009. A project report was prepared in June 2009 by OMCs/PPAC for implementing the smart card based distribution project for PDS Kerosene and domestic LPG in the States of Maharashtra, Andhra Pradesh and Karnataka as a pilot. MoPNG later advised (January 2010) OMCs to hold back as the project was to be aligned with the Unique Identification Authority of India (UIDAI) project.

- GoI constituted (February 2011) a Task Force for Direct Transfer of subsidies on PDS Kerosene, LPG and fertilizer to recommend and implement a solution for direct transfer of subsidies to people with BPL cards in a phased manner. The Task Force, in its interim report,

recommended (June 2011) that during Phase I, cash transfer may be made through the State Governments and in Phase II, transfer of subsidy to the bank account of beneficiary may take place. GoI accorded (August 2011) in principle approval to the recommendations of the Task Force.

- GoI decided (November 2012) that all the departments engaged in transferring benefits to individual beneficiaries would move to an electronic Direct Cash Transfer system based on Aadhaar Payment Bridge.

MoPNG stated (June 2013/January 2014) that:

- Successful implementation of direct transfer of cash subsidy on Kerosene (DTCK) depends upon the action from the participating States as they are required to put in place an institutional mechanism to undertake cash transfer of kerosene subsidy to the bank account of ration card holders. The scheme has graduated beyond pilot stage in Rajasthan, Maharashtra and Goa which have confirmed to implement DTCK in select districts in 2013-14.

- MoPNG had to change the modalities for LPG subsidy administration due to adoption of superior technology and change in the concept from authenticated deliveries to direct subsidy transfer.

- The proposal for targeting LPG subsidy to only BPL families could be considered only if a robust framework to identify and segment such customers is available. The Aadhar based direct benefit transfer scheme has been finalized and launched in 18 districts from June 2013 covering 73 lakh customers to be further extended to other parts of the country.

- There has been marked reduction in the quota of PDS Kerosene in respect of various States/UTs, which was reduced from 11,699TKL in 2009-10 to 9087TKL in 2013-14. There was a decline of 40 *per cent* in the consumption pattern of Kerosene when a pilot project for 'Direct Transfer of Cash Subsidy of PDS Kerosene' was launched in a district in Rajasthan. Besides, GoI has launched 'Direct Benefit Transfer for LPG' in 291 districts of the country covering 9.54 crore LPG consumers.

Delay in targeting subsidies to BPL families leads to increased under recoveries

Despite lapse of more than seven years since acceptance of the recommendations of Rangarajan Committee to target benefit to deserving consumers, desired outcome was yet to be achieved. Besides delay, there were frequent changes in the implementation mode. Though the eligibility for subsidized LPG cylinders has been capped and the scheme for direct transfer of benefit for LPG cylinders launched, much progress had not been achieved in targeting PDS kerosene.

B. Non-revision of MS price even after de-regulation

GoI de-regulated the price of MS in June 2010 with the expectation that market determined pricing of MS would

(i) do away with the under recoveries of OMCs on MS,
(ii) improve the financial health of OMCs, and
(iii) attract higher investments in fuel retail sector, and by spurring market competition, encourage OMCs to reduce cost, improve efficiency and service standards.

OMCs, however, continued to incur under-recovery on MS to the tune of ₹7,109 crore (IOCL ₹3,253 crore, BPCL ₹1,992 crore and HPCL ₹1,864 crore) during June 2010 to March 2012 due to non-revision of prices in line with changes in the international market. OMCs stated (February 2013) that there was steep increase in the price of crude and MS in the international market after the deregulation in June 2010 and passing on such steep increase to the consumers could have serious implication in the market; hence, the decision to moderate the increase.

MoPNG stated (June 2013) that OMCs decided to moderate the price increases due to steep rise in the prices of crude and MS during 2011-12 and the rising trend continued till May 2012 and, thus, resultant full impact could not be passed in the prices. It was also stated that OMCs increased petrol price by ₹7.54 per litre in May 2012 and at present (June 2013), there is no under recovery on account of sale of MS.

The reply needs to be viewed in the light of the fact that MoPNG had also represented to MoF to compensate OMCs for under-recovery incurred during June 2010 to March 2011 treating MS as a regulated product.

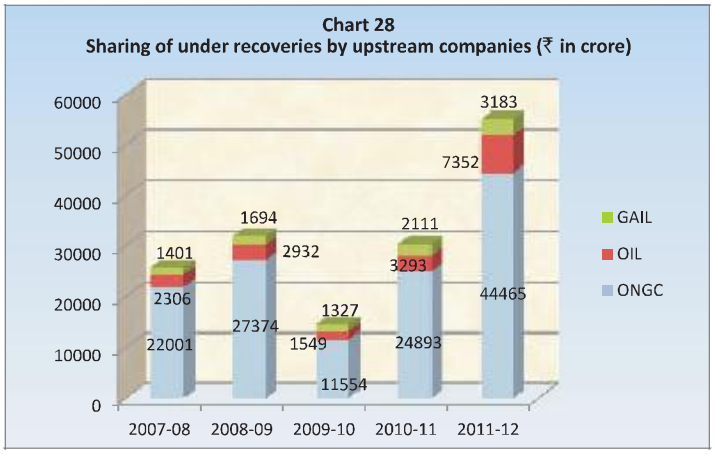
C. Impact on Upstream Companies due to sharing of under recoveries of OMCs

As per the scheme for compensation to OMCs for under-recoveries on sale of PDS Kerosene and Domestic LPG (October 2003), the up-stream companies - ONGC, OIL and GAIL were to bear a pre-determined quantum of the compensation.

The compensation is made available through appropriate discounts on the price of crude, Domestic LPG and PDS Kerosene supplied to OMCs. Total under recovery of OMCs from 2007-08 to 2011-12 was ₹4,43,197 crore, of which the under recoveries allocated to upstream companies was ₹1,57,435 crore (ONGC: ₹1,30,287 crore, OIL:₹17,432 crore and GAIL: ₹9,716crore). The share of upstream companies has progressively increased from 33 *per cent* in 2007-08 to 40 *per cent* in 2011-12.

The discount is borne on supply of crude oil produced by National Oil Companies (NOC) from nomination blocks. In addition, NOCs pay a cess of ₹4,500 per MT of crude oil for the nomination blocks held by them. In contrast, varying rates from 'Nil' to ₹927 per MT are being paid on production of crude oil as per PSC provisions from the pre-NELP and NELP blocks. The combined effect of discount and cess is that the margin per barrel from nomination blocks of NOCs is much lower than that for NELP/ pre-NELP blocks. While the margin per barrel for crude from nomination blocks of ONGC ranges between US$ 16.57 and US$ 17.05, it ranges between US$ 46 and US$ 80 in PMT-JV after considering GoI share of profit petroleum (for the period 2007-08 to 2011-12). In fact, ONGC informed that its cost of production for the financial year 2011-12 was US$47 per barrel. As the Indian basket of crude in 2011-12 ranged around US$ 98-99 per barrel, with a discount of US$56 per barrel allowed to OMCs, ONGC would be in a disadvantageous position on its margins.

Chart 28
Sharing of under recoveries by upstream companies (₹ in crore)



The upstream PSU Companies expressed the concern that exploration & production being a high risk industry requires large capital investments and the lower return from nomination blocks is adversely affecting their capex plans. Besides, as the sharing mechanism of under recoveries is *adhoc*, there is uncertainty regarding the quantum of upstream share.

Following the disinvestment of ONGC, the minority shareholders including Foreign Institutional Investors (FIIs) and retail shareholders had also expressed reservations on the sharing mechanism.

MoPNG in reply stated (June 2013/January 2014) the final burden sharing by the upstream companies is decided by MoF in consultation with MoPNG depending upon crude price realization by upstream companies; amount of under recoveries and capacity of OMCs to absorb under recoveries. It further stated that the Expert Group has examined the existing compensation mechanism for upstream contribution towards the under recovery of OMCs and its recommendations were under examination.

MoF pointed out in the pre-exit meeting (24 July 2013), that the upstream companies were benefitted through higher international prices of crude oil and, hence, were able to bear the burden. Besides, the under-recoveries are borne on the crude produced from nomination blocks which have been allocated by GoI. It was also pointed out that the profitability of the upstream companies was high and they could bear the burden.

The replies need to be viewed against the fact that upstream companies need to compete with other private entities and the uncertainty in the mechanism of funding under-recoveries would place them at a relatively disadvantageous position.

3.3.3 Recent Development on pricing policy of regulated products

Dr. Vijay Kelkar Committee constituted by MoF for preparing a road map for fiscal consolidation submitted (September 2012) recommendations which *inter alia* included the following:

- Complete deregulation of HSD as early as possible; price adjustments in small successive steps.
- Elimination of half of HSD subsidy by March 2013 and the balance by 2013-14.
- Elimination of LPG subsidy by 2014-15; reduction of 25 *per cent* by March 2013 and the balance 75 *per cent* over the next two years.
- Reduction of PDS kerosene subsidy by one-third by 2014-15.
- Smaller and frequent price revisions and at the discretion of OMCs.
- Cap the number of subsidized LPG cylinders.

Based on the Committee's recommendations, GoI decided (January 2013) to implement the following effective 18 January 2013:

- Allow OMCs to increase RSP of HSD in the range of 40-50 paise per litre per month until further orders
- Non-subsidized market determined price to the bulk consumers of HSD taking supplies from the installations of the OMCs with immediate effect and no subsidy to OMCs on sale of HSD to direct consumers
- Increase in the number of subsidized LPG cylinders to nine(subsequently enhanced to 12 in February 2014) in a year

The above needs to be viewed against the fact that while de-regulation of HSD for bulk consumers was earlier mooted by OMCs in August 2008, there has been a delay in implementation and consequent larger burden of under-recovery.

While market determined price for bulk customers of HSD is a welcome step, its actual implementation has raised some concerns. The monthly Industry Sales Review Report (August 2013) of PPAC stated that the share of bulk HSD sales to total HSD sales had declined to around 10 *per cent* in August 2013 as against annual average of18 *per cent* during2011-12. According to PPAC, the fall in the share of bulk HSD was mainly due to lower upliftment by State Transport Undertakings (STUs) and industries like civil construction, cement, mining, steel etc, who had shifted to retail outlets or alternate cheaper fuels. This trend, if continued, would dilute the positive impact of market pricing for bulk customers on under-recoveries.

It may be mentioned however that, a case filed by the State Governments against the dual pricing decision of GoI has since been decided in favour of the latter by Supreme Court (September 2013).

MoPNG stated (June 2013) that sale of bulk diesel reduced considerably from 17 *per cent* in December 2012 to 10 *per cent* in March 2013 and direct sales to STUs decreased by 89.6 *per cent* compared to March 2012. With the gradual increase in the RSP of HSD sold in retail outlets, the gap between retail and bulk prices would narrow and eliminate the diversion from retail outlets to bulk consumers. OMCs have been instructed to take sufficient safeguards to avoid diversion of subsidized HSD from their ROs.

While appreciating the initiation of long pending action in excluding bulk commercial consumers of HSD from the compensation scheme, Audit urges MoPNG to put necessary checks in place, in close coordination with OMCs and State Governments to impede diversion of cheaper regulated fuel to undeserving purposes, in view of the inbuilt features of dual pricing scheme.

Chapter 4 Conclusion and Recommendations

A. Conclusion

The mechanism of pricing petroleum products has evolved from cost plus mode (Administered Price Mechanism) to import parity and now to a combination of import parity and trade parity pricing. As per the pricing methodology, the price at the refinery gate is set above the FOB price of the product at the chosen destination which allows a higher return to the refineries. This benefit is available to all refineries including private and stand-alone refineries. However, OMC refineries have inherent drawbacks in terms of vintage, uneconomical size and location with the result that the benefit does not fully accrue to these refineries.

The pricing mechanism at the refinery gate was intended as an incentive for upgrading the technology of existing refineries and to attract investment in the refinery segment for improvement of efficiencies. While OMCs have made some investments in their existing refineries for technology up-gradation, study of a sample indicates that there is still a significant gap in the performance of these refineries and there is a need for further technology upgradation. Expenses related to marketing included in the price build up also do not reflect the actual expenses incurred by OMCs.

The price buildup leads to under-recoveries of OMCs which are funded partly by GoI and partly by upstream companies. Funding of under recoveries has adversely affected the upstream companies who bear over a third of the under recovery burden, while the delay in and mode of settlement of under recovery claims have in turn, adversely affected OMCs. Under recoveries also contributed to a higher fiscal deficit of GoI. Besides, absence of a formal, well-defined mechanism of sharing under recoveries contributed to a degree of uncertainty detrimental to the interests of both upstream companies and OMCs.

Taxation contributes significantly to the RSP of products paid by the end consumer. Central and State taxes together account for 19 *per cent* of the RSP of HSD at Delhi (August 2012). While Central taxes have been periodically rationalized, the State taxes varied widely and at ad-valorem rates which placed a higher burden on consumers with increasing product prices. Rationalization of State taxes along with a transition to an integrated tax regime with tax payable on value added at each stage of operation is yet to be achieved.

Amount of under recovery on petroleum products nearly doubled from ₹77,123 crore in 2007-08 to ₹1,38,541 crore in 2011-12 even after de-

regulation of MS in June 2010. GoI has taken some steps to address the issue. A system of dual pricing of HSD, with bulk customers paying full market price, has been implemented effective January 2013. This has, however, led to a reduction in sale to bulk customers. Subsidized LPG cylinders have been limited to nine (since increased to 12 in February 2014) and transfer of direct benefit to the consumers using 'Aadhar' platform is being implemented on a pilot mode in selected districts. The impact of these recent initiatives would take time to be clearly established.

B. Recommendations

1. Continuance of protection in the pricing mechanism of major petroleum products was intended to improve efficiencies and encourage appropriate investments in technology up-gradation in PSU refineries which has not been fully achieved. Though MoPNG has advocated continued support to these refineries through the pricing methodology, there is a strong case for review of this mechanism in view of the limited progress in improvement of the efficiencies of refineries (as evident from Audit test check) and consider an alternate transparent, target oriented mechanism in the case of poorly performing refineries.

2. GoI may in the meantime, put in place a formal and transparent burden sharing mechanism among all stakeholders (up-stream companies, OMCs and GoI) instead of the present *adhoc* system of compensation of under-recoveries so that the compensation is received in time and OMCs do not face crunch of working capital.

3. GoI may ensure that the pricing mechanism does not unduly benefit private/stand alone refineries through the existing practice of compensation for domestic supplies to OMCs at rates higher than their export realization.

4. GoI may revisit 'LPG (Domestic) and SKO (PDS Kerosene) subsidy scheme 2002' to reflect more accurately the under-recovery/subsidy requirements for LPG and SKO and ensure that such amounts are budgeted for in the respective years.

5. GoI may pursue achievement of rationalization of State taxes on major petroleum products and transition to an integrated tax regime with tax payable on value added at each stage of operation in a time bound manner.

New Delhi
Dated : 29 May 2014

(USHA SANKAR)
Deputy Comptroller and Auditor General
and Chairperson, Audit Board

Countersigned

New Delhi
Dated : 30 May 2014

(SHASHI KANT SHARMA)
Comptroller and Auditor General of India

ANNEXURES

Annexure 1

(Referred to in Para 1.1.1)

CONSUMPTION OF PETROLEUM PRODUCTS

('000 Metric Tonne)

PRODUCT	2007-08	2008-09	2009-10	2010-11	2011-12
LPG	12010	12191	13135	14331	15350
SKO	9365	9303	9304	8928	8229
HSD	47669	51710	56242	60071	64750
Sub total	**69043**	**73204**	**78682**	**83330**	**88328**
MS	10332	11258	12818	14194	14992
Naptha + NGL	13294	13911	10134	10676	11222
ATF	4543	4423	4627	5078	5536
LDO	667	552	457	455	415
Lubricants & Greases	2290	2000	2539	2429	2633
FO & LSHS	12717	12588	11629	10789	9307
Bitumen	4506	4747	4934	4536	4638
Sub total	48349	49479	47139	48158	48742
Petroleum coke	5950	6166	6586	4982	6138
Others	5604	4750	5400	4569	4924
Sub total	11554	10916	11987	9552	11062
TOTAL	**128946**	**133599**	**137808**	**141040**	**148132**

Source: PPAC

Annexure II

(Referred to in Para 1.1.1 & 3.1.1)

Production of Major Petroleum Products

Major Products	2007-08	2008-09	2009-10	2010-11	2011-12
					('000 Metric Tonne)
LPG	8868	9335	10345	9624	9554
Naphtha	17983	16797	18782	19309	18707
MS	14174	16367	22554	25802	27207
ATF	8915	8356	9304	9817	10061
SKO	8027	8461	8833	7898	8019
HSD	58482	64139	73249	77684	82929
LDO	713	609	472	597	502
Lubes	855	870	950	941	1027
FO	12642	14714	15257	18672	17722
LSHS	3315	3046	2627	1985	1711
Bitumen	4450	4620	4873	4446	4599
Others	11455	10124	17755	19010	21955
Total	149879	157436	185000	195786	203994

Source: PPAC

Annexure III

(Referred to in Para 1.1.1 & 3.1.1)

Import/Exports of Crude and Petroleum Products

(in '000 MTs)

	2007-08	2008-09	2009-10	2010-11	2011-12
					IMPORTS
CRUDE	**1,21,672**	**1,32,775**	**1,59,259**	**1,63,595**	**1,71,729**
PRODUCT					
LPG	2,833	2,423	2,718	4,502	5084
NAPHTHA	5,983	5,023	1,734	2,074	1974
PETROL	328	397	385	1,702	654
KEROSENE	2,489	1,448	985	1,381	564
DIESEL	2,951	2,742	2,531	2,073	1051
LUBES	1,253	986	1,419	1,214	1546
FUEL OIL	3,659	2,760	896	925	1128
BITUMEN	35	105	69	69	67
OTHERS	2,931	2,702	3,928	2,875	2928
TOTAL PRODUCT IMPORT	**22,462**	**18,586**	**14,665**	**16,815**	**14,997**
TOTAL IMPORTS	**1,44,134**	**1,51,361**	**1,73,924**	**1,80,410**	**1,86,726**
EXPORTS					
LPG	99	109	131	154	174
NAPHTHA	9,297	7601	9911	10655	10139
PETROL	4,258	5440	9771	13578	14524
AVIATION TURBINE FUEL	4,486	3701	4588	4478	4561
KEROSENE	137	77	46	33	34
DIESEL	14,308	14720	18451	20335	20407
LDO	0	0.4	41	98.0	84
LUBES	311	139	28	29	27
FUEL OIL	4,718	6207	5155	6734	7895
BITUMEN	43	45	31	56	5
OTHERS	3,122	905	2870	2927	2988
TOTAL EXPORT	**40,779**	**38,944**	**51,023**	**59,077**	**60,837**
NET IMPORT	**1,03,355**	**1,12,417**	**1,22,901**	**1,21,333**	**1,25,889**
Net Product Export	**18,317**	**20,358**	**36,358**	**42,262**	**45,840**

Annexure IV

(Referred to in Para 3.1.9)

Impact of sale of HFHSD at regulated price

IOCL	2007-08	2008-09	2009-10	2010-11	2011-12
Total Sale of HFHSD to Private Parties (KL)	2,21,178	3,23,405	2,60,548	2,46,938	2,22,637
Average under recovery Rs per KL for HSD	6,301	8,574	1,395	4,888	10,390
Loss to exchequer (₹ in crore)	139	277	37	121	231
(A)					**805**
BPCL					
Total Sale of HFHSD to Private Parties (KL)	1,54,411	1,25,741	95,049	1,47,962	1,65,457
Average under recovery Rs per KL for HSD	6,304	8,460	1,406	4,914	10,393
Loss to exchequer (₹ in crore)	97	107	13	73	172
(B)					**462**
HPCL					
Total Sale of HFHSD to Private Parties (KL)	27,087	40,159	97,665	36,012	25,835
Average under recovery ₹ per KL for HSD	6,339	8,276	1421	4946	10,399
Loss to exchequer (₹ in crore)	17	33	14	18	27
(C)					**109**
(A) + (B) + (C) ₹ in crore					**1,376**

Annexure V

(Referred to in Para 3.2.2 (A))

Changes in customs duty rates since 1 April 2002

Date	Crude	MS	HSD	PDS Kerosene	Domestic LPG
					(in *per cent*)
01/4/2002	10	20	20	10	10
19/08/2004	10	15	15	5	5
01/03/2005	5	10	10	nil	Nil
14/06/2006	5	7.5	7.5	nil	Nil
05/06/2008	nil	2.5	2.5	nil	Nil
27/02/2010	5	7.5	7.5	nil	Nil
25/06/2011	nil	2.5	2.5	nil	Nil

Annexure VI

(Referred to in Para 3.2.2 A)

Changes in Excise duty rates since 1 April 2002

Date (with effect from)	Crude	Petrol			Diesel			PDS Kerosene	Dom. LPG
	Cess (₹/MT)	Advalorem %	Specific (₹/ltr.)	Total (₹/Ltr) at Delhi	Advalorem%	Specific (₹/ltr.)	Total (₹/Ltr) at Delhi		
14/4/2002	1800	32.00	7.00	10.53	16.00	1.00	2.85	16.00	16.00
4/6/2002	1800	30.00	7.00	10.82	14.00	1.00	2.80	16.00	16.00
1/3/2003	1800	30.00	7.00	11.81	14.00	1.50	3.59	16.00	16.00
16/6/2004	1800	26.00	7.50	11.97	11.00	1.50	3.32	16.00	8.00
19/8/2004	1800	23.00	7.50	11.90	8.00	1.50	3.01	12.00	8.00
1/3/2005	1800	8.00	13.00	14.59	8.00	3.25	4.80	NIL	NIL
1/3/2006	2500	8.00	13.00	14.59	8.00	3.25	4.80	NIL	NIL
1/3/2007	2500	6.00	13.00	14.66	6.00	3.25	4.69	NIL	NIL
1/3/2008	2500	Nil	14.35	14.78	Nil	4.60	4.74	NIL	NIL
5/6/2008	2500	Nil	14.35	13.75	Nil	3.60	3.71	NIL	NIL
27/2/10	2500	Nil	13.35	14.78	Nil	4.60	4.74	NIL	NIL
25/6/11	2500	Nil	14.35	14.78	Nil	2.00	2.06	NIL	NIL
14/3/12	4500	Nil	14.35	14.78	Nil	2.00	2.06	NIL	NIL
14/9/12	4500	Nil	9.20	9.48	Nil	3.46	3.56	Nil	Nil

NOTE:-With effect from 1March 2003, NCCD at the rate of ₹50/per MT imposed on crude oil.

Source: Notes for Supplementaries of PPAC of January 2013

Annexure VII

(Referred to in para 3.2.2. B (i))

Statement of Actual rates of Sales tax/VAT levied by various States/UTs as on 01.12.2012

	State	Petrol	Diesel	PDS Kerosene	Domestic LPG
1.	Andhra Pradesh	31%	22.25%	5%	5%
2.	Arunachal Pradesh	20%	12.50%	4%	4%
3.	Assam	27.50%	16.50%	5%	4% Vat-₹14/Cyl(Vat Rebate)
4.	Bihar	24.50%	16%	5%	1%
5.	Chhattisgarh	25%	25%	4%	NIL
6.	NCT of Delhi	20% - rebate of 0.26/Ltr. effective 29.06.2012	₹ 250/KL (Air Ambience Charges) + 12.5% VAT	5%	NIL
7.	Gujarat	23% VAT+2% Cess on Town Rate+ VAT	21%VAT + 3% Cess +VAT	NIL	NIL
8.	Goa	0.10%	20%	5%	NIL
9.	Himachal Pradesh	25%	9.60%	NIL	4%
10.	Haryana	20% VAT +5% Additional Tax on VAT	8.8% + VAT +5% Additional Tax on VAT	NIL	NIL
11.	Jharkhand	20%	18%	5%	5%
12.	Jammu & Kashmir	20% MST + ₹ 3000/KL (Employment Cess)	12% MST + ₹ 1000/KL (Employment Cess)	5%	0%
13.	Kerala	25.68 Sale Tax + 1% Social Security Cess on ST	19.8% Sale Tax + 1% Social Security Cess on Sale Tax	4% VAT+1% Social Security Cess on VAT	5%
14.	Karnataka	5% Entry Tax + 25% ST	5% Entry Tax+ 16.75% ST	5%	1%
15.	Madhya Pradesh	1% Entry Tax+ 27% VAT	1% Entry Tax + 23% VAT	5%	6.47% Entry Tax +5% VAT
16.	Maharashtra	25% VAT + ₹ 1/Ltr. (Additional Surcharge)	21%	3%	3%
17.	Manipur	20%	13.50%	0%	4%
18.	Meghalaya	20%+ 2% Surcharge-Rebate of ₹ 1.13/Ltr.	12.5% +2% Surcharge-₹ 0.50/Ltr. Rebate	0%	0%
19.	Mizoram	20%	12%	NIL	4%
20.	Nagaland	20% + 5% Surcharge	12% + 5% Surcharge	5% +5% SC	4% +5% SC
21.	Odisha	1% Entry Tax +18% VAT	1% Entry Tax + 18% VAT	1% Entry Tax	1% Entry Tax
22.	Punjab	₹ 1000/KL(Cess) +28% VAT+ 10% Additional Tax on VAT	8.75% VAT + 10% Additional Tax on VAT	5% VAT + 10% Additional on VAT	4% VAT+ 10% Additional on VAT
23.	Rajasthan	26% VAT +₹500/KL (Cess)	18% VAT + ₹ 500/KL (Cess)-0.54/Ltr. (Rebate)	NIL	NIL(Subsidy of ₹25/Cyl)
24.	Sikkim	15% +Cess ₹ 3000/KL	7.5% +Cess ₹ 2000/KL	0%	4%
25.	Tamilnadu	27%	21.43%	5%	NIL
26.	Tripura	20%	13.50%	0%	1.5%
27.	West Bengal	25% Sale Tax + 1000/KL (Cess)	17% Sale Tax + ₹ 1000/KL(Cess)-₹ 290/KL(Sale Tax Rebate)	NIL	NIL
28.	Uttar Pradesh	26.55%	17.23%	4% VAT +1% Adl. Tax	NIL
29.	Uttarakhand	25% VAT octroi ₹ 10/Ltr	21% VAT- ₹ 1.23/Ltr(VAT Rebate) + octroi ₹ 10/Ltr	NIL	NIL
30.	Andaman & Nicobar Islands	NIL	NIL	NIL	NIL
31.	Chandigarh	₹ 10/KL(Cess) + 20%VAT	₹ 10/KL(Cess) + 12.5% VAT	5%	NIL
32.	Dadra & Nagar Haveli	20%	15%	4%	4%
33.	Daman & Div	20%	15%	4%	4%
34.	Lakshadweep	NIL	NIL	NIL	NIL
35.	Puduchery	15%	14%	NIL	1%