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# ONGC ENERGY OF INDIA



Director's Report

Annexures to Director's Report

Comments of C&AG



## Directors' Report

### Dear Shareholders,

It gives me great pleasure to present, on behalf of the Board of Directors of your Company, the 21st Annual Report on the business and operations of Oil And Natural Gas Corporation Ltd. (ONGC) and its Audited Statements of Accounts for the year ended March 31, 2014, together with the Auditors' Report and Comments on the Accounts by the Comptroller and Auditor General (CAG) of India.

Your company along with its group companies has witnessed yet another year of sustained performance, success and growth not only in its core activities of Exploration and Production (E&P) of crude oil and natural gas but also in other areas where we have engaged ourselves significantly.

Your company registered an increase of 5.6% in its PAT despite allowing highest ever discount towards under-

recoveries of Oil marketing company (OMCs) at ₹ 563,843 million.

The domestic production by ONGC including its share in JV-PSC during FY'14 was 50.86 MMTon which is about 1% lower than FY'13 production (51.47 MMTon). Your company has been making all efforts to arrest the decline in the production from its matured fields through various measures like IOR and EOR. The company has made commendable performance in the core area of exploration by registering Reserve Replacement Ratio of 1.87. All efforts are being made to bring various marginal fields to production to ensure sustained production performance.

A brief recap of the main achievements during this fiscal are:

- ONGC Deepwater drilling group set a world record of drilling deepest ultra-deepwater well by successfully

reaching the target depth of 7725 m. The well KG-DWN-2005/1-D-1 drilled by the Rig DDKG1 has set two records – firstly, the world record of well at the deepest water depth of 3174m and secondly, drilling the deepest offshore well of 7725m.

- The fiscal saw your company completing and successfully putting on production its first deep water sub-sea well G1-11 in Eastern Offshore through an Early Production System (EPS). This has been accomplished by your company ensuring that the production volume from the well got realized within shortest possible time after its completion by connecting it with existing facilities of Odalarevu GCS near Kakinada temporarily through 2x10" subsea pipelines.
- For the first time, your company has adopted easy cost planning for workover operation on Pan-India basis in SAP system throughout ONGC.
- Your Company accreted 84.99 MMTon of ultimate reserves in the domestic fields (ONGC operated); the highest in the last twenty three years.
- For the 9th consecutive year your company maintained the Reserve Replacement Ratio (RRR) of more than 1. RRR during the year has been 1.87.
- The Turnover of the Company stood at ₹ 842,028 million, the highest-ever. The turnover of the ONGC Group at ₹ 1,782,051 million has also been the highest-ever.
- Your Company recorded a Net Profit of ₹ 220,948 million during the year under review, 5.6% higher than 2012-13 (₹ 209,257 million).
- ONGC Videsh Limited (ONGC Videsh), wholly owned subsidiary of your Company, which had in the recent past shown downward production volume realization owing to extraneous geo-political situations in Sudan & Syria, has recorded a 26% increase in crude oil production this fiscal mainly on account of resumption of production from Sudan and also new production stream from ACG, Azerbaijan and acquisition of additional 12% PI in Block BC-10 in Brazil.
- ONGC Videsh recorded highest-ever Net Profit of ₹44,453 million.
- Your company's subsidiary Mangalore Refinery and

Petrochemicals Limited (MRPL), has been upgraded to Schedule-A Category-1 Mini-Ratna Company by the Department of Public Enterprises (DPE), Government of India (GOI), thereby giving MRPL enhanced administrative and financial autonomy.

- MRPL recorded the highest-ever thru'put of 14.6 MMT against an MoU target of 14.5 MMT, thus securing 'Excellent' rating in achievement of its MOU targets.
- MRPL has posted a net profit of ₹6010 million, an increase of 179% from last fiscal's loss of ₹ 7569 millions.
- Pursuant to the decision of the Government of India to divest 10% of the equity share capital of Indian Oil Corporation Ltd, ONGC acquired 5% equity shares of Indian Oil Corporation Limited amounting to 121,397,624 equity shares of ₹ 10 each @ ₹ 220/- per share. The consideration amount of ₹ 26,707 million has been paid to the Government of India. Necessary disclosures in this regard have been submitted to Stock Exchanges.

During 2013-14, your company had to share the highest-ever contribution of ₹ 563,843 million (an increase of ₹ 69,636 million i.e 14% over the previous year) towards the under-recoveries of OMCs. This has impacted your Company's Profit Before Tax by ₹ 477,561 million and Profit after Tax by ₹ 315,238 million. However, your Company has been able to achieve Net Profit of ₹ 220,948 million during 2013-14, which is 5.6% higher than the profit of 2012-13.

### Global Recognition

You will be pleased to know that your Company has been ranked at **176<sup>th</sup> in the 2014 Forbes Global 2000** list of world's biggest companies. As per the Platts 2013 rankings, your Company is ranked **3<sup>rd</sup> largest listed E&P Company in the world** and ranked 22nd Energy Company of the world based on Asset, Revenue, Profit & ROCE. Your company has been adjudged one of the **Fortune World's most Admired Companies of 2014 as per CNN Money**. There are only two companies from India in the list and your company is the only PSU in that coveted list. CNN Money has further ranked your company **369<sup>th</sup> in its Fortune Global 500 (2013)** list by Revenue among global 500 companies. Adding to our global credentials is the fact that this year also your company has been awarded 'Randstad Award 2013' for



Most Attractive employer in the Energy Sector in India.

As a fitting acknowledgment of your Company's green credentials, you will be pleased to learn that ONGC has registered one of the **largest Clean Development Mechanism (CDM) projects** in the world when it got "the ONGC Tripura Power Company Limited (OTPC)" registered with the United Nations Framework Convention on Climate Change (UNFCCC). This 726.6 MW gas-based power generation plant in Tripura is a fuel-substitution project, which would mitigate over 1.6 million tons of Carbon-dioxide emissions per year for the next 10 years. In addition, your company has registered its 11<sup>th</sup> CDM project - the Green Building Project at Kolkata, with the UNFCCC. The project, like its two predecessors (Green Building Projects at Mumbai and Dehradun), has been registered for 21 years and once commissioned, will fetch 1861 credits per annum.

**Performance: 2013-14**

**Exploration**

During the year, your Company made 14 oil and gas discoveries in domestic fields (operated by ONGC). Out of 14, 7 discoveries are in offshore and 7 in onshore; 6 discoveries were made in the new prospects whereas 8 were new pool discoveries. 5 discoveries were made in NELP blocks and 9 in nomination blocks. Out of the discoveries made this year, 2 are oil bearing, 9 are gas bearing and 3 are both oil & gas bearing.

In addition to these discoveries, 32 more exploratory wells drilled for delineation/appraisal of known pays in existing fields were hydrocarbon bearing and have resulted in field growth.

**14 new oil & gas discoveries**

- 7 Onshore and 7 Offshore
- 2 oil bearing + 3 oil & gas bearing + 9 gas bearing.
- 6 discoveries in the new prospects + 8 new pool discoveries.
- 5 discoveries in NELP blocks + 9 in nomination PML block

Out of 7 on-land discoveries made during 2013-14, 4 discoveries (Gandhar-686, Sobhasan-300, Nandasan-111 & Geddanapalli-3) have already been put on production and efforts are on for bringing the other discoveries on production as early as possible.

Five discoveries in NELP blocks (one onland and four offshore) are governed by the PSC guidelines and appraisal/development activities will be taken up keeping in view the time lines of the respective blocks. Details of the discoveries are as under:

Sl. No	Name of the well	Hydro-carbon Type	Basin	Block Type & Block Name	Pool/ Prospect
<b>New Prospects Discovery</b>					
1	KGOSN041NANL #1	Gas	KG (Shallow Water)	NELP ; KG-OSN-2004/1	Prospect
2	KGOSN041NANL#2	Gas	KG (Shallow Water)	NELP ; KG-OSN-2004/1	Prospect
3	Seripalem-1(SRM-AA)	Gas	KG Onshore	Nomination; Godavari On-land PML	Prospect
4	MBOS51NAA#1	Gas	Western Offshore	NELP; NB-OSN-2005/1	Prospect
5	Mandapeta South # 1 (MDS-AA)	Gas	KG Onshore	Nomination; Godavari on-land PML	Prospect
6	NW-B173A-8	Oil & gas	Western Offshore	Nomination; South & East Bassein PML	Prospect
<b>New Pool Discovery</b>					
7	GK-28 # 9	Gas	Kutch (Shallow Water);	Western Offshore GK-28 PML	Pool

8	GK-42 # 3	Gas	Kutch (Shallow Water);	Western Offshore Nomination; Pool GK-28 PML	
9	Gandhar # 686	Oil & Gas	Western Onshore	Nomination; Gandhar Extension VI PML	Pool
10	SB#300 (SBCG)	Gas	Western Onshore	Nomination; Geratpur PML	Pool
11	Gedanapalli#3 (GLAC)	Oil	KG Onshore	Nomination; Godavari onland PML	Pool
12	KG982NA-M#3	Oil & Gas	KG Deep Offshore	NELP; NDA of KG-DWN-98/2	Pool
13	Khupal#7 (KHBJ)	Gas	A&AA	NELP; AA-ONN-2001/1	Pool
14	Nandasan-111 (NNBC)	Oil	Western Onshore	Nomination; Nandasan Extn-I PML	Pool

The new prospect discovery in NELP Block KGOSN041NANL #1 (Shallow Water) is important because this will help in augmenting hydrocarbon volumes established through four earlier discoveries namely Chandrika South, Alankari, Saveri & NANL-2 in the block. This will add to ONGC's efforts towards attaining critical hydrocarbon volumes for viability of a possible 'cluster based development' of these discoveries. Similarly, discovery MBOS51NAA#1 in NELP block NB-OSN-2005/1 is in close vicinity of C-37/ C-39, B-9 areas that will enhance the overall gas potential of the area. Mandapeta South # 1 (MDS-AA) discovery south of main Mandapeta field has indicated for the first time possible production potential of tight reservoirs found in the area through hydro-fracturing. The discovery NW-B173A-8 in South & East Bassein PML area in Mukta formation has huge upsides to the production potential of producing field B-173A.

New pool discoveries GK-28 # 9 and GK-42 # 3 in GK-28 PML block in Kutch Shallow Water has a good potential to add value to GK-28/GK-42 areas which ONGC plans to put on production. Besides, this discovery has potential to add a new basin to the list of producing basins in the country. Similarly, the new oil & gas pool discovery Gandhar # 686 in Gandhar Extension VI PML area has shown first occurrence of oil in sand GS-11 in the South Western part of Gandhar field which will help in opening the sector for further growth of this field.

The discovery SB#300 (SBCG) in Kalol formation South East of main Sobhasan field, in a separate fault block on the plunge of Sobhasan structure is the first gas discovery in KS-IV Sub pay and hence it will lead to adding a new gas play to the area. The discovery of Khupal#7 (KHBJ) in a separate fault block in NELP block AA-ONN-2001/1 in Assam & Arakan basin is likely to add volumes to the already

established in-place gas in the block and thereby help our fertiliser business that is planned through gas from Khupal area.

The dominance of oil in Northern Discovery Area (NDA) which has been established through the earlier notified KG98/2NA-A#2 discovery is further confirmed by the new pool discovery KG98/2NA-M#3 this year which has potential to take the in-place oil volumes to more than 100 MMt. Current estimated Oil & Gas (O+OEG) volumes in NDA stand at 190 MMToe as on 01-04-2013 and are likely to grow to the order of 290 MMToe with the addition from this M#3 discovery.

**Reserve accretion & Reserve Replacement Ratio (RRR)**

Continuing exploration in challenging and frontier areas, your company has accreted 255.56 million metric tonnes of oil equivalent (MMToe) of In-place volume of hydrocarbon in the domestic basins (operated by ONGC). As on 31.03.2014, the in-place Reserves of ONGC as a group stands at 2,004.15 MMToe; up 14% from FY'13 figure of 1,759.43 MMToe. The ultimate reserves accretion by ONGC in domestic area during FY'14 has been 84.99 MMToe, the highest in last 23 years. Total reserve accretion in domestic basins including ONGC's share in PSC JVs stands at 89.76 MMToe. With a Reserve Replacement Ratio (RRR) of 1.87 (with 3P Reserves) for its domestic basins, it was the 9th consecutive year that your Company has maintained an RRR of more than one.

Voluntary disclosures in respect of Oil & Gas Reserves, conforming to SPE classification 1994 and US Financial Accounting Standards Board (FASB-69) have been made by your Company.

Following is the reserve accretion details which your company has been pursuing with great vigour & conviction:

Year	Ultimate Reserve (3P) accretion O+OEG				(in MMTon)
	Domestic Assets (1)	ONGC's share in Domestic Jvs (2)	Total Domestic Reserve (3)=(1)+(2)	ONGC VIDESH's Share in Foreign Assets (4)	Total (5)=(3)+(4)
2008-09	68.90	2.82	71.72	135.08	206.80
2009-10	82.98	4.39	87.37	0.35	87.72
2010-11	83.56	0.29	83.85	46.23	130.08
2011-12	84.13	1.31	85.44	- 0.31	85.13
2012-13	84.84	4.24	89.08	14.16	103.24
<b>2013-14</b>	<b>84.99</b>	<b>4.77</b>	<b>89.76</b>	<b>212.59</b>	<b>302.35</b>

#### Statement of Reserve Recognition Accounting (RRA)

Reserve Recognition Accounting is a statutory compliance towards recognizing income at the point of discovery of reserves and seeks to demonstrate the intrinsic strength of an organization engaged in exploration and production of hydrocarbons with reference to its future earning capacity in terms of current prices for income as well as expenditure. This information is based on the estimated net proved reserves (developed and undeveloped) as determined by the Reserves Estimates Committee of the Company.

As per FASB-69 on disclosure about Oil and Gas producing activities, publicly traded enterprises that have significant Oil and Gas producing activities, are to disclose with complete set of annual financial statements, the following supplemental information:

- Proved Oil and Gas reserve quantities
- Capitalized costs relating to Oil and Gas producing activities
- Cost incurred for property acquisition, exploration and development activities
- Results of operations for Oil and Gas producing activities
- A standardized measure of discounted future net cash flows relating to proved Oil and Gas reserve quantities

Your Company has disclosed information in respect of (a) to (d) above in the Annual Financial Statements.

Your Company has also made voluntary disclosure on standardized measure of discounted future net cash flows relating to proved oil and gas reserve at **Annexure-A'** to this report as statement of Reserve Recognition Accounting (RRA).

#### Unconventional sources of energy

ONGC plans to continue its endeavour for exploration and

development of Unconventional & other resources like Shale Gas, CBM, HP/HT, Fractured Basement plays with the following initiatives:

#### a. Shale Gas and Oil

ONGC has the distinction of establishing the first flow of shale gas in the country at Durgapur. Shale gas exploration and production is one of the key elements of ONGC's Perspective Plan 2030 wherein an accretion potential of 850 to 1150 MMTon and production potential of 80 to 140 MMTon have been envisaged by the year 2030. ONGC is planning to explore for shale gas in Cambay, Krishna-Godavari, Cauvery and Assam Shelf and basins.

Government of India notified the New Shale Gas Policy for the NOCs on 14.10.2013 and according to it, ONGC and OIL will initiate shale gas and oil exploration activities in their nomination blocks in a phased manner. ONGC has identified 50 nomination blocks, of which 28 blocks are in Cambay basin, 10 in KG basin, 9 in Cauvery basin and 3 in Assam Shelf.

Following the notification of the policy, ONGC has already drilled its first pilot Shale gas well JMSGG(DD-3305 m) in the Cambay basin. Extensive coring (139 m) was carried out in this well and studies on cores and analysis of wire line logs are in progress which will help in assessing the shale gas and oil potential of Cambay Shale, main source rock in the basin. Identification of prospective shale gas blocks in different basins has been completed and ONGC plans to take up shale gas activities aggressively in these basins. Around 20 similar pilot wells are planned to be drilled in Cambay, KG, Cauvery and A&AA basins in 2014-15. Success in these envisaged Shale Gas pilot programme will help in unlocking unconventional shale gas and oil reserves in different basins.

#### b. Coal Bed Methane(CBM)

ONGC has taken concrete steps to discover Coal Bed Methane (CBM) in the country and is currently operating in four CBM Blocks i.e., Jharia, Bokaro, North Karanpura and Raniganj. The Development Plans for all the four blocks has been submitted and approved by the Steering Committees. Nearly 400 wells and 2000 hydro-fracturing jobs would be carried out in the coming 4-5 years as per timelines of the CBM Contract. In view of the mammoth and time bound task, ONGC has decided to farm-in experienced partners to execute field operations, process for acquisition of which is in an advanced stage.

ONGC has started selling incidentally produced CBM gas from existing wells at Parbatpur of Jharia Block at an approved price of \$5.1 per MMBTU i.e. ₹ 9.75 per SCM approx. The cumulative gas sale as on 31st March 2014 is 11.41 MSCM. The Commercial CBM production in ONGC blocks is yet to start.

#### c. Underground Coal Gasification(UCG)

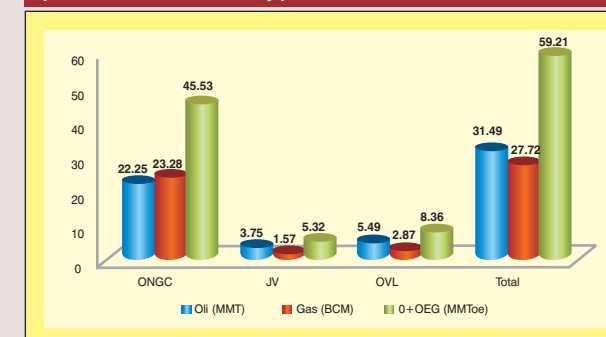
ONGC has selected Vastan Mine block in Surat district, Gujarat for UCG Pilot project. All the ground work and inputs for pilot construction have been finalized for implementation. Gazette notification from Gol for UCG block allocation in the form of Notice Inviting Application (NIA) had been issued on 29th July, 2013. According to the NIA the block shall be allocated to state PSU located in Gujarat. GIPCL, Gujarat being partner in ONGC's UCG venture, submitted a fresh application on 21st August, 2013. **The issue of Mining Lease for the block is awaited. The Pilot construction and erection of surface facilities shall be taken up only after the allocation of the Vastan Mine block.**

Further, a number of sites have been jointly identified by ONGC & Neyveli Lignite Corporation Limited (NLC) for studying their suitability to UCG. These are Tadkeshwar in Gujarat and Hodu-Sindhari & East Kurla in Rajasthan. One more site was jointly identified by ONGC & GMDC at Surkha in Bhavnagar district, Gujarat. The data of all the fields have been analysed for evaluating the suitability of these sites for UCG. All sites have been found suitable for UCG exploration.

#### Oil & Gas production

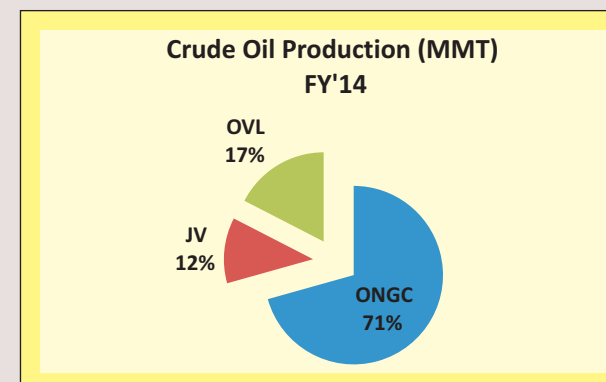
During FY '14, like earlier years, your company being the largest producer of oil and gas in the country, was able to maintain its relevance by contributing 69 per cent of oil and 62 per cent of natural gas production of the country from its domestic operations.

#### Crude Oil & Gas Production FY'14 (Standalone + Group)



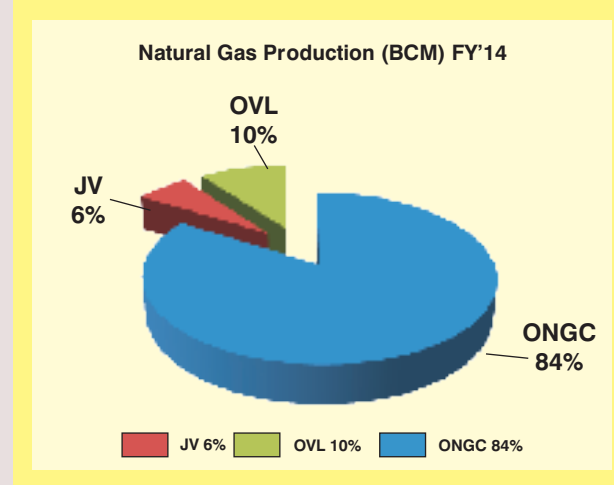
(\* Crude Oil figure Including Gas Condensate)

Oil & Gas production of ONGC Group, including PSC-JVs and from overseas Assets for FY'14 has been 59.21 MMTon (against 58.71 MMTon during FY'13). The upward volume came from our overseas asset at Azerbaijan and also from resumption of production in Sudan & South Sudan where production was suspended owing to geopolitical situations. However, when compared to 2011-12, the production is slightly lower owing to unrest in Syria and still inadequate production from Sudan & South Sudan and the natural decline in overseas matured fields in Sakhalin-1, Russia, San Cristobal Project, Venezuela and BC-10, Brazil, besides the natural production decline in domestic mature fields. The fall in production was offset through IOR & EOR efforts.



Out of the total production of 31.49 MMT of crude oil, 70.6 per cent production came from ONGC operated domestic fields, 17.4 per cent from the overseas assets and balance 12 per cent from domestic joint ventures. As far as natural gas production is concerned, majority of production (84 per cent) came from ONGC operated domestic fields, 10.4 per cent from overseas assets and 5.6 per cent from domestic joint ventures.





#### Production from overseas assets

ONGC Videsh, has thirteen (13) producing assets in eight countries – Venezuela (1), Brazil (1), Colombia (1), Sudan (1), South Sudan (2), Syria (1), Vietnam (1), , Myanmar (2), Russia (2) and Azerbaijan (1).

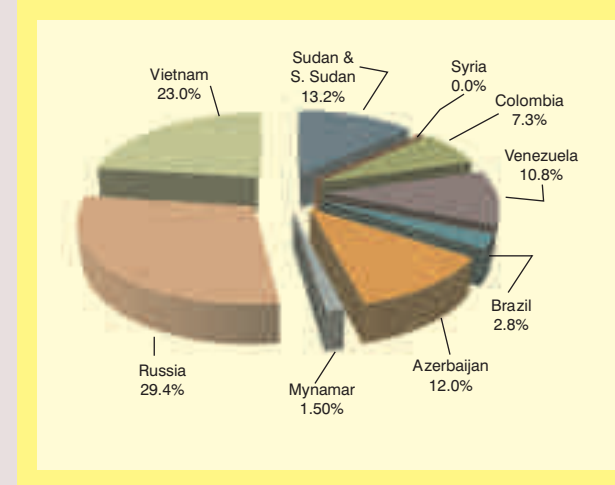
**Total production from these overseas assets during FY'14 has been 8.36 MMToe of O+OEG (Crude oil: 5.49 MMT & Gas: 2.87BCM).**

Azerbaijan has contributed 12% as compared to around 0.1% last year. Resumption of operations in South Sudan & Sudan has also contributed to this year's increased volume contributing 13.2% this year as compared to 8.2% last year. Russia & Vietnam continued to be the biggest contributor to overseas production volume with 29.4% and 23% respectively followed by Venezuela with 10.8%.

#### NEW PROJECTS

The following new projects are under implementation:

- **Integrated Development of Vasihita and S1 Fields -**



The project envisages gas production of 15.96 BCM within 9 years from completion with an investment of ₹41243 million.

- **Development Plan for lower pays in NBP- 14 Block of NBP field** – This project envisages an investment of ₹4291 million for drilling and completion of 6 development wells.
- **Additional development of Vasai East field** The Capex of this project is ₹24770 million and envisages installation of 2 well platforms (VSEB & VSEC) and drilling of 20 wells with cumulative incremental oil & gas production of 1.83 MMt and 1.971 BCM by 2029-2030.
- **Mudline completion** – Development of three shallow water wells GS-15-9, GS-15-E1 & GS-48-1 through Sub-Sea mud-line tree in Eastern Offshore. The project envisages gas production of 1.1 MMSCMD, gradually reducing to 0.36 MMSCMD in 10 years with an investment of ₹2848 million.



#### Overall Production and Sales Performance

Presented below are the highlights of production and sales of Crude Oil, Natural Gas and Value Added Products (VAP):

	Unit	Production Qty		Sales Qty		Value (₹ in millions)	
		FY'14	FY'13	FY'14	FY'13	FY'14	FY'13
<b>Direct</b>							
Crude Oil	(MMT)	25.99	26.13	23.61	23.69	525,734	533,268
Natural Gas	(BCM)	24.85	25.34	19.63	20.16	183,291	165,400
Ethane/Propane	000 MT	430	428	428	425	14,837	13,440
LPG	000 MT	1,067	1,006	1,073	1,005	30,145	31,484
Naphtha	000 MT	1,358	1,534	1,379	1,520	75,743	76,804
SKO	000 MT	84	108	85	106	2,779	3,686
Others						2,124	1,589
<b>Sub Total</b>						<b>834,653</b>	<b>825,671</b>
<b>Trading</b>							
Motor Spirit	000 KL			0.54	0.56	41	42
HSD	000 KL			0.05	0.02	3	1
Others							
<b>Sub Total</b>						<b>44</b>	<b>43</b>
<b>Total</b>						<b>834,697</b>	<b>825,714</b>

#### 1. Financial Results

During the year, your Company has earned a Profit After Tax (PAT) of ₹ 220,948 million up 5.6% over FY 2012-13 (₹209,257 million)

#### Highlights

• Gross Revenue	:	₹ 842,028 million
• Profit After Tax (PAT)	:	₹ 220,948 million
• Contribution to Exchequer	:	₹ 405,750 million
• Return on Capital Employed	:	39.62%
• Debt-Equity Ratio	:	0.00
• Earnings Per Share (₹)	:	<b>25.83</b>
• Book Value Per Share (₹)	:	<b>159</b>

(₹ in million)

Particulars	2013-14	2012-13
Revenue from operations	842,028	833,090
Other Income	67,132	54,367
Total Revenues	909,160	887,457
Profit Before Interest Depreciation & Tax (PBITD)	433,582	389,455
Profit Before Tax (PBT)	324,319	305,443
<b>Profit After Tax (PAT)</b>	<b>220,948</b>	<b>209,257</b>
<b>APPROPRIATION</b>		
Interim Dividend	79,138	76,999
Proposed Final Dividend	2,139	4,278
Tax on Dividend	13,807	13,012
Transfer to General Reserve	125,864	114,968
<b>TOTAL</b>	<b>220,948</b>	<b>209,257</b>

Previous year figures have been regrouped wherever necessary.

Previous year figures have been regrouped wherever necessary.

The increase in Profit during FY 13 -14 as compared to FY 12-13 is mainly due to lower write off towards dry wells and appreciation in US\$ against INR. This is in spite of contribution of record ₹ 563,843 Million by ONGC towards under-recoveries of Oil Marketing companies.

## 2. Dividend

Your Company paid interim dividend of ₹9.25 per share (185 per cent) in two phases (₹5.00 and ₹4.25). The Board of Directors has recommended a final dividend of ₹ 0.25 per share (5 per cent) making the aggregate dividend at ₹ 9.50 per share (190 per cent) for FY 13-14 i.e. same as compared to dividend for the year 2012-13. The total dividend will be ₹81,277 million, besides ₹13,807 million as tax on dividend amounting to 43.03 per cent of PAT.

## 3. Management Discussion and Analysis Report

As per the terms of Clause 49(IV)(F) of the Listing Agreement with the Stock Exchanges, the Management Discussion and Analysis Report (MDAR) has been included and forms part of the Annual Report of the Company.

## 4. Financial Accounting

The Financial Statements have been prepared in accordance with the Generally Accepted Accounting Principles (GAAP) and in compliance with all applicable Accounting Standards (AS-1 to AS-29) and Successful Efforts Method of accounting as per the Revised Guidance Note on Accounting for Oil & Gas Producing Activities issued by The Institute of Chartered Accountants of India (ICAI) effective from

01.04.2013 and provisions of the Companies Act, 1956. Further, as per Ministry of Corporate Affairs (MCA) notification, the financial statements have been prepared under the Revised Schedule VI format of the Companies Act, 1956. It may be noted that the provisions of Companies Act, 2013 with regard to preparation of Annual Accounts shall become applicable from the financial years commencing on or after 1st April, 2014.

## 5. Subsidiaries

### I ONGC Videsh Limited (ONGC Videsh)

ONGC Videsh, the wholly-owned subsidiary of your Company for E&P activities outside India, has participation in 33 projects in 16 countries e.g. Azerbaijan, Bangladesh, Brazil, Colombia, Iraq, Kazakhstan, Libya, Mozambique, Myanmar, Russia, South Sudan, Sudan, Syria, Venezuela and Vietnam. Out of 33 projects, 13 are producing, 4 are discovered/under development, 14 are exploratory and remaining 2 are pipeline projects.

ONGC Videsh is currently producing about 169 thousand barrels of oil and oil equivalent gas per day and has total oil and gas reserves of about 637 MMToe as on 31st March 2014. It has achieved the **highest-ever profit (PAT) of ₹44,453 Million during FY' 14**, an increase of 13% as compared to the PAT of ₹ 39,291 Million during FY'13. The increase in profit can be attributed mainly to increase in production / sale quantity and appreciation of US\$ against the INR.

ONGC Videsh's share in production of oil and oil equivalent gas (O+OEG) of ONGC group, together with its wholly-owned subsidiaries, ONGC Nile Ganga

B.V., ONGC Amazon Alaknanda Limited, Imperial Energy Limited and Carabobo One AB, was **8.357 MMToe during FY'14** as compared to 7.260 MMToe during FY' 13. The oil production increased from 4.343 MMT during FY'13 to 5.486 MMT during FY'14 (26.3% higher) primarily due to new production stream from ACG, Azerbaijan; acquisition of additional 12% PI in Block BC-10, Brazil; higher production from Sudan and South Sudan.

### Significant Acquisitions, Alliances and Operations highlights of ONGC Videsh during FY'14 are as follows:

i) ONGC Videsh with Oil India Limited (OIL) has acquired 10% (ONGC Videsh - 6% and OIL - 4%) PI in the Rovuma Area 1 Offshore Block in Mozambique (Area 1) at purchase consideration of USD 2511 Million on 7th January, 2014 by acquiring the share of Videocon Mozambique Rovuma 1 Limited.

Your Company has also acquired 10% PI in the same area from Anadarko Moçambique Area 1 Limitada at purchase consideration of USD 2640 Million on 28th February, 2014.

Area 1 covers approximately 2.6 million acres in the deep-water Rovuma Basin offshore Mozambique and represents the largest gas discovery in offshore East Africa with estimated recoverable reserves of 50 to 70 trillion cubic feet.

ii) ONGC Videsh, through its subsidiaries, has acquired an additional 12% Participating Interest (PI) in Block BC-10, a deep-water offshore block in Campos Basin, Brazil at purchase consideration of USD 561 million, taking its total PI in the block to 27%. The Company had earlier acquired 15% PI in Block BC-10 in 2006. The transaction for 12% stake in the block was completed in December, 2013.

iii) **ONGC Videsh in partnership with OIL** on 17th February, 2014, has signed Production Sharing Contract (PSC) for **two shallow water exploration blocks SS-09 & SS-04 in the Bay of Bengal of Bangladesh**. ONGC Videsh and Oil India Limited (OIL) formed a consortium (50:50) and participated in the Bangladesh Offshore Bidding Round 2012, launched by Bangladesh Government during December 2012 and was officially notified as the winner of the mentioned blocks on August 20th 2013. ONGC Videsh has 45% PI in each of the Blocks with operatorship, 45% PI is held by Oil India Ltd and remaining 10% PI is held by Bangladesh Petroleum and Exploration Company Limited.

iv) On 10th October 2013, the Company was awarded two onshore exploratory blocks namely B2 (Zebyutaung-Nandaw) and EP-3 (Thegon-Shwegu) in the Myanmar Onshore Bidding Round 2013. Block B-2, having an area of 16995 sq. kms is located in Northern Myanmar, bordering state of Manipur in India and Block EP-3 having an area of

1650 sq. kms is located in Central Myanmar. ONGC Videsh was one of the 7 Indian companies which were shortlisted as Pre-qualified bidders by Government of Myanmar for their Onshore 2nd Bid Round -2013 for 18 blocks.

### v) **During FY'14, ONGC Videsh has signed the following MoUs:**

a) **MoU with Petrovietnam** - On November 20, 2013, in furtherance to earlier MoU signed on October 2011 to promote joint cooperation in hydrocarbon sector in Vietnam, India and other countries was signed. Under the MOU, Petrovietnam has offered 5 blocks to ONGC Videsh. ONGC Videsh would assess these blocks and if these are of interest, it would make a proposal to PetroVietnam.

b) **MOU with Coordinating Ministry for Strategic Sectors of Ecuador** on 9th December 2013 over sharing of information regarding oil and gas projects in Ecuador, which ONGC Videsh would evaluate to identify projects of its interest and could propose participation in such project(s) through specific definitive agreements.

c) **MOU with PDVSA** - On 9th October 2013 for strategic cooperation and participation in the exploration and production of hydrocarbon resources in the oil-rich Faja area of Venezuela and in other areas as well in joint collaboration thereby enhancing ONGC Videsh's interest in Venezuela.

vi) **ONGC Videsh commenced first commercial production of gas from Block A3 and Block A1 in Offshore Myanmar** on 15th July 2013 and 10th January 2014 respectively. The combined production from these blocks is currently 8.7 MMSCMD and is expected to reach a peak level of 14.20 MMSCMD in Q1 of 2015. ONGC Videsh has 17% PI in these blocks.

vii) **ONGC Videsh has commissioned the Onshore Pipeline Gas Transportation project in Myanmar in November 2013**. The Contractual Transportation Date has been notified as 1st December, 2013. The onshore gas pipeline is currently under operation and is transporting gas to both the Export and Domestic buyers.

viii) **In Block BC-10, Brazil, the Phase II of the Project has also come on stream in October 2013** with an expected peak production of about 35,000 barrels of oil equivalent per day (boepd) in 2014. The current oil production from the block has reached 58,000 boepd at JV level. Phase-III of the project has also started with drilling of wells and first - oil is expected by April, 2016 with expected peak production of about 28000 boepd in 2017. The production from all the phases is expected to be about 75,000 boepd in 2017.

ix) After acquisition of 2.72% stake in ACG project in Azerbaijan, **additional oil production has**

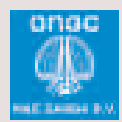


commenced from West Chirag field on 28<sup>th</sup> January, 2014. The current production from the project is 678,000 bopd.

- x) The current geo-political situation in Syria including EU sanctions and the resulting restrictions on contractors continues which has adversely affected Syrian operations since December 2011.
- xi) The operations in South Sudan projects are temporarily under shutdown after internal conflicts and adverse security situation in the country since 22nd December, 2013. However, a Ceasefire Agreement has been signed on 9th May, 2014 by the warring parties and negotiations are being carried out under the mediation of the African Union and Inter-governmental Authority on Development (IGAD). Operations in South Sudan shall resume once security situation improves.


**Direct Subsidiaries and Joint Ventures of ONGC Videsh**

**i. ONGC Nile Ganga B.V. (ONGBV)**

 ONGBV, a subsidiary of ONGC Videsh, is engaged in E&P activities in Sudan, South Sudan, Syria, Venezuela, Brazil and Myanmar. ONGBV holds 25 per cent Participating Interest (PI) in Greater Nile Oil Project (GNOP), Sudan with its share of oil production of about 0.741 MMT during 2013-14. ONGBV also holds 25 per cent PI in Greater Pioneer Operating Company (GPOC), South Sudan. Due to adverse geo-political conditions, ONGC Videsh could produce only 0.218 MMT oil in GPOC, South Sudan during FY'14.

ONGBV holds 16.66 per cent to 18.75 per cent PI in four Production Sharing Contracts in Al Furat Project (AFPC), Syria. Due to geo-political situations in Syria, ONGC Videsh could not produce any oil in AFPC project during FY'14. ONGBV holds 40 per cent PI in San Cristobal Project in Venezuela through its wholly owned subsidiary ONGC Nile Ganga (San Cristobal) BV with its share of oil production of about 0.854 MMT during FY' 14. ONGBV holds 27 per cent PI in BC-10 Project in Brazil through its wholly owned subsidiary ONGC Campos Ltda with its share of oil and gas production of about 0.331MMToe during FY' 14. ONGBV also holds 25% PI in Block BM-SEAL-4 located in deep-water offshore, Brazil through its wholly owned subsidiary ONGC Campos Ltda. ONGBV also holds 8.347 per cent PI in South East Asia Gas Pipeline Co. Ltd., (SEAGP) for Pipeline project, Myanmar through its wholly owned subsidiary ONGC Caspian E&P B.V.

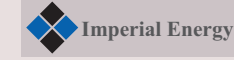
**ii. ONGC Narmada Limited (ONL)**

 ONL has been retained for acquisition of future E&P projects in Nigeria.

**iii. ONGC Amazon Alaknanda Limited (OAAL)**

OAAL, a wholly-owned subsidiary of ONGC Videsh, holds stake in E&P projects in Colombia, through Mansarovar Energy Colombia Limited (MECL), a 50:50 joint venture company with Sinopec of China. During FY' 14, ONGC Videsh's share of oil and gas production in MECL was about 0.604MMToe.

**iv. Imperial Energy Limited (Erstwhile Jarpeno Limited)**

 Imperial Energy Limited (Name changed from Jarpeno Limited with effect from April 19th 2013), a wholly-owned subsidiary of ONGC Videsh incorporated in Cyprus, has its main activities in the Tomsk region of Western Siberia, Russia. During FY' 14, Imperial Energy's oil and gas production was about 0.423MMToe.


**v. Carabobo One AB**

Carabobo One AB, a wholly-owned subsidiary of ONGC Videsh incorporated in Sweden, indirectly holds 11 per cent PI in Carabobo-1 Project, Venezuela. The early production has already started from first well (CGO005) on 27th December 2012 @ 300 bopd. During FY' 14, Carabobo's oil and gas production was about 0.022MMToe.

**vi. ONGC (BTC) Limited :**

ONGC (BTC) Limited holding 2.36 per cent interest in the Baku-Tbilisi-Ceyhan Pipeline ("BTC") owns and operates 1,768 km oil pipeline running through Azerbaijan, Georgia and Turkey. The pipeline mainly carries crude from the ACG fields from Azerbaijan to the Mediterranean Sea.

**vii. ONGC Mittal Energy Limited (OMEL)**

 ONGC Videsh along with Mittal Investments Sarl (MIS) promoted OMEL, a joint venture company incorporated in Cyprus. ONGC VIDESH and MIS together hold 98 per cent equity shares of OMEL in the ratio of 49.98 per cent (ONGC Videsh) and 48.02 per cent (MIS) with the balance 2 per cent shares held by SBI Capital Markets Ltd. OMEL held 45.5 per cent PI in exploration block OPL 279, Nigeria and holds 64.33 per cent PI in exploration Block OPL 285, Nigeria. OMEL also holds 1.11 per cent of the issued share capital of ONGBV by way of Class-C shares issued by ONGBV exclusively for AFPC Syrian Assets; such investment being financed by Class-C Preference Shares issued by OMEL in the ratio of 51:49 to ONGC Videsh and MIS respectively.

**ii Mangalore Refinery and Petrochemicals Limited (MRPL)**

 Your Company continues to hold 71.62 per cent equity stake in MRPL, a Schedule 'A' Mini Ratna, which is a single location 15 MMTPA Refinery on the West coast.



Berkut ("Golden Eagle") Russia's largest platform operating in Sakhalin



#### Performance Highlights FY 2013-14

- MRPL achieved the highest-ever thru'put of 14.97 and it produced 14.59 MMT of petroleum products in FY'14, the highest-ever.
- FY'14 saw MRPL registering a handsome profit (PAT) of ₹6010 Million against a net loss of ₹7,569.10 million that MRPL witnessed during FY'13 owing to reduced gross margins and foreign exchange fluctuation during FY'13.
- Despite profit, however, Board of Directors of MRPL has not recommended any Dividend payout for the financial year 2013-14 considering the working capital requirement, past losses and project expenditure.
- MRPL exported 6.727 MMT of products against 6.838 MMT in the previous year. The Export turnover rose to ₹353,920 million in FY'14 with 6.15% higher than previous FY.
- Crude sourcing (Receipts): 14.971 MMT; Iran (28.91 per cent), Saudi Arabia (22.51 per cent), ADNOC (17.09 per cent), Kuwait (9.77 per cent), Mumbai High (9.27 per cent), Nile Blend (1.06 per cent) & Spot (11.39 per cent).

#### Marketing & Retail Operations

The Company (MRPL) embarked into bulk sales of HSD after the introduction of dual pricing for HSD. The turnover of Direct Marketing stood at ₹22, 910 Million in FY-14 as compared to ₹25,830 Million in FY-13. The Company could establish a good market reach for

sale of Petcoke after commissioning of Delayed Coker unit in April 2014. The Company's Joint Venture (Shell MRPL Aviation Fuel services Limited) for marketing ATF has performed well and has increased its turnover by 34% in FY14 as compared to last year.

#### Phase III - Brownfield expansion Project & SPM

MRPL's Phase III up-gradation and expansion project has achieved an overall progress of 99.68% as on 15.5.2014. The Company has already commissioned the SPM facility in August 2013. During the month of April/ May 2014 the Delayed Coker Unit and Coker Hydro Treater Unit and one SRU unit have been commissioned. PFCC and two trains of SRU shall be commissioned shortly. The physical progress of Polypropylene unit is 95.6% and is expected to be commissioned shortly. The total capital expenditure incurred for all these projects so far is ₹130,050 Million.

#### 6. Exemption in respect of Annual Report of Subsidiaries and Consolidated Financial Statement

In accordance with Ministry of Corporate Affairs (MCA) circular dated 8th February, 2011 and clarification dated 21st February, 2011, your Board has accorded necessary approval for not attaching the Balance Sheet and Profit & Loss Account of its subsidiaries (i) ONGC Videsh and (ii) Mangalore Refinery and Petrochemicals Ltd. (MRPL). Full Annual Report of ONGC including its subsidiaries will be made available to any shareholder, if he/she desires.

Further, Annual Reports of MRPL and ONGC Videsh are also available on website [www.mrpl.co.in](http://www.mrpl.co.in) and [www.ongcvidesh.com](http://www.ongcvidesh.com) respectively.

In accordance with the Accounting Standard (AS)-21 on "Consolidated Financial Statements" read with AS-23 on "Accounting for Investments in Associates" and AS-27 on "Financial Reporting of Interests in Joint Ventures", audited Consolidated Financial Statements for the year ended 31st March, 2014 of the Company and its subsidiaries form part of the Annual Report.

#### 7. Joint Ventures/ Associates

##### i. ONGC Petro-additions Limited (OPaL)



ONGC Petro-additions Limited (OPaL), has been promoted by your company as a Joint Venture (JV) Company, with envisaged equity stake of 26% along with GAIL (15.5%) and GSPC (5%). The balance equity of 53.5% is to be tied up with Strategic Partners/ FIs/IPO.

OPaL is a mega downstream petrochemical integrated project at Dahej SEZ for utilizing in-house production of C2-C3 and Naphtha from various units of ONGC.

Recently on August 23rd, 2013, your company signed a Product Sale Agreements with OPaL for supply of feed-stocks, thereby enabling OPaL's lenders to release funds for implementation of the project.

#### Present status

- Overall Cumulative progress is 89.84 %.
- Total cumulative expenditure as on 31st March 2014 is ₹181,557 million. Approved project cost is ₹213,960 million.
- Debt closure has been attained for approved project cost of ₹213,960 million with the execution of Rupee Term Loan agreement, for ₹ 149,770 million, including ECB of USD 300 million.
- Based on the current project progress, expected completion schedule of the Project is Jan, 2015.

##### ii. ONGC Tripura Power Company Ltd (OTPC)



Your Company has promoted OTPC with an envisaged stake of 50% along with Govt. of Tripura (0.5%) and IL&FS Energy Development Co. Ltd. (IEDCL - an IL&FS subsidiary) (26%); the balance 23.5% is proposed to be tied up through IPO / Strategic / Financial Investor.

OTPC is setting up a 726.6 MW (2 X 363.3 MW) gas based Combined Cycle Power Plant (CCCP) at Palatana, Tripura. The basic objective of the project has been to monetize idle gas assets of ONGC in land-locked Tripura state and to boost exploratory efforts in the region.







**The power to create development .**  
ONGC's power plant at Tripura, the single largest investment in the North East.

**Present Status**

- OTPC's first unit (Unit-1) was dedicated to the Nation by the Hon'ble President of India on 21st June, 2013. However, commercial operation of its first unit (363.3 MW) effectively got started from 4th January 2014 in presence of representatives of beneficiary states. The second unit is expected to be commissioned in the second quarter of financial year 2014-15.
- The unit has been granted provisional tariff by Central Electricity Regulatory Commission (CERC). The Ministry of Power has allocated more than 86% of power from the project (two units) to the NEER beneficiary states while 98 MW is allocated to OTPC for merchant sales. The OTPC has already signed a gas sale and purchase agreement (GSPA) with ONGC for supplying Daily contracted Quantity of 2.65 MMSCMD of gas.
- The 663 KM long 400 KV double circuit transmission network Palatana-Bongaigaon transmission has been commissioned up to Byrnihat by North-East Transmission Company Limited (NETCL), a joint venture of Power Grid Corporation, OTPC and Governments of the North-Eastern states. This development is helping in evacuating power from Unit-1 and enables partial evacuation from unit II. For

complete evacuation of Unit-II power, the remaining Byrnihat-Bongaigaon section of the line requires to be completed and its completion is expected to coincide with Unit II commissioning, subject to timely resolution of certain forest clearance issues.

- The total expenditure incurred on the project till 31st March, 2014 is ₹34,560 million against the total estimated cost of ₹40,470 million.
- State Bank of India is funding the entire debt for the project at a Debt: Equity ratio of 75:25.

**iii. ONGC Mangalore Petrochemicals Limited (OMPL)**



Your company has promoted OMPL as a value-chain integration project for manufacturing Para-Xylene and Benzene from the Aromatic streams of MRPL with an envisaged equity participation of 46% along with MRPL (3%), with balance 51% to be tied up through IPO / Strategic / Financial Investor

**Present status:**

- Overall Cumulative progress is 98.5% as on 31st March 2014
- Total cumulative expenditure on the project is ₹51700 million. Approved project cost is ₹57500 million.
- The commercial operation date (COD) is August 2014.

**iv. Dahej SEZ Ltd (DSL)**



Your company as Lead Promoter is developing a multi-product SEZ at Dahej in coastal Gujarat to facilitate your company's endeavours at C2-C3 Extraction and value-chain integration project – OPaL. Your company has 23% equity in the project with GIDC having 26% and balance 51% is proposed to be tied up through IPO / Strategic / Financial Investor.

**Present status:**

- SEZ is already operational and units in SEZ have clocked export of ₹14,200 million in FY 2012-13 and ₹19,740 million in FY 2013-14.
- 92% of the leasable land has already been allotted and the remaining land is expected to be leased in the next two years.
- Expert Appraisal Committee of Ministry of Environment and Forest (MoEF) has recommended CRZ clearance for 123.42 ha of land in Dahej SEZ. Formal approval is awaited.

**v. Mangalore Special Economic Zone Limited (MSEZ)**



With an envisaged equity stake of 26% along with KIADB (23%), IL&FS (50%), OMPL (0.96%) and KCCI (0.04%), ONGC is setting up MSEZ to serve as site for development of necessary infrastructure to facilitate and locate ONGC/MRPL's Aromatic complex being promoted by ONGC.

**Present status:**

- 65% of the leasable land has already been allotted.
- Pipeline Corridor development - MoEF clearance is awaited for construction works at Reach 2 (~ 1.8 km). Pursuant to presentations to Expert Committee of MoEF and clarifications, recommendations have been submitted to MoEF, Delhi. Final clearance is awaited. However, interim arrangement for laying of OMPL pipelines in this reach has been made, thereby facilitating OMPL to utilize the corridor.
- Land acquisition issues at Reach 3 (~1.5 kms) – Gazette notification has been issued. Price fixation meeting was held on 23rd Oct'13 although resolution would take one more round of discussions. However, due to Lok Sabha elections and the model code of



**A towering presence in Petrochemicals.**  
ONGC's mega complex in Dahej SEZ



conduct, further discussions could not take place. Interim arrangement for laying of OMPL pipelines in this reach has also been made, thereby facilitating OMPL to utilize the corridor.

- River Water infrastructure: Supply to MRPL and OMPL has commenced. Water Agreement has been initialled with OMPL and is under finalization with MRPL.

#### vi. ONGC TERI Biotech Limited (OTBL)



ONGC TERI Biotech Limited (OTBL) which was incorporated on 26th March, 2007 is a Joint-venture Company of ONGC in association with The Energy Research Institute (TERI), with shareholding of 49.98% & 48.02%, respectively. Balance 2% is held by FIs. Through the efforts of joint research of ONGC & TERI over the years, OTBL is offering below mentioned technologies and providing various Biotechnical Solutions to Oil and Gas Industry, both in India and abroad:

- Oilzapper Technology (Bioremediation)- used to eliminate & tackle Oil Spills, Oily Sludge, and hazardous hydro carbon waste;
- Paraffin Degrading Bacteria (PDB)- used to prevent Paraffin Deposition in Oil well Tubing;
- Wax Deposition Prevention (WDP)- used to prevent Paraffin Deposition in surface and sub-surface flow lines;
- Microbial Enhanced Oil Recovery (MeOR)- used for Enhanced Oil Recovery by mobilizing crude oil trapped in pores of Oil Reservoirs.

During 2013-14 the turnover of OTBL was ₹154.4 Million with Profit after Tax of ₹44.8 Million as against turnover of ₹136.61 Million and Profit after Tax of ₹40.05 Million in the previous year.

#### vii. Petronet MHB Limited (PMHBL)

- PMHBL is a JV company wherein your company has an equity stake of 28.766% along with HPCL (28.7%) and PIL (7.898%) with balance 34.57 per cent of equity being held by leading banks.



**Petronet MHB Limited**

- PMHBL owns and operates a multi-product pipeline to transport MRPL's products to the hinterland of Karnataka.
- In FY'14 PMHBL pipeline has transported a throughput of 3.07 MMT against total throughput of 2.82 MMT last year. As per un-audited results for the year 2013-14, the turnover and PAT of PMHBL are

₹1295 million and ₹510 million respectively.

#### viii. Petronet LNG Limited (PLL)



ONGC has 12.5 per cent equity stake in PLL, identical to stakes held by other Oil PSU co-promoters viz., IOCL, GAIL and BPCL. Dahej LNG terminal of PLL having a capacity of 10 MMTPA is currently meeting nearly 20 per cent of the total gas demand of the country. A new LNG terminal of capacity 5 MMTPA has been set up at Kochi and was dedicated to the Nation by Hon'ble Prime Minister of India on 4th January, 2014. The Company is also planning to set up an LNG terminal of capacity 5 MMTPA at Gangavaram, Andhra Pradesh. The turnover of PLL during 2013-14 is ₹377,476 million (previous year ₹314,674 million) and net profit is ₹7,119 million (previous year ₹11,493 million).

#### ix. Pawan Hans Limited (PHL)



**Pawan Hans Limited**  
(A Government of India Enterprise)

ONGC has 49 per cent equity stake in PHL (previously known as Pawan Hans Helicopters Limited). Balance 51 per cent equity is held by the Government of India. PHL is one of Asia's largest helicopter operators having a well-balanced operational fleet of 40 helicopters. It provides helicopter support for ONGC's offshore operations. PHL was successful in providing all the 12 Dauphin N and N3 helicopters fully compliant with AS-4 as per the new contract with ONGC. The accounts of PHL for 2013-14 are under finalisation.

#### 8. Other New Projects/ Business initiatives

##### a. C2-C3-C4 Extraction Plant

Your company has set up a C2-C3-C4 extraction plant at Dahej with LNG from Petronet LNG Limited (PLL) as the feed stock. Commissioning of the Plant is expected to commence by July 2014. Ministry of Finance, Govt of India, vide its notification dated 17th Feb 2014 has resolved Taxation issues. Ministry of Petroleum & Natural Gas has allocated domestic gas for commissioning of the plant on 11th April 2014.

##### b. Urea Fertilizer Business

ONGC signed a Memorandum of Understanding (MoU) with M/s Chambal Fertilizers and Chemicals Ltd. (CFCL) and the Government of Tripura for setting up a 1.3 MMTPA capacity urea fertilizer plant in Tripura. MoU was signed on April 9th, 2013. Feedstock for the proposed plant (Natural gas) will be supplied from Khubal field in AA-ONN-2001/1 block where substantial gas reserves have been established. Gas requirement for the plant is estimated to be 2.4 mmscmd. The project cost is

estimated to be ₹50,000 million. Government of Tripura will have 10 per cent equity in the venture.

#### 9. Alliances & Partnerships for Business Growth

##### a. MoU with Mitsui

ONGC on 24<sup>th</sup> January, 2014 signed an MoU with Mitsui for Exploration and Production of conventional and unconventional petroleum and natural gas opportunities in India and in third countries, including the possibility of laying, building, operating or expanding natural gas pipelines along mutually identified routes.

##### b. MoU with RIL

ONGC on July 27<sup>th</sup>, 2013 has signed an MoU with RIL to explore the possibility of sharing RIL's infrastructural facilities in the East Coast, thereby helping ONGC minimize its initial Capex and expedite early monetization of its deep-water fields adjacent to the fields of RIL.

##### c. Summary of Understanding with EIL

ONGC on June 6<sup>th</sup>, 2013 has entered into a Summary of Understanding with EIL to set up a 500 KTPA Propane-de-hydrogenation (PDH) based integrated Facility in the Domestic Tariff Area (DTA)/ Mangalore SEZ Area, by creating a Joint Venture (JV) Company.

##### d. Product Sale Agreements with OPaL

ONGC on August 23<sup>rd</sup>, 2013 has entered into a Product Sale Agreement with OPaL for supply of feed-stocks, thereby enabling OPaL's lenders to release funds for implementation of the project.

##### e. MoU between ONGC, BPCL, Mitsui and NMPT

ONGC along its consortium partners BPCL and Japanese conglomerate Mitsui signed a MoU with the New Mangalore Port trust (NMPT) on March 18<sup>th</sup>, 2013. The MoU documents Port's No-Objection to carry out feasibility studies and intention to extend all cooperation to the consortium in this regard. The consortium has carried out the pre-feasibility study of the project and formal allocation of Land and jetty site is awaited from NMPT.

##### f. MoU for setting up a Special Purpose Vehicle (SPV) for implementing Renewable Energy projects

Your company is likely to be a lead partner in a Joint Venture Company being set up through Special Purpose Vehicle (SPV) for implementing large scale grid-connected solar, wind and other renewable energy (including hybrid) power projects.

An MOU for creating such a JVC was signed on 25<sup>th</sup> February 2014 between the Ministry of New & Renewable Energy and Ministry of Petroleum & Natural Gas, Govt of India.

This JVC shall be for grid connected renewable

energy and would be led by ONGC as the lead partner with likely 26% equity and other Oil upstream companies like OIL and GAIL along with EIL, IREDA and SECI as partners, equity percentage of each one of them to be decided later. EIL has been assigned the responsibility of the feasibility study for the projects at various locations in India.

#### 10. Information Technology

Considering the need to ensure implementation of cutting edge technology in all areas of operations and to ensure data integrity and security, ONGC has deployed state-of-the-art IT tools and technologies. In a knowledge-driven and technology-intensive industry such as oil & gas E&P, information technology establishes the vital synergy across the company's many locations and varied workforce, essentially serving as its operations' lifeline. Many of the IT achievements of the Company are regarded as benchmarks in the industry in terms of implementation of widespread systems integration and process automation. Some of the highlights for FY'14 are:

**Project ICE (Information Consolidation for Efficiency) of ONGC is a landmark example of 'Business Process Re-Engineering' in India. It is also SAP AG's largest Project in India**

- **System Availability:** Achieved over 99% system availability for organization-wide IT network connectivity through effective design & configuration.
- **IT Infrastructure Upgradation:** To upgrade the exiting ageing IT Infrastructure and make it ready to effectively support present and upcoming IT applications, consultancy services were hired from PricewaterhouseCoopers Pvt. Ltd. Their final report has been submitted and recommended projects are being taken up for implementation.
- **Video Conferencing:** To enhance communication capabilities for faster decision making, enterprise video conferencing system with multiparty video conferencing capability has been implemented. The system has also been integrated with Desktop Video Conferencing system, based on "IBM Sametime". This shall facilitate executives to participate in multiparty video conferencing session, enabled by Polycom Multiparty Conferencing Unit, from his/ her desktop. The system shall also enable



executives to share documents from their desktops while participating in the multiparty video conferencing. Executives on the move can also participate in multiparty video conferencing through their smart phone device.

- **Lotus Connections:** To create an environment that facilitates collaboration and innovation, ONGC Blog site based on **Lotus Connections** has been launched where users can share information online using technologies like blogs, wikis, and activity streams. Employees have started using the platform to share knowledge & opinion.
- **Cyber security Crisis management team** – To strengthen information security management with focus on cyber security, proposal for Cyber Security Crisis Management team has been initiated.
- **Project IT- चेतना:** Under “IT Skill & Proficiency Development Programme through Project IT- चेतना” continued for the year 2013-14 also.
- **HIS (Healthcare Information System):** Standardized version of HIS - which was developed to bring in uniformity in working of ONGC health-centers and Hospitals across the organization, has been rolled-out across 20 work-centers.
- **IT Service Management (ITSM):** To improve performance of IT service management across the enterprise and for better alignment of IT services & business strategy, all IT helpdesk sites have been taken up for ISO 20000 Certification. Six sites at Delhi & Mumbai, which were already certified for ISO 20000, the certification has been upgraded to the latest version.
- **Broadband Wireless Access for remotes:** To improve IT applications performance & voice connectivity at remote installations, the contract for Point-to-Multipoint “Broadband Wireless Access (BWA) Radio System” for remote sites at North East & Southern Assets of ONGC was awarded on turnkey basis. The project is under execution.
- **Satcom Upgradation:** For voice & data communication connectivity, remote installations at offshore are primarily dependent on Satcom (Satellite communications). This also provides primary connectivity to many onshore installations and secondary connectivity to other installations at onshore. Satcom infrastructure equipment has become old and lived its useful life. The project for Upgradation of Satcom Infrastructure has been taken up.
- **Microwave backbone:** Work for setting up onshore to offshore high capacity microwave backbone communication link between Uran-Neelam-B193-BPA Offshore Complex, is awarded and shall be in

service by August 2014. This is the first high capacity microwave communication link from base to offshore installations

#### 11. Health, Safety and Environment(HSE) accreditations

Safety, Occupational health and protection of environment in and around its working areas are prime concerns of ONGC. ONGC has implemented globally recognized QHSE Management System conforming to requirements of QHSE Certifications ISO 9001, ISO 14001 and ISO 18001 (OHSAS) at ONGC facilities and certified by reputed certification agencies at all its operational units. As on date, 412 Nos of working units have third party certified integrated QHSE Management System. ONGC follows the internationally accepted practices with regard to incident reporting, investigation and monitoring of recommendations.

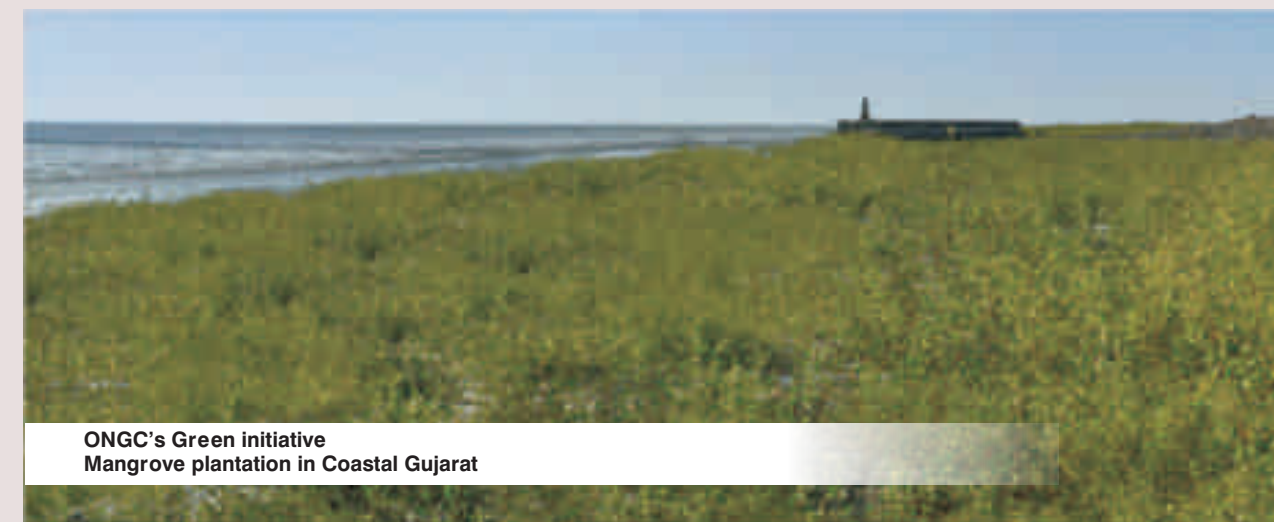
#### HSE Quotient Snapshot:

- Accredited Environment Impact Assessment (EIA) Consultant
- Ringal Bamboo Plantation in 280 hectares in Upper Himalayas

#### A few highlights of HSE during 2013-14 are:

- Regular QHSE internal audits
- Fire safety measures including regular fire and earthquake mock drills,
- Training on HSE related topics,
- Environmental analysis
- PME of employees and Health Awareness programs
- Water and electricity conservation, Noise and pollution reduction measures,
- Material Safety Data Sheets(MSDS),
- Personal protective Equipment's(PPE),
- Solid waste management and Developing E- waste disposal procedure,
- Jatropha garden and identification and implementation of Environment Management Programmes (EMP) and Occupation Health & Safety(OHS) programs as per need of the unit,
- Energy conservation awareness through display and communication,
- Accident, near miss and Governance, Risk & Compliance (GRC) reporting.

ONGC is now an Accredited Environment Impact Assessment (EIA) Consultant organization by Ministry



ONGC's Green initiative  
Mangrove plantation in Coastal Gujarat

of Environment & Forest (MoEF) in Oil and Gas Exploration, Development and Production in Offshore/Onshore areas and Petroleum refining industry.

ONGC has undertaken Ringal plantation (Hill bamboo) in Joshimath and Kedarnath forest areas of Upper Himalayas to strengthen fragile Himalayan eco-system. Plantation of 7.0 Lakh ringal in Upper Himalayas has been completed in an area of 280 Hectares. The Next Phase of ringal plantation is under progress for planting 3.75 Lakh plants in 150 Hectares.

A project on mangrove plantation along the shores of Dhadar River on West Coast has been taken up by ONGC to protect erosion of the shoreline. Phase 1 of the project, more than 17 lakh mangroves have been planted in the soil erosion-prone area along the coast of the Dhadar River at Ankleshwar.

With a view to seek environmental friendly options for the disposal and treatment of accidental oil spillages and the tank bottom sludge generated during the routine operations, ONGC explored the biotechnological option i.e. bioremediation wherein indigenous micro-organisms are isolated and enriched and harnessed on mass scale for application in the field. In the year 2013-14, 25000 MT of oily waste was treated through this technique in ONGC.

#### 12. Sustainability Development

ONGC, one of the premier energy majors of the world and the highest profit earning PSU of India, realises its responsibilities in ensuring sustained development through protection of the ecological system. It therefore strives to position itself as a leading organisation in sustainable management and is

aiming to achieve sustainable development through a holistic approach to carbon management. We believe that focused carbon management efforts are an ideal route to cover the elements of our business specific sustainable development issues across the environmental dimension. A critical area of environmental sustainability is mitigation of global

ONGC Corporate Sustainability  
Report for 2012-13, developed as  
per globally accepted GRI-G3  
guidelines, accorded A+ level by the  
assurance agency

greenhouse gas from operations. It is an organizational objective for us to progressively reduce our carbon footprint, by working towards reduction in both direct and indirect energy consumption.

The Company proposes to make a comprehensive, organization-wide GHG inventory that covers both direct and indirect energy over the next two to three years. This would provide the overall carbon footprint of the organization and help identify mitigation opportunities. A pilot exercise to assess GHG footprint of our representative operating units has already been completed. This pilot is now being scaled up into a pan ONGC GHG accounting exercise to assess our organisational carbon footprint and importantly to undertake a rigorous study for identification of all feasible GHG mitigation opportunities.



The following efforts undertaken by ONGC illustrate its commitment to sustainable development:

**a. Sustainable Water Management (SWM) Water Mapping:**

Water mapping study was completed for Ankleshwar and Rajamundry Assets and Hazira Plants. Based on the mapping, following projects have been identified for consideration under SWM umbrella:

**Reuse and Recycle:**

The concept was implemented as a pilot project, an STP of 50 KLD capacity was installed in the CISF Colony at Mehsana. The Project was executed in February 2014.

In association with Mehsana Asset under SWM program, the following gains have accrued:

- Mud Recycled upto 2013-14 = 30128 M3
- Fresh Water Saved by Mud Recycling = 22596 M3 upto 2013-14,
- Fresh Water Saved by Use of Treated Effluent = 212059 M3
- Total Fresh Water Saved = 234655 M3 (Upto 2013-14) starting from 2009-10.

**Desalination:** A 20 MLD Desalination plant has been proposed for Uran Plant.

**Rain water Harvesting**

Rain water harvesting projects at various assets, Basins and plants are in various stages of implementation. This year harvesting has been conceived at Tripura and Ahmedabad Asset which are being implemented. Besides, harvesting at Rajahmundry Asset has also been conceptualized which will be implemented next year. Rain water harvesting at Vadodara has already started and is recharging ground water. More wells are being conceptualized to expand the programme.

**b. Carbon Dioxide mitigation and low carbon initiatives**

ONGC has also collaborated with Cleen, Finland in the area of carbon capture and joined its program.

**c. Clean Development Mechanism (CDM)**

ONGC commenced its CDM journey in 2006. Till date, ONGC has registered 11 CDM projects with UNFCCC. About 3 new CDM projects have been registered and other 3 registered projects have been successfully verified for issuance of 182529 CERs (Carbon credits). These CDM projects are listed below:

**Registration of new CDM projects**

1. Gas Flaring Reduction at Neelam&Heera Asset
2. Natural gas based combined cycle power plant in Tripura

3. Green Building project at Kolkata

**Issuance of Registered CDM projects**

1. Waste heat recovery from Process Gas Compressors Mumbai high south (offshore platform)
2. 51 MW wind power project of ONGC at Surajbari
3. Amine Circulation Pumps Energy Efficiency at Hazira Plant, ONGC

**d. Carbon Foot Print**

Comprehensive companywide GHG accounting has been completed. With this exercise, potential area of carbon management has been identified to reduce carbon footprints of ONGC.

**e. 3G Bio-refinery**

ONGC is planning to setup a 3G bio-refinery to meet the government mandate of E95 (blending of 5% ethanol to gasoline).

**f. Solar power CSP-ST technology**

CM&SG is in talk with Rippaso Energy for establishing a 3MW pilot solar power project at Gamnewala, Jaisalmer.

**g. Carbon neutral PETROTECH 2014:**

PETROTECH 2014, a biennial international event has been declared carbon neutral. Total 3000 VERs were exchanged to make the event carbon neutral. This is second event of its kind that was made carbon neutral by CM&SG.

**h. Global Methane Initiative (GMI)**

Fugitive emission Identification & Quantification (IQ) jobs have been completed as per PC targets. Ahmedabad Asset and BPA& BPB offshore installations were mapped for fugitive emissions. The reports have been submitted to respective heads to take corrective actions.

ONGC has provided IQ services to GAIL and Gail Vijapur plant was mapped for fugitive emission and thereby earning revenue for the company.

**13. Business Responsibility Report – 2013-14**

Securities & Exchange Board of India has introduced Clause 55 to the Listing Agreement with the Stock Exchanges, which states that Listed entities shall submit, as part of their Annual Report, Business Responsibility Report, describing the initiatives taken by them from an environmental, social and governance perspective. Accordingly, the second Business Responsibility Report – 2013-14 has been drawn up and forms part of the Annual Report for 2013-14.

**14. Internal Control System**

Your Company has a well-established and efficient internal control system and procedure. The Company

has a well-defined delegation of financial powers to its various executives through the Book of Delegated Powers (BDP). The Integrated BDP is updated from time-to-time in line with the needs of the organisation as well as to bring further delegation. The Company has in-house Internal Audit Department commensurate with its size of operations. Audit observations are periodically reviewed by the Audit, Ethics & Financial Management Committee of the Board and necessary directions are issued whenever required.

**15. R&D EFFORTS THROUGH ONGC ENERGY CENTRE TRUST (OECT)**

Your company has taken steps to evaluate various forms of energy to fulfil the country's growing energy needs. Towards this end, your company has established an ONGC Energy Centre Trust (OECT), which is mandated to undertake or assist in programs / projects of fundamental and applied research for improving and developing commercially viable energy mediums and sources beyond hydrocarbons, especially in clean and/or renewable energy options. ONGC Energy Centre (OEC) has been set-up under the aegis of the OEC Trust to work on various clean energy options.

Your company through ONGC Energy Centre has been implementing several Research Projects on new and alternative sources of energy. These Projects are in advanced stages of implementation, in collaboration with various national and international academic, research and industrial organizations. The projects where your company is currently engaged in are:

- a) Hydrogen Generation through Thermo-chemical Processes
- b) Exploration for Uranium
- c) Bioconversion of lignite to Methane
- d) Bioconversion of Oil to Methane
- e) Kinetic Hydro Power
- f) Geothermal Energy
- g) Solar Thermal Project

These apart, during 2013-14, ONGC Energy Centre has also evaluated many new options to expand the research and technology development activities and also to focus on optimum utilization of resources available with ONGC. These efforts have been described in detail in the **Annexure C** on Energy Conservation.

**16. Human Resources**

ONGC cares and values its human resource which is the bedrock of the ONGC's success story. To keep the employees' morale high, your Company extends several welfare benefits to them and their families by way of comprehensive medical care, education, housing and social security. During the year 2013-14, your Company implemented 30 Policy Revisions for further welfare of its employees.

**17. Human Resource Development**

33,988 ONGCians (as on 31<sup>st</sup> March, 2014) dedicated themselves and contributed their efforts towards the excellent performance of your company. The workforce intake strategy pursued by your Company caters to meeting the demands of maintaining a



ONGC Academy - A Training Institute par excellence



steady flow of talent, in a business which is characterized by high risks and uncertainties, enormous costs, fast changing level of technology, physically challenging work environment, fluctuating product prices and growing competition. Your Company has drawn up a scientific manpower induction plan aligned to the business plans as well as factoring the manpower profile of the Company. During the year, HR ensured that adequate numbers with requisite skills-sets were inducted to meet the requirements of the Company as well as replenish the manpower loss on account of superannuation.

Your company believes that continuous development of its human resource fosters engagement and drives competitive advantage. One such initiative towards that end was the innovatively designed and highly popular 'Business Games', an organization-wide contest that puts to test and further hones the managerial and business acumen of the executives. During the year 2013-14, a total of 167 teams and 668 executives participated in the event.

Fun Team Games (FTGs) were organized for E0 and staff level employees to inculcate MDT (Multi-disciplinary Team) concept and a spirit of camaraderie and belongingness to the organization, which was very well received by the participants. During the year 72 teams and 188 employees participated in FTGs. Your Company also conducted the Assessment Development Centre (ADC) for 294 E-6 (DGM) level

executives and provided them developmental inputs. Your Company has partnered with global HR consulting firms to create a pool of accredited mentors in the organization. These mentors will support organization's effort to hone young minds to successfully respond to the emerging business needs of your Company. As part of this Initiative, in the year 2013-14, 865 mentors were trained and 1376 Mentees were mentored and developed.

#### Training

Skill up-gradation is a vital component for driving excellence through Human Resource. ONGC has branded the spectrum of its training activities as 'EXPONENT', a comprehensive programme which is nurturing the energy leaders of tomorrow. The growth of an ONGCian to an Exponent of energy business is facilitated by the ONGC Academy, Regional Training Institutes (RTIs), other in-house Institutes in association with globally recognized trainers. Training Institutes of ONGC organize training in all dimensions - Technical as well as non-technical and Managerial that is relevant to Petroleum Industry.

During the year, ONGC training Institutes have organized various training Programmes for skill development and enhancing the competency level of employees for self-development and enhanced output. A total 15898 executives and 4564 non-executives were imparted appropriate training, spanning 213304 training man-days, during 2013-14,

which includes five batches of 746 Graduate Trainees, who were imparted induction training. In order to keep the executives abreast with the latest advancements in cutting-edge concepts and technologies in oil and gas exploration and production, 80 programmes were organized during 2013-14, including foreign faculty programmes. Around 296 senior level executives were exposed to advanced programmes on Management with overseas learning component through tie-ups with leading B-schools of the country.

As a Global player, it is imperative to benchmark our strengths with the world's best. To achieve this we organize International Certification Programs benchmarked to global standards viz. Offshore Installation Manager (OIMs) Certification through OPITO, Project Management Professionals (PMP) Certification from PMI, USA, CIPM from PMA and IPMA from Switzerland. During the year 2013-14, Academy has organized 14 OIMs Programmes in which 62 OIMs participated, 450 executives attended CIPM Programmes, 120 executives attended PMP of PMI, USA and 50 executives attended IPMA level-D.

#### 18. EMPLOYEE WELFARE

Your Company continues to extend welfare benefits to the employees and their dependants by way of comprehensive medical care, education, housing, and social security. Your Company continues to align company policies with changing economy and business environment. Some of the key facets of ONGC's employee welfare model are as below:

##### (i) Employee Welfare Trusts

Your Company has established the following major Trusts for welfare of employees:

- **Employees Contributory Provident Fund (ECPF) Trust** manages Provident Fund accounts of employees of your Company.
- **The Post Retirement Benefit Scheme (PRBS) Trust:** The scheme underwent a major transformation from defined benefit to defined contribution during the past year. In the converted Defined Contribution Scheme, the corpus in the individual employee account shall include employer/ employee contributions and interest thereon. The benefits under the Scheme are dependent on corpus in the individual employee account and accordingly, would be market determined which depends on interest rate, annuity price.
- **The Composite Social Security Scheme (CSSS):** It provides an assured ex-gratia payment in the event of unfortunate death or permanent disability of an employee in service.
- **Gratuity Fund Trust:** This has been created to take

care of payment of gratuity as per the provisions of the Gratuity Act.

- **Sahayog Trust:** Your Company's 'Sahayog Yojana' instituted under this Trust provides ex-gratia financial grant for sustenance, medical assistance, treatment, rehabilitation, education, marriage of female dependent and alleviation of any hardship or distress to secure the welfare of the secondary workforce and their kin, who do not have adequate means of support. Under the scheme, an amount of ₹ 20.6 million was disbursed by the Trust during the year.
- **Extension of Benefits under the Agrani Samman Scheme to retired employees:** The Scheme aims to provide succour to the ex-employees who separated from the service of ONGC on account of premature retirement due to disability or medical deficiency suffered while on duty.
- **Extension of Benefits under the Asha Kiran Scheme to retired employees:-**

During the year, your Company launched Asha Kiran Scheme to meet the emergency needs of the ex-employees retired prior to 01.01.2007, who are passing through distressful situation. The scheme was launched as per DPE guidelines by creating a corpus of 1.5% of PBT. During the year, under this scheme financial assistance of Rs 1352 million was provided to 12964 ex-employees.

##### (ii) Implementation of Govt. Directives for Priority Section

Your Company complies with the Government directives for Priority Section of the society. The percentage of Scheduled Castes (SC) and Scheduled Tribe (ST) employees were 15.4 % percent and 9.1% percent respectively as on 31st March, 2014.

Your Company is fully committed for the welfare of SC and ST communities. The following welfare activities are carried out by your Company for their upliftment in and around its operational areas:-

##### • Annual Component Plan

Under Annual Component Plan for SC/ST, each year an allocation of ₹200 million is made. Out of this, ₹60 million is distributed amongst all the Work centres of ONGC for taking up activities for welfare of SC/ST Communities in and around the areas of our operations. In addition, ₹140 million is managed centrally, and is earmarked for Special projects/proposals/schemes for the welfare of areas/persons belonging to SC/ST communities. The amount under component plan is utilized for taking up various welfare measures for the welfare and upliftment of the needy people of SC/ST Communities. This fund is especially meant for



Mandatory Safety training - a precursor to ONGC's operations



providing help and support in Education and Training, Community Development and Medical and Health Care.

- **Scholarship to SC/ST meritorious students for pursuing higher professional courses at different Institutes and Universities in the country.**

Your Company has recently enhanced scholarships for meritorious SC & ST students from 100 to 500 for pursuing higher professional courses at different Institutes and Universities across the country in Graduate, Engineering, MBBS, PG courses of Geo-Sciences and MBA. The major feature of the scheme is that the scholarships have been divided equally for both male and female students and the allotted amount of scholarship per student is ₹4,000/- per month subject to the conditions of the scheme. The annual budget for the scheme, considering its total implementation, is ₹76 million per annum.

**19. INDUSTRIAL RELATIONS**

During the year your Company maintained harmonious Industrial Relations. Mandays loss due to internal industrial action was reported as 'NIL' for the year 2013-14.

Your Company has adopted pre-emptive and responsive IR policies that resulted in signing of Long Term settlements covering the Post Retirement Benefit Scheme, under the Defined Contribution methodology and adoption of Group Leave Encashment Scheme of the LIC.

Implementation of the 'Fair Wage Policy' initiated in Aug 2012, has been steadily reported from all work-centers across the country. More than 2500 contract

labourers have been covered under the Fair Wage Policy, while more are due to be covered shortly. The policy enjoins the Contractors to pay 35% higher wages as compared to minimum wage. This will also have a salutary effect on all statutory liabilities towards various social security schemes. The policy also provides that the contractors will obtain Group Gratuity cover and Group Insurance cover from LIC for the labour deployed in ONGC operations.

**20. Women Empowerment**

Women employees constituted over 6 percent of your Company's workforce. During the year, programmes on women empowerment and development, including programmes on gender sensitization were organized. Your Company actively supported and nominated its lady employees for participating in programmes organized by reputed agencies.

**21. GRIEVANCE MANAGEMENT SYSTEM (GMS) :**

Your Company provides an easily accessible mechanism to the employees for redressal of their grievances, either through an informal channel (open hearing day) or through a formal channel.

**Public Grievance Management System**

All Key Executives of your Company have designated a publicized time slot thrice in a week to meet public representatives in order to speedily redress their grievances.

**22. IMPLEMENTATION UNDER THE RIGHT TO INFORMATION ACT**

An elaborate mechanism has been set up throughout the organization to deal with the requests received under RTI Act, 2005. Central Public Information

Officers (CPIO) have been appointed at every work centre of the Company to redress the issues under RTI Act. 126 applications received in March, 2013 were carried forwarded to the year 2013-14. 1743 applications were received during the year; making a total of 1869 applications. In addition, 50 first appeals were carried forward and 361 were received during the year. All the aforesaid 411 first appeals were disposed off by the appellate authority of ONGC and orders passed by the authority were complied within a stipulated time frame.

**23. IMPLEMENTATION OF OFFICIAL LANGUAGE POLICY**

Your Company makes concerted efforts to spread and promote the Official Language. Some of the important steps taken in this regard during the year were:

- Company has introduced Unicode Hindi software in all our offices.
- Hindi workshops are conducted at regular intervals
- Hindi seminars and 'Kavi Gosthies' were organized at Dehradun and Delhi.
- ONGC actively contributed in publishing bilingual Petroleum Terminology Directory, initiated by MO&PNG.

- Hindi Teaching Scheme of Govt. of India is effectively implemented at all regional work centres.

**24. IMPROVEMENT IN LIVING AND WORKING CONDITIONS**

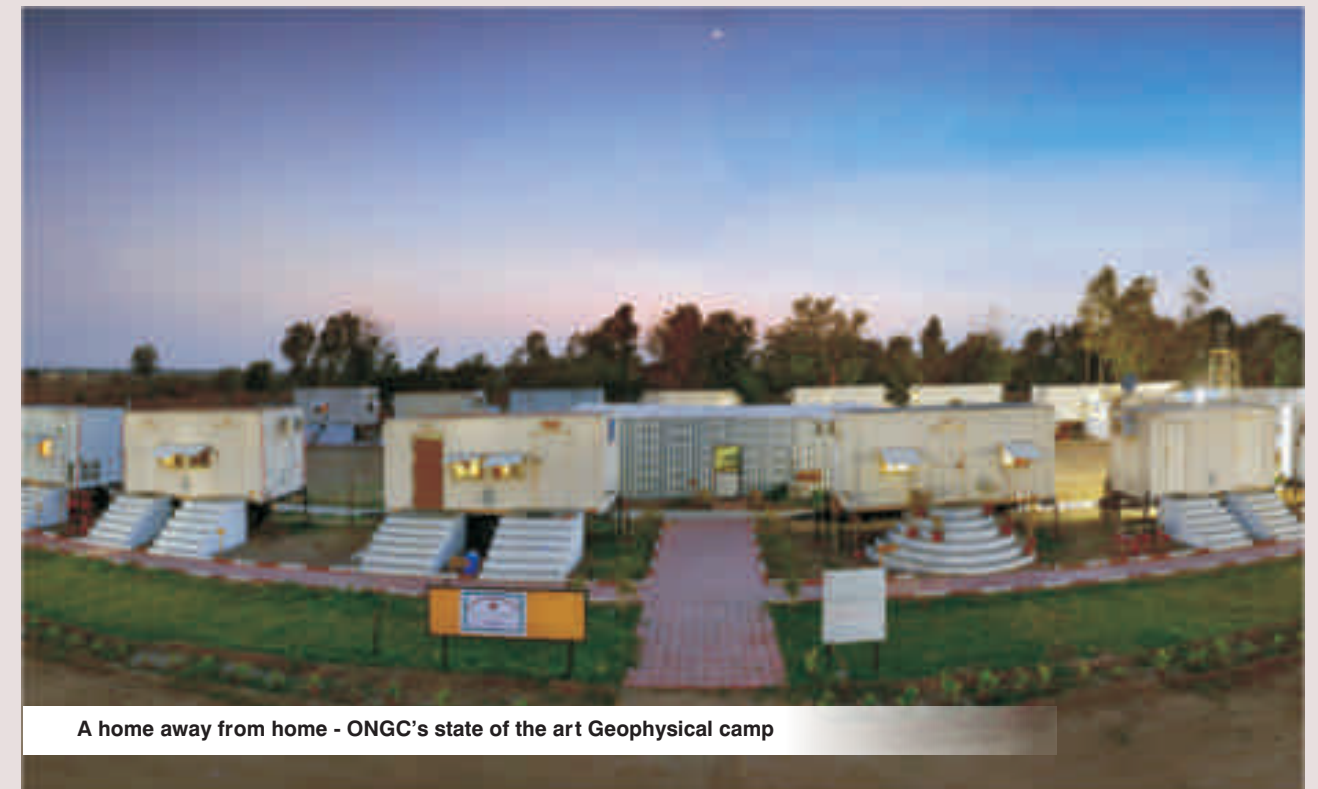
As a testimony to its commitment for a cleaner tomorrow, your Company has undertaken the 'Green Building' initiative for its upcoming offices at Chennai, Dehradun, Delhi, Hyderabad, Kolkata and Mumbai.

**Work-Life Balance**

Your Company continued in its endeavours to ensure work-life balance of its employees. The townships at many work-centres were provided facilities like gymnasiums and music rooms. Outbound programmes with families were also organized at various work-centres. Plays on the importance of 'Work-Life Balance' were staged to create awareness amongst the employees. In addition, cultural programmes involving employees and their families were also conducted. Mahila Samitis and Resident Welfare Associations (RWAs) were involved in the organization of these cultural programs. Your Company has an adventure wing named ONGC Himalayan Association that organizes adventure programmes like mountaineering, trekking, white water rafting, snow skiing, desert Safari and Aero



Empowering W-power. ONGC has over 6 per cent women in its workforce.



A home away from home - ONGC's state of the art Geophysical camp



sports, which contributes toward morale, engagement, team spirit, camaraderie, stress management and spirit to explore the unknown among the employees.

**25. SPORTS**

ONGC continued its support for development of sports in the country in the form of job offers & scholarships to deserving sportspersons. Sponsorships to various sports associations / federations / sports bodies to organise sports events as well as develop infra-structure were also extended.

The welfare measures for the sportspersons which includes sponsored trips for training / coaching stints & tournament participation both within India & abroad, kits & liveries and playing equipment as per norms have been provided in 23 game disciplines. There are 177 players on the rolls and 167 players on scholarship benefitting from the welfare measures of ONGC. The support has aided many sportspersons to deliver elite performances and bring laurels for the Nation and the Company. Sports achievements during the year are detailed in **Annexure-B**. Such elite performances have been rewarded with cash incentives as per Policy.

Head Sports of your company has taken charge as Secretary, Petroleum Sports Promotion Board

(PSPB), which is recognition of your company's immense contribution towards promotion of sport in the country.

**26. CORPORATE SOCIAL RESPONSIBILITY (CSR)**

Your company is fully engaged in ensuring equitable and sustainable growth of society in and around the area of its operations besides complying with government directives to discharge its social responsibility as a leading Indian corporate. CSR activities are essentially guided by project based approach in line with the guidelines issued by the Department of Public Enterprises (DPE) and Ministry of Corporate Affairs (MCA) of the Government of India. Seeking to herald an inclusive business paradigm, ONGC has CSR interventions that are based on social, environmental, and economic considerations and are well-integrated into the decision-making structures and processes of the organization. **In the last 7 years, your company has contributed ₹13,270 Million towards its well-structured and well-focussed CSR activities.**

Out of the CSR Budget of ₹4185 million, ONGC spent an amount of ₹3413 million in FY 2013-14. This translates to overall utilization of 86 % of the CSR Budget.

**CSR Focus Areas**

1. Education
2. Women Empowerment
3. Health Care
4. Entrepreneurship Development
5. Infrastructure Development
6. Care for Differently Abled
7. Water Management
8. Environment Protection
9. Promotion of Artisans
10. Promoting Sports

**Reason for non-utilization of full CSR budget:**

One of the major CSR & Sustainability Development projects undertaken during the year was setting up of 102 MW Wind Power Plant in Jaisalmer District (a backward district of Rajasthan). The scheduled work on this project during the period 2013-14 was delayed because of the issues related to land acquisition at the site. As a result, expenditure towards activities completed in April'14, which were originally planned for 2013-14 amounting to ₹1247 million was released in May, 2014. Had the activities been completed as per schedule, ONGC would have exceeded the target amount

CSR efforts are primarily focused on protection of environment; providing infrastructure support in our operational areas, water management, women empowerment, initiatives for physically and mentally challenged people, protection and preservation of our heritage, arts and culture, promotion of sports, entrepreneurship building and sponsorship of seminars, conferences and workshops.

**During 2013-14, some of the landmark CSR initiatives undertaken by your Company include:**

**(a) Healthcare:**

**(i) Assam Medical College, Dibrugarh:**

Support of ₹70 million has been provided to establish Catheterization Laboratory and facilities for open Heart Surgery in Assam Medical College, Dibrugarh for providing quality health services.

**(ii) Community Hospital in Lakhimpur-Kheri, Uttar Pradesh:**

The project is unique in terms of using the PPP model in CSR with full Capex of ₹45 million contribution by ONGC and Opex borne by the Operating Partner. This 26 bedded Community Hospital would cater to Primary and Secondary Health Service Requirements from BPL, Economically Backward Class families. Healthcare services are being provided at 50% less cost than the existing CGHS rates.



ONGC Sporting Heroes - Medal winners in 2014 Commonwealth Games



There is always a remedy after pain  
Treatment of children suffering from Thalessemia



**(iii) King George Hospital, Vizag:**

The CSR Initiative involving financial support of ₹150 million from ONGC aims to construct new 2+9 storied building, medical infrastructure and equipment to enable the Hospital to deliver quality health services to poor patients and also strengthen the present Oncology Department to make cancer treatment a reality.

**(iv) District Government Hospital, Chikkaballapur, Karnataka:**

A support of ₹ 18 million by ONGC has been provided for upgradation of facilities in the Hospital to improve the general healthcare services at the government Hospital which is the primary source of healthcare for people belonging to the most economically deprived sections of the society.

**(v) Government General Hospital (GGH), Kakinada:**

ONGC has given financial assistance of ₹ 19 million to construct a separate building for blood bank and to equip the hospital with additional equipment for blood bank, general surgery and general medicine departments. This will immensely benefit people of East Godavari District where ONGC has a substantial operational presence.

**(vi) ONGC Mission Ujala:**

The project envisages eye screening of 50,000 children in Government Schools in NCR under National Blindness Control Programme of Govt. of India in collaboration with reputed NGO PRAANI. Provisions of spectacles to 3,000 children detected with refractive errors along with medicines were provided under this project in FY 2013-14.

**(b) Education & Vocational courses:****i) Shirdi Sai Baba School in Mahoba, UP:**

ONGC has joined hands with Shirdi Sai Baba Temple Society for construction and setting up of school for providing absolutely free education with food, clothing, study material and healthcare to underprivileged children in the backward region of Mahoba District under CSR initiative. Out of total estimated cost of ₹ 21 million, a part funding of ₹ 9.5 million has been extended by ONGC.

**ii) ONGC- The Akshaya Patra Foundation:**

A centralized fully automated mechanized kitchen with a capacity to provide mid-day meals to two lakh school going children (enrolled in Govt. schools) per day in the District of Surat is being set up. Presently 75,000 students are being fed from an interim kitchen.

**iii) English medium residential school in Patna, Bihar:**

ONGC in association with Soshit Seva Sangh has

undertaken a CSR initiative for supporting construction of free English medium residential school in Patna, Bihar for the poor Mushahar community which is one of the most deprived communities with estimated population of approx. 4 million. Out of total estimated cost of ₹ 120 million, part funding of ₹ 5 million has been extended by ONGC. With wider objective of resolving interlinked problems of poverty, unemployment, social injustice, crime and naxalism by means of providing inclusive and affordable education; the project is one of the key initiatives of ONGC in the education sector.

**iv) Community School at Sitapur, Uttar Pradesh:**

The project is unique in terms of using the PPP model in CSR with full Capex of ₹ 27 million contribution by ONGC and Opex borne by the Operating Partner-Shanti Devi Memorial Charitable Trust.

**(c) Projects for Physically and Mentally challenged****i) Aids & Appliances to the physically challenged:**

This flagship Project was undertaken with financial implication of ₹250 million which covered 45,000 beneficiaries from 39 ONGC operational area Districts and 61 Backward Districts in Phase-1 in collaboration with Artificial Limbs Manufacturing Corporation of India (ALIMCO) to cater to the needs of Orthopedic, hearing and visually challenged people by providing suitable Aids and Appliances.

**ii) ONGC Centre for vocational rehabilitation for the differently abled:**

A financial support of ₹13 million has been provided to Tamana School of Hope, Vasant Vihar, New Delhi for setting up of Autism Centre and provide vocational training for the mentally challenged young adults and children working for their economic rehabilitation by teaching relevant vocational skills to them.

**(d) Self help and livelihood generation schemes:****i) Mokshagundam Visvesvaraya Centre for training Master Trainers in Skill Development (MVCTMTSD):**

Society for Bharat Ratna Sir M Visvesvaraya National Training Facility for Skills for All (BMV NTFSA) in association with ONGC and other partnering agencies such as Government of Karnataka, Government of India, GAIL, JSW, BEML, Volvo, BOSCH, L&T, Nationalised Banks has undertaken to set up Mokshagundam Visvesvaraya Centre for training Master Trainers in Skill Development (MVCTMTSD). The main objective of the programme is to create Master Trainers in India and to scale-up the skill of the technician workforce in the country. Nearly 27,000 Master Trainers are expected to be trained in the next 10 years.



Ashadeep-Shiksha ki Jyoti : Education to the girl child

**ii) Apparel training programme in Chhindwara (MP):**

This project in association with Apparel Training & Design Centre (ATDC), Gurgaon, aims to train 180 boys and girls of poor families located in tribal areas of Chhindwara district, M.P. to conduct Six Diploma/Certified training courses, which shall be sponsored by ONGC at a cost of ₹5 million. The project guarantees at least 70% placements.

**iii) Training on agricultural sector and animal husbandry:**

Under this project started in October 2013 in association with Shrimad Dayanand Vedarsh Mahavidyalaya Trust, New Delhi, one tractor with accessories along with hybrid/ disease resistant seeds, different manures and fertilizers was procured with the grant provided by ONGC. Presently the students of Gurukul are undergoing training as well as education in modern practices of agriculture and animal husbandry at the Gurukul.

**iv) Auto Loans in Chikkaballapur, Karnataka:**

The project envisages distribution of auto loans to 200 poor and needy beneficiaries; 100 each from Chikkaballapur and Bangalore (Rural) districts of Karnataka. The loan is distributed through Canara Bank. ONGC has provided financial assistance of ₹ 6 million towards margin money @15% for these loans. The project would be of immense help for the poor and needy beneficiaries to become self employed and earn livelihood for their families.

**v) Udaan:**

This is a special Initiative taken up by the Ministry of Home Affairs, Govt. of India for the educated youth of

Jammu & Kashmir in association with National Skill Development Corporation (NSDC). The project aims to train Graduates/Post Graduates from J&K to improve their technical knowledge and soft skills and enhance their scope for employability. ONGC has extended support of ₹91 million towards the project.

**(e) Development of Backward Districts:**

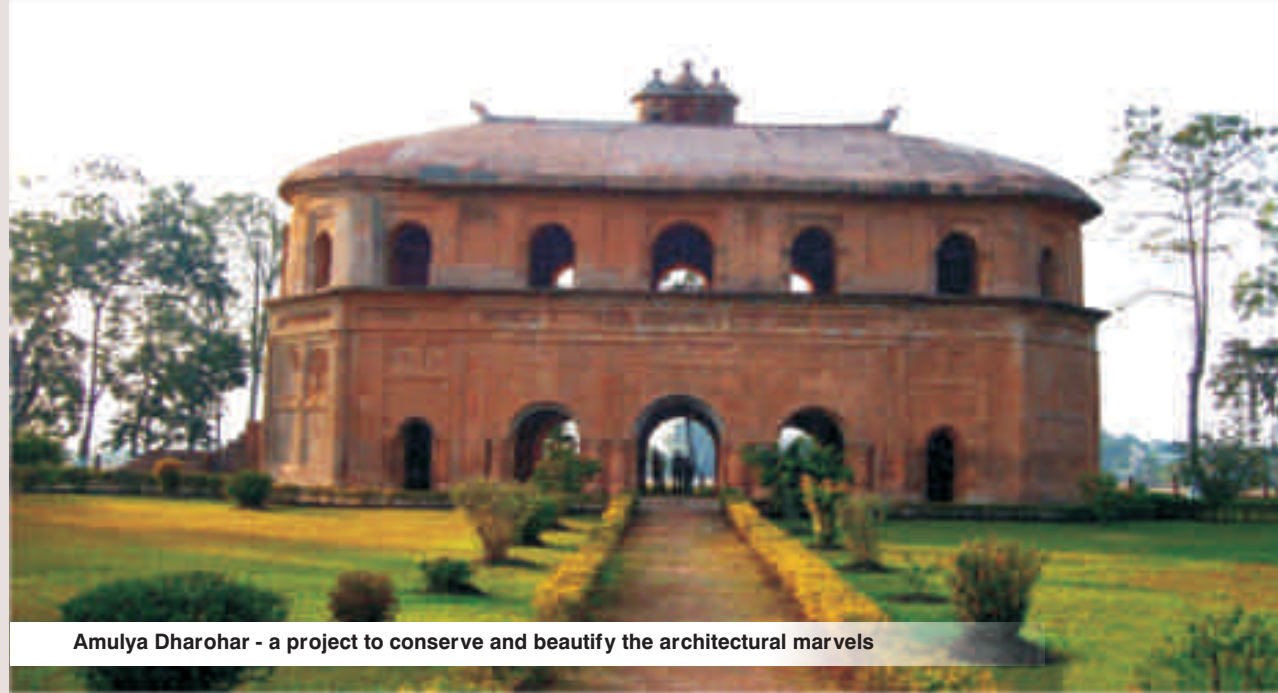
The sustainable development project is being implemented in Jaisalmer, a backward district in Rajasthan. Project involves setting up of 49 Wind Turbine Generators each of capacity of 2.1 MW with total capacity of 102.9 MW in association with M/S Suzlon Energy Ltd. ONGC contribution towards the project is ₹ 5620 million. 22 nos. of WTG have been installed so far.

**(f) Other CSR Initiatives:**

**i) Hortoki Water Supply Scheme:** The project aims to create a sustainable source of safe drinking water to the people of Hortoki Village, Kolasib District, Mizoram. It will supply more than 40 lpcd of water till 2043. ONGC has extended support of ₹ 9 million for the project.

**ii) Rajeev Gandhi International Sports Complex, Dehradun:** ONGC in association with Govt. of Uttarakhand is working towards building a Cricket stadium-cum-sports complex with a capacity of 30,000 people extendable to additional seats in future, car parking, a sports academy, a club house or Gymnasium, restaurant and other auxiliary facilities. ONGC has extended financial support of ₹ 500 million towards the project. The project is expected to be completed in two years.





Amulya Dharohar - a project to conserve and beautify the architectural marvels

- iii) **Dashrath Stadium at Agartala:** The project aims to create an Indoor sports complex in association with DDO Directorate of Youth Affairs. ONGC has extended support of ₹ 243 million for the project.
- iv) **IIIT, Agartala:** ONGC has extended support of ₹ 30 million for setting up a new IIIT in Agartala.
- v) **Chief Minister's Relief Fund:** Uttarakhand: ONGC has extended support of ₹ 20 million towards rehabilitation of flood affected regions in Uttarakhand.

In addition to above new CSR initiatives undertaken in 2013-14, ONGC has continued to support the major CSR interventions initiated in previous years. Some of the continued CSR initiatives are (i) Varisthajana Swasthya Sewa Abhiyan – provision of health care support to elderly through Mobile Medicare Units. (ii) ONGC-GICEIT Computer Centre- Employment related computer training to under-privileged youth (iii) ONGC-Eastern Swamp Deer Conservation Project in Kaziranga National Park (iv) Harit Moksha – Green cremation system to reduce wood consumption during traditional cremations.

As a testimony to our CSR efforts, your company has won many laurels such as:

- 1. Golden Peacock Award 2013 for CSR during 8th International Conference on Corporate Social Responsibility-2014
- 2. 'Global CSR Excellence and Leadership Awards' for best CSR Practices in areas of health

- 3. P L Roy CSR Award on 'International Day of Older Persons' for support to the elderly through its CSR initiative 'Varishthajana Swasthya Sewa Abhiyan'
- 4. SCOPE Meritorious Award for CSR & Responsiveness for the year 2011-12 on the occasion of Public Sector Day

#### 27. ACCOLADES

Consistent with the trend in preceding years, your Company, its various operating units and its senior management have been recipients of various awards and recognitions. Details of such accolades are placed at **Annexure – 'B'**.

#### 28. DIRECTORS' RESPONSIBILITY STATEMENT

Pursuant to the requirement under Section 217(2AA) of the Companies Act, 1956, with respect to Directors' Responsibility Statement, it is hereby confirmed that:

- (i) In the preparation of the annual accounts, the applicable accounting standards have been followed and there are no material departures from the same;
- (ii) The Directors have selected such accounting policies and applied them consistently and made judgements and estimates that are reasonable and prudent, so as to give a true and fair view of the state of affairs of the Company as at 31st March, 2014 and of the profit of the Company for the year ended on that date;
- (iii) The Directors have taken proper and sufficient care for the maintenance of adequate accounting records in accordance with the provisions of the Companies Act,

1956, for safeguarding the assets of the Company and for preventing and detecting fraud and other irregularities; and

- (iv) The Directors have prepared the annual accounts of the Company on a 'going concern' basis.

#### 29. CORPORATE GOVERNANCE

Your Company has taken structured initiatives towards Corporate Governance and its practices are valued by various stakeholders. The practices emanate from the need to position multi-layered checks and balances at various levels to ensure transparency of its operations in the decision making process.

In terms of Clause 49 of the Listing Agreement, a report on Corporate Governance for the year ended March 31, 2014, supported by a certificate from the Company's Statutory Auditors confirming compliance of conditions, forms part of this Report.

ONGC has implemented the mandatory Guidelines of Department of Public Enterprises (DPE), Government of India, on Corporate Governance to the maximum extent possible.

Your Company has voluntarily got its Secretarial Compliance Audit conducted for the financial year ended 31st March, 2014 from M/s A.N. Kukreja & Co., Company Secretaries in whole-time practice; their report forms part of this Annual Report.

In line with global practices, your Company has made available all information, required by investors, on the Company's corporate website [www.ongcindia.com](http://www.ongcindia.com)

Apart from the mandatory measures required to be implemented as a part of Corporate Governance, ONGC has gone the extra mile in this regard for the benefit of its stakeholders:

- i. **Whistle Blower Policy:** A total of 27 Protected Disclosures till date have been processed through the Whistle Blower mechanism of ONGC which was implemented from December 01, 2009. The policy ensures that a genuine Whistle Blower is granted due protection from any victimization. The Policy is applicable to all employees of the Company and has been uploaded on the intranet of the Company.
- ii. **MCA Voluntary Guidelines on Corporate Governance:** ONGC has implemented the voluntary guidelines on Corporate Governance issued by Ministry of Corporate Affairs to the extent feasible and within the competency domain of the management.
- iii. **Enterprise-wide Risk Management (ERM) framework:** In line with the requirements of Clause 49 (of the Listing Agreement), your Company has developed and rolled out a comprehensive Enterprise-wide Risk Management (ERM) Policy

throughout the organization. The Audit, Ethics & Financial Management Committee periodically reviews the risk assessment and minimization process in ONGC.

- iv. **Lead Independent Director:** Shri. Arun Ramanathan was the Lead Independent Director till conclusion of his term on 19.06.2014. The election of next Lead Independent Director shall be decided by the Independent Directors.

- v. **Meeting of Independent Directors:** The Independent Directors met once during 2013-14.

#### 30. STATUTORY DISCLOSURES

Section 274(1)(g) of the Companies Act, 1956 is not applicable to the Government Companies. Your Directors have made necessary disclosures, as required under various provisions of the Act and Clause 49 of the Listing Agreement.

#### Particulars of Employees

As per Notification No. GSR 289(E) dated March 31, 2011 issued by the Ministry of Corporate Affairs, amending provisions of the Companies (Particulars of Employees) Rules, 1975 issued in terms of section 217(2A) of the Companies Act, 1956, it is not necessary for Government companies to include the particulars of employees drawing salaries of ₹6 million or more per annum, employed throughout the financial year or, ₹0.5 million per month, if employed for part of the financial year. As your company is a Government company, the information has not been included as a part of the Directors' Report.

#### 31. ENERGY CONSERVATION

The information required under section 217(1)(e) of the Companies Act, 1956, read with the Companies (Disclosure of Particulars in the Report of Board of Directors) Rules, 1988, is annexed as **Annexure – 'C'**.

#### 32. AUDITORS

The Statutory Auditors of your Company are appointed by the Comptroller & Auditor General of India (C&AG). M/s Mehra Goel & Co, M/s S Bhandari & Co, M/s Ray & Ray, M/s Varma & Varma and M/s G D Apte & Co., Chartered Accountants were appointed as joint Statutory Auditors for the financial year 2013-14. The Statutory Auditors have been paid a remuneration of ₹22.92 million (previous year ₹20.21 million) towards audit fee and certification of Corporate Governance Report. The above fees are exclusive of applicable service tax and reimbursement of reasonable travelling and out of pocket expenses actually incurred.

#### 33. Auditors' Report on the Accounts

The Comments of Comptroller & Auditor General of India (C&AG) form part of this Report as per

**Annexure-'D'**. There is no qualification in the Auditors Report and there are no supplementary comments by C&AG under section 619(4) of the Companies Act, 1956. Notes to the Accounts referred to in the Auditors Report are self-explanatory and therefore do not call for any further comments.

You would be pleased to know that your Company has received Nil comments from C&AG and Statutory Auditors for the year 2013-14. This is the eighth year in a row that the organization has received Nil comments.

#### 34. COST AUDIT

Seven firms of Cost Accountants were appointed as Cost Auditors for auditing the cost accounts of your Company for the year ended 31st March, 2014 by the Board of Directors. The Cost Audit Report for the year 2012-13 has been filed under XBRL mode within the due date of filing.

#### 35. DIRECTORS

Since the 20th Annual General Meeting held on 25.09.2013, Shri Shaktikanta Das, Government Nominee Director resigned on 29.12.2013, Shri P K Borthakur Director (Offshore) superannuated on 31.01.2014, Shri Sudhir Vasudeva, Chairman & Managing Director superannuated on 28.02.2014. The term of Dr. D. Chandrasekharam concluded on 10.03.2014 and that of Prof Deepak Nayyar and Shri Arun Ramanathan concluded on 19.06.2014. Shri K S Jamestin, Director (HR) superannuated on 31.07.2014.

Shri T K Sengupta took over as Director (Offshore) on 01.02.2014. Shri Dinesh Kumar Sarraf assumed charge of the post of Chairman & Managing Director on 01.03.2014. Dr. Subhash Chandra Khuntia, Additional Secretary & FA, Ministry of Petroleum & Natural Gas, joined the Board as Government nominee Director on 01.05.2014. Shri Ashok Varma took over the charge of Director (Onshore) on 19.06.2014 and Shri Desh Deepak Misra assumed the charge of Director (HR) on 01.08.2014.

Place : New Delhi  
Date : 8<sup>th</sup> August 2014

Shri P Umashankar and Shri S Ravi joined the Board on 29.11.2013 and Shri R K Singh joined the Board on 23.05.2014 as non-official part-time directors

The Board places on record its deep appreciation for the excellent contributions made by Shri Shaktikanta Das, Shri P K Borthakur, Shri Sudhir Vasudeva, Dr. D. Chandrasekharam, Prof. Deepak Nayyar, Shri Arun Ramanathan and Shri K S Jamestin during their tenure.

The strength of the Board of Directors of ONGC as on August 5, 2014 is 15, comprising 7 Executive Directors (Functional Directors including CMD) and 8 Non-Executive Directors, out of which two are Government nominees and six are Independent Directors. Ministry of Petroleum & Natural Gas has been requested to appoint requisite number of Independent Directors to comply with the Listing Agreement.

#### 36. Acknowledgement

Your Directors are highly grateful for all the help, guidance and support received from the Ministry of Petroleum and Natural Gas, Ministry of Finance, DPE, MCA, MEA, and other agencies in Central and State Governments. Your Directors acknowledge the constructive suggestions received from Statutory Auditors and Comptroller & Auditor General of India and are grateful for their continued support and cooperation.

Your Directors thank all share-owners, business partners and members of the ONGC Family for their faith, trust and confidence reposed in ONGC.

Your Directors wish to place on record their sincere appreciation for the unstinting efforts and dedicated contributions put in by the ONGCians at all levels, to ensure that the Company continues to grow and excel.

On behalf of the Board of Director



(Dinesh Kumar Sarraf)  
Chairman & Managing Director

## Annexure A Statement of Reserve Recognition Accounting

Standardised measure of Discounted Future Net Cash Flows relating to Proved Oil and Gas Reserve quantities as on 31<sup>st</sup> March, 2014.

(₹ in millions)

Particulars	Gross Value as at		Present value (Discounted at 10%) as at	
	31 <sup>st</sup> March, 2014	31 <sup>st</sup> March, 2013	31 <sup>st</sup> March, 2014	31 <sup>st</sup> March, 2013
REVENUES				
OIL	7,734,063.16	8,365,018.68	3,910,315.59	3,802,873.44
GAS	2,873,072.70	2,562,165.68	1,542,824.81	1,061,892.70
<b>Total Revenues</b>	<b>10,607,135.86</b>	<b>10,927,184.36</b>	<b>5,453,140.40</b>	<b>4,864,766.14</b>
COSTS				
Operating, Selling & General	5,939,970.51	5,923,512.72	3,005,596.27	2,630,041.15
Corporate Tax	1,096,766.14	1,216,293.82	629,125.12	506,371.04
<b>Sub Total</b>	<b>7,036,736.65</b>	<b>7,139,806.54</b>	<b>3,634,721.39</b>	<b>3,136,412.19</b>
<b>Evaluated Cost of Acquisition of Assets, Development and Abandonment</b>				
a) Assets	276,898.40	541,735.26	115,933.69	364,859.94
b) Development	603,392.56	340,930.56	241,397.33	235,196.37
c) Abandonment	228,439.19	177,454.45	14,400.67	6,314.56
<b>Sub Total</b>	<b>1,108,730.15</b>	<b>1,060,120.27</b>	<b>371,731.69</b>	<b>606,370.87</b>
<b>Total Cost</b>	<b>8,145,466.80</b>	<b>8,199,926.81</b>	<b>4,006,453.08</b>	<b>3,742,783.06</b>
<b>Net future earnings from Proved Reserves</b>	<b>2,461,669.06</b>	<b>2,727,257.55</b>	<b>1,446,687.32</b>	<b>1,121,983.08</b>

#### Notes

- 1) The Revenues on account of crude oil & gas have been worked out on the basis of average price (net of profit Petroleum) for the year 2013-14. The average price for crude oil is net of Discount.
- 2) Expenditure on Development, Acquisition of capital assets, Abandonment costs and Operating Expenditure have been considered at current costs i.e as on 31.03.2014. Taxes and Levies have been considered at prevailing rates as on 31.03.2014.
- 3) The reserves have been estimated by ONGC's Reserve Estimates Committee following the standard international reservoir engineering practices.
- 4) Only Proved Reserves of ONGC share have been considered. Probable or Possible reserves have not been considered.
- 5) Both revenues and costs have been discounted to present value using 10% discounting factor. The Net future earnings, therefore, represent the net expected future cash inflows from production of recoverable reserves of crude oil and gas.
- 6) However, neither the estimated net reserves nor the related present value should be taken as a forecast of future cash flows or value of these reserves because (a) future estimated production schedules used in the valuation process are subject to change, (b) up-gradation of Probable and Possible reserves would significantly affect the gross and net present value of the expected future cash inflows, (c) future crude oil and natural gas prices are subject to change and (d) future expenditure on production (operating), development, acquisition cost of capital assets, abandonment costs and rates of taxes and levies, which may be at variance from those assumed herein.



## Awards, Recognitions and Accreditations



ONGC bagged the Oil Industry Safety Directorate award for "Best Overall Safety Performance of Oil and Gas Onshore Assets" and "Most Consistent Safety Performer Award" for the year 2011-12. CMD ONGC along with Directors on Board of ONGC received the award from the Hon'ble Union Minister for Petroleum and Natural Gas Dr M Veerappa Moily in New Delhi at Hotel Le Meridien on 19th July, 2013



CMD ONGC, Mr D K Sarraf receiving the Bureaucracy Today- Star PSU Excellence Award, 2014 from Dr Jeetendra Singh, Minister of State for Science, Technology & Earth Sciences (all independent charge). ONGC won the coveted award for 'Excellence in Market Capitalization' among the Maharatna and Navratna companies of India.

## Annexure - B Awards, Recognitions and Accreditations

### Awards in Corporate Category

#### 1. Platts Top 250: ONGC retains 3<sup>rd</sup> rank in E&P Companies list

ONGC maintained its **Third position** globally in the industry category "Oil and Gas Exploration and Production" and retained its overall ranking of **22<sup>nd</sup> position** in the Platts Top 250 Global Energy Company Rankings. ONGC is also ranked **2<sup>nd</sup>** Highest among all Energy Companies in India and has obtained the **7<sup>th</sup>** rank in the Asia/Pacific region. The annual survey of global energy companies by Platts measures the financial performance using four key metrics: asset worth, revenues, profits and return on invested capital. All the companies in the list have assets greater than US \$5 bn.

#### 2. ONGC 14th most valued brand amongst Best Indian Brands 2013

Economic Times-Brand Equity, a premier publication on brands and advertising, has listed ONGC as **14th most valued brand** in its exclusive study done together with Inter-brand. The study places ONGC as the most valued brand amongst non-banking PSU and has ranked above several popular brands like Maruti, ITC, Axis Bank.

#### 3. ONGC Videsh bags 'Best PSU' award in the oil and gas sector

ONGC Videsh bagged the best PSU award in the oil and gas sector at the Dainik Bhaskar India Pride Awards on December 19, 2013.

#### 4. ONGC Videsh the most internationalized Indian Company as per ISB Survey

ONGC Videsh Ltd. has been ranked as the top Indian company with the most global exposure, as per a survey conducted by the Indian School of Business (ISB) in collaboration with Brazil's Fundacao Dom Cabral. It replaces Tata Steel from the top slot. In the list of 15 most internationalized Indian companies, predominated by private sector business concerns, **ONGC Videsh** is the only public sector enterprise.

#### 5. ONGC bags Human Resource Management Excellence Award 2013

ONGC was conferred with Human Resource Management Excellence Award in the Navratna and Maharatna category at the ICC PSE Excellence Awards 2013 on December 16, 2013. The award for HR Management Excellence was based on parameters such as company's performance management system, number of training days per employee, training expenses as percentage of total employee cost, succession planning, gender mix and innovative practices to improve HR management.

#### 6. ONGC is the 'Best Employer' and 'Voice of Employee' : Aon Hewitt Best Employer 2.0 India study

ONGC bagged the 'Best Employer' award and 'Voice of Employee' award at the Aon Hewitt Best Employers -India 2013 award function held at New Delhi on January 15, 2014. Aon Hewitt Best Employer 2.0 India study was conducted across several organizations to benchmark against the best employers across the country, region and globe. The study aimed at identifying the best employers and their innovative practices.

#### 7. ONGC bags 'Best Enterprise Award' for Excellence in Women Empowerment

ONGC bagged the 'Best Enterprise Award' in the Maharatna and Navratna category at WIPS Award of excellence held on February 11, 2014 at Kolkata as a part of the 24th National Convention, Forum of Women in Public Sector (WIPS). ONGC bagged this award third time in a row.

#### 8. ONGC – Best Employer Brand : National Energy Excellence Awards

ONGC was presented the coveted award of the 'Best Employer Brand Organization in Asia Oil & Gas Sector' by the Asia Oil & Gas Congress at the prestigious 'National Energy Excellence Awards' held at Mumbai on February 13, 2014. The event was coordinated by the Institute of Public Enterprises, Hyderabad.

#### 9. ONGC, ONGC Videsh and MRPL bestowed with "Excellent" Rating for the Year 2012-13 for Corporate Governance by DPE

ONGC received "Excellent" Rating for the year 2012-13 for Compliance of Guidelines on Corporate Governance, issued by Department of Public Enterprises (DPE) for Central Public Sector Enterprises (CPSEs). ONGC has secured 100% Score in this regard and is the only Maharatna to achieve this feat. ONGC Videsh and MRPL have also been awarded with "Excellent" Rating for Corporate Governance for the year 2012-13.

#### 10. ONGC Videsh gets Corporate Excellence award both in Individual & Organisational category

ONGC Videsh was conferred the Corporate Excellence Award in Oil, Gas & Natural Resources Sector at Mumbai on June 29, 2013. The award has been instituted by the Institute of Public Enterprises, Hyderabad. Mr. D K Sarraf, erstwhile MD-ONGC Videsh was presented the Corporate Excellence Award for excellent corporate governance and Mr. S P Garg, Director (Finance), ONGC Videsh was presented Corporate Excellence in Finance & Financial management.

#### 11. CSR Excellence Award for ONGC for best CSR Practices in areas of health

ONGC was conferred with the 'Global CSR Excellence and Leadership Awards' on February 17, 2014 at





ONGC receives the HRM Excellence Award at the ICC PSE Excellence Awards 2013

Mumbai. ONGC was the solitary winner in the category of 'Best CSR Practices in the Areas of Health'.

#### 12. ONGC secured 4 awards in "PSU Champions Awards 2013"

ONGC secured 4 awards in the categories of Asset Utilization, and runners-up in Strategic Performance, Human Resource Utilization and Strategic Turnaround in the PSU Champions Awards 2013, organized by leading magazine Governance Now.

#### 13. ONGC bags two OISD Awards for the year 2011-12

ONGC's Rajahmundry Asset bagged the Oil Industry Safety Directorate (OISD)'s "Best Overall Safety Performance of Oil and Gas Onshore Assets" and "Most Consistent Safety Performer Award" for the year 2011-12. In addition, JV operation at Panna gas field between ONGC, BG and Reliance, operated by BG India won the OISD award for "Best Production Platform - Pvt/JV Companies" for the year 2011-12.

#### 14. Greentech Safety Award in Gold Category Awarded to ONGC Corporate Fire Services

In the 12th Annual Greentech Occupational Health Safety & Fire Conference on September 4, 2013, ONGC Fire Services received the 12th Greentech Safety Award in Gold category under the Petroleum Exploration Sector for its outstanding performance.

#### 15. ONGC bags OGCF-13 Award

ONGC won the Oil & Gas Conservation Award for Best Overall Performance among the Upstream Sector oil companies for the Oil & Gas Conservation campaign efforts during OGCF-2013. The award was given during the inaugural function of Oil and Gas Conservation Fortnight 2014 held on January 16, 2014 at New Delhi.

#### 16. ONGC secures Golden Peacock Award 2013 for Corporate Social Responsibility

ONGC received Golden Peacock Award for Corporate Social Responsibility for 2013. The award was given in Bangalore during the '8th International Conference on Corporate Social Responsibility-2014', on 17th January, 2014.

#### 17. ONGC conferred with P L Roy CSR Award

ONGC received the prestigious P L Roy CSR Award on 'International Day of Older Persons' i.e. October 1, 2013, for its continuous support to the elderly through its CSR initiative 'Varishthajana Swasthya Sewa Abhiyan' in association with HelpAge India. The P L Roy CSR Award is given to the Corporate Houses engaged in active and continuous CSR Support for activities through HelpAge India in memory of the long term contribution to HelpAge India by Mr P.L. Roy, who was a dedicated and committed Board member of the HelpAge India.

#### 18. ONGC conferred FICCI "India's Best Sports Promoting Company"

FICCI conferred their prestigious - India's 'Best Sports Promoting Company' award for a second consecutive year on ONGC. It is the first time that FICCI has conferred its award on the same organization in successive years.

#### 19. ONGC awarded 'Most Admired Organization in Oil & Gas Sector' by Institute of Public Enterprises.

ONGC was awarded the coveted award of the 'Most Admired Organization in Oil & Gas Sector' by National Energy Excellence Awards, organized by the Institute of Public Enterprises, Hyderabad, held at Mumbai on October 21, 2013.

#### 20. ONGC declared as the winner of the "Commendation Certificate" of SCOPE award for Excellence and Outstanding contribution to the Public Sector Management - Institutional Category.

ONGC has been declared winner of the "Commendation Certificate" of SCOPE award for Excellence and Outstanding contribution to the Public Sector Management - Institutional Category.

#### Individual Awards

##### Shri Sudhir Vasudeva, Former CMD & Chairman ONGC Group of companies

- Featured among the '50 Top National Oil Company Executives 2014' published by World Oil and Gas (TerraPinn) recently.
- Conferred 'CEO of the Year' as well as 'Super Boss of the Year' awards in the Oil & Gas Sector, by National Energy Excellence Awards, co-ordinated by the Institute of Public Enterprises, Hyderabad.
- Conferred with the prestigious "CEO with HR Orientation" at the IPE Asia Pacific HRM Congress Awards at an event was organized in association with the Institute of Public Enterprises, Hyderabad.
- Declared winner of SCOPE Award for Excellence and Outstanding Contribution to the Public Sector Management - Individual Leadership Category.
- 'Outstanding Leadership Award' by the Asia Oil & Gas Congress in a ceremony held on 13.02.2014 coordinated by the Institute of Public Enterprises, Hyderabad.
- Shri Sudhir Vasudeva and Former ONGC Chairmen Col S P Wahi and Mr B C Bora were conferred the 'Energy and Environment Foundation Global Excellence Awards - 2014' in the Petroleum Sector. The Award was conferred at the 3rd World Petrocoal Congress held at New Delhi on February 15, 2014.

Shri D K Sarraf ex-MD, ONGC Videsh was conferred with CEPM-PMA Fellowship Award 2013 on 02.12.2013

by Project Management Associates (PMA - India), member of Internal Project Management Association (IPMA).

##### Shri K S Jamestin, Ex-Director (HR & I/C BD&JV)

- Conferred the prestigious HR Leadership Award at the Asia Pacific HRM Congress in September, 2013. Also presented Citation for 'Most Powerful HR Professional of India' and '30 Best HR Leaders in PSUs' in the same event.
- Conferred Level - A Certification, i.e. Certified Projects Director by the International Project Management Association (IPMA) in January, 2014.
- Conferred with two prestigious honours - The JRD Tata Award for Inspirational Leadership in HR and '50 Most Talented Global HR Leaders in Asia', during the 22<sup>nd</sup> edition of the World HRD Congress in Mumbai on 16<sup>th</sup> February, 2014.

Mr. K L Mehrotra, Head of ONGC Academy was bestowed with 'Outstanding Contribution to Education in Oil & Gas Sector' award.

##### National Honours for ONGC Fire Personnel, on Independence day, 2013

ONGC Fire Services personnel, Shri Sanjeev Kapoor, Chief Manager (Fire Services), RO, Mumbai, Mr M K Shami, Senior Fire Officer, Cauvery Asset, Karaikal and Mr S J Gharat, Chief Fireman, RO, Mumbai have received the National Honours for meritorious service announced by the President of India on the occasion of Independence Day, 2013.

##### ONGC Fire Service officers bestowed with Fire Services Medal

Four of ONGC Fire Service officers Shri H.S. Sahu, Manager (Fire Service), Shri M.M. Deb Burma, Senior Fire Officer, Shri B.S. Choudhary, Chief Fireman and Shri R.L. Makwana, Chief Fireman, have been bestowed with Fire Services Medal for their meritorious services by the Government of India on the occasion of Republic Day.

##### Sports Achievements FY'14

###### 1. Amit Kumar wins Senior Asian Wrestling Championship

ONGCian Amit Kumar, backed by his experience of London Olympics, defeated Kyong Il Yang, an Olympics bronze medallist of North Korea 1-0, 5-2 to claim the gold medal in the 55kg freestyle category in Senior Asian Wrestling Championship held at New Delhi on April 20, 2013.

###### 2. National Accolades for ONGCians - Four 'Arjuna Awards'

Four ONGCians, Rupesh Shah (Billiards), Virat Kohli (Cricket), Amit Kumar Saroha (Athletics) and Rajkumari Rathore (Shooting), were conferred with the 'Arjuna Award' for the year 2013, in a traditional ceremony held



## Annexure - C

at the Rashtrapathi Bhavan on August 31, 2013. ONGC bagged 4 of the 15 awards on offer.

? Ronjan Sodhi, another ONGCian, was conferred the Rajiv Gandhi Khel Ratna award for his outstanding achievements in sports.

### 3. Double delight for ONGC Chess Team

Koneru Humpy won the recently concluded Tashkent Grand Prix with back-to-back successes. She also won the second Women's FIDE Grand Prix and the Armenian Grand Prix held at Dilijan Armenia. With the back to back success in the two grand prix events, Humpy has enhanced her chances to qualify for the ultimate world title match.

? Another ONGCian – 19 year old Grand Master Vidit Gujarathi became the first ONGC scholarship player to win a World Junior Chess Championship medal when he held eventual champion Yu Yangyi of China to a draw in the 13th and penultimate round to finish third in Kocaeli, Turkey on September 26, 2013.

### 4. Double Title for Team ONGC in Badminton

ONGC Badminton team has recently won both PSPB and AIPSSPB Badminton tournament hosted by EIL at Sri Fort stadium (New Delhi) from September 23-27, 2013 and All India Public Sector Sports Promotion Board (AIPSSPB) Badminton Tournament by LIC at Green Park Stadium (Kanpur) from October 4-8, 2013.

### 5. ONGC lifts AIPSSPB Hockey Trophy

ONGC beat IOC in an enthralling Finale of the All India Public Sector Sports Promotion Board (AIPSSPB) Hockey Tournament at Amritsar on October 6, 2013 hosted by ONGC and held from October 1-6, 2013 at the Guru Nanak Dev University Hockey Ground in Amritsar.

### 6. ONGCian Abhijeet Tikka 'shoots' to fame

ONGCian Dr. Abhijeet Tikka, Manager (MM) won two Gold medals in Rapid Fire Pistol (Individual) and Center Fire Pistol (Individual) at the 12th Uttarakhand State Rifle Championship 2013 organized at the Jaspal Rana Shooting Range in Dehradun.

### 7. ONGCian Alok Kumar dazzles with Silver & Bronze in the World Billiards Championship, UK

ONGCian Alok Kumar put up sterling performance to bag his first ever Silver medal in the 150 points-up short format World Billiards championship held at the Northern Snooker Centre, Leeds, UK from 20-30 October, 2013.

### 8. Young ONGC Shooter Excelled at International Shooting Event

Shooter Miss Shriyanka Sadangi, a scholarship player of ONGC has shown splendid performance in the recently held Asian Air Gun Shooting Championship at Tehran, Iran and won the Bronze medal in the 10 m Air Rifle (women team event). She was a part of Junior Indian Shooting team.

### 9. Ace shooter Shagun Chowdhary wins gold at National Championships

Shagun Chowdhary of ONGC won a Gold and Silver medal in the recently concluded 57th National Shooting Championship at the Dr Karni Singh Range, Tughlakabad. Shagun clinched the National title in the Single trap event while she finished second in the Double trap at the premier championships.

### 10. ONGC Chess Player Sethuraman wins International Grand Masters Chess Tournament; Vidit finishes 3rd

Grand Master S. P. Sethuraman of ONGC won the Second International Grand Masters Chess Tournament organized at Hyderabad while vidit finished 3<sup>rd</sup>.

### 11. ONGC beats National Champion in PSU Volleyball

Hosts ONGC beat Indian Overseas Bank (IOB) to clinch the Volleyball title in the All India Public Sector Volleyball tournament (2013-14) held at the Jawaharlal Nehru Stadium, Chennai.

### 12. ONGCians Pankaj Advani (Snooker) and Sourav Kothari (Billiards) become national champions

Pankaj Advani of ONGC beat Kamal Chawla of Railways to clinch his 6th National Snooker Title on March 7, 2014. Earlier, fellow ONGCian Sourav Kothari won his maiden National Billiards Title defeating teammate Alok Kumar in a tightly contested final.

### 13. ONGCians bring Sporting Glory to ONGC at National Championship track & field

Ms Purnima Sarma bagged Silver medals in 200 mtrs and 1500 mtrs run and one Bronze medal in 5000 mtrs run in the 35<sup>th</sup> National Master's Athletic Championships-2014 held at Jaipur (Feb 20-23, 2014).

### 14. ONGC bags 3rd position at the 38th National Badminton Championship

Mrs. Manjeet Sharma bagged 3<sup>rd</sup> position in women's doubles in the 38<sup>th</sup> Indian Masters National Badminton Championship organised by Madhya Pradesh Badminton Association, BHEL & BDBA at Bhopal from Feb 28- March 2, 2014.

## A. ENERGY CONSERVATION

The following measures were taken towards energy conservation during 2013-14

- Procurement concluded for 2 X 250 KVA Gas Gen Set for installation at CBM site. The 1st such set to run with CBM i.e. alternate fuel. The Gas Gen sets are under commissioning
- Gas flaring in Onshore Assets has gradually been reduced from 555 MMSCM in 2001-02 to 126.211 MMSCM in 2013-14 by taking various measures like creating necessary infrastructure i.e. pipelines, compressors direct marketing of isolated low volume and low pressure gas and adopting innovative measures such as GTW (Gas to Wire)
- Bi-fuel Technology successfully inducted as a pilot project in Rig E-1400-17 in Malleswaram field. Based on Malleswaram field gas composition and varying power pack load, diesel substitution was in the range of 35-45%. Minimum savings of 30 ltrs-60 ltrs/hr/power pack operation on Bi fuel Mode
- 133 Nos. of LED based street light fixtures have been installed to replace 250 W HPSV & 70 W HPSV light fixtures in KDMIPE
- 623 no's of energy efficient light fixtures introduced (LED Based and 28W T5-Tube light fixtures) in All New/Renovation/Revamping Electrical works in KDMIPE
- LED based KDMIPE Signage board was installed and commissioned in place of NEON Signage board
- Electrical Load Power Factor has been maintained at 0.99 of Electricity supplied by UPCL at 33 kV Substation and up to 0.92 of DG Sets through APFC (Automatic Power Factor Correction) Panel
- GEOPIC has taken several measures to induct energy efficient servers, workstation, thin clients, disk storage systems and single channel stereoscopic projection
- LOI has been placed to replace 20 Nos. of conventional street light fittings (150W HPSV) with 90W LED light fittings
- Continued replacement of the existing conventional fluorescent tube light fittings with energy efficient T-5 type fluorescent fittings with electronic ballasts on failure and need basis
- All three transformers at IRS are optimally loaded so as to increase transformer efficiency taking cognizance of seasonal variation in temperature
- Uran Plant upgraded GT-II with new technology components having better metallurgy, providing desired benefits on a sustainable basis
- Uran Plant has installed VAM based AC system of Co-

generation Plant instead of conventional AC system that is in continuous operation and meeting desired cooling requirements of all sophisticated control system components of power plant control room. This has resulted in saving of 61320 units

- Hazira Plant has revamped central AC plant of Admn Building including replacement of 25 years old reciprocating chiller unit & single screen Air Handling Units (AHU) with latest technology of Screw Chillers & Variable Frequency Drive (VFD) controlled Double Screen
- 210 energy audits have been carried out against a target of 195

## B. Renewable energy developments:

- 2 KW Solar Photo-Voltaic Power Plant for lighting of garden in front of the main KDMIPE building has been commissioned
- Installation of 20 Nos. of Solar Street Light poles with 2 x 11W CFL fittings
- Installed 12 kw Solar power plant for main library at IRS
- All Assets in Onshore are installing solar LED street lights in colonies and some installations. 8 Nos. of solar water heater have been installed in Ankleshwar colony. Rajahmundry Asset is processing a proposal for installing 1 MW solar plant

**Impact of measures for reduction of energy consumption and consequent impact on the cost of production of goods**

The Energy conservation and renewable energy development measures have resulted significant savings. Further the above measures have resulted in reduction of significant quantity of fuel consumption (HSD, Natural Gas and electricity).

## C. RESEARCH AND DEVELOPMENT

### 1. Specific areas in which R&D was carried out

- CBM prospectivity of Purnea Basin, West Bengal and Bihar was taken up during the year. Purnea basin has substantial sub-surface reserves of Gondwana coals. The project was taken up during 2013-14 in sync with the ongoing drilling for conventional hydrocarbon in the basin to assess its CBM potential in terms of resource and area(s) of interest
- Identification of suitable chemical methodology for improving flow assurance of waxy/asphaltic crude oils in down hole tubular as well as in transportation lines
- Designing of suitable chemical formulations for water shut-off / profile modification for arresting water production/ improving sweep efficiency in oil & gas wells in various Indian oil fields
- Analysis of sub-surface samples to generate PVT



- parameters for reservoir engineering calculation and prediction
- Performance analysis of different Indian Oil/Gas fields for optimum exploitation
- Determination of Rock Mechanical parameters on core samples from fields of KG-PG and A&AA at variable temperature and pressure. Change in the velocity with pressure and temperature and its effect on rock mechanical parameters were parameters were observed
- Field implementation of various MEOR processes in huff-n-puff mode in the different fields like Mehsana and Ankleshwar area of ONGC. The Jobs includes Paraffin Degrading Bacterial (PDB) Job in tubular, mitigation of Wax deposition problem and application of microbial process in heavy crude oil and core flood experiments using bacterial consortium
- Software development using CUDA-GPU Technology
- Formulation of drilling fluid for HPHT application with different weighing material in line with envisaged perspective plan -2030
- Field support services for framing drilling fluid policies for Hi-tech wells as and when proposed by different Asset and Basin
- Feasibility study of using oil field effluent for preparation of mud and brine
- Identification and framing of specification for LTSOBM additives
- Evaluation of mud chemicals in clay free mud system
- Formulating suitable mud system for drilling developmental wells of Malleswaram field, and formulating an alternative mud system to RL-CL mud system in use for drilling HTHP wells
- Optimization of KCl percentage in KCl-PHPA-Polymer-Polyol mud system
- Devising a suitable mud system with lower mud weight to drill the depleted formation of Gandhar Field to avoid formation damage as much as possible
- One dimensional geo mechanical model and well bore stability for C-24 and B-12 cluster fields
- Borehole analysis of problematic wells in Tapti-Daman area, CK and B-170 areas
- To suggest mud weight window for drilling high angle wells through Raghavapuram shale of Kaikalur and / Malleswaram Field
- Identification of suitable technology for drilling true vertical wells in highly dipping formations of Silchar area
- Strategy for implementing cutting edge technology-Managed Pressure Drilling (MPD) in suitable areas of

- Agartala, ONGC for augmenting road map envisaged in Perspective Plan-2030
- Well Planning for (i) well MNAE (TD-1400m) of Rajasthan Forward Base (ii) deep exploratory well KPBC (TD-4500m) of Cauvery Asset (iii) Sidetrack well BRH # 47 in Borholla field of A&AA Basin (iv) well # Diamante-1 in RC-10 Block of Colombia Offshore, (TD-3600m, Water depth-1150m) (v) deep exploratory well PDAC (TD-4850m) of Cauvery Asset. (vi) well RGS#17 of Naga Thrust Area of Assam Asset (vi) Well # Rubi-1 in RC-8 Block of Colombia Offshore (TD-2450m, Water depth-210m). (vii) well NCAC of Cauvery Asset (viii) well TAAE (TD-3600m) of Cauvery Asset (ix) Well # Amatista-1 in RC-8 Block of Colombia Offshore (TD-3300m, Water depth-410m) (x) un-named location of Cauvery Asset
- Drill Bit Optimization for top hole section in Sarupathar/ Koraghat area of A&AA Basin
- Suitable Drill Bit selection for major fields of Assam Asset Sibsagar
- Designing of cementing system for ISC wells of Mehsana
- Remedial action to avoid annular activity in light of experience in well no. VJH1\_Z
- Cementation against fractured basement in wells of Khoraghat
- Detailed techno-economic solutions to control total mud loss for successful liner cementation in D\_11 field
- Casing cementation methodology against ultra-shallow gas problem in North Tapti field
- Analysis of poor CBL/VDL response vs. injectivity at well ALIABET # 5
- Remedial gel cementing solution for water shut off jobs

**Expenditure on Research & Development**

(₹ in million)

	2013-14	2012-13
Capital	213.31	118.66
Recurring	5,296.06	5263.16
<b>Total</b>	<b>5,509.37</b>	<b>5381.82</b>
Total R&D Expenditure as a percentage of Total Turnover	0.66%	0.65%

Note: Previous year figure has been regrouped in view of preparation of accounts under Revised Schedule VI.

**D. Technology absorption and adaptation**

- Ultrasound stimulation treatment was implemented in 7 identified wells in Nandasan, North Kadi & Jotana fields of Mehsana Asset as per Contract agreement with M/S Quantum Application Hydrocarbon Mumbai, on "no cure no payment basis". Production from all stimulated wells is under observation for incremental benefits
- VFD (Variable Frequency Drive) installed for the 1st time to control SPM of SRP as per the productivity of well in place of conventional units where the drive motor runs at 50 cycles/second. The use of VFD will result in substantial reduction of power consumption in SRPs along with reduction in maintenance and consumption of V-belts
- Mehsana Asset has initiated an innovative system to produce heavy viscous crude oil from heavy fields by injecting chemical at the sand face for improved flow assurance. Such sand-face chemical dozing completions have been completed in 11 wells with

- encouraging results & increase in production
- In Ankleshwar Asset, new generation polymer gel system developed by IRS for high temperature of Gandhar field was used for water shutoff in well G#681. Post job the well flowed with oil gain of 55m<sup>3</sup>/d with water cut of 0.6%.
- Rapid Setting Fluid (RSF pill) Loss control material was used in well N12#3Z & HG# 6H of Mumbai offshore that yielded encouraging results.
- Solution to Gassed out in-situ combustion EOR wells of Mehsana by Polymer cement technology
- Field implementation of weighted spacer in oil well cementation was successfully field implemented in respect of preparation and placement of spacer in well RODJ of Agartala Asset. Ready for further field implementation in SADE

**E. Information regarding imported technology for the last five years**

S.No.	Technology Imported	Year of Import
<b>A</b>		
(i)	<ul style="list-style-type: none"> <li>Latest releases of Landmark/ Hampson Russell/ Jason/ GeoQuest/ Paradigm/ Midland Valley/ GOCAD/Drill Works/ Petromod/ Kingdom suite/ OpendTect/ PANSYSTEM &amp; PANMESH Interpretation Software installed</li> <li>Unlimited site specific license of PANSYSTEM s/w for all ONGC offices within corporate deal and 3 licenses of PANMESH s/w under corporate license from M/s EPS</li> <li>100% corporate licensing of Geoframe/ Petrel s/w from M/s GeoQuest and corporate AMC has been finalised</li> <li>100% corporate licensing of Paradigm interpretation s/w and corporate AMC has been finalised</li> <li>RokDoc software (1D/ 2D/ 3D / Chronoseis) from M/s ICON SCIENCE has been inducted in GEOPIC</li> <li>IES Basin Modelling Technology</li> <li>Auto Counting FT system</li> <li>Landmark's R5000 software was successfully installed in Linux Based workstation</li> <li>Pipe conveyed logging system.</li> </ul>	2009-10
(ii)	<ul style="list-style-type: none"> <li>Continuous Flow Isotope Ratio Mass Spectrometer (CF-IRMS)</li> <li>COREVAL-30</li> <li>SKUA software from M/s Paradigm</li> <li>Fugro Jason Work Bench Software</li> <li>SATA-II disks based SAN storage systems</li> <li>PERISCOPE</li> </ul>	2010-11
(iii)	<ul style="list-style-type: none"> <li>3D Visualisation Centre</li> <li>The Fluid Eval</li> <li>Induction of CRAM software from M/s Paradigm</li> <li>Induction of Geo-science core system and seismic interpretation module of petrel software from M/s Geoquest Systems B.V.</li> <li>Induction of MATLAB Software from M/s Designtech Systems Ltd.</li> </ul>	2011-12



	<ul style="list-style-type: none"> <li>Petrel software for Processing of seismic data from M/s Geoquest Systems B.V.</li> <li>Multi-Component Seismic Survey - 3D – 3C</li> <li>TuffTRAC- a new generation wire line-conveyed tractor, used for carrying out perforations</li> <li>Ultra HP/HT TCP-DST to test wells in very High temperature &amp; Pressure conditions having temperatures beyond 450°F</li> <li>RF Safe perforating System</li> </ul>	
(iv)	<ul style="list-style-type: none"> <li>Sm-Nd Dating facility to date hard rocks like Igneous and metamorphic. It is also helpful in ascertaining the provenance age in sedimentary rocks and correlation of reservoir lithology</li> </ul>	2012-13
(v)	<ul style="list-style-type: none"> <li>Radial 3D Saturn Probe-used for pressure measurements, downhole fluid analysis and fluid sampling in extremely low mobility reservoir sections.</li> <li>Radial Cutter Torch (RCT) used to retrieve the 3 1/2" tubing which is clamped with ESP cable in 9 5/8" casing. The thermal Generator System initiates the RCT tool and directs the molten plasma for cutting the pipe.</li> <li>Multi sample porosimeter-Permeameter KEYPHI-used for measurement of petrophysical parameters at variable confining pressure.</li> <li>UV-Vis Spectrophotometer Lambda-35 (PerkinElmer) is useful in the genetic correlation, depositional environment and maturity of crude oils and source sequences.</li> <li>Thermo Fisher Nicolet iS5 FT-IR Spectrophotometer used for the study of structural group analysis of complex hydrocarbon mixtures, genetic correlation of crude oils &amp; bitumens and oil shale &amp; kerogen analysis.</li> <li>The e-Permit system to Work (PTW): offers the distinct advantage of a standardized PTW template across the organization and ensures faster permit access to the end user.</li> <li>Air Hammer Drilling-used for the first time in ONGC in well Jabera-3, Vindhyan Basin. The technology is based on the under balanced drilling and has an option for change-over to conventional mud system to meet the operational, safety and testing requirements</li> </ul>	2013-14
<b>B</b>	Has the technology been fully absorbed?	Yes
<b>C</b>	If not fully absorbed, areas where this has not taken place, reasons thereof, and future plans of action	Not applicable

**F Information on Foreign Exchange Earnings and Outgo**

(₹ in millions)

	2013-14	2012-13
Foreign Exchange Earnings	74,889.85	74,723.38
Foreign Exchange Outgo	1,83,728.64	182,446.11

**G. Environment Protection and Conservation, ecological conservation, Renewable energy developments**

**Alternate sources of energy**

ONGC, has taken the initiative to evaluate various forms of energy to fulfill the country's growing energy needs. ONGC, through ONGC Energy Center (OEC), a trust established by ONGC, is actively pursuing alternate energy opportunities. OECT is mandated to undertake and assist in programs/projects of fundamental and applied research for improving and developing commercially viable energy mediums and sources beyond hydrocarbons, especially in clean and/or renewable energy options.

ONGC Energy Centre has been implementing Research projects in several new and alternative sources of energy in collaboration with various national and international academic, research and industrial organizations. These Projects are in advanced stages of implementation. During 2013-14, ONGC Energy Centre has evaluated new options to expand the research and technology development activities and also to focus on optimum utilization of resources available with ONGC. Some of the significant initiatives in developing alternate sources of energy are:

**Generation of Hydrogen through Thermochemical Processes:**

OECT is working on development of high temperature thermochemical processes for decomposition of water, utilizing waste nuclear and/or solar heat. From amongst various possible options, development of closed-loop Copper-Chlorine (Cu-Cl) and closed/partially open-loop iodine-Sulphur (I-S) cycles have been selected, which require high temperatures (550-900 C) and water to produce hydrogen. Currently, as Institute of Chemical Technology (ICT), Mumbai, is working on development of laboratory scale engineering process using a modified Cu-Cl cycle to demonstrate hydrogen generation @ 25 litres per hour. The initial design and fabrication of indigenous reactor has been completed. The complete close loop process is likely to be demonstrated shortly.

In addition, proof-of-principle experiments of entire I-S cycle have been completed at IIT, Delhi. Several options for modifying the existing routes of I-S cycle including development of partially open-loop I-S cycle H2S splitting process are being investigated. Three International patents on modified Cu-Cl cycle, applicable for six countries (USA, Canada, Japan, Germany, Korea and China) have been filed jointly by OEC and ICT-Mumbai.

**Geothermal Power Project in Cambay Basin**

Geothermal energy can be harnessed by extracting heat from earth by drilling water or steam wells. OEC

has contemplated a pilot scale Geothermal collaborative Pilot Project in Cambay Basin, Western India with M/s. Talboom, Belgium( as technology partner). The subsurface heat modelling has estimated high geothermal gradient. The initial result of the modelling has also estimated that approx. 2.1MWe geothermal power generation capacity can be set up in Phase-I. OEC has started preliminary work to evaluate feasibility of geothermal power generation using a single well with a view to utilize abandoned / non-flowing high temperature wells.

**Kinetic Hydro Power Project**

ONGC Energy Center has entered into an agreement with M/S Natural Power Concepts(NPC), Hawaii, USA for the project on Kinetic Hydro Power Generation in Rivers/Water Channels/Tail races of Dams. Floating turbines can be used to harness the kinetic energy of flowing streams or tail race of existing dams to generate electricity. NPC has recently developed in-stream Auger Turbine (IAT) for trials in Indian conditions. Performance evaluation of a 20.5 feet IAT prototype has been completed by NPC. Testing has been done at 6 different speeds in the range of 8.3 Km/hr-12.5 km/hr at 65% submergence. The power generation capacity in reported to be the range of 5 Kw to 14.3 Kw.

During 2013-14 NPC has made further changes for optimization of the design and a 38 ft IAT has been designed, which is capable of giving output power in 120-200 kW range. OEC team along with NPC representative has identified a site as the tail race of Kolkewadi Dam at Pedambe in Maharashtra. Permissions to conduct the testing at this site has been obtained from Dam authorities.

In addition, CFD simulation studies have been conducted by OEC to explore the possibility of increasing the water velocity in an open water channel, using an appropriately designed floating weir structure.

**Bioconversion of Coal to Methane Project**

There are many coal/lignite seams, which cannot be mined due to various reasons. There are several types of microbes, acting in tandem (as a consortia), which can generate methane from such coal/lignite and oil. A unique consortium of microbes is required for each coal seam/oil reservoir. Research is underway to identify the specific consortia that can act on different seams/reservoirs.

OEC had taken the initiative to undertake research on development of biotechnological process for conversion of lignite/coal to methane gas and produce humic acid as a by-product which can act as a soil nutrient.

A collaborative project with IIT Kharagpur to generate methane and humic acid from lignite in surface conditions as well as in-situ has recently concluded.



The biotechnology for production of methane and humic acid from lignite has been developed in the laboratory. The laboratory experiments have reported maximum yield of 9.6 L/Kg of biogas with 47% methane content and initial lag of 11-14 days, with fungal pre-treatment. At pilot reactor level the output has been increased to 12.2 L/Kg of lignite used. Maximum yield of 27% humic acid was achieved with fungal strains in incubation period of 15020 days. Successful field test have been conducted with Humic acid on Zea mays & Brinjal.

#### Bioconversion of Oil to Methane Project

Currently available oil recovery techniques can extract about 40% of existing oil resources, leaving the remainder stranded in mature fields. Therefore, it is very important to develop technologies to improve the recovery from the existing oil reservoirs. Apart from employing other improved and enhanced recovery techniques, one of the probable approaches is to convert the unrecovered reservoir oil to methane gas in-situ. In case of reservoirs, where methane producing microbes (methanogens) are already present, the process of methane generation could also possibly be stimulated by providing suitable nutrients to enhance metabolic activity of the microorganisms. In any case reservoirs devoid of methanogens can always be seeded with appropriate microbes and nutrients. It is not possible to recover all oil from any well.

OEC is currently working on a project to develop microbial consortium/consortia, which can convert residual oil to methane under harsh reservoir conditions, such as high temperature and high pressure. Under this project OEC will conduct in house research to isolate/develop thermophilic, anaerobic methanogenic bacterial consortium capable of producing methane gas using oil as carbon substrate. Thereafter, it is proposed to optimize the process of methane gas production from oil using the isolated/developed methanogenic bacterial consortium. This research work is to be

carried out in ONGC laboratories at KDMIPE, Dehradun.

#### Solar Thermal Project

ONGC Energy Center is currently working on field performance of Solar Thermal dish Stirling Engine System developed by a US Company. Three units, which generate grid quality AC electricity of 230V, 50HZ, are installed & operational at Solar Energy Center of Ministry of New and renewable Energy at Gurgaon. Each Engine along with their linear alternator is producing upto 2.2 KW peak Power at solar insolation of around 750 W/m<sup>2</sup>.

#### Uranium Exploration Project

ONGC Energy Center is currently engaged in a exploration program for identification of uranium prospects, suitable for exploitation by "In Situ Leaching" (ISL), in collaboration with Atomic Minerals Directorate for Exploration and Research (AMD), the exploratory arm of Department of Atomic Energy, Government of India. OEC has initially identified four regions, with presence of Uranium in excess of 50 ppm. ONGC has successfully completed 10 parametric wells in Cauvery and KG basins at identified locations, cored and logged for Spectral Gamma Ray for confirmations of the presence of Uranium. The cores, recovered from zones of interest, are analyzed in laboratories through geological, geochemical and radiological methods, for determining the actual uranium concentration and its leachability.

During 2013-14 OEC started a project to drill 7 parametric wells in Suket region in Rajasthan. Five wells were completed during the year. Initial results indicate Uranium concentration of about 208 ppm at 270 metres depth, with 90% leachability in Jhalawar High-II and maximum concentration of about 400 ppm at a depth of about 440 m in Suket area. R&D efforts are also underway to develop ISL methodology for subsequent exploitation of uranium resources.

## Annexure D

### COMMENTS OF THE COMPTROLLER AND AUDITOR GENERAL OF INDIA UNDER SECTION 619 (4) OF THE COMPANIES ACT, 1956 ON THE ACCOUNTS OF OIL AND NATURAL GAS CORPORATION LIMITED FOR THE YEAR ENDED 31ST MARCH, 2014

The preparation of financial statements of **Oil & Natural Gas Corporation Limited** for the year ended 31 March 2014 in accordance with the financial reporting framework prescribed under the Companies Act, 1956 is the responsibility of the management of the company. The statutory auditors appointed by the Comptroller and Auditor General of India under Section 619 (2) of the Companies Act, 1956 are responsible for expressing opinion on these financial statements under section 227 of the Companies Act, 1956 based on independent audit in accordance with the standards on auditing prescribed by their professional body the Institute of Chartered Accountants of India. This is stated to have been done by them vide their Audit Report dated 29 May, 2014.

I, on the behalf of the Comptroller and Auditor General of India, have conducted a supplementary, audit under section 619 (3) (b) of the Companies Act, 1956 of the financial statements of **Oil & Natural Gas Corporation Limited** for the year ended 31st March, 2014. On the basis of my audit nothing significant has come to my knowledge which would give rise to any comment upon or supplement to Statutory Auditors report under section 619 (4) of the Companies Act, 1956.

For and on the behalf of the  
Comptroller & Auditor General of India

Place : Mumbai  
Date : 8 July, 2014

Sd/-  
Parama Sen  
Principal Director of Commercial Audit  
& ex-officio Member, Audit Board - II, Mumbai