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(Part- I)

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STATE REVIEWS
(Offshore Regions)

(FINAL RELEASE)

GOVERNMENT OF INDIA
MINISTRY OF MINES
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OFFSHORE REGIONS

The Government of India notified the Offshore Areas Minerals (Development & Regulation) Act, 2002 (OAMDR Act), No. 17 of 2003 in the Gazette of India, Extraordinary, Part-II, Section-1, No. 17, dated 31.1.2003. The purpose of the Act is to provide for development and regulation of mineral resources in the territorial waters, continental shelf, exclusive economic zone and other maritime zones of India and to provide for matters connected therewith or incidental thereto. The Act is applicable to all minerals in offshore areas including minerals prescribed under Atomic Energy Act, 1962, but excludes oils and related hydrocarbons as there is separate legislation for them in force. The Act came into effect from 15.1.2010 vide S.O.338(E), dated 11.2.2010 notified by the Central Government.

The Act makes it mandatory to undertake reconnaissance, exploration or production operation in the offshore areas in accordance with the prescribed terms and conditions for reconnaissance permit (RP), exploration licence (EL) or production lease (PL) granted under the Act and the rules made thereunder. The availability of the areas for grant of RP, EL or PL shall be notified within six months from the commencement of the Act, and subsequently at such times as considered necessary. The Act empowers the Central Government to make rules for the purpose of the Act including terms and conditions under the RP, EL, PL, etc. The Rules, namely, the Offshore Areas Mineral Concession Rules, 2006 have been framed and notified on 3.11.2006 by G.S.R.691(E) published in the Gazette of India, Extraordinary, Part II, Section 3 (i), No. 539, dated 4.11.2006. The Rules have come into effect on the date on which the Offshore Areas Mineral (Development and Regulation) Act, 2002 came into force, i.e, 15.1.2010.

As a sequel, the Controller General, Indian Bureau of Mines has been notified as the ''administering authority'' and ''authorised officer'' under Section 4 and Clause (i) of Section 22 of the Act vide S.O.339(E) and 340(E) dated 11.2.2010. The Secretary, Ministry of Mines has been notified as ''authorised officer'' to hear and decide cases relating to Clauses (a) and (b) of Section 28(1) vide S.O.341(E) dated 11.2.2010.

As per S.O.134(E) dated 7.6.2010, The Controller General, Indian Bureau of Mines has notified the mineral bearing offshore blocks available for grant of Exploration Licence. As per the attached Schedule to the said Notification, there are 26 offshore areas available in offshore waters of Bay of Bengal and 36 offshore areas in the offshore waters of Arabian Sea for grant of Exploration Licence. The Geological Survey of India and National Institute of Oceanography (NIO) have carried out exploration in these areas.

The Government of India had announced the New Exploration Licensing Policy (NELP) in 2000 under which blocks for exploration of oil and gas were on offer for bidding. The NELP provides an international class fiscal and contract framework for exploration and production of hydrocarbons. The details of the exploration blocks awarded in NELP rounds are as below:

Details of exploration block awarded

Round	Month, year	No. of blocks awarded	Awarded Area (sq km)	Present* Area (sq km)
NELP-I	Apr, 2000	24	230147	47774
NELP-II	July, 2001	23	267883	16154
NELP-III	Feb, 2003	23	204588	100674
NELP-IV	Feb, 2004	20	192810	112487
NELP-V	Dec, 2005	20	115180	58926
NELP-VI	Mar, 2007	52	306389	306227
NELP-VII	Dec, 2008	41	112955	112955
NELP-VIII	Jun, 2010	32	52573	52573
NELP-IX	Mar, 2012	14	14491	14491

** Status of area as on 01.04.2013.*

In order to explore and produce new sources of natural gas from coal-bearing areas, the Government had formulated a CBM Policy in 1997 and implemented in 2000 providing attractive fiscal and contractual framework for exploration and production of CBM which is an environment friendly clean gas fuel similar to conventional natural gas.

The Government of India has awarded 33 CBM blocks in Jharkhand (7), Madhya Pradesh (7), Chhattisgarh (3), Rajasthan (4), West Bengal (4), Andhra Pradesh (2), Odisha (2), Assam (1), Gujarat (1), Maharashtra (1) and Tamil Nadu (1) in different coalfields of India under CBM-I to IV. Out of 33 CBM awarded, total 3 CBM blocks have already been relinquished in Gujarat, Madhya Pradesh and Maharashtra (one CBM block in each). In CBM-IV, the Government of India awarded 7 CBM blocks in Assam, Chhattisgarh, Madhya Pradesh, Odisha and Tamil Nadu. Exploration activities have established significant finds in eastern and central India. Commercial production of CBM has commenced from July 2007.

The Ministry of Petroleum & Natural Gas has announced a Bio-diesel Purchase Policy effective from 1.1.2006. Under this scheme, Oil-marketing companies would purchase Bio-diesel for blending with High Speed Diesel to the extent of 5% at 20 purchase centres identified across the country. As no suppliers have come forward to offer Bio-diesel at these designated centres at the declared prices, the blending of Bio-diesel with HSD could not be set in motion.

Resources

Deposits of hydrocarbon are located in the offshore areas in the Mumbai offshore and Cambay basin on the west coast and Cauvery and Krishna-Godavari basins on the east coast. The resources of hydrocarbon in offshore areas are furnished in Table-1. The reserves of crude oil and natural gas in offshore areas accounted for 58% and 77% of total reserves, respectively. As on 1.4.2013, proved and indicated reserves of crude oil and natural gas in offshore areas have been updated to 426.84 million tonnes and 1001.42 billion cu m, respectively.

ONGC

ONGC continued its operations for exploration of oil and gas in offshore areas of the country in Cambay Basin, Gujarat; Krishna-Godavari (Andhra Pradesh); Cauvery (Tamil Nadu); West Bengal and in East Coast and West Coast offshore areas.

During 2012-13, ONGC acquired a total of 140.97 GLKM of 2D and 844.25 SKM of 3D seismic data in the onland area .

During 2012-13, ONGC reported new offshore hydrocarbons discoveries, namely, C-23-9, C-1-6, GK-28-2 and GK-28-3 in Western Offshore basin; GS-KV-1,GS-21-3 and GS-29-6 in KG Offshore basin and MDW-10 in MBA basin.

Reliance Industries Ltd (RIL)

There are 4 blocks which are under development and production including KG-D6 in Krishna Godavari offshore basin, Panna-Mukta and Tapti in Mumbai offshore basin and NEC-25 in the Mahanadi basin.

KG-D6 Block: The KG-D6 fields produced 336 BCF of natural gas and 3.31 million barrels (MMBBL) of crude oil and condensate in 2012-13, reduction of 41% in case of liquid portion and 39% in case of natural gas on a Y-o-Y basis. The average production during the year was at 26 million metric standard cubic meter per day (MMSCMD) of natural gas and 9,225 barrels of oil per day (BOPD) of crude oil. The fall in production is mainly attributed to geological complexity, natural decline in the fields and higher than envisaged water ingress.

To augment production from the current fields (D1-D3 and MA), various Base Management actions have been planned for maximising value from these fields. These include work overs, side tracks, compressor, enhancement of water handling capacity and a new well in the MA field to be undertaken in 2013-14. The field development plan for R-Cluster, submitted in January 2013, proposed to maximise infrastructure utilisation of existing D1 and D3 hub. Similarly, development of all satellite discoveries is being planned as part of an integrated concept.

Additionally, potential upside through resource accretion is being targeted by undertaking exploration drilling in the existing production area with the approval of Government of India. Currently, MJ1 exploratory well in D1-D3 ML area is under drilling. The well is targeting the Mesozoic synrift clastic petroleum system, similar to the MA oil and gas field.

Panna-Mukta and Tapti (PMT) Block: During 2012-13, PMT JV achieved the significant milestone of 500 million barrels of oil equivalent (MMBOE) of oil and gas production. Panna-Mukta fields produced 8.2 MMBBL of crude oil and 71 BCF (billion cubic feet) of natural gas in 2012-13, a reduction of 19% in case of crude oil and maintained production in case of natural gas on Y-o-Y basis. The decrease in oil was due to natural decline, deferment of Panna-L wells and lower-than-expected oil gains from well interventions. Tapti produced 0.54 MMBBL (million barrel) of condensate and 43.9 BCF of natural gas in 2012-13, a decline of 40% and 41% respectively, on Y-o-Y basis. The decrease was due to a natural decline in reserves and under-performance of a few wells.

In PMT, the current level of production from these fields is 7.9 MMSCMD (million metric standard cubic meter per day) of gas and 20,400 BOPD of oil/condensate. To address the issue of declining production, the projects including development wells, infill wells, well intervention activities, Tapti gas compression modification and Panna well-head gas lift facilities have been planned in the medium term. As part of these initiatives, PMT JV has already completed further infill wells in Mid Tapti and one in South Tapti. Together, these are currently producing gas and oil at the rate of 0.80 MMSCMD. PMT JV has also identified to complete further infill wells along with six wells in Panna-L area in 2013-14.

Additionally, Mukta-B development and drilling of exploratory prospects in Greater Mid Tapti have also been planned for future. Mukta-B development studies are being undertaken to continuously assess and define a potential development plan.

Other Blocks (NEC-25): The Company has submitted an Integrated Block Development Plan (IBDP) for four discoveries (D-32, D-40, D-9 and D-10) proposing for a phased manner development. During the current year, the key pre-development activity such as conceptual engineering was completed in order to facilitate the finalisation of development plan. Further, RIL has submitted a proposal for drill stem testing (DST) in J discovery to DGH.

Domestic Exploration Blocks

Apart from KG-D6, Panna-Mukta & Tapti and NEC-25 blocks, RIL currently holds nine blocks in Gujarat Saurashtra, Krishna Godavari, Cauvery, Cambay and Mahanadi basins. The exploration campaign in the forthcoming year is likely to target Krishna Godavari and Cauvery basin.

As part of the appraisal programme for CY-D6 block reviewed by the Management Committee, new 3D seismic was acquired and also one appraisal well was drilled. The result of the same is under evaluation.

Currently, conventional business portfolio of RIL includes 13 Production Sharing Contracts (PSC) blocks in India of which nine are in the active exploration/appraisal phase. There are four blocks which are under development and production including KG-D6 in Krishna Godavari offshore basin, Panna-Mukta and Tapti in Mumbai offshore basin and NEC-25 in the Mahanadi basin. Incrementally, there are 4 PSC blocks in international arena, which includes 2 blocks each in Yemen and Peru.

Table – 1 : Reserves of Crude Oil & Natural Gas in Indian Offshore Areas (As on 1.4.2013)

(Crude oil in million tonnes)
(Natural Gas in billion cu m)

Area	Crude oil	Natural gas
India	**758.27**	**1354.76**
Onshore : Total	**331.43**	**353.34**
Offshore : Total	**426.84**	**1001.42**
Western Offshore@	396.41	488.20
Eastern offshore#	30.43	513.22

Source: *Indian Petroleum & Natural Gas Statistics 2012-13, Ministry of Petroleum & Natural Gas.*

@ Includes Bombay High Offshore, Rajasthan and J & C. also includes Madhya Pradesh (Coal Bed Methane) in case of natural gas.

 # Includes JVC/Private parties in case of crude oil and West Bengal (Coal Bed Methane) in case of natural gas.

Coal Bed Methane

Coal Bed Methane (CBM) is an eco-friendly natural gas, stored in coal seams, generated during the process of the coalification. The coal and lignite seams contain varying amounts of methane depending on the rank of the carbonaceous matter, the depth of burial and the geotectonic setting of basins. CBM exploration and exploitation has an important bearing on reducing the green house effect and extraction of the CBM through degassing of the coal seams prior to mining of coal is a cost effective means of boosting coal production and maintaining safe methane level in working mines.

India, having the fourth largest proven coal reserves in the world, holds significant prospects for exploration and exploitation of CBM. The prognosticated CBM resources in the country are about 92 TCF (2608 BCM). In order to harness CBM potential in the country, the Government of India formulated CBM policy in 1997 to provide level playing platform for exploration and commercial exploitation of CBM by national and international entrepreneurs.

CBM blocks were carved out by DGH in close interaction with MOC & CMPDI. Till date, four rounds of CBM bidding rounds have been implemented by MOP&NG under the CBM policy resulting in award of 33 CBM blocks which covers 17,200 Sq km out of the total available coal bearing areas for CBM exploration of 26,000 sq km. Exploration under CBM policy has been undertaken by national and international companies. Total prognosticated CBM resource for awarded 33 CBM blocks, is about 63.85 TCF (1810 BCM), of which, so far, 8.92 TCF (252.8 BCM) has been established as Gas in Place (GIP).

Commercial CBM production has started from one block i.e. Raniganj (south) since 14th July 2007 which contributes about 0.25 MMSCMD of CBM production. In addition, incidentally produced CBM is also being sold in small quantities from Raniganj (East) and Jharia blocks to avoid wastage of gas through flaring. Four more CBM blocks are expected to start commercial production in near future. The total CBM production is expected to be around 4MMSCMD by end of 12th plan. Within the next few years, CBM is expected to emerge as a new source of natural gas production in the country. India has emerged as the fourth country in the world capable of producing CBM on commercial scale with the commencement of commercial production from July 2007.

In addition, RIL has declared the commerciality of discovery D34 of KG-D6 and restated the Proved Reserves upwards based on re-estimation.

Revised plan of development for D26 field was submitted to the DGH. Further, an integrated development plan for gas discoveries in the KG-D6 block is being conceptualised to maximise capital efficiency and accelerate monetisation.

The Company made a discovery in the first well drilled in CY-D6 block – Well SA1 – Discovery Dhirubhai 53. The appraisal work programme submitted which is under review with DGH.

The Company submitted a proposal for commerciality of 8 discoveries in CB-10 block and also notified declaration of commerciality for D32 and D40 in NEC-25 block.

During the year, as part of reassessment of its portfolio together with BP, RIL has considered 5 blocks as relinquished in its books and initiated the formal process of relinquishing these blocks. In addition to the above, RIL also relinquished 5 additional blocks from its portfolio.

Development activities are progressing in RIL's two CBM blocks (Sohagpur East and West) with first gas being targeted in 2014-15. The development phase for these blocks has been extended till December 2014 for Sohagpur East and October 2014 for Sohagpur West. RIL is awaiting approval for its gas pricing formulae, submitted to Ministry of Petroleum & Natural Gas (MoPNG) in September 2011.

During 2012-13, Petroleum and Natural Gas Regulatory Board had invited bids for development of Shahdol-Phulpur Natural Gas Pipeline which will connect the RIL's Sohagpur CBM blocks to the HVJ line at Phulpur and will enable RIL to market the CBM gas on the national gas grid.

Placer mineral resource evaluation in the territorial waters off north of Bhimunipatnam, Andhra Pradesh : ST-222

Placer Mineral Resource Evaluation in the Territorial Waters off North of Bhimunipatnam, Andhra Pradesh was taken-up covering an area of 50 sq km, which is bounded by the coordinates of 17° 54.9399': 83° 29.5921' to 17° 58.3074': 83° 34.0039' and 17° 52.8079': 83° 31.3031' to 17° 56.1969': 83° 35.7467' within the water depths of 10.9 to 22.1 m. Based on spot depths (the bathy analogue collected at every sediment sample location), the contours were drawn at 1 m interval, starting from 11 m to 22 m. The contours are parallel to the coast configuration of NE-SW. A discontinuous ridge is present between 18 and 19 m of water depth. A terrace-like feature is picked-up around 11m of water depth. A total of 66 seabed sediment samples using vibro corer were collected in 1 km x 1 km grid interval. Length of the core varied from 0.26 m to 3.59 m with an average of 1.46 m. The sediment type recorded, in general, is grey fine and brown medium sand with presence of heavies at surface level and grey coarse sand with rock pieces & clay patches, at places, at bottom level. The area is, predominantly, carpeted by grey medium sand with presence of heavies at surface level. The grey fine sand is present upto 17 m of water depth as patches throughout the area, where as the brown fine sand is recorded only towards northern side around 21 m of water depth. The brown coarse sand patches are observed around 18 – 19 m of water depth. The predominant sediment type at bottom level is grey coarse sand. Grey medium sand with presence of heavies is recorded as patches upto 17 m of water depth in the northern part of the area, where as in the southern part it is present as small isolated patches. The clay is encountered below the grey coarse sand in the area from 18 m of water depth. The heavies are present comparatively high in the depth. The heavies are present comparatively high in the Placer Mineral Resource Evaluation in the Territorial Waters off North of Bhimunipatnam, Andhra Pradesh: grey fine and grey medium sand at surface level than in the grey coarse sand at bottom level.

The Ocean water is collected at 3 stations (17° 56.1658': 83° 35.7337' ; 17° 54.4856': 83° 33.5168' ; 17° 52.8073': 83° 31.3030') from two levels each in the water depths of 20.5 to 21.3 m. The values of Temperature, pH (except for W-2) & DO decreased and that of salinity (except for W-3) & conductivity increased from surface to sub-surface level. The ocean water current direction data was measured at three stations (C – 1 station = 17° 56.1808': 83° 35.7138'; C – 2 station =17° 54.4344': 83° 33.6367'; & C – 3 station=17° 52.8073': 83° 31.3031') in the water depth of 20.10 to 22.00 m from two levels each. The data at C – 1 station indicate predominant south-west direction of ocean water current, which shows normal conditions during north-east monsoon period on the day of collection of data. However, the sub-surface values (NNE direction) at C-2 station and the surface values (ENE direction) at C-3 station can be attributed to the swirling under water currents because of development of trough conditions and to the strong wind force developed in the area due to low pressure, respectively, at the time of collection of the data.

Placer Mineral Resource Evaluation in the Territorial Waters off Puri, Odisha: ST - 226

A total of 64 vibro core samples were collected from an area of 288 sq km bounded by co-ordinates 19.7348°N / 85.670°E; 19.6313°N / 85.7026°E; 19.7003°N / 85.9094°E and 19.8040°N / 85.8767°E within a water depth of 6 m to maximum of 22.8 m. The minimum, maximum, average and total core lengths of these 64 vibro core samples, the texture of the surface sediment samples varies from silty sand, fine grained sand, fine to medium grained sand,

medium to coarse grained sand and coarse to very coarse grained sand. The presence of heavy minerals observed is not very much encouraging, but the occurrences of garnet in few sediment samples have beeen noted. Shells and shell fragments of bivalves, gastropods and cephalopods are abundant. The Bathymetry data was obtained manually at 5 minutes interval by using Ratheon Echo Sounder (GDS 101). The single beam bathymetric survey was carried out along 9 coast perpendicular lines each of 12Km length and 8 cross lines each of 3Km length. The seafloor in the inner shelf region of the present area is almost smooth with gentle slope, without any significant geomorphic feature within a minimum and maximum water depth of 6 m to 22.8 m, respectively. The water samples have been taken from three locations between a depth of 16.6 m and 22.3 m from the survey area. From the onboard observations, it is found that the temperature varies from 24.8°C to 24.9°C, pH varies from 8.4 to 8.55, conductivity varies from 40.2 ms/cm to 41 ms/cm, salinity varies from 25.7 ppt to 26.2 ppt. and DO varies from 4.62 mg/L to 4.92 mg/L. Further detailed analysis will be carried out in the laboratory. Processing and synthesis of data collected during the cruise ST-226, was taken up in laboratories at headquarters and so far 43 vibro-core samples were split, and megascopic studies were carried out and 140 nos. of sub samples are generated. 85 sub-samples are under processing (coning & quartering; sieving) for heavy mineral studies. For knowing the chemical characteristics of the seabed sediments, 58 samples were processed for chemical analysis. 6 water samples were analyzed for cations and around 20 line km of bathymetric data is synthesised.

Gas Hydrates

Gas hydrates are formed when gas and water mixtures are subjected to high pressure and low temperature conditions in the sea, usually in water depths of more than 800 m, within sediments just below the sea bottom. They are also formed in some permafrost region of the world. Gas hydrates may be an important source of hydrocarbon energy in the future. The gas hydrates also act as a cap under which natural gas can get accumulated.

Worldover gas hydrate production is in research & development stage. India is the third country after USA and Japan, where R&D work on gas hydrates has commenced. National Gas Hydrate Programme (NGHP), steered by the Ministry of Petroleum & Natural Gas and technically coordinated by Directorate General of Hydrocarbons (DGH), is in place and various R&D studies are in progress to develop vast resources of gas hydrates in western and eastern offshore and Andaman offshore areas. It is a consortium of National E & P companies, namely ONGC, GAIL, OIL and national research institutions NIO, NIOT and NGRI.

There are numerous potential offshore areas of gas hydrates accumulation within India's Exclusive Economic Zone. During the period 1998 to 2003, data of Krishna-Godavari Basin (offshore), Cauvery Basin (offshore), Gulf of Mannar and Western offshore were studied by ONGC for assessing Gas Hydrate prospectivity. These studies provided technical support in formulating NGHP Expedition-01 program, wherein 21 sites were drilled/ cored in Indian offshore in 2006 using the ship Joides Resolution under agreement between DGH and a US consortium of companies.

The NGHP Expedition-01 established the presence of gas hydrate in KG, Mahanadi and Andaman deep waters. Gas hydrate was found occurring in “combination reservoirs” consisting of horizontal or sub-horizontal coarse grained permeable sediments (sands for the most part) and apparent vertical to sub-vertical fractures that provide the conduits for gas migration. NGHP-01 delineated and sampled one of the richest marine gas hydrate accumulations (in the KG basin). It also discovered one of the thickest and deepest (612 m below sea floor) gas hydrate occurrences yet known (in offshore region of the Andaman Islands).

Based on the findings of NGHP Expedition-01, the Krishna-Godavari deepwater basin and the Mahanadi deep waters have been considered potential areas where large tracts of turbidity sand channel systems can be expected in the delta sequence accumulations. The aim and objectives of the NGHP Expedition-02 are to identify gas hydrate bearing sands, identify the free gas below the gas hydrate stability zone and identify suitable location for carrying out pilot production.

Marine & Coastal Survey

During April 2012 to March 2013, Geological Survey of India has carried out offshore geoscientific studies both in the Exclusive Economic Zone (EEZ) and Territorial Waters along the East and West Coasts of India. Surveys in the near shore zone (0 to 10 m isobaths) have been carried out using hired mechanized boat. The Marine and Coastal Survey Division of Geological Survey of India aims not only to discover the undersea economic minerals, but also to unravel the evolutionary history of formation of the seabed under the influence of various dynamic processes operative on different scales in different parts of the globe. Till March 2013, Geological Survey of India has completed seabed mapping of 1,30,040 sq km out of 1,50,000 sq km in 5 km x 2 km grid within Territorial Waters and 18,52,163 sq km out of 18,64,900 sq km in the EEZ beyond Territorial Waters on reconnaissance scale. The total EEZ coverage including TW is 19,81,478 sq km out of a total EEZ area of 20,14,900 sq km. Marine and Coastal Survey Division with its Headquarters at Mangalore functions through its operational offices at Kolkata, Visakhapatnam, Mangalore and Kochi to undertake seabed survey in the EEZ and beyond with its ocean going research vessel Samudra Manthan and twin coastal vessels Samudra Kaustubh and Samudra Shaudhikama. Marine geoscientific programme during the period under review comprises six cruises onboard RV Samudra Manthan within the EEZ. In the shallow water domain, nine cruises onboard RV Samudra Kaustubh and seven cruises onboard RV Samudra Shaudhikama have been taken up. Besides these, five coastal items and one Palaeontological R & D items have also been taken up during the period.

RV Samudra Manthan Six cruises have been mounted onboard RV Samudra Manthan within the EEZ.

SM-224: Multibeam Bathymetric Survey in the continental slope off Visakhapatnam, Andhra Pradesh.

SM-225: Studies on geomorphological configuration of the “Swatch of No Ground” in Upper Bengal Fan.

SM-226: Study of the sea bed morphology and magnetic anomaly pattern across the arc-trench gap off west of Tarasa Dwip, Nicobar Group of Islands.

SM-227: Multibeam bathymetric survey to the south of Central Andaman Trough on the Sewell Rise.

SM-228: Multibeam bathymetric survey in the continental slope off Marmagao, Goa.

SM-229: Multibeam bathymetric survey in the continental slope off Veravel, Gujarat.

RV Samudra Kaustubh Nine cruises have been taken up onboard RV Samudra Kaustubh within TW of the East Coast of India.

ST-221: Parametric (magnetic & seismic) survey within Territorial Waters off Pentakota, Andhra Pradesh coast.

ST-222: Placer mineral resource evaluation in the territorial waters off north of Bhimunpatnam, Andhra Pradesh.

ST-223: Study of the seabed morphology in the inner to mid - continental shelf off Rushikulya River mouth, Odisha .

ST-223A: Parametric surveys in shelf between Devi River mouth and Mahanadi River mouth, Odisha (19 Nov 2012 to 3 Dec 2012).

ST-224: Geotechnical appraisal off Chilka lake, Odisha.

ST-225: Parametric surveys between Kushabhadra and Prachi river mouths, off Odisha coast.

ST-226: Placer mineral resource appraisal in the territorial waters off Puri, Odisha.

ST-227: Geotechnical appraisal off Palar River mouth, Tamil Nadu coast.

ST-228: Mapping of seabed within Territorial Waters North east of Point Calimere, Tamil Nadu.

RV Samudra Shaudhikama Seven cruises have been taken up onboard RV Samudra Shaudhikama within TW of the West Coast of India.

SD-241: Seismic survey in the area off Bharathapuzha to identify and delineate the palaeo channels.

SD-242: Mapping of the seabed off Okha, Gujarat.

SD-243: Wath bathymetry off Okha, Gujarat.

SD-244: Multibeam bathymetric survey of part of Gulf of Kachchh off Nora Tapu.

SD-245: Swath Bathymetric Survey of Part of Gulf of Cambay off Valsad.

SD-246: Parametric surveys (magnetic & seismic) within territorial waters off Devagarh – Dhabol – Jaigarh, Maharastra, Arabian sea.

SD-247: Geotechnical appraisal off Nileswaram, Kasargod, Kerala.

Production

Petroleum (crude) and natural gas (utilised) are the mineral items produced from Off-shore region. The value of production of these two items in the region during 2012-13 at ₹59,782 crore decreased by 7% as compared to that in the previous year. Off-shore accounted for 21% of total value of mineral production in India.

Off-shore accounted for 49% production of petroleum (crude) and 78% of natural gas (utilised) in the country during 2012-13. In the region, production of petroleum (crude) decreased by 8% and that of natural gas (utilised) by 17% over the previous year.

The index of mineral production of Off-shore (base 2004-05=100) in 2012-13 was 98.7 as compared to 112.2 in the previous year. (Table-2).

Table – 2 : Mineral Production in Offshore Region, 2010-11 to 2012-13 (Excluding Atomic Minerals)

(Value in ₹'000)

Mineral	Unit	2010-11		2011-12		2012-13 (P)	
		Quantity	Value	Quantity	Value	Quantity	Value
All Minerals			**667449261**		**641266551**		**597822525**
Natural Gas (utilised)	m c m	43645	279371645	38475	276762910	31802	263006611
Petroleum(crude)	'000t	21255	388077616	20063	364503641	18421	334815914

The Government has decided to build a Strategic Crude Oil Reserve of 5 million tonnes through a special purpose vehicle (SPV) named Indian Strategic Petroleum Reserves Ltd (ISPRL) - a subsidiary company of OIDB. The locations selected are: (i) Visakhapatnam, Andhra Pradesh, (storage capacity 1.33 million tonnes), (ii) Mangalore, Karnataka (1.5 million tonnes), and (iii) Padur, Karnataka (2.5 million tonnes). The construction works are in progress at all these project. The project at Visakhapatnam, Mangalore and Padur are expected to be commissioned in 3rd quarter of 2013-14, 4th quarter of 2013-14 and 1st quarter of 2014-15, respectively.

The Government had initiated bids under the New Exploration Licensing Policy (NELP) in 2000 to accelerate and expand exploration of oil and gas in the country. A total of 249 blocks were awarded in various rounds of NELP, spanning 2000-2012. Recently in March, 2012, 14 blocks covering area 14491 sq km were awarded under NELP - IX round.