11

STANDING COMMITTEE ON PETROLEUM & NATURAL GAS (2005-06)

FOURTEENTH LOK SABHA

MINISTRY OF PETROLEUM & NATURAL GAS

EXPLORATION OF OIL AND NATURAL GAS INCLUDING COAL BED METHANE

[Action Taken by the Government on the recommendations contained in the Se (Fourteenth Lok Sabha) of the Standing Committee on Petroleum and Natural Gas `Exploration of Oil and Natural Gas including Coal Bed Methane']

ELEVENTH REPORT

LOK SABHA SECRETARIAT
NEW DELHI
May, 2006/Vaisakha, 1928 (Saka)

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(2005-06)

Shri N. Janardhana Reddy - Chairman

Members

Lok Sabha

2 Shri Anandrao Vithoba Adsul
3 Dr. Rattan Singh Ajnala
4 Shri R. Dhanuskodi Athithan
5 Shri Ramesh Bais
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19 Shri Ratilal Kalidas Varma
20 Shri Rajesh Verma
21 Shri A.K.S. Vijayan

Rajya Sabha

22	Shri Satish Chandra Misra
*23	Shri Ahmed Patel
24	Shri C. Perumal
*25	Shri Rajeev Shukla
26	Shri Subash Prasad Yadav
**27	vacant
**28	vacant
**29	vacant
**30	vacant
**31	vacant

Secretariat

1.	Shri S.K.Sharma	-	Additional Secretary
2.	Shri R.C.Kakkar	-	Deputy Secretary
3.	Shri P.C.Tripathy	-	Under Secretary
4.	Smt. Prabita Khoyumthem	-	Committee Assistant

* Re-nominated to the Committee w.e.f. 12.5.2006.

** These vacancies have occurred because of retirement from the membership of Rajya Sabha of Dr. Alladi P. Rajkumar, Shri Kripal Parmar and Shri Dipankar Mukherjee w.e.f. 2.4.2006, Shri Moolchand Meena w.e.f. 3.4.2006 and resignation from the membership of Rajya Sabha by Shri M. Rajasekara Murthy w.e.f. 10.11.2005 (subsequently re-elected to R.S.).

INTRODUCTION

I, the Chairman, Standing Committee on Petroleum & Natural Gas having been authorised by the Committee to submit the Report on their behalf, present this Eleventh Report on Action Taken by the Government on the recommendations contained in the Seventh Report (Fourteenth Lok Sabha) of the Standing Committee on Petroleum & Natural Gas on 'Exploration of Oil and Natural Gas including Coal Bed Methane'.

2. The Seventh Report of the Standing Committee on Petroleum & Natural Gas was presented to Lok Sabha on 4th August, 2005. The Action Taken Replies of the Government to the recommendations contained in the Seventh Report were received on 9th November, 2005.

3. The Standing Committee on Petroleum & Natural Gas (2005-06) considered and adopted the Report at their sitting held on 18th May, 2006.

4. An analysis of the action taken by the Government on the recommendations contained in the Seventh Report (Fourteenth Lok Sabha) of the Standing Committee on Petroleum & Natural Gas is given in Appendix-II.

5. For facility of reference and convenience, the observations and recommendations of the Committee have been printed in bold letters in the body of the Report.

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

New Delhi;
19 May, 2006

29 Vaisakha, 1928 (Saka)

N. JANARDHANA REDDY,
Chairman,
Standing Committee on
Petroleum & Natural Gas

CHAPTER I

REPORT

This Report of the Standing Committee on Petroleum & Natural Gas deals with the action taken by the Government on the Recommendations contained in the Seventh Report (Fourteenth Lok Sabha) of the Standing Committee on Petroleum & Natural Gas(2004-2005) on 'Exploration of Oil and Natural Gas including Coal Bed Methane' which was presented to Lok Sabha on 4.8.2005.

2. Action Taken Notes have been received from the Government in respect of all the 31 Recommendations /Observations contained in the Report. These have been categorised as follows:-

(i) Recommendations/Observations that have been accepted by the Government:-
1, 4, 5, 6, 8,11,14,15,18, 23, 24, 27, 28 and 29

(ii) Recommendations/Observations which the Committee do not desire to pursue in view of the Government's replies:-
Nil

(iii) Recommendations/Observations in respect of which replies of the Government have not been accepted by the Committee:-
3,12, 13, 17, 20 and 31

(iv) Recommendations/Observations in respect of which final replies of the Government are still awaited:-
2, 7, 9,10,16,19, 21, 22, 25, 26 and 30

3. The Committee trust that utmost importance would be given by the Government to the implementation of their recommendations. In cases where it is not possible for the Ministry to implement the recommendations in letter and spirit for any reason, the matter should be reported to the Committee with reasons for non-implementation. The Committee further desire that the Action Taken Notes on the Recommendations/Observations contained in Chapter-I of this Report and Final Replies in respect of the recommendations for which interim replies have been

furnished by the Government (included in Chapter-V), should be furnished expeditiously.

4. The Committee will now deal with the action taken by the Government on some of their Recommendations.

A. Manpower requirement of Directorate General of Hydrocarbons

Recommendation 2

5. The Committee had found that the existing staff strength of the Directorate General of Hydrocarbons (DGH) was 76 as against the approved strength of 85. They were informed that the functions like review of development plans, assessment of reserves, preparation of strategy for venture abroad, establishment and operation of E&P data base and archive, etc could be performed by DGH in a better manner if enough manpower was provided to the organisation. The Committee had further been informed that the Government was in the process of reworking the requirement of manpower of DGH vis-à-vis its workload. They had, therefore, desired the Government to complete this process on priority basis and, based on this analysis, provide additional manpower to DGH so that the organisation was able to carry out all the mandated functions to optimum level. Further, the Committee had desired to know the progress made by the Directorate General of Hydrocarbons (DGH) in setting up of the National E&P database and archive system.

6. The Ministry of Petroleum and Natural Gas has submitted the following reply in this regard:

> "The manpower for DGH is on deputation from oil PSUs mainly, ONGC and OIL. A proposal is under process to provide manpower to DGH on a permanent basis."

7. The Committee had been informed that the Government was in the process of reworking the manpower requirement of the Directorate General of Hydrocarbons (DGH) vis-à-vis its workload. They had desired that this process should be completed on priority basis and that DGH be provided with additional manpower so as to enable the organisation to carry out all the mandated functions to the optimum level. The Government, in its Action Taken Reply, has stated that the manpower of DGH is on deputation from oil PSUs like ONGC and OIL and that a proposal is under process to

provide manpower to the organisation on a permanent basis. The Committee are unhappy to find that unduly long time has been taken by the Government to finalise the proposal for providing additional/optimum manpower to the organisation. They desire that this process should be completed expeditiously and the progress be conveyed to them at the earliest.

The Committee had also desired to know the progress made in setting up of the National E& P database and archive system. This fact has not been conveyed to them through the Government's Action Taken Reply. The Committee would like to know the reasons for the same. The steps taken in the direction of setting up of the database and archive system may also be conveyed to the Committee.

B. Expenditure by DGH on Exploration activities

Recommendation 3.

8. The Committee had noted that an amount of Rs.6.54 crore was spent by the Directorate General of Hydrocarbons (DGH) on activities such as surveys, reserve studies, geological modeling, etc during the year 2003-04. However, they were unhappy to observe that the estimated expenditure on exploration activities came down to Rs. 4.5 crore in 2004-05. The Committee had desired to know the reasons for lower expenditure by DGH on exploration activities in 2004-05 vis-à-vis 2003-04 as well as the impact of this reduction on survey and exploration in physical terms. Besides, the Committee had also been unhappy to note that out of the estimated expenditure of Rs. 4.5 crore in 2004-05, the actual expenditure during the first 8 months of the year i.e. April-November, 2004 was to the tune of Rs. 0.57 crore only which constituted a negligible 13% of the estimated expenditure for the whole year. The Committee had desired to be apprised of the reasons for this abnormally slow pace of expenditure. They had also desired to be intimated of the actual expenditure incurred during the last 4 months of the year i.e. December 2004 –March 2005.

9. The Ministry of Petroleum and Natural Gas has submitted the following reply in this regard:

> "DGH mainly carries out reconnaissance survey, geological modeling and reserve studies for upgrading the basinal information for carving out exploratory blocks. These blocks are subsequently offered to various players by competitive bidding under various rounds of New Exploration Licensing Policy (NELP). Mainly the

Contractor, to whom the block has been awarded, carries out detailed exploratory work in the block. Contractor carries out the work according to the committed minimum work programme of Production Sharing Contracts (PSCs).

Up gradation of basinal information is dynamic process. It depends on various factors including carving out and offering the blocks in any particular round. The information gathered by seismic surveys carried out in the block by operators also help in deciding the further course for exploration activities to be carried out by DGH for basinal up gradation. Thus, the expenditure incurred on exploration activities by DGH may vary from year to year but does not affect any exploration work in physical terms. DGH is continuously carving out and offering the blocks from NELP-I to NELP-V. Blocks under NELP round VI will also be offered soon. Out of the 3.14 Million Sq. Km. identified basinal sedimentary areas in the country, about 1.012 million Sq. km. of area was awarded under five rounds of NELP.

It is a fact that the estimated amount of Rs. 4.5 crore for exploration activities planned in the year 2004-05 could not be incurred mainly due to contractual problems in awarding the contract to lowest bidder. New agency has been identified to carry out the remaining work and mobilize his aircraft and equipment accordingly. In addition to this, DGH has further planned marine seismic refraction and MT survey in Gulf of Kutch, MT survey in on-land parts and Geological modeling with the help of remote sensing data/imageries. DGH is also planning to award the job for carrying out offshore surveys to determine new geological plays using the available state-of-art technology.

It is to mention that the lower expenditure by DGH on exploration activities in 2004-05 vis-à-vis 2003-04 has no impact in physical terms. The actual expenditure incurred in 2004-05 on survey, geological modeling and reserve studies is about Rs. 0.65 crores. However, the remaining jobs of 2004-05 alongwith the additional identified work is now planned to be carried out in 2005-06. The estimated expenditure 2005-06 on these activities is about Rs.47.16 crore."

10. In their earlier Report, the Committee had noted with concern that whereas during the year 2003-04, an amount of Rs. 6.54 crore was spent by DGH on exploration activities, the estimated expenditure on such activities came down to Rs. 4.5 crore in 2004-05. The Committee had desired to know the reasons for the lower expenditure and the impact of this reduction on survey and exploration in physical terms. The Committee had also expressed their displeasure over the fact that out of the estimated amount of Rs. 4.5 crore, the actual expenditure during the first eight months of 2004-05 was a paltry Rs. 0.57 crore. They have been informed through the Government's Action Taken Reply that the actual expenditure incurred in 2004-05 on survey, geological modeling and reserve studies is about Rs. 0.65 crore. The Committee have further been informed that the lower expenditure on exploration activities in 2004-05 vis-à-vis 2003-04 has no impact in physical terms. At the same time, it has also been

stated in the reply that the remaining jobs of 2004-05 alongwith the additional identified work is planned to be carried out in 2005-06.

The Committee are not convinced by the reply furnished by the Government which appears to be contradictory. While on the one hand, it is stated that lower expenditure by DGH on exploration activities in 2004-05 has not made any impact in physical terms, on the other, it is mentioned that jobs of 2004-05 have been carried forward to 2005-06. They would like to have a clarification in this regard. The Committee advise the organisation to plan its work meticulously and execute the same properly without pushing it to subsequent years. They also desire DGH to pull up its socks and ensure optimum utilisation of the allocations in future.

C. ONGC's plan on frontier basins

Recommendation 4

11. The Committee had been informed that ONGC had planned to take up a few of the frontier basins for knowledge building during the 10th Plan which would be extended to other basins during the 11th and 12th Plans. They had desired to be informed as to whether any of these basins had since been taken up for knowledge building. The Committee had also desired that a Plan-wise programme should be chalked out so as to cover all the frontier basins by the end of the 12th Plan.

12. The Ministry of Petroleum and Natural Gas has, inter-alia, submitted the following reply in this regard:

> "The X-plan exploration programme of ONGC includes 6 frontier onland basins viz. Vindhyan (Madhya Pradesh), Deccan Syneclise (Maharashtra), Satpura-South Rewa (M.P.), Ganga Valley (U.P.), Himalayan Foothills (Himachal Pradesh) and Spiti-Zanskar (J&K) with various levels of exploratory inputs. Components of work programme include intellectual inputs in terms of integrated studies with the available geo-scientific data to develop workable geological model and the physical inputs, such as non-seismic geophysical surveys, seismic surveys and R&D/ parametric wells.
>
> Frontier basins are in the knowledge building stage of exploration. Knowledge building involves a series of critical phases. With each phase, there is progressively increasing database leading to a better understanding of the basin and thus helping the evaluation of hydrocarbon prospectivity.
>
> ONGC has exploratory acreages in the onland Frontier basins, viz., Satpura-S.Rewa-Damodar, Vindhyan, Ganga Valley and Himalayan Foothills, falling in the states of

Madhya Pradesh, Uttar Pradesh, Jammu & Kashmir and Himachal Pradesh. The component of exploration for the first three years (2002-05) of the total X - plan programme in the Frontier basins included acquiring 440 GLK of 2D, 25 sq km of 3D data and drilling of 4 exploratory wells. Of these envisaged inputs, during 2002-05, as on 1.4.2005, ONGC has already completed acquisition of 1564 GLK of 2D seismic data in the Himalayan Foothills, Ganga Valley, Vindhyans and Satpura Basins and drilling of 2(two) exploratory wells in the Vindhyan and Himalayan Foothill basinal areas. As on 1.4.2005, one more exploratory well, Hamirpur-1, is under drilling in the Himalayan Foothills.

During the remaining part of X Plan, ONGC plans to carry out 2D seismic surveys and exploratory drilling in the Himalayan Foothills, Ganga Valley, Vindhyan and Satpura Basins which also include the NELP blocks, viz., GV-ONN-97/1 and HF-ONN-2001/1."

13. The Committee had been informed that ONGC had planned to take up some frontier basins for knowledge building during the 10th Plan which would be extended to other basins during the 11th and 12th Plans. They had desired that a Plan-wise programme should be chalked out so as to cover all the frontier basins by the end of the 12th Plan. Through the Government's Action Taken Reply, the Committee have been informed of ONGC's exploration programmes/achievements in a number of frontier basins pertaining to the 10th Plan. However, the programme of the company relating to exploration of such basins during the 11th and 12th Plans has not been conveyed. The Committee would like to be apprised of the same.

D. Activities under New Exploration Licensing Policy (NELP)

Recommendation 12

14. The Committee had appreciated that the Government had taken some initiatives to reduce the time period in respect of certain activities carried out under NELP. For example, the time interval between offering of blocks and signing of Production Sharing Contracts (PSCs) had been substantially reduced to 3-4 months from 24-28 months in the pre-NELP era. Besides, the Government had taken initiative for granting the Petroleum Exploration License (PEL) within three months of signing of PSC so as to enable the operators to start their exploration activities as soon as possible. The Committee appreciated the efforts of the Government aimed at expediting activities under NELP. They had, however, desired to know how far the Government had succeeded in granting Petroleum Exploration License (PEL) within 3 months in the NELP blocks awarded so far. The Committee had also desired

to be apprised of the details about the companies which had violated the terms and conditions of Production Sharing Contracts (PSCs) during the last three years, the nature of violations and the remedial measures taken by DGH thereon.

15. The Ministry of Petroleum and Natural Gas has submitted the following reply in this regard:

> "Government of India signed PSCs for 90 blocks under four rounds of NELP. PEL has been granted for almost all the blocks within 3 months time except eight following blocks. The list of the blocks alongwith time taken and reason for the delay given below:

Sl No	Block	Operator	State	Award date	PEL grant date	Time taken
1	PG-ONN-2001/1	ONGC	Andhra Pradesh	04.02.2003	04.07.2003	5 MONTHS
2	AA-ONN-2001/2	ONGC	Mizoram	04.02.2003	29.07.2003	5 MONTHS 25 DAYS
3	AA-ONN-2001/3	ONGC	Assam	04.02.2003	19.12.2003	10 MONTHS 15 DAYS
4	AA-ONN-2001/4	ONGC	Nagaland	04.02.2003	Not yet granted	-
5	AA-ONN-2002/4	ONGC	Nagaland	06.02.2004	Not yet granted	-
6	HF-ONN-2001/1	ONGC	Himachal Pradesh	04.02.2003	10.06.2003	4 MONTHS 6 DAYS
7	CY-ONN-2002/2	ONGC	Tamilnadu	06.02.2004	31.08.2004	6 MONTHS 25 DAYS
8	AS-ONN-2000/1	RIL	Assam	17.07.2001	Not yet granted	-

> Reason for delay was due to delay in granting of PEL by respective State Governments. PSCs have been signed for 20 exploration blocks under fifth round of NELP. "

16. The Committee in their original Report had desired to know the extent to which the Government had succeeded in granting Petroleum Exploration License (PEL) within three months of signing of the Production Sharing Contracts (PSCs) in the New Exploration Licensing Policy (NELP) blocks awarded so far. In this regard, the Government has informed that it has signed PSCs for 90 blocks under four rounds of NELP and that PEL has been granted for almost all the blocks within 3 months time except eight blocks. Non-adherence to the three month time schedule in respect of these eight blocks has been attributed to the delay on the part of respective State Governments in granting of PELs. From the Government's Action Taken Reply, the Committee have also noted that among these eight blocks, PEL has not yet been granted in respect of three blocks two of which are being operated by ONGC. The Committee would like to know the steps taken by ONGC to obtain PELs for these blocks.

The Committee had also desired to be apprised of the details about the companies which had violated the terms and conditions of PSCs during the last three years, the nature of violations and the remedial measures taken by DGH thereon. They are unhappy to note that such details have not been furnished in the reply of the Government. The Committee do not approve of this lackadaisical approach of the Government which is indicative of its lack of seriousness towards important observations of the Committee. The Committee desire that the details in this regard be conveyed to them at the earliest.

E. Earmarking of Gas for the area from which it is produced

Recommendation 13

17. The Committee had noted that gas produced under the New Exploration Licensing Policy (NELP) was governed by the provisions of Production Sharing Contracts (PSCs) according to which the contractor had the freedom to market gas produced from his area of operation, to any part of India at market related price. They had observed that such a provision often resulted in diversion/sale/transportation of such gas to other areas at the cost of the area in which it was produced. The Committee had desired that the Government should consider the feasibility of making a provision in the PSCs for the future rounds of

NELP so as to ensure that a certain percentage of gas was earmarked for the area from which it was produced.

18. The Ministry of Petroleum and Natural Gas has submitted the following reply in this regard:

> "Exploration is a high risky and capital intensive business. In NELP terms, there is no investment by the Government side, but sharing of profit is as per the bidding condition, in case of commercial discovery. NELP has been designed to attract the investors for exploration as per the practices followed internationally. In exploration, inputs are determinate, but the outcome of the efforts are uncertain. Considering the nature of exploration business and availability of infrastructure available in the country, it was decided to have freedom for the operator to sell the produced gas in the domestic market driven price. Any further restriction in NELP terms, may be deterrent to the investment in the states of India. As the offshore areas comes under the preview of central Government. Putting conditions to restrict gas selling by the operators in the state only, may switch the investment from onland areas to offshore areas only. Therefore, it is in the interest of both state & centre Government to provide freedom to sell gas at market driven prices only."

19. In the original Report, the Committee had recommended that the Government should consider the feasibility of making a provision in the Production Sharing Contracts (PSCs) for future rounds of NELP so as to ensure that a certain percentage of gas is earmarked for the area from which it is produced. The Government, in its Action Taken Reply, has, inter-alia, stated that putting conditions to restrict gas selling by the operators in only the producing State may switch the investment from onland areas to offshore areas. The Committee would like to point out that they had not desired the sale of the entire gas by the operator/producer only in the producing State. Rather, they had advised the Government to consider the feasibility of earmarking only a certain percentage of gas for the producing State. In the opinion of the Committee, such a provision would not adversely affect the investments in onland areas. They, therefore, reiterate their earlier recommendation that the Government should consider the feasibility of making a provision in the PSCs for the future rounds of NELP so as to ensure that a certain percentage of gas is earmarked for the area from which it is produced.

F. Review of provisions to discourage flight of personnel from PSUs

Recommendation 17

20. The Committee had been informed that during the last 10 years, as many as 2684 Executives of ONGC had left the organisation. They had also been informed that in case of OIL, 376 Executives and 1920 Workpersons had left the organisation during the said period. The Committee had felt that the possibility of some of them having joined the private companies and divulging the data/information about the cream oil and gas blocks to the private companies could not be ruled out, thereby giving an undue advantage to such companies over Public Sector Companies. They had also felt that putting more and more private and foreign investments into exploration and production activities should not be at the cost of giving out the information regarding cream blocks. In this regard, the Committee had been informed that the existing rules did not permit the Government to take action against those who left the Public Sector Undertakings without informing the organisation/seeking prior permission for this purpose. The Committee had, therefore, desired that the Government should review the existing provisions in this regard and bring in the requisite amendments as early as possible to discourage flight of personnel from Public Sector Oil Companies.

21. The Ministry of Petroleum and Natural Gas has submitted the following reply in this regard:

> "Most of the employees seeking resignation from ONGC are doing so for personal reasons. Even if they are resigning to join Pvt. Companies / Multinationals, all are released only after a carefully laid down procedure, which includes a mandatory Exit-Interview by the Controlling Officer and Serving of 3-months notice period. In the Exit-Interview, the integrity of the Officer vis-à-vis leakage of confidential data to which he might have access is essentially assessed. The resigning officers are also monitored during the notice period to ensure that no classified information is being surreptitiously taken by them in Physical/Electronic form. ONGC has amended its Disciplinary Guidelines and included the leakage of confidential data in electronic form as an act of indiscipline.
>
> Advice has also been issued to in-charges of work centres to ensure that Vigilant approach in guarding of confidential data."

22. During the examination of the subject, the Committee had been informed that the present rules did not permit the Government to take action against the employees who leave the PSUs without informing the organisation/seeking prior permission. They had desired that the Government should review the existing provisions and bring in the requisite amendments as early as possible to discourage flight of personnel from PSUs so as to avoid the possibility of their joining the private companies and divulging data/information about the cream oil and gas blocks. The Government, in its Action Taken Reply, has, inter-alia, stated that the employees resigning to join private/multi-national companies are released only after a carefully laid down procedure, which includes a mandatory Exit-Interview by the Controlling Officer and serving of a three-month notice period. The resigning officers are also monitored during the notice period to ensure that no classified information is being surreptitiously taken by them in physical / electronic form. The Committee would like to point out that they had emphasised on the fact/issue of employees leaving PSUs without permission/intimation, for which no punitive action is permissible under the existing rules. Instead of addressing this issue, the reply of the Government has been confined to employees seeking resignation from ONGC only. The Committee would like to mention that when employees leave a Public Sector Oil Company after being nurtured by it for 20-25 years, they are likely to carry a lot of information/knowledge in their heads. Besides, some valuable data pertaining to cream oil/gas blocks might also be in their possession. Thus, the flight of such employees from the PSUs and their subsequent joining in the private sector may be prejudicial to Government's interests. The Committee, therefore, reiterate that the Government should review the existing provisions in this regard and bring in the requisite amendments.

G. Mumbai High North and Mumbai High South Redevelopment Projects

Recommendation 19

23 The Committee had noted that some activities on the two projects for Redevelopment of the Mumbai High Field (Mumbai High North and Mumbai High South Redevelopment Projects) had been rather slow and achievement had been less than the fixed target in some cases. The Committee were particularly displeased about the Three Pipeline Project of the Mumbai High North Redevelopment Project in which case, the overall progress was 48.6% against the plan of 100% at the end of September, 2004. The Committee had desired to be apprised of the reasons for the same. Similarly, in case of the Mumbai High South Redevelopment Project, the achievement had fallen short of the scheduled progress in case

of MHS Process Platforms, Nine Well Platform project (Tender-II) and Nine Clamp-on-project. The Committee had also desired the Government to analyse the factors leading to delays/slow progress and take appropriate remedial measures.

24. The Ministry of Petroleum and Natural Gas has submitted the following reply in this regard:

> "In western offshore, two redevelopment projects namely Mumbai High North & Mumbai High South Redevelopment projects are under implementation which constitutes the integral part of the IOR/EOR programme being implemented by ONGC. Out of the total investment of Rs. 10972 Crore on sixteen IOR/EOR schemes, an amount of Rs. 8185 Crore is envisaged for MHN & MHS redevelopment projects. These two projects alone likely to contribute an incremental oil of 57 MMT, more than 50% of the total expected incremental oil of 106 MMT up to 2020.
>
> As per the observation of the Standing Committee, the Mumbai High North Redevelopment Project, the actual achievement has progressed less than the scheduled only in case of the three packages viz. MHN Process Platform, Two Well Platforms (N9 & N10) and Three Pipeline Project. The MHN Process Platform (MNW) has been completed on 07.04.04 against the schedule completion of 31.01.04. The Two Well Platforms (N9 & N10) was completed on 31.12.04 against the plan of 31.03.03. The progress in Three Pipeline Project is 71.15% against the plan of 100% as of end June' 2005. The delay is mainly due to delay in placing of LOI and non-availability of pipeline laying Barge. In spite of delays in completion of these packages, the MHN redevelopment project is scheduled to be completed within time i.e. December, 2005.
>
> In the Mumbai High South Redevelopment Project, the actual achievement has been marginally less than the scheduled progress in case of MHS Process Platform, Nine well Platform Project (Tender-II). The MHS Process Platform (MSP) has been completed on 4.06.05 against the plan of 30.04.05. The Nine Well Platform Project (Tender-II) i.e. the Pipeline & Platform Modifications Project (RSPPM) is under implementation. The Nine Clamp on Project has been completed ahead of schedule on 31.12.04 against the plan of 30.04.05, hence no delay in completion. The MHS Redevelopment Project is likely to be completed within the scheduled completion time i.e. July, 2007."

25. The Committee had taken note of the delays in certain items/packages relating to Mumbai High North (MHN) and Mumbai High South (MHS) Redevelopment Projects and desired that the Government should analyse the reasons for delay/slow progress and take appropriate remedial measures. The Government, in its Action Taken Reply, has stated that in spite of delays in some packages, the MHN Redevelopment project would be completed within time i.e. December 2005 and MHS Redevelopment Project would also be completed within the scheduled time limit of July 2007. The Committee hope that the MHN Redevelopment Project would have been completed as per

schedule. They would like to be apprised of the factual position in this regard. The Committee also desire that the factors leading to delays/slow progress on some items relating to MHS Redevelopment Project should be analysed and appropriate measures taken so as to ensure that this project is completed within the scheduled completion period of July 2007.

H. Purchasing/hiring of rigs by ONGC for drilling activities

Recommendation 20

26. The Committee were unhappy to note that the actual expenditure incurred on wells and facilities in the Mumbai High North and South Redevelopment Projects had been far short of the planned amount. They had been informed that the shortfall in expenditure on facilities had been attributed to delay in award of work, delay in approval of projects, etc. and less expenditure on wells had been primarily due to drilling of less number of wells. They had further been informed that the shortfall in drilling of wells had resulted from non-availability of suitable rigs. The Committee had noted that ONGC had to obtain rigs by floating tender and /or negotiating with suitable rig suppliers. They had been informed that this process, being time-consuming, was telling upon the drilling activities of the organisation, thereby leading to failure in meeting the planned targets. To obviate such a situation, the Committee had recommended that ONGC should go in for purchasing rigs for its use instead of procuring / hiring the same from other sources, after making a cost-benefit analysis of the two options. They had also recommended that till such time the rigs were procured, the company should endeavor to initiate the hiring process in advance keeping in view its future drilling programme.

27. The Ministry of Petroleum and Natural Gas has submitted the following reply in this regard:

> **"** Presently ONGC is operating 3 drill ships for drilling in deepwater locations. One Rig Sagar Vijay capable of drilling in water depth upto 900 metres is owned by ONGC other two rigs namely Belford Dolphin & Discoverer Seven seas capable of drilling in water depth upto 3000 metres and 1800 metres respectively are operating on charter hire basis along with integrated services".

28. The Committee had recommended that in order to accelerate its drilling activities, ONGC should go in for purchasing rigs for its use instead of procuring/hiring the same from other sources, after making a cost-benefit analysis of the two options. They had also desired that till such time the rigs were procured, the

company should initiate the hiring process in advance keeping in view its future drilling programme. In its Action Taken Reply, the Government has stated that at present, ONGC is operating 3 drill ships for drilling in deepwater locations – 1 rig owned by ONGC which is capable of drilling in water depth upto 900 metres and 2 rigs on charter hire basis with drilling capacities of 1800 and 3000 metres. In the Committee's view, the reply furnished by the Government is evasive in nature. The reply does not specify either the programme of the Company to purchase rigs that are capable of drilling water depths upto 2000/3000 metres or the cost-benefit analysis of the purchase vis-à-vis hiring options. The Committee would like the Government/ONGC to carry out an exercise to evaluate the financial aspect involved in the two options and apprise them of the outcome of the said exercise at the earliest. The details of the programme of the Company regarding purchasing/hiring of rigs for its furture drilling activities may also be conveyed to the Committee.

I. Locations for LNG terminal on East Coast

Recommendation 26

29. During the examination of Demands for Grants (2005-06) of the Ministry of Petroleum & Natural Gas, the Committee had been informed that GAIL's report on the LNG terminal at Gopalpur in Orissa and Haldia in West Bengal would be completed in 2-3 months. They had desired to be apprised of the outcome of the said study. The Committee had further been informed that in the study conducted by IOC/GAIL for selecting the best location for LNG terminal on the East Coast, it had been concluded that Ennore was the most suitable location. In this connection, the Committee had desired to know the relative advantages of Ennore vis-a-vis Krishnapatnam which prompted the Government to conclude that Ennore was the most suitable location on the East Coast for LNG terminal.

30. The Ministry of Petroleum and Natural Gas has submitted the following reply in this regard:

> "In view of the large indigenous gas finds in the Krishna Godavari basin, with its landfall point near Kakinada, the proposed LNG import project at Kakinada was not pursued further as LNG is not likely to be in a position to compete with the large indigenous sources close to the point of production. Accordingly, alternative locations for setting up an LNG import terminal on South East Coast of India, away from Kakinada, were explored. IOC carried out a port selection study through M/s Tractebel Engineers and Constructors Limited (Tractebel). The port selection study considered various parameters including land availability/ topography, marine & port facilities,

marine & environmental conditions, habitations and gas demand centers. Ennore Port was selected on account of the following key advantages over other ports, including Krishnapatnam:

a. Ennore Port is fully developed, with breakwaters and turning basin already in place. The other ports are yet to be developed.

b. The port is at the heart of major gas demand centers and cost of the gas transportation pipeline network to the various gas demand centers is the least from this port.

c. No land acquisition and rehabilitation are required.

With regard to Haldia and Gopalpur, it may be mentioned that a port selection study for Haldia and Gopalpur has been carried out by GAIL's consultant M/s. Tractebel Engineers & Constructors Pvt. Ltd., New Delhi. The preliminary observations are as follows:

i. Haldia Port, West Bengal:

The port is having a draft of only 9-9.5 meters. Therefore, ships up to 50,000 cubic metre capacity will be able to discharge LNG in the port. This will increase the number of trips to discharge particular quantity of LNG compared to the ships which can carry LNG up to a quantity of 1,35,000 cubic metre.

ii. Gopalpur Port, Orissa:

This is a minor port and the existing port is not in operation since last five years. Heavy expenditure has to be incurred for development of the port and installation of required facilities for setting up of an LNG terminal. Major demand centre for regasified LNG is not located near the site.

It may also be mentioned in this regard that Board of Navratna companies have been empowered to consider proposals pertaining to projects and investments based on business and commercial considerations."

31. The Committee had desired to know the relative advantages of Ennore vis-à-vis Krishnapatnam which prompted the Government to conclude that Ennore was the most suitable location on the East Coast for LNG terminal. In response, the Ministry of Petroleum & Natural Gas has stated that IOC carried out a port selection study through M/s Tractebel Engineers and Constructors Limited which considered various parameters including land availability/topography, marine & port facilities, marine & environmental conditions, habitations and gas demand centers and as per this study,

Ennore Port was found to be having key advantages over other ports including Krishnapatnam. In this connection, the Committee would like to reiterate the observation made in their 8th and 9th Reports (14th Lok Sabha) that the study conducted by M/s Tractebel should not be considered as conclusive in view of the fact that Krishnapatnam was considered favourably for LNG terminal purpose by a study conducted by another agency a few years ago.

During oral evidence on Demands for Grants (2006-07) of the Ministry of Petroleum and Natural Gas, the Secretary of the Ministry had informed the Committee that LNG terminals along the Eastern Coast would not have any future as imported LNG cannot compete with indigenous gas, thereby implying that the Government has no intention of setting up LNG terminals on the Eastern Coast in the near future. The Committee reiterate the recommendation made in their 9th Report (14th Lok Sabha) that the merits of Krishnapatnam should not be overlooked by the Government at the time of taking a decision about setting up of LNG terminals on the Eastern Coast.

The Committee had also desired to be apprised of the outcome of the study carried out by GAIL on the feasibility of setting up LNG terminals at Gopalpur in Orissa and Haldia in West Bengal. They have been informed through the Government's Action Taken Reply that a port selection study for Haldia and Gopalpur has been carried out by GAIL's consultant Tractebel which has already made its preliminary observation in the matter. The Committee find that the preliminary observations of Tractebel do not depict a healthy picture in respect of the two ports. While the Haldia port is said to be having a limited draft of only 9-9.5 metres, the Gopalpur port is apparently having the limitation of major demand centers for regasified LNG not being located near this site. The Committee desire that all major factors should be taken into consideration before taking a final decision in the matter.

J. Exploitation of Coal Bed Methane

Recommendation 29

32. The Committee had regretted to note that the exploration / exploitation of CBM in the country had not got the due attention of the Government as a result of which the country has been bereft of the dividends of this vital source of energy. They had desired the Government

to prepare a committed and time bound work programme for the sustained exploitation of Coal Bed Methane in the country and act on the same in a dedicated manner.

33. The Ministry of Petroleum and Natural Gas has submitted the following reply in this regard:

> "Government of India formulated CBM policy in 1997. An MOU was signed between Ministry of Petroleum & Natural gas and Ministry of Coal to facilitate implementation of CBM policy including identification of area for CBM operations. Keeping in view the future Coal Mining Programme and by closely interacting with Ministry of Coal, DGH carved some prospective blocks for exploration and exploitation of CBM in the country. CBM blocks were offered for international bidding. Under two rounds of CBM bidding held so far, the Government has awarded 16 CBM blocks to National, Private & JV companies for exploration and production of CBM in the country. The total CBM resources in the 16 awarded blocks are estimated to be 820 BCM. The expected production from these blocks is estimated at 23 MMSCMD at their peak production level.
>
> Normally, it takes 5-6 years to commence CBM production from the blocks after the process of award is finalized and PEL is granted by the State Governments. The exploration of CBM involves several phases (viz. Phase-I to Phase-IV). Phase-I work involves drilling of Coreholes and Test Wells to assess the CBM gas & water production rates. The next phase i.e. Phase-II involves drilling of some Pilot Wells in a cluster pattern to determine the permeability of coal seams, establishing the production rate of CBM gas and water and other reservoir parameter. The Phase-III involves drilling of development wells for commercial production of CBM gas. The Phase-IV is the production phase.
>
> During the last 3 years more than 50 Coreholes, 11 Test Wells and 3 pilot wells have been drilled in the awarded blocks. In some of the blocks, Phase-I exploration activities have already been completed. The results in these blocks are very encouraging. Test production of CBM in a couple of blocks has yielded good volume of gas production. It is expected that the commercial production of CBM in the country is likely to commence by the year 2007-08."

34. In their original Report, the Committee had recommended that the Government should prepare a committed and time bound work programme for the sustained exploitation of Coal Bed Methane in the country and act on the same in a dedicated manner. The Government, in its Action Taken Reply, has, inter-alia, given details about activities undertaken by the Government in the direction of CBM exploration in the country. The Committee would like to point out here that the thrust of their recommendation was on preparation of a time bound work programme for sustained exploitation of CBM, not on the activities undertaken by the Government. They would

like to know the long-term strategy formulated by the Government in regard to exploitation of vast CBM resources in the country.

K. Assessment of Coal Bed Methane reserves

Recommendation 30

35. The Committee had regretted to note that even after a lapse of 8 years of the announcement of the CBM Policy, the Government had still not been able to conduct any systematic study to assess the total recoverable CBM reserves in the country. They had recommended that the Government should carry out a scientific study to assess these reserves and complete the same within a definite time frame which would enable it to systematically explore and exploit these resources and proceed in the right direction.

36. The Ministry of Petroleum and Natural Gas has submitted the following reply in this regard:

> "Government of India formulated CBM policy in 1997 for systematic study to assess the total recoverable CBM reserves in the country. A total 16 CBM blocks were award under two CBM rounds held so far. The total resources of 16 awarded CBM blocks are estimated to be 820 BCM.
>
> In order to assess the total recoverable CBM resources in the country and to increase the pace of development of the CBM resources, DGH with close interacting with Geological Survey of India (GSI), Central Mines Planning & Design Institute (CMPDI), Central Mining Research Institute (CMRI) and other CBM exploration agencies have arranged for drilling of borehole in virgin coal field areas away from active mining areas, coal samples were obtained from borehole were studied in CMRI who assess the CBM resources for offering CBM blocks in future round. The complete assessment of CBM resources in the country is expedited by DGH in near future. "

37. The Committee had recommended that the Government should carry out a scientific study to assess the total recoverable CBM reserves in the country and complete the same within a definite time frame. In its Action Taken Reply, the Government has stated that in order to assess the recoverable CBM resources in the country, DGH with close interaction with the Geological Survey of India (GSI), Central Mines Planning & Design Institute (CMPDI), Central Mining Research Institute (CMRI) and other CBM exploration agencies have arranged for drilling of borehole in virgin coal field areas away from active mining areas and that the complete assessment of CBM resources in the country is being expedited. The Committee would like to know

the time by which this assessment process would be completed as well as the details about the total recoverable CBM resources in the country.

L. Progress of ONGC's CBM Projects

Recommendation 31

38. The Committee had noted that the Government had so far awarded 16 blocks (13 blocks under two rounds of CBM bidding and 3 on nomination basis) for exploration and production of Coal Bed Methane in different coal fields of India. They had been informed that the total CBM resources in these blocks were estimated to be 820 BCM. They had further been informed that 9 out of these 16 blocks had been awarded to the Oil & Natural Gas Corporation Limited (ONGC) either exclusively or in collaboration with other companies (2 under CBM-1, 2 on nomination basis and 5 under CBM–II). As regards the two blocks awarded under CBM-I viz. Bokaro and North Karanpura, the Committee had been informed that while drilling of first test well was in progress in Bokaro, the same in respect of North Karanpura was likely to start in April, 2005. The Committee had desired to be apprised of the latest status of these projects. The Committee had also noted that in the case of 2 out of 5 blocks awarded under CBM-II viz. South and North Karanpura, the grant of PEL was awaited. They had desired ONGC to take up the matter with the State Government and expedite the process.

39. The Ministry of Petroleum and Natural Gas has submitted the following reply in this regard:

"Status & Plan of Nine CBM blocks of ONGC

Block	Status & plans
Jharia	Block under Phase-I. 8 Boreholes, 2 Exploratory & 9 Pilot well locations have been released. Out of these 3 boreholes have been drilled and 2 are under drilling. Rest of 3 boreholes, 2 Exploratory Wells and 9 pilot wells have been planned for drilling by 27.08.06.
Raniganj	Block is under Phase-I. Firming up of 8 Borehole locations has been completed. Drilling of the boreholes is to commence in December 2005 and I Exploratory Well is planned for drilling during early 2007.
Bokaro	Block was under Extended Phase-I till 20.08.2005. As per **MWP**, 8 boreholes & 2 Exploratory wells were drilled and based upon data, decision taken to enter Phase-II (Pilot Phase), duration of which shall be 21.08.2005 to 20.02.2009. As per **MWP** 12 pilot wells shall be drilled in this period.

North Karanpura	Block was under Phase-I till 20.08.2005 during which 8 boreholes were drilled. Extension of Phase-I has been sought for 6 months till 20.02.2006 to complete drilling of remaining I borehole and 2 exploratory wells. These activities have been planned to be completed during extended period of 6 months.
North Karanpura (W)	**Phase-I yet to commence as PEL is awaited.**
South Karanpura	**Phase-I yet to commence as PEL is awaited.**
Satpura	Block under Phase-I. G&G studies are in progress prior to release of locations for drilling.
Wardha	Block under Phase-I. G&G studies are in progress prior to release of locations for drilling.
Barmer – Sanchore	Block under Phase-I. 8 Borehole locations have been released and are to be drilled shortly."

40. In their original Report, the Committee had recommended that ONGC should take up with the State Government the issue of grant of Petroleum Exploration Licence (PEL) for two blocks awarded to it under CBM-II viz South Karanpura and North Karanpura (W). From the Government's Action Taken Reply, the Committee find that the grant of PEL for these blocks is still awaited. The Government has not mentioned anything about the steps taken by ONGC to obtain PEL for these blocks. This is indicative of lack of seriousness on the part of the Government towards important recommendations of the Committee for which corrective action needs to be taken. The Committee reiterate their earlier recommendation that ONGC should take up the matter with the State Government and expedite the process. They also desire to be apprised of the progress made in the direction of obtaining PEL for the two blocks.

CHAPTER II

RECOMMENDATIONS WHICH HAVE BEEN ACCEPTED BY THE GOVERNMENT

Recommendation No. 1 (Para No. 2.1)

Hydrocarbons are generated and accumulated in sedimentary rocks. The country has 26 sedimentary basins comprising both onland and offshore areas. The total area of the Indian sedimentary basin is 3.14 million sq.km. Of this, the share of the onland area is 1.39 million sq.km., that of offshore area is 0.39 million sq.km. (upto 200m isobath water depth). The deep water area is 1.35 million sq.km. The Committee have been informed that 19 of the 26 basins have been taken up for exploration so far, with acquisition of seismic data and carrying out of exploratory drilling. However, extensive exploration appears to have been carried out only in the seven producing basins viz. Cambay, Upper Assam, Mumbai offshore, Krishna-Godavari, Cauvery, Rajasthan and Assam Arakan. The Committee would like to know the programme of the Government in respect of the basins in which exploration activity has not been initiated as yet. They further note that while 18% (0.562 million sq.km.) of the total area of the Indian sedimentary basin has been moderately to well explored, the area in which exploration has been initiated constitutes 33% (1.054 million sq.km.). Thus, about half of the total area is either unexplored (30%, 0.942 million sq. km.) or poorly explored (19%, 0.582 million sq.km.). The Committee find that the percentage of unexplored and poorly explored areas has come down from 57% to 49% in the last four years or so, which is no doubt a positive sign. However, in the Committee's view, the pace of exploration needs to be accelerated so as to cater to the increasing demands for petroleum products and reduce the huge import bill. They would, therefore, recommend that a firm schedule should be drawn up by the Government to explore the remaining sedimentary basins.

Reply of the Government

Government of India had already signed PSCs for 90 Blocks with NOCs, foreign and Pvt/JV companies for exploration of 8,97,259 Sq. Km. area under first four rounds of NELP. In recently concluded fifth round of NELP, 20 exploration blocks covering an exploration area of 1,15,180 Sq. Km. were awarded. Thus Government of India have offered for 1.012 million Sq.

Km of exploration area in NELP. Government of India plan to offer more exploration blocks in 2006 under sixth round of NELP.

DGH are carrying out geophysical and geochemical surveys in unexplored and poorly explored basins for opening up these areas for future exploration. Based on the results of interpretation, the exploration blocks will be carved out for offer under future NELP rounds.

DGH have initiated the surveys in unexplored and poorly explored areas to accelerate the pace of exploration. In this regard geochemical surveys have been planned in Bheema-Kaladgi Basin (8,000 sq. km.) and Narmada Basin (10,000 sq. km.) during 2005-06 and 2006-07 respectively to expedite initiation of exploration activities in these sedimentary basins.

Following surveys and activities have been planned by DGH in poorly explored areas with a view to carve out exploration blocks for further NELP rounds to expedite the exploration activities:

(i) Geochemical surveys in some parts of Rajasthan, Offshore southern Tip / Kerala-Konkan.

(ii) Seismic survey in Kutch-Saurashtra and part of deep water Mumbai offshore, East Coast upto EEZ from the earlier acquired data, Basalt covered Vindhyan Basin, Rann of Kutch, Northern part of Rajasthan, Foothills of Mizoram and Arunachal Pradesh, logistically difficult areas of Ahmedabad and Viramgam

(iii) Aero-magnetic survey in Himalayan foothills and Ganga Valley falling in Punjab, Himachal Pradesh, parts of Uttranchal, U.P. and Bihar.

(iv) Remote Sensing and Magneto-Telluric (M.T.) studies in Trap covered areas like Pranhita-Godavari and central India

(v) Marine M.T. and seismic refraction work in Gulf of Kutch

(vi) Analysis of aerial imagery / remote sensing data over Narmada-Cambay / Deccan Syneclise region

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Recommendation No. 4 (Para No. 2.4)

The medium-long term exploration strategy i.e. for the period from 2007-2020 of the Oil and Natural Gas Corporation Limited (ONGC) has four major components viz. continuing efforts in the producing basins, intensifying activities in deep water areas, consolidating the possible breakthrough in non-producing basins and knowledge building in the frontier areas. The Committee have been informed that during the 10th Plan the Company plans to explore subtle traps of producing basins through the use of superior technology and to carry forward the same to the 11th and 12th Plans. They would like to know the success achieved in the exploration of subtle traps in the producing basins so far. The exploration strategy in deep water areas aims at intensifying exploration in the sectors and expanding activities to new sectors simultaneously. The Committee desire that the organization should give more importance to deep water areas in view of the vast hydrocarbon prospect and the reported discoveries made in such areas in the recent past. The exploration strategy of ONGC also involves consolidation of leads arising out of the short term strategy in the non producing basins such as Vindhyan, Himalayan foreland, Satpura, Bengal, Ganga, etc. for discovery of commercial hydrocarbons based on petroleum habitat. The Committee desire that this process should be completed in a fixed time frame. As regards knowledge building in the frontier basins, ONGC plans to take up a few of these basins for knowledge building during the 10th Plan which would be extended to other basins during the 11th and 12th Plans. The Committee would like to be informed as to whether any of these basins has since been taken up for knowledge building. The Committee also desire that a Plan-wise programme should be chalked out so as to cover all the frontier basins by the end of the 12th Plan.

Reply of the Government

Exploration for Subtle traps

Since the beginning of the X Plan, a concerted effort has been made to explore subtle traps in the producing basins. The advanced techniques used for probing such prospects include the following.

- Seismic amplitude studies
- Interval velocity analysis
- Inversion studies
- Spectral Decomposition
- Sweetness attribute integrating seismic amplitude, frequency, etc.

The basin-wise details of such efforts are given below.

- In the Cambay Basin subtle trap exploration, i.e., combination traps in the Mandhali Member in Jotana and Warosan areas of the Mehsana block, interpreted channel at the Kalol-IX level in the Nardipur Depression, Nawagam, Wasna and Sadra areas have been successful and resulted in accretion through field growth. The successes in South Kadi and in Jambusar and Kural areas of the Broach-Narmada sector for channel/bar prospects of stratigraphic nature were rather limited.

- In the Mumbai Offshore Basin advanced studies resulted in identifying the discrete sand bodies within the stratigraphic intervals of the Panna, Mahuva and Daman formations and porosity pods within the Mahuva carbonates. It resulted in five successes. The recent strike in D-33 is significant and resulted in a find. The other successes are BSE-6 in the Heera-Panna-Bassein sector, B-12-7, C-39-10 and 11 in the Tapti-Daman sector and B-12-9 in the Saurashtra sector. In Kutch Deep Offshore basin concerted efforts towards exploring for channel-levee complexes of the Proto-Indus fan were part of a deliberate strategy for exploration of subtle traps.

- In the onland part of the Krishna-Godavari Basin, exploration for subtle traps led to a new hydrocarbon find, namely, Sitaramapuram. Efforts towards lead appraisal resulted in discovery of a new play, i.e., sub-unconformity trap in the Sitaramapuram and Gopavaram prospects. Additionally, exploration for mounded features resulted in the discovery of a number of new pools in Kavitam, Kaikalur, Gopavaram, etc. In Krishna-Godavari Offshore, during the period, subtle trap prospects within Godavari Clay (Pliocene Play) were taken up for exploration resulting in two major discoveries in deep waters, viz., G-4 and Vashista. Exploration efforts in the shallow waters have resulted in the discovery of a new play, i.e., sub-unconformity trap in the GS-15 prospect. Additionally, exploration for the channel-levee play resulted in the discovery of a number of new pools in G-1, GS-29, GS-KW and Vashista prospects.

- In Assam Shelf, interpretation of data with the latest technology resulted in identification of subtle strati-structural (channel) plays in Oligocene (Barail Formation) in North Assam Shelf and Eocene in South Assam Shelf. The Oligocene plays were probed in the north of Rudrasagar, north of Lakwa and south of Lakwa areas leading to success in Tiphuk-1, an oil and gas find north of Lakwa. Subtle structural and stratigraphic plays in Eocene were probed in the Merapani area, south of Borholla-Mekrang, leading to oil and gas find in the East Lakhibari-1 prospect.

- Reprocessing and special processing of the 2D seismic data has resulted in identification of subtle structural plays in Bhuban Formation (Miocene). These plays were probed in the area northwest of Agartala Dome and also to the south of Manikyanagar areas of Tripura resulting in a gas find in Sonamura-1.

Deepwater exploration by ONGC:

Keeping in view the vast hydrocarbon potential of the deepwater areas, ONGC has entered the ambit of deepwater exploration with a comprehensive exploration programme. Towards this end, ONGC is continuing its deepwater exploration efforts in the sectors contiguous to the known petroliferous sectors of the producing basins as part of its medium- and long- term plans.

Being one of the thrust areas of its exploration strategy, the deepwater sector exploration took a quantum jump in the X Plan with the following twin objectives.

- Intensification of exploration in the sectors with successful outcome arising out of the short-term strategy.

- Expansion of the activities into new sectors simultaneously by making forays into the super- and ultra-deep waters.

The deepwater component of the total X-Plan programme comprises acquisition of 14000 LK of 2D, 17900 sq km of 3D and drilling of 34 exploratory wells.

To accelerate deepwater exploration activities, ONGC launched a mega campaign “Sagar Sammriddhi” in August, 2003. To add to its in-house capability of drilling in a water depth of 900 m, ONGC hired two deepwater rigs, employing latest technology and capable of drilling

in water depths beyond 900 m, to explore in the deep and ultra-deep water areas. “Sagar Sammriddhi” is a step towards realizing the potential of hydrocarbons in the deepwater blocks.

Under the campaign ‘Sagar Sammriddhi’, ONGC has drilled 18 deepwater wells as on 1.04.2005, of which three wells are hydrocarbon bearing. In addition, three deepwater wells were under drilling as on 01.04.2005. These intensive exploration efforts have resulted in two gas finds, G-4 and Vashista in Krishna Godavari deepwater establishing 33.48 MMT of OEG of Inplace hydrocarbons as on 01.04.2005.

Furthermore, ONGC adopted a strategy of pre-drill 3D seismic surveys. Extensive 3D seismic campaign was carried out during the first three years of the X-Plan period over the identified prospects and drilled 21 exploratory wells, inclusive of wells drilled before the launch of the campaign (1-4-2002 to August 2003).

Seismic Data Acquisition in Deepwater areas as on 1.4.2005

Area	Areas with >400 m water depth					
	During IX Plan		During X Plan (as on 01-04-2005) 3 Year Total		Cumulative Since (as on 01-04-2005)	
	2D (LK)	3D sq km	2D (LK)	3D sq km	2D (LK)	3D sq km
West Coast	14647	8359	6035	8432	110252	17155
East Coast	5586	1358	13308	8709	46678	10067
TOTAL	20233	9717	19343	17141	156930	27222

Exploratory Drilling in deepwater areas as on 1.4.2005

Period	W. Depth (>400 m)	W. Depth 200-400 m	Total	Status of HC-bearing wells
Pre IX Plan	2	10	12	4 Oil &Gas, 1 Gas
During IX	6	2	8	1 Oil &Gas, 2 Gas
During X	20	1	21	1 Oil &Gas, 4 Gas
Total	28	13	41	6 Oil &Gas, 7 Gas

In addition, three deepwater wells, viz. Vashista-2, L-1-1A and G-4-4 in KG offshore were under drilling as on 01.04.2005.

Remarks:

- In the mid-eighties, offshore acreages beyond 200m bathymetry were considered as deepwater areas.
- In line with international convention, from the late nineties onwards, beyond 400m bathymetry is considered as deep water. However, some wells drilled on G-1 and G-4 prospects in water depths less than 400 m are also considered as deepwater wells, as these prospects extend into deepwater setup beyond 400 m bathymetry.
- One well, KK-DW-17-1 in Kerala-Konkan offshore, drilled in shallow water on a Carbonate bank located in deepwater set up was also considered as a deepwater well.

Knowledge building in the Frontier basins:

The X-plan exploration programme of ONGC includes 6 frontier onland basins viz. Vindhyan (Madhya Pradesh), Deccan Syneclise (Maharashtra), Satpura-South Rewa (M.P.), Ganga Valley (U.P.), Himalayan Foothills (Himachal Pradesh) and Spiti-Zanskar (J&K) with various levels of exploratory inputs. Components of work programme include intellectual inputs in terms of integrated studies with the available geo-scientific data to develop workable geological model and the physical inputs, such as non-seismic geophysical surveys, seismic surveys and R&D/ parametric wells.

Frontier basins are in the knowledge building stage of exploration. Knowledge building involves a series of critical phases. With each phase, there is progressively increasing database leading to a better understanding of the basin and thus helping the evaluation of hydrocarbon prospectivity.

ONGC has exploratory acreages in the onland Frontier basins, viz., Satpura-S.Rewa-Damodar, Vindhyan, Ganga Valley and Himalayan Foothills, falling in the states of Madhya Pradesh, Uttar Pradesh, Jammu & Kashmir and Himachal Pradesh. The component of exploration for the first three years (2002-05) of the total X - plan programme in the Frontier basins included acquiring 440 GLK of 2D, 25 sq km of 3D data and drilling of 4 exploratory wells. Of these envisaged inputs, during 2002-05, as on 1.4.2005, ONGC has already completed acquisition of 1564 GLK of 2D seismic data in the Himalayan Foothills, Ganga

Valley, Vindhyans and Satpura Basins and drilling of 2(two) exploratory wells in the Vindhyan and Himalayan Foothill basinal areas. As on 1.4.2005, one more exploratory well, Hamirpur-1, is under drilling in the Himalayan Foothills.

During the remaining part of X Plan, ONGC plans to carry out 2D seismic surveys and exploratory drilling in the Himalayan Foothills, Ganga Valley, Vindhyan and Satpura Basins which also include the NELP blocks, viz., GV-ONN-97/1 and HF-ONN-2001/1.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Comments of the Committee

(Please see para 13 of Chapter I of the Report)

Recommendation No. 5 (Para No. 2.5)

The average recovery factor from the producing fields of ONGC has remained stagnant in the range of about 28% for the last few years. The Committee do not view this rate as encouraging which needs to be enhanced in order to reduce the increasing demand-supply gap and imports. They have been informed that through IOR / EOR measures, ONGC envisages to improve the recovery factor to 35% over a period of 10 years and 40% over 15-20 years. The Committee desire that the organisation should make all out efforts to bring in improvements in the recovery factor, as envisaged, through effective implementation and close monitoring of IOR / EOR schemes

Reply of the Government

IOR/EOR in 15 major fields

Efforts have been made to enhance oil recovery/augment production from producing fields through Improved Oil Recovery (IOR) and Enhanced Oil Recovery (EOR) schemes. ONGC has drawn up plans for redevelopment of Mumbai High field and implementation of IOR/EOR in 14 other major fields to be implemented in stages through 19 schemes.

IOR/EOR for six fields namely Heera Phase-I, Gandhar, Neelam, N.Kadi Phase-1, Santhal IOR and Sanand have been completed. Programmes are under implementation in 11 fields namely MHS, MHN, Santhal EOR, Balol, Lakwa-Lakhmani, Geleki, Kalol, Shobasan Complex, Rudrasagar, Lanwa, Jotana. Two schemes, namely, Heera Part-II and N. Kadi Phase-II are planned for implementation.

IOR in other fields

In addition, in other fields also continuous efforts are in progress to optimize production through infill drilling, pressure maintenance, optimization of artificial lift systems, multilateral completions, online simulation, well stimulation, induction of new drilling & completion techniques, etc.

Inputs have been provided in the following 10 fields, namely, Nawagaon, Limbodra, WasnaPh-I, Ahmedabad, B-173A, Viraj, Narimanam, Kesanapalli-W, Nannilam, Gopavaram

16 schemes are under implementation in the fields, namely, Bechraji, Jhalora, Wasna Ph-II, Nandasan, Nandej, Gamij, Borholla, Charali, Laplingaon, Lynch, Wadu-Paliyad, Demulgaon, G-1, Kovilkalappal, GS-15, and Lingala.

The another 6 fields, namely, D-1, B-192, Changmaigaon, Nada-MainPay, Adiyakamangalam, Kathana EP-I are planned and are yet to be implemented

In addition to these, study is in progress in the S-W Motwan field.

EOR Plans for Major Fields

To enhance the recovery further that could be achieved through IOR and EOR techniques/ processes, are being implemented in various fields of ONGC. Present EOR applications are thermal methods in heavy oil belt, polymer flood in Sanand field and gas injection in Gandhar. The commercial application of In-situ combustion and polymer processes is based on the pilot results conducted in the fields.

- EOR schemes under commercialization are in

  - Balol - In Situ Combustion (ISC),
  - Santhal - In Situ Combustion (ISC),
  - Sanand - Polymer
  - Gandhar, (GS-12) - Gas injection.

The successful testing of EOR processes in Balol and Santhal put the country and the organization on the world map of EOR. Thermal EOR techniques in the heavy oil fields of North Gujarat, are already in vogue which are slated to enhance recovery substantially. In medium gravity oil reservoir of Sanand, commercial polymer flooding is in progress to improve the recovery. Gas injection has commenced in light oil reservoir of Gandhar, to improve the recovery factor of the field.

Current thrust is being given on enhancing liquid hydrocarbon yield from the reservoirs by identifying and implementing EOR techniques on a fast track basis both in onland and offshore fields.

Pilots are in progress in two fields namely Lakwa and Heera. Pilots are under implementation in four fields namely Mumbai High, Lanwa, Kalol and Gandhar. EOR studies are also planned in Neelam .

EOR in other fields

Additional EOR schemes are also planned in fields other than the major fields as detailed below.

- Pilots are in progress in 2 fields namely, Viraj, Bechraji
- Pilots are under implementation in Limbodra, Kalol, Ankleshwar, Wadu-Paliyad, Jhalora, NKadi, Sobhasan, Jotana and Nandasan
- EOR studies are planned in 3 fields i.e., Limbodra & Charali-ASP, Limbodra & Nawagaon
- EOR Studies are not found encouraging in the following 10 fields, namely, Nandasan, Nada, Ahmedabad, Nandej, Kalol, Nawagaon, Wadu-Paliyad, Wasna, Gamij and Demulgaon.

As enumerated above, IOR/EOR programs are drawn by ONGC for implementation in such a manner that does not affect the reservoir health and the objective of enhancement of oil & gas production and recovery is achieved.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Recommendation No. 6 (Para No. 2.6)

The major thrust for exploration of the Oil India Limited (OIL) is in the North-East. With the easier areas of the region having been fairly explored, the Company has moved into the logistically difficult, geologically complex and technologically frontier areas in the North-East. The Committee have been informed that the organization has carried out three geo-scientific studies in order to have an in-depth information of the entire Upper Assam Basin. The Committee would like to be apprised of the outcome of these studies. The Committee find that the organization has made two major discoveries in the North-East in the year 2003-04 Viz. Baghjan and Chandmari. They would like to know activities undertaken/being undertaken by OIL in these

fields after the discoveries were made as well as the plans to start commercial production from these reserves.

Reply of the Government

Exploration by OIL in the North East :

The following 3 nos. geo-scientific studies were carried out by Oil India Limited in Upper Assam basin :

Study	Consultancy	Objective	Outcome (Finding)
Basin Modeling Study	M/s. ECL, UK	• Guidelines for hydrocarbon fairways and new leads for future exploration. • Aid in formulating Comapany's long term exploration strategy and programme.	• Around 350 MMT reserves yet to be established. • Prospectively of North Bank area downgraded. • Brahmaputra riverbed and adjoining. areas, Lohit-Mishimi foreland are prospective. • Priority areas for API identified in South Bank area.
Thrust Belt Study	M/.s ECL, UK	Delineation of hydrocarbon plays in Sub-Thrust and Supra-Thrust, Barails/Tipams.	• Frontal thrust zone areas more prospective than hinterland areas. • Manabum folded zone prospective. • Prospective west of Kumchai and Digboi Sub-Thrust. • Continue extensive exploration in Naga foreland areas.
Revitalization of old oilfields	M/s. Halliburton, UK	Identify reserve growth potential and undrained fault blocks/reservoirs, recommend development and exploitation of these reservoirs using techno-economic methods.	• In-fill drilling : 17 wells vertical wells and 48 horizontal wells • Re-completion : 48 wells • Fluid injection : Water Injection – 24 wells, Drilling 5 wells.

Activities undertaken/being undertaken by OIL in Baghjan and Chandmari discoveries

i) Baghjan :

A total of 4 drilling locations were identified for delineation of the discovery of Baghjan gas field. Two wells have been planned in September/ December, 2005.

ii) Chandmari :

Seven delineation/extension wells were identified for drilling in Chandmari area soon after discovery of Chandmari field. Out of these 7 wells, 4 wells have already been drilled and completed as oil producers.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Recommendation No. 8 (Para No. 2.8)

The Committee are displeased to note that ONGC and OIL have failed to meet many of the targets fixed for seismic survey and drilling during 2003-04. As against the combined exploratory and developmental drilling target of 923.30 km. in respect of ONGC, the actual achievement was 737.51 km. only. Similarly, in case of drilling of wells (both exploratory and developmental), the Committee find that the Company could drill only 321 wells during the year against the target of 360. As far as seismic survey is concerned, though the targets in case of 3D surveys were exceeded, the same in respect of 2D surveys could not be met by ONGC. As regards OIL, the Committee notice that during 2003-04, except 3D onshore survey, the company has failed to meet the targets in respect of all other activities under seismic survey and drilling viz. 2D onshore survey, 3D offshore survey, exploratory drilling, developmental drilling and drilling of wells. The Committee are particularly unhappy about OIL's 'nil' achievement in 2003-04 in respect of 3D offshore survey against a target of 400 sq.kms. The Committee would like to be apprised of the reasons for shortfalls registered by ONGC and OIL in respect of seismic survey and drilling as well as the corrective measures taken/being taken by the Companies to remedy the situation. The actual achievements made by ONGC and OIL during 2004-05 may also be conveyed to the Committee.

Reply of the Government

Achievement in 2D & 3D seismic data acquisition, exploratory drilling, development drilling and inplace hydrocarbon accretion by ONGC in its operational areas vis-à-vis corresponding STP targets of X Plan during the first three years (2002-05) of the X Plan is detailed below.

2D Seismic Data (GLK/LK)			3D Seismic Data (sq km)			Exploratory Wells			Development Wells		
X Plan STP (Firm) (2002-05)	Actuals (2002-05)	Percent Achievement	X Plan STP (Firm) (2002-05)	Actuals (2002-05)	Percent Achievement	X Plan STP (Firm) (2002-05)	Actuals (2002-05)	Percent Achievement	X Plan STP (Firm) (2002-05)	Actuals (2002-05)	Percent Achievement
32788	43735	133	25998	48951	188	371	383	103	428	566	132

Note: ONGC has creditably overachieved its X Plan targets for the first three years.

The details in respect of seismic data acquisition by ONGC during the year 2003-04 are as follows.

Area	Type of Seismic Survey	Target BE	Actual	Percent Achievement
Onland	2D (LKM)	3190	2686	84
	3D (Sq km)	896	1470	164
Offshore	2D (LKM)	11500	3307	29
	3D (Sq km)	13888	18421	133
Total ONGC	2D (LKM)	14690	5993	41
	3D (Sq km)	14784	19891	135

Note: During 2003-04, while ONGC's achievement fell short of the target for 2D seismic surveys, the targets were far exceeded in 3D surveys.

The reasons for shortfall in 2D seismic data acquisition during 2003-04:

Onland areas: In onland areas, the short fall in 2D seismic data acquisition is mainly due to deliberate swapping of 2D seismic survey with 3D survey for more focused subsurface imaging to chase the exploratory leads obtained, besides delay in deployment of two 2D departmental seismic parties in Assam & Assam Arakan basin due to High Court stay order on the tendering process of shot-hole drilling and job service contract as well as non-finalization of contracts for seismic data acquisition through contractual parties.

Offshore areas: 11500 LKM of 2D seismic survey was planned to be acquired in BE (2003-04) in western offshore basin. Of the 11500 LKM, 4000 LKM was a part of the special seismic data acquisition programme which was postponed. The remaining 7500 LKM was kept in BE in anticipation of getting deepwater blocks in NELP-III, but no deepwater block in western offshore was awarded to ONGC. In order to fulfill the special seismic data acquisition, a total quantum of 5230 LKM of long offset 2D seismic has been planned during 2005-06.

Corrective Measures Taken / Being Taken:

- In order to fulfill the special seismic data acquisition (2D) planned in Western Offshore during 2003-04 which was subsequently postponed, a total quantum of 5230 LK of long offset 2D seismic, Acquisition, Processing and Interpretation (API) has been planned during 2005-06.

- The issue of environmental clearance in Palk Bay area of Cauvery Basin is being pursued with Ministry of Environment & Forest.

- The refurbishment and capital repairs of rigs are being assessed so as not to lose any rig-days in an unforeseen way.

- Efforts are being made to minimize industrial disputes by maintaining better industrial relations.

- Charter-hired rig contract finalized.

- Efforts have been made for central procurement of barytes to avoid unnecessary loss of rig time.

The details in respect of seismic data acquisition by ONGC during the year 2004-05 are as follows.

Area	Type of Seismic Survey	Target BE	Actual	Percent Achievement
Onland	2D (LKM)	2678	2312	86
	3D (Sq km)	1336	2302	172
Offshore	2D (LKM)	2500	14372	575
	3D (Sq km)	14620	18119	124
Total ONGC	2D (LKM)	5178	16684	322
	3D (Sq km)	15956	20420	128

As evident from the table given above, there is a shortfall in 2D seismic data acquisition during 2004-05 vis-à-vis corresponding BE targets in onland areas.

The shortfall in 2D seismic data acquisition in onland areas during 2004-05 is mainly due to deliberate swapping of 2D seismic survey with 3D survey for more focused subsurface imaging to chase the exploratory leads obtained or in view of exploration priorities, besides delay/non-finalisation/re-tendering of shot hole drilling & seismic job service contracts in some cases.

The details in respect of drilling by ONGC during the years 2003-04 and actual in respects of 2004-05 and reasons of shortfall is explained hereunder:

2003-04

Nature	Target				Achievement			
	Meterage	No. of Wells	Rig Months	Cycle speed (Meters/ Rig months)	Meterage	No. of Wells	Rig Months	Cycle speed (Meters/ Rig months)
Exp.	491855	172	665.72	723	324794	124	514.01	633
Dev.	431450	188	459.51	939	412720	197	381.38	1082
Total	923305	360	1125.23	811	737514	321	895.39	824

Reasons for variations

Overall cycle speed (meters / rig months), which is a drilling efficiency parameter, has been overachieved. However, reasons for drilling of less exploratory wells is mainly due to less availability of rig months and lower cycle speed in exploratory drilling. Major reasons are as under:

EXPLORATORY DRILLING

ONSHORE:

- Non-availability of planned charter-hired drilling rig and mobile rig for production testing of deep exploratory wells, complications at deeper depths, extensive testing for deeper prospects, bundh, barricade, natural calamities, waiting for ready site, waiting for civil work/location/ready site, waiting for material and equipment repair in Assam and Assam Arakan basin
- More development drilling than planned, excess time taken for upgradation/refurbishment of rigs, non-mobilization of one rig from Assam, and crane & trailors strike in Cauvery basin
- Non-availability of ready exploratory locations, long distance transportation, time over run in Capital repairs and barricade/local agitation in KG basin.

OFFSHORE:

- Delay in availability of rigs after dry-dock, delay in mobilization of two charter-hired rigs, complication and prolonged testing in Mumbai Basin (Shallow Water).
- Non-availability of planned Charter Hired Rig in KG , Cauvery and Bengal & Mahanadi basins in Shallow Water.
- Delay in availability of rig Sagar Vijay, after dry-dock, non-mobilization of Charter Hired rigs due to revision of work programme and delay in hiring of 2nd Ultra deep water rig in Deep Waters.

2004-05

Nature	Target				Achievement			
	Meterage	No. of Wells	Rig Months	Cycle speed (Meters/ Rig months)	Meterage	No. of Wells	Rig Months	Cycle speed (Meters/ Rig months)
Exp.	499910	178	677.28	738	291603	110	438.39	665
Dev.	413155	182	445.30	928	393900	179	398.87	988
Total	913065	360	1122.58	813	685503	289	837.26	819

Reasons for variations

Overall cycle speed (meters / rig months), has been overachieved. However, reasons for drilling of less wells both exploratory & development is mainly due to less availability of rig months and lower cycle speed in exploratory drilling. Major reasons are as under:

EXPLORATORY DRILLING:-

ONSHORE:

- Deployment of more rig-months in development drilling due to non-availability of ready exploratory locations, time over run in capital repair, complications in wells, and damaged approach road & drill site due to heavy rains in basins of western onshore.
- Shortage of rig months due to bandh, barricades, revamping, equipment repair, waiting for ready sites and complication in wells in Assam and non-availability of exploratory locations in Jorhat.
- Bandh/Barricade and complications in KG & Cauvery.
- Non-availability of planned location and delay in transportation of rig to next location due to barricading at previous well in GVK Frontier Basin.

OFFSHORE:

- Non-availability of 2 charter hired rigs damaged due to bad weather conditions and complications in Mumbai Offshore (SW).
- Non-deployment of planned charter hired rigs in KG , Cauvery , Mahanadi, basins of shallow water & Mahandai deepwater, delayed deployment of rig in Bengal (SW)

DEVELOPMENT DRILLING:-

- Shortage of rig months due to bandh, barricades, revamping, equipment repair and waiting for ready sites in Assam, not taking up of 3 wells in Nagaland in Onshore.
- Diversion of rig input for taking up high priority side track wells in Mumbai offshore and delayed deployment of rig in KG offshore.

Measures being taken to improve efficiency in Drilling:

Drilling Services has embarked upon the upgradation of drilling rigs with new state-of-the-art technology and equipment to enhance the efficiency of the operations.

1. Under the plan, 12 Onland drilling Rigs have been upgraded and refurbished by BHEL under Phase-I.
2. Another 12 onshore rigs are planned for similar upgradation by BHEL
3. Equipment technology like top drive drilling system, linear motion shale shakers, linear motion mud cleaner, independent rotary drives, disk-brake for draw-works are some of the new generation equipment inducted / to be inducted on the drilling rigs.
4. Whip-stocks for sidetracking of wells being used extensively in offshore & being extended to onshore for completion of Hi-Tech wells in safe & efficient manner.
5. Expandable casing systems to complete wells through problematic layers for exploitation of lower layers without landing into complications.
6. Proprietary mud systems like KCl-PHPA-Glycol Mud system, Non-damaging Drilling Fluids, environment friendly synthetic oil base mud systems are new and state of the art mud systems that have been introduced for imbibing benefits of the technologies
7. Upgradation & refurbishment of existing cementing units & replacement of old and obsolete cementing Units with new high-pressure cementing units has been taken up for operational improvement & optimum utilization of resources.
8. Technologies like horizontal drilling, multi-lateral drilling and Extended Reach Drilling are being utilized extensively for drilling Hi-tech wells.

Performance of OIL in 2003-04 and 2004-05 :

i) Reasons for shortfall in 2003-04 :

a) Seismic Survey – 2D onshore : Against the target of 2,425 GLK, the achievement was 2,088.22 GLK which is 86% of target. The main reason for shortfall was non receipt of clearance from Ministry of Defence for 500 GLKM 2D survey in NELP block in Rajasthan.

b) Seismic Survey – 3D Offshore : The targeted 400 Sq. Km of 3D survey in Cauvery basin could not be undertaken due to non receipt of clearance from Ministry of Defence. OIL had relinquished this the block w.e.f. 01.03.2004.

c) Drilling : The achievement in exploratory drilling was 49,283 metres against target of 66,000 metre, while achievement in development drilling was 59,340 metres against the target of 70,000 metres. The reasons for shortfall are as under:

- 6,000 metre scheduled for exploratory drilling in Rajasthan could not be undertaken due to relinquishment of the PEL area in East of Ramgarh after re-evaluation of prospectivity by Basin Modeling study.

- Delay in acquisition of land for drilling locations in Assam.

- Two drilling rigs had to be intermittently kept idle for revamping of mast and sub-structure.
- Environmental problems.

ii) Actual achievements in 2004-05 :

Sl. No.		2004-05	
		Target	Achievement
I. Seismic Survey :			
1.	Assam & AP		
	- 2D GLKM	1,000	877.44
	- 3D SQKM	550	639.44
2.	Ganga Valley		
	- 2D GLKM	-	51.15

3.	Rajasthan		
	- 2D GLKM	600	1,050
	- 3D SQKM	100	250
4.	Mahanadi Onshore		
	- 3D SQKM	100	-
	Total - 2D GLKM	1,600	1,978.59
	- 3D SQKM	750	889.44
II. Drilling (Metres) :			
a)	Assam :		
	Exploratory	53,500	37,890
	Development	79,500	1,15,673
	Total	1,33,000	1,53,563
b)	Rajasthan :		
	Exploratory	1,200	-
	Development	5,600	-
	Total	6,800	-
	Total (a+b)	1,39,800	1,53,563

Note :

1. OIL achieved the highest ever 3D seismic survey in a year since inception.
2. The drilling metreage of 1,53,563 metre achieved in 2004-05 was highest ever since inception.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Recommendation No.11 (Para No.2.11)

The Government formulated the New Exploration Licensing Policy (NELP) in 1997 in order to facilitate early exploration of unexplored/poorly explored areas of the Indian sedimentary basins, complement the efforts of the National Oil Companies and attract capital investment in exploration along with latest technology and management practices. The policy gives certain advantages to the contracting companies, which include exemption of cess for production from NELP blocks, exemption from payment of import duty on goods imported for petroleum operations, seven year tax holiday from the date of commencement of commercial production, freedom to contractors for marketing of crude oil and gas in the domestic market, etc. As a result of these attractive features, a number of companies, both public and private, have acquired blocks under NELP. This has not only accelerated the exploration process in the country but also yielded positive results by way of a number of oil/gas discoveries, which is significant in the context of widening demand supply gas and huge import bill. The

Committee find that the areas covered in the first four rounds of NELP constitute about 80% of the total area under exploration in the country. The Committee, therefore, desires that the Government should attach utmost importance to the programme. In view of the fact that vast areas of the Indian sedimentary basins still remain unexplored or poorly explored, the Committee recommend that the Directorate General of hydrocarbons (DGH) should play a more active role to expedite the process of carving out blocks for future rounds of NELP.

Reply of the Government

Government of India have already signed PSCs for 108 exploration blocks in first five rounds of NELP. Another 2 PSCs are likely to be signed shortly. Government of India will have the exploration area of about 1.02 million Sq. km. in all five rounds of NELP. DGH is planning to come but sixth round of NELP in 2006. All preparatory works in this regard is in progress.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Recommendation No. 14 (Para No. 2.14)

The Committee have been informed that 20 exploration blocks were offered in the fifth round of the New Exploration Licensing Policy (NELP), for which the last date of submission of bids was 31st May, 2005. The Committee would like to know the number of proposals received and the number of foreign companies bidding for these blocks as well as the progress made by the Government in completing the subsequent formalities like allotment of these blocks and signing of Production Sharing Contracts (PSCs). The Committee has also been informed that out of the 90 blocks for which PSCs have been signed in the first four rounds of NELP, 56 have gone to the Public Sector Companies and 34 to the Private Sector companies. The Committee find that as many as 19 discoveries have been made upto August, 2004 from the blocks offered by the Government under NELP. Most of the discoveries have been made from the blocks operated by Private companies. The Committee desire that the Public Sector Oil Companies should make extra efforts in the blocks awarded to them to achieve success.

It has been reported in the press that some National/State oil companies have made huge discoveries in some blocks to them under NELP in the recent past. The Committee desire to be

apprised of the details of these discoveries together with the likely time it would take to start commercial production from these areas.

Reply of the Government

DGH

A total 69 bids were received for 20 offered blocks under NELP-V. A total 26 foreign companies offered under NELP-V round was 69. There were 26 foreign companies who had bid for above offered blocks either along or in consortium with Indian partners. List of the foreign companies participated in the bidding is enclosed in table-I.

The bid evaluation was completed and submitted to MOP&NG on 20th June, 2005. Empowered Committee of Secretaries (ECS) meeting regarding awards of blocks was conducted on 5th July, 2005. The letter of award of blocks to the winner was issued on 4th August, 2005. PSCs for 18 exploration blocks signed on 23 Sept, 2005. The remaining 2 PSCs will be signed shortly. The reason for delay in signing these 2 blocks was the representation by few companies. The list of foreign companies participated in fifth round of NELP is given in Table-1.

Gujarat State Petroleum Corpn. Ltd. (GSPC) has made huge discovery of gas on East Coast in block KG-OSN-2001/3. As per the Production Sharing Contract, the operator has to notify the discovery to Management Committee of the block & Govt. within 30 days of discovery. Operator has to apprise the discovery before declaration of the discovery as commercial. The estimation of reserves can be examined after detailed technical study such as production testing, calibration of 3D seismic data with drilled well data and detail study of geophysical and geological data of the block. The commercial production will start only after the development of field by the operator. As per PSC provision, the operator has to submit the development plan within 4 years from the date of notification of discovery.

Table-1
Foreign companies participated in bidding for NELP-V Blocks

1	Beach Petroleum, Adelaide, Australia
2	BG India, UK
3	Birkbeck Investment Ltd., Mauritius
4	BP Exploration (Alpha), UK
5	Cairn Energy Plc., UK (through its ten subsidiaries)
6	Canoro Resources Ltd., Canada
7	ENI India Ltd. , Italy

8	Exspan Exploration & Production, Jakarata, Indonesia
9	Foresight Ltd., UK
10	Geoglobal Resources Ltd., Canada
11	Geopetrol International Inc., Rue Du Goblan, Monaco
12	Hardy Exploration, UK
13	Hunt Oil Co., UK
14	Joshi Technologies Inc., Houston, USA
15	Jubilant Energy (India) Ltd., Cyprus
16	KUFPEC, Kuwait
17	Niko Resources Ltd., Canada
18	Oilex, Australia
19	Petrobras, Brazil
20	Petronas Carigali, Kuala Lumpur, Malaysia
21	Providence Resources, UK
22	PT Istech Resources Asia, Jakarata, Indonesia
23	Sonauto Holdings Ltd., Perth, W. Australia (wholly owned company of Norwest, Perth, Western Australia)
24	Suntera Resources, Russia
25	Welwyn Resources, Canada
26	Zakros Holdings Ltd., Cyprus

ONGC

ONGC has been awarded 50 blocks as operator during last five NELP rounds. These blocks are located in diverse geological setting with varied risk-reward perception. 31 of these blocks are either in frontier onland areas or in yet-to establish basins with less knowledge base and therefore associated with higher risk. The remaining 19 blocks are located in less explored areas of the producing basins.

Besides, in nine other blocks, ONGC has joined with other companies as non-operator.

In view of the paucity of data in the blocks awarded to ONGC, massive geoscientific surveys have been carried out which include 47545 GLK/LK of 2D and 24354 sq km of 3D seismic data as on 1.4.2005. The geoscientific data acquired have been integrated to bring out the hydrocarbon play fairways and to firm up the prospects for drilling. Based on these, 12 exploratory wells have been drilled in different blocks and two more were under drilling as on 01.04.2005.

Though no commercial success has been obtained so far in any of the NELP blocks being operated by ONGC, oil and gas indications have been observed during production testing in three wells viz. MBAA in Gujarat, R-4N-2 and RSER-1 in Mumbai offshore. These have provided significant leads which are being pursued with additional 3D seismic data acquisition and exploratory drilling to prove commercial discoveries.

Besides, ONGC has acquired 90% PI with operatorship in the NELP-I block KG-DWN-98/2 from Cairn Energy Pty Ltd in March 2005, where hydrocarbons have been established in four prospects viz. Annapurana, Padmavati, Kanakadurga and N. Integrated evaluation of the block is underway to establish production in the area.

Similarly in other blocks, intensified data acquisition and drilling programme is already planned, based on the play fairway recognition, with the objective of commercial discoveries.

To further enhance its performance in offshore areas, ONGC is planning to adopt world class state-of-the-art technologies, viz., Sea bed logging, Q-marine, EM Pulse, and Advanced Reservoir Characterization by industry leaders. ONGC has, of late, constituted a panel of world-class experts to review its offshore interpretations.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Recommendation No. 15 (Para No. 2.15)

The Committee note that ONGC's exploration activities in the Krishna-Godavari (KG) onland basin started as far back as in 1959. The exploratory efforts by ONGC in the KG onland basin have resulted in the discovery of a number of oil and gas fields. However, its performance in the KG offshore basin has not been very encouraging. A comparative analysis of the performance of ONGC vis-à-vis private companies indicates that while in-place reserve accretion in KG offshore basin in the last four years by ONGC was 33.10 MMT, the same in respect of private and other companies was 290.13 MMT. Similarly, ONGC's performance in the KG offshore basin in the last four years in the field of 2D survey, 3D survey and drilling of exploratory wells has been short of the level achieved by private and other companies. The Committee recommend that ONGC should analyse the various factors responsible for its performance in the KG offshore basin, plug the loopholes and bring in improvements in its success rate in future.

Reply of the Government

It is pertinent to note that ONGC has achieved spectacular success in areas considered to be non-prospective by private operators. AMOCO, USA acquired the block KG-OS-V in the 3rd round of bidding (1986), drilled two wells without success and relinquished the entire block. Exploratory efforts by ONGC through 3D OBC surveys in the shallow water parts of the erstwhile AMOCO block resulted in three hydrocarbon finds (GS-15, GS-23 and GS-KW).

These efforts have led to the establishment of 19.42 MMT (O+OEG), as on 01.04.05, of inplace hydrocarbons with significant 'yet-to-find' potential.

It is a common phenomenon in the business of hydrocarbon exploration that an operator makes use of the knowledge base generated by the earlier operators in the same sectors to move ahead and register a breakthrough. The efforts of present day knowledge facilitate other players in their exploratory efforts in subsequent stages and there have been instances that the latter players have achieved success based on the knowledge generated by the first operator.

Notwithstanding the finds by private operators in the deepwater acreages, ONGC has shown its steadfast commitment to keep their exploratory activities in KG basin on track. It has so far (as on 01.04.05) probed 59 prospects which led to 14 hydrocarbon finds, has acquired a total of 48,300 LK of 2D, and 9808 sq km of 3D seismic data, drilled 93 exploratory in the offshore part of the KG Basin. These exploratory efforts by ONGC have led to the establishment of 107.12 MMT of in-place hydrocarbons, as of 1.4.2005.

ONGC currently holds 6 shallow water PEL blocks (5 under nomination and 1 under NELP regime) and 8 deep-water PEL blocks (4 under nomination and 4 under NELP regime) in KG offshore.

During the period 2000-04, ONGC has acquired 5177 LK 2D, 5999 sq km of 3D seismic data and also drilled 15 wells in KG offshore These exploratory efforts have resulted in one oil and four gas finds. During the period 2000-04, ONGC has accreted in place reserves of 33.10 MMT in KG offshore. ONGC has, however, achieved an accretion of 44.16 MMT inplace reserves during 2004-05. Continuing the trend during the current year, ONGC has discovered new pools in existing finds through G-4-4, Vashista-2, GS-15-9 and GS-15-10 wells which are under assessment. A number of promising prospects are identified for drilling which are expected to boost our accretion during 2005-06.

To further improve upon its performance in offshore areas, ONGC is planning to adopt world class state-of-the-art technologies viz.., Sea bed logging, Q-marine, EM Pulse and Advanced Reservoir Characterization by industry leaders. ONGC has, of late, constituted a panel of world class experts to review its offshore interpretations.

New measures are being taken by ONGC to develop its offshore fields. Process is initiated for integrated development of a shallow water oil & gas prospect GS-29 with a free gas

deepwater prospect G-4 as a "concept to commissioning" programme which would be the first of its kind in the E & P sector of India and probably anywhere in the world. Another is the integrated development of G-1 and GS-15 fields with 'smart well technology'. This project is likely to go on stream by April 2006. G-1 would thus become the first 'digital' deepwater oil field in the Indian waters to come on production.

During the X Plan, ONGC has planned to acquire 2800 sq. km. of 3D seismic data (100 Sq Km in shallow water areas and 2700 Sq Km in the deep offshore areas) and drill 26 exploratory wells (18 in the shallow offshore areas and drill 8 wells in the deep offshore areas) in the KG offshore basin. During the X-Plan period so far (as on 01.04.05), ONGC has acquired 1650 LK of 2D and 7785 sq. Km. of 3D seismic data and also drilled 21 exploratory wells. During this period, four finds (oil in GS-KW, gas in GS-49, G-4 and Vashista) were made. Against a target of 64 MMT (O+ OEG) (for KG onshore and offshore) firm in-place accretion during the five years of the X Plan, ONGC has accreted 72.35 MMT (O+ OEG) of in-place hydrocarbons in the first three years in KG offshore alone. The total accretion in the three years in onshore and offshore areas of KG basin was 87.71 MMT (O + OEG).

ONGC is keen to improve its performance further by adopting world class state-of-art technologies in exploration and development.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Recommendation No 18 (Para No. 2.18)

The Committee note that the Oil and Natural Gas Corporation Limited (ONGC) and Oil India Limited (OIL) have launched Improved Oil recovery (IOR)/Enhanced Oil recovery (EOR) Schemes to augment recovery from the existing producing fields. ONGC has 16 approved IOR/EOR schemes in which an investment of Rs.10972.00 crore in envisaged. The likely incremental oil as a result of implementation of such schemes is 106 MMT by the year 2020. The Committee have been informed that 5 of these schemes have already been completed, while the remaining 11 have made significant progress. The Committee have further been informed that till September, 2004, the provisional expenditure on these schemes was Rs.6462.00 crore as against the planned expenditure of Rs.8287.00 crore. Apart from the cost savings in 7 offshore packages, the shortfall in expenditure has also been due to inter-alia shortfall in the number of wells drilled; delay in project approval, delay in the installation of certain equipments, etc. The Committee would like the Government/ONGC to be more active so as to ensure that the physical progress of such important schemes is not hampered.

They also desire that all out efforts should be made to ensure that the remaining 11 IOR/EOR schemes are completed without any time and cost overruns. As regards IOR/EOR schemes of OIL, the Committee have been informed that the company has been taking initiatives in the form of water injection, gas injection, polymer flooding, etc. in its different oil fields of Assam and that the company has successfully completed a polymer flood project which has resulted in an increased recovery of about 5% of reserves apart from significant economic benefits in artificial lifting and water handling facilities. The Committee recommend that OIL should intensify such efforts and also extend the same to its other areas of operation.

Reply of the Government

ONGC has drawn up a plan for redevelopment of Mumbai High field in western offshore and implementation of Improved Oil Recovery (IOR)/Enhanced Oil recovery (EOR) in other 14 major fields (both onshore and offshore) to be implemented in stages through 19 schemes out of which 18 schemes are under different stages of implementation.

All efforts are being made in the onshore and offshore assets of ONGC to avoid/minimize any time and cost overruns in the ongoing schemes for the activities under their control. The details of the schemes under implementation are as under: -

Improved Oil Recovery (IOR) schemes

Sl. No.	Name of the scheme (State/Area)	Date of approval	Schd. Compln.	Anticipated/ Actual Compln.	Approved Cost (Rs. Crs.)
1.	Mumbai High North (Western Offshore)	16.12.00	Dec'2005	Dec'2005	2929.40
2.	Mumbai High South (Western Offshore)	16.10.01	Jul'2007	Jul'2007	5255.97
3.	Heera Part-I (Western Offshore)	11.01.01	Jan'2004	Nov'2003	309.08
4.	Additional Development Heera Part-II (Western Offshore)	31.01.05	Apr'2007	Apr'2007	569.07
5.	Neelam (Western Offshore)	11.01.01	Jul'2003	Jul'2005	347.69

6.	Kalol (Gujarat)	14.08.00	Mar'2007	Mar'2007	99.67
7.	Sanand (Gujarat)	14.08.00		Facilities commissioned (Nov'2001)	30.30
8.	Gandhar (Gujarat)	16.12.00	Mar'2004	Jun'2005	761.74 (Base+IOR)
9.	North Kadi Ph.I (Gujarat)	14.08.00	Dec'2003	Aug'2005	62.86
10.	North Kadi Ph.II (Gujarat)	30.12.04	Mar'2007	Mar'2007	32.22
11.	Sobhasan (Gujarat)	01.08.01	Mar'2005	Jun'2006	71.92
12.	Jotana (Gujarat)	28.02.01	Mar'2004	Almost complete	53.24
13.	Balol EOR Main (Gujarat)	Oct'95	Mar'2001	Facilities commissioned (Nov'2001)	118.08
14.	Santhal EOR Main (Gujarat)	Oct'95	Mar'2001	Facilities commissioned (Dec'2001)	332.62
15.	Santhal Infill (Gujarat)	14.08.00	Mar'2004	Almost complete	38.85
16.	Lakwa-Lakhmani (*) (Assam)	26.09.01	Mar'2007	Mar'2007	345.10
17.	Geleki (*) (Assam)	26.09.01	Mar'2007	Mar'2007	390.09
18.	Rudrasagar (*) (Assam)	15.09.01	Mar'2006	Mar'2006	113.90

(*) All the three schemes are under Mid Term Review.

OIL

IOR / EOR schemes of OIL :

The various reservoirs of Naharkatiya and Moran oilfields of OIL have reached advanced stages of depletion and secondary recovery techniques have enhanced oil recovery in some reservoirs to the order of 45% of Original Oil In-Place (OOIP). Improved oil recovery (IOR) or Enhanced Oil Recovery Schemes (EOR) can increase the recovery to the order of 60-70% of OOIP with implementation of suitable EOR/IOR schemes, which are reservoir specific.

In order to obtain additional requisite geo-scientific information to examine scope of further improving recovery from the depleting reservoirs, 3D seismic survey has already been taken up for structural detailing, refinement of geological model. Further, multi-disciplinary study has been completed for revitalization of the old depleting fields.

Integrating with the above and to enable OIL to identify the areas of less drained/bypassed oil. OIL plans to take up infill well drilling/redistribution of water injection and implementation of other IOR/EOR methods to improve recovery. Based on the over all scenarios, OIL has initiated action to enhance IOR/EOR efforts.

Various IOR/EOR steps which have been implemented by OIL over the years, are as under:

i) Peripheral water injection;
ii)Crestal gas injection;
iii) Simultaneous gas and water injection;
iv) Polymer flooding
v) Water flooding

OIL has implemented IOR/EOR measures in 24 reservoirs as detailed below.

Field	No. of reservoirs	Oil In Place (MMT)	Percentage of total OOIP of field
Nahorkatiya	16	123.31	70
Moran	4	46.23	68
Jorajan	2	7.05	5
Shalmari	2	6.44	40
Total	**24**	**183.03**	**45**

Out of 24 reservoirs, in 23 reservoirs, benefits of IOR/EOR measures have already been realized. 70% of oil-in-place of Naharkatiya oilfield (discovered in 1953) and 76% of oil-in-place of Moran oilfield (discovered in 1956) have already been subjected to IOR/EOR. OIL's IOR/EOR measures have resulted in adding about. 18 MMT of recoverable oil reserve, out of which about 13 MMT have already been produced**.**

At the moment water injection is ongoing in 13 of the above 24 reservoirs and it is planned to enhance water injection in these reservoirs. OIL also has plan to start water injection in 9 new reservoirs with following break up:-

Field	**No. of new rese**	**Oil In Place (MM**
Nahorkatiya	**3**	**7.22**
Moran	**1**	**14.61**
Jorajan	**5**	**23.03**
Total	9	44.86

By end of X-plan, 31 reservoirs would be subjected to IOR/EOR with total Oil in Place of 214.22 MMT. Water injection is expected to go up from present level of around 10,000 KLPD

to 13,000 KLPD by the end of X Plan. The target laid out for the next few years (upto end of X Plan) is as follows:

Year	Water Injection Target (KLPD)	Financial Outlay (Rs. Crores)	Total No.
2005-06	11,200	18.00	64
2006-07	13,000	8.38	77

In order to obtain additional requisite geo-scientific information to examine scope of further improving recovery from the depleting reservoirs, 3D seismic survey has already been taken up for structural detailing, refinement of geological model. Further, multi disciplinary study has been completed for revitalization of the old depleting fields. Integrating with above to enable OIL to identify the areas of less drained/bypassed oil to take up infill well drilling/redistribution of water injection and implementation of other IOR/EOR methods to improve recovery. Based on the over all scenario, OIL has initiated action to enhance EOR/IOR efforts.

In addition, actions have also been taken to improve production by addressing the well bore problems in producers plagued with premature water production. Sand ingress are being targeted to enhance well productivity with water shut-off, gravel packing etc.

The services of Institute of Reservoir Studies, ONGC, Ahmedabad was engaged by OIL for examining the suitability of Alkali-Surfactant-Polymer (ASP) flooding in OIL's fields. The study carried out in a single reservoir viz. Naharkatiya Barail IV+V sand, Naharkatiya well no. 1 block, the improvement in oil recovery with ASP chemicals was not significant to warrant a field trial. Various vendors of ASP chemicals have been contacted for screening of suitable chemicals which may lead to improved recovery.

The help of IRS, ONGC, Ahmedabad is also been taken for implementation of MEOR techniques i.e. EOR using micro-organisms and/or bio-surfactants in 3 wells of OIL on an experimental basis. Field implementation of MEOR in all the 3 wells as planned has been completed. The 1st well, NHK – 267 showed encouraging result.

The other IOR/EOR initiatives in hand include in-fill drilling in developed fields, drilling of 4 nos. horizontal wells, development drilling, workover operations, de-bottlenecking of production facilities through creation of additional infrastructure etc.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Recommendation No. 23 (Para No. 2.23)

During the five years from 1999-2000 to 2003-04, the cumulative crude oil production target for the two national oil companies viz. ONGC and OIL was set at 144.955 MMT. As against this target, the actual production by these two companies during the said period was 142.157 MMT, thereby resulting in a shortfall of about 3 MMT. While the OIL registered shortfalls in production during all the five years, ONGC failed to achieve the target in three out of five years viz. 1999-2000, 2001-02 and 2003-04. The shortfall in case of ONGC has been attributed to rupture of Mumbai High–Uran Trunk Pipeline, shutdown in Mumbai High and less production from offshore and North-eastern areas. OIL's failure to achieve the targets has been attributed to producing fields reaching the declining stage and inability to discover any medium to large size discoveries since 1995. The failure of the national oil companies to enhance substantially the production of domestic crude oil has resulted in increasing the country's import dependence in respect of crude oil. The Committee have been informed that ONGC and OIL are taking a number of measures such as induction of new technology, implementation of IOR/EOR schemes, revival of sick wells, enhancement of drilling efforts, etc. to augment the domestic production. In order to reduce the import dependence, the Committee desire that the oil producing companies should implement these measures in the right earnest and closely monitor the same to find out their impact on the actual production. The Committee would like to be apprised of the additional production achieved as a result of these measures. The Committee also desire that the Government should lay more emphasis on acquisition of overseas oil and gas properties which would save some foreign exchange as the equity oil would be cheaper as compared to the import price of crude oil.

Reply of the Government

ONGC

As regards ONGC's crude oil production during the five years from 1999-2000 to 2003-2004, ONGC had registered a shortfall of 0.963 MMT only vis-à-vis the targets. The Committee has already noted the reasons for the same.

The details of crude oil production vis-à-vis target from the fields operated by ONGC during the years 1999-2000 through 2004-05 is as under: -

Oil Prodn. (MMT) *	1999-00	2000-01	2001-02	2002-03	2003-04	Total	2004-05
Target	25.800	24.600	25.201	25.900	26.387	127.888	26.174
Actual	24.648	25.057	24.708	26.005	26.507	126.925	26.484

* Including condensate.

As can be seen from above, ONGC had failed to achieve its target in the years 1999-2000 and 2001-2002 only.

In ONGC, most of the producing fields are old and presently major producing fields of ONGC like Mumbai High in Western Offshore; Kalol, Jhalora, Nawagam, Viraj, Sanand, Sobhasan, Jotana, Santhal, Ankleshwar etc. in Gujarat and Lakwa, Geleki, Rudrasagar in Assam have entered the natural decline phase (a natural process in the production life of oil fields). Increase in production comes through either additional development in the existing fields or development of new fields, which can offset the decline from the old fields.

ONGC has drawn up a plan for Improved Oil Recovery (IOR) in 15 major fields, including Mumbai High, to be implemented in stages through 19 schemes out of which 18 schemes (including two EOR schemes at Balol & Santhal) have already been approved and are under different stages of implementation.

In addition to above, ONGC has taken/is taking various actions for maintaining/augmenting the crude oil and natural gas production like focus on artificial lift, work-over/stimulation of wells, Enhanced Oil Recovery (EOR) Pilots, development of marginal and isolated fields, state-of-the-art drilling and well completion techniques, revamping of facilities etc.

With these efforts the natural decline of crude oil production has been offset and now it has shown an increasing trend in the last few years.

To achieve the corporation's short term and medium to long term production strategy for improving global recovery from the fields of ONGC from current level of 28-29% to 35% and to 40% over a cycle of 10 years and 15-20 years respectively, Institutes and Assets of ONGC have pursued a time bound action plan for Improved Oil Recovery (IOR) / Enhanced Oil Recovery (EOR) in different fields of Assets/ Basin. Unrelenting efforts are on to enhance oil recovery/augment production in producing fields through Improved Oil Recovery (IOR) and Enhanced Oil Recovery (EOR) Techniques. ONGC has drawn up plans for redevelopment of Mumbai High field and implementation of IOR/EOR in 14 other major fields to be implemented in stages through 19 schemes. In other fields also continuous efforts are in progress to optimize production through infill drilling, pressure maintenance, optimization of artificial lift systems, multilateral completions, online simulation, well stimulation, induction of new drilling & completion techniques, etc. All these techniques contribute to the overall improvement of oil recovery in a consolidated way and assessing individual contribution may not be feasible. As a result of implementation of the above mentioned measures, the oil production as on date, in the 15 major fields has increased to 86.153Mmt. Otherwise the expected production in the normal course was 66.118Mmt. This has resulted in an oil gain of 16.876Mmt till date, due to the extra efforts put into improving the recovery of oil.

Overseas acquisition

ONGC Videsh Limited (OVL), the wholly owned subsidiary of ONGC is engaged in overseas exploration and production of oil and gas to supplement the reserves of ONGC and to augment the national energy security. The company has already acquired stake in 15 oil and gas exploration and production projects spread over 13 countries.

OVL has a diversified portfolio of assets which are at various stages of E&P business. The company is currently producing oil and gas from its Sudan and Vietnam project. The Sakhalin-1 project, Russia and Block 5A, Sudan are currently under development and expected to start production in the near future. Other assets in Myanmar, Iran, Iraq, Libya, Syria, Sudan, Australia, Ivory Coast, Cuba, Qatar and Egypt are at various stages of exploration.

Further, OVL has signed MOUs with number of National/Multinational companies for co-operation in upstream sector. OVL is currently pursuing number of opportunities to secure more production of oil and gas abroad in identified countries i.e. Qatar,

Nigeria, Algeria, Egypt, Russia, Venezuela, CIS countries and many other African and Latin American countries.

During the first three years of the Plan period, OVL had the following production of oil and gas from the overseas fields vis-à-vis target fixed:

	2002-03		2003-04		2004-05	
	Plan	Actual	Plan	Actual	Plan	Actual
OIL (MMT) (Including Condensate)	-	0.183	-	3.345	-	3.714
GAS (BCM)	0.23	0.07	0.60	0.523	0.81	1.349
TOTAL (O+OEG)	0.23	0.253	0.60	3.868	0.81	5.063

OIL

OIL has initiated a number of production enhancement measures to augment crude oil production such as increased drilling efforts, revival of sick wells, IOR/EOR schemes, induction of new technology etc.

Crude oil production in respect of Oil India Limited in the last three years are as under :

	2002-03	2003-04	2004-05
Crude oil Production (MMT)	2.95	3.002	3.196

From the above it is observed that the crude oil production by OIL registered an increase of 6.5% in the year 2004-05 compared to 2003-04.

The current rate of crude oil production of approx. 3.45 MTPA indicates a growth of about 7.95% in comparison to 2004-05.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Recommendation No. 24 (Para No. 2.24)

As regards natural gas, the Committee find that during the five years from 1999-2000 to 2003-04, the total allocation demand was 210.45 BCM whereas the actual gas production by both Public and Private Sector companies was 150.99 BCM. While the annual allocation demand was around 43 BCM, the production was hovering around 31/32 BCM mark. The Committee also find that though the production by ONGC has shown an upward trend from 1999-2000 upto 2002-03, the same has declined in the year 2003-04 as compared to the previous year. The Committee would like to know the reasons for the same. As regards OIL, the Committee are unhappy to note that the company has failed to meet the production target in all the five years mainly due to non-withdrawal of committed quantities by consumers like the Brahmaputra Valley Fertilizers Company Limited, Namrup. In this regard, the Committee have been informed that additional consumers like NEEPCO and Numaligarh Refinery Limited have committed to lift gas for which a pipeline is being constructed which is proposed to be extended to Guwahati for new consumers in this region. The Committee desire that this pipeline project should be completed expeditiously which, besides catering to the gas requirements of needy consumers, would also improve the financial health of the company. The Committee would also like to be informed of the outcome of the initiative taken by OIL to develop certain Non-Associated Gas Fields in the North-East to meet the additional gas requirement in the region.

Reply of the Government

ONGC

The details of gas production from the fields operated by ONGC during the years 1999-2000 to 2004-05 are as under: -

	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05
Gas production (MMSCM)	23252	24020	24042	24244	23584	22970

Note: Above figures are exclusive of production from fields being operated by JVs.

As can be seen from the above table that ONGC's gas production had shown an increasing trend from 1999-2000 to 2002-03. There has been a decline in gas production during 2003-04 and 2004-05.

The decline in gas production is due to following reasons:

1. Decline in gas production from giant Bassein free gas field in Western Offshore, which is as per the anticipated natural decline in this field indicated in the Long Term Gas Profile.

2. Reduced free gas production from Gandhar and Dahej field in Ankleshwar due to natural decline.

3. Reduction in gas production from Pasarlapudi and Tatipaka fields in Rajahmundry asset due to high water cut and fast depletion.

Further ONGC has kept the Government informed regarding its long term gas supply projections from time to time so that alternate sources of gas supply can be lined up in advance to meet shortfall arising out of increase demand and / or decline in availability.

ONGC has drawn up schemes for maintaining/augmenting gas production, which are in different stages of conceptualization/implementation. Details of major schemes are as under:-

- Integrated development of G-1 & GS-15 offshore fields in east coast where drilling is in progress.
- Additional development of Bassein and 2nd stage booster compressor at platform BCP-B2 and BCP-A2 (with Vasai East Facilities) of Bassein offshore gas field
- Comprehensive Lump-sum turnkey contract from Concept to Commissioning for development of G-4 & GS-29 offshore fields in east coast.
- Expansion of Gas Collecting Station (GCS) at Baramura and Agartala Dome in Tripura Asset to increase the gas handling capacity to 2.5 MMSCMD.
- Three new GCSs in Tripura Asset are planned to meet the requirement of gas supply to the proposed 750 MW power plant.

OIL

Development of Non-associated Gas field in the North East :

Oil India Limited discovered 2 nos. gas fields at Baghjan and South Chandmari in its operational area of Upper Assam. OIL plans to delineate these fields for which drilling locations have been identified. The first delineation well in Baghjan is scheduled for drilling in September, 2005. Following delineation development plan, transportation facilities will be made available synchronizing with the commencement of the gas supply to the consumers from these fields.

Actions are in hand to lay transportation gas pipelines from these areas to Central Gas Offtake point at Duliajan, Assam.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Recommendation No. 27 (Para No. 2.27)

The Committee note that there is a wide gap between the demand and supply of natural gas in the country. As against the present demand of about 150 MMSCMD, the total gas supply in the country is a meager 75 MMSCMD. Further, this demands is likely to go upto 313 MMSCMD in 2011-12. The Increasing demand for gas can be met to some extent by the import of Liquefied Natural Gas (LNG). At present, the re-gasified LNG constitutes only around 12 per cent of the total gas supply in the country and thus, there is a need to set up more LNG terminals in the country. In this connection, the committee note that while Japan has more than 30 LNG terminals, USA has 5 terminals in operation and 29 under construction. On the country, India has just two terminals in operation viz. Dahej and Hazira, a situation which needs to be improved urgently. The Committee have been informed that 6 LNG terminals are likely to be installed in the country by the year 2010 which would add 25 MMTPA of LNG (equivalent to about 97 MMSCMD of natural gas). The Committee would like the Government to encourage the Public Sector Oil Companies to consider the feasibility of setting up of more LNG terminals in the country which would go a long way in rectifying the adverse demand-supply ratio of gas. The Committee further desire that the Government should frame guidelines in regard to setting up of LNG terminals in the country so as to ensure regional balance in the supply/available of gas.

Reply of the Government

Government has taken various measures to ensure adequate availability of gas, which are as under:

a. Acceleration of exploration activities under NELP, in which 110 blocks have been awarded so far.
b. To pursue transnational gas pipeline projects, namely, Iran-Pakistan-India pipeline; Myanmar-Bangladesh-India pipeline and Turkmenistan-Afghanistan-Pakistan-India pipeline.
c. Import of natural gas as LNG.

Under the existing policy, following concessions have been provided to encourage import of LNG:-

(i) Import of LNG is under Open General License (OGL) list;
(ii) LNG projects qualify for 100% FDI;
(iii) LNG imports attract a low rate of custom duty of 5%;
(iv) Imports of Capital goods for LNG project are eligible for concessional custom duty @ 5%;
(v) LNG importers have freedom to market regassified LNG at market price;

Following LNG terminals have been set up /are being set up:

	Capacity (MMTPA)	**Status**
Dahej	5	Commissioned in 2004
Dahej Expansion	5	May be completed by 2009.
Hazira	2.5	Commissioned in 2005
Dabhol	2.9*	May become operational by the year 2006
Kochi	5	May be completed by 2009
Ennore and Mangalore	--	Under planning

* - This capacity is likely to be available for merchant sales.

Through policy initiations, Government is encouraging setting up of more LNG terminals. However, commercial considerations will dictate establishment of new LNG terminals in India.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Recommendation No. 28 (Para No. 2.28)

A number of naphtha based fertilizer plants in the country have been closed down or are facing closure as the increasing cost of naphtha is making such plants unviable. There is an urgent need to make these plants viable by converting them to gas based plants. The Committee have been informed that the Department of Fertilizers has taken an initiative in this regard and a policy has been formulated in January, 2005 for conversion of the existing naphtha/FO/LSHS based urea units to natural gas/LNG as feedstock. The Committee appreciate this move of the Government and hope that the policy will yield positive and timely results. In this venture, the Ministry of Petroleum & Natural Gas will also have an important role to play i.e. it has to make available adequate gas to these units for their conversion. Besides, these units will have to be linked to the gas pipeline network. The Committee, therefore, desire that while finalizing/laying the future gas pipeline, Government should take into account the locations of these fertilizer units so as to facilitate their linking to the pipeline network.

Reply of the Government

The route for natural gas trunk pipelines is normally selected considering least-cost connectivity to the major demand centres, which inter alia considers demand from fertilizer units. For any industry that is not situated along the route of this trunk pipeline network and which desires to purchase natural gas, spur lines are provided on need basis, for facilitating their linkage to the main pipeline network. Currently, GAIL supplies natural gas to various fertilizer plants along its pipeline network. These include KRIBHCO- Hazira, GSFC - Baroda, NFL - Vijaipur, CFCL - Kota, Indo Gulf - Jagdishpur, Oswal - Shahjahanpur, IFFCO - Aonla, TFCL - Babrala, RCF - Thal, RCF - Chembur, Deepak Fertilizer at Taloja & Nagarjuna Fertilizers - Andhra Pradesh.

Presently, GAIL is executing the following pipelines:

- Thulendi-Phulpur Pipeline - for supply of natural gas to IFFCO, Phulpur fertilizer plant.

- Vijaipur-Kota Pipeline (Phase-I) – for supply of gas to SFCL, Kota besides other consumers.
- Dahej-Uran Pipeline – will supplement gas to RCF, Chembur & Deepak Fertilizers besides other consumers.

GAIL is also planning to lay new pipelines in various regions and gas to be transported through these pipelines shall cater to the demands of various fertilizer plants besides power plants and other industries. Subject to availability of gas and marketing tie-ups with the downstream consumers, the following major pipeline projects are being planned:

- Jagdishpur-Haldia Pipeline

  This will supply natural gas to various fertilizer plants besides other industries in the states of West Bengal, Bihar, Jharkhand and Orissa.

- Dadri-Nangal Pipeline

  The pipeline will supply natural gas to various fertilizer plants and other industries in Punjab & Haryana.

- Kochi-Coimbatore-Bangalore Pipeline

  This will supply natural gas to FACT, Kochi besides other industries in the states of Kerala, Karnataka and Tamil Nadu.

  [M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Recommendation No. 29 (Para No. 2.29)

The country holds significant prospects for commercial production of Coal Bed Methane (CBM) as it is endowed with abundant coal reserves. The exploration of CBM assumes added significance in view of the widening demand-supply gas in natural gas in the country. Besides, CBM, as a source of energy, has a number of advantages. Firstly, unlike some other types of fuel, CBM production could play a role in the reduction of the green house effect. Besides, it also contributes to mine safety by degassing the coal seams ahead of mining. Again, CBM could also be a new source of income for the Central and State Governments in the form of royalty, production level payments, taxes, etc. Moreover, it is also likely to foster economic activities in the vicinity of CBM operations as it has greater likelihood of being used locally for domestic and industrial purposes. In spite of having so many advantages, the Committee regret to note that the exploration / exploitation of CBM in the country has not got the due attention of the Government as a result of which the country has been bereft of the dividends of this vital source of energy. They would like the Government to

prepare a committed and time bound work programme for the sustained exploitation of Coal Bed Methane in the country and act on the same in a dedicated manner.

Reply of the Government

Government of India formulated CBM policy in 1997. An MOU was signed between Ministry of Petroleum & Natural gas and Ministry of Coal to facilitate implementation of CBM policy including identification of area for CBM operations. Keeping in view the future Coal Mining Programme and by closely interacting with Ministry of Coal, DGH carved some prospective blocks for exploration and exploitation of CBM in the country. CBM blocks were offered for international bidding. Under two rounds of CBM bidding held so far, the Government has awarded 16 CBM blocks to National, Private & JV companies for exploration and production of CBM in the country. The total CBM resources in the 16 awarded blocks are estimated to be 820 BCM. The expected production from these blocks is estimated at 23 MMSCMD at their peak production level.

Normally, it takes 5-6 years to commence CBM production from the blocks after the process of award is finalized and PEL is granted by the State Governments. The exploration of CBM involves several phases (viz. Phase-I to Phase-IV). Phase-I work involves drilling of Coreholes and Test Wells to assess the CBM gas & water production rates. The next phase i.e. Phase-II involves drilling of some Pilot Wells in a cluster pattern to determine the permeability of coal seams, establishing the production rate of CBM gas and water and other reservoir parameter. The Phase-III involves drilling of development wells for commercial production of CBM gas. The Phase-IV is the production phase.

During the last 3 years more than 50 Coreholes, 11 Test Wells and 3 pilot wells have been drilled in the awarded blocks. In some of the blocks, Phase-I exploration activities have already been completed. The results in these blocks are very encouraging. Test production of CBM in a couple of blocks has yielded good volume of gas production. It is expected that the commercial production of CBM in the country is likely to commence by the year 2007-08.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Comments of the Committee

(Please see para 34 of Chapter I of the Report)

CHAPTER III

RECOMMENDATIONS WHICH THE COMMITTEE DO NOT DESIRE TO PURSUE IN VIEW OF THE GOVERNMENT'S REPLIES

NIL

CHAPTER IV

RECOMMENDATIONS IN RESPECT OF WHICH REPLIES OF THE GOVERNMENT HAVE NOT BEEN ACCEPTED BY THE COMMITTEE

Recommendation No. 3 (Para No. 2.3)

The Committee note that an amount of Rs.6.54 crore was spent by DGH on activities such as surveys, reserve studies, geological modeling, etc during the year 2003-04. However, the Committee are unhappy to note that the estimated expenditure on exploration activities came down to Rs. 4.5 crore in 2004-05. The Committee would like to know the reasons for lower expenditure by DGH on exploration activities in 2004-05 vis-à-vis 2003-04 as well as the impact of this reduction on survey and exploration in physical terms. The Committee are also unhappy to note that out of the estimated expenditure of Rs. 4.5 crore in 2004-05, the actual expenditure during the first 8 months of the year i.e. April-November, 2004 was to the tune of Rs. 0.57 crore only which constitutes a negligible 13% of the estimated expenditure for the whole year. The Committee would like to be apprised of the reasons for this abnormally slow pace of expenditure. The actual expenditure incurred during the last 4 months of the year i.e. December 2004 –March 2005 may also be intimated to the Committee.

Reply of the Government

DGH mainly carries out reconnaissance survey, geological modeling and reserve studies for upgrading the basinal information for carving out exploratory blocks. These blocks are subsequently offered to various players by competitive bidding under various rounds of New Exploration Licensing Policy (NELP). Mainly the Contractor, to whom the block has been awarded, carries out detailed exploratory work in the block. Contractor carries out the work according to the committed minimum work programme of Production Sharing Contracts (PSCs).

Up gradation of basinal information is dynamic process. It depends on various factors including carving out and offering the blocks in any particular round. The information gathered by seismic surveys carried out in the block by operators also help in deciding the further course for exploration activities to be carried out by DGH for basinal up

gradation. Thus, the expenditure incurred on exploration activities by DGH may vary from year to year but does not affect any exploration work in physical terms. DGH is continuously carving out and offering the blocks from NELP-I to NELP-V. Blocks under NELP round VI will also be offered soon. Out of the 3.14 Million Sq. Km. identified basinal sedimentary areas in the country, about 1.012 million Sq. km. of area was awarded under five rounds of NELP.

It is a fact that the estimated amount of Rs. 4.5 crore for exploration activities planned in the year 2004-05 could not be incurred mainly due to contractual problems in awarding the contract to lowest bidder. New agency has been identified to carry out the remaining work and mobilize his aircraft and equipment accordingly. In addition to this, DGH has further planned marine seismic refraction and MT survey in Gulf of Kutch, MT survey in on-land parts and Geological modeling with the help of remote sensing data/imageries. DGH is also planning to award the job for carrying out offshore surveys to determine new geological plays using the available state-of-art technology.

It is to mention that the lower expenditure by DGH on exploration activities in 2004-05 vis-à-vis 2003-04 has no impact in physical terms. The actual expenditure incurred in 2004-05 on survey, geological modeling and reserve studies is about Rs. 0.65 crores. However, the remaining jobs of 2004-05 alongwith the additional identified work is now planned to be carried out in 2005-06. The estimated expenditure 2005-06 on these activities is about Rs.47.16 crore.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Comments of the Committee

(Please see para 10 of Chapter I of the Report)

Recommendation No. 12 (Para No. 2.12)

The Committee is pleased to note that the Government has taken some initiatives to reduce the time period in respect of certain activities carried out under NELP. For example, the time interval between offering of blocks and signing of Production Sharing Contracts (PSCs) has been substantially reduced to 3-4 months from 24-28 months in the pre-NELP era. Besides, the Government has taken initiative for granting the Petroleum Exploration License (PEL)

within three months of signing of PSC so as to enable the operators to start their exploration activities as soon as possible. The Committee appreciates the efforts of the Government aimed at expediting activities under NELP. The would, however, like to know how far the Government has succeeded in granting PEL within 3 months in the NELP blocks awarded so far.

The Committee further notes that one of the mandates of the Directorate General of Hydrocarbons (DGH) is to monitor PSCs signed with contracting parties. The Committee would like to be apprised of the details about the companies which have violated the terms and conditions of PSCs during the last three years, the nature of violations and the remedial measures taken by DGH thereon.

Reply of the Government

Government of India signed PSCs for 90 blocks under four rounds of NELP. PEL has been granted for almost all the blocks within 3 months time except eight following blocks. The list of the blocks alongwith time taken and reason for the delay given below:

Sl No	Block	Operator	State	Award date	PEL grant date	Time taken
1	PG-ONN-2001/1	ONGC	Andhra Pradesh	04.02.2003	04.07.2003	5 MONTHS
2	AA-ONN-2001/2	ONGC	Mizoram	04.02.2003	29.07.2003	5 MONTHS 25 DAYS
3	AA-ONN-2001/3	ONGC	Assam	04.02.2003	19.12.2003	10 MONTHS 15 DAYS
4	AA-ONN-2001/4	ONGC	Nagaland	04.02.2003	Not yet granted	-
5	AA-ONN-2002/4	ONGC	Nagaland	06.02.2004	Not yet granted	-
6	HF-ONN-2001/1	ONGC	Himachal Pradesh	04.02.2003	10.06.2003	4 MONTHS 6 DAYS
7	CY-ONN-2002/2	ONGC	Tamilnadu	06.02.2004	31.08.2004	6 MONTHS 25 DAYS
8	AS-ONN-2000/1	RIL	Assam	17.07.2001	Not yet granted	-

Reason for delay was due to delay in granting of PEL by respective State Governments. PSCs have been signed for 20 exploration blocks under fifth round of NELP.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Comments of the Committee

(Please see para 16 of Chapter I of the Report)

Recommendation No. 13 (Para No. 2.13)

The Committee note that gas produced under the New Exploration Licensing Policy (NELP) is governed by the provisions of Production Sharing Contracts (PSCs) according to which the contractor has the freedom to market gas produced from his area of operation, to any part of India at market related price. Such a provision often results in diversion/sale/transportation of such gas to other areas at the cost of the area in which it is produced. The Committee desires that the Government should consider that feasibility of

making a provision in the PSCs for the future rounds of NELP so as to ensure that a certain percentage of gas is earmarked for the area from which it is produced.

Reply of the Government

Exploration is a high risky and capital intensive business. In NELP terms, there is no investment by the Government side, but sharing of profit is as per the bidding condition, in case of commercial discovery. NELP has been designed to attract the investors for exploration as per the practices followed internationally. In exploration, inputs are determinate, but the outcome of the efforts are uncertain. Considering the nature of exploration business and availability of infrastructure available in the country, it was decided to have freedom for the operator to sell the produced gas in the domestic market driven price. Any further restriction in NELP terms, may be deterrent to the investment in the states of India. As the offshore areas comes under the preview of central Government. Putting conditions to restrict gas selling by the operators in the state only, may switch the investment from onland areas to offshore areas only. Therefore, it is in the interest of both state & centre Government to provide freedom to sell gas at market driven prices only.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Comments of the Committee

(Please see para19 of Chapter I of the Report)

Recommendation No. 17 (Para No. 2.17)

The Committee have been informed that during the last 10 years, as many as 2684 Executives of ONGC have left the organization. Similarly, in case of OIL, 376 Executives and 1920 Workpersons have left the organization during the said period. According to the Committee, the possibility of some of them having joined the private companies and divulging the data/information about the cream oil and gas blocks to the private companies cannot be ruled out, thereby giving an undue advantage to such companies over Public Sector Companies. In the Committee's view, putting more and more private and foreign investments into exploration and production activities should not be at the cost of giving out the information regarding cream blocks. The Committee feel that the situation needs to be remedied urgently. They have been informed that the present rules do not permit the Government to take action against those who leave the Public Sector Undertakings without informing the organization/seeking prior permission for this purpose. The Committee desire that the Government should review the existing provisions in this regard and bring in the

requisite amendments as early as possible to discourage fight of personnel from Public Sector Oil Companies.

Reply of the Government

Most of the employees seeking resignation from ONGC are doing so for personal reasons. Even if they are resigning to join Pvt. Companies / Multinationals, all are released only after a carefully laid down procedure, which includes a mandatory Exit-Interview by the Controlling Officer and Serving of 3-months notice period. In the Exit-Interview, the integrity of the Officer vis-à-vis leakage of confidential data to which he might have access is essentially assessed. The resigning officers are also monitored during the notice period to ensure that no classified information is being surreptitiously taken by them in Physical/Electronic form. ONGC has amended its Disciplinary Guidelines and included the leakage of confidential data in electronic form as an act of indiscipline.

Advice has also been issued to in-charges of work centres to ensure that Vigilant approach in guarding of confidential data.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Comments of the Committee

(Please see para 22 of Chapter I of the Report)

Recommendation No. 20 (Para No. 2.20)

The Committee are unhappy to note that the actual expenditure incurred on wells and facilities in the Mumbai High North and South Redevelopment Projects has been far short of the planned amount. As against the planned amount of Rs.1056.29 crore and Rs.1661.41 crore on wells (upto September, 2004), the actual expenditure was Rs.962.47 crore and Rs.1316.04 crore for the Mumbai High North and Mumbai High South Redevelopment Projects respectively. Similarly, the actual expenditure on facilities was Rs.1436.19 crore and Rs730.83 crore in respect of Mumbai High North and South Redevelopment respectively against the planned amount of 1726.36 crore and 1369.19 crore. The short fall in expenditure on facilities has been attributed to delay in award of work, delay in approval of projects, etc. The less expenditure on wells has been primarily due to drilling of less number of wells. The committee have been informed that as against the plan of drilling 136 wells upto March, 204, only 109 wells could be drilled. Similarly, during the year 2004-05, against the plan of 22 wells (upto September, 2004), 19 wells could be drilled. The short fall in

drilling of wells has been ascribed to non-availability of suitable rigs. The Committee understand that ONGC does not own rigs that can work in deep water conditions. It has to obtain such rigs by floating tender and /or negotiating with suitable rig suppliers. This process, being time-consuming, is telling upon the drilling activities of the organization, thereby leading to failure in meeting the planned targets. To obviate such situation, the Committee recommend that ONGC should go in for purchasing rigs for its use instead of procuring / hiring the same from other sources, after making a cost-benefit analysis of the two options. Till such time the rigs are procured, the company should endeavor to initiate the hiring process in advance keeping in view its future drilling programme.

Reply of the Government

Presently ONGC is operating 3 drill ships for drilling in deepwater locations. One Rig Sagar Vijay capable of drilling in water depth upto 900 metres is owned by ONGC other two rigs namely Belford Dolphin & Discoverer Seven seas capable of drilling in water depth upto 3000 metres and 1800 metres respectively are operating on charter hire basis along with integrated services

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Comments of the Committee

(Please see para 28 of Chapter I of the Report)

Recommendation No. 31 (Para No. 2.31)

The Committee note that the Government has so far awarded 16 blocks (13 blocks under two rounds of CBM bidding and 3 on nomination basis) for exploration and production of Coal Bed Methane in different coal fields of India. The total CBM resources in these blocks are estimated to be 820 BCM. 9 out of these 16 blocks have been awarded to the Oil & Natural Gas Corporation Limited (ONGC) either exclusively or in collaboration with other companies (2 under CBM-1, 2 on nomination basis and 5 under CBM–II). As regards the two blocks awarded under CBM-I viz. Bokaro and North Karanpura, the Committee have been informed that while drilling of first test well is in progress in Bokaro, the same in respect of North Karanpura was likely to start in April 2005. The Committee would like to be apprised of the latest status of these projects. The Committee also note that in the case of 2 out of 5 blocks awarded under CBM-II viz. South and North Karanpura, the grant of PEL is awaited. The Committee desire that ONGC should taken up the matter with the State Government expedite

the process. They also recommend that all efforts should be made to ensure that commercial production of CBM starts by 2006-07 as envisaged.

Reply of the Government

Status & Plan of Nine CBM blocks of ONGC

Block	Status & plans
Jharia	Block under Phase-I. 8 Boreholes, 2 Exploratory & 9 Pilot well locations have been released. Out of these 3 boreholes have been drilled and 2 are under drilling. Rest of 3 boreholes, 2 Exploratory Wells and 9 pilot wells have been planned for drilling by 27.08.06.
Raniganj	Block is under Phase-I. Firming up of 8 Borehole locations has been completed. Drilling of the boreholes is to commence in December 2005 and 1 Exploratory Well is planned for drilling during early 2007.
Bokaro	Block was under Extended Phase-I till 20.08.2005. As per MWP, 8 boreholes & 2 Exploratory Wells were drilled and based upon data, decision taken to enter Phase-II (Pilot Phase), duration of which shall be 21.08.2005 to 20.02.2009. As per MWP 12 pilot wells shall be drilled in this period.
North Karanpura	Block was under Phase-I till 20.08.2005 during which 8 boreholes were drilled. Extension of Phase-1 has been sought for 6 months till 20.02.2006 to complete drilling of remaining 1 borehole and 2 exploratory wells. These activities have been planned to be completed during extended period of 6 months.
North Karanpura (W)	Phase-I yet to commence as PEL is awaited.
South Karanpura	Phase-I yet to commence as PEL is awaited.
Satpura	Block under Phase-I. G&G studies are in progress prior to release of locations for drilling.
Wardha	Block under Phase-I. G&G studies are in progress prior to release of locations for drilling.
Barmer–Sanchore	Block under Phase-I. 8 Borehole locations have been released and are to be drilled shortly.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Comments of the Committee

(Please see para 40 of Chapter I of the Report)

CHAPTER V

RECOMMENDATIONS/OBSERVATIONS IN RESPECT OF WHICH FINAL REPLIES OF THE GOVERNMENT ARE STILL AWAITED

Recommendation No. 2 (Para No. 2.2)

The Directorate General of Hydrocarbons (DGH) was established by Government of India Resolution of 1993. The main objectives of the organization are to promote sound management of the country's oil and natural gas resources having a balanced regard for environment, safety, and technological and economic aspects of the petroleum activity. The Committee note that the existing strength of DGH is 76 as against the approved strength of 85. They have been informed that some of the functions like review of development plans, assessment of reserves, preparation of strategy for venture abroad, establishment and operation of E&P data base and archive, etc can be performed by DGH in a better manner if enough manpower is provided to the organization. The Committee have further been informed that the Government is in the process of reworking the requirement of manpower of DGH vis-à-vis its workload. The Committee desires that the Government should complete this process on priority basis and, based on this analysis, provide additional manpower to DGH so that the organization is able to carry out all the mandated functions to optimum level. The Committee would also like to know the progress made by the Directorate General of Hydrocarbons (DGH) in setting up the National E&P database and archive system.

Reply of the Government

The manpower for DGH is on deputation from oil PSUs mainly, ONGC and OIL. A proposal is under process to provide manpower to DGH on a permanent basis.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Comments of the Committee

(Please see para 7 of Chapter I of the Report)

Recommendation No. 7 (Para No. 2.7)

The Committee have been informed that the Oil India Limited (OIL) discovered a huge quantity of oil in Baghewala area of Rajasthan in early nineties. The said oil could not be produced/extracted for want of proper technology. Initially, the company's attempt to extract the oil on the basis of the technical recommendations of the Alberta Research Council, Canada failed to produce the desired results. Subsequently, an agreement was signed with a Venezuelan company in 2002 for undertaking a comprehensive study to identify the most suitable technology for production of oil from these reserves in the first phase and then help OIL to acquire and implement the technology on a pilot scale in the second phase. The Committee have now been informed that the work relating to the first phase has been completed and measures are being taken for pilot scale application of the selected technology. The Committee find that unduly long time has been taken by the Company to extract oil from a field which was discovered as far back as in early nineties. The Committee would like to know the approximate quantity of oil in these reserves as well as the reasons for not using the technology in this field which the Company employs producing oil from other discovered fields. They desire that the work relating to the second phase of the agreement i.e. pilot scale application of the identified of the technology be expedited and the progress made in this regard conveyed to them.

Reply of the Government

Heavy oil in Baghewala area in Rajasthan :

i) The reserves of heavy oil in Baghewala area of Rajasthan are as under :

In-place Reserves	:	25.00 MMT
Gross Ultimate Recovery	:	3.75 MMT

ii) Reasons for not using conventional production method :

OIL discovered heavy oil in Baghewala area of Jaisalmer district in 1991. This oil having API gravity of 17 degree in very viscous and does not flow easily. It requires the application of heat to enable the oil to flow to the surface. This heavy crude oil can not be produced with conventional production methods.

Soon after discovery of heavy oil, M/s Alberta Research Council, Canada, carried out a techno-economic feasibility study for exploitation of heavy oil and based on their recommendation, two wells were put on experimental production using progressive cavity pump with bottom hole heater but it did not give desired results.

iii) Delay to extract oil in Baghewala field :

Baghewala area was offered for JV round of bidding in the year 1995 with the objective to bring new technology to produce the heavy oil through joint venture partner. However, the JV could not be finalized and the area was returned back to OIL in December, 1998. Therefore, the other recommendation by M/s. Alberta Research Council, Canada, on trial production of heavy oil by cyclic steam injection method could not be implemented.

Soon after return of Baghewala area, OIL explored alternatives to establish the producibility of the discovered heavy oil of Baghewala and to work out economic feasibility. In the meantime, a protocol was signed between Govt. of India and Govt. of Venezuela in April, 2000 to identify suitable technology for commercial production of heavy oil. Thereafter, an agreement was signed between PDVSA Intevep of Venezuela and OIL on 29.11.2002 towards implementing a field scale Pilot to workout its producibility and economic viability.

iv) Present status :

The pilot well is schedule for drilling in October, 2005 under Phase-II of the study. The well will be taken up for prolonged production testing.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Recommendation No. 9 (Para No. 2.9)

It is noticed that the activities of the Oil India Limited (OIL) have remained confined mainly to the North-East and some parts of Rajasthan. The crude oil production by the Company has

remained stagnant at around 3 MMT for the last several years. In the Committee's view, Oil needs to make concerted efforts to enhance substantially the production from these areas. The Committee have been informed that OIL has a strategic corporate plan which envisages to enhance the production of oil equivalent to over 7 MMT in the next five years. Towards this end, the organization plans to exploit the frontier areas of the North-East which would yield an additional 1/1.5 MMT of oil equivalent in the next five years. Besides, the organization is also operating/participating in 13 NELP blocks which would also add to the production. The Committee would like to be apprised of the success achieved by the Company in these ventures.

Reply of the Government

Enhancement of Crude oil Production in North East :

OIL has taken initiatives to explore logistically difficulty areas in the North East. These areas are

i) River confluence area in Himalayan foothills upstream of river Brahmaputra
ii) The hilly areas of Arunachal Pradesh.

Some part of hilly areas of Arunachal Pradesh has already covered by seismic survey and prospect identification is in progress.

In the riverine area of Brahmaputra, the seismic survey is expected to be started by December, 2005.

OIL was awarded a total of 14 nos. of NELP blocks in five rounds of bidding either as operator or having Participating Interest. Majority of these blocks are in the Phase-I of exploration except in 2 nos. blocks where Phase-II works in progress. Since exploration is in its initial phase in NEPL blocks, therefore, discoveries are expected only after drilling of wells.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Recommendation No. 10 (Para No. 2.10)

During oral evidence, the Secretary, Ministry of Petroleum & Natural Gas was candid enough to admit that OIL has not been very active since its nationalization in 1981. He also suggested that since the organization has all the data relating to the North-East, it should extend its operations to some of the onshore blocks in Myanmar, bordering North-East. The Committee, while endorsing the view of the Secretary, recommend that the organization should look for oil/gas

properties not only in Myanmar but also in other prospective/productive sources, after evaluating the cost-benefit ratio.

The Committee have been informed by the Ministry that OIL, in the Quarterly Progress Review Meeting, has requested for delegation of powers similar to the ones being enjoyed by the ONGC Videsh Limited (OVL) for acquiring equity oil and gas assets abroad and that a decision in this regard has not been taken in the absence of a formal proposal from OIL. The Committee would like the Ministry to take a decision on this issue on priority basis after calling for a formal proposal from the organization.

Reply of the Government

MOPNG has put up proposal to the Cabinet for delegation of powers similar to the ones being enjoys by OVL. The Cabinet have referred the same for discussion with the Group of Ministries.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Recommendation No. 16 (Para No. 2.16)

The Committee have been informed that as many as 25 oil and gas wells in KG basin have not yetxc been connected to the main trunk line/production facilities for various reasons. While some of these wells are in the process of being connected, more than half of these wells have not yet been connected being `isolated and low potential'. Besides, 7 offshore oil wells and 4 offshore gas wells drilled in KG basin are stated to be unconnected which will be put on production after development of offshore production facilities. The Committee would like the Government to take measures to connect these wells to the main trunk line/production facilities in a time bound manner. They would like to know the action taken/being taken by the Government in this regard.

Reply of the Government

As regards the 25 wells referred to by the Committee, 5 gas wells have already been put on production and 4 gas wells are being put on production shortly. 7 gas wells have been referred for direct marketing and being tied up with prospective consumers. 5 gas wells and 1 oil well had given hydrocarbon indication during testing and are being evaluated for their actual potential/planned for hydro fracturing. 2 gas wells, which are far away from existing

ONGC facilities, have very limited potential and require hydro fracturing. Further 1 gas well is included in the list of marginal field development for out sourcing.

The details are as under: -

Sl. No.	Wells	Location (Distt.)	Present status
Oil wells (onshore)			
1.	Laxmipuram#1	Krishna	Actual potential being evaluated.
Gas wells (onshore)			
2.	Namvanipalem #1	East Godavari	Actual potential being evaluated.
3.	Nandigama #2	Krishna	Actual potential being evaluated.
4.	Elamanchilli #7	West Godavari	Actual potential being evaluated.
5.	Mahaddevapatnam #1	West Godavari	Proposed for out sourcing.
6.	Mahaddevapatnam #2	West Godavari	Being tied up with suitable gas consumer.
7.	Pendurru #1A	Krishna	Very low potential and far away from trunk line / ONGC facilities.
8.	Akkividu #1	West Godavari	Being tied up with suitable gas consumer.
9.	Achanta #1	West Godavari	Being tied up with suitable gas consumer.
10.	Gokarnapuram #1	West Godavari	Being tied up with suitable gas consumer.
11.	Gopavaram #6	East Godavari	Being tied up with suitable gas consumer.
12.	Kaza #1	Krishna	Very low potential and far away from trunk line / ONGC facilities.
13.	Kaikalur #16	Krishna	Being tied up with suitable gas consumer.
14.	Kavitam #2	West Godavari	Being put on production shortly.
15.	Mandapeta #23	East Godavari	Being tied up with suitable gas consumer.
16.	Mandapeta west #2	East Godavari	Actual potential being evaluated.
17.	Sanarudravaram #1	Krishna	New objects to be tested.
18.	Mandapeta west #3	East Godavari	Gas allocated. Gas production expected during this year.
19.	Mandapeta west #5	East Godavari	Gas allocated. Gas production expected during this year.
20.	Rangapuram #1A	East Godavari	Being put on production shortly.
21.	Penumadam #3	West Godavari	Already put on production.
22.	Razole #8	West Godavari	Already put on production.
23.	Sitarampuram #4	East Godavari	Already put on production.
24.	Gopavaram #5	East Godavari	Already put on production.
25.	Kaikalur #19	Krishna	Already put on production.

Offshore wells:

Four wells out of seven oil wells are going to be put on production in 2nd quarter of 2006-07 upon commissioning of G-1 & GS-15 facilities. Feasibility and exploitation strategy of remaining 3 wells is under study by the Institute of Reservoir Studies, Ahmedabad during the

current year 2005-06. Accordingly, the scheme will be prepared and the wells will be put on production at the earliest.

Feasibility Report for fast track development plan for 4 unconnected gas wells is being undertaken.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Recommendation No. 19 (Para No. 2.19)

The two projects for Redevelopment of the Mumbai High Field (Mumbai High North and Mumbai High South Redevelopment Projects) account for the major portion of the investment in IOR/EOR programme. Out of the total investment of Rs.10972.00 crore on IOR/EOR schemes, an amount of Rs.8185.00 crore is envisaged for these two projects. These two projects would contribute an incremental 57 MMT of oil out of the total incremental oil of 106 MMT expected to be produced by 2020 as a result of implementation of IOR/EOR schemes. The Committee are unhappy to note that some activities on these two projects have been rather slow and achievement has been less than the fixed target in some cases. For example, in the Mumbai High North redevelopment Project, the achievement has been less than the scheduled progress in case of three packages viz. MHN Process Platform, Two Well Platforms (N9 & N10) and Three Pipeline Project. The Committee are particularly displeased about the Three Pipeline Project in which case, the overall progress was 48.6% against the plan of 100% at the end of September, 2004. The Committee would like to be apprised of the reasons for the same. Similarly, in case of the Mumbai High South redevelopment Project, the achievement has fallen short of the scheduled progress in case of MHS Process Platforms, Nine Well Platform project (Tender-II) and Nine Clamp-on-project. The Committee would like the Government to analyse the factors leading to delays/slow progress and take appropriate remedial measures.

Reply of the Government

In western offshore, two redevelopment projects namely Mumbai High North & Mumbai High South Redevelopment projects are under implementation which constitutes the integral part of the IOR/EOR programme being implemented by ONGC. Out of the total investment of Rs. 10972 Crore on sixteen IOR/EOR schemes, an amount of Rs. 8185 Crore is envisaged for MHN & MHS redevelopment projects. These two projects alone likely to contribute an

incremental oil of 57 MMT, more than 50% of the total expected incremental oil of 106 MMT up to 2020.

As per the observation of the Standing Committee, the Mumbai High North Redevelopment Project, the actual achievement has progressed less than the scheduled only in case of the three packages viz. MHN Process Platform, Two Well Platforms (N9 & N10) and Three Pipeline Project. The MHN Process Platform (MNW) has been completed on 07.04.04 against the schedule completion of 31.01.04. The Two Well Platforms (N9 & N10) was completed on 31.12.04 against the plan of 31.03.03. The progress in Three Pipeline Project is 71.15% against the plan of 100% as of end June' 2005. The delay is mainly due to delay in placing of LOI and non-availability of pipeline laying Barge. In spite of delays in completion of these packages, the MHN redevelopment project is scheduled to be completed within time i.e. December, 2005.

In the Mumbai High South Redevelopment Project, the actual achievement has been marginally less than the scheduled progress in case of MHS Process Platform, Nine well Platform Project (Tender-II). The MHS Process Platform (MSP) has been completed on 4.06.05 against the plan of 30.04.05. The Nine Well Platform Project (Tender-II) i.e. the Pipeline & Platform Modifications Project (RSPPM) is under implementation. The Nine Clamp on Project has been completed ahead of schedule on 31.12.04 against the plan of 30.04.05, hence no delay in completion. The MHS Redevelopment Project is likely to be completed within the scheduled completion time i.e. July, 2007.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Comments of the Committee

(Please see para 25 of Chapter I of the Report)

Recommendation No. 21 (Para No. 2.21)

The committee note that the Oil and Natural Gas Corporation Limited (ONGC) is employing horizontal, multilateral, extended reach and other improved drilling technologies in its offshore wells. Besides, the organization is also using new technologies in other E&P activities such as survey, acquisition of data, etc. However, in the committee's view, one area in which adequate attention has not been given is the acquisition of data through 4D surveys. ONGC is understood to have recently acquired the capability to make such surveys. The committee desires that the Corporation should make more efforts/investments in this area so as to match or even excel the multi-national companies. The committee also recommend that the Oil India

Limited (OIL) should also pay adequate attention to the use of 4D technology in its fields.

Reply of the Government

ONGC

4D or "Time-Lapse 3D" seismic technology is used to enhance hydrocarbon recovery from the producing reservoirs using 3D seismic measurements repeated over regular time-intervals. This technology is generally applied in the middle or late production stages of the reservoir. 4D seismic technology, though introduced in late 1980s gained momentum in the industry only in the 1990s. The first 4D seismic survey in ONGC was conducted departmentally in 1992 in Balol field for monitoring of thermal front. However, 4D seismic technology did not gain the required momentum due to constraints in terms of number of recording channels, non-availability of customized processing software etc.

With the induction of state-of-the-art data acquisition systems with larger number of recording channels, a purpose-designed 4D seismic pilot project was implemented by ONGC through departmental efforts in the heavy oil field of Balol for monitoring of thermal front for enhanced oil recovery. The baseline and 1st monitor surveys were completed in 2003-04 and 2004-05 respectively and data is presently under interpretation.

In order to further accelerate the induction of 4D seismic technology, ONGC is in the process of entering into an MOU with NGRI, Hyderabad and NTNU, Norway for "reservoir modeling for enhance oil recovery using fractal theory and 4D seismic technology".

OIL

4D Seismic Survey :

4D seismic surveys or 3D seismic surveys acquired at different times over the same area allow assessment of producing hydrocarbon reservoir with time. Oil India Limited intends to carry out 4D seismic survey in future after adequate time-lapse over already conducted 3D seismic survey in its producing areas in the North – East.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Recommendation No. 22 (Para No. 2.22)

The Committee have been informed during evidence that the Government has decided to evolve a policy in order to eliminate the instances of exaggerated/speculative disclosures of discovery of reserves by some companies. The Committee appreciate this initiative of the Government as such speculative/exaggerated disclosure is not only misleading but also has a bearing on the value of the company's share in the market. They have been informed that a team constituted to examined by the Government. The Committee recommend that the Government should expedite the process and put the policy in place without any delay. The policy should lay down clear-cut codifications requiring the certification by globally competent authorities in respect of discoveries made by the companies and such codification should be made applicable to both public and private sector operators so as to ensure a level playing field for all.

Reply of the Government

The recommendation given by the committee will be considered during formalization of disclosure norms.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Recommendation No. 25 (Para No. 2.25)

The Committee note that at present LNG is being sourced only from Qatar. They have been informed that an understanding has been reached with Iran for import of 5 MMTPA of LNG, with a provision of addition of 2.5 MMTPA subsequently. However, the agreement in this regard has not been firmed up. The Committee have learnt from press reports that India and Iran have recently signed the final sales purchase agreement for long term supply of LNG, the first consignment of which is expected to reach the country by 2009. It has also been reported that the contracted gas will be primarily used by the Northern and Western Indian markets to fuel power plants and manufacture fertilizers. The Committee would like to be apprised of the factual position in the regard. Apart from Iran, the Government should also endeavour to source LNG from other countries such as Australia, Indonesia and Nigeria to meet our pressing needs. The Committee have been informed that GAIL and IOC are making efforts to import LNG from various sources. They desire to be informed of the success achieved by these companies in this regard.

Reply of the Government

M/s Petronet LNG Limited (PLL) have commissioned a 5 MMTPA LNG terminal at Dahej, Gujarat. The LNG for Dahej LNG terminal is being sourced from RasGas, Qatar. M/s Shell Hazira Limited have also commissioned their 2.5 MMTPA LNG terminal at Hazira, Gujarat. However, due to lack of availability of LNG and on account of high international LNG prices, the plant is not currently operating at its optimal capacity.

LNG imports from Iran

Indian PSUs, viz., Indian Oil Corporation Limited (IOC), GAIL (India) Limited and Bharat Petroleum Corporation Limited (BPCL) have signed separate LNG Sale-Purchase Agreements (SPAs) with National Iranian Gas Export Company (NIGEC) on 13th June 2005. Under the above agreements, IOC, GAIL and BPCL would be importing 1.75 million tonnes per annum (MMTPA), 2.0 MMTPA and 1.25 MMTPA LNG respectively, totaling 5.0 MMTPA. The supplies would be for a period of 25 years, commencing in the last quarter of 2009.

IOC and BPCL propose to receive their share of LNG (3 MMTPA) at PLL's Dahej terminal, which is likely to be expanded to 10 MMTPA by 2008-09, for marketing along the HBJ pipeline network (i.e., in the Western and Northern markets). Considering that the major potential gas customers in the Indian market are in the fertilizer and power sectors, customers for LNG imports from Iran are expected to include the fertilizer and power sectors, apart from users such as IOC's own refineries. At present, IOC's share of LNG imports from Qatar is already being supplied to several customers in the fertilizer sector. GAIL proposes to receive its share of 2 MMTPA LNG from Iran at LNG regasification terminal of PLL at Kochi for supply in the South-Western states of Kerala and Karnataka for power generation, petrochemical production and other industrial use. However, final decision on destination would be taken later on demand and commercial considerations.

LNG import from other sources

IOC is pursuing with M/s Petronas, the Nation oil company of Malaysia for participating in Ennore LNG Terminal and had held discussion with them in this regard. IOC is also pursuing with M/s Woodside Energy, Australia for participation in LNG related opportunities. IOC is also exploring the possibility of setting up an Integrated LNG Project in Iran with potential to

source 9 MMTPA LNG. IOC, in consortium with Petropars of Iran (a wholly owned subsidiary of Govt. owned Naftiran Intertrade Co. (NITCO)), has submitted a proposal to the Govt. of Iran, seeking their in-principle approval for IOC-Petropars to develop the project on nomination basis. Response in this regard is awaited.

It is believed that at present, most of the LNG sources have either been tied-up or are targeting markets such as the US, where gas prices are prevailing at a high level of over US$ 10/mmbtu (as against the prevailing gas delivered price of US$ 4-5/mmtbu in the Indian market). However, IOC is continuing its efforts to identify various LNG supply sources.

GAIL is also in discussion with various suppliers for import of LNG for the Dabhol and Kochi terminals. In this regard, discussions are being held with companies in Australia, Malaysia, Indonesia, Abu Dhabi, Oman, Egypt and Qatar.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Recommendation No. 26 (Para No. 2.26)

Taking into account the acute shortage of gas in the East Coastal areas of the country, the Committee, during the examination of Demands for Grants (2005-06) of the Ministry of Petroleum & Natural Gas, had recommended that the Government should carry out feasibility study for setting up LNG terminals at Gopalpur in Orissa and Haldia in West Bengal. In its Action Taken Reply, the Government has inter-alia, stated that GAIL's report on the LNG terminal at Gopalpur/Haldia would be completed in 2-3 months. The Committee would like to be apprised of the outcome of the said study. The Committee were also informed during the examination of the demands for Grants that IOC/GAIL were working on the feasibility study of setting up an LNG terminal at Krishnapatnam, Andhra Pradesh which was likely to be completed within three months. The Committee have now been informed through the Government's Action Taken Reply that the location of Krishnapatnam was considered for LNG terminal. However, in the study conducted for selecting the best location for LNG terminal on the East Coast, it has been concluded that Ennore is the most suitable location. In this connection, the Committee would like to know the relative advantages of Ennore vis-a-vis Krishnapatnam which prompted the Government to conclude that Ennore is the most suitable location on the East Coast for LNG terminal.

Reply of the Government

In view of the large indigenous gas finds in the Krishna Godavari basin, with its landfall point near Kakinada, the proposed LNG import project at Kakinada was not pursued further as LNG is not likely to be in a position to compete with the large indigenous sources close to the point of production. Accordingly, alternative locations for setting up an LNG import terminal on South East Coast of India, away from Kakinada, were explored. IOC carried out a port selection study through M/s Tractebel Engineers and Constructors Limited (Tractebel). The port selection study considered various parameters including land availability/ topography, marine & port facilities, marine & environmental conditions, habitations and gas demand centers. Ennore Port was selected on account of the following key advantages over other ports, including Krishnapatnam:

a. Ennore Port is fully developed, with breakwaters and turning basin already in place. The other ports are yet to be developed.

b. The port is at the heart of major gas demand centers and cost of the gas transportation pipeline network to the various gas demand centers is the least from this port.

c. No land acquisition and rehabilitation are required.

With regard to Haldia and Gopalpur, it may be mentioned that a port selection study for Haldia and Gopalpur has been carried out by GAIL's consultant M/s. Tractebel Engineers & Constructors Pvt. Ltd., New Delhi. The preliminary observations are as follows:

iii. Haldia Port, West Bengal:

The port is having a draft of only 9-9.5 meters. Therefore, ships up to 50,000 cubic metre capacity will be able to discharge LNG in the port. This will increase the number of trips to discharge particular quantity of LNG compared to the ships which can carry LNG up to a quantity of 1,35,000 cubic metre.

iv. Gopalpur Port, Orissa:

This is a minor port and the existing port is not in operation since last five years. Heavy expenditure has to be incurred for development of the port and installation of required facilities for setting up of an LNG terminal. Major demand centre for regasified LNG is not located near the site.

It may also be mentioned in this regard that Board of Navratna companies have been empowered to consider proposals pertaining to projects and investments based on business and commercial considerations.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Comments of the Committee

(Please see para 31 of Chapter I of the Report)

Recommendation No. 30 (Para No. 2.30)

The Committee note that in order to harness the CBM potential, the Government has formulated a CBM policy in 1997. However, they regret to note that even after a lapse of 8 years of the announcement of the CBM Policy, the Government has still note been able to conduct any systematic study to assess the total recoverable CBM reserves in the country. The Committee recommend that the Government should carry out a scientific study to assess these reserves and complete the same within a definite time frame which would enable it to systematically explore and exploit these resources and proceed in the right direction.

Reply of the Government

Government of India formulated CBM policy in 1997 for systematic study to assess the total recoverable CBM reserves in the country. A total 16 CBM blocks were award under two CBM rounds held so far. The total resources of 16 awarded CBM blocks are estimated to be 820 BCM.

In order to assess the total recoverable CBM resources in the country and to increase the pace of development of the CBM resources, DGH with close interacting with Geological Survey of India (GSI), Central Mines Planning & Design Institute (CMPDI), Central Mining Research Institute (CMRI) and other CBM exploration agencies have arranged for drilling of borehole in virgin coal field areas away from active mining areas, coal samples were obtained from borehole were studied in CMRI who assess the CBM resources for offering CBM blocks in future round. The complete assessment of CBM resources in the country is expedited by DGH in near future.

[M/o Petroleum & Natural Gas O.M. No. O-27012/2/2004-ONG/US(EO) dated 9.11.2005]

Comments of the Committee

(Please see para 37 of Chapter I of the Report)

New Delhi;
May, 2006
Vaisakha, 1928 (Saka)

N.JANARDHANA REDDY,
Chairman,
Standing Committee on
Petroleum & Natural Gas

APPENDIX-I

EXTRACTS OF MINUTES

STANDING COMMITTEE ON PETROLEUM & NATURAL GAS

(2005-06)

NINTH SITTING

(18.5.2006)

The Committee sat on Thursday, the 18th May, 2006 from 1530 hrs. to 1600 hrs. in Committee Room 'B', Parliament House Annexe, New Delhi.

PRESENT

Shri N. Janardhana Reddy - Chairman

MEMBERS

LOK SABHA

2. Shri Anandrao Vithoba Adsul
3. Dr. Tushar A. Chaudhary
4. Shri Santosh Gangwar
5. Shri Jai Prakash
6. Shri Lakshman Singh
7. Dr. Prasanna Kumar Patasani
8. Shri Vanlalzawma
9. Shri Rajesh Verma

RAJYA SABHA

10. Shri C. Perumal
11. Shri Rajeev Shukla

SECRETARIAT

1.	Shri S.K.Sharma	-	Additional Secretary
2.	Shri R.C.Kakkar	-	Deputy Secretary
3.	Shri P.C.Tripathy	-	Under Secretary

2. At the outset, Hon'ble Chairman welcomed the Members to the sitting of the Committee.

3. The Committee then took up for consideration the draft Action Taken Reports on the Sixth Report on 'Pricing of Petroleum Products' and the Seventh Report on 'Exploration of Oil and Natural Gas including Coal Bed Methane'.

4. After some discussions, the draft Action Taken Report on 'Pricing of Petroleum Products' was adopted by the Committee with some changes. The draft Action Taken Report on 'Exploration of Oil and Natural Gas including Coal Bed Methane' was adopted without any change.

5. The Committee authorised the Chairman to finalise the Action Taken Reports in the light of modifications as also to make verbal and other consequential changes arising out of the factual verification by the Ministry and present the same to both the Houses of Parliament during the current Budget Session.

6. xx xx xx xx xx
xx xx xx xx xx

The Committee then adjourned.

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xx Matters not related to this Report

APPENDIX –II

(*Vide* Para 4 of the Introduction)

Analysis of the Action Taken by the Government on the recommendations contained in the Seventh Report (Fourteenth Lok Sabha) of the Standing Committee on Petroleum and Natural Gas (2004-05) on 'Exploration of Oil and Natural Gas including Coal Bed Methane'.

I	Total No. of Recommendations	31
II	Recommendations/Observations which have been accepted by the Government (*Vide* Recommendation at Sl. Nos. 1, 4, 5, 6, 8,11,14,15,18, 23, 24, 27, 28 and 29)	14
	Percentage to Total	45.1%
III	Recommendations/Observations which the Committee do not desire to pursue in view of Government's Reply	Nil
	Percentage of Total	-
IV	Recommendations/Observations in respect of which replies of the Government have not been accepted by the Committee (*Vide* Recommendations at Sl. Nos. 3,12, 13, 17, 20 and 31)	6
	Percentage of Total	19.4%
V	Recommendations/Observations in respect of which final replies of the Government are still awaited (*Vide* Recommendations at Sl. Nos. 2, 7, 9, 10, 16, 19, 21, 22, 25, 26 and 30)	11
	Percentage of Total	35.5%