THIRTIETH REPORT

STANDING COMMITTEE ON PETROLEUM & CHEMICALS (2002)

(THIRTEENTH LOK SABHA)

PRODUCTION OF OIL AND GAS

MINISTRY OF PETROLEUM & NATURAL GAS

[Action Taken by the Government on the recommendations contained in the Twenty-First Report (Thirteenth Lok Sabha) of the Standing Committee on Petroleum & Chemicals (2001) on 'Production of Oil and Gas']

Presented to Speaker 17.10.2002

Presented to Lok Sabha on 25.11.2002

Laid in Rajya Sabha on *25.11.2002*

LOK SABHA SECRETARIAT
NEW DELHI

August 2002/Bhadrapada, 1924 (Saka)

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3 Dr. Chellamella Suguna Kumari
4 Shri Ram Chander Bainda
5 Shri Ananda Mohan Biswas
6 Shri Padam Sen Choudhry
7 Prof. Kailasho Devi
8 Shri P.D. Elangovan
9 Shri Dilipkumar Mansukhlal Gandhi
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Secretariat

1.	Shri P.D.T. Achary	-	*Additional Secretary*
2.	Shri K.V. Rao	-	*Joint Secretary*
3.	Shri P.K. Grover	-	*Director*
4.	Shri J.N. Oberoi	-	*Under Secretary*
5.	Shri Ram Raj Rai	-	*Assistant Director*

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* ***Nominated w.e.f. 8th April, 2002.***

** ***Nominated w.e.f. 8th May, 2002.***

*** ***Nominated w.e.f. 14th May, 2002.***

COMPOSITION OF SUB-COMMITTEE ON PETROLEUM

A SUB-COMMITTEE OF THE STANDING COMMITTEE ON PETROLEUM & CHEMICALS (2002)

Shri Mulayam Singh Yadav - Chairman

2. Shri Dipanker Mukherjee - Convenor

Members

Lok Sabha

3. Shri Ashok Argal
4. Dr. (Smt.) Chellamella Suguna Kumari
5. Smt. Sheela Gautam
6. Sh. Paban Singh Ghatowar
7. Sh. Bijoy Handique
8. Sh. Ram Sajivan
9. Sh. Shyama Charan Shukla
10. Sh. Prabhunath Singh
11. Sh. Shankersinh Vaghela
12. Sh. Ratilal Kalidas Varma

Rajya Sabha

13. Sh. Anil Kumar
14. Sh. Rajiv Ranjan Singh 'Lalan'
15. Sh. Ahmed Patel
16. Prof. Ram Gopal Yadav

Secretariat

1. Shri P.D.T. Achary - *Additional Secretary*
2. Shri K.V. Rao - *Joint Secretary*
3. Shri P.K. Grover - *Director*
4. Shri J.N. Oberoi - *Under Secretary*
5. Shri Ram Raj Rai - *Assistant Director*

INTRODUCTION

I, the Chairman, Standing Committee on Petroleum & Chemicals (2002) having been authorised by the Committee to submit the Report on their behalf present this Thirtieth Report on Action Taken by Government on the recommendations contained in Twenty-First Report (Thirteenth Lok Sabha) of the Standing Committee on Petroleum & Chemicals (2001) on 'Production of Oil and Gas'.

2. The Twenty-First Report of the Committee was presented to Speaker on 28th December, 2001 and later presented to Lok Sabha on 26th February, 2002. The Replies of Government to all the recommendations contained in the Twenty-First Report were received on 28th March, 2002. The Sub-Committee on Petroleum considered the Action Taken Replies received from the Government and adopted the Report at their sitting held on 7th August, 2002.

3. The Standing Committee on Petroleum & Chemicals (2002) considered and adopted this Report at their sitting held on 12th August, 2002. The Committee place on record their appreciation of the work done by the Sub-Committee on Petroleum.

4. An analysis of the Action Taken by Government on the recommendations contained in the Twenty-First Report (Thirteenth Lok Sabha) of the Committee is given in Appendix-III.

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
August 29, 2002
Bhadrapada 7, 1924 (Saka)

MULAYAM SINGH YADAV
Chairman
Standing Committee on Petroleum & Chemicals.

CHAPTER – I

REPORT

This Report of the Committee deals with the action taken by the Government on the recommendations contained in the Twenty-First Report (Thirteenth Lok Sabha) of the Standing Committee on Petroleum & Chemicals (2001) on 'Production of Oil and Gas' which was presented to Speaker on 20th December, 2001 and later on presented to Lok Sabha on 26th February, 2001.

2. Action taken notes have been received from the Government in respect of all the 36 recommendations/conclusions contained in the Report. These have been categorised as follows:-

(i) Recommendations/conclusions that have been accepted by the Government:-
Sl. Nos. 4,5,6,8,9,14,15,16,23,24,27,28,29,31,32,33,34,35,36 and 37

(ii) Recommendations/conclusions which the Committee do not desire to pursue in view of the Government's replies:
Sl. Nos. 17,25 and 30

(iii) Recommendations/conclusions in respect of which replies of the Government have not been accepted by the Committee.
Sl. No. 7.

(iv) Recommendations/ observations in respect of which final replies of the Government are still awaited:
Sl. Nos. 2,3,10,11,12,13,18,19,20,21,22 and 26

3. The Committee desire that the final replies in respect of the recommendations for which only interim replies have been furnished by the Government and the recommendations which have been commented upon by the Committee in Chapter-I should be furnished expeditiously.

4. The Committee will now deal with the action taken by the Government on some of their recommendations and make suggestions thereupon.

A. <u>Exploration of Sedimentary Basins</u>

Recommendations (Part-II, Para Nos. 2 and 3)

5. The Committee had noted that out of 26 sedimentary basins, only seven basins falling under the first category had been extensively explored and out of total sedimentary area of 3.14 million sq. kms. only 15% i.e. 0.498 million sq. kms. was moderate to well explored. The Committee had specifically noted that almost 2/3rd of the country's sedimentary area was either poorly explored or unexplored. The Committee had also observed that exploratory thrust had been lent only to a few selected basins where the maximum possibility of availability of oil had been found and very little effort had been put in to explore the new areas. They had referred to their recommendation made in the 4th Report (10th Lok Sabha) in 1994 asking the Government to change their exploration strategy for accelerated exploration of all the basins with a view to locate and develop new oil and gas reserves in a time bound programme. The Committee had once again expressed their strong desire that the extensive exploration efforts should be spread over all the basins including formations and pursued vigorously in continuation to the exploration in producing basins.

6. In the same context, while referring to the Hydrocarbon Vision-2025, the Committee had noted that even after a lapse of more than one year of preparation of the document, the Government had not been able to finalise the programme for appraisal of the Indian sedimentary basins as per the targets set in the policy document. The Committee had, therefore, directed the Government to prepare the final programme without any further delay so that the work relating to appraisal of the Indian sedimentary basins may proceed under a set time frame and as per the proposed target of 35% by the end of 10th Plan. The Committee had also asked the Government to sincerely explore the possibilities to advance the targets in that regard so that the survey work of entire area be completed within the shortest possible time.

7. About the exploration strategy, the Government have submitted the following reply:-

"Keeping in view the recommendations of the Committee made in their 4th Report (10th Lok Sabha) in 1994, Government initiated strategic changes for spreading exploration activities in the country. If fact, most of the poorly explored/unexplored areas of the country as referred in the recommendation belong to the non-producing category including Frontier basins and Deepwater areas which have remained unexplored or poorly explored so long due to geological uncertainties, technological challenges, difficult logistics and associated high risks. The exploration bidding rounds which were initiated in the past continued with offer of more and more blocks from non-producing basins. As the response of Private companies for such blocks with high-risk rating was not encouraging, Government introduced the New Exploration Licensing Policy (NELP) in 1999 with attractive fiscal terms not only to encourage, spread and accelerate exploration activities across most sedimentary areas including deep offshore but also to provide a level playing field for both Private and National Oil Companies (NOCs). The formation of DGH under the administrative control of Ministry of Petroleum & Natural Gas (MOP&NG) in 1993 is also a part of the strategic changes to oversee and promote such activities. In the two rounds of NELP (I & II) offered so far, the positive and encouraging effect of the above strategic changes for spreading exploration became apparent with award of 31 blocks in non-producing basins including 15 in Deep water areas out of total 47 blocks for which PSCs have been signed. Furthermore, the India Hydrocarbon Vision-2025 document prepared by the Government in March, 2000 has clearly spelt out the strategy and intention of the Government for appraisal of all the sedimentary basins of India in a definite time frame in a phased manner. This aspect has been taken into consideration while formulating the exploration program of the X Plan, which is on anvil."

8. They have further clarified the position as under:-

"It will be pertinent to mention in this connection that prioritization of exploration activities is dependent upon available resources, available technology and risk-reward perception of individual oil companies which is a universal phenomena. Further, the hydrocarbon potential of a basin is realized through five stages-initiation, breakthrough, consolidation, commercialization and re-engineering. Each of these stages demand substantial time and investments, which may vary due to surface and

subsurface characteristics. Accordingly, spread of exploration across all the sedimentary basins as also the quantum of input will vary with increasing knowledge base in the years to come.

The oil and gas discovery process is cyclic with periodicity that can not be predicted. Furthermore, reserve accretion, the end-result of the exploration activities, is input deterministic but output probabilistic. Accordingly, the reserve accretion trend is not uniform and a single discovery or lead can trigger a phase of continued upgradation of the trend for sometime.

The pioneering efforts of NOCs (both ONGC and OIL) which have made five new basin discoveries and added new commercial discoveries in the other two already producing basins of Upper Assam and Assam-Arakan Fold Belt has been significant in putting India in the World oil map. The NOCs having expended considerable time and investments in producing basins, will continue to unravel the basin potential unabated with focused attention.

Besides the seven producing basins, ONGC has taken up extensive exploration work through geological and seismic data acquisition, processing and interpretation besides parametric or test drilling in 12 yet to produce and frontier basins including the deep water areas viz. Kutch, Andaman, Bengal, Kerala-Konkan, Saurashtra, Ganga, Himalayan foreland, Vindhyan, Satpura-S.Rewa-Damodar, Prahnita-Godavari, Karewa, Mahanadi. ONGC's continued work in the Proterozoic Vindhyan Basin and in the Gondwana Basin of S. Rewa-Stapura and in Kutch-Saurashtra are note-worthy.

Similarly, Oil India Limited (OIL), in addition to carrying out exploratory work in Assam & Arunachal Pradesh and Rajasthan has also carried out exploration in Basins like Andaman Offshore, Mahanadi onshore & offshore and North East Coast Offshore in Orissa, Saurashtra offshore and Ganga Valley, UP/Uttaranchal. Both the NOCs have plans to carry out intensive and extensive exploration in the coming years with coverage of both unexplored as well as explored areas.

Since 1995, DGH has acquired through contract Satellite Gravity data over entire offshore areas off east & west coast and in Andaman sea, and 23,982 LKM of pre-exploratory regional 2D seismic data in deep water areas off East Coast, Southern tip of India and Andaman sea. In onland part of the country, 1200 GLK of regional 2D seismic data has been acquired in Ganga Valley and Vindhyan basin areas. In addition, DGH has carried out Aeromagnetic surveys in Kutch onland & contiguous offshore areas and Magneto-telluric surveys in Nagpur-Wardha-Belgam areas of

Deccan Syneclise. The efforts of DGH will be completed with such focussed knowledge building pre-exploratory activities in unexplored/poorly explored areas by NOCs for promotion of acreages for main stream exploration by oil companies both Private and NOCs."

9. The Ministry has submitted the following reply about the initiatives to time bound programme for exploration of all the basins:-

"In line with the objective of the India Hydrocarbon Vision-2025 (IHV-2025) document, a time bound program has been framed to be realized through:

- Continued exploration in the producing basins.
- Aggressively pursue exploration in non-producing and frontier basins for knowledge building and breakthrough including deep water areas.

Even before the recommendations of India Hydrocarbon Vision-2025 (which came in March, 2000) in the Mid Term Review (MTR) of the IX Plan in 1999, the exploration activities by the NOCs was fine-tuned in light of past experience. Accordingly, and also keeping in view the recommendations of Vision-2025, the annual plan of NOCs for the year 2000-01 and 2001-02 were drawn up with increased quantum of exploration and spread of exploration activities, so that the time frame suggested in the Vision document could be maintained. This strategy will also be followed during the X Plan which is on the anvil. It may be mentioned that both DGH and NOCs were fully associated for finalization of E&P activities for the IX and X Plan as also the Hydrocarbon Vision-2025 document.

With the continued efforts in producing and non-producing basins, the exploration coverage will improve significantly in the years to come. Apart from the exploration works that would be undertaken by NOCs in their acreages held through nomination routes, works in the two rounds of NELP offers announced by Government of India, wherein 47 exploration blocks have been awarded to various companies both NOCs and the private parties, will substantially enhance the basin appraisal program in line with the policy direction given in IHV-2025. With future offer of NELP blocks and also implementation of the exploration program by the NOCs and the Pvt. Parties during the X Plan, which is on the anvil, the exploration coverage of basinal areas would go up to 35% by the end 2006-07.

Continuation of the efforts of the NOCs and Private parties and firming up of the knowledge building activities in frontier basins will lead to further upgradation of appraisal works of basinal area. With the above efforts put in place, exploration in the poorly explored and unexplored areas

of the Indian sedimentary basins will gradually improve and by 2025, the total basinal area of the country will be covered to carry out mainstream exploration activities by different players in the sector.

It may be emphasized in this connection, that the pace of exploration activities have been planned taking a pragmatic view of resource availability within the country and our ability to attract investment. Nevertheless, as suggested by the Committee, MOP&NG will re-visit this matter during the review of X Plan performance."

10. The Committee are not satisfied with the strategy being followed by the Government for exploration of sedimentary basins in as much as the thrust of exploration has been laid only on a few basins. The Committee feel that the steps taken to increase the exploration activities have been inadequate. In Committee's view, only planned exploration efforts can give better results. They, therefore, reiterate their earlier recommendation that exploration efforts should be spread in all the basins and it should proceed under a certain time frame since too much time has already been devoted on knowledge building activities. The Committee also desire that a specific programme should be prepared in this regard so that at least the time frame for appraisal of the sedimentary basins to the extent of 25% by 2005, 50% by 2010, 75% by 2015 and 100% by 2025 can be achieved. Moreover, Government must also take all possible initiatives to advance the targets so that the basic survey work of entire area is completed within the shortest possible time.

B. <u>Oil Recovery Schemes</u>

Recommendation (Part-II, Para No. 7)

11. The Committee had noted that National oil Companies had implemented several Enhanced Oil Recovery (EOR)/Improved Oil Recovery (IOR) schemes particularly in the fields of Gujarat and upper Assam and work has also started for redevelopment of Mumbai High. But they were not satisfied with the pace of work

and progress being made so far in this direction and had desired that the National Oil Companies should undertake EOR/IOR schemes more aggressively in a time bound manner with specific targets to obtain additional oil and gas in future.

12. While describing the EOR/IOR schemes of National oil Companies, the Government have submitted the following reply:-

> "NOCs have identified various EOR/IOR schemes after laboratory studies, simulation and trial pilots and techno-commercial viability. All the 15 major fields of ONGC including Mumbai High, which have bulk of the reserve (80%) are identified for such IOR/EOR at the first instance. 16 out of 19 schemes projectized for this purpose are at different stages of implementation. Some of these have already been commercialized in the Western onshore fields resulting in increase in oil production. Re-development Plan of Mumbai High North and South, which is basically an IOR process, have been started recently and its positive impact in enhanced production is expected in near future. In addition, the time bound action plan for 41 other fields are under progress for preparation of action plan for IOR/EOR.
>
> OIL has adopted EOR/IOR schemes since Sixties to improve recovery factor from major reservoirs of Nahorkatiya and Moran oil field. OIL has also earmarked 12 additional reservoirs during the X Plan for EOR & IOR. To examine scope of further improving recovery from the depleting reservoirs, 3D seismic survey and multi disciplinary study is being carried out for revitalization of the old depleting fields by infill well drilling/redistribution of water injection and implementation of other EOR methods.
>
> It can be stated in this connection that IOR processes and technologies is field specific and unique and is required to be implemented in a modular fashion in an optimal manner. Any hastening of such process may ultimately affect the reservoir health and recovery. Similarly, the EOR, which is a tertiary recovery process, is also field specific. Due to both technology and cost intensive nature of EOR process, its implementation is highly dependent upon the available fiscal regime."

13. The Committee do not agree with the justification given by the Government for slow progress of IOR/EOR schemes. They would like to emphasize that they had desired that the National Oil Companies should

undertake Enhanced Oil Recovery Schemes and Improved Oil Recovery Schemes with certain targets for production of oil and gas in a planned and time bound manner. The Committee, therefore, desire that ONGC should implement the on-going EOR/IOR schemes aggressively. They also desire that ONGC/OIL should prepare a time bound action plan for all other fields under consideration for implementation of such schemes without any delay and in a manner that does not affect the reservoir, health and recovery so that the objective of enhancement in production of oil and gas may be achieved. The Committee also desire that the Government should ensure that there are no more delay in such schemes due to administrative bottlenecks and non-availability of funds.

C. Strengthening of Directorate General of Hydrocarbons

Recommendation (Part-II, Para Nos. 11 & 12)

14. The Committee had noted that DGH was in the process of developing the National E&P Database and Archive and consultants had submitted their reports after completion of feasibility study. The Committee had, therefore, desired that DGH should work out an implementation plan in the shortest possible time. Simultaneously, the Committee had also praised the excellent work being done by them in the field of seismic survey, expertise in preparation of basin dockets and data packages and desired that the Government should permit DGH to establish seismic data interpretation facilities and provide all required investments for both the purposes.

15. While going into the details of staff strength of DGH the Committee had found that the number of geo-scientists working in DGH was inadequate in view of their expanded field of activity. The Committee had, therefore, recommended that the Government should undertake a study to provide the required number of geo-scientists to DGH so that they might be able to perform their assigned roles efficiently.

16. About the status of E&P Database and Archive, the Ministry has submitted as under:-

> "As a part of its charter, National E&P Database & Archive has to be implemented by DGH. A proposal in this regard is under finalization by DGH and would be examined with due priority after receiving by the Government. The database will involve data of various vintages acquired by NOCs, Pvt./JV Companies & DGH and there are some security concerns in respect of these data that have to be suitably addressed. There will be no fund constraint for National E&P Database & Archive, as it is national priority.
>
> As regards the preparation of basin dockets and data packages, while the same has been partly outsourced by DGH, so far as seismic data interpretation facilities are concerned, DGH is already having Seismic Interpretation capabilities with state-of-the-art Hardware & Software for this purpose. Recently, seismic data of the blocks to be released under NELP-II has also been interpreted and value addition has been done using DGH interpretation facilities. Funds for such interpretation activities will be no constraint."

17. About the staff and financial strength of DGH, the Ministry has submitted reply as under:-

> "Since the formation of DGH under the administrative control of MOP&NG, NOCs are providing scientists and other personnel on deputation to DGH from time to time. MOP&NG has sanctioned the required staff strength for the office of DGH as per recommendation of DGDGH. Currently, about 70 persons of NOCs (ONGC+OIL) are on deputation to DGH. The Administrative Council of DGH has decided in its meeting held on 28th January, 2002 that a system of panel of names be introduced by ONGC & OIL for selection of quality manpower against the required position in DGH. The above decision is being followed up by ONGC, OIL and office of DGH. It is also submitted that the Working Group headed by Shri Naresh Narad, Addl. Secy., MOP&NG on creation of Regulatory Authority for upstream sector, in its report had, inter-alia recommended the Upstream Hydrocarbon Regulatory Board be set up conterminous with DGH being given a new role as Techno-administrative arm of the Ministry. The Working Group has further recommended that the budget of newly created DGH may be met from OIDB as is the case at present and its officers/staff may be drawn from National Oil Companies (NOCs) and Government Departments. The report of the Working Group is under examinations of the Ministry."

18. The systematic collection and coordination of data has become critically important for any activity. In respect of Upstream sector of India's petroleum industry, this task has been entrusted to the Directorate General of Hydrocarbons (DGH) functioning under the aegis of the Ministry of Petroleum and Natural Gas. The Committee are amazed to note that although DGH was created in 1993 as a custodian of all Upstream Petroleum data, the Ministry /DGH have not been able to finalise and implement the National E&P Data-base and Archive during the last 9 years. This was supposed to be done on priority basis. This shows the casual approach of the Government towards such an important issue of national priority. The Committee understand that since all the basic work and priorities have already been finalized by the DGH, the delay is on the part of Ministry of Petroleum & Natural Gas. The Committee, therefore, desire that the Ministry of Petroleum & Natural Gas should finalize all the proposals relating to establishment of National E&P Database and Archive within six month's time.

19. The Committee express their deep regret to note the callous approach being shown by the Ministry of Petroleum & Natural Gas in providing the manpower to Directorate General of Hydrocarbons. The staff strength of DGH is 70 only and all of them have come on deputation either from ONGC or OIL. The Committee note that based on its work load, DGH had proposed to the Ministry its manpower requirement of 95 at Phase-I, 219 at Phase-II and 414 at Phase-III. The second Phase is planned to be implemented during the year 2002-03. The Committee do not favour the policy of running such an important organisation with all the people on deputation basis because in their view a lot of time and energy is being exhausted in administrative formalities. This affects the working of not only NOCs but DGH also. The Committee, therefore, desire that the Government should approve and provide the manpower as per the proposal of DGH for the IInd Phase by 2002-03 since the work load of Directorate has increased in volume

and in scope. The Committee strongly recommend that the Government should change the deputation policy in DGH and create a separate cadre of scientists and geologists for this organization having commendable track record at the earliest.

D. Amendment in Oil Industry Development Act

Recommendation (Part-II, Para No. 13)

20. The Committee had noted that the National Oil Companies and other agencies had to perform aggressively in the present phase of exploration and production industry and for this purpose they required huge funds. The Committee had specifically noted that out of the total collection of Rs. 38576 crores by way of cess from Petroleum Industries under the provisions of Oil Industry Development Act, 1974, only an amount of Rs. 902.70 crores had been released to OIDB so far for the development of Petroleum Sector. The Committee had specifically invited the attention of the Government towards their earlier recommendation made during 1995-96 asking the Government to amend the OID Act so that funds collected through that cess might be used for development of Petroleum Sector only. The Committee had reiterated their earlier recommendation and desired that the Government should come out with the required Amendment without any further delay.

21. The Ministry has informed in their reply that the matter has accordingly been taken up by the Ministry of Petroleum & Natural Gas.

22. The Committee are not able to understand the reasons for delay in bringing the proper amendment in OID Act after an earlier agreement of the Ministry to the suggestions of the Committee in this matter. It need hardly be emphasized that Petroleum Sector requires huge funds at this stage particularly for exploration and production purposes. The Committee, therefore, reiterate their earlier recommendation and desire that the Ministry should ensure the release of maximum funds to OIDB and they should take necessary steps for required amendment in OID Act within three month's time so that sufficient funds may be made available for the development of Petroleum Sector.

E. Acquisition of Exploration acreages abroad

Recommendations (Part-II, Para Nos. 20 & 21)

23. The Committee had welcomed the initiatives taken by the Government to encourage the oil sector PSUs to obtain available opportunities abroad for acquiring exploration acreages either on their own or through strategic alliances/Joint Ventures with a view to supplement adequate, stable, assured and cost effective hydrocarbon energy to the country. The Committee had noted that ONGC Videsh Limited had grabbed some opportunities by participating in overseas E&P acreages for obtaining equity oil and gas. Oil India Limited had participating interest in exploration block in Oman. The Committee had desired that the Government should provide all facilities to the companies participating in acquiring exploration acreages abroad with a view to supplement adequate, stable assured and cost effective hydrocarbon energy to the country. In this regard, they had specifically desired that the Government should put in place a comprehensive policy to include total deregulation of overseas E&P business and empower the companies to compete with international oil companies with provision of fiscal and tax benefits. However, they had cautioned that the Government should also ensure that such participation was justified, transparent and comparatively beneficial than the domestic investments.

24. In view of the huge involvement of funds in E&P projects abroad, the Committee had desired that the Government should evolve a mechanism to leverage India's 'Buyer Power' to obtain good projects abroad as also declared in the document Hydrocarbon Vision-2025. In Committee's view, without such mechanism our companies would not be able to participate in quality exploration and production Projects.

25. About the facilities being given by the Government to the companies participating in E&P Projects abroad and their buyer power the Ministry has submitted the following replies:-

> "Countries with demand-supply gap in the Hydrocarbons, exercise suitable options to procure oil and gas through mechanisms of Long term purchase contracts, Spot purchases and through participation for equity oil and gas. Government of India is suitably exercising these options. At present, it is not possible to deregulate the overseas oil and gas business by Indian companies due to the budgeting of the foreign exchange. However, Government is encouraging and providing all assistance for acquisition of equity oil and gas through overseas participation. Ventures involving large investments or greater risk exposures, needs commercial prudence in each case, which can be addressed through due diligence by the companies themselves, whether Private or National.
>
> To pursue common interest related to the energy security of the country and to avoid competition among the companies in upstream sector, it has been decided that ONGC Videsh Ltd. (OVL), would be the nodal agency in all ventures where Government has a stake. OVL has special Empowered Committee of Secretaries route to seek approvals for the initiatives and new projects and Inter-Ministerial Committee for monitoring of the ongoing projects. All the Oil PSUs have opportunity to participate in the overseas Exploration and Production projects with OVL in the lead, through various forms of alliances, which shall help to leverage the "buyer power" to obtain good projects."

26. The Committee are anguished to note that the Government have shown their inability in evolving any comprehensive policy to include deregulation of overseas E&P business and empowering the companies to compete with international companies. They have also not clarified their position about providing them fiscal and tax benefits. In Committee's view only the nomination of ONGC Videsh Limited as nodal agency for such projects cannot be treated as sufficient step to achieve such an important objective. This step is not going to leverage the 'buyer power' in the true sense to the companies interested in obtaining good projects. The Committee, therefore, desire that the Government should now come out with a comprehensive policy to encourage OVL and other oil companies for participation in quality Exploration and Production projects abroad.

F. Production and Import of Gas

Recommendation (Part-II, Para No. 22)

27. The Committee had noted that there was a large unsatisfied demand of natural gas in the country and as against the demand of 110 MMSCMD in 1999-2000, the domestic supply was 64 MMSCMD only. The Committee had also found that there were shortfalls in the availability of natural gas *vis-à-vis* the commitments already made in the different regions of the country. While analysing the demand position the Committee had noted that the demand for natural gas in core sectors like power generation and fertiliser production had been on increase and there was a continuously growing demand of CNG in metro cities. They had observed that there was no significant increase in gas production during the last five years and no new discovery gave any hope of good increase in gas production. The Committee had, therefore, desired that the national oil companies should continue their efforts to enhance the gas production. In the same context the Committee had desired that the Government should take policy decision and act promptly on the issues of large-scale import of gas. They also desired that the Government should take all initiatives to finalise the proposals regarding Iran-India pipeline and continue the efforts to import the gas from Bangladesh to fulfil the demand for natural gas.

28. The Government have explained the gas production, supply and import position in their reply as under:-

"Currently, the production of natural gas from domestic resources is at the level of around 81 million standard cubic metres per day (MMSCMD). Out of the above, the total gas available for sale after inter consumption, extraction of LPG and unavoidable technical flaring, is around 65 MMSCMD. While an allocation to the extent of around 118 MMSCMD has already been made/committed to various consumers in Power, Fertilisers, Steel and other sectors, gas supply agreements have been executed for around 91 MMSCMD. Against this allocation the availability of gas is around 65 MMSCMD, which is being supplied to over 300 consumers.

In the domestic upstream front, significant gas discovery has recently been made in Basin East in Western offshore by ONGC and in Gulf of Khambat (Block –CB-OS/2) and Krishna-Godavari Deep Water (NELP-I block KG-DWN-98/2) by M/s Cairn Energy. As per a study conducted as part of the India Hydrocarbon Vision-2025, the demand for natural gas is expected to increase to 231 MMSCMD by 2007, 313 MMSCMD by 2012 and 391 MMSCMD by 2025, whereas the availability of natural gas through indigenous exploitation/exploration is expected to be far lower than the estimated demand.

To bridge the gap between demand and supply of natural gas there are various initiatives in process for import of natural gas and liquefied natural gas (LNG). The import of natural gas/LNG is on the Open General Licence (OGL) and 100% foreign direct investment is also permitted. The major gas pipeline initiatives are:-

(i) <u>India-Iran Gas Pipeline Project</u>

The initiatives on the Indo-Iran gas pipeline started with the signing of a Memorandum of Understanding (MoU) between the Islamic Republic of Iran and the Government of India in July 1993. But due to geo-political reasons further progress could not be achieved. However, based on the proposal received from Iran in January, 2000, a Joint Committee consisting of representatives of India and Iran has been constituted to study and examine all aspects relating to the gas pipeline from Iran to India including political, technical, financing etc. The Joint Committee has further set up a technical group of experts which is represented by Gas Authority of India Limited on Indian side and National Iranian Oil Company (NIOC) on Iran side to study various options for onshore and offshore gas pipelines including deep water gas pipeline for import of gas from Iran to India. M/s. Snamprogetti-Saipem have been awarded to prepare feasibility study for the deep water gas pipeline. GAIL has signed a memorandum of cooperation with NIOC in this regard.

(ii) Import of Gas from Myanmar

Feasibility of importing gas from Myanmar to the Eastern/Southern parts of the country is also being explored. Myanmar has already reserved a part of its gas reserves for supply to Thailand. In the circumstances, the gas available for supply to India is not very large. GAIL has signed a Heads of Agreement with M/s Daewoo Corporation for participation in their exploration block in Myanmar.

(iii) Bangladesh-India Gas Pipeline Project

Considering the long term gas requirement scenario in the country, GAIL had signed principles of agreement with M/s Brown & Root Inc. USA in 1996 for examining the feasibility of pipelines gas imports to India from Eastern countries including Bangladesh. Subsequently, in July, 2000 GAIL and Shell International Gas & Power signed a Principles of Cooperation which included cooperation in Bangladesh. GAIL has also signed cooperation agreement with UNOCAL Corporation of USA in February, 2001 for jointly examining cross border gas trade issues for transport of natural gas from Bangladesh. Although, there are reported rich gas reserves in Bangladesh, yet the Government of Bangladesh have not sent any formal communication to export its natural gas to India. However, a Consortium of three Oil PSUs namely IOC, ONGC and GAIL has been constituted to explore the possibilities for import of natural gas from Bangladesh through pipeline.

Import of LNG

The feasibility of importing LNG from sources such as Middle-East, South-East Asia, Australia, etc. is being pursued to meet the additional demand for gas. A Joint Venture Company M/s Petronet LNG Ltd. has been formed consisting of GAIL, ONGC, IOC, BPCL with a total equity participation of 50%. PLL have signed a long term Sale Purchase Agreement with M/s Rasgas of Qatar for importing 7.5 million tonnes per annum (MMTPA) of LNG of which 5.0 MMTPA for its LNG terminal at Dahej in Gujarat and 2.5 MMTPA for its terminal at Kochi in Kerala. Import of LNG at Dahej is expected to begin by the beginning of 2004 and at Kochi by 2005.

There are various initiatives also which have obtained FIPB approval for setting up LNG terminals with regassification facilities by import of LNG to India."

29. The Committee are constrained to note that as against the allocation of 118 MMSCMD of gas to consumers in power, fertilisers, steel and other sectors, the availability is around 65 MMSCMD only. This is inspite of the efforts being made by the Government to improve the natural gas production through indigenous exploitation/exploration and import. This gap between demand and supply is likely to widen substantially in coming years. The Committee, therefore, express their strong desire that the Government should expedite the work relating indigenous exploitation and exploration of gas. The Committee also desire that the Government should finalise the long pending issues relating to gas import from Iran, Myanmar and Bangladesh expeditiously.

G. Reduction in Gas Flaring

Recommendations (Part-II, Para Nos. 23 & 24)

30. The Committee had happily noted that percentage of gas flaring in ONGC, OIL and Private/Joint Venture operated fields had significantly come down during the last ten years. Particularly in the case of ONGC and Pvt/JV sector fields, it had come near the international level. The Committee had also observed that some technical flaring was essential for operational safety. However, the Committee had noted that a good quantity of gas was still being flared from the isolated structures in the oil fields of Assam and Arunachal Pradesh due to adverse techno-economics of gas transportation and through such flaring there was substantial financial loss. The Committee had also noticed that the onshore flaring in the fields of ONGC and OIL was still at the higher range of 10% of the total gas production. The Committee had, therefore, desired that ONGC and OIL should take all possible steps to reduce the gas flaring on onshore area and bring it to the level of international standard of 5%. The Committee had also observed the slow pace of gas flaring reduction schemes of ONGC and OIL and desired that they must complete these schemes within a fixed time frame.

31. While observing a peculiar situation of gas flaring in ONGC and OIL operated fields where a huge quantity of gas from isolated/marginal fields was being flared due to fluctuation in consumer intake or lack of consumers, the Committee had noted that OIL was still flaring total quantity of gas produced in Arunachal Pradesh and in good quantity in upper Assam fields. The Committee had, therefore, desired that OIL must take all possible initiatives to find the consumers for such gas being flared in Arunachal Pradesh and upper Assam fields so that that was gainfully utilised and not left for flaring.

32. About the initiatives being taken to reduce the gas flaring in oil fields, the Ministry has submitted the following replies:-

> "Natural Gas produced by ONGC, after meeting internal requirement is supplied to GAIL for further transportation, distribution and marketing. Low pressure associated gas/unutilized gas that cannot be supplied to consumers has to be necessarily flared as gas cannot be allowed to escape in the atmosphere without being burnt. There is, however, no flaring of non-associated (free) gas except technical flaring. The minimum level of technical flaring is dependent upon the facilities created and technology available at the time of creation of facilities.
>
> Out of 1.495 MMSCMD gas flared from onshore areas of ONGC during the year 2001—2002 (Apr'01 to Dec'01), 0.501 MMSCMD (about 34% of the gas flared) consists of gas flared for technical requirements/operational safety and gas flared from isolated structures due to adverse techno-economics of gas transportation from such structures.
>
> ONGC has formulated various gas flaring reduction schemes, some of which have already been implemented while others including Mumbai High, Neelam, Heera fields in Western Offshore and Gandhar and Ankleshwar in Gujarat are at various stages of implementation. Further for utilization of gas from isolated pools, ONGC has been empowered for direct marketing of gas upto 0.1 MMCMD. Actions have been initiated to identify prospective consumers and supply gas to available consumers in the States of Gujarat, Andhra Pradesh and Tamil Nadu.
>
> So far as OIL is concerned, the Company has been able to bring down the flare percentage from a level of 30% in 1993-94 to the level of 9% during the years 2000-01. Current flare (first nine months of 2001-02) has further been brought down to 8% of the production. The current flare in oil

fields of Assam is mainly technical while that in Arunachal Pradesh is due to non-availability of consumers. OIL has taken up with Arunachal Pradesh Government for utilisation of gas being flared in Kumchai. State Government has shown interest for utilisation of the same for power generation and has requested OIL to give long term gas production profile which OIL will be furnishing shortly.

As regards OIL's operational areas in Upper Assam, where currently about 6% of gas being produced are being flared mainly due to technical reasons, OIL is taking steps to reduce it further to minimum level by installing more low pressure booster compressors, debottlenecking of existing gas transportation lines etc."

33. The Committee welcome the various steps being taken by ONGC and OIL to reduce gas flaring in their fields. The Committee also observe that there are several gas flaring reduction schemes of ONGC under implementation and after being empowered for direct marketing of gas upto 0.1 MMSCMD, ONGC has started consumer identification. OIL has also brought down the level of gas flaring to some extent and they are trying to utilize the gas being flared in Arunachal Pradesh. However, the Committee find that there is still much scope for reducing gas flaring. Therefore, the Committee desire that ONGC and OIL should continue their efforts in the direction of achieving the international level of 5% gas flaring. They should also finalise the proposals for sale/utilisation of gas being flared in isolated fields in the shortest possible time since they are losing huge money everyday due to such flarings.

H. <u>Expansion Projects of Refineries</u>

Recommendation (Part-II, Para No. 26)

34. The Committee had observed that the consumption of oil and gas had increased significantly during the last few years and the present refining capacity available in the country was adequate to fulfil the present demand. The Committee had specifically noted that total PSU refining capacity addition by expansion of existing refineries was expected to be 27.9 MMTPA during the Tenth

Plan period and the Government had already approved an addition of 24 MMTPA refining capacity in Joint Venture in the country by setting up 3 grassroot refineries i.e. Bharat Oman Refinery, Punjab Refinery and Paradip refinery to be materialised during the same Plan. The Committee had observed that several expansion projects which were to be completed during the Ninth Plan could not see the light of the day due to long decision making process of the Government and pending environmental issues. The Committee had, therefore, desired that the Government should ensure an early completion of all the pending new refinery projects and expansion projects of existing refineries.

35. About the status of various new refineries, the Government has given following reply:-

> "Petroleum Ministry accorded approval in July'98 for setting up of a 9 MMTPA capacity grass root refinery at Paradip by Indian Oil Corporation in Joint Venture with Kuwait Petroleum Corporation (KPC) at an estimated cost of Rs. 8270 crore (based on May'98 prices).
>
> In view of continuing uncertainties in respect of participation of KPC and to avoid delay in implementation of the project, the Navratna Board of Directors of IOC in August, 1999 approved implementation of the project by IOC of its own at an estimated cost of Rs. 8312 crore (based on August 1999 prices). Subsequently, KPC withdrew from the project in January, 2000.
>
> Approval of the project was accorded based on the project viability with incentives/concessions granted by Orissa Government in December, 1998 under Industrial Policy Resolution-1996 (IPR-96) which also included 11 years Sales Tax exemption/deferment. After withdrawal of Sales Tax incentives by Orissa Govt. in February 2000, viability of the project was seriously affected. On vigorous pursuing with Orissa Govt. a package of incentives for the project has been approved vide 'Resolution' No. 13793-VII-HI-25/2001-1 published in Orissa Gazette No. 19 dated 20.7.2001, which amounts to only part restoration of the incentives originally approved. The above resolution was made available to public in the 3rd week of September, 2001.
>
> The Project implementation has been delayed by about one and a half year on account of withdrawal and subsequent restoration (in part) of incentives by Orissa Government.

The Project cost has undergone revision to Rs. 9,982 crore (based on August 2001 prices) since its approval by its Navratna Board of Directors in August, 1999. In view of substantial increase in project cost and present surplus demand-supply situation of petroleum products in the country, the projects has been appraised afresh by Board's Sub-Committee on 9.2.2002. The project will be reviewed by the Board of Directors in its next meeting.

However, in the meanwhile, possession of 3344-acre of land has been taken over by IOC. Contract for Project Management Consultancy awarded to Engineers India Limited (EIL) & selection of process licensors completed. Land development by dredging & reclamation has been completed. Major infrastructure jobs like construction of approach road & bridges are in advanced state of completion. Balance infrastructure works like construction of boundary wall, plant roads, drains site office, facilities for construction water/power supply etc. are in progress.

Implementation of Bharat Oman Refineries Limited (BORL)'s Central India Refinery Project at Bina (Madhya Pradesh) has been delayed due to delay in receipt of certain environmental clearances. Final clearance under Forest Conservation Act from Ministry of Environment & Forests and under Wild Life Protection Act from Chief Wildlife Warden are held up pending decision of Supreme Court on certain issues. Further, in view of the decision of Oman Oil Company to limit its investment in the project, a proposal is under consideration to permit Bharat Petroleum Corporation Limited (BPCL) to execute the project, through BORL, with reduced equity contribution by OOC and with an enhanced equity contribution upto 50% by BPCL. The project is expected to be completed within 48 months from the date of commencement of project execution.

BPCL is executing its Mumbai Refinery Modernisation Project with an objective to upgrade the Refining facilities for producing environment friendly products in line with the future product specification and reducing source emissions. Execution of the project will also improve distillate yield and energy efficiency of the main process which in turn will enhance the crude processing capacity to 12 million metric tonnes per annum. The project is scheduled to be completed by July, 2004.

Subsequent to the withdrawal of M/s Exxon (the prospective Joint Venture partner) from Hindustan Petroleum Corporation Limited (HPCL)'s Punjab Refinery Project at Bathinda (Punjab) in February, 1999, Government permitted HPCL in October, 2000 to execute the project through a subsidiary of HPCL. Guru Gobind Singh Refineries Limited, the subsidiary company to implement the project, was registered in December, 2000. The project is under implementation and is expected to be completed by the year 2005."

36. The Committee observe that the Project cost of Paradip Refinery has gone up from Rs. 8270 crore in May, 1998 to Rs. 9982 crore in August ,2001 and the final decision about the implementation of the project has still not been taken. The Committee have also taken note of Government's statement in reply to Unstarred Question No. 689 dated 18th July, 2002 in Lok Sabha that the project is under review for its schedules taking into account the revised project cost, demand-supply projections of petroleum products in the country and ICCI's appraisal report for the project. The Committee draw the inference that IOCL was having second thought about the very need of the project. The Committee, therefore, desire that the IOC Board should take a final decision about the implementation of Paradip Refinery Project without any delay to avoid further increase in project cost. Similarly, the Central India Refinery at Bina has also been delayed due to court case. As per press reports Supreme Court has allowed BPCL to go ahead with the Bina Refinery project. The Committee hope that the project will now be executed quickly without further loss of time. The Committee also desire that the Government should ensure the implementation of Punjab Refinery Project and Mumbai Refinery Modernization Project within schedule.

CHAPTER-II

RECOMMENDATIONS WHICH HAVE BEEN ACCEPTED BY THE GOVERNMENT

Recommendation (Part Ii, Para No. 4)

The Ninth Plan targets for recoverable reserves accretion is between 243-343 million tones of oil and oil equivalent of gas MMTOE for ONGC and OIL but the target is not likely to be achieved. The Committee regret to note that the largest oil producing company ONGC has not been able to achieve the targets set for the accretion of reserves during 1997-98, 1998-99 and 1999-2000 continuously. Oil India Ltd. has achieved their targets of production. The Committee strongly recommend that ONGC should analyse the reasons for continuous failure in achieving the targets in such an important area and rectify the shortcomings so that they may be able to achieve the targets set by the Ministry and Planning Commission in future.

Reply of the Government

Reserve accretion, the end-result of the exploration activities, is input deterministic but output probabilistic. Furthermore, the oil and gas discovery process is cyclic with periodicity that can not be predicted. Accordingly, the reserve accretion trend is not uniform and a single discovery or lead can trigger a phase of continued upgradation of the trend for sometime.

Though it is true that yearly reserve accretion of ONGC during the first 3 years of IX plan have fallen short of the MOU targets set for the individual years, there has been steady build-up in reserve accretion pattern during these years from a level of 15.82 MMT in 1997-98 to 66.67 MMT in 2000-2001. In fact, there was an over achievement in reserve accretion in 2000-01 w.r.t. MOU target of 65 MMT. In the current year i.e.2001-02, ONGC's MOU target is 75 MMT which is expected to be achieved.

For the X Plan period, based on the past experiences, results and the policy changes in the sector, the NOCs have identified various focus areas in the exploration front in both producing and non-producing basins for further improving their exploration effectiveness for reserve accretion.

[Ministry of Petroleum & NG O.M. No.O-27012/1/2002-ONG/US(EO)
Dated: 28.3.2002}

Recommendation (Part II, Para No. 5)

The Committee have analysed the trend of domestic production vis-à-vis consumption/demand of petroleum products over the last few years. It is significant to note that the indigenous crude production has become almost stagnant in the range of 27 to 35 MMT (average 31.6 MMT). The crude production was 34.09 MMT in 1989-90 and during 2000-01 it was 31.70 MMT only. On the other side, the consumption has almost doubled during the same period. It was 54.10 MMT during 1989-90 and it has reached the level of 100.08 MMT in 2000-01 and it is expected to be of the range of 104.80 MMT in the terminal year of 9th Plan. Due to this trend of production and consumption, the country's self-sufficiency level in petroleum sector has come down from a peak of 63 % in 1989-90 to 31 % in 2000-01. Since the growth rate of demand of petroleum products is rising at fast pace, our import dependence, which is 66.5% now, is likely to go up substantially. This situation is alarming and it needs to be seen from the perspective of energy, security of the country and requires sustained and concerted efforts. In the Committee's view this can be achieved through well-directed policy. The Committee welcome the initiatives taken by the Government in preparing a document known as Hydrocarbon Vision-2025 and desire that the objectives set for the exploration and production sector should be followed properly and the oil companies should take all possible initiatives to enhance the oil production either through new discoveries or through better recovery from the present oil fields. The Committee, therefore, recommend that the National Oil Companies should enhance their exploration efforts by formulating aggressive strategies, sustained institutional changes and mobilization of external technology appropriate for the current level risks and stage of maturity of the oil and gas

fields. It is suggested initially that they should intensify their exploration efforts in selected acreages and focussed areas.

Reply of the Government

Each country particularly the countries with demand-supply gap, follow a basket of diversified portfolio to procure oil and gas through mechanisms of Domestic E&P activities, Participation for equity oil and gas from overseas. Government of India is suitably exercising these options.

The NOCs while formulating its exploration program has planned for strategic expansion of exploration activities to non-producing & frontier basins including the technology & cost intensive Deep water areas. The program has been chalked out keeping in view the available/ would-be-available acreages based on an optimal mix of varying risk-reward perception.

In the producing basins the endeavor will be to focus and enhance inputs in the form of geoscientific studies and drilling with an aim to maximize reserve accretion. In the non- producing and Frontier basins, the plan is to aggressively pursue extensive exploration for breakthrough while building up the knowledge base.

To enhance oil production through better recovery from the present fields, the time bound action plan has been initiated for Improved / Enhanced Oil Recovery (IOR/EOR) for 15 major fields of ONGC including Mumbai High. 16 of the 19 projects drawn up in this connection is already under implementation. The action is also in hand for formulation of time bound action plan for 41 other medium to small oil and gas fields of ONGC for improvement of recovery. OIL is also implementing IOR/EOR schemes in selected reservoirs and is further in the process of identifying additional inputs to improve recovery for their already producing depleting fields.

So far as institutional changes are concerned, ONGC has taken a major strategic initiative through the launching of Corporate Rejuvenation Campaign (CRC). The focus is on results rather than activities. The CRC seeks to ensure horizontal consistency within the various virtual corporate and vertical consistency within the organisation. In this front , OIL has also taken initiative by engaging a consultant, for working out a Strategic and Corporate plan for the organisation keeping in view the ensuing competitive environment and the mandate spelt out in Vision -2025.

Regarding mobilization of appropriate external technology by the NOCs, strategy for leveraging technology in exploration and production domains has been evolved and for inducting best in class technology required for various E&P domains, various options are under consideration.

[inistry of Petroleum & NG OM. No.O-27012/1/2002-ONG/US(EO)
Dated: 28.3.2002]

Recommendation No. (Part II, Para 7)

The Committee observe that seismic surveys play very important role in oil and gas exploration and exploitation. 2D seismic survey is conducted initially to understand the basic configuration. A detailed 2D and 3D survey is undertaken to identify and delineate prospect for drilling. 4D surveys help in reservoir management for oil recovery by means of evaluating the moving source or hydrocarbon fluids. The Committee find that during the last five years, ONGC, OIL, Private/Joint Ventures and even DGH have acquired a good quantity of seismic data through 2D and 3D seismic surveys. They are now shifting much of their attention towards 3D surveys to identify more resources. On the other side, no one has started the work on 4D surveys, which is more important for oil recovery from the existing fields. The Committee, therefore, recommend that National Oil Companies, particularly ONGC in Mumbai High Region should now quickly proceed for intensive 3D and 4D seismic surveys for a better success of their oil recovery schemes and for new finds. The Committee also desire that Oil India

Limited should also identify the suitable fields which have already covered with 3D seismic to test this technology in view of their on-going schemes of oil recovery in depleting Assam oil fields. The Committee also recommend that they should procure the desired latest technology to upgrade their present system without any delay.

Reply of the Government

3D seismic surveys introduced in early eighties have provided significant thrust to exploration and development for hydrocarbons in different parts of the world. In India ONGC carried out the first 3D survey in Balol area of Cambay basin, Gujarat in 1985 and first offshore 3D survey in Mukta field in 1987 both by departmental crews. Since then ONGC has invested enormous resources in taking up 3D surveys in matured as well as frontier areas including deep waters, where the services of reputed companies is being made use of. Intensive 3D survey has also been carried across the Mumbai High Field in 1997-98. OIL started 3D survey in 1993 in the Upper Assam Basin and have also conducted 3D survey in North East Coast Offshore in 1987-88 and in the gas fields of Rajasthan in 1991-92. OIL has recently started 3D seismic survey in the Saurashtra Offshore area (Western Coast).

4D seismic survey is relatively a recent technology in which 3D data is acquired at repeated time intervals with the objective of monitoring the changes introduced in the reservoir because of production of hydrocarbons over a time interval. Available information from the published sources clearly indicate that the technique may not be applicable in all the cases. Suitable studies need to be carried out to assess the utility/applicability of the survey in a particular area. However, both the NOCs are planning to carry out feasibility studies for implementation of 4D surveys in selected oil fields. Many state-of-the-art technologies are proprietary of service companies, nevertheless, NOCs are continuously adopting and implementing such cutting-edge technologies in various

facets of its activities in the applicable situations including various kinds of survey and related areas.

[Ministry of Petroleum & NG O.M. No.O-27012/1/2002-ONG/US(EO)
Dated: 28.3.2002]

Recommendation (Part II, Para No. 8)

The Committee observe that the EOR/IOR schemes being undertaken by NOCs have the only objective to extract maximum quantity of crude from their currently producing fields. For this purpose, the application of traditional/ordinary techniques or technology cannot provide the desired results. The Committee, therefore, suggest that for this purpose, the NOCs should obtain the latest available technology/techniques from the other oil producing countries otherwise the rate of failure and loss will be more in terms of exploration, production and finance also. The Committee would like to caution ONGC particularly, who are undertaking very expensive project of Mumabi High. Air/water Alternate Gas (WAG), water (with additive) injection is being tested for its effectiveness. But the other better supposed methods being used by other countries in similar conditions like surfactant, chemical flood or polymer in Mumbai High Region. No doubt, there is very high temperature inside the seabed, but under similar situations similar techniques have been proved beneficial in other countries of the world. The Committee desire that ONGC should obtain and test this type of technology and utilize those if found suitable, in their EOR/IOR schemes.

Reply of the Government

Each oil and gas reservoir is unique in the context of developmental activities from initial development through IOR to EOR. Techno-economic aspect is also an important factor in field development process at each stage. This is more so for carbonate reservoirs like Mumbai High which is currently under IOR stage.

For implementation of EOR process in various applicable fields, ONGC is continuously interacting with various companies/universities /institutes for acquiring state-of-the -art technology. In this direction, Microbial Enhanced Oil Recovery developed in collaboration with TERI, New Delhi is being planned to be tested on a pilot scale in the fields of Ahmedabad and Mehsana Assets. After ascertaining the viability of air injection in light oil of Mumbai High through laboratory investigation carried out at university of Calgary, Canada, air injection process is being planned to be tested on a pilot scale in Mumbai High. Laboratory investigation on WAG was carried out at IRS and was followed up by another study by IFP, France to identify the appropriate EOR method for Mumbai High. Study of IFP France recommends testing of SWAG (Simultaneous Water Alternate Gas Injection) in Mumbai High. This SWAG technique can be applied in Mumbai High with very nominal modification and at very low cost in comparison to WAG. Interaction with IFP and ONGC is going on to firm up the Pilot testing of SWAG in Mumbai High at the earliest. Efforts are also being made by ONGC to understand the application of chemical flooding processes in an environment like that in Mumbai High.

[Ministry of Petroleum & NG O.M. No.O-27012/1/2002-ONG/US(EO)
Dated: 28.3.2002]

Recommendation (Part II, Para No. 9)

The Committee are happy to note that during the last several years, Directorate General of Hydrocarbons has completed a huge task by covering the entire offshore areas through Satellite Gravity Surveys. They have also covered the large part of Eastern offshore and Andaman offshore including deep water areas through Joint Venture speculative seismic and Gravity Magnetic surveys. These surveys have given valuable clues to structure, tectonics, sedimentary thickness and clay recognition in deep waters and have provided inputs for modelling studies and for the preparation of a hydrocarbon prospect of these areas. These efforts of DGH are more valuable in the sense that these have been done in the areas where the information is required to be upgraded and operating

companies normally do not go for exploration in such areas on commercial considerations. DGH has prepared hydrocarbon prospect map for the east coast deep water basins and Andaman basin. They have also mapped the structural and stratigraphic prospects in Vindhyan and Ganga valley. The Committee, however, note that 94% of the survey projects undertaken by DGH belong to offshore areas and they have done a little for onland surveys. In view of this fact, the Committee desire that the Government should utilise the services/expertise of DGH and assign them the work of extensive survey of onland areas also. For this purpose, the Government should provide/equip them with desired number of staff and technology and provide financial strength also so that they may be able to provide inputs for preparation of a hydrocarbon prospect map of all the basins in a fixed time frame on the pattern of map prepared for offshore and deep-water areas.

Reply of the Government

Before the NOCs came into being, all the sedimentary areas of India excepting part of Assam were unexplored. However, prior to the inception of DGH in 1993, the NOCs carried out and spread various exploration activities in different sedimentary basins of India both onshore and offshore which they continue to do even now. Even in respect of Satellite Gravity Survey, before DGH's efforts, OIL had also acquired in 1990 Satellite Gravity Survey data of Andaman Offshore area through hired services as was subsequently done by DGH.

Currently, DGH, as part of its mandate is supplementing such effort by carrying out pre-exploratory geophysical surveys through hired services to generate/upgrade geo-scientific database for poorly explored/unexplored basins/areas, primarily to attract the potential investors and promote main stream exploration activities in such area. There is no restriction on such coverage which can be undertaken both in offshore and onland. So far, DGH has concentrated their attention mainly in Deep water offshore areas. DGH has also done various survey in Onland areas where sufficient geo-scientific information was not

available like Ganga Valley(UP), Kutch onland, Nagpur-Wardha-Belguam, and Vindhyan(UP, MP) basins. DGH has planned more seismic survey during 2002-03 in onland areas in Bihar, Chambal Valley in MP, and Aeromagnetic survey covering parts of Punjab, Himachal Pradesh and U.P. For carrying out such pre-exploration activities, DGH is having no technology and fund restriction with fund support provided by OIDB.

[Ministry of Petroleum & NG O.M. No.O-27012/1/2002-ONG/US(EO)
Dated: 28.3.2002]

Recommendation (Part II, Para No. 14)

The Committee are surprised to note that the National Oil Companies have been spending just 1% of their planned expenditure on Research and Development for exploration and production activities. The Government viewed that a large number of technologies in the E&P sector are provided by the international services and there is no need of duplicating their technology through indigenous efforts without any meaningful return to the companies. Therefore, they have not found it appropriate to make more investment for R&D that too for limited meaningful return to National E&P companies. ONGC expect an expenditure of 3-4% in the 9th plan whereas OIL expects only 1% during the same period. The committee are not convinced by the views expressed by the Government. In the committee's view the researches being done in other parts of the world may not be appropriately useful under Indian conditions particularly in deep water and frontier areas. It cannot be advisable to depend totally upon the adopted results of researches by others. Ground level researches under Indian situations can produce better and economic results. The Committee, therefore, recommend that ONGC and OIL should strengthen their R&D centers by enhancing their expenditure on R&D and developing in-house capability to meet their technological requirements/challenges particularly in the field of improving productivity and recovery from the oil fields at the minimum cost and exploration in deep water and frontier areas.

Reply of the Government

India Hydrocarbon Vision-2025 has spelt out the following Objective and Medium Term Recommendation in the context of R&D and Technology in the Upstream sector:

Objective: To keep pace with technological advancement and application and be at the technological forefront in the global exploration and production industry.

Recommendation : Continue technology acquisition and absorption along with development of indigenous R&D; and Ensure adequacy of finances for R&D required for building knowledge infrastructure.

Keeping in view the above recommendations, ONGC's R&D institutes is carrying out R&D of applied nature and provide new exploration, drilling, development and production concepts / models to various facets of its E&P activities. ONGC is strengthening its R&D centres to take up the challenges of deepwater and frontier basins exploration and exploitation. The best of class technologies are being identified for acquisition, processing and interpretation of geoscientific data, drilling technology, development of oil & gas fields and for optimal production at a minimal cost. The financial outlay of R&D (including EOR Pilots & R&D Wells) in ONGC has been substantially increased from an anticipated Rs 739.19 crore (3.36% of outlay) in the IX Plan to Rs 3122.6 crore (9.34% of outlay) in the X Plan.

For improving productivity and recovery from the oil fields, ONGC's R&D centres are focussing at identifying suitable technologies for specific application - fieldwise and payzonewise. The state of the art techniques are being applied for better reservoir characterization to have finer models for reservoir simulation.

Similarly, the main objective of R&D activities in OIL is to strive for introduction of new technologies, approaches for improved efficiencies and cost

effective solutions to various problems faced by the company. In the coming years, the main thrust will be to improve efficiency in a cost-effective way which will be done through induction/ development of new technology and adoption of emerging technologies with necessary modification to suit OIL's environment. R&D plan of OIL for X-plan has been prepared keeping above strategy. The financial outlay of R&D in OIL has been substantially increased from an anticipated Rs 46.54 crore (1.95% of outlay) in the IX Plan to Rs 208.08 crore (4.16% of outlay) in the X Plan.

[Ministry of Petroleum & NG O.M. No.O-27012/1/2002-ONG/US(EO)
Dated: 28.3.2002]

Recommendation (Part II, Para No. 15)

The Committee note that the average recovery factor for Indian basins for oil is 28% and for gas is 63% of initial oil-in place reserve. This is low by international standard. ONGC and Oil India Limited have been taken various initiatives to improve the average recovery factor of producing fields by applying technologies like thermal process, improved oil recovery IOR/EOR schemes. ONGC hope an improvement of 4%-5% after 4-5 years of implementation of all the schemes including the development of Mumbai High schemes. The Committee recommend that the Government should prepare a time bound programme to ensure an improvement in reservoir management and increase recovery rates for all major fields by at least 5% in a shortest possible time in consultation with both the National Oil Companies.

Reply of the Government

The recovery factor of oil is dependent amongst other things, upon intrinsic factors such as the geology of the reservoir , type of reservoir, drive mechanism, petro-physical properties and the characteristics of the oil as also other factors such as the production technologies used, the investment made and the applicable fiscal regime. The estimated average recovery factor of normal oil, for fields in India is currently around 28%. The oil recovery factor for ONGC fields ranges from 15%

to 54%, for OIL fields from 20% to 50% and for joint ventures/ private sector fields from 11% to 55%. Internationally, there is an equally wide variation in the recovery factor from field to field ranging generally between 15% and 60%.

Based on techno-commercial applicability, a time-bound action plan has already been prepared for application of IOR/EOR for all the 15 major fields of ONGC including Mumbai High to enhance the recovery factor on an average by about 4-5% in the first stage. 16 out of 19 schemes projectized for such IOR/EOR are already under implementation and will be completed during the X Plan. In addition, the preparation of time bound action plan for 41other fields are under progress for IOR/EOR implementation for further increase of the average recovery factor.

OIL's major reservoirs in Nahorkatiya and Moran oilfield have already been subjected to IOR/EOR. OIL has earmarked 12 additional reservoirs during the X Plan for EOR & IOR which will result in average recovery factor of 35% , individually going above 45% in a number of reservoirs.

[Ministry of Petroleum & NG O.M. No.O-27012/1/2002-ONG/US(EO)
Dated: 28.3.2002]

Recommendation (Part II, Para No. 6)

The Committee observe that ONGC has taken various initiatives to enhance the production and recovery efficiency in Mumbai High. It is understood that there were some objections from DGH side on technical grounds. Ultimately the issue has been settled and redevelopment plan has been finalized for implementation. The Committee would like to emphasize that ONGC should try to follow all the suggestions made by DGH particularly in regard to water and gas injection methodology, geology and geophysical study and applicability of recent enhance recovery techniques which were the main concerns in the process of reaching at consensus between ONGC and DGH in implementation of Mumbai High fields redevelopment plans.

Reply of the Government

It is true that there were some differences of opinion between ONGC and DGH on certain technical issues pertaining to redevelopment of Mumbai High field. However, with the intervention of the Ministry and following several interactions between ONGC and DGH, over a period of time, a road map for the redevelopment of Mumbai High has been prepared.

Currently, ONGC & DGH are working in co-ordination to address the technical aspects for optimal exploitation of Mumbai High field. Following the approval of MHN & MHS project there are regular meetings between ONGC and DGH to review the progress made on various issues pertaining to Mumbai High field.

[Ministry of Petroleum & NG O.M. No.O-27012/1/2002-ONG/US(EO)
Dated: 28.3.2002]

Recommendation (Part II, Para No. 23)

The Committee are happy to note that percentage of gas flaring in ONGC, OIL and Private/Joint Venture operated fields has significantly come down during the last ten years. Particularly in the case of ONGC and Pvt./JV sector fields, it has come near the international level. The Committee also observe that some technical flaring is essential for operational safety. However, the committee note that a good quantity of gas is still being flared from the isolated structures in the oil fields of Assam and Arunachal Pradesh due to adverse techno-economics of gas transportation and through such flaring there is substantial financial loss. The Committee also notice that the onshore flaring in the fields of ONGC and OIL is still at the higher range of 10% of the total gas production. The Committee, therefore, desire that ONGC and OIL should take all possible steps to reduce the gas flaring on onshore area and bring it to the level of international standard of 5%. The Committee also observe the slow pace of gas flaring reduction on schemes of ONGC and OIL and desire that they must compete these schemes within a fixed time frame.

Recommendation (Part II, Para No. 24)

The Committee observe a peculiar situation of gas flaring in ONGC and OIL operated fields where a huge quantity of gas from isolated/marginal fields is being flared due to fluctuation in consumer intake or lack of consumers. The Committee welcome the step taken by the Ministry empowering these oil companies for direct marketing of gas upto 1.0 LCMD from each of such fields. The Committee note that OIL is still flaring total quantity of gas produced in Arunachal Pradesh and in good quantity in Upper Assam fields. The Committee, therefore, desire that OIL must take all possible initiatives to find the consumers for such gas so that this is gainfully utilised and not left for flaring. The Committee hope that OIL will come up with some solution in three month's time.

Reply of the Government

Natural gas produced by ONGC, after meeting internal requirement is supplied to GAIL for further transportation, distribution and marketing. Low pressure associated gas/unutilized gas that cannot be supplied to consumers has to be necessarily flared as gas cannot be allowed to escape in the atmosphere without being burnt. There is, however, no flaring of non-associated (free) gas except technical flaring. The minimum level of technical flaring is dependent upon the facilities created and technology available at the time of creation of facilities.

Out of 1.495 MMSCMD gas flared from onshore areas of ONGC during the year 2001-2002 (Apr'01 to Dec'01), 0.501 MMSCMD (about 34% of the gas flared) consists of gas flared for technical requirements/operational safety and gas flared from isolated structures due to adverse techno-economics of gas transportation from such structures.

ONGC has formulated various gas flaring reduction schemes, some of which have already been implemented while others including Mumbai High,

Neelam, Heera fields in Western Offshore and Gandhar and Ankleshwar in Gujarat are at various stages of implementation. Further for utilisation of gas from isolated pools, ONGC has been empowered for direct marketing of gas upto 0.1 MMCMD. Actions have been initiated to identify prospective consumers and supply gas to available consumers in the states of Gujarat, Andhra Pradesh and Tamil Nadu.

So far as OIL is concerned, the Company has been able to bring down the flare percentage from a level of 30% in 1993-94 to the level of 9% during the year 2000-01. Current flare (first nine months of 2001-02) has further been brought down to 8% of the production. The current flare in oil fields of Assam is mainly technical while that in Arunachal Pradesh is due to non-availability of consumers. OIL has taken up with Arunachal Pradesh Government for utilisation of gas being flared in Kumchai. State Government has shown interest for utilisation of the same for power generation and has requested OIL to give long term gas production profile which OIL will be furnishing shortly.

As regards OIL's operational areas in Upper Assam, where currently about 6% of gas being produced are being flared mainly due to technical reasons, OIL is taking steps to reduce it further to minimum level by installing more low pressure booster compressors, debottlenecking of existing gas transportation lines etc.

[Ministry of Petroleum & NG O.M. No.O-27012/1/2002-ONG/US(EO)
Dated: 28.3.2002]

Comments of the Committee

(Please see Para No. 33 of Chapter I)

Recommendation (Part II, Para No. 27)

The Committee observed that in the Ninth Plan document the Government have decided several thrust areas for exploration and production. This included the expeditious implementation of New Exploration Licencing Policy. The

Committee are happy to note that the Government have got success in bringing two rounds of NELP during this period and expect the third one by the end of this plan. During first two rounds of NELP, 47 contracts have been signed. The Committee appreciate the excellent efforts done by Directorate General of Hydrocarbons in the field of Exploration particularly the seismic work. Their superior quality of data and availability of entire information in data packages, CD-ROMs and also on international website has attracted the National as well as International companies to participate in E&P activities in new prospects of Indian basins. The Committee desire that such efforts should also continue in future since a good quality of data for deep waters is also available with them. The committee also desire that the Government should not devote more time in administrative formalities for approval of the data and proposals received from DGH for various prospects.

Reply of the Government

DGH is taking all the necessary action to maintain or improve the quality of data packages for NELP blocks. Government has provided ample administrative and financial power to DGH for pursuing its planned activities and currently no proposal is pending with the MOP&NG. Further, to expedite clearance of various DGH proposals and its Annual Budget, MOP&NG has recently constituted an Administrative Council headed by Secretary(P&NG) with Additional Secretary, Joint Secretary(Exploration), JS&FA of MOP&NG as other members with DG, DGH as its Member Convenor.

[Ministry of Petroleum & NG O.M. No.O-27012/1/2002-ONG/US(EO)
Dated: 28.3.2002]

Recommendation (Part II, Para No. 28)

In the Ninth Five Year Plan an emphasis was laid to change the exploration strategy. In order to boost domestic production of crude more attention was desired on extensive exploration in all the basins and also in deep waters and frontier areas, improvement in reservoir management and use of 3D technology for seismic survey. The Committee regret to note that there is a little progress in spreading the exploration activities in all the basins from the side of National Oil Companies. DGH has done very good job in exploration in deep water in Andaman area and in some frontier areas. Area of 3D surveys have been increased but not to the desired extent. Similarly, no significant achievement has been made in case of reservoir management also. The Committee, therefore, desire that the Government should not ignore the priorities fixed to be achieved during a particular Five Year Plan rather those should be reflected in the policies of the Government and followed under the prescribed time frame. In view of present failure, the Government should analyse the reasons for such performance in each field and prepare a time bound programme to be completed during the next Five Year Plan to prevent such failures in future.

Reply of the Government

Exploration activities were extended to the technology and cost intensive Deep water sector through indigenous efforts of the NOCs and multinational companies. Extensive seismic surveys have been/ and are being carried out in the deepwater acreages. In the NELP-II round, ONGC has acquired six deep water blocks through competitive bidding wherein major inputs have been planned during X plan. In the Frontier areas exploratory activities have been spread to states like J&K, Himachal Pradesh, Madhya Pradesh and UP. Thus, ONGC is continuously spreading exploratory activities to geologically and geographically challenging areas. During IX plan period there has been a quantum jump in 3D seismic surveys by ONGC by about 2.5 times of the planned programme and about 3.5 times of VIII plan inputs, which reflects ONGC's intent to acquire high

quality seismic data, in volume terms, as required by the acreages/ fields. In the cost intensive deep water acreages, pre-drill 3D seismic data API now constitutes a regular physical input. So far as OIL is concerned, in addition to carrying out exploratory work in producing basins, exploratory work is also being carried out in Category III basin of Ganga Valley and Saurashtra Offshore during the IX plan. Extensive 3D survey was carried out by OIL during IX plan and the quantum of achievement is more than double compared to the VIII-plan input. During X-plan, extensive 3D seismic survey in onshore and offshore areas have been planned and the quantum will also be more than double of the IX Plan input. In the fields operated by private/Joint ventures companies, there has been an increasing use of 3D seismic survey for the field development and reservoir characterisation. 3D seismic surveys have been acquired in Panna, Tapti, Ravva, Indrora and PY-1 fields. As a result of this, there has been better understanding of the reserves position of various fields. 3D seismic survey has also been acquired in exploration blocks which has resulted in a high exploration success ratio in blocks like KG-DWN-98/2, CB-OS/2 and RJ-ON-90/1.

For better and optimal reservoir management, the producing fields are being continuously monitored by NOCs and remedial measures are being implemented for improving the production as well as recovery through various technological means including state-of-the- art drilling and production practices . The reservoir health of all the fields are being monitored at the highest level for effective reservoir management and mid course correction for maintaining reservoir health. It is due to such continued effort that the two NOCs could maintain the production level in spite of maturity of most of their major producing fields. For efficient reservoir management in fields operated by Joint Venture, water injection in Ravva field has been initiated which is expected to yield a high recovery factor. Further action on EOR screening study for this field is being undertaken to identify the suitable EOR process at an early stage. Pilot water injection is being considered for Dholka field. Use of advanced drilling

technologies such as drilling of horizontal and high angle wells have been initiated in Ravva, Panna and Tapti fields to improve the recoveries.

Regarding emphasis on priorities fixed in five year plans, it can be stated that whatever priorities are set in the five year plans are dovetailed in the annual operational plans of NOCs including plans of DGH. Periodic reviews are a regular exercise conducted by the Ministry through Quarterly Progress Reviews(QPR) involving the NOCs, DGH and representative of Planning Commission. Such reviews focuses in analysing shortcomings and consequent fine tuning and directional changes. In fact, during the formulation of X Plan , the performance and shortcomings of the IX Plan along with recommendation contained in Vision-2025 document were considered. The same process of dovetailing will be continued in the annual plan preparation during the X Plan.

[Ministry of Petroleum & NG O.M. No.O-27012/1/2002-ONG/US(EO)
Dated: 28.3.2002]

Recommendation (Part II, Para No. 29)

The Committee observe that to further supplement the exploration efforts of National Oil Companies, the entire Upstream Petroleum Sector has been opened up to the private sector or investment through joint venture/ strategic alliances. The New Exploration Licencing Policy offers competitive terms and a level playing field for both NOCs and Pvt./JV oil companies. 47 contracts have already been signed under two rounds of NELP. The Committee observe a remarkable achievement in inviting attention and participation of companies in bidding rounds for exploration and production of oil and gas. This all became possible mainly due to recently undertaken geo-scientific work by DGH in less explored and virgin areas of the country to upgrade the information authenticity of data and attractive fiscal terms. As per the available information DGH has carried out several more exploratory blocks to be offered in subsequent exploration bidding rounds. The

Committee, therefore, recommend that the expertise of DGH should be utilized to find more and more blocks of interest through similar surveys particularly in deep water, frontier areas and unexplored/poorly explored onland areas.

Reply of the Government

Preparation of dockets / data packages is a continuous process wherein data from NOCs and pre-exploratory data obtained by DGH is made use of after necessary value addition. The efforts of DGH for carrying out pre-exploratory activities in the form of various survey is continuing. During the year 2000-2001 DGH has carried out seismic data acquisition (11462 LK) and its interpretation in the deep water areas covering southern tip of India, East coast and Andamans. Based on the data acquisition and its interpretation, blocks have been identified for offer in future NELP round(s).

Regarding utilization of expertise of DGH, it can be stated that during the finalization of India Hydrocarbon Vision-2025 document (E&P Sub-Group), DG, DGH, senior executives from NOCs and MOP&NG and eminent specialists were involved. Similarly, during the preparation of X Plan E&P Sub-Group report by MOP&NG, DG, DGH, senior executives from NOCs, representatives of the concerned ministries and eminent specialists were involved.

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Dated: 28.3.2002]

Recommendation (Part II, Para No. 31)

The Committee observe that Private/Joint Venture participation has been on a phenomenal rise in oil and gas production during the last five years and now accounts for about 13% of domestic production. This trend is likely to improve further. DGH currently monitors all Petroleum Exploration Licences which national and private oil companies are operating. After close of NELP-II, more than 100 exploration blocks and discovered fields are being monitored by DGH. DGH is also

monitoring the execution and management of all the production sharing contracts on behalf of Government of India. DGH is continuously monitoring the performance of petroleum reservoirs including Mumbai High and also advises on any mid course correction required to ensure that optimal and sound reservoir management practices are followed. The Committee observe that the work of DGH has become of great importance. The Committee find that DGH has not been given full organisational strength to fulfil its responsibilities and functions. The Committee, therefore, recommend that DGH is organisatinally strengthened and paucity of funds is not allowed to come in their way so that the Directorate may be able to perform their work efficiently. The Committee also desire that the National Oil Companies should work in tandem with the advices of DGH particularly in respect of reservoir management schemes.

Reply of the Government

NOCs are working in tandem with DGH. Under the administrative control of MOP&NG, DGH is periodically monitoring and reviewing the activities of the NOCs - both acreagewise and fieldwise.

So far the organizational strengthening of DGH is concerned, enough administrative and financial power has been vested with DGH for carrying out its planned activities. DGH is getting funds through OIDB grants and there is no paucity of funds for its day to day functioning including execution of the pre-exploratory programs. MOP&NG has sanctioned the required staff strength for the office of DGH as per the recommendation of DG, DGH. As mentioned in reply to point 12 above, 70 persons of NOCs (ONGC + OIL) are on deputation to DGH at present. The Administrative Council of DGH headed by Secretary (PNG), in its meeting held on 28th January, 02, has decided that a system of panel of names be introduced by ONGC and OIL for selection of quality manpower against the required position in the office of DGH. The above decision of the Administrative Council is being followed up by ONGC, OIL and office of DGH. It is also submitted that the Working Group headed by Shri Naresh Narad, Addl. Secy., MOP&NG on

creation of Regulatory Authority for upstream sector, in its report had, inter-alia recommended the Upstream Hydrocarbon Regulatory Board be set up coterminous with DGH being given a new role as Techno-administrative arm of the Ministry. The Working Group has further recommended that the budget of newly created DGH may be met from OIDB as is the case at present and its officers/staff may be drawn from National Oil Companies (NOCs) and Government Departments. The report of the Working Group is under examinations of the Ministry.

[Ministry of Petroleum & NG O.M. No.O-27012/1/2002-ONG/US(EO)
Dated: 28.3.2002]

Recommendation (Part II, Para No. 32)

The Committee note that DGH is the depository of all the national E&P data, they need automatic data flow system from the National Oil Companies and other companies for better monitoring of the projects. The Committee, therefore, desire that as required, all concerned organisations including national oil companies may be impressed upon to submit their data and information to DGH timely and properly so that they may be able to cater the needs of E&P activities with regard to planning its own survey work programmes, identification of blocks and advising the Ministry on offering acreages, preparation of data packages and other information and statistics on E&P activities in order to develop the National E&P Data Archive.

Reply of the Government

As part of its charter, National E&P Database & Archive has to be implemented by DGH. A proposal in this regard is under finalization by DGH and would be examined with due priority after receiving by the Government. The database will involve data of various vintages acquired by NOCs, Pvt./JV Companies & DGH and there are some security concerns in respect of these data

that have to be suitably addressed. There will be no fund constraint for National E&P Database & Archive, as it is a national priority.

In the mean time, the specific data requirement of DGH is being furnished by both the NOCs and private/JV companies

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Dated: 28.3.2002]

Recommendation (Part II, Para No. 33)

The Committee appreciate the objectives set in Hydrocarbon Vision 2025 which lays down the framework which would guide the policies relating to hydrocarbons sector the next 25 years. The main objectives of the exploration policy as declared in this document include the total appraisal of Indian sedimentary basins, optimise crude oil and natural gas in most efficient manner to have Reserve Replacement Ratio of more than 1, be at the technological forefront in the global exploration and production industry and to achieve a near zero impact on environment. The Committee, therefore, desire that for achieving these objectives, the Government should finalise a time bound programme for every medium term and long term action declared in the document specifically for appraisal of Indian sedimentary basins by 2025, exploration in deep water and frontier areas, improvement in archival practices for data management and acquiring acreage abroad for exploration as well as production.

Reply of the Government

Even before the recommendations of India Hydrocarbon Vision-2025 made in March, 2000, in the Mid Term Review (MTR) of the IX Plan in 1999, the acceleration of exploration activities by the NOCs was focussed. Accordingly, and also keeping in view the recommendations of the Vision -2025, the annual plan of NOCs for the year 2000-01 and 2001-02 were drawn up with increased quantum of exploration and spread so that the time frame suggested in the Vision document

could be maintained. This strategy will also be followed during the X Plan which is on the anvil.

Similarly, the exploration bidding rounds which was initiated in the past was continued with offer of more and more blocks from non-producing basins. As the response of Private companies for such blocks with high-risk rating was not encouraging, Government introduced the New Exploration Licensing Policy (NELP) in 1999 with attractive fiscal terms to encourage, spread and accelerate exploration activities across most sedimentary areas including deep offshore. In the two rounds of NELP (I &II) offered so far, the positive and encouraging effect of the above strategic changes for spreading exploration became apparent with award of 31 blocks in non-producing basins(Category- II&III) including 15 in Deep water areas out of total 47 blocks for which PSCs have been signed.

Besides the seven producing basins, NOCs has taken up extensive exploration work through geological and seismic data acquisition, processing and interpretation besides parametric or test drilling in several yet to produce and frontier basins. Since 1995, DGH through contract has also carried out pre-exploratory surveys like Satellite Gravity, regional 2D seismic, Aeromagnetic survey, and Magneto-telluric surveys in various non-producing areas and frontier basins both onland and offshore. Such intensive and extensive exploration in the coming years with coverage of both unexplored areas as well as explored areas for upgrading resources through new discoveries will be continued. In the producing basins the endeavor of NOCs will be to focus and enhance inputs in the form of geoscientific studies and drilling with an aim to maximize reserve accretion. In the non- producing and Frontier basins, the plan is to aggressively pursue extensive exploration for breakthrough while building up the knowledge base.

With the continued efforts in both producing and non-producing basins, the exploration coverage will improve significantly in the years to come. Apart from the exploration works that would be undertaken by NOCs in their acreages held

through nomination routes, works in the two rounds of NELP offers announced by Govt. of India, wherein 47 exploration blocks have been awarded to various companies both NOCs and the private parties, will substantially enhance the basin appraisal program in line with the policy direction given in IHV-2025 . With future offer of NELP blocks and also implementation of the exploration program by the NOCs and the Pvt. Parties during the X Plan which is on the anvil, the exploration coverage of basinal areas would go up to 35% by the end 2006-07.

To enhance oil production through better recovery from the present fields, the time bound action plan has been initiated for Improved / Enhanced Oil Recovery (IOR/EOR) for all the 15 major fields of ONGC including Mumbai High. 16 of the 19 projects drawn up in this connection is already under implementation. The action is also in hand for formulation of time bound action plan for 41 other medium to small oil and gas fields of ONGC for improvement of recovery. OIL is also in the process of identifying additional inputs to improve recovery in already producing depleting field.

Government is also encouraging and providing all assistance for equity oil abroad. However in such overseas venture which involves large investment of risk money, there is a need for a commercial prudence in each case which can be addressed through due diligence by the participating companies themselves whether Private or National. Nevertheless, oil PSUs both Upstream and Downstream together will be venturing for overseas Upstream activities for equity oil with ONGC Videsh (OVL) being the leading player. Such alliance will provide opportunities to enhance the “buyer power” in future.

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Dated: 28.3.2002]

Recommendation (Part II, Para No. 34)

The Committee observe that R&D has played a key role in the development of petroleum industry. This is more so in the upstream sector where the discovery rate and production technology have shown a marked improvement with each innovation. But all these are mainly through adopted technology. National Oil Companies are investing 1% of their expenditure on R&D. The R&D efforts in petroleum sector are highly capital-intensive. The main thrust of R&D in upstream sector would be directed towards improving the quality of prospect, enhancement of recovery from existing fields, technological aspects of marginal field development, deep water technology and cost control in petroleum operations. R&D attention is also required for finding and developing unconventional resources like Coal Bed Methane and Gas Hydrates. The Committee, therefore, desire that the Government should ensure that R&D agenda is decided with a market drive approach and demand articulation. The Committee recommend that as desired in the Hydrocarbon Vision- 2025, the Government should take all possible steps to ensure adequacy of finances for R&D.

Reply of the Government

Research & Development(R&D) is an integral part of upstream activities and in this regard both the upstream NOCs are continuously carrying out adaptive research in all facets of their activities most notably in the field of exploration, development, drilling, production and related engineering. Such R&D activities are funded by the company themselves from their internal resources and there is no paucity of fund. ONGC , the major of the two NOCs have institutionalized its R&D set up by creating several institutes catering to R&D activities in different facets of upstream activity. Government, on its part is providing financial support through grant and soft loans from OIDB fund on a case to case basis. Many R&D projects of NOCs in the field of exploration, deep drilling, production, EOR pilot etc are being funded by OIDB.

The pre-exploratory surveys carried out in poorly explored/unexplored basins through contract by DGH, under the overall administrative control of MOP&NG, can be categorized as R&D work and is fully funded by OIDB. Similar funding by OIDB is been made in the field of unconventional gas exploration like CBM and National Gas Hydrate Program(NGHP). Recently, the OID Board has approved a policy to further encourage and enhance the funding of R&D activity in the upstream sector in various fields.

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Dated: 28.3.2002]

Recommendation (Part II, Para No. 35)

The Committee observe that one of the medium term proposed actions in Hydrocarbon Vision 2025, include to improve archival practices for data management on this front a lot has to be done. At present the data is being collected by DGH but they don't have even seismic data analysis facility with them. In the age of computers, data management plays a very important role. The Committee therefore, recommend that Government should develop archival practices for data management independently or with DGH within a shortest possible time.

Reply of the Government

As part of its charter, National E&P Database & Archive has to be implemented by DGH. A proposal in this regard is under finalization by DGH and would be examined with due priority after receiving by the Government. The database will involve data of various vintages acquired by NOCs, Pvt./JV Companies & DGH and there are some security concerns in respect of these data that have to be suitably addressed. There will be no fund constraint for National E&P Database & Archive, as it is a national priority.

As far as seismic data interpretation facilities are concerned, DGH is already having Seismic Interpretation capabilities with state-of-the-art Hardware & Software for this purpose. There will be no constraint of funds for such interpretation activities.

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Dated: 28.3.2002]

Recommendation (Part II, Para No. 36)

The Committee note that the country is endowed with rich deposits of coal and lignite and these coal and lignite seams contain certain varying amounts of methane of popularly known as Coal Bed Methane. State-wise estimated resource base of CBM for Gujarat, Jharkhand, Madhya Pradesh, Rajasthan and West Bengal are137, 107, 104, 9 and 101 billion cubic metres respectively. DGH has planned to initiate study to assess CBM resources in Maharashtra, Tamil Nadu and Chattisgarh also. CBM policy was declared in 1997 but after a long time, recently the Government of India has offered 7 blocks for exploration and production of CBM. Bids have been obtained and are in the process of evaluation. The Committee welcome this step and desire that the Government should expedite the process of identifying more CBM blocks so that the extensive exploration and production of CBM may start from all the States possessing such gas. Simultaneously, the study to assess more CBM resources should also be taken aggressively. The Committee also desire that the Government should negotiate with the State Governments to resolve the issue of production level payments amicably within a time of three months.

Reply of the Government

ONGC took the lead in initiating Coal Bed Methane(CBM) exploration and discovered a new resource in its maiden attempt at Parbatpur in Jharia coalfield in 1997. Since then, ONGC is actively pursuing its effort on this front in Damodar Valley coalfield area in Jharia in Jharkhand and Ranigunj in West Bengal through drilling and reservoir assessment.

Ministry of Petroleum & Natural Gas announced the first round of bidding for CBM blocks on 20th April 2001 based on data obtained from Geological Survey of India (GSI) and Central Coal Mine Planning & Design Institute (CMPDI) and in consultation with Ministry of Coal (MOC). Five blocks out of Seven blocks offered were awarded (2 to ONGC, 2 to Reliance Industries Limited & 1 to Essar Oil Limited). The contracts are expected to be signed by April, 2002.

Based on available geological and mining information, the process of identifying few more CBM blocks for future round of CBM have begun which may fall in different coal-fields of India in states like West Bengal, Jharkhand, Orissa, Chhatisgarh, M.P. Activities like drilling , collection of core samples will be initiated by DGH to assess the CBM resources in the blocks before offering in future round of CBM.

Regarding the issue of Production Level Payments (PLP), Government is considering this aspect and Inter-ministerial consultations are going on. Due to the complicated nature of the problem, a definite time-frame for resolving the issue can not be fixed at this stage.

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Dated: 28.3.2002]

Recommendation (Part II, Para No. 37)

The committee observe that gas hydrate is treated as an important source of Hydrocarbon energy in future. The Ministry of Petroleum and Natural Gas initiated a National Gas Hydrate Programme in the year 1997. In the same direction, a technical committee has been constituted for exploiting the potential of gas hydrate available in India's Exclusive Economic Zone. A road map for Natural Gas Hydrate Programme as prepared by the Technical Committee was submitted to the Steering Committee in April 2001. As per future programme drilling activity is planned to start by the year 2002 and pilot studies for production of gas from gas hydrates are expected to start from the year 2005. DGH has established the

largest reservoir of gas hydrate at the bottom of the sea in Andaman and test production is being done by them. The committee desire that now the Government should come out with the National Gas Hydrate Programme and work aggressively on this project under presently decided time frame. The committee also desire that the Government should give every type of financial support to DGH and other agencies involved in this programme since this is at R&D stage and require huge capital investment.

Reply of the Government

Keeping in view the possibility of presence of Gas Hydrate in Indian offshore areas, ONGC undertook a project in 1997 with Alberta Research Council, Canada based on reprocessing of seismic data acquired by ONGC in both eastern and western offshore. This study indicated possible presence of Gas Hydrate in Krishna-Godavari Deep water areas. Similar study carried out by GAIL jointly with NIO indicated possibility of presence of Gas Hydrate in Indian offshore areas. Subsequently, seismic survey carried out through contract by DGH have indicated the possibility of presence of large Gas Hydrate deposits with substantial free gas accumulations below the hydrates in Andaman offshore region At present, geo-scientific data is being acquired by NIO under National Gas Hydrate Programme (NGHP) to carry out the resource estimation and to decide the location for drilling for gas hydrates by the year 2003-04. Only after drilling the wells, the actual presence of gas hydrates and some of its associated issues will be known. Based on progress made by NGHP member organisations and through collaboration with international consortia, efforts will be made towards production of gas from gas hydrates on the pilot scale by the year 2005-06. The whole project is being funded by Government of India through OIDB. In future, for any viable project, there will not be any constraint for fund.

At present no where in the world, gas from offshore gas hydrates is being produced. DGH has also not undertaken any test production for gas from gas hydrates in Andaman areas. R&D works for gas hydrates is only being undertaken

at present by several countries/ companies in the world including India and its NGHP member organization.

[Ministry of Petroleum & NG O.M. No.O-27012/1/2002-ONG/US(EO)
Dated: 28.3.2002]

CHAPTER III

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

Recommendation (Part II, Para No. 17)

The Committee note that DGH has completed the survey work along the entire east and west coast of India including deep waters and Andaman offshore areas. These surveys have given valuable clues to structure, tectonics, sedimentary thickness and play recognition in the deep waters. Through these surveys, an area of 1.35 million sq. Km. has been recognized measuring a water depth between 400 and 3000 metres. DGH should complete the extensive survey work particularly in Andaman region to detect new prospects so that the drilling work may start soon. The Committee also observe that ONGC has the capability of drilling in upto 900 meters water depth only. ONGC has put in little effort during the last several years to enhance this capability, moreover, they have informed in case of any need in future they propose to hire deep water rig from international market. The Committee do not support this approach of ONGC and desire that being the prime National Oil Company, they should either obtain more higher deep water drilling capability independently or develop in-house capabilities with the deep water drilling group with a view to compete with the international majors and demand of time.

Reply of the Government

For undertaking technology intensive drilling activities in deeper water, any company will follow an optimal mix of portfolio of strategic alliancing, service contract and owning deep water rig. ONGC has also adopted the same approach and strategy. For self reliance, ONGC has already upgraded its own rig Sagar Vijay for drilling in areas with water depth up to 900 M. As ONGC has planned to drill 37 deep/ultra deep-water wells (400 Mts & above water depth) in X Five

Year Plan, ONGC has plans of acquiring deep water drilling rig capable of drilling to water depths above 2000M, which might have long lead-time. As such, hiring of deep-water rigs is a necessity to explore deep waters to meet the planned target. Actions have been initiated and a notice inviting expression of interest has been published in national and international press to identify consultancy services to assist ONGC in ultra deep water drilling.

As regards exploration works in Andamans, DGH has completed the seismic data acquisition, processing and interpretation in Andaman offshore area. The identified prospects are being further analysed in DGH to firm up the possible drilling locations.

[Ministry of Petroleum & NG O.M. No.O-27012/1/2002-ONG/US(EO)
Dated: 28.3.2002]

Recommendation (Part II, Para No. 25)

The Committee observe that during the last three years the refining capacity has gone up significantly. The total refining capacity in the country (including private sector) was 62.24 MMT on 1.4.1998. It went up by 11% to 69.14 MMT as on 1.4.1999. By 1.4.2001, the total refining capacity sharply went up by 6.2% to 112.04 MMT. It has again gone up slightly to 112.54 MMT as on 1.4.2001. On the other side the consumption of petroleum products has went up from the level of 90.562 MMT in 1998-99 to 97.086 MMT in 1999-2000 and to 100.075 MMT during the year 2000-01. Therefore, the present refining capacity is more than enough to fulfill the demand of petroleum products. Consequently, the requirement of crude oil for processing has also gone up significantly from 39.808 MMT in 1998-99 to 74.097 MMT in 2000-01, an increase of 86%. Due to this reason the import Bill of crude oil showed an increase of 342% and it went from Rs. 14,917 crores in 1998-99 to Rs. 65,932 crores in 2000-01. The committee find this situation of dependence on import as very alarming one and this has adversely affected country's finances. The committee, therefore, desire that the Government should take measures to contain the import Bill and manage the oil

pool deficit so that they may not be able to show the adverse impacts on the economy of the country and financial health of the public sector oil companies particularly in the post APM period.

Reply of the Government

The refining sector was delicensed in June 1998. With the dismantling of the APM effective 1st April, 2002, the market forces will decide the setting up of new refineries. The Joint and private sector refineries have already been permitted to import crude oil on actual user basis effective 1st April, 1998. The oil pool account will be dismantled on 1st April, 2002.

[Ministry of Petroleum & NG O.M. No.O-27012/1/2002-ONG/US(EO)
Dated: 28.3.2002]

Recommendation (Part II, Para No. 30)

The Committee note that under two rounds of NELP, a total of 47 contracts have been signed and about 16% to 17% of unexplored/ poorly explored area has been covered while analysing the participation of private sector, the Committee find that only ten foreign companies participated in NELP-I and six in NELP-II. The Committee do not find this response as satisfactory one. The Committee therefore, recommend that the Government should analyse the reasons for such poor response of foreign companies despite taking several specific measures like declaration of best contract and financial terms, organizing Roadshows etc. The Committee also desire that the shortcomings, if any, may be rectified before the announcement of NELP-III round so that technologically superior foreign companies may come forward particularly for bids relating to Deepwater Blocks.

Reply of the Government

Any investment decision by an E&P company, including foreign companies, is generally influenced by geological prospectivity, regional preference, competing

opportunities available world-wide, perceived economics of the acreages on the offer, infrastructure, operating environment etc. Foreign companies have also option to enter in exploration by taking 'participating interest' from existing companies and some of the companies in the past have used this route to enter into the exploration and production activities of oil and gas in India. Blocks to be offered in NELP-III have already been identified, and as was done during NELP-II exercise, views of oil companies both NOCs and Private were obtained and duly considered for further improvement in Model Production Sharing Contract (MPSC), Notice Inviting Offer (NIO) and Bid Evaluation Criteria (BEC), in order to attract maximum players including multinational companies against the NELP-III offer.

[Ministry of Petroleum & NG O.M. No.O-27012/1/2002-ONG/US(EO)
Dated: 28.3.2002]

CHAPTER IV

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

Recommendation (Part II, Para No. 7)

The Committee note that optimizing recovery from currently/future producing fields through technology support and Enhanced Oil Recovery (EOR)/Improved Oil Recovery (IOR) assumes great importance. Currently the National Oil Companies have already implemented EOR schemes particularly in Gujarat and fields of upper Assam but with no viable impact as yet. Major oil producing fields have also been identified for implementation of EOR/IOR schemes by both the NOCs. The work on redevelopment of Mumbai High has also started. The Committee are not satisfied with the pace of work and progress being made so far in this direction. The Committee, therefore, desire that the NOCs should undertake EOR/IOR schemes more aggressively in a time bound manner and with specific targets to obtain additional oil and gas in future.

Reply of the Government

NOCs have identified various EOR / IOR schemes after laboratory studies, simulation and trial pilots and techno-commercial viability. All the 15 major fields of ONGC including Mumbai High, which have bulk of the reserve (80%) are identified for such IOR/EOR at the first instance. 16 out of 19 schemes projectized for this purpose are at different stages of implementation. Some of these have already been commercialized in the Western onshore fields resulting in increase in oil production. Re-development Plan of Mumbai High North and South, which is basically an IOR process, have been started recently and its positive impact in enhanced production is expected in near future. In addition, the time bound action plan for 41 other fields are under progress for preparation of action plan for IOR/EOR.

OIL has adopted EOR/IOR schemes since Sixties to improve recovery factor from major reservoirs of Nahorkatiya and Moran oil field. OIL has also earmarked 12 additional reservoirs during the X Plan for EOR & IOR. To examine scope of further improving recovery from the depleting reservoirs, 3D seismic survey and multi disciplinary study is being carried out for revitalisation of the old depleting fields by infill well drilling/redistribution of water injection and implementation of other EOR methods.

It can be stated in this connection that IOR processes and technologies is field specific and unique and is required to be implemented in a modular fashion in an optimal manner. Any hastening of such process may ultimately affect the reservoir health and recovery. Similarly, the EOR, which is a tertiary recovery process, is also field specific. Due to both technology and cost intensive nature of EOR process, its implementation is highly dependent upon the available fiscal regime.

[Ministry of Petroleum & NG O.M. No.O-27012/1/2002-ONG/US(EO)
Dated: 28.3.2002]

Comments of the Committee
(Please see Para No. 13 of Chapter I)

CHAPTER V

RECOMMENDATIONS IN RESPECT OF WHICH FINAL REPLIES OF THE GOVERNMNET ARE STILL AWAITED

Recommendation (Part II, Para No. 2)

The Committee regret to note that out of 26 sedimentary basins only seven basins falling under the first category have been extensively explored. Only one basin i.e. basin of Rajasthan has been upgraded to category I from category II. Kutch and Andaman areas have also shown the accumulation of hydrocarbons but no commercial production has started as yet. Out of the total sedimentary area of 3.14 million sq. kms. only 15 % i.e. 0.498 million sq. kms. is moderate to well explored. In 27 % of the area the exploration has been initiated and 17 % of the total area is poorly explored and 40 % totally unexplored as yet. In short, the Committee has taken note that almost 2/3 of the country's sedimentary area remains either poorly explored or unexplored. The Committee also observe that exploratory thrust has been lent only to a few selected basins where the maximum possibility of availability of oil had been found and very little effort has been put in to explore the new areas. The Committee regret to note that even after the strong recommendations of the Standing Committee on Petroleum and Chemicals made in their 4th Report (10th Lok Sabha) in 1994, the Government have not changed their exploration strategy for accelerated exploration of all the basins with a view to locate and develop new oil and gas reserves in a time bound programme. The Committee find that due to this approach, no major recovery of oil and gas has been done during the past several years. The Committee express their strong desire that the extensive exploration efforts should be spread over all the basins including unexplored/less explored having favourable geological formations/and pursued vigorously in continuation to the exploration in producing basins.

Reply of the Government

Keeping in view the recommendations of the Committee made in their 4th Report (10th Lok Sabha) in 1994, Government initiated strategic changes for spreading exploration activities in the country. In fact, most of the poorly explored/unexplored areas of the country as referred in the recommendation belong to the non-producing category including Frontier basins and Deepwater areas which have remained unexplored or poorly explored so long due to geological uncertainties, technological challenges, difficult logistics and associated high risks. The exploration bidding rounds which were initiated in the past continued with offer of more and more blocks from non-producing basins. As the response of Private companies for such blocks with high-risk rating was not encouraging, Government introduced the New Exploration Licensing Policy (NELP) in 1999 with attractive fiscal terms not only to encourage, spread and accelerate exploration activities across most sedimentary areas including deep offshore but also to provide a level playing field for both Private and National oil companies(NOCs). The formation of DGH under the administrative control of Ministry of Petroleum & Natural Gas (MOP&NG) in 1993 is also a part of the strategic changes to oversee and promote such activities. In the two rounds of NELP (I &II) offered so far, the positive and encouraging effect of the above strategic changes for spreading exploration became apparent with award of 32 blocks in non-producing basins including 15 in Deep water areas out of total 47 blocks for which PSCs have been signed. Furthermore, the India Hydrocarbon Vision-2025 document prepared by the Government in March, 2000 has clearly spelt out the strategy and intention of the Government for appraisal of all the sedimentary basins of India in a definite time frame in a phased manner. This aspect has been taken into consideration while formulating the exploration program of the X Plan, which is on anvil.

It will be pertinent to mention in this connection that prioritization of exploration activities is dependant upon available resources, available technology

and risk-reward perception of individual oil companies which is an universal phenomena. Further, the hydrocarbon potential of a basin is realized through five stages - initiation, breakthrough, consolidation, commercialization, and re-engineering. Each of these stages demand substantial time and investments, which may vary due to surface and subsurface characteristics. Accordingly, spread of exploration across all the sedimentary basins as also the quantum of input will vary with increasing knowledge base in the years to come.

The oil and gas discovery process is cyclic with periodicity that can not be predicted. Furthermore, reserve accretion, the end-result of the exploration activities, is input deterministic but output probabilistic. Accordingly, the reserve accretion trend is not uniform and a single discovery or lead can trigger a phase of continued upgradation of the trend for sometime.

The pioneering efforts of NOCs (both ONGC and OIL) which have made five new basin discoveries and added new commercial discoveries in the other two already producing basins of Upper Assam and Assam-Arakan Fold Belt has been significant in putting India in the World oil map. The NOCs having expended considerable time and investments in producing basins, will continue to unravel the basin potential unabated with focused attention.

Besides the seven producing basins, ONGC has taken up extensive exploration work through geological and seismic data acquisition, processing and interpretation besides parametric or test drilling in 12 yet to produce and frontier basins including the deep water areas viz. Kutch, Andaman, Bengal, Kerala-Konkan, Saurashtra, Ganga, Himalayan foreland, Vindhyan, Satpura-S.Rewa-Damodar, Prahnita-Godavari, Karewa, Mahanadi. ONGC's continued work in the Proterozoic Vindhyan Basin and in the Gondwana Basin of S. Rewa-Satpura and in Kutch-Saurashtra are note-worthy.

Similarly, Oil India limited (OIL), in addition to carrying out exploratory work in Assam & Arunachal Pradesh and Rajasthan has also carried out exploration in

Basins like Andaman Offshore, Mahanadi onshore & offshore and North East Coast Offshore in Orissa, Saurashtra offshore, and Ganga Valley , U.P./Uttaranchal. Both the NOCs have plans to carry out intensive and extensive exploration in the coming years with coverage of both unexplored as well as explored areas.

Since 1995, DGH has acquired through contract Satellite Gravity data over entire offshore areas off east & west coast and in Andaman sea, and 23,982 LKM of pre-exploratory regional 2D seismic data in deep water areas off East Coast, Southern tip of India and Andaman sea. In onland part of the country, 1200 GLK of regional 2D seismic data has been acquired in Ganga Valley and Vindhyan basin areas. In addition, DGH has carried out Aeromagnetic surveys in Kutch onland & contiguous offshore areas, and Magneto-telluric surveys in Nagpur-Wardha-Belgam areas of Deccan Syneclise. The efforts of DGH will be complemented with such focussed knowledge building pre-exploratory activities in unexplored/poorly explored areas by NOCs for promotion of acreages for main stream exploration by oil companies both Private and NOCs.

[Ministry of Petroleum & NG O.M. No.O-27012/1/2002-ONG/US(EO)
Dated: 28.3.2002]

Comments of the Committee

(Please see Para No. 10 of Chapter I of the Report)

Recommendation (Part II, Para No. 3)

The Committee find that in the policy document Hydrocarbon Vision-2025 it has been emphasized that the Government would finalise a programme for appraisal of the Indian sedimentary basins to the extent of 25 % by 2005, 50 % by 2010, 75 % by 2015 and 100 % by 2025. During the course of evidence, Petroleum Secretary had assured the Committee to take all possible steps to advance this target. The Committee regret to note that even after a lapse of more

than one year of the preparation of the document, the Government have not been able to finalise the programme for appraisal of Indian sedimentary basins. The Committee therefore, direct the Government to prepare the final programme without any further delay so that the work relating to appraisal of the Indian sedimentary basins may proceed under a set time frame and as per the proposed target of 35 % by the end of 10th Plan. The Committee also desire that the Government should sincerely explore the possibilities to advance the targets so that the survey work of entire area be completed within the shortest possible time.

Reply of the Governmnet

In line with the objective of the India Hydrocarbon Vision-2025 (IHV-2025) document, a time bound program has been framed to be realized through:

- Continued exploration in the producing basins.
- Aggressively pursue exploration in non-producing and frontier basins for knowledge building and breakthrough including deep water areas.

Even before the recommendations of India Hydrocarbon Vision-2025 (which came in March, 2000), in the Mid Term Review (MTR) of the IX Plan in 1999, the exploration activities by the NOCs was fine-tuned in light of past experience. Accordingly, and also keeping in view the recommendations of Vision -2025, the annual plan of NOCs for the year 2000-01 and 2001-02 were drawn up with increased quantum of exploration and spread of exploration activities, so that the time frame suggested in the Vision document could be maintained. This strategy will also be followed during the X Plan which is on the anvil. It may be mentioned that both DGH and NOCs were fully associated for finalization of E&P activities for the IX and X Plan as also the Hydrocarbon Vision-2025 document.

With the continued efforts in both producing and non-producing basins, the exploration coverage will improve significantly in the years to come. Apart from the

exploration works that would be undertaken by NOCs in their acreages held through nomination routes, works in the two rounds of NELP offers announced by Govt. of India, wherein 47 exploration blocks have been awarded to various companies both NOCs and the private parties, will substantially enhance the basin appraisal program in line with the policy direction given in IHV-2025 . With future offer of NELP blocks and also implementation of the exploration program by the NOCs and the Pvt. Parties during the X Plan, which is on the anvil, the exploration coverage of basinal areas would go up to 35% by the end 2006-07.

Continuation of the efforts of the NOCs and Private parties and firming up of the knowledge building activities in frontier basins will lead to further upgradation of appraisal works of basinal area. With the above efforts put in place, exploration in the poorly explored and unexplored areas of the Indian sedimentary basins will gradually improve and by 2025, the total basinal area of the country will be covered to carry out mainstream exploration activities by different players in the sector.

It may be emphasized in this connection, that the pace of exploration activities have been planned taking a pragmatic view of resource availability within the country and our ability to attract investment. Nevertheless, as suggested by the Committee, MOP&NG will re-visit this matter during the review of X Plan performance.

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Dated: 28.3.2002]

Comments of the Committee
(Please see Para No. 10 of Chpater I of the Report)

Recommendation (Part II, Para No. 10)

The committee observe that several interesting leads have been obtained during the surveys carried out by DGH in Andaman offshore deep water areas but the confirmation has not been done as yet to firm up the location of drilling . For this purpose, grid seismic surveys have also been completed by DGH. The committee desire that DGH should process and interpret the data in the shortest possible time so that drilling work may start in that region at the earliest.

Reply of the Government

Processing and interpretation of seismic data acquired by DGH in Andaman offshore area has been completed. The identified prospects are being further analysed for firming up of one or two drilling locations.

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Dated: 28.3.2002]

Recommendation (Part II, Para No. 11)

The committee note that DGH is in the process of developing the National E&P Database and Archive. Feasibility study has already been completed for E&P Database and consultants have submitted their reports. The committee, therefore, desire that DGH should work out an implementation plan in the shortest possible time. Simultaneously, the committee also observe the excellent work being done by them in the field of seismic survey expertise in preparation of basin dockets and data packages and desire that the Government should permit DGH to establish seismic data interpretation facilities and provide all required investment for both the purposes.

Reply of the Government

As a part of its charter, National E&P Database & Archive has to be implemented by DGH. A proposal in this regard is under finalization by DGH and would be examined with due priority after receiving by the Government. The database will involve data of various vintages acquired by NOCs, Pvt./JV Companies & DGH and there are some security concerns in respect of these data that have to be suitably addressed. There will be no fund constraint for National E&P Database & Archive, as it is a national priority.

As regards the preparation of basin dockets and data packages, while the same has been partly outsourced by DGH, so far as seismic data interpretation facilities are concerned, DGH is already having Seismic Interpretation capabilities with state-of-the-art Hardware & Software for this purpose. Recently, seismic data of the blocks to be released under NELP-III has also been interpreted and value addition has been done using DGH interpretation facilities. Funds for such interpretation activities will be no constraint.

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Comments of the Committee

(Please see Para No. 18 and 19 of Chapter I of the Report)

Recommendation (Part II, Para 12)

While going into the details of staff strength and expertise of scientists and geologists involved in survey, exploration and exploratory drilling activities of the National Oil Companies and DGH, the Committee observe that for this purpose as on 1.4.2000 ONGC has 3825 scientists, OIL has 150 geoscientists and DGH has 29 geoscientists, ONGC has informed that additional manpower shall be required

keeping in view the ONGC's perspective plan. The Committee recommend that the Governement/ONGC should arrange/provide the required number of staff at proper time so that ONGC's perspective plan may not suffer in any way due to lack of manpower. The Committee also find the number of geoscientists working in DGH is inadequate in view of their expanded field of activity. The Committee, therefore, recommend that the Government should undertake a study to provide the required number of geoscientists to DGH so that they may be able to perform their assigned roles efficiently.

Reply of the Government

ONGC is continuously reviewing the requirement of manpower for sustaining its planned program. Keeping in view the full empowerment of ONGC for recruitment and training of manpower, there will not be any shortage in this front.

The nature of jobs and responsibilities of NOCs and DGH are different which calls for different manpower requirements. Since the formation of DGH under the administrative control of MOP&NG, NOCs are providing scientists and other personnel on deputation to DGH from time to time. MOP&NG has sanctioned the required staff strength for the office of DGH as per recommendation of DG,DGH Currently, about 70 persons of NOCs (ONGC+OIL) are on deputation to DGH. The Administrative Council of DGH has decided in its meeting held on 28th January, 2002 that a system of panel of names be introduced by ONGC & OIL for selection of quality manpower against the required position in DGH. The above decision is being followed up by ONGC, OIL and office of DGH It is also submitted that the Working Group headed by Shri Naresh Narad, Addl. Secy., MOP&NG on creation of Regulatory Authority for upstream sector, in its report had, inter-alia recommended the Upstream Hydrocarbon Regulatory Board be set up coterminous with DGH being given a new role as Techno-administrative arm of the Ministry. The Working Group has further recommended that the budget

of newly created DGH may be met from OIDB as is the case at present and its officers/staff may be drawn from National Oil Companies (NOCs) and Government Departments. The report of the Working Group is under examinations of the Ministry.

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Dated: 28.3.2002]

Comments of the Committee

(Please see Para No. 18 and 19 of Chpater I of the Report)

Recommendation (Part II, Para No. 13)

The committee note that the petroleum industry is passing through it tough phase. On the one hand the production of crude has become stagnant and on the other, the consumption has gone up several folds. There is no major discovery after the discovery of Mumbai High in 1970's. The National Oil Companies and other agencies have to perform aggressively in the exploration and production sector. For this purpose, they require huge funds. Although there has been some flow of funds through Joint Ventures or participation of Private Sector but the domestic companies have to arrange the funds from various other sources. The Committee also note that huge funds collected through cess from Petroleum Industries are not being used for the development of Petroleum Industry, rather it is being used to maintain the fiscal balance of the Government. Out of the total collection of Rs. 38576 crores by the way of cess collected under the provisions of Oil Industry Development Board, 1974 only an amount of Rs. 902.70 crores have been released to OIDB so far. The Committee (1995-96) had strongly recommended to amend the OIDB Act so that the funds collected through cess may be used for development of petroleum sector only. The Ministry had agreed to their suggestions and draft Cabinet Note was also circulated to the concerned Ministries for comments. After consideration of views of Ministry of Finance and the Ministry of Chemicals & Fertilizers, the Government have not found it feasible to amend the Act at this stage. The Committee do not find the approach of the

Government as justified, since it endangers the energy security of the country. The Committee once again reiterate their earlier recommendations that the Government should come out with the required amendment in OID Act without any further delay.

Reply of the Government

The matter has accordingly been taken up by the Ministry of Petroleum & Natural Gas.

[Ministry of Petroleum & NG O.M. No.O-27012/1/2002-ONG/US(EO) Dated: 28.3.2002]

Comments of the Committee
(Please see Para No. 22 of the Chapter I of the Report)

Recommendation (Part II, Para No. 18)

The Committee regrets to observe that the heavy oil was discovered by Oil India Limited in Rajasthan in 1991 but no commercial production has started as yet. The main factor responsible for this situation has been explained as the non-availability of technology with OIL for production of this oil. The Committee desires that OIL should take all possible initiatives including pursuing the technology negotiations with Venezuelan Company or with other companies with such technology to start the production from this field in the shortest possible time.

REPLY OF THE GOVERNMENT

Heavy/Ultra heavy oil recovery is highly technology driven and requires high investment. The kind of heavy oil and bitumen discovered in Rajasthan also contain sulfur. Therefore, not only producibility, but also handling, storage, transportation to a suitable refinery or to find an alternate consumer, needs detail study with experimentation with various recovery techniques. OIL has already firmed up with PDVSA, the National Oil Company of Venezuela to provide

technical support to OIL to establish commercial producibility of this heavy oil through a field scale pilot. In this regard, a contract for technological collaboration will be shortly signed.

[Ministry of Petroleum & NG O.M. No.O-27012/1/2002-ONG/US(EO)
Dated: 28.3.2002]

Recommendation (Part II, Para No. 19)

The Committee also observe that ONGC has established an oil reserve of 2.69 MMT in Nagaland but the exploration and production activities are under suspension since April/May 1994 due to environmental reasons and also under the directive of Govt. of Nagaland. The Committee desire that the Central Government should continue the efforts so that the disputes are resolved and the operations start without any further delay.

Reply of the Government

Ministry of Petroleum & Natural Gas, ONGC and the State Government of Nagaland have jointly taken initiatives to resolve the issues concerning resumption of exploration and production activities in the State of Nagaland. A series of Meetings were held at the hightest official level between MOP&NG and State Government of Nagaland. Consequently, Nagaland Government has accorded its concurrence to the New Exploration Licensing Policy (NELP) and one block is proposed to be offered under the third round of NELP. MOP&NG, ONGC and the State Government of Nagaland are jointly making all possible endeavors.

[Ministry of Petroleum & NG O.M. No.O-27012/1/2002-ONG/US(EO)
Dated: 28.3.2002]

Recommendation (Part II, Para No. 20)

The Committee welcome the initiatives taken by the Government to encourage the oil sector PSUs to obtain available opportunities abroad for acquiring exploration acreages either on their own or through strategic alliances/Joint Ventures with a view to supplement adequate, stable, assured and cost effective hydrocarbon energy to the country. ONGC Videsh Limited had grabbed some opportunities by participating in overseas E&P acreages for obtaining equity oil and gas which include projects in Vietnam, Russia, Iraq, Algeria, Tunisia, Egypt and Yemen and they are in progress in some other projects in North African countries as partners. They have acquired 20% interest in Sakhalin-I Project in Russia, which is scheduled to begin production from 2005. Oil India Limited has participating interest in exploration block in Oman. The Committee desire that the Government should provide all facilities to the companies participating in such projects. In this regard, the Government should put in place a comprehensive policy to include total deregulation of overseas E&P business and empowering the companies to compete with international oil companies with provision of fiscal and tax benefits. Moreover, the Government should also ensure that such participation is justified, transparent and comparatively beneficial than the domestic investments.

Recommendation (Part II, Para No. 21)

The Committee feel that there is a huge involvement of funds in E&P projects abroad. No doubt, few oil companies have sound financial health but if they proceed to participate in quality E&P projects abroad they must go as a strong “Buyer Power”. The Committee, therefore, desire that the Government should evolve a mechanism to leverage India’s ‘Buyer Power’ to obtain good projects abroad as also declared in the document Hydrocarbon Vision-2025. In

Committee's view, without such mechanism our companies will not be able to participate in quality exploration and production Projects.

Reply of the Government

Countries with demand-supply gap in the Hydrocarbons, exercise suitable options to procure oil and gas through mechanisms of Long term purchase contracts, Spot purchases and through participation for equity oil and gas. Government of India is suitably exercising these options. At present, it is not possible to deregulate the overseas oil and gas business by Indian companies due to the budgeting of the foreign exchange. However, Government is encouraging and providing all assistance for acquisition of equity oil and gas through overseas participation. Ventures involving large investments or greater risk exposures, needs commercial prudence in each case, which can be addressed through due diligence by the companies themselves, whether Private or National.

To pursue common interest related to the energy security of the country and to avoid competition among the companies in upstream sector, it has been decided that ONGC Videsh Ltd. (OVL), would be the nodal agency in all ventures where Government has a stake. OVL has special Empowered Committee of Secretaries route to seek approvals for the initiatives and new projects and Inter-Ministerial Committee for monitoring of the ongoing projects. All the oil PSUs have opportunity to participate in the overseas Exploration and Production projects with OVL in the lead, through various forms of alliances, which shall help to leverage the "buyer power" to obtain good projects.

[Ministry of Petroleum & NG O.M. No.O-27012/1/2002-ONG/US(EO)
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Comments of the Committee

(Please see Para No. 26 of Chapter I of the Report)

Recommendation (Part II, Para No. 22)

The Committee observe that there is a continuous increase in natural gas production. However, the committee find that there is a large unsatisfied demand of natural gas in the country. As per the available data, against the demand of 110 MMSCMD in 1999-2000, the domestic supply was 64 MMSCMD. The Committee find that there are shortfalls in the availability of natural gas vis-à-vis the commitments already made in the different regions of the country. In addition, the demand for natural gas in core sectors like power generation and fertilizer production has been on increase. There is a continuously growing demand of CNG in metro cities. This demand is likely to grow by 7% per annum or even more. There is no significant increase in gas production during the last five years and no new discovery gives any hope of good increase in gas production. The Committee, therefore, desire that the national oil companies should continue their efforts to enhance the gas production. Simultaneously, the Government should take policy decision and act promptly on the issues of large-scale import of gas. Similarly, the Government should also take all initiatives to finalize the proposals regarding Iran-India pipeline and continue the efforts to import the gas from Bangladesh to fulfill the unsatisfied demand of natural gas.

Reply of the Government

Currently, the production of natural gas from domestic resources is at the level of around 81 million standard cubic meters per day (MMSCMD). Out of the above, the total gas available for sale after inter consumption, extraction of LPG and unavoidable technical flaring, is around 65 MMSCMD. While an allocation to the extent of around 118 MMSCMD has already been made/committed to various consumers in Power, Fertilizers, Steel and other sectors, gas supply agreements have been executed for around 91 MMSCMD. Against this allocation the availability of gas is around 65 MMSCMD, which is being supplied to over 300 consumers.

In the domestic upstream front, significant gas discovery has recently been made in Bassein East in Western offshore by ONGC and in Gulf of Khambat (Block- CB-OS/2) and Krishna-Godavari Deep water (NELP-I block KG-DWN-98/2) by M/s Cairn Energy.

As per a study conducted as part of the India Hydrocarbon Vision – 2025, the demand for natural gas is expected to increase to 231 MMSCMD by 2007, 313 MMSCMD by 2012 and 391 MMSCMD by 2025, whereas the availability of natural gas through indigenous exploitation/exploration is expected to be far lower than the estimated demand.

To bridge the gap between demand and supply of natural gas there are various initiatives in process for import of natural gas and liquefied natural gas (LNG). The import of natural gas/LNG is on the Open General Licence (OGL) and 100% foreign direct investment is also permitted. The major gas pipeline initiatives are:-

(i) **India-Iran Gas Pipeline Project**

The initiatives on the Indo-Iran gas pipeline started with the signing of a Memorandum of Understanding (MoU) between the Islamic Republic of Iran and the Government of India in July 1993. But due to geo-political reasons further progress could not be achieved. However, based on the proposal received from Iran in January, 2000, a Joint Committee consisting of representatives of India and Iran has been constituted to study and examine all aspects relating to the gas pipeline from Iran to India including political, technical, financing etc. The Joint Committee has further set up a technical group of experts which is represented by Gas Authority of India Limited on Indian side and National Iranian Oil Company (NIOC) on Iran side to study various options for onshore and offshore gas pipelines including deep water gas pipeline for import of gas from Iran to India.

M/s Snamprogetti-Saipem have been awarded to prepare feasibility study for the deep water gas pipeline. GAIL has signed a memorandum of cooperation with NIOC in this regard.

(ii) **Import of Gas from Myanmer**

Feasibility of importing gas from Myanmar to the Eastern/Sourthern parts of the country is also being explored. Myanmar has already reserved a part of its gas reserves for supply to Thailand. In the circumstances, the gas available for supply to India is not very large. GAIL has signed a Heads of Agreement with M/s Daewoo Corporation for participation in their exploration block in Myanmar.

(iii) Bangladesh-India Gas Pipeline Project.

Considering the long term gas requirement scenario in the country, GAIL had signed principles of agreement with M/s Brown & Root Inc. USA in 1996 for examining the feasibility of pipeline gas imports to India from Eastern countries including Bangladesh. Subsequently, in July,2000 GAIL and Shell International Gas & Power signed a Principles of Cooperation which included cooperation in Bangladesh. GAIL has also signed cooperation agreement with UNOCAL Corporation of USA in February,2001 for jointly examining cross border gas trade issues for transport of natural gas from Bangladesh. Although, there are reported rich gas reserves in Bangladesh, yet the Government of Bangladesh have not sent any formal communication to export its natural gas to India. However, a Consortium of three oil PSUs namely IOC, ONGC and GAIL has been constituted to explore the possibilities for import of natural gas from Bangladesh through pipeline.

Import of LNG.

The feasibility of importing LNG from sources such as Middle-East, south-East Asia, Australia, etc is being pursued to meet the additional demand for gas. A joint venture company M/s Petronet LNG Ltd has been formed consisting of GAIL, ONGCL, IOCL, BPCL with a total equity participation of 50%. PLL have signed a long term Sale Purchase Agreement with M/s Rasgas of Qatar for importing 7.5 million tonnes per annum (MMTPA) of LNG of which 5.0 MMTPA for its LNG terminal at Dahej in Gujarat and 2.5 MMTPA for its terminal at Kochi in Kerala. Import of LNG at Dahej is expected to begin by the beginning of 2004 and at Kochi by 2005.

There are various private initiatives also which have obtained FIPB approval for setting up LNG terminals with regassification facilities by import of LNG to India.

[Ministry of Petroleum & NG O.M. No.O-27012/1/2002-ONG/US(EO)
Dated: 28.3.2002]

Comments of the Committee
(Please see Para No. 29 of Chapter I of the Report)

Recommendation (Part II, Para No. 26)

The Committee observe that the consumption of oil and gas has increased significantly during the last few years and the present refining capacity available in the country is adequate to fulfil the present demand. However, in coming years, total PSU refining capacity addition by expansion of existing refineries is expected to the 27.9 MMTPA during the Tenth Plan period. The Government have already approved an addition of 24 MMTPA refining capacity in Joint Venture in the country by setting up three grass route refineries i.e. Bharat Oman Refinery, Punjab Refinery and Paradip Refinery which are expected to materialise during the Tenth Plan. The Committee observe that several expansions projects which

were to be completed during the Ninth Plan could not see the light of the day due to long decision making process of the Government and pending environmental issues. The Committee therefore, desire that the Government should ensure an early completion of all the pending new refinery projects and expansion projects of existing refineries. They should be more cautious about the Joint Venture Refineries.

Reply of the Government

Petroleum Ministry accorded approval in July'98 for setting up of a 9 MMTPA capacity grass root refinery at Paradip by Indian Oil Corporation in joint venture with Kuwait Petroleum Corporation (KPC) at an estimated cost of Rs.8270 crore. (based on May'98 prices).

In view of continuing uncertainties in respect of participation of KPC and to avoid delay in implementation of the project, the Navratna Board of Directors of IOC in August, 1999 approved implementation of the project by IOC of its own at an estimated cost of Rs.8312 crore (based on August 1999 prices). Subsequently, KPC withdrawn from the project in January, 2000.

Approval for the project was accorded based on the project viability with incentives/concessions granted by Orissa Government in December, 1998 under Industrial Policy Resolution – 1996 (IPR-96) which also included 11 years Sales Tax exemption/deferment. After withdrawal of Sales Tax incentives by Orissa Govt. in February 2000, viability of the project was seriously affected. On vigorous pursuing with Orissa Govt. a package of incentives for the project has been approved vide 'Resolution' No.13793-VII-HI-25/2001-1 published in Orissa Gazette No.19 dated 20.7.2001, which amounts to only part restoration of the incentives originally approved. The above resolution was made available to public in the 3rd week of September 2001.

The Project implementation has been delayed by about one and a half year on account of withdrawal and subsequent restoration (in part) of incentives by Orissa Govt.

The Project cost has undergone revision to Rs.9,982 crore (based on August 2001 prices) since its approval by its Navratna Board of Directors in August, 1999. In view of substantial increase in project cost and present surplus demand-supply situation of petroleum products in the country, the project has been appraised afresh by Board's Sub-Committee on 9.2.2002. The project will be reviewed by the Board of Directors in its next meeting.

However, in the meanwhile, possession of 3344-acre of land has been taken over by IOC. Contract for Project Management Consultancy awarded to Engineers India Limited (EIL) & selection of process licensors completed. Land development by dredging & reclamation has been completed. Major infrastructure jobs like construction of approach road & bridges are in advanced state of completion. Balance infrastructure works like construction of boundary wall, plant roads, drains, site office, facilities for construction water/power supply etc. are in progress.

Implementation of Bharat Oman Refineries Limited (BORL)'s Central India Refinery Project at Bina (Madhya Pradesh) has been delayed due to delay in receipt of certain environmental clearances. Final clearance under Forest Conservation Act from Ministry of Environment & Forests and under Wild Life Protection Act from Chief Wildlife Warden are held up pending decision of Supreme Court on certain issues. Further, in view of the decision of Oman Oil Company to limit its investment in the project, a proposal is under consideration to permit Bharat Petroleum Corporation Limited (BPCL) to execute the project, through BORL, with reduced equity contribution by OOC and with an enhanced equity contribution upto 50% by BPCL. The project is expected to be completed within 48 months from the date of commencement of project execution.

BPCL is executing its Mumbai Refinery Modernisation Project with an objective to upgrade the Refining facilities for producing environment friendly products in line with the future product specification and reducing source emissions. Execution of the project will also improve distillate yield and energy efficiency of the main process which in turn will enhance the crude processing capacity to 12 million metric tonnes per annum. The project is scheduled to be completed by July, 2004.

Subsequent to the withdrawal of M/s Exxon (the prospective joint venture partner) from Hindustan Petroleum Corporation Limited (HPCL)'s Punjab Refinery Project at Bathinda (Punjab) in February, 1999, Government permitted HPCL in October, 2000 to execute the project through a subsidiary of HPCL. Guru Gobind Singh Refineries Limited, the subsidiary company to implement the project, was registered in December, 2000. The project is under implementation and is expected to be completed by the year 2005.

[Ministry of Petroleum & NG O.M. No.O-27012/1/2002-ONG/US(EO)
Dated: 28.3.2002]

Comments of the Committee
(Please see Para No. 36 of Chapter I of the Report)

MULAYAM SINGH YADAV,
Chairman,
Standing Committee on
Petroleum & Chemicals

New Delhi:
August 29, 2002

Bhadrapada 7, 1924 (Saka)

APPENDIX-I
MINUTES

SUB-COMMITTEE ON PETROLEUM

A SUB-COMMITTEE OF THE

STANDING COMMITTEE ON PETROLEUM & CHEMICALS (2002)

THIRD SITTING

(07.08.2002)

The Committee sat from 1500 hrs. to 1530 hrs.

PRESENT

Shri Dipankar Mukherjee - Convenor

Members
Lok Sabha

2. Smt. Sheela Gautam
1. Shri Paban Singh Ghatowar
2. Shri Bijoy Handique
3. Dr. (Smt.) Chellamella Suguna Kumari
4. Shri Ram Sajivan
5. Shri Prabhunath Singh
6. Shri Ratilal Kalidas Varma

Rajya Sabha

7. Shri Rajiv Ranjan Singh 'Lalan'

Secretariat

1. Shri P.K. Grover - *Director*
2. *Shri J.N. Oberoi* - Under Secretary
3. Shri R.R. Rai - *Assistant Director*

At the outset, Hon'ble Convenor of Sub-Committee on Petroleum welcomed the Members to the sitting and explained the purpose of the day's meeting. Initially, the Sub-Committee discussed and decided the future course of action on Petroleum Regulatory Board Bill, 2002. It was decided that Hon'ble Convenor may fix the next sitting of the Sub-Committee to take the evidence of the representatives of Business Chambers or Oil Companies in connection with examination of the Bill on 3rd or 4th September, 2002.

2. Thereafter, Hon'ble Convenor invited the Members to give their suggestions, if any, on the Draft Report on action taken by the Government on the recommendations contained in the 21st Report (13th Lok Sabha) of the Standing Committee on Petroleum & Chemicals (2001) on 'Production of Oil and Gas'.

3. Finally, the Sub-Committee adopted the Draft Action Taken Report and authorised the Convenor to finalise the Report and submit it to the Hon'ble Chairman for consideration by the Standing Committee on Petroleum & Chemicals on 12th August, 2002.

The Sub-Committee then adjourned.

APPENDIX-II

MINUTES

STANDING COMMITTEE ON PETROLEUM & CHEMICALS (2002)

ELEVENTH SITTING
(12.08.2002)

The Committee sat from 1500 hrs. to 1600 hrs.

Present

Shri Mulayam Singh Yadav - Chairman

Members

Lok Sabha

2. Shri Ashok Argal
3. Shri Ram Chander Bainda
4. Dr. Chellamella Suguna Kumari
5. Shri Padam Sen Choudhry
6. Shri Dilipkumar Mansukhlal Gandhi
7. Smt. Sheela Gautam
8. Shri Bijoy Handique
9. Shri Shriprakash Jaiswal
10. Shri Punnulal Mohale
11. Shri Ashok N. Mohol
12. Dr. Debendra Pradhan
13. Shri Ram Sajivan
14. Shri Shyama Charan Shukla
15. Dr. V. Saroja
16. Dr. Chhatrapal Singh
17. Dr. Ram Lakhan Singh

Rajya Sabha

18. Shri Balkavi Bairagi
19. Shri Ramnath Kovind
20. Shri Shyam Lal
21. Shri Rajiv Ranjan Singh 'Lalan'
22. Shri Dipankar Mukherjee
23. Shri Ahmed Patel
24. Shri Keshubhai Savdasbhai Patel
25. Ms. Mabel Rebello

Secretariat

1. Shri K.V. Rao - *Joint Secretary*
2. Shri J.N. Oberoi - *Under Secretary*
3. Shri Ram Raj Rai - *Assistant Director*

At the outset, Hon'ble Chairman referred to the sad demise of Shri Krishan Kant, Vice-President of India and recalled his contribution to Nation's building. The Committee condoled his death and passed a Condolence Resolution. The Committee stood in silence for a while. Thereafter, Hon'ble Chairman welcomed Shri Keshubhai Savdasbhai Patel, to the Committee and hoped that the Committee would be benefitted by his experiences.

2. Hon'ble Chairman then explained the purpose of the day's meeting and invited the Members to give their suggestions, if any on the following four draft Reports being considered for adoption:-

(i) ** ** ** ** ** ** ** ** ** ** **

(ii) Action Taken Report on action taken by Government on the recommendations contained in the Twenty-First Report (13th Lok Sabha) of the Standing Committee on Petroleum & Chemicals (2001) on 'Production of Oil and Gas';

(iii) ** ** ** ** ** ** ** ** ** ** **

(iv) ** ** ** ** ** ** ** ** ** ** **

3. After some consideration, the Committee adopted all the Reports without any modification and the Committee authorised the Chairman to finalise the Reports after factual verification from the concerned Ministries/Departments and present them to Speaker or to Parliament as deemed necessary.

4. The Committee placed on record their appreciation of the work done by the Sub-Committees on Petroleum, Chemicals & Petrochemicals, Fertilisers and the Sub-Committee Constituted to look into the complaints on non-observance of Guidelines laid down by the Government in allotting Retail Outlets and LPG Distributorships by Dealer Selection Boards.

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

6. ** ** ** ** ** ** ** ** ** ** **

7. ** ** ** ** ** ** ** ** ** ** **

The Committee then adjourned.

***** Matters not related to this Report***

APPENDIX –III

(Vide Para 4 of the Introduction)

Analysis of the Action Taken by Government on the recommendations contained in the Twenty-First Report (Thirteenth Lok Sabha) of the Standing Committee on Petroleum & Chemicals (2001) on 'Production of Oil and Gas'..

I	**Total No. of Recommendations**	36
II	Recommendations which have been accepted by the Government **(Vide Recommendation at Sl. Nos. 4, 5, 6, 8, 9, 14, 15, 16,23, 24, 27, 28, 29, 31, 32, 33, 34, 35 36 & 37)**	20
	Percentage to Total	55.56%
III	Recommendations which the Committee do not desire to pursue in view of Government Reply **(Vide Recommendations at Sl. Nos. 17, 25 & 30)**	3
	Percentage of Total	8.34%
IV	Recommendations in respect of which replies of the Government have not been accepted by the Committee **(Vide Recommendations at Sl. No. 7)**	1
	Percentage of Total	2.77%
V	Recommendations in respect of which final replies of the Government are still awaited **(Vide Recommendations at Sl. Nos. 2, 3, 10, 11, 12, 13, 18, 19, 20, 21, 22 and 26)**	12
	Percentage of Total	33.33%