



**Report of the
Comptroller and Auditor General of India
on
Ratna and R-Series Hydrocarbon Fields**



**Union Government
Ministry of Petroleum and Natural Gas
Report No. 43 of 2015
(Compliance Audit)**

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For the period ended 31 March 2015

**Union Government
Ministry of Petroleum and Natural Gas
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Preface

This Report of the Comptroller & Auditor General of India has been prepared for submission to the President of India under Article 151 of the Constitution for being laid before the Parliament.

The Report contains the results of the audit of 'Ratna and R-Series Hydrocarbon Fields'. Ratna and R Series (R&RS) medium sized hydrocarbon fields are located in the Western Offshore area (at an average water depth of 45 metres) 130 kilometres southwest of Mumbai city. These fields were discovered and partially developed by the Oil and Natural Gas Corporation Limited (ONGC) in November 1979. ONGC commenced commercial production of Crude Oil and Natural Gas from the fields from February 1983. Following initiation of process by the Government of India (GoI) for private sector participation for further development of these fields, ONGC stopped production from these fields from September 1994 onwards. Though letter of award of R&RS fields had been issued in March 1996 to a consortium of successful bidders (CoSB) and CCEA had approved to conclude the Production Sharing Contract in March 1999, final decision had not been taken yet by GoI for entering into the Production Sharing Contract for Ratna and R Series Fields.

This report brings out various aspects of the decision making process, which have contributed to the delay of more than 16 years after CCEA approval depriving the country of the hydrocarbon production from these discovered fields.

Audit wishes to acknowledge the cooperation extended by the Ministry of Petroleum and Natural Gas and ONGC in providing records, information and clarification which facilitated completion of audit.

Executive Summary

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Background

The Ratna and R Series (R&RS) medium sized hydrocarbon fields are located in the Western Offshore area (at an average water depth of 45 metres) 130 kilometres southwest of Mumbai city. These fields were discovered and partially developed by the Oil and Natural Gas Corporation Limited (ONGC) in November 1979. ONGC had drilled 35 exploratory wells and 9 development wells and had installed one well cum production platform in one of the fields viz. R-12. Commercial production of Crude Oil and Natural Gas was started by ONGC from R-12 field in February 1983. The Government of India (GoI) decided in 1991 for inviting private parties in upstream oil sector. In 1993, GoI issued notice inviting offers for development of R&RS fields. ONGC stopped production of Petroleum from these fields from September 1994.

Following invitation of bids from private parties by GoI, the Cabinet Committee on Economic Affairs (CCEA) approved (February 1996) award of contract in respect of R&RS fields to a Consortium of Successful Bidders (CoSB). Accordingly, the Ministry of Petroleum and Natural Gas (MoPNG) issued (March 1996) a Letter of award of R&RS fields to CoSB. Thereafter, CCEA approved (March 1999) negotiation to be held by the Negotiating Team of Secretaries (NTS) for finalising and concluding Production Sharing Contract (PSC) within six months.

Records pertaining to R&RS fields of MoPNG and ONGC were examined.

Highlights

The process of reaching upto a decision to finalise the PSC was not completed despite more than 16 years having passed (as of August 2015) since the CCEA approval for entering into negotiations with CoSB. Analysis of sequence of events for finalisation of PSC by MoPNG revealed the following:

- (i) NTS kept setting targets for completion of negotiations and signing of PSC. In November 1999, the NTS decided that the entire process of negotiations would be completed by 15 February 2000. In March 2000 meeting, NTS decided that negotiations should be completed by 30 April 2000 and in 7 September 2000 meeting, NTS decided to conclude the negotiation process by 18 September 2000. However, NTS did not adhere to its own targets for completion of the negotiations. NTS held 20 meetings between November 1999 and June 2013. During the period from May 2010

to July 2015, only two meetings of NTS were held and on both occasions, it was decided to hold another meeting to take a final decision in the matter.

(Paragraphs 5.1 and 5.2)

- (ii) Frequent deliberations were held on certain techno-legal issues from February 2001 to April 2005 among the Ministry of Petroleum and Natural Gas (MoPNG), the Ministry of Law and Justice (MoL&J) and the Ministry of Finance (MOF). Various rounds of clarifications and confirmations were sought though the Secretaries of all these three ministries were the members of NTS.

(Paragraph 6)

- (iii) CCEA had approved (9 March 1999) freezing of the rates of levy of royalty and cess prevailing at the time of bidding. Draft PSC was initialled by all the parties in April 2001 with the same rates of royalty and cess. NTS advised (April 2005) that Consortium of Successful Bidders (CoSB) may be asked to confirm payments of statutory levies at the current level rather than those prevailing in 1995. It recommended that the consequential changes to PSC subsequent to the above may be initialled after vetting by MoL&J. However, CoSB did not agree to the change in the rates of royalty and cess. The Government was advised (June 2005) by the Attorney General of India (AGI) to proceed with signing of PSC in relation to R&RS fields, with the successful bidder on the basis of royalty and cess as fixed in the draft PSC. NTS in its various meetings till March, 2008 advised to maintain the cess and royalty at old rate. However, the issue was raised and referred among various ministries and had been repeatedly sent for opinion of the MoL&J and AGI who reiterated their earlier opinion.

(Paragraph 7)

- (iv) Financial capability of CoSB was evaluated in 1995 before award of contract to it. After assignment (March 1999) of work to NTS by CCEA for negotiation on the terms and conditions and signing of PSC with CoSB, NTS decided (March 2000) to assess the updated financial strength of the CoSB. This was carried out in June 2000 and NTS gave its go ahead for processing the PSC in February 2001. Thereafter, assessment of financial capability was again carried out in October 2004 and January 2012. Delays in taking final decision on various matters and raising of already settled issues led to the need for fresh assessments of the financial capability of CoSB, which contributed to further delays which were avoidable.

(Paragraph 8)

- (v) While approving the proposal in March 1999, CCEA approved conclusion of contract keeping the cess and royalty at the levels prevailing at the time of inviting bids. Despite the above decision of CCEA and the fact that PSCs for rest of 11 fields from the bundle of 12 fields offered simultaneously under similar terms and conditions had been finalised and signed till the end of 2004, opinion of AGI to go for finalisation of PSC and recommendation of NTS (April 2006) for conclusion of PSC, the case was

sent (January 2008) to CCEA for an appropriate decision. CCEA Note was returned by the Cabinet Secretariat to obtain unambiguous recommendations of NTS. NTS forwarded its unambiguous recommendations in March 2008. MoPNG submitted (June 2008) the Note to CCEA, agreeing with NTS recommendations. Cabinet Secretariat again returned (July 2008) the Note to make certain modifications/corrections relating to some deficiencies. A proposal for modification in the Note to CCEA was approved on 09 July 2008. However, the matter was again re-examined in MoPNG and it was decided that NTS should consider the matter once again, with a view to analysing in detail the various alternatives available along with their financial implications. Thereafter no final decision was taken.

(Paragraph 9)

- (vi) ONGC had created facilities in Ratna R-12 field at a cost of ₹ 472.55 crore. These facilities were used by the Company for production since February 1983. Following stoppage of production from the field (September 1994), ONGC did not maintain the facilities though specific directions were issued by MoPNG/NTS with an acceptance to reimburse the cost by the Consortium Partners. ONGC's own inspections reported the facts of serious deterioration in the condition of the facilities and 'Plundering and looting' of platform utilities and equipment. The estimated repair cost for the existing facilities at current exchange rates (September 2015) would be ₹ 1085.70 crore.

(Paragraph 10)

- (vii) For want of requisite details, Audit attempted to work out the financial implications on indicative basis assuming that (a) PSC for R&RS mid-sized fields could have been finalised in 2001 along with nine other small sized fields and (b) the production from the R&RS fields would have started in four years eight months (eight out of nine fields started production and maximum time taken to start production in these fields was four years eight months) from October 2005. In this scenario, based on development plan submitted by CoSB to GoI, domestic production of 56 mbbls of Crude Oil (valuing ₹ 25650 crore) and 920 mmscm of Natural Gas (valuing ₹ 550 crore) had been deferred during October 2005 to March 2015. GoI's take to the tune of ₹ 1050 crore on account of royalty and cess on Crude Oil and ₹ 55 crore towards royalty on Natural Gas for the said period also remained deferred and unrealised.

(Paragraph 12)

1. Introduction

1.1. Ratna and R Series (R&RS) medium sized hydrocarbon fields are located in the Western Offshore area (at an average water depth of 45 metres) 130 kilometres southwest of Mumbai city. These fields were discovered and partially developed by the Oil and Natural Gas Corporation Limited (ONGC) in November 1979. ONGC had drilled 35 exploratory wells and 9 development wells and had installed one well cum production platform in one of the fields viz. R-12. Commercial production of Crude Oil and Natural Gas was started by ONGC from R-12 field in February 1983.

1.2. The Government of India (GoI) decided in 1991 for inviting private parties in upstream oil sector. In 1993, GoI issued notice inviting offers for development of R&RS fields. ONGC stopped production of Petroleum from these fields from September 1994. The Cabinet Committee on Economic Affairs (CCEA) approved (February 1996) award of contract in respect of R&RS fields to a Consortium of Successful Bidders (CoSB). Accordingly, the Ministry of Petroleum and Natural Gas (MoPNG) issued (March 1996) a Letter of Intent (LoI) for award of R&RS fields to CoSB. Thereafter, CCEA approved (March 1999) negotiation to be held by a Negotiating Team of Secretaries (NTS) for finalising and concluding Production Sharing Contract (PSC) within six months.

1.3. However, the process of reaching upto a decision to finalise the PSC was not completed despite more than 16 years having passed (as of August 2015) since the CCEA approval for entering into negotiations with CoSB. Deliberations on some technical clauses were held till 2004 between MoPNG and the Ministry of Law and Justice (MoL&J). Thereafter, issue of royalty and cess had been raised by MoPNG and NTS which had been frequently referred among various Ministries and sent for opinion of MoL&J and the Attorney General of India (AGI) multiple times. Simultaneously, these references to various agencies and consequent delays had led to re-assessments of financial capability of the bidders at various points of time. No final decision on signing of PSC for R&RS fields had been taken as yet (August 2015). As production of Crude Oil and Natural Gas from R-12 field was stopped in September 1994, following the decision of GoI to develop the fields further under private sector participation, and final decision had not been taken, there was no production from these fields for more than 20 years, as discussed in detail in subsequent paragraphs. GoI also could not realise the revenue in the form of royalty, cess and profit petroleum for this duration. The production facilities of R&RS fields were also not maintained by ONGC which resulted in deterioration in the condition of the facilities with an avoidable repair liability.

2. Background

2.1 Under the policy of economic liberalisation introduced in 1991, GoI took initiatives to attract investment capital in the upstream oil sector to augment the production of oil and gas in the context of the growing deficit between demand and availability of oil and Natural Gas in the country and the need for large investments in this sector.

2.2 For this purpose, GoI adopted (1992) a twin strategy of putting on offer exploration blocks to the private sector as well as discovered medium and small-sized fields to the private sector/ joint sector for development on the basis of international competitive bidding.

2.3 The main reasons for offering discovered fields for private/joint sector development were that:

- (i) the declining trend in domestic production of Crude Oil had come at the time of severe balance of payment crises and had exacerbated the foreign exchange resource crunch; and
- (ii) small sized oil and gas fields discovered by National Oil Companies (NOC) in the different basins of the country over the past few years had not proved economically feasible to develop.

2.4 In the first round of bidding for discovered fields in 1992, five medium and fifteen small sized fields were awarded and contracts signed. The medium sized fields awarded were Ravva (KG Offshore), Panna and Mukta (Bombay Offshore), Mid & South Tapti (Bombay Offshore) and Kharsang (Arunachal Pradesh). In the medium-sized fields, NOCs had 40 *per cent* participating interest (PI), while the small-sized fields were to be developed entirely by the private sector.

2.5 In 1993, GoI issued Notice Inviting Offers (NIO) for the development of eight medium sized fields including R&RS fields and thirty-three small sized discovered oil and gas fields in India. As per the terms and conditions for the development of medium sized fields, a Joint Venture was to be formed which could be either a venture incorporated in India with equity participation upto a maximum of 51 *per cent* by the bidding company or it could be an unincorporated venture, with PI of ONGC/OIL being 40 *per cent*.

3. Ratna and R-Series fields

3.1. ONGC discovered oil in R-12 structure of R&RS fields in November 1979 and started commercial production of oil in February 1983 which continued up to September 1994. 35 exploratory and nine development wells were drilled in R&RS fields and one well cum production platform was installed.

3.2. At the time of bidding, these fields had cumulative total oil production of 12.33 million metric tonnes (MMT) and estimated cumulative total gas production of 1285 million metric standard cubic metres (mmscm) over a project life time of 22 years. Further, the reserve estimated at the bidding stage were expected to increase substantially through Exploration and Production activities, as happened in the case of similar fields in the neighbourhood.

4. Bidding/Award of contract for Ratna and R-Series fields

4.1. GoI invited (1993) bids¹ for development of discovered oil and gas fields including R&RS fields. Bids in respect of R&RS fields were received (31 March 1994) from two consortia of bidders.

4.2. A joint team from the Directorate General of Hydrocarbons (DGH) and ONGC evaluated the technical contents of the bids, sought clarifications from the bidders, and held direct negotiations with them. Thereafter, the bidders submitted final bids on 08 February 1995. DGH and ONGC conducted a detailed techno-economic analysis and arrived at the conclusion that R&RS fields be awarded to CoSB after resolving the following issues:

- (i) R-12 structure of R&RS fields with existing facilities would be handed over free of cost;
- (ii) Nhava² base facilities of ONGC would be utilised free of cost;
- (iii) The assumption of the bidder that oil/gas would be delivered at Heera needs to be examined by ONGC for its techno-economic feasibility; and
- (iv) Any increase in committed capex would neither be cost recoverable nor would be shared by ONGC.

4.3. An Empowered Committee of Secretaries (ECS) at its meeting held on 26 December 1995 recommended the award of R&RS fields to CoSB subject to the following conditions:

- (i) the consortium should be informed that the terms and conditions for the use of ONGC storage facility at Nhava would need to be directly negotiated by the consortium with ONGC and no commitment be given on this;
- (ii) CoSB should be informed that the gas could be received by ONGC at Heera complex with certain modifications subject to settlement of other commercial issues with it. Crude Oil had to be evacuated through SBM³ as ONGC would not receive oil at Heera complex upto 2001-02 due to capacity constraint;
- (iii) CoSB should be informed that creation of appropriate storage facility for Crude Oil at the offshore loading point would be at the cost of CoSB and could be charged as a project cost; and
- (iv) CoSB to be asked to delete the phrase 'any abnormal situation' from their bid to ensure firmness of capital and operating expenditure figures submitted by them.

4.4. CCEA approved (February 1996) the recommendations (26 December 1995) of ECS for award of contract in respect of R&RS fields to CoSB subject to the above conditions alongwith the time schedule that PSC would be negotiated and finalised within six months of the receipt of CCEA approval. Accordingly, MoPNG issued (12 March 1996) letter of award

¹ 8 medium (including Ratna and R-Series field) and 33 small sized fields.

² Jawaharlal Nehru Port, known as Nhava, is the largest container port in India. It is located south of Mumbai.

³ A Single buoy mooring (SBM) is a loading buoy anchored offshore, that serves as a mooring point and interconnect for tankers loading or offloading gas or liquid products.

to CoSB intimating the decision of GoI for award of contract for development of R&RS fields.

4.5. The contract negotiations with the successful bidders of small and medium sized fields were not finalised from March 1996 to February 1999 due to various investigations relating to the award of contracts in the 1st round, public interest litigations before the Delhi High Court and the Supreme Court and ONGC's request to compensate it for the past cost.

4.6. CCEA approved (March 1999) a proposal of MoPNG for:

- (a) concluding contracts in respect of the 12 discovered fields awarded under the second round in 1996 after due negotiations were held with the parties by the NTS, consisting of
 - Secretary, MoPNG;
 - Finance Secretary;
 - Secretary Expenditure;
 - Secretary, Department of Economic Affairs (DEA);
 - Secretary, Department of Legal Affairs (DLA) and;
 - The Chairman and Managing Director (CMD) of ONGC.
- (b) to continue the policy of offering discovered fields for private participation, *as hitherto*, but with bids being invited by National Oil Companies (NOCs);
- (c) MoPNG evolving modalities for past cost compensation separately with the MoF and the Planning Commission, independent of the issue under consideration herein; and
- (d) Keeping the cess and royalty levies in respect of awarded discovered fields at the levels prevailing at the time of inviting bids with the flexibility to provide for increased royalty, if required by State Government, by adjustment from cess.

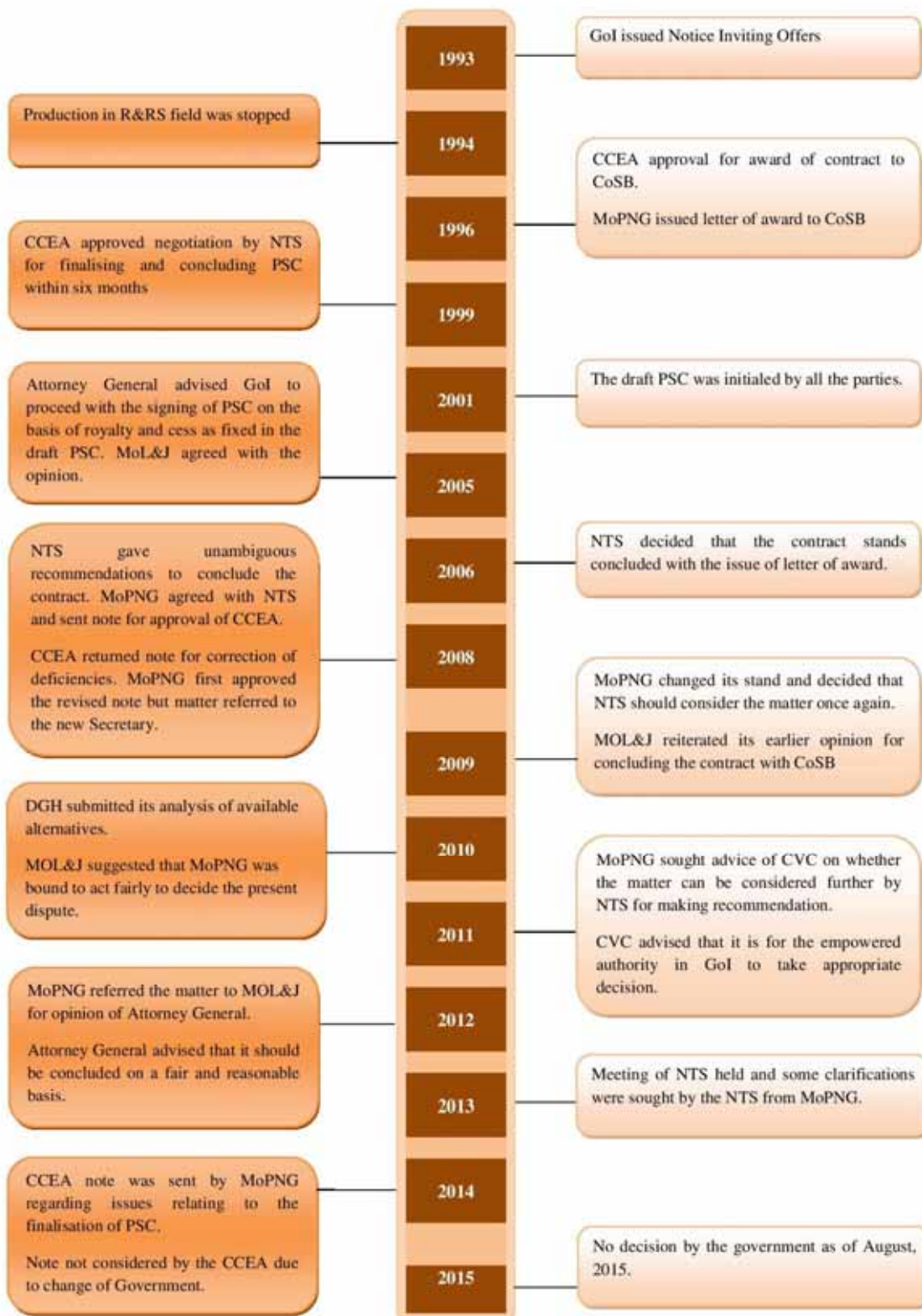
In its approval, CCEA also prescribed that PSC should be finalised within six months of the approval.

4.7. In Report no. 5 of 1996 relating to audit of first round of bidding of Panna Mukta and Tapti fields, the Comptroller and Auditor General of India (C&AG) had observed (December 1996), *inter alia*, against freezing of the rates of royalty and cess and recommended to keep these on *ad-valorem* basis. Pursuant to this, MoPNG put up (February 1999) a proposal to CCEA for approval to keep the cess and royalty levies in respect of awarded discovered fields at the level prevailing at the time of inviting bids. CCEA approved the proposal in March 1999 for 11 small sized blocks and one medium sized block *i.e.* Ratna R Series. CCEA, thus, decided to overrule the audit recommendations in 1999.

4.8. After CCEA's decision, PSC in respect of nine small sized fields were signed in February 2001. For the remaining two small sized fields, PSC were signed in February 2004. Royalty and cess in respect of these eleven fields were kept fixed at the level prevailing at the time of inviting bids. However, PSC for R&RS fields had not been finalised till date (August 2015).

Sequence of events for finalising and signing of PSC by MoPNG is indicated on the chart given below:

SEQUENCE OF EVENTS IN LAST 22 YEARS



5. Deliberations by Negotiating Team of Secretaries

5.1 CCEA approved (March 1999) holding due negotiations with the parties by the NTS. Audit noticed that NTS held 20 meetings between November 1999 and June 2013. Further, during the period from May 2010 to July 2015, only two meetings were held and on both occasions, it was decided to hold another meeting to take a final decision in the matter.

5.2 The NTS kept setting targets for completion of negotiations and signing of PSC. In November 1999, the NTS decided that the entire process of negotiations would be completed by 15 February 2000. In March 2000 meeting, NTS decided that negotiations should be completed by 30 April 2000 and in 7 September 2000 meeting, it was decided by NTS to conclude the negotiation process by 18 September 2000. However, NTS did not adhere to its own targets for completion of the negotiations due to reasons as discussed in succeeding paragraphs.

5.3 MoPNG replied (August 2015) that NTS concluded the process of finalisation of PSC in respect of 11 small sized fields and undertook series of meetings examining several complex commercial, technical, financial and legal issues related to the negotiations and bringing convergence on these issues.

5.4 Reply should be seen in the light of the fact that CCEA approval prescribed a time of six months for finalisation of PSC and final decision in respect of Ratna and R Series fields had not been taken even after 16 years of the CCEA approval.

6. Deliberations on Techno-Legal Issues

6.1 During discussion in its meeting held on 20 February 2001, NTS gave go ahead to process the PSC for R&RS fields for approval and signing, after financial capability of the CoSB had been analysed and accordingly the draft PSC was initialled by all the parties in April 2001.

6.2 Review of MoPNG's files revealed that while forwarding the draft PSC to MoL&J for vetting, MoPNG noted as follows:

- a) CCEA had approved finalisation of PSC after due negotiations by NTS;
- b) NTS approved that the Model PSC would be the basis for negotiation and finalisation of PSCs;
- c) CoSB had also confirmed acceptance of all issues raised by NTS;
- d) NTS had also approved the consequential changes; and
- e) CVC had given no objection if MoPNG desired to proceed further to take a view on proposed signing of PSC of R&RS fields.

6.3 Audit observed that MoL&J had informed (29 January 2002) MoPNG that the draft PSC appeared to be formally in order from legal angle subject to (i) MoPNG exercising

powers under Petroleum and Natural Gas Rules 1959 (PNG Rules) for grant of petroleum Mining Lease (ML) for 25 years instead of 20 years and grant of contract area in excess of 250 square kilometres (sq. kms.); (ii) clarity to be brought out in PSC regarding the party responsible for bearing 'all costs and risks at the delivery point' and (iii) confirmation on certain other changes suggested by MoL&J. MoPNG, after reviewing MoL&J's advice, forwarded (18 February 2002) the issue again to MoL&J for consideration and advice on the issues relating to the delivery point and ML. MoL&J responded (22 April 2002) that they had no legal objection for grant of ML for a period of 25 years and reiterated its stand that necessary amendment in PSC may be carried out specifying the name of the party responsible for bearing the costs and risks relating to delivery point to avoid dispute in future.

6.4 Audit noticed that a series of discussions were held thereafter within MoPNG, and also with MoL&J/MoF/CoSB (between May 2002 to September 2004) for finalising of PSC wherein the issue relating to the loan agreement signed by CoSB partner, financial capability of CoSB, applicability of rate of cess and royalty on Crude Oil and reimbursement of maintenance cost to ONGC were raised. The three ministries (MoPNG, MoL&J and MoF) kept on deliberating these issues. It was in its meeting of 15 April 2005 that NTS authorised MoPNG to take necessary action on these issues including asking confirmation from CoSB on applicability of cess and royalty.

7. Issue of royalty and cess

7.1 CCEA had approved (9 March 1999) freezing of the rates of levy of royalty and cess prevailing at the time of bidding and not at the time of execution of PSC. This had been applied in 11 other fields (excluding R&RS fields) in respect of which GoI had decided in 1996 to award contract for development of fields. PSCs for these fields had been signed accordingly between February 2001 and February 2004.

7.2 As per the draft PSC initialled by all the parties (including the successful bidder) in April 2001, royalty and cess were ` 528 per metric tonne and ` 900 per metric tonne of Crude Oil respectively. Levy of royalty in case of Natural Gas was to be kept at the rate of 10 *per cent* of wellhead value of gas. These were the rates that were prescribed at the time of bidding.

7.3 During deliberations in April 2005, NTS observed that a long time had elapsed and there had been significant change in the oil price market. NTS advised that CoSB may be asked to confirm payments of statutory levies at the current level rather than those prevailing in 1995. It recommended that the consequential changes to the PSC subsequent to the above may be initialled after vetting by MoL&J.

7.4 However, CoSB did not agree to the change in the rates of royalty and cess and stuck to the old agreed rates. ONGC, on its part relating to 40 *per cent* PI initially did not agree (2 May 2005) to current rates but subsequently agreed (4 May 2005) to pay royalty and cess at the current rates.

7.5 In June 2005, AGI opined, that *“Government cannot take a position contrary to what it did in regard to 11 other fields in the years 2001 and 2004. This stand would not be just, fair and reasonable. There is no basis for discriminating against one of the twelve fields in fixation of royalty and cess different from the eleven others where it agreed to lesser rate.”* AGI further stated, *“there will, in any event clearly be a case of discrimination and violation of Article 14 of the Constitution. Further no good reason appears as to why ONGC supports the increase in the royalty and cess when it would be one of the beneficiaries of lower cess/royaltyxxxx.”* Moreover, representative of MoL&J stated (19 April 2006) that *“the NTS would be going beyond its mandate in negotiating any material changes such as rates of cess and royalty through the PSC.”*

7.6 Thus, the Government was advised (June 2005) by AGI to proceed with signing of PSC in relation to R&RS fields, with the successful bidder on the basis of royalty and cess as fixed in the draft PSC. Representative of MoF agreed in principle, in the NTS meeting (19 April 2006), that cess and royalty on Crude Oil be maintained at the old rate. NTS decided (19 April 2006) that based on the legal opinion by AGI and MoL&J, the contract would stand concluded with the issue of award letter in March 1996 and statutory levies should be maintained at the old level, ONGC be given 45 days to initial the changes to the draft PSC and finalise other subsidiary agreements/contracts with CoSB partners. However, MoPNG decided (24 August 2006) that clear concurrence of Finance Minister be obtained.

7.7 MoF informed (09 August 2007) that MoPNG may consider issue of necessary notification, in consultation with MoL&J, prescribing the applicable rate of cess and royalty, in accordance with the terms of concluded contract, on Crude Oil produced in R&RS fields awarded under PSC to CoSB.

7.8 NTS (20 March 2008), which also had as its member the Secretary (Law), reiterated its earlier stand of maintaining old rate of cess and royalty with old cost recovery limit (CRL)⁴.

7.9 MoPNG re-examined the matter and decided (21 July 2009) that matter may be considered by NTS once again to analyse all alternatives available. MoPNG observed that NTS had not analysed in detail the alternatives available and had only reiterated its earlier recommendation. This observation of MoPNG may be seen in the light of the fact that NTS was chaired by its own Secretary (MoPNG) and was having representation of other Secretary level officers of GoI.

7.10 Meanwhile, in response to advice sought by MoPNG, MoL&J stated (17 December 2009) that the award of contract for the development of R&RS fields on 12 March 1996 had been duly concluded and had acquired finality. It was also emphasised that the only option

⁴ *Cost Recovery Limit indicates costs incurred relating to the construction and/or establishment of such facilities as are necessary to produce, process, store and transport Petroleum from within the Existing Discoveries to enable Contractor to achieve the production profile of Petroleum. The CRL for CoSB was USD 298.17 million.*

available to GoI for consideration was the option, which specifies levying old rates of cess and royalty and old CRL.

7.11 NTS asked (7 April 2010) DGH to prepare a comparative and consolidated statement regarding revenues, which would accrue to GoI applying old rates of cess and royalty and current rates of cess and royalty with production profile of the discovered field, so as to know the exact stake of GoI. DGH submitted (December 2010) analysis of GoI's take under various scenarios in its report. However, DGH in its report stated that GoI's share of profit could not be reliably estimated as it depended on multiple dynamic variables and any estimates would be indicative only.

7.12 In November 2011, it was advised by the Finance Secretary, who was also one of the members of the NTS, that the parameters of the bid undertaken so many years earlier are dramatically different today and the PSC had not been entered into for such a long period, and it would be appropriate that fresh opinion of the Attorney General be obtained, on whether GoI was obliged to enter into a Production Sharing Contract with CoSB. In response, MoPNG referred to MoL&J's opinion dated 30.12.2009 that *"we may reiterate our earlier stand confirming the opinion of the earlier Attorney General. There is no need to refer it to present AG again"* and requested NTS to decide upon the course of action in the matter.

7.13 In February 2012, the Finance Secretary reiterated his earlier queries and suggested that MoPNG should have a fresh look into the matter and sought fresh opinion from the AGI through MoL&J. MoPNG referred the matter again to MoL&J for opinion of the AGI. The AGI, in his opinion in October 2012, stated that the matter had been pending for a very long time and it was advisable that it should be concluded on a fair and reasonable basis as suggested.

7.14 Finally, CoSB agreed (August 2012) to accept the payment of cess and royalty at current rates with updated cost recovery limits (CRL) based on current costs to expedite the formal execution of the PSC. CoSB, however, clarified that the rates would remain fixed during currency of the PSC.

7.15 MoPNG, while agreeing to the facts of the case, in reply, admitted (August 2015) that the issue of royalty and cess definitely delayed finalisation of PSC for R&RS fields and the issue has been a major factor which could not be resolved to satisfaction of all the stakeholders.

7.16 Audit observed that there were clear opinion on the issue of royalty and cess by the AGI and MoL&J. However, the issue was repeatedly raised and referred among various ministries and had been sent for opinion of MoL&J and AGI who reiterated their earlier opinion. This led to avoidable delay.

8. Re-assessing financial capability of the bidder

8.1 Audit noticed that the Notice Inviting Offer (NIO) did not indicate any criteria for evaluating financial capability. However, bids of both the bidders were evaluated by DGH and ONGC and based on this valuation, award of contract to CoSB was recommended (December 1995) by an Empowered Committee of Secretaries (ECS) for the approval of CCEA. CCEA approved (February 1996) the recommendations and Letter of Award of contract for R&RS fields was issued in favour of CoSB on 12 March 1996.

8.2 However, after assignment (March 1999) of work to NTS by CCEA for finalisation of PSC, NTS decided (March 2000) to assess the updated financial strength of the CoSB. Accordingly, DGH carried out (May 2000) assessment of financial capability and informed (September 2000) NTS that net worth of CoSB was positive and it had sound financial health. Accordingly, NTS decided (February 2001) to process the PSC. However, final decision was not taken due to techno-legal issues, as discussed in para 6 above.

8.3 Later, in August 2004, NTS again asked DGH to carry out assessment of financial capability of CoSB. Based on the inputs provided (October 2004) by DGH and MoF, NTS concluded that CoSB was financially capable to meet its obligations as envisaged in PSC. However, before processing of PSC for finalisation, NTS raised (April 2005) the issue of applicability of rates for cess and royalty and final decision had not been taken as discussed in paragraph 7 above.

8.4 In NTS meeting (October 2011), the issue of negative net worth of the successful bidder partner was again raised and it was decided to freshly ascertain the present net worth of CoSB. The issue was further raised on two occasions by one of the members of the NTS through letters to MoPNG (November 2011 and February 2012). Meanwhile, in January 2012, the CoSB partners submitted the net worth certificates issued by their statutory auditors, indicating a positive and higher net worth than that ascertained in earlier assessments.

8.5 MoPNG in its reply (August 2015) stated that NTS decided (March 2000) to assess the updated financial status of all awardee companies in respect of 12 fields and matter of financial capability was accepted by NTS after obtaining opinion from ICICI Limited. The issue of re-assessing financial capability of CoSB came up again only during the NTS meeting of October 2011. It further detailed the circumstances leading to re-assessment of financial capability of CoSB.

8.6 MoPNG's contention of re-assessments of financial capabilities may be viewed in the light of the fact that this exercise was conducted in the years 2000, 2004 and in 2011. Delays in taking final decision on various matters and raising of already settled issues (refer paragraphs 6 and 7) led to repeated assessments of the financial capability of CoSB which contributed to further avoidable delays.

9. Process of CCEA approval

9.1 CCEA in March 1999 approved conclusion of contract keeping the cess and royalty at the levels prevailing at the time of inviting bids and directed NTS to conduct negotiations and finalise PSC within six months of the CCEA approval. Further, PSCs for the rest 11 fields from the bundle of 12 fields offered simultaneously under the similar terms and conditions had been finalised and signed by the end of 2004. As pointed out in Para 7, matter of applicability of cess and royalty at current rates was raised in April 2005 by NTS. AGI opined against the stand taken by NTS and suggested to go for finalisation of PSC. NTS also recommended (April 2006) conclusion of PSC with CoSB. However, MoPNG again decided (4 October 2007) that as a lot of time has elapsed since the last direction/approval of the CCEA as well as the announcement of the discovered field policy, the case may be again submitted to the CCEA for an appropriate decision on merits. Accordingly, MoPNG submitted (January 2008) a Note to CCEA to take a decision whether recommendation (April 2006) of NTS may be accepted.

9.2 Audit noticed that the Note was returned (21 February 2008) by the Cabinet Secretariat to MoPNG to obtain unambiguous recommendations of NTS, particularly in the light of, *inter alia*, the following:

- a) It appeared that in the facts and the circumstances of the case, there was a scope for differing interpretations of the legal position and, hence, the need for the clear recommendations of NTS;
- b) The Note was more in the nature of a chronicle of events and did not clearly identify the issues and record the position of MoPNG on them, and, the alternate courses of action available in the list of conflicting legal opinions had not been brought out in the Note after taking into account all the pros and cons.

9.3 NTS, in its meeting in March 2008, deliberated on these issues and gave unambiguous recommendations which, *inter alia*, included:

- a) the contract (*viz.* PSC) stood concluded with the issue of Letter of Intent in March 1996;
- b) there was no case of lack of unanimity requiring further interpretation by NTS;
- c) no alternative course of action was called for as there were no conflicting legal opinions;
- d) PSC should be signed as per draft PSC with old rates of cess and royalty as the contract having been concluded was a legally settled issue.
- e) old rates of cess and royalty with old cost recovery limit should be applied without any provision for upward revision on account of higher prices.

9.4 MoPNG submitted (June 2008) the Note to CCEA, agreeing with the NTS recommendations, and requested to consider the issues and approve the signing of PSC with CoSB at old rates of cess and royalty. Cabinet Secretariat again returned (July 2008) the Note

and asked MoPNG to make certain modifications/corrections for some deficiencies of reference and removal of unwanted details observed in the Note.

9.5 Audit noticed that as advised by the Cabinet Secretariat, a proposal for modification in the Note to CCEA was approved by the Minister, PNG on 09 July 2008. However, it was instructed by the Minister, PNG on 23 July 2008, that since the new Secretary is assuming charge with effect from 01 August 2008, the latter may examine the issue contained therein afresh and resubmit the file. Thereafter the matter was again re-examined in MoPNG and it was decided that NTS should consider the matter once again, with a view to analysing in detail the various alternatives available along with their financial implications.

This indicated change of stance by MoPNG when:

- (i) the Secretary, MoPNG was the Chairman of NTS;
- (ii) MoPNG had conveyed its agreement with the views of NTS while re-submitting the Note for the approval of CCEA in June 2008 only; and
- (iii) Cabinet Secretariat had returned the Note (July 2008) for some modifications/corrections only.

9.6 MoPNG replied (August 2015) that the matter was re-examined by it and it was observed that NTS had earlier not analysed in detail the alternatives available and had just reiterated the earlier recommendations. Thus, in order to fully comply with the directions of Cabinet Secretariat, NTS should consider the matter once again with a view to analyse in detail the various alternatives available along with the financial implications. It then detailed various alternatives considered for examination by NTS in the meeting held on 21 July 2009. Thereafter, MoPNG narrated the sequence of events. It mentioned about the next NTS meeting which was held subsequently in June 2013 in which number of issues were raised similar to the ones discussed in the past. MoPNG further informed that a CCEA Note dated 02 May 2014 was sent to the Cabinet Secretariat regarding issues relating to the finalisation of PSC for R&RS fields. However, due to change of Government in May 2014, the circulated Note was not considered by CCEA at that time.

9.7 MoPNG's reply should be seen in the light of the fact that NTS had categorically submitted (March 2008) clear recommendations, as desired by the Cabinet Secretariat and thereafter the same were approved and forwarded by MoPNG (June 2008) for consideration of CCEA. CCEA returned (July 2008) that Note for correction of some deficiencies in it. MoPNG, also approved the revised Note on 09 July 2008. However, MoPNG's changed stance again led to series of deliberations and clarifications which unnecessarily delayed the matter and has not yet (August 2015) resulted in any decision.

10. Non-maintenance of idle facilities

10.1 ONGC had created facilities in Ratna R-12 field at a cost of ` 472.55 crore. These facilities were used by the Company for production since February 1983. It had obtained a Mining Lease (ML) for the field in 1986 which was valid upto February 2001. When the field

was offered for private participation, ONGC stopped production with effect from September 1994. After adjusting the tax benefits and revenue enjoyed by ONGC from the field, the net past cost that remained to be compensated to ONGC, was ₹ 270.46 crore. Need for settlement of this compensation amount has been highlighted in the earlier audit reports⁵. Though CCEA had directed (March 1999) MoPNG to evolve modalities for past cost compensation in consultation with MoF and the Planning Commission, the same was yet to be finalised (March 2015).

10.2 Following stoppage of production from the field (September 1994), ONGC did not maintain the facilities. In this regard, audit analysis of issue relating to the deterioration of facilities is given below:

- a) In March 2002, ONGC informed MoPNG that pending signing of PSC between GoI and CoSB, facilities at R&RS fields lying in abandoned condition would require scheduled maintenance and, hence, requested (April 2002) for reimbursement of expenditure on maintenance. An inspection team of ONGC noticed (May 2002) serious deterioration of facilities including utilities and pipelines which were found to be totally rusted. ‘Plundering and looting’ of platform utilities and equipment in the absence of appropriate security system was also noticed.
- b) A team representing CoSB along with ONGC officials also visited (2007) the facilities and observed that the top side structure of platform of R-12 field as well as equipment, piping were severely rusted.
- c) Oil Industry Safety Directorate (OISD) observed (February 2010) that (i) the platform and associated facilities were in very bad shape – widespread corrosion, rusted utilities and pipes and non-operative x-mas valves, missing piping / equipment *etc.*, and (ii) if this facility was to be put to use, it would require detailed examination for major repair/refurbishment.
- d) ONGC informed (August 2010) DGH that in view of the fact that bidding of R&RS fields had taken place, it discontinued field operation and accordingly no operation and maintenance activity had been undertaken since 1994/1995. Though ONGC prepared (August 2010) an estimate for the repair /refurbishment, no action was taken for actual repair.

10.3 ONGC applied (December 2002) for re-grant of ML for another 20 years which had not been granted by MoPNG as yet (March 2015).

10.4 Audit noted that one of the main reasons for not undertaking repair and maintenance activities by ONGC was the issue of non-resolution of compensation for such activities. The issue is discussed below:

- a) ONGC informed (March 2002) MoPNG that pending signing of the contract between GoI and CoSB, facilities at R&RS fields lying in abandoned condition would require

⁵ *Audit Report no.5 of 1996 of Union Government-Commercial (Paragraphs 2.15 to 2.20) and the follow up Report no.6 of 2005 of Union Government Commercial (Paragraph 3.3.4 (i))*

scheduled maintenance and, hence, requested (April 2002) for the reimbursement of expenditure on maintenance.

- b) ONGC informed (August 2002 and April 2003) MoPNG of the necessity for undertaking repairs of certain facilities, which, if not undertaken, might become a safety hazard and requested for adjustment of repair cost through cost recovery.
- c) ONGC informed (December 2004) MoPNG that as a *de-facto* custodian of the field, it had incurred ₹ 6.92 crore and USD 3.35 lakh towards maintenance of the field during the years 1993 to 2002.
- d) ONGC stated (August 2010) that the estimated repair cost for the existing facilities would be ₹ 780 crore (approximately i.e. USD 159.386 million plus ₹ 30.25 crore).

Audit observed that, at average exchange rate (1USD = ₹ 66.22) for September 2015, this cost would increase to ₹ 1,085.70 crore.

10.5 In this connection, Audit further observed that NTS had decided (October 2004) that ONGC would be reimbursed the maintenance cost incurred between the date of award and effective dates of PSCs. CoSB also agreed to reimburse the cost of maintenance of the facilities (January 2006). Besides, even in the event of actual award, ONGC would continue to hold 40 *per cent* share in the field and proper maintenance of the asset was in its own interest.

10.6 Thus, while PSC remained to be finalised, the existing idle facilities deteriorated with passage of time. Non-maintenance of facilities is likely to place an additional financial burden on development of the field, which could have been avoided. It remains unclear whether this additional financial burden would be cost recoverable, in which case, it would reduce the revenue share of government as well as of ONGC.

10.7 In reply to the observation issued by audit, ONGC stated (March 2014) that:

- a) ONGC had applied for re-grant of ML in December 2002, but the same was not responded to by GoI. Hence, ONGC was not liable to maintain the installations as the field/ facilities were no longer the property of ONGC but only lying with ONGC after award to a JV. ONGC added that it had been regularly highlighting the issue of repair/maintenance of the facilities through its various communications during 2002-2004 and during the meetings of NTS, no firm decision in this regard had ever been conveyed to ONGC.
- b) Since there had been neither any decision on past cost reimbursement (in respect of discovered fields) nor on conclusion of PSC for R&RS fields and in light of non-reimbursement of expenditure already incurred on inspection / maintenance, it was not prudent for ONGC to incur any further expenditure on R&RS fields.
- c) R-12 field is located almost 40 kms. south of its nearest oil complex *viz.* Heera complex. Offshore fields were being monitored by Coast Guards, 'Offshore Defence Advisory Group (India)' (ODAG), *etc.* and even then, instances of unauthorised

approach towards working installations were reported over which ONGC had no control.

10.8 Reply of ONGC needs to be viewed against the fact that though ONGC had stated that the R&RS fields and the facilities were no longer its asset, in the annual accounts, it showed that it was the owner of this field and provided abandonment liability in the accounts. Thus, the reply was contradictory to financial statement of ONGC.

Further, MoPNG instructed (August 2002 and October 2004) ONGC to maintain the facilities and NTS also decided (October 2004) that ONGC would be reimbursed the maintenance cost incurred between the date of award and effective date of PSC. Even after these instructions/decisions, ONGC failed to maintain the facilities that led to deterioration. CoSB also agreed (January 2006) to reimburse the cost of maintenance of facilities. Even after such acceptance, ONGC did not maintain these facilities. Further, as ONGC would continue to hold 40 *per cent* share in the field, as a prudent measure, it should have maintained these assets, which would have reduced the burden of repair cost. Also, linking the maintenance of the facilities with the non-reimbursement of past cost was not justified since the modalities for reimbursement of past cost were to be decided by MoPNG in consultation with MoF and Planning Commission.

10.9 Thus, non-maintenance of facilities by ONGC at R&RS fields, even after specific directions from MoPNG/NTS was not justified and it led to deterioration of the assets with an avoidable repair cost.

10.10 MoPNG in its reply (August 2015) stated that the issue of reimbursement of past cost to ONGC is another significant issue in making the field operational and monetizing the field reserves. The issue of reimbursement of past cost to ONGC, including the cost incurred by ONGC on maintenance & security of these fields over last 21 years subsequent to publishing the NIO would require consideration based on number of possible alternatives. It further stated that a salient issue has been pointed out by Audit regarding non-maintenance of the idle facilities in the field.

10.11 Reply of MoPNG needs to be viewed in light of the fact that MoPNG itself was responsible for resolution of issues regarding reimbursement of past cost to ONGC which had been inordinately delayed. Non-maintenance of the installations by ONGC over last two decades had led to their deterioration and estimated repair cost of ` 1085.70 crore was avoidable.

11. Impact of delays in decision making

One of the fields (*viz.* R-12) in R&RS fields was a producing one. To augment production of oil and gas in the context of the growing deficit between demand and availability of Crude Oil and Natural Gas in the country and to attract investment of capital in the upstream oil sector from private entrepreneurs, GoI issued Notice Inviting Offers (NIO) for the development of eight medium sized fields including R&RS fields and 33 small sized

discovered oil and gas fields in India. On issue of such an offer, ONGC stopped production from R-12 field with effect from September 1994. The initial in-place reserves of hydrocarbons estimated (1993) in R&RS fields were 57.60 MMT of Crude Oil. The reserves estimated at the bidding stage were expected to increase substantially through Exploration and Production activities. Further, as per the proposed development plan of CoSB, expected production from R&RS fields over a period of 22 years was 90.39 million barrels (mbbls) of Crude Oil and 1285 million metric standard cubic metre (mmscm) of Natural Gas. The inordinate delay in award of the field had led to deferment of such production.

12. Financial implications

India is a net importer of Crude Oil and Natural Gas. Any domestic production of Crude Oil and Natural Gas would have a direct implication of reducing the equivalent import of these resources. Accordingly, stopping the production from the R&RS fields and GoI's continued indecision for their finalisation had resulted in deferment of domestic production of Crude oil and Natural Gas from Ratna R Series fields and consequent avoidable imports. Further, GoI's take in the form of cess, royalty and profit petroleum had not been received and been deferred.

Audit attempted to work out the financial implications in the scenario if the commercial production from R-12 field of R&RS fields would have continued from October 1994 onwards, as was being operated by ONGC earlier. However, these financial implications could not be computed as MoPNG could not provide business plan/details of quantities of oil and gas estimated to be produced by the ONGC from these fields from 1994 onwards.

For want of requisite details, Audit attempted to work out the financial implications on indicative basis, assuming that (a) PSC for R&RS mid-sized fields could have been finalised in 2001 along with nine other fields and (b) the production from the R&RS fields would have started in four years eight months (eight out of nine fields started production and maximum time taken to start production in these fields was four years eight months) from October 2005. In this scenario, as per the proposed development plan submitted by CoSB to GoI, 56 mbbls of Crude Oil and 920 mmscm of Natural Gas could have been produced from the R&RS fields from October 2005 to March 2015.

Audit observed that keeping discovered hydrocarbon fields (Ratna and R Series) idle without assigning the production rights to any party had led to deferment of domestic production of Crude Oil and Natural Gas from the fields from October 2005 to March 2015 to the tune of USD 5135 million (equivalent ` 25650 crore) and USD 110 million (equivalent ` 550 crore), respectively. GoI's take to the tune of ` 1050 crore on account of royalty and cess on Crude Oil and ` 55 crore towards royalty on Natural Gas for the said period also remained deferred and not realised so far (August 2015). Assumptions taken by Audit for calculations of financial implications are given in *Annexure-I* and detailed calculations are given in *Annexure-II*.

In addition to the above, the delay had led to idling of existing facilities at Ratna R-12 field since September 1994, which coupled with non-maintenance of these facilities, would result in an avoidable financial burden of ` 1085.70 crore⁶ on re-development of the field.

MoPNG in its reply (August 2015) stated that the computations carried out by audit are only notional since no Crude Oil / Natural Gas has been produced from these fields and hydrocarbon reserves of these fields would still be in place. MoPNG further stated that the figures are only indicative for financial stake due to hydrocarbon reserves estimated for these fields. The hydrocarbon quantities indicated in the Audit Report would still be available as recoverable reserves from these fields.

MoPNG's reply should be seen in light of the fact that India is an import dependent country for hydrocarbon resources and that a producing field had been closed for participation of private sector. Thereafter, indecision by MoPNG/GoI for more than 20 years resulted in deferment of the benefits of domestic production of Crude Oil and Natural Gas from R&RS fields. Amount of financial implications had been calculated to emphasise upon the materiality of deferment of financial benefits.

13. Conclusion

R&RS fields were producing fields at the time the decision for private sector participation was taken (1993). Accordingly, the fields were awarded in 1996 to a CoSB and specific CCEA approval was taken in 1999 for finalisation of PSC for the fields. CCEA decided (March 1999) that PSC should be negotiated and finalised within six months of its approval. However, the issue remained unsettled even after 23 years of the policy decision, 19 years of award and 16 years of approval of CCEA. This was a clear indication of lack of seriousness in the approach of MoPNG towards reaching at a final decision on this issue. Further, ONGC had also written (March 2002) to MoPNG proposing transfer back of these fields to the former. However, in the last 16 years of the deliberations at NTS and processing of the matter at MoPNG, there had been changes in the stance taken on various issues relating to the matter. Indecision on award and signing of PSC for the fields are significant looking at the fact that R&RS fields were discovered fields and one of the fields (R-12) was under production upto September 1994. Audit observed that the fact that an already developed and producing field was lying closed for more than 20 years, was never given its due importance and urgency at any level of decision making. This was in contrast to the objectives of GoI's policy of 1991 to attract private investment capital for further development of upstream oil sector.

In reply (August 2015), MoPNG admitted the audit view that the intended contribution from the R&R series fields could not be realised as per objectives of GoI's policy of 1991. MoPNG further stated that PSC for R&RS fields is only one off case out of 12 which could not be signed during last two decades owing to number of reasons/ circumstances beyond MoPNG's control and it cannot be attributed to any lack of seriousness in approach of MoPNG as concluded by audit.

⁶ ONGC's estimated cost for repair of existing infrastructure at 2010 prices with exchange rate of September 2015.

Reply of MoPNG was not borne out by the facts, as brought out in detail in the paragraphs above. MoPNG was the nodal Ministry to steer the case for final decision on R&RS fields. CCEA approval of 1999 clarified all the important aspects of decision making and gave clear mandate to finalise the case. Also, NTS had participation of all the stakeholder Ministries. However, various aspects of the case were repeatedly referred for clarifications, re-clarifications and recommendations within the same Ministries. Steps for finalisation of the case were not apparent even when clear views of all the stakeholder Ministries were furnished. The level of importance given to this case could be further noticed from the fact that only one NTS meeting was held from November 2011 to August 2015.

Keeping discovered hydrocarbon fields idle without assigning the production rights to any party had led to deferment of domestic production of Crude Oil and Natural Gas from the fields from October 2005 to March 2015 to the tune of USD 5245 million (equivalent ` 26200 crore). GoI's take to the tune of ` 1105 crore on account of royalty and cess on Crude Oil and royalty on Natural Gas for the said period also remained deferred (August 2015). In addition to the above, the delay had led to idling and non-maintenance of existing facilities at Ratna R-12 field since September 1994, which would result in an avoidable financial burden of ` 1086 crore on re-development of the field.

GoI's indecision was directly against the national interest of energy security as it resulted in deferment of domestic production of oil and gas of substantial value. Keeping in view the fact that it was a producing field, it is imperative that a decision is taken by GoI in the matter at the earliest so as to find a resolution to this long pending issue and the fields are put to production again without further delay.

Place: New Delhi
Dated: 13 November 2015



(ANAND MOHAN BAJAJ)
Director General of Audit
(Economic and Service Ministries)

Countersigned



Place: New Delhi
Dated: 13 November 2015

(SHASHI KANT SHARMA)
Comptroller and Auditor General of India

Annexures

Annexure – I

(Referred to in paragraph No. 12)

Audit had taken the following assumptions for calculation of financial implications

1. PSC for R&RS fields would have been signed in 2001 alongwith PSCs for 9 other small sized fields which were signed in February 2001. All these fields were part of the CCEA's approval for conclusion of contracts for 11 small sized fields apart from R&RS fields.
2. Development of production facilities and commencement of commercial production from R&RS fields would have taken four years eight months (eight out of nine fields started production and maximum time taken to start production in these fields was four years eight months) from October 2005.
3. MoPNG, in its reply to an audit query, stated (May 2015) that it was not in a position to provide details of quantities of oil and gas to be produced from R&RS fields. Audit has, therefore, assumed that R&RS fields would have been developed and production profile for the R-12, Basal Clastics, R-10, R-7 and R-9 structures would be as indicated in the proposed Plan of Development (PoD) submitted by CoSB to GoI, after making required capital investment and incurring the required cost of production. Accordingly, commencement of commercial production of Crude Oil and Nature Gas from various constituent fields of R&RS fields would have been as under:

1. 1 st Year	R-12 field	From October 2005.
2. 2 nd Year	R-10 field and Basal Clastics	From 2006-07.
3. 3 rd Year	R-7 field and R-9 field	From 2007-08.
4. Though annual production of Crude Oil and Natural Gas as projected in PoD by CoSB submitted to GoI was lower than the daily production (shown in PoD) multiplied by number of days in the relevant year, Audit has, to be on conservative side, adopted the said lower figures of annual production depicted in PoD. It was assumed that the reduced annual figures of production so adopted would have factored into (a) normative loss of Crude Oil and flaring of Natural Gas that would have occurred during petroleum operations and (b) loss of production due to shut down of production facilities for preventive maintenance and/or normal repairs and maintenance etc.
5. Crude Oil prices have been arrived at after adopting average monthly price of the Brent Crude Oil (specification as mentioned in the draft PSC and bidding documents) from October 2005 to March 2015, (source:<http://www.indexmundi.com/commodities/?commodity=crude-oil&months=360> & commodity=crude-oil-brent).
6. Sale price of Natural Gas = US\$ 3.11 per MMBTU (as per draft PSC for R&RS fields).
7. In the absence of data regarding post wellhead expenses, sale price of Natural Gas has been assumed as the wellhead price.
8. In case of Crude Oil, royalty at the rate of ₹ 528 per metric tonne and cess at the rate of ₹ 900 per metric tonne have been assumed, as envisaged in the draft PSC.
9. In case of Natural Gas, royalty has been assumed at the rate of 10 per cent of the sale price of Natural Gas as per draft PSC.
10. In the absence of information about year wise estimated operating expenditure, an estimate for profit petroleum receivable by GoI could not be made.

Annexure II

(Referred to in paragraph No.12)

**Part A - Quantity and Value of Crude Oil Production Deferred from October 2005 to March 2015 and Consequent Deferment of related Royalty and Cess
(To be read in conjunction with the assumptions stated in Annexure I)**

Month	Production (in million bbls) (Annual Production/ 12)	Rate of Brent crude (In USD/bbl.)	Value of Crude Oil (in million USD) {Col.2 x Col.3}	Exchange rate 1 USD to ₹	Value of Crude Oil (in ₹ crore) {Col.4 x Col.5/10}	Production(in MT) (1bbl = 0.131 MT) {Col.2 x 0.131 x 1000000}	Royalty + Cess (in ₹ crore) {Col.7 x {528+900}}
Col.1	Col.2	Col.3	Col.4	Col.5	Col.6	Col.7	Col.8
October-05	0.121	58.52	7.061	44.82	31.65	15807	2.26
November-05	0.121	55.53	6.701	45.73	30.64	15807	2.26
December-05	0.121	56.75	6.848	45.65	31.26	15807	2.26
January-06	0.121	63.57	7.671	44.40	34.06	15807	2.26
February-06	0.121	59.92	7.230	44.33	32.05	15807	2.26
March-06	0.121	62.25	7.512	44.48	33.41	15807	2.26
April-06	0.121	70.44	8.500	44.95	38.21	15807	2.26
May-06	0.121	70.19	8.470	45.41	38.46	15807	2.26
June-06	0.121	68.86	8.309	46.06	38.27	15807	2.26
July-06	0.121	73.90	8.917	46.46	41.43	15807	2.26
August-06	0.121	73.61	8.882	46.54	41.34	15807	2.26
September-06	0.121	62.77	7.574	46.12	34.93	15807	2.26
October-06	0.233	58.38	13.627	45.47	61.96	30578	4.37
November-06	0.233	58.48	13.650	44.85	61.22	30578	4.37
December-06	0.233	62.31	14.544	44.63	64.92	30578	4.37
January-07	0.233	54.30	12.675	44.33	56.19	30578	4.37
February-07	0.233	57.76	13.482	44.16	59.54	30578	4.37
March-07	0.233	62.14	14.505	44.03	63.86	30578	4.37
April-07	0.233	67.40	15.732	42.15	66.31	30578	4.37
May-07	0.233	67.48	15.751	40.78	64.23	30578	4.37
June-07	0.233	71.32	16.647	40.77	67.87	30578	4.37
July-07	0.233	77.20	18.020	40.42	72.83	30578	4.37
August-07	0.233	70.80	16.526	40.82	67.45	30578	4.37
September-07	0.233	77.13	18.003	40.34	72.63	30578	4.37
October-07	0.667	83.04	55.408	39.51	218.94	87410	12.48
November-07	0.667	92.53	61.741	39.44	243.51	87410	12.48
December-07	0.667	91.45	61.020	39.44	240.66	87410	12.48
January-08	0.667	91.92	61.334	39.37	241.50	87410	12.48
February-08	0.667	94.82	63.269	39.73	251.36	87410	12.48
March-08	0.667	103.28	68.914	40.36	278.11	87410	12.48
April-08	0.667	110.44	73.691	40.03	294.97	87410	12.48
May-08	0.667	123.94	82.699	42.13	348.37	87410	12.48
June-08	0.667	133.05	88.778	42.82	380.15	87410	12.48
July-08	0.667	133.90	89.345	42.84	382.72	87410	12.48
August-08	0.667	113.85	75.966	42.94	326.19	87410	12.48
September-08	0.667	99.06	66.098	45.56	301.17	87410	12.48

Month	Production (in million bbls) (Annual Production/ 12)	Rate of Brent crude (In USD/bbl.)	Value of Crude Oil (in million USD) {Col.2 x Col.3}	Exchange rate 1 USD to ₹	Value of Crude Oil (in ₹ crore) {Col.4 x Col.5/10}	Production(in MT) (1bbl = 0.131 MT) {Col.2 x 0.131 x 1000000}	Royalty + Cess (in ₹ crore) {Col.7 x (528+900)}
October-08	0.640	72.84	46.587	48.64	226.61	83785	11.96
November-08	0.640	53.24	34.051	49.00	166.86	83785	11.96
December-08	0.640	41.58	26.594	48.64	129.36	83785	11.96
January-09	0.640	44.86	28.692	48.83	140.11	83785	11.96
February-09	0.640	43.24	27.656	49.22	136.13	83785	11.96
March-09	0.640	46.84	29.958	51.23	153.48	83785	11.96
April-09	0.640	50.85	32.523	50.06	162.82	83785	11.96
May-09	0.640	57.94	37.057	48.53	179.85	83785	11.96
June-09	0.640	68.59	43.869	47.77	209.58	83785	11.96
July-09	0.640	64.92	41.522	48.48	201.28	83785	11.96
August-09	0.640	72.50	46.370	48.34	224.14	83785	11.96
September-09	0.640	67.69	43.293	48.44	209.71	83785	11.96
October-09	0.617	73.19	45.122	46.72	210.81	80762	11.53
November-09	0.617	77.04	47.495	46.57	221.18	80762	11.53
December-09	0.617	74.67	46.034	46.63	214.66	80762	11.53
January-10	0.617	76.37	47.082	45.96	216.40	80762	11.53
February-10	0.617	74.31	45.812	46.33	212.23	80762	11.53
March-10	0.617	79.27	48.870	45.50	222.35	80762	11.53
April-10	0.617	84.93	52.359	44.50	232.99	80762	11.53
May-10	0.617	76.25	47.008	45.80	215.32	80762	11.53
June-10	0.617	74.84	46.139	46.56	214.84	80762	11.53
July-10	0.617	74.74	46.077	46.84	215.81	80762	11.53
August-10	0.617	76.69	47.279	46.57	220.17	80762	11.53
September-10	0.617	77.79	47.958	46.06	220.89	80762	11.53
October-10	0.614	82.92	50.927	44.41	226.18	80456	11.49
November-10	0.614	85.67	52.616	45.02	236.86	80456	11.49
December-10	0.614	91.80	56.381	45.16	254.61	80456	11.49
January-11	0.614	96.29	59.138	45.39	268.45	80456	11.49
February-11	0.614	103.96	63.849	45.44	290.11	80456	11.49
March-11	0.614	114.44	70.285	44.99	316.21	80456	11.49
April-11	0.614	123.15	75.635	44.37	335.58	80456	11.49
May-11	0.614	114.46	70.298	44.90	315.67	80456	11.49
June-11	0.614	113.76	69.868	44.85	313.37	80456	11.49
July-11	0.614	116.46	71.526	44.42	317.69	80456	11.49
August-11	0.614	110.08	67.607	45.28	306.12	80456	11.49
September-11	0.614	110.88	68.099	47.64	324.41	80456	11.49
October-11	0.562	109.47	61.531	49.26	303.08	73633	10.51
November-11	0.562	110.50	62.110	50.84	315.79	73633	10.51
December-11	0.562	107.97	60.688	52.67	319.63	73633	10.51
January-12	0.562	110.99	62.386	51.35	320.33	73633	10.51
February-12	0.562	119.70	67.281	49.16	330.78	73633	10.51
March-12	0.562	124.93	70.221	50.32	353.37	73633	10.51

Month	Production (in million bbls) (Annual Production/ 12)	Rate of Brent crude (In USD/bbl.)	Value of Crude Oil (in million USD) {Col.2 x Col.3}	Exchange rate 1 USD to ₹	Value of Crude Oil (in ₹ crore) {Col.4 x Col.5/10}	Production(in MT) (1bbl = 0.131 MT) {Col.2 x 0.131 x 1000000}	Royalty + Cess (in ₹ crore) {Col.7 x (528+900)}
April-12	0.562	120.59	67.782	51.80	351.13	73633	10.51
May-12	0.562	110.52	62.121	54.47	338.40	73633	10.51
June-12	0.562	95.59	53.730	56.03	301.05	73633	10.51
July-12	0.562	103.14	57.973	55.49	321.72	73633	10.51
August-12	0.562	113.34	63.707	55.56	353.95	73633	10.51
September-12	0.562	113.38	63.729	54.61	348.00	73633	10.51
October-12	0.536	111.97	60.053	53.02	318.43	70260	10.03
November-12	0.536	109.71	58.841	54.78	322.31	70260	10.03
December-12	0.536	109.64	58.804	54.65	321.35	70260	10.03
January-13	0.536	112.93	60.568	54.32	328.99	70260	10.03
February-13	0.536	116.46	62.461	53.77	335.88	70260	10.03
March-13	0.536	109.24	58.589	54.40	318.75	70260	10.03
April-13	0.536	102.88	55.178	54.38	300.03	70260	10.03
May-13	0.536	103.03	55.258	55.01	303.98	70260	10.03
June-13	0.536	103.11	55.301	58.40	322.94	70260	10.03
July-13	0.536	107.72	57.774	59.78	345.35	70260	10.03
August-13	0.536	110.96	59.512	63.21	376.17	70260	10.03
September-13	0.536	111.62	59.866	63.75	381.66	70260	10.03
October-13	0.466	109.48	50.999	61.62	314.24	61024	8.71
November-13	0.466	108.08	50.347	62.63	315.34	61024	8.71
December-13	0.466	110.63	51.535	61.91	319.06	61024	8.71
January-14	0.466	107.57	50.110	62.08	311.06	61024	8.71
February-14	0.466	108.81	50.687	62.25	315.55	61024	8.71
March-14	0.466	107.41	50.035	61.01	305.28	61024	8.71
April-14	0.466	107.88	50.254	60.36	303.32	61024	8.71
May-14	0.466	109.68	51.093	59.31	303.00	61024	8.71
June-14	0.466	111.87	52.113	59.73	311.27	61024	8.71
July-14	0.466	106.98	49.835	60.06	299.30	61024	8.71
August-14	0.466	101.92	47.478	60.90	289.12	61024	8.71
September-14	0.466	97.34	45.344	60.86	275.99	61024	8.71
October-14	0.449	87.27	39.141	61.34	240.10	58754	8.39
November-14	0.449	78.44	35.180	61.70	217.08	58754	8.39
December-14	0.449	62.16	27.879	62.75	174.95	58754	8.39
January-15	0.449	48.42	21.716	62.23	135.13	58754	8.39
February-15	0.449	57.93	25.982	62.04	161.18	58754	8.39
March-15	0.449	55.79	25.022	62.45	156.26	58754	8.39
Total:	56.166		5136.95		25655.51	7357104	1050.42
Rounded off to	56		5135		25650	737100	1050

Part B - Quantity and Value of Natural Gas Production Deferred from October 2005 to March 2015 and Consequent Deferment of related Royalty
(To be read in conjunction with the assumptions stated in Annexure I)

Month	Production (in million metric standard cubic metres i.e mmsm ³) (Annual Production/12)	Production (in MMBTU) (1 m ³ = 0.0397) {Col.2 x 0.0397 BTU}	Value of Natural Gas (in million USD) @ USD 3.11 per MMBTU {Col.3 x 3.11}	Exchange rate 1 USD to ₹	Value of Natural Gas (₹ in crore) {Col.4 x Col.5}/10	Royalty @ 10% of Gas Value (₹ in crore) {Col.6 x 10%}
Col.1	Col.2	Col.3	Col.4	Col.5	Col.6	Col.7
October-05	11.48	0.46	1.42	44.82	6.35	0.64
November-05	11.48	0.46	1.42	45.73	6.48	0.65
December-05	11.48	0.46	1.42	45.65	6.47	0.65
January-06	11.48	0.46	1.42	44.40	6.29	0.63
February-06	11.48	0.46	1.42	44.33	6.28	0.63
March-06	11.48	0.46	1.42	44.48	6.30	0.63
April-06	11.48	0.46	1.42	44.95	6.37	0.64
May-06	11.48	0.46	1.42	45.41	6.44	0.64
June-06	11.48	0.46	1.42	46.06	6.53	0.65
July-06	11.48	0.46	1.42	46.46	6.58	0.66
August-06	11.48	0.46	1.42	46.54	6.60	0.66
September-06	11.48	0.46	1.42	46.12	6.54	0.65
October-06	7.45	0.30	0.92	45.47	4.18	0.42
November-06	7.45	0.30	0.92	44.85	4.12	0.41
December-06	7.45	0.30	0.92	44.63	4.10	0.41
January-07	7.45	0.30	0.92	44.33	4.08	0.41
February-07	7.45	0.30	0.92	44.16	4.06	0.41
March-07	7.45	0.30	0.92	44.03	4.05	0.40
April-07	7.45	0.30	0.92	42.15	3.88	0.39
May-07	7.45	0.30	0.92	40.78	3.75	0.37
June-07	7.45	0.30	0.92	40.77	3.75	0.37
July-07	7.45	0.30	0.92	40.42	3.72	0.37
August-07	7.45	0.30	0.92	40.82	3.75	0.38
September-07	7.45	0.30	0.92	40.34	3.71	0.37
October-07	9.12	0.36	1.13	39.51	4.45	0.45
November-07	9.12	0.36	1.13	39.44	4.44	0.44
December-07	9.12	0.36	1.13	39.44	4.44	0.44
January-08	9.12	0.36	1.13	39.37	4.44	0.44
February-08	9.12	0.36	1.13	39.73	4.48	0.45
March-08	9.12	0.36	1.13	40.36	4.55	0.45
April-08	9.12	0.36	1.13	40.03	4.51	0.45
May-08	9.12	0.36	1.13	42.13	4.75	0.47
June-08	9.12	0.36	1.13	42.82	4.82	0.48
July-08	9.12	0.36	1.13	42.84	4.83	0.48
August-08	9.12	0.36	1.13	42.94	4.84	0.48
September-08	9.12	0.36	1.13	45.56	5.13	0.51
October-08	8.83	0.35	1.09	48.64	5.30	0.53
November-08	8.83	0.35	1.09	49.00	5.34	0.53

Month	Production (in million metric standard cubic metres i.e mmsm ³) (Annual Production/12)	Production (in MMBTU) (1 m ³ = 0.0397) {Col.2 x 0.0397 BTU}	Value of Natural Gas (in million USD) @ USD 3.11 per MMBTU {Col.3 x 3.11}	Exchange rate 1 USD to ₹	Value of Natural Gas (₹ in crore) {Col.4 x Col.5}/10	Royalty @ 10% of Gas Value (₹ in crore) {Col.6 x 10%}
Col.1	Col.2	Col.3	Col.4	Col.5	Col.6	Col.7
December-08	8.83	0.35	1.09	48.64	5.30	0.53
January-09	8.83	0.35	1.09	48.83	5.32	0.53
February-09	8.83	0.35	1.09	49.22	5.36	0.54
March-09	8.83	0.35	1.09	51.23	5.58	0.56
April-09	8.83	0.35	1.09	50.06	5.46	0.55
May-09	8.83	0.35	1.09	48.53	5.29	0.53
June-09	8.83	0.35	1.09	47.77	5.21	0.52
July-09	8.83	0.35	1.09	48.48	5.28	0.53
August-09	8.83	0.35	1.09	48.34	5.27	0.53
September-09	8.83	0.35	1.09	48.44	5.28	0.53
October-09	9.19	0.36	1.13	46.72	5.30	0.53
November-09	9.19	0.36	1.13	46.57	5.28	0.53
December-09	9.19	0.36	1.13	46.63	5.29	0.53
January-10	9.19	0.36	1.13	45.96	5.21	0.52
February-10	9.19	0.36	1.13	46.33	5.25	0.53
March-10	9.19	0.36	1.13	45.50	5.16	0.52
April-10	9.19	0.36	1.13	44.50	5.05	0.50
May-10	9.19	0.36	1.13	45.80	5.19	0.52
June-10	9.19	0.36	1.13	46.56	5.28	0.53
July-10	9.19	0.36	1.13	46.84	5.31	0.53
August-10	9.19	0.36	1.13	46.57	5.28	0.53
September-10	9.19	0.36	1.13	46.06	5.22	0.52
October-10	8.47	0.34	1.05	44.41	4.65	0.46
November-10	8.47	0.34	1.05	45.02	4.71	0.47
December-10	8.47	0.34	1.05	45.16	4.72	0.47
January-11	8.47	0.34	1.05	45.39	4.75	0.47
February-11	8.47	0.34	1.05	45.44	4.75	0.48
March-11	8.47	0.34	1.05	44.99	4.71	0.47
April-11	8.47	0.34	1.05	44.37	4.64	0.46
May-11	8.47	0.34	1.05	44.90	4.70	0.47
June-11	8.47	0.34	1.05	44.85	4.69	0.47
July-11	8.47	0.34	1.05	44.42	4.65	0.46
August-11	8.47	0.34	1.05	45.28	4.74	0.47
September-11	8.47	0.34	1.05	47.64	4.98	0.50
October-11	7.33	0.29	0.90	49.26	4.46	0.45
November-11	7.33	0.29	0.90	50.84	4.60	0.46
December-11	7.33	0.29	0.90	52.67	4.76	0.48
January-12	7.33	0.29	0.90	51.35	4.64	0.46
February-12	7.33	0.29	0.90	49.16	4.45	0.44
March-12	7.33	0.29	0.90	50.32	4.55	0.46
April-12	7.33	0.29	0.90	51.80	4.69	0.47

Month	Production (in million metric standard cubic metres i.e mmsm ³) (Annual Production/12)	Production (in MMBTU) (1 m ³ = 0.0397) {Col.2 x 0.0397 BTU}	Value of Natural Gas (in million USD) @ USD 3.11 per MMBTU {Col.3 x 3.11}	Exchange rate 1 USD to ₹	Value of Natural Gas (₹ in crore) {Col.4 x Col.5}/10	Royalty @ 10% of Gas Value (₹ in crore) {Col.6 x 10%}
Col.1	Col.2	Col.3	Col.4	Col.5	Col.6	Col.7
May-12	7.33	0.29	0.90	54.47	4.93	0.49
June-12	7.33	0.29	0.90	56.03	5.07	0.51
July-12	7.33	0.29	0.90	55.49	5.02	0.50
August-12	7.33	0.29	0.90	55.56	5.03	0.50
September-12	7.33	0.29	0.90	54.61	4.94	0.49
October-12	6.70	0.27	0.83	53.02	4.39	0.44
November-12	6.70	0.27	0.83	54.78	4.53	0.45
December-12	6.70	0.27	0.83	54.65	4.52	0.45
January-13	6.70	0.27	0.83	54.32	4.50	0.45
February-13	6.70	0.27	0.83	53.77	4.45	0.45
March-13	6.70	0.27	0.83	54.40	4.50	0.45
April-13	6.70	0.27	0.83	54.38	4.50	0.45
May-13	6.70	0.27	0.83	55.01	4.55	0.46
June-13	6.70	0.27	0.83	58.40	4.83	0.48
July-13	6.70	0.27	0.83	59.78	4.95	0.49
August-13	6.70	0.27	0.83	63.21	5.23	0.52
September-13	6.70	0.27	0.83	63.75	5.28	0.53
October-13	5.69	0.23	0.70	61.62	4.33	0.43
November-13	5.69	0.23	0.70	62.63	4.40	0.44
December-13	5.69	0.23	0.70	61.91	4.35	0.43
January-14	5.69	0.23	0.70	62.08	4.36	0.44
February-14	5.69	0.23	0.70	62.25	4.37	0.44
March-14	5.69	0.23	0.70	61.01	4.29	0.43
April-14	5.69	0.23	0.70	60.36	4.24	0.42
May-14	5.69	0.23	0.70	59.31	4.17	0.42
June-14	5.69	0.23	0.70	59.73	4.20	0.42
July-14	5.69	0.23	0.70	60.06	4.22	0.42
August-14	5.69	0.23	0.70	60.90	4.28	0.43
September-14	5.69	0.23	0.70	60.86	4.28	0.43
October-14	5.34	0.21	0.66	61.34	4.04	0.40
November-14	5.34	0.21	0.66	61.70	4.07	0.41
December-14	5.34	0.21	0.66	62.75	4.14	0.41
January-15	5.34	0.21	0.66	62.23	4.10	0.41
February-15	5.34	0.21	0.66	62.04	4.09	0.41
March-15	5.34	0.21	0.66	62.45	4.12	0.41
Total	923.16	36.78	114		552.98	55.26
Rounded off to	920	36	110		550.00	55.00

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