Report of the
Comptroller and Auditor General of India
on
Production and Sale of Iron Ore
by NMDC Limited

for the year ended March 2012

Union Government
Ministry of Steel

Report No. 20 of 2012-13

(Performance Audit)

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PREFACE

This Report of the Comptroller and Auditor General of India contains the results of the Performance Audit of 'Production and Sale of Iron Ore' by NMDC Limited. The Audit covered the period from 2005-2012.

The Report results from scrutiny of files and documents pertaining to NMDC Limited.

Audit wishes to acknowledge the cooperation received from NMDC Limited at each stage of the audit process.

Executive Summary

1. Starting in 1958 with a production capacity of 2 million tonnes per annum, **NMDC Limited**, a mining Company, has achieved a production capacity of 32 million tonnes per annum (MTPA) as of 2011-12. The Company has been making profit over the last 21 years and earned a profit before tax of ₹ 10,760 crore on an income of ₹ 13,278 crore in 2011-12. The Company undertakes iron ore mining operations mainly through its four open cast mines at Kirandul and Bacheli (two mines each) in the State of Chhattisgarh and one at Donimalai in the State of Karnataka.

2. We conducted performance audit of Company's activities relating to production, evacuation and sale of iron ore covering the period from 2005-06 to 2009-10. This was updated with statistics for 2010-12. During audit, we reviewed the activities of all the mines, i.e., five operational mines and two new mines (Kumaraswamy Deposit at Donimalai, Karnataka and Deposit 11B at Bailadila, Chhattisgarh) under development. We also reviewed sales made to selected customers, which represented 94 *per cent* of the total sales of the Company. Apart from this, we also reviewed price fixation mechanism and minutes of 63 Board meetings held between April 2005 and March 2012. Significant audit findings are stated below.

Production of iron ore

3. The Company's Corporate Plan last formulated in May 2001 covered nine years from 2001-02 to 2009-10. The plan envisaged to increase production capability to 25 MT by 2006-07 and around 30 to 35 MT by 2011-12 and secure the Company's share in iron ore production at 20 *per cent* of the Country's production. Audit noticed that:

- The production capacity stood at 32 MTPA in 2010-11 which was in line with the Corporate Plan target.
- The Company's share in iron ore production of the Country, however slipped from 14 *per cent* in 2005-06 to 11 *per cent* in 2009-10 but increased to 16 *per cent* in 2011-12 owing to ban on private mining in Karnataka. The decrease in market share was due to increase in production of low grade iron ore by other producers.
- The Company attained capacity utilization ranging from 74 *per cent* to 105 *per cent* but did not meet the annual production targets in four of the seven years except 2007-08, 2010-11 and 2011-12. The shortfall in the Company's production was mainly on account of evacuation constraints.

4. There were total iron ore reserves of 1,565 million tonnes (MT) with the Company out of total proven reserves of 28,526 MT in the Country. The Company needs to formulate a strategy for acquisition of new mines so as to maintain operations on a longer horizon.

Capacity expansion

5. The available installed capacity increased from 24.22 MTPA in 2005-06 to 32 MTPA in 2007-08 due to introduction of third shift in Bailadila and Donimalai sectors and addition of fourth line in screening plant at Donimalai sector.

6. NMDC decided to develop Kumaraswamy Deposit and 11B Deposit in 1997 and 2003 respectively. These two projects, expected to add capacity of 14 MTPA, were still under implementation in 2012.

- Though conceived in 1997, the work in Kumaraswamy Project in Bellary district of Karnataka could effectively start only after February 2009 due to delays in getting statutory clearances.
- The Kumaraswamy Project is still in progress due to delays in awarding contracts for development.
- Delays in award of contracts and implementation were noticed in 11B Deposit Project in Dantewada district of Chhattisgarh. Other constraints such as difficulties in mobilization of resources and manpower due to Maoist activities were noted in Audit.
- As a result of delays and also change in scope of the work, the initial project cost of ₹ 592 crore for both the projects has gone up to ₹ 1,506 crore..
- Some of the delays were controllable and point towards the deficiencies in the project management by the Company. There were also delays due to external constraints. The projects are expected to be completed by January 2013 (Kumaraswamy mine) and November 2012 (Deposit 11B).

Evacuation Facilities

7. Evacuation refers to transporting of iron ore from mines to buyers' sites/ ports. NMDC had an evacuation capacity of 30 MTPA as against the production capacity of 32 MTPA. The shortfall was at Bailadila sector in Chhattisgarh.

- Though the evacuation capacity turned inadequate in 2007-08, the options available to enhance the capacity were not pursued vigorously by NMDC.
- The Board approved laying of a slurry pipeline (capacity of 8 MTPA) from Kirandul to Visakhapatnam in July 2008 but only 'due diligence' could be completed by March 2012.
- Another option of doubling of Kirandul – Jagadalpur railway line to enhance the capacity by 3 MTPA was taken up in JCM with Railways only in February 2010 and not pursued vigorously thereafter.

8. In essence, inadequate evacuation facilities at Bailadila sector proved to be significant limiting factor in enhancing production.

Sale of Iron ore

9. The Company enters into Long Term Agreements (LTAs) for a period of five years with customers for sale of iron ore in the domestic as well as export market. Such LTAs provide for minimum and maximum quantities to be supplied by the Company. During 2011-12, it contributed 16 *per cent* of Country's iron ore production and met 23 *per cent* of the domestic demand. 84 *per cent* of Company's domestic sales were through LTAs. Only 3 *per cent* were through domestic spot sales.

10. Till 2010-11, the export prices of the Company formed the basis for fixing domestic prices. The Company entered into long term agreements with Japanese Steel Mills (JSMs) for supply of iron ore. The prices negotiated by the Company were in line with those paid by JSMs to Australian and Brazilian suppliers. However, due to infirmities in the domestic contracts and inadequate action by the Company to revise the prices in view of market trends, the Company suffered a loss of ₹ 745.94 crore during 2007-10 on domestic sales.

11. By extending unwarranted reduction in price, the Company passed on benefit of ₹ 600.83 crore to the customers during 2010-11. Further, by not increasing the prices by full percentage in line with increase in export prices, it suffered a loss of ₹ 227.34 crore during the same period.

12. During 2011-12, the Company followed 'Net Back' method and 'Domestic Price Parity' method to fix the domestic prices of iron ore. The net back price is fixed after deducting expenses such as export railway freight, port charges, royalty and export duty from the export price. The net back method suppresses the domestic price due to higher export related expenses. The domestic price parity method which is based on OMC prices is an imperfect method of fixing prices as the individual ex-mine prices vary based on the quality of ore and transport distance.

13. Considering that the end-product (steel) prices are market driven, it is desirable that a mechanism may be established which would address (i) optimum price realization for NMDC's ore, (ii) assured supply to domestic steel producers, and (iii) predictability of price.

Governance Issues

14. The Board of Directors is expected to monitor the key areas of operations and direct appropriate remedial action wherever required. As brought out in the Report, delays in completion of capacity expansion projects, inadequacy of evacuation facilities and infirmities in fixation of prices were three high risk concerns.

15. Though the Board held 63 meetings between April 2005 and March 2012, the progress of implementation of capacity expansion projects was not discussed until January 2010. The issue of inadequate evacuation capacity was discussed by the Board only in July 2008 but was not followed up later. It is only in March 2010, the Board constituted a sub-committee of Directors to monitor the progress of expansion schemes.

16. In respect of price revision in case of domestic LTAs, the Board did not provide any guidance regarding clarity in terms relating to revision of prices, i.e, when exactly to effect the revision in prices and by how much.

17. Thus, the performance of the Board fell short of the expected standards of governance. The oversight of the Ministry was deficient as it did not set appropriate targets in the Results Framework Document for the projects under implementation.

Conclusion

18. The Corporate Plan aimed at securing the market leadership for the Company in its mining operations. Though the Company catered to about 23 *per cent* of domestic demand of ore in 2011-12, its new capacity expansion projects did not progress as planned, due to deficiencies in the project management by the Company and external constraints. Similarly, the mismatch of its evacuation facilities vis-à-vis production capacity in Bailadila sector proved to be a bottleneck in realization of its optimum production capacity.

19. Due to infirmities in price fixation, the Company suffered a loss of ₹ 1574.11 crore during 2007-11.

20. The 'net back method' followed for price fixation in the domestic market results in the domestic buyers being charged lower rates than the overseas buyers. Considering that the end-product (steel) prices are market driven, we are of the opinion that NMDC should establish a new pricing mechanism whereby the price reflects the market scenario.

Recommendations

21. Audit recommends the following measures to help the Company to strengthen its operations:

- The Company needs to formulate a strategy spelling out its plans for acquisition of new mines/ reserves;
- The Company needs to enhance its project management capability by focusing on project planning, implementation and monitoring. In this regard, the Company needs to specify the timeframes and milestones for all project activities and ensure their strict adherence through continuous monitoring and requisite remedial action;
- The Board should regularly monitor the progress of laying of slurry pipeline;
- The issues relating to doubling of K-K line should be taken up at the Railway Ministry level and pursued so as to expedite its completion;
- The domestic price fixation mechanism for iron ore may be established which would address these issues: (i) optimum price realization for NMDC's ore, (ii) assured supply to domestic steel producers, and (iii) predictability of price.
- The Board of Directors of the Company need to review the progress of ongoing projects periodically and suggest remedial action wherever warranted so that the projects are completed as envisaged.

Chapter – 1
Introduction

Industry Profile

1.1 The production of iron ore in India is through captive mines (owned and operated by individual steel plants both in public and private sectors mainly for their own use) as well as non-captive mines (for domestic consumption and exports). The total production of iron ore in the Country during 2010-11 was 208.11 million tonnes (MT). In the non-captive segment, major companies in the public sector are NMDC Limited (Production: 25.16 MT), Orissa Mining Corporation (Production: 5.34 MT) and Mysore Minerals Limited (Production capacity: 6.14 MT). With production of 25.16 MT, NMDC Limited (the Company) contributed around 12 *per cent* of the total iron ore production in India in 2010-11. During 2011-12, the Company produced 27.26 MT representing around 16 *per cent* of the total iron ore production of the Country which stood at 169.66 MT. NMDC catered to 21 *per cent* of domestic iron ore demand in 2010-11 and 23 *per cent* in 2011-12.

1.2 India is one of the leading producers of iron ore in the world and stands fourth in the list of world iron ore producers. Out of a total estimated iron ore production of 2,730 MT in the world in 2011, India produced 169.66 MT which represents 6 *per cent* of total world production. Subsequent to ban on mining operations in Bellary, Tumkur and Chitradurga districts of Karnataka in July/ August 2011 by the Hon'ble Supreme Court, the production of iron ore in Karnataka came down from 37.88 MT in 2010-11 to 13.27 MT in 2011-12. As of April 2012, the mining of iron ore in Karnataka was permitted only by NMDC.

NMDC, a major player with a capacity of 32 MTPA, produces high quality iron ore through its five mines.

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NMDC mainly caters to domestic demand. Though NMDC's share in the Country's total production was 16 *per cent* in 2011-12, it fulfilled 23 *per cent* of domestic iron ore demand.

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NMDC earned a profit before tax of ₹ 10,760 crore on an income of ₹ 13,278 crore in 2011-12.

Company Profile

1.3 NMDC was incorporated in November 1958 with the main objective of exploring and exploiting the mineral resources in the Country. The Company started its operations with a production capacity of 2 MT of iron ore and has now grown up to a capacity of 32 million tonnes per annum (MTPA) of Run of Mine[1]. The Company has been in profits from 1989-90 onwards. In 2011-12, it earned a profit (before tax) of ₹ 10,759.70 crore on an income of ₹ 13,278.38 crore. Production and sale of iron ore is the main activity of the Company constituting about 99 *per cent* (₹ 11,167.56 crore) of the turnover during 2011-12 while about

[1] *Run of Mine is the ore extracted after segregation of waste. It is further crushed and screened to obtain saleable products viz., Lump Ore, Direct Reduction Calibrated Lump Ore, Fines etc.*

one *per cent* (₹ 101.17 crore) was through sale of diamonds and sponge iron. The Company was granted Navratna status in 2008.

1.4 The Company undertakes iron ore mining operations mainly through five open cast mines located at **Kirandul** and **Bacheli** (two mines each) in Dantewada district in Chhattisgarh and one at **Donimalai** in the district of Bellary in Karnataka with an installed capacity of 12, 13 and 7 MTPA respectively. The Company produces various sizes of saleable iron ore products[2]. The Iron (Fe) content in the iron ore in all these mines generally varies between 64 and 67 *per cent*. As of March 2012, the customer base of the Company consisted of 27 steel making customers, 65 sponge iron customers and six long term foreign customers The Company sells its ore mainly through Long Term Agreements (LTAs) with domestic and international buyers. A small quantity (about five *per cent*) is also sold through domestic and international spot market.

Fig 1: Excavating iron ore from open cut mines

1.5 Iron ore is mined by drilling and blasting after removal of the overburden, *i.e.*, top soil. The ore is loaded into dumpers through excavators and transported to a stationary crushing plant. The crushed ore is screened into different sizes in the screening plant and is carried through conveyor belt to the respective stock yards. Thereafter, the ore is transported through rail, slurry pipeline and by road to the designated places of customers. Exports are made through MMTC Limited, a canalizing agency, from Visakhapatnam and Chennai ports.

Organizational Set Up

1.6 The Company is headed by the Chairman-cum-Managing Director (CMD) who is assisted by five Functional Directors for Production, Technical, Commercial, Finance and Personnel. There were two Government of India Nominee Directors and six to eight

[2] *Iron ore fines (size less than 6 mm) are created as a result of mining, crushing and processing the larger pieces of ore. The iron ore fines have first to be processed into what is called sinter, otherwise it will effectively smother the air flow in the blast furnace. Iron ore Lump (size 10 mm to 40 mm) is preferred as when it is fed into a blast furnace for steel making, its particle size allows oxygen or air to circulate around the raw materials and melt them efficiently. This is the reason, Lump ore commands more price than the Fines. Direct Reduction Calibrated Lump Ore (size 10 mm – 40 mm) is a high quality Lump Ore, ordinarily priced at a premium over Lump Ore, which is taken out from the Crusher after the first screening is completed wherein the contaminants such as Alumina and Silica are removed from the iron ore feed.*

independent Directors on the Board of the Company. The mines are headed by Executive Directors/ General Managers who report to Director (Production)/ Director (Commercial) for day to day operations.

Scope of Audit

1.7 The Performance Audit covers the activities of the Company from 2005-06 to 2011-12. Detailed data relating to Production, Evacuation and Sale of iron ore for the years 2005-06 to 2009-10 were examined and analyzed in Audit.

1.8 All the mines of the Company, i.e., four mines in Chhattisgarh (two mines in Kirandul and two mines in Bacheli) and one mine in Karnataka (Donimalai) along with the Regional/ Liaison offices at Vizag and Chennai and Corporate Office at Hyderabad were covered in audit. In addition, implementation of development of two new mines (Kumaraswamy Deposit at Donimalai, Karnataka and Deposit 11B at Bailadila, Chhattisgarh) was also reviewed.

1.9 Out of a total of 27 steel making customers, 19 customers who had placed sale orders of ₹ 5 crore and above on the Company were selected for the review. In addition, 27 sponge iron customers were selected randomly. We also reviewed exports made to all the six long term customers. The total value of sales made to these customers selected in Audit was ₹ 25,700.08 crore representing 94 *per cent* of the total sales during 2005-10. In addition to this, we also reviewed price fixation mechanism and minutes of 63 Board meetings held between April 2005 and March 2012.

Performance Audit of NMDC focuses on four areas –
(a) production including capacity expansion of iron ore, (b) evacuation facilities, (c) sales, and (d) monitoring of high risk areas by Board of Directors.

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Audit sample included all five operational mines, two mines under development and 52 (out of 118) customers representing 94 *per cent* sales. In addition, price fixation mechanism and minutes of 63 Board meetings held between April 2005 and March 2012 were also reviewed.

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The final chapter provides a summary of Audit recommendations for further improvement in Company's performance.

1.10 The Entry Conference was held in May 2010. Audit examined the relevant records based on which preliminary observations were issued to the Management and the replies of the Management wherever received, were considered while drawing audit conclusions which have been discussed in the subsequent chapters. An Exit Conference was held in September 2010 with the Management to discuss the audit findings with the Management and the report was finalized and issued to the Ministry of Steel, Government of India in February 2011. The response of the Ministry of Steel was received in May 2011.

1.11 While the report was being finalized, new facts relating to Karnataka mines came into light and required fresh examination in Audit. The review was redrafted and again issued to the Management. The Management's views were taken on the audit observations post Lokayukta Report. Management furnished its views in January 2012. The report was updated to include the issues up to 2011-12 and was re-issued to the Ministry in July 2012. Meanwhile, the updated report was discussed with the Management in another exit conference held in July 2012. The response of the Ministry to the updated report was received on 23 July 2012 and has been appropriately incorporated while finalizing this report.

Audit Objectives

1.12 The main objectives of the Performance Audit were to assess whether the:

- Production was in line with the installed capacity;
- Capacity expansion projects were executed within envisaged costs and timeframes;
- Evacuation facilities were commensurate with the installed production capacity;
- Company's price fixation methodology ensured optimum revenue from sales; and
- Company effectively monitored the high risk areas of operations such as project development.

Audit Criteria

1.13 Audit was carried out using the following criteria:

- Corporate Plan, Installed Capacity and Annual Plans;
- Board Agenda and Minutes;
- Expansion schemes envisaged;
- Ganeshan Committee Report;
- International spot prices of iron ore; and
- Sale contracts with customers.

Acknowledgement

1.14 Audit acknowledges the cooperation and assistance extended by the Management at various stages of Performance Audit.

Audit findings

1.15 The Performance Audit revealed certain areas and issues which need to be addressed by the Management to optimize the results of operations. The audit findings are discussed in four chapters as detailed below.

Chapter 2: highlights shortfall in production and delays in implementation of the new projects impacting the production plans of the Company;

Chapter 3: flags the bottlenecks in the Evacuation facilities for iron ore;

Chapter 4: discusses the Pricing and Sales issues; and

Chapter 5: brings out inadequacies in the Governance.

Chapter 6: gives the audit conclusions and recommendations.

Chapter – 2
Production of Iron Ore

This chapter highlights the shortfall in production in the existing mines and delays in development of new mines impacting adversely the production plans of the Company.

Corporate Plan Targets and Achievement

2.1 The Company formulated (May 2001) its Corporate Plan covering a period of nine years from 2001-02 to 2009-10. The Corporate Plan for the subsequent years has not been prepared so far (March 2012).

2.2 The Corporate Plan envisaged:

- To increase the production capability to 25 MTPA by 2006-07 and around 30 to 35 MTPA by 2011-12; and
- To maintain its share at 20 *per cent* in the Country's iron ore production. The share of the Company in iron ore production of the Country, in fact, slipped from 14 *per cent* in 2005-06 to 11 *per cent* in 2009-10. The decline in Company's share was due to increase in low grade ore production for export by the private operators. Its share, however, increased to 16 *per cent* in 2011-12 owing to ban on private mining in Karnataka.

NMDC had a production capacity of 32 MTPA by 2011-12 as against 28 MTPA envisaged in the Corporate Plan.

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NMDC catered to 23 *per cent* of domestic demand in 2011-12 by selling substantial ore in the domestic market.

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NMDC possesses about 5.5 *per cent* of Country's reserves. It needs to formulate a strategy for acquisition of new resources/ mines.

During 2009-10 and 2010-11 the actual production of iron ore by the Company declined from 28.52 MT (2008-09) to 23.80 MT (2009-10) and 25.16 MT (2010-11). The decline in production was mainly due to the breakdown of slurry pipeline of ESSAR which created evacuation constraints as discussed in Chapter 3. However, excluding exports, the Company's share in domestic ore supply was about 23 *per cent* in 2011-12.

2.3 We observed that the Company had achieved a production capacity of 32 MTPA by 2007-08 and had proven iron ore reserves of 1,565 MT at 64% Fe (including the reserves of 11B and Kumaraswamy Deposits which are under development) as on 31 March 2011 out of a total of 28,526 MT[3] proven iron ore reserves in the Country. The Company needs to work out its strategy on reserve accretion and acquisition of new mining areas in India and abroad to enhance its production while maintaining operations on a longer term.

[3] *This is as of 1 April 2010 as given in Working Group Report on Steel for the 12th Five Year Plan.*

2.4 *The Ministry of Steel (Ministry) in reply (July 2012) stated that it is conscious of the fact that it needs to augment its resource base on a continuous basis. The Indian Bureau of Mines has revised the cut off grade of iron ore to 45 per cent Fe, which will result into further augmentation of the resources. Beneficiation of low grade iron ore increases the Fe content and makes the low grade ore marketable. The Company signed Memorandum of Understanding/ Shareholding Joint Venture Agreement (SJVA) with Chhattisgarh Mineral Development Corporation, Director of Mines & Geology (DMG), Jharkhand Govt. and Jharkhand Mineral Development Corporation, Andhra Pradesh Mineral Development Corporation and DMG, Andhra Pradesh for exploration and exploitation of mineral deposits. The Company acquired 50 per cent stake in Legacy Iron Ore Limited, Australia whose iron ore resources comprise of a 60 per cent interest in Mt Bevan Iron Ore Tenement, Australia having resource of about 1.5 billion of 30.2 per cent magnetite iron ore. The Company is also scouting various other iron ore and coal properties in Brazil, Africa, Russia etc. and they are in various stages of due diligence.*

2.5 It was noted in Audit that the Company has been making efforts to acquire mines abroad but no specific strategy (indicating quantum of reserves to be acquired, resources to be earmarked etc.) has been formulated. It was also noted that at present all the contracts entered into by the Company were for supply of iron ore of 64 *per cent* Fe and above.

Recommendation #1

The Company needs to formulate a strategy spelling out its plans for acquisition of new mines/ reserves.

2.6 *Ministry noted (July 2012) the audit observation and stated that the Company would further concretize its plans for enhancement of its resource base and acquisition of new resources.*

Shortfall in Actual Production vis-à-vis Installed Capacity

2.7 It was noticed in Audit that the Company has generally been setting its targets below its installed capacity, primarily due to the evacuation constraints (inadequate facilities to evacuate its production fully).The details of Annual production targets and Actual production of the Company for the last seven years ending March 2012 are given below:

Chart 1: Annual Production Planned vis-à-vis Actual Production

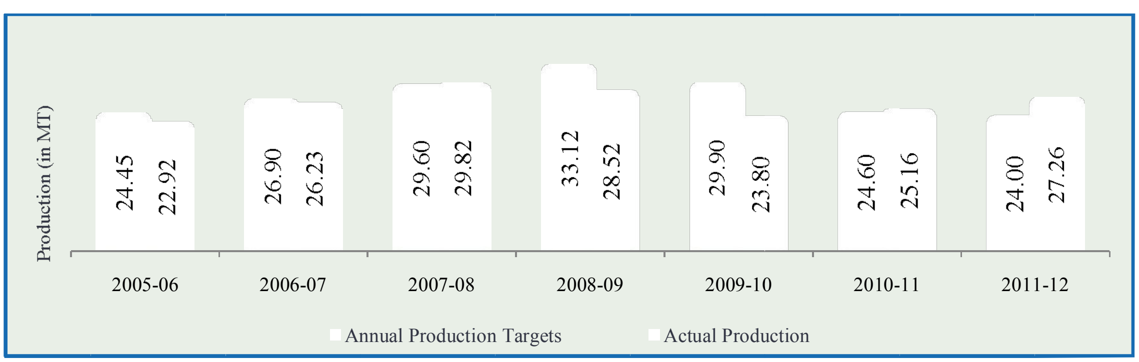

Table 1: Table indicating the installed capacity, annual production targets and actual production by the Company during the last seven years ending March 2012

(in MT)

Details	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Installed capacity – virtual*	24.22	25.00	32.00	32.00	32.00	32.00	32.00
Annual Production Targets [4]	24.45	26.90	29.60	33.12	29.90	24.60	24.00
Actual Production	22.92	26.23	29.82	28.52	23.80	25.16	27.26
Percentage of actual production to annual production targets	94	98	101	86	80	102	114
Percentage of actual production to virtual installed capacity	95	105	93	89	74	79	85

* *Though the installed capacity was officially revised by the Company only in 2009-10, audit has added the additional capacity of 3 MT from the year 2005-06 to arrive at the virtual installed capacity because the Company had introduced the third shift and fourth line at Donimalai in 2005-06 itself.*

2.8 As would be seen from the above, despite the fact that production targets were invariably below the installed capacity, even then, in four out of the seven years ended March 2012, the Company could not achieve its own targets. In 2009-10, there was damage to the slurry pipeline of ESSAR Steel Limited which was unforeseen. .

NMDC decided to develop Kumaraswamy Deposit in 1997. This project, expected to add capacity of 7 MTPA, was still under implementation as of March 2012.

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The implementation of the Kumaraswamy Project could take off only after February 2009 mainly due to delays in getting statutory clearances.

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The initial project cost of ₹ 296.03 crore has gone up to ₹ 898.55 crore due to revision of capacity from 3 MTPA to 7 MTPA & creation of additional facilities (₹ 320.00 crore) and general price rise (₹ 282.52 crore).

Shortfall in Capacity Expansion

2.9 The Company proposed (January 1997) the development of Kumaraswamy Project as a replacement to Donimalai mine. In January 2003, the Company further proposed to develop Deposit 11B in Chhattisgarh in order to meet the projected shortfall in demand and supply of iron ore at 7.80 MT by 2006-07 in Bailadila sector. These projects, expected to add capacity of 14 MTPA, are still under implementation indicating enormous delays and deficient project management. The issues relating to development of these mines are discussed in the subsequent paragraphs.

[4] *As fixed in the Annual Corporate Meetings held by the CMD with functional directors and heads of projects.*

Kumaraswamy Deposit

2.10 The Company's Donimalai Deposit in Karnataka has a capacity of 7 MTPA which were to get depleted by 2012-13. Therefore, the Board accorded (January 1997) approval to develop Kumaraswamy Deposit situated close to Donimalai- both in Bellary district in Karnataka- as a replacement to Donimalai Iron Ore Mine. The Kumaraswamy mine was to have an initial production capacity of 3 MTPA which was to be stepped up to 7 MTPA when reserves at Donimalai mine get exhausted. It was proposed to develop Kumaraswamy Deposit by sharing the facilities of Donimalai mine such as, screening plant, down below facilities and township.

2.11 Kumaraswamy Deposit was slated to be completed by October 2009 as per the consultancy contract awarded in July 2006 to MECON. The project is not yet complete (March 2012) and is scheduled for completion by January 2013. Delay in completion of Kumaraswamy project and change in scope of the project resulted in revision of project cost from ₹ 296.03 crore (April 2003) to ₹ 898.55 crore (December 2010). The reasons as to why the project could not be completed in time were analyzed in audit in detail. The findings are narrated below.

Delays in getting statutory clearances

2.12 Though the Board approved the project in January 1997, the Company could apply for the firm forest clearance in July 1999[5] only. The forest clearance involved diversion of 341.20 ha of forest land. The time taken to apply was attributed to the finalization of the 'land usage pattern' for the mine which was required to be submitted along with the application for forest clearance.

2.13 The Company's application for forest clearance was required to be forwarded by the State Government to the Ministry of Environment and Forest (MoEF), Government of India for final approval. However, in the meantime, there was a letter (August 2001) from the MoEF to Government of Karnataka (GoK) asking it not to forward any new or renewal of proposals of mining lease for diversion of forest land in Bellary district till the Joint Team appointed by Ministry of Mines for suggesting policy guidelines for renewal or grant of new mining leases in Bellary – Hospet sector submits its report. As a result, GoK did not forward NMDC's application to MoEF. In September 2001, Additional Secretary of Department of Mines held a meeting and asked GoK to conduct rapid Regional Environmental Impact Assessment (EIA) study of Bellary – Hospet sector by 31st January 2002. The job was assigned to National Environmental Engineering Research Institute, Nagpur (NEERI).

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[5] *Earlier the Company had applied (August 1998) for diversion of 265.15 ha of forest land but later withdrew it as the land use details were not firmly worked out. Subsequently, revised application for 278.35 ha within mining lease area and 64.725 ha outside mining lease area was submitted in February 1999. Subsequently, based on engineering survey details, revised area was worked out and a firm forest clearance application was submitted in July 1999 for 324.70 ha within mining lease area and 16.50 ha outside mining lease area, totaling to 341.20 ha.*

2.14 In the meantime, the Company and the Ministry made efforts to persuade Government of Karnataka to forward NMDC's application to the MoEF. In reply to the letter from the Minister of State for Steel, the Minister for Environment & Forests stated (September 2002) that NMDC cannot be excluded from the ambit of Regional EIA study.

2.15 NEERI submitted its report on 29 September 2002. MoEF, thereafter in February 2003, allowed GoK to forward forest land diversion cases to it. Even then Government of Karnataka took two years to forward the application to MoEF which was finally sent to the latter in February 2005.

- Though NMDC requested Government of Karnataka immediately in February 2003 to forward its application to MoEF, the Under Secretary of Forest, Environment & Ecology, Department of GoK, in January 2004, addressed a letter to the Principal Chief Conservator of Forest informing him that GoK, after verification of the proposal, found that the consideration of the NMDC's proposal was not possible. No reason was provided in the letter.

- While the application of the Company was not forwarded to the Ministry of Environment and Forest, Government of India for inexplicable reasons, a notification was issued on 15 March 2003 by Government of Karnataka de-reserving 11620 square Km for private mining which otherwise was meant for state exploitation/ mining for public sector. The following excerpts from the Lokayukta's report of December 2008 are relevant.

  "**The Government in its orders vide notification No. CI 16 MMM 2003 and No. CI 33 MMM 1994 both dated 15.03.2003, dereserved for private, mining an area of 11,620 square km in the state, meant for State exploitation/ mining by the public sector and notified the surrender of an area of 6,832.48 hectares of prime iron ore bearing lands respectively, which has paved way for distribution of public assets to select private individuals/ entities without regard to their professional or technical or business background.**

  The entire exercise was undertaken in a manner so as to benefit only a select few individuals/ entities. The main objectives behind de-reservation i.e. to encourage mining based industries to create more employment opportunities in private sector, to attract private capital and professional management for optimal use of state mineral resources were given a go by and allotments were made to the applicants on considerations other than merit.".

- The Company further furnished (August 2004) the replies to the 12 questions/ points raised by Karnataka Government. These questions related to mining activities and consequential measures to be taken up by the Company.

- The Government of Karnataka finally forwarded NMDC's application to MoEF in February 2005.

2.16 The forest clearance was received from MoEF in July 2006. In the meantime, the environmental clearance had also been received (October 2004). Though the forest clearance was in place in July 2006, the Company could not proceed with the implementation of its project until February 2009, i.e., till the time of receiving the tree cutting permission from the Department of Forests of Karnataka Government. The related developments are narrated below:

- Based on forest clearance of MoEF, the GoK issued their clearance in January 2007 to work in the forest area with a condition that the Company shall execute the agreement with the Forest Department.
- The Company tried to execute the agreement at the earliest but, according to the Ministry's reply to Audit, M/s Deccan Mining Syndicate Private Limited (DMSPL) intervened and communicated to Forest Authorities of Bellary that there were pending cases[6] of NMDC in the courts and there should not be any execution of forest agreement with concerned authorities. The execution of forest agreement was kept pending by Forest Authorities, Bellary.
- The High Court disposed off (March 2008) the case in favor of NMDC. Thereafter, the Company's officials coordinated with forest officials for tree enumeration work and tree cutting permission. The permission was received in February 2009 from the Forest Department.

2.17 The foregoing details explain how the Company, after applying for the forest clearance in July 1999, could not take up implementation of the project until February 2009 due to delays in getting statutory clearances. These delays contributed significantly to the overall delay in the project and resultantly to the huge cost overrun of the project.

Appointment of Consultant

2.18 The Company had in the meanwhile initiated in December 2005 the process for selection of consultant for consultancy services for Engineering, Contract Procurement services, Project Management and Construction Management Services (EPC). The Company in July 2006 appointed MECON, by floating a limited tender enquiry, as EPC consultant at a cost of ₹ 7.70 crore, immediately after receiving the forest clearance. Though the original DPR approved by the Board in April 2003 envisaged a project cost of ₹ 296.03 crore, it became irrelevant in view of the long delay in getting the environmental and forest clearance. According to the consultancy contract (July 2006), the project was to be completed in 39 months, i.e., by October 2009. Even this timeframe became redundant due to delay in getting forest clearance.

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[6] *DMSPL had filed a petition contending that the sketch enclosed with the renewal of mining lease (application by NMDC) encircled their mining lease area of 47 acres and also free area of 188 acres got included in the mining area of NMDC.*

Implementation of the project

2.19 The agreement with MECON envisaged the following activities with timelines against each activity. The counting of timelines is done by Audit from August 2008 as the agreement with the Forest Department was signed in July 2008.

Table 2: Activity wise scheduled completion and actual completion

Activity	Time frame (in months)	To be completed by	Actual date of completion	Delay in months (up to March 2012)
Award of contracts	12	July 2009	Package 1 - August 2010 Package 2 - April 2011 Package 3 - November 2010 Package 5-A – July 2011 Package 5-B – February 2012 Package 5-C – March 2012 Package 4 and 6 – not yet awarded.	13 months 21 months 16 months 24 months 31 months 32 months Beyond 32 months
Execution of packages of the project	21	April 2011	Packages are still under implementation.	11 months
Performance Guarantee Test	6	October 2011	As the packages are still under implementation, no PG test was completed so far.	5 months

2.20 The implementation of the Project has already been delayed as it is expected to be completed only by January 2013, i.e., after a delay of 15 months from the intended date of completion. The specific issues relating to implementation are dealt with in the succeeding paragraphs.

Award of contract

2.21 The total project work has been divided into six packages. MECON was required to finalize specifications, tender documents and complete the process of award of contracts within 12 months, i.e., by July 2009. However, the award of contract was delayed in all six packages. As of March 2012, the contracts in respect of four packages could be awarded as shown below:

Table 3: Delays in award of contracts Package wise

Package number and activity	First floating of tenders	Award of contract	Delay with reference to July 2009 (in months)
1. Crushing Plant	August 2007	August 2010	13
2. Downhill conveyor	January 2010	April 2011	21
3. Electrical works	April 2008	November 2010	16
5-A. Civil and structural works including water supply	January 2011	July 2011	24
5-B. Service Centre	May 2011	February 2012	31
5-C. Electric Overhead Transport Cranes	July 2011	March 2012	32

The reasons for the delays in award of packages have been analyzed below.

Package 1: Crushing Plant

2.22 Crushing Plant package is the crucial package for the development of the mine. The Notice Inviting Tender (NIT) for the package was issued in August 2007 and after re-tendering, the contract was finally awarded in August 2010. In this regard, we observed the following:

- MECON submitted the draft tender documents to the Company in December 2006. However, these documents were not complete. MECON kept submitting the tender documents in piecemeal. It submitted prequalification criteria (PQ) in January 2007 and commercial (payment) terms in April 2007 and cost estimates in May 2007. Thus, MECON took abnormally long time in preparing the tender documents.

- The Company appointed a consultant to conduct the soil investigation in December 2006 and finally got it done in September 2007. As a result, there were changes in the methodology[7] to be adopted for earth work excavation. This led to extension of the date for submission of tender documents to 7 January 2008.

- As the 'area layout' plan for crushing plant prepared by MECON needed revision, the last date for submission was further extended beyond 7 January 2008. MECON submitted the final 'area layout' plan in March 2008 and the Company approved the plan on 17 March 2008.

- The bidders (only two had come forward on 7 January 2008 to submit their offers) could have submitted the tenders then. But the Company decided to include FL Smidth make crusher (which was not included in the original tender) in the approved makes. This decision was based on the recommendation of the committee[8] which visited Joda mines of TATA steel where this make was installed. As the tender process was underway, there was little justification to include one more make at the late stage particularly when the records of the Company did not provide any justification for inclusion of this make. This necessitated cancellation of original tenders in May 2008.

- Later in June 2008, the Company again asked for certain changes in the area layout plan. This should have been taken care of by the Company while approving the plan in March 2008. MECON based on the Company's observations, revised the tender documents and submitted the same to the Company in January 2009. The reasons for the delay are not on record.

- The new NIT was published in January 2009 with the due date for submission of the tender by 19 March 2009, which was extended to 20 April 2009. Five bidders

[7] *In the initial tender only reinforced earth retaining walls/ soil nailing was specified for earth protection. Subsequent to soil investigation, it was decided that tenderer may be given the option to adopt any method he finds suitable/ cost effective for the project. This led to changes in tender specifications with regard to excavation and further time extension.*

[8] *Committee consisted members of NMDC and MECON.*

participated but only two of them were found technically qualified. Both of them, however, did not meet the PQ criteria[9] and hence the tender was abandoned in August 2009.

- The re-tendering was done in October 2009 by relaxing PQ criteria. Though the tenders were received in November 2009, the tardy processing by the Company in evaluation and seeking of clarification finally led to delay in award of work which was done in August 2010 to the lowest tenderer, FL Smidth Minerals Private Limited.

2.23 **Thus, the award of Package 1 was delayed due to delay in preparation of tender documents by MECON, delay in providing the requisite information by the Company to MECON and frequent changes by the Company in the tender conditions. While it is true that the work could not have started without the tree cutting permission, it is also true that the contract could be awarded only in August 2010, though the tree cutting permission was available in February 2009.**

2.24 *Ministry stated (July 2012) that the time taken (total 9½ months from receipt of bids) for finalization of Package 1 is not unreasonable by considering the time taken from issue of revised tenders in October 2009 and award of work in August 2010.* The fact is that, the Company had initiated the process in August 2007 and finally, the work could be awarded in August 2010. The Company took 37 months for finalization of award.

Package 2: Downhill Conveyor

2.25 In respect of Package 2, we observed that:

- As per the initial plan in 2003, the downhill conveyor was to be extended up to Donimalai screening plant from Kumaraswamy Iron Ore Project hill top. However, in December 2008, the Company decided to truncate the downhill conveyor to match with the new screening plant location and add another conveyor from that point to the existing Donimalai screening plant.
- The planning regarding whether to use the existing Donimalai screening plant or install a new one should have been done at the DPR stage itself in April 2003. Nonetheless, it was also possible to quickly decide on this issue after appointment of the consultant in July 2006. However, the decision to add another conveyor plant was delayed till December 2008.

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[9] *PQ criteria inter-alia included that (i) the tenderer / collaborator should have engineered and constructed at least one crushing plant with a gyratory crusher in the last ten years. As L&T supplied crusher eleven years back, the PQ was modified to 15 years. (ii) Another PQ was that, in case of collaborator/ associate of the collaborator, they shall jointly and individually be responsible for the execution of the contract for which the necessary guarantees shall be furnished by them to the Company in the form of BG for their share.*
F. L. Smidth did not agree to this criteria and informed that in addition to the BG to be submitted by F. L. Smidth, they will also submit additional BG which otherwise was to be submitted by their collaborator,
F.L. Smidth CEntry. The tender terms were relaxed and both the BGs were given by F. L. Smidth only.

- Even after taking the decision regarding screening plant in December 2008, MECON took eight months to submit the first draft of tender documents in August 2009. The final draft was approved by the Company in December 2009 and NIT was issued in January 2010. Tenders were opened in April 2010 but the Company and MECON took one year to award the contract. Considerable time was taken for bid evaluation, price negotiations and Board approval. Finally, the contract was awarded to ELECON in April 2011 with completion time of 21 months. This again indicates the poor project management.

2.26 *The Ministry attributed the delay in tendering activity to finalizing the land agreement with Bharat Mines & Minerals through whose land the conveyor corridor was to pass. This agreement was finalized in August 2009. The subsequent delay in processing was attributed to time taken in bid evaluation/ discussion with bidder's foreign associates.*

Package 3: Electrical Works

2.27 In respect of Package 3, we observed that the electrical works were mainly required to be done for Package I and II. As the award of work for these packages was delayed, the Company abandoned the contract procedure initiated in March 2008 and re-tendered the work in April 2010. The contract was awarded in November 2010 with a completion time of 15 months.

Package 4: Telecommunication works

2.28 In respect of Package 4, we observed that though the tender documents were prepared in July 2008, the tendering process was not undertaken due to delay in first two packages. The Company asked MECON (May 2011) to revise the tender cost in view of efflux of time. MECON submitted the revised tender documents in July 2011 and the tenders were floated in August 2011. The award of work was expected to be completed by May 2012. *The Ministry (July 2012) stated that this was a non-critical package of nine months duration and the successful bidder would have to work in facilities created under Package I and II and hence, the award of this package was being regulated accordingly.*

Package 5: Hill top facilities

2.29 In respect of Package 5, we observed that NIT was issued in March 2008 but since there was no response to the tender, the package was split into three sub-packages in July 2008. MECON took a long time to submit draft tender documents for these packages. The tender documents were submitted between June 2010 and October 2010. Apart from the abnormal delay on the part of MECON, the Company also delayed the approval of tender documents by six to eight months. The NITs for sub-packages were issued during January 2011 to July 2011. There was no justification for the delay in the process of award of work. Water supply sub-package was awarded in July 2011 and works are in progress. Service centre package and cranes package were awarded in February and March 2012 respectively.

Package 6: Approach Road

2.30 In respect of Package 6, we observed that MECON submitted the draft tender documents in November 2010. The Company asked (December 2010) MECON to redesign and revise the tender documents as the basis for design parameter was incorrectly considered. Soil investigation report was forwarded by the Company to MECON in March 2011. The revised documents were received from MECON in August 2011. The tender was floated by MECON with due date of tender opening in November 2011. The techno-commercial scrutiny is going on at NMDC and the award of contract is expected to be completed by May 2012.

2.31 *The Ministry stated (July 2012) that Package 5 and 6 were not directly related to commissioning of the project and award of work for Package 6 is under finalization and is likely to be awarded shortly.*

2.32 **As can be seen from above, the award of contracts, expected to be completed by July 2009, i.e., within 12 months from the date of signing the agreement with Forest Department, was actually completed in case of four packages after a delay of 13 months to 32 months. In respect of other two packages, the contracts were yet to be awarded by March 2012.**

Implementation of Packages

2.33 The execution of the packages was to be completed within 21 months from the award of the contracts. The details of progress in implementation of the packages is given below:

Table 4: Table indicating the packages in respect of which works have been awarded (As of 31 March 2012)

Package	1	2	3	5A	5B	5C
Date of award of work	August 2010	April 2011	November 2010	July 2011	February 2012	March 2012
Projected date of completion as per contract	May 2012 [Extension sought by supplier up to June 2013]	January 2013	February 2012 [Extension granted up to November 2012]	April 2012	November 2012	January 2013
Present status	Design & Engineering completed. Civil works in progress. Imported equipments inspection completed and supplies in progress. Physical Progress: 54%	Design & Engineering is in advanced stage. Excavation and road work are in progress. Physical Progress: 26%	Design & Engineering completed. Major equipments inspection & dispatch in progress. Physical Progress: 59%	Service Centre Package and Cranes Packages awarded in March 2012.		

2.34 The work is in progress and going by the pace of implementation of Packages 1, 2 and 3, the prospects of scheduled completion by January 2013 appear bleak. The implementation of Packages 1 and 3 is getting delayed beyond the scheduled completion date and the reasons are:

- Package 1: Though award was dated 30 August 2010, clarifications on commercial points were furnished by the Company on 14 October 2010 after a period of two months. As the deviations were noticed (March 2011) on the soil conditions in actual vis-à-vis as indicated in the tender documents, final decision was taken in a meeting with MECON, FL Smidth and the Company in August 2011. In December 2011, the design parameters of Primary Crushing House (PCH) Building/ foundation and scheme of Dumper platform were frozen. This resulted in delay in subsequent activities of material planning, procurement and construction activities at site. FL Smidth requested the Company to extend time till June 2013 for completion of PG test.

- Package 3: Due to carrying out changes in civil and structural drawings submitted by the Contractor as proposed by MECON, there was delay in finalization of drawings. There was also a lapse of six months (September 2011 to February 2012) on finalizing the vendors for procurement of steel by NMDC/ MECON. Further, according to the contractor, ban on mining activities by Hon'ble Supreme Court in August 2011 resulted in difficulties in procurement of sand, jelly etc. The same were transported from far off places and this affected progress at site.

Impact of delay on commissioning of the project

2.35 The delay in completion of Kumaraswamy project resulted in revision of project cost from ₹ 296.03 crore (April 2003) to ₹ 898.55 crore (December 2010) which was due to revision of capacity from 3 MTPA to 7 MTPA and due to creation of additional facilities (₹ 320.00 crore) and general price rise (₹ 282.52 crore). The delay and consequent increase in cost due to price rise are mainly attributable to delays in receiving the statutory clearances and subsequently due to poor project management by the Company. The project is now scheduled to be completed by January 2013.

11B Deposit

2.36 The Company assessed (January 2003) the shortfall between demand and supply of iron ore from Bailadila sector to be 7.80 MT by 2006-07. Therefore, the Board accorded (January 2003) in-principle approval to develop 11B Deposit at Bailadila in Chhattisgarh and to prepare Detailed Project Report (DPR) to meet the projected shortfall of iron ore. The Board approved (March 2004) an estimated expenditure of ₹ 15.57 crore for preparation of DPR, statutory clearances and pre-construction works. In order to take advantage of the booming market, the Board directed for commencement of pre-construction work in parallel to DPR preparation to save 10 months time out of scheduled 49 months for completion of the project. The Company had also initiated action for preparation of DPR in October 2003 by

NMDC decided to develop 11B Deposit mine in 2003. This project, expected to add capacity of 7 MTPA, was still under implementation as of March 2012.

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Delays were noticed in 11B Deposit Project in Chhattisgarh. The initial project cost of ₹ 295.89 crore went up to ₹ 607.17 crore due to revision of capacity from 3 MTPA to 7 MTPA (₹ 139.17 crore) and general price rise (₹ 172.11 crore).

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Slated to be completed by October 2008, the 11B Deposit Project is still in progress due to controllable delays in awarding contracts for development and also due to external constraints.

officials from various departments of the Company and prepared the report in July 2004. It was proposed to develop 11B Deposit with a capacity of 3.0 MTPA by utilizing the existing infrastructure such as screening plant, tertiary crushing plant, loading plant, administrative set up and other facilities in order to bring down the overall capital investment and operating cost of the project so that it would be most competitive.

Receipt of statutory clearances

2.37 The Detailed Project Report (DPR) to develop the 11B Deposit at an estimated cost of ₹ 295.89 crore was approved (January 2005) by the Board. The project cost was revised (January 2008) to ₹ 468 crore and further (May 2008) to ₹ 607.17 crore. The increase in project cost was due to increase in design capacity from 3 MTPA to 7 MTPA (₹ 139.17 crore) and increase in prices (₹ 172.11 crore). The time lag in taking up the project was on account of the following:

- Though the Board approved the project in principle in January 2003, the Company applied for forest clearance in December 2003 only and the same was received in January 2005. The period of 10 months in submission of application for forest clearance could have been curtailed with better planning and management.
- The Company applied for No Objection Certificate (NOC) to the State Government in May 2004 and received the same in November 2005. Thereupon, it applied (December 2005) for Environmental Clearance (EC) from MoEF, which was received in September 2006.

Appointment of Consultant

2.38 Against a limited tender enquiry floated (March 2005), MECON was issued (July 2005) Letter of Intent (LOI) for consultancy services for Engineering, Contract procurement services, Project management and Construction management services.

Implementation of the project

2.39 As per the PERT chart, the project was scheduled to start by July 2005 and completed by October 2008. The same was revised to January 2007 and September 2011 respectively. With reference to the initial PERT chart, the status of activities, timeframe and progress is given below:

Table 5: Table indicating the milestones and achievement in respect of 11B Deposit

Activity	Time frame (in months)	To be completed by	Actual date of completion	Delay in months (up to March 2012)
Procurement (Award of contracts)	12[10]	July 2006	3 Major packages - August 2007 Others - July 2011	Major packages –13 months Others – 60 months
Execution of packages of the project	21	April 2008	Packages are still under implementation.	47 months
Performance Guarantee Test	6	October 2008	As the packages are still under implementation no PG test was completed so far.	41 months

2.40 The implementation of the project has already been delayed at least by 41 months (March 2012). The project is expected to be completed by November 2012, i.e., after a delay of 49 months. While a part of the delay is attributable to late receipt of Environment Clearance (EC), we noticed that the delays in implementation were also due to deficient planning and tardy project management and these delays were very much controllable. Delays were also attributable to external constraints. Specific issues involved in the implementation are discussed below.

Award of contract

2.41 The total project work has been divided into seven packages. MECON was required to finalize specifications, tender documents and complete the process of award within 12 months, i.e., by July 2006. However, the award of contract was delayed in all seven packages. As of March 2012, the contracts in respect of all packages have been fully awarded as shown below. The delay has been worked out with reference to November 2006, i.e., two months after the receipt of environment clearance. As the Company had appointed the consultant in July 2005 itself, the tendering could have been completed and orders kept ready to be issued immediately after receipt of EC.

[10] *The Board proposed (March 2004) 12 months time schedule for preconstruction work (award of contracts). The PERT chart for Package I also provided for 12 months for preconstruction activities.*

Table 6: Table indicating the delays in award of contract for 11B Deposit

Package No.	Activity	First floating of tenders	Award of contract	Delay with reference to November 2006 (in months)	Name of the contractor
1	Crushing Plant & Stacking section	November 2006	August 2007	9	TRF Limited
2	Downhill conveyor	November 2006	May 2007	6	Sandvik Asia Limited
3	Earthwork and site preparation	February 2006	December 2006	1	Ratna Constructions
4	Electrical sub-station and Power distribution system	August 2007	March 2008	16	Siemens Limited
5A	Water supply, Reservoir and piping etc.	August 2009*	June 2010 November 2010	43 48	Local contractors
5B	Service centre buildings etc.	February 2010	November 2010	48	BCC Infracon
5C	Electrical Items (Transformers, wiring, Panel etc.)	May 2010	February 2011	51	Lalitha Engineering
5D	Supply and erection of cranes	June 2010	July 2011	56	Alpha Services Ltd.
6	Telecommunication system	July 2008	October 2008	23	Infonet Asia private Limited
7	Fire protection system	May 2008	January 2010	38	New Fire Engineers Pvt Ltd

* *No party participated and hence the scope of work was further split as (1) Departmental (NMDC) purchase of pipes and valves; (2) Construction of RCC ground level water reservoirs (with supply of steel and cement by department); and (3) Erection of water pipe line from 11C to 11B.*

2.42 Even after taking into consideration the date (September 2006) of receipt of EC, the process of award of contract should have been completed by September 2007 as the consultant had already been appointed in July 2005. We noticed that the Company had awarded first three Packages by September 2007, Package 4 and 6 were awarded by October 2008. However, Package numbers 5 and 7 were badly delayed as explained below.

- Though MECON submitted the tender documents for Package # 5 in November 2006 itself, it took a long time for the Company to approve these documents in January 2008. This was due to revisions made in the drawings. However, the Company could have managed the process better by setting the timeframes and strictly monitoring the adherence to the timeframes. The matter, however, was allowed to take its own course. Subsequently, the tenders issued in February 2008 were cancelled for want of response. The work was then split into four sub-packages (August 2008). Tardy processing saw these getting awarded only by July 2011. This indicates poor project management by the Company.

- So far as Package # 7 is concerned, there was delay in preparation of tender documents which were submitted by MECON in February 2008. Though NIT was issued in May 2008, the process of award of contract was delayed up to January 2010 due to processing of tenders and revision in cost estimates. The delay was avoidable with proper monitoring.

2.43 *The Ministry (July 2012) stated that Package for Telecommunication (Package 6) and Fire detection and alarm system (Package 7) are not linked directly with commissioning. However, these packages cannot be executed unless fronts are made available by Package 1 and 2 contractors. Award of these Packages got delayed due to Maoist activity which resulted in no offers from bidders. Therefore, the Company split the original packages into rate contract jobs.* The Ministry admitted that there were delays but stated that there was no impact on the overall project. While it is true that the Company faced external constraints, it is also true that there were delays in the activities which were within the control of the Company and the consultant.

Implementation of packages

2.44 The details of progress in implementation of packages are given below:

Table 7: Table indicating the progress in implementation of packages

Package no and description of work		Date of award of contract	PDC as per contract	Physical progress in % (March 2012)	Contract cost (₹ in crore)	Payment (₹ in crore)
1.	Crushing Plant and Stacking section	August 2007	May 2009	70	115.19	83.18
2.	Downhill conveyor	May 2007	February 2009	75	115.71	82.32
3.	Earthwork and site preparation	December 2006	November 2007	96	75.29	73.12
4.	Electrical sub-station and Power distribution system	March 2008	March 2009	91	10.99	7.98
5A.	Water Supply, Reservoir and Piping etc	November 2010	March 2011	86	1.41	0.63
5B.	Service centre Buildings, etc	November 2010	November 2011	58	17.33	4.48
5C.	Electrical Items (Transformers, Wiring, Panel etc)	February 2011	February 2012	51	2.36	0.55
5D.	Supply and erection of cranes	July 2011	May 2012	45	1.54	0
6.	Telecommunication system	October 2008	October 2009	51	1.78	1.11
7.	Fire Protection System	January 2010	January 2012	68	7.36	4.76
Total					**348.96†**	**258.13**

† *Total 11B project cost is ₹ 607.17 crore including ₹ 181.88 crore for purchase of mining equipment, ₹ 33 crore for township/ additional facilities; ₹ 23.55 crore for Environmental Management Plan; and balance for services/ Admn. Exps./ Contingencies etc.*

2.45 As can be seen from above, Packages # 1, 2, 3, 4 and 6 which were scheduled to be completed between November 2007 and October 2009 were yet (March 2012) to be completed. Key points relating to delays are discussed below.

- Package # 1 (Crushing Plant & Stacking section) was delayed as the site for primary crusher was handed over to the contractor only in July 2008. This delay was due to delay in implementation of package # 3 (Earthwork and site preparation). In addition to this, law and order problems and delays on the part of the contractor (TRF Limited) were also responsible.
- Package # 2 (Downhill Conveyor) was also delayed as the site for Downhill Conveyor System was handed over to the contractor only in May 2009. The delay was due to delay in implementation of package # 3. In addition to this, non-availability of construction materials and delay in submission/ approval of drawings were also responsible.
- Package # 3 (Earthwork and site preparation) scheduled to be completed by November 2007, was yet (March 2012) to be completed. The delay was attributable mainly to increase in estimated earthwork, problems in soil due to bouldary nature of soil and introduction of grouted nails. Nonetheless, the time taken appears to be too long.
- Package # 4 (Electrical sub-station and power distribution system) was delayed due to delay in submission of drawings by the contractor and also due to delay in completion of package 1 and 2.
- Package # 6 was delayed as fronts were not ready for installation of telecommunication system.

2.46 There was delay in award of works relating to Package 5 and 7. Further, it was observed that there were delays in the implementation of Package 5 and 7 also.

- In respect of Package 5, electrical works were delayed as site was not ready for taking up electrical works and the civil works to most of the buildings were still under construction. Site was not ready for setting up of cranes. Approved drawings were not submitted to the contractor even by April 2012 (award of work: November 2010) by MECON in respect of location of fire station, roads and drains.
- Package 7 was delayed as the mechanical work could not be started since no front was made available to the contractor to take up the work as conveyor work was in progress. Clearance to take up the work could be given only after completion of construction of conveyor.

2.47 *The Ministry (July 2012) stated that contractors for Package 1 and 2 were unable to execute the project at a pace acceptable to the Company owing to problems in mobilization of resources and manpower due to Maoist activities*. However, apart from external factors, deficient project management was also responsible for delay.

Impact of delay on commissioning of the project

2.48 The delay in completion of 11B project resulted in revision of project cost from ₹ 295.89 crore (January 2005) to ₹ 607.17 crore (December 2010) which was due to revision of capacity from 3 MTPA to 7 MTPA (₹ 139.17 crore) and general price rise (₹ 172.11 crore). The project is now scheduled to be completed by November 2012, the chances of which appear bleak as Package 7 completion date was extended up to January 2013.

2.49 *The Ministry stated (July 2012) that re-discovery of additional reserves in Kirandul project due to extensive drilling, gave a fresh lease of life to the mine. This development necessitated re-visiting of the project plant and equipment capacities along with logistics. The Ministry contended that 11B was only envisaged as a replacement mine for Deposit 14 and was not intended to be in operation in addition to that mine.*

2.50 The reply of the Ministry is not convincing in view of the following:

- The contention of the Ministry that the Company had to re-visit the project plant and equipment capacities and logistics in view of the re-discovery of additional reserves in Kirandul is not seen in the records of the Company.
- There were delays due to external constraints which occurred during execution. However, there were delays on the part of the Management in finalizing the award of packages and in finalizing the drawing post award of contracts.
- Even if it is accepted that the Management had re-discovered additional reserves, the Management could have gone ahead with the development of the mine and could have regulated its production with the market conditions.

2.51 *The Ministry further stated (July 2012) that, even though in isolation, when compared with the time schedule mentioned in the consultancy contract with MECON, the award of work for the above package works is noticed to have been delayed, but actually there is no impact on the overall project considering the dependency of package work one over the other. It also stated that the relevant points brought out in the audit report have been noted by the Company and actions will be taken as part of the continual improvement efforts of NMDC.*

2.52 The Company agreed with the recommendation. It stated (December 2010) that two General Managers and one Deputy General Manager were posted to head the three branches of project division, i.e., engineering, contracts and projects. For each project, an officer of the grade of Joint General Manager/ Dy. General Manager has been appointed as project manager who is directly responsible for doing complete coordination between planning and implementation and monitoring set up. Director (Technical), other Directors and CMD have been taking monthly reviews of all the projects.

Recommendation # 2

The company needs to enhance its project management capability by focusing on project planning, implementation and monitoring. In this regard, the Company needs to specify the timeframes and milestones for all project activities and ensure their strict adherence through continuous monitoring and requisite remedial action.

Chapter – 3
Evacuation Facilities

Evacuation refers to transporting iron ore from mines to the buyers' sites/ ports. The evacuation capacity of the Company was 30 MTPA (23 MTPA at Bailadila sector and 7 MTPA at Donimalai sector) as against the total installed production capacity of 32 MTPA. This chapter deals with the evacuation bottlenecks affecting the production.

NMDC had an evacuation capacity of 30 MTPA as against the production capacity of 32 MTPA. The shortfall was at Bailadila sector in Chhattisgarh.

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Though the evacuation capacity turned inadequate in 2007-08, the three options available to enhance the capacity were not pursued swiftly by NMDC.

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The Board approved laying of a slurry pipeline (capacity of 8 MTPA) from Kirandul to Visakhapatnam in July 2008 but only 'due diligence' could be completed by March 2012.

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Another option of doubling of Kirandul – Jagadalpur railway line to enhance the capacity by 3 MTPA was taken up in JCM with Railways only in February 2010 and not pursued vigorously thereafter.

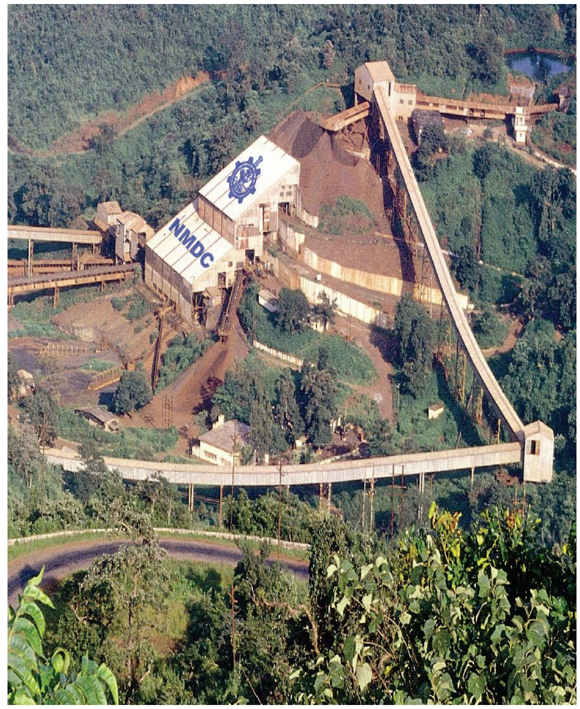


Fig 2: Aerial view of downhill conveyor at Bacheli

3.1 We observed that while the evacuation capacity matched with the production capacity at Donimalai sector, there was a mismatch between evacuation vis-à-vis production capacity at Bailadila sector to the extent of 2 MTPA as discussed below:

Bailadila Sector: Inadequate evacuation capacity

3.2 The evacuation of the production is carried out mainly through Railway line called KK Line (Kirandul –Kothavalasa line). The capacity of the railway line as assessed by the Company in 2003 was 16 MTPA. A small quantity was transported through road. In addition, seven million tonnes per annum was despatched through a slurry pipe line laid and owned by ESSAR Limited (a customer) from 2005-06. Thus, the total evacuation facilities available at Bailadila sector were 23 MTPA against installed capacity of 25 MTPA since 2007-08. Therefore, there was a mismatch in the evacuation facilities vis-à-vis production facilities at Bailadila sector to the extent of two MTPA.

3.3 The table below indicates the installed capacity, the actual production facilities and actual evacuation capacity vis-à-vis quantity dispatched through different modes for the past seven years ending 31 March 2012 at Bailadila sector.

Table 8: Table indicating the evacuation capacity and the actual dispatches (Bailadila Sector)

(in MTPA)

Details	Years						
	2005-06	**2006-07**	**2007-08**	**2008-09**	**2009-10**	**2010-11**	**2011-12**
Installed capacity	17.22	18.00	25.00*	25.00	25.00	25.00	25.00
Actual production	17.42	20.56	22.97	22.15	18.08	20.90	21.65
Annual production-plan	18.55	21.00	23.80	26.12	23.90	20.20	20.50
Evacuation capacity: through rail through pipeline	 16.00 7.00	 16.00 7.00	 16.00 7.00	 16.00 7.00	 16.00 7.00	 16.00 7.00	 16.00 7.00
Total evacuation capacity	**23.00**	**23.00**	**23.00**	**23.00**	**23.00**	**23.00**	**23.00**
Actual Dispatches: 1. by rail 2. by road 3. by slurry pipeline	 16.50 00.12 01.98	 14.28 00.24 05.86	 14.73 00.24 06.82	 14.27 00.24 06.39	 15.42 00.26 02.24	 17.40 01.18 02.86	 16.73 01.02 03.84
Total Dispatches	**18.60**	**20.38**	**21.79**	**20.90**	**17.92**	**21.44**	**21.59**

* *The increase was due to increase in the installed capacity in 2007-08 at Bacheli from 11 MTPA to 13 MTPA and at Kirandul from 7 MTPA to 12 MTPA.*

3.4 As can be seen from above, the evacuation capacity turned inadequate with reference to the installed capacity in the year 2007-08 and continued to be inadequate thereafter. The evacuation capacity further suffered a setback when the slurry pipe line of ESSAR (capacity 7 MTPA) was damaged in May 2009. This was restored in December 2010, but was again damaged in October 2011. The same is yet to be restored (March 2012).

3.5 Evacuation capacity determines the quantum of production and should match with the production capacities in existence as well as to those envisaged. Any mismatch in evacuation facilities with production capacities leads to piling up of stocks, resulting in not meeting the demand of customers. The production for 2003-04 at Bailadila sector was 13.66 MT and the Company sold 16.37 MT (including stock) which was in line with the evacuation facilities. With the gradual increase in production from 13.66 MT in 2003-04 to envisaged production of 24.45 MT by 2009-10 as per Corporate Plan, there was every need to augment the existing evacuation capacity. However, this area was neglected. The following measures were/ are available to the Company to optimize and enhance the evacuation capacity:

A. using the existing rail evacuation capacity optimally;
B. laying of uni-flow system at Bacheli;
C. establishing a new pipeline; and
D. doubling of railway line between Kirandul and Jagdalpur.

3.6 The Company also faced constraints during 2006-09 when the adequate number of rakes were not made available by Railways. The performance of evacuation through Railways improved during 2009-10 and remained at satisfactory level thereafter. A uni-flow system at its Bacheli complex, envisaged to bring about smooth movement of rakes and increase the capacity by 4 MTPA, was delayed. The system slated for completion by June 2007 was completed only by May 2012, the benefits of which would accrue in the years to come. The performance in respect of C and D above has not been satisfactory.

3.7 *Ministry in its reply (July 2012) while accepting that augmenting evacuation capacity is a strategic requirement for bringing about its future production plans to realization, stated that the dispatch for the year 2011-12 was more than 27 MT compared with 25 MT during 2010-11 despite the fact that the ESSAR pipeline was not operational in substantial parts of both the years.* The dispatches, as stated by the Ministry, pertained to both Bailadila and Donimalai sectors and the audit observation was only on dispatches made from Bailadila sector. The combined installed production capacity for both Bailadila and Donomalai sector was 32 MTPA.

3.8 The progress made by the Company in respect of above measures is discussed below.

Establishing a new pipeline

3.9 As the evacuation by Railways was a constraint during 2006-08, the Company had another option of going in for a new pipeline to evacuate production from Bailadila to Visakhapatnam. The pipeline was estimated to have an evacuation capacity of eight MTPA. The Board of Directors accorded (July 2008) in-principle approval for laying of a slurry pipeline from Kirandul to Visakhapatnam at an estimated cost of ₹ 2500 crore. Though approval was accorded in July 2008, it remained pending at the Commercial Department till November 2009. Technical wing initiated steps afresh for award of work relating to Techno Economic Feasibility Report (TEFR) in November 2009. Given the constraint on evacuation front, this delay of 16 months was avoidable.

3.10 In spite of constraints on evacuation front, the Company did not handle the matter of establishment of a new pipeline with required urgency. As a result, even after four years since the in-principle approval was given by the Board, the project is yet to take off. The delay was avoidable.

3.11 *The Ministry in reply (July 2012) stated that initially TEFR was prepared by MECON and due diligence on the TEFR was carried out by IFCI. The phasing of the project is envisaged to be completed in three phases. This was later modified as follows: Phase I to include construction of beneficiation plants to produce two MTPA Pellet Feed Concentrate from Bacheli Complex along with a slurry pipeline from Bacheli to Nagarnar and a pellet plant at Nagarnar to produce Blast Furnace grade pellets. Phase II consists of augmentation of production facilities for production of pellets to 4 MTPA at Bacheli and setting up another beneficiation plant at Kirandul Complex to produce 4 MTPA Pellet Feed Concentrate along with a slurry pipeline from Kirandul to Bacheli and from Nagarnar to Vizag and Filtration*

Plant at Visakhapatnam. Phase III consists of addition of 2 MTPA beneficiation plant at Kirandul. Further, RINL was keen to increase its off-take of iron ore in view of its capacity expansion from 3 MTPA to 6 MTPA and an MoU was signed with RINL in May 2012 to explore and firm up the finer details.

3.12 The reply only states the contents of TEFR but not the reasons for delay in establishment of a new pipeline.

Doubling of line between Kirandul and Jagdalpur

3.13 The iron ore is transported by rail between Kirandul and Visakhapatnam. The distance between Kirandul and Visakhapatnam is 472 KM. This is mostly single line except at some intermediary stations where loop lines are provided. Doubling of line between Kirandul and Jagdalpur (distance 150 KM out of 472 KM) would reduce the turnaround time and thus would help increase evacuation capacity by three MTPA.

3.14 The Company accorded (December 2010) in principle approval to bear the actual cost which would be provided as interest free advance to Railways and forwarded (December 2010) a draft MoU for processing at the Railway Board level. The cost at 2010 prices was estimated at ₹ 850 crore. Negotiations are being held for signing of MoU (March 2012). The Company has not spent any amount so far (March 2012).

3.15 Thus, the matter is pending with Railways since December 2010. In the interim, the Company addressed to the Railway Board in April 2011 for early clearance.

3.16 *In reply (July 2012) the Ministry stated that discussions were in progress with Railway Head Quarters in Delhi on the terms of MoU before signing the same. Further, Ministry has also taken up the matter at the level of Chairman, Railway Board and a letter has been sent in June 2012 from Secretary (Steel) to Chairman, Railway Board for giving due priority to the project of NMDC for doubling of KK line.*

Recommendation # 3

3.1 The Board should regularly monitor the progress of laying of a slurry pipeline.

3.2 The issues relating to doubling of K-K line should be taken up at the Railway Ministry level and pursued so as to expedite its completion.

Chapter – 4
Sale of Iron Ore

This chapter deals with the issues relating to price fixation and sales.

NMDC exports iron ore by entering into long term agreements (LTA) with Japanese Steel Mills (JSM). The prices received by NMDC were in line with the prices paid to Australian and Brazilian exporters by Japanese Steel Mills.

***

The LTA prices of exports formed the basis for determining the domestic prices for the LTA with domestic customers.

***

95 *per cent* of NMDC's sales came from LTA and rest were spot sales during 2005-12. Sales to domestic customers through LTA accounted for 84 *per cent* of its sales.

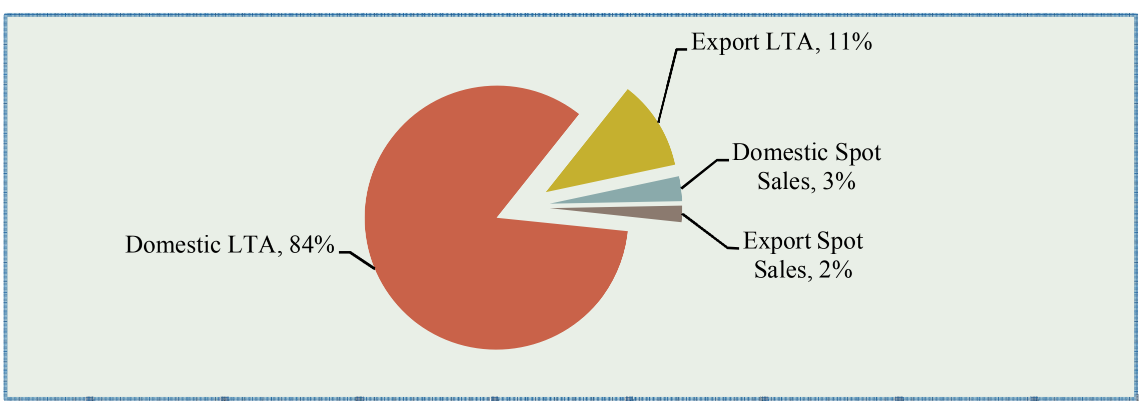
Overview

4.1 The Company enters into Long Term Agreements (LTA) for a period of five years with customers for sale of iron ore in the domestic as well as export market which, inter-alia, provide for minimum and maximum quantities to be supplied/ lifted by the Company/ customers. During 2005-12, NMDC contributed 13 *per cent* of the Country's iron ore production and met 26 *per cent* of the domestic iron ore demand in the Country. During FY 2011-12, it contributed 16 *per cent* of the Country's iron ore production and met 23 *per cent* of domestic demand. NMDC plays a vital role in the domestic iron ore market by catering mainly to the enterprises with non-captive mines such as Rashtriya Ispat Nigam Limited, JSW Steels Limited, JSW Ispat Limited, ESSAR Steels Limited etc. The Company had 27 iron ore customers apart from 65 sponge iron companies as of March 2012. In addition, the Company also sells iron ore in spot market. The table below indicates the sales volume and value during the last seven years ending March 2012.

Table 9: Table indicating Sales in MT and Value for seven years ended March 2012

Particulars	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Sales in million tonnes (MT	24.80	25.59	28.18	26.47	24.09[11]	26.32	27.30
Sales (₹ in crore)	3669.47	4170.92	5705.32	7559.11	6222.60	11285.33	11167.56

Chart 2: Proportion of Domestic, Export and Spot Sales to Total Sales during 2005-12



[11] *The decrease in sales was mainly due to breakdown of slurry pipeline of ESSAR.*

Pricing mechanism

4.2 During 2005-12, the Company sold 95 *per cent* iron ore through LTA with the customers and the balance 5 *per cent* in the spot market. Japanese Steel Mills (JSM) negotiate iron ore prices with the major producers of Brazil and Australia. The Company's export prices were fixed in line with these benchmark prices.

4.3 So far as domestic LTA prices are concerned, the Company followed the Ganeshan Committee's[12] recommendations containing the methodology for fixation of domestic prices including mid-term revision for all the products, i.e., Lump, Calibrated Lump and Fines.

4.4 The salient features of the recommendations of the Committee are:

- There would be two categories of customers: (a) long term customers and (b) spot customers.
- The prices for the first year in the domestic market be fixed based on Net Sales Realization (NSR) from exports and thereafter, the base prices of iron ore for the domestic market be fixed effective from 1 April of every year based upon the percentage of increase / decrease accepted over the previous year's price by Japanese Steel Mills (JSM) for the ore supplied by the Company (suitably adjusted to dollar – rupee parity).
- The seller would reserve the right to review the prices on mid-term basis in unprecedented upward price (25 *per cent* and above) in the market scenario.
- For spot market and other customers, the Company may adopt competitive bidding/ e-auction.

Audit findings

Domestic LTA sales

4.5 Audit analyzed the following issues relating to domestic LTA sales:

- Price fixation during five years from 2005-06 to 2009-10 following Ganeshan Committee report;
- Price fixation during 2010-11; and
- Price fixation during 2011-12.

Price fixation in domestic market during 2005-10

4.6 The Company entered into long term contracts in August 2005 based on the recommendations of Ganeshan Committee for supplies to customers effective for a period of

[12] Ganeshan Committee was formed in March 2005 by Ministry of Steel to recommend a practicable formula to link price of domestic iron ore with prevailing international prices. The Committee gave its recommendations in April 2005 which were accepted by the Ministry in July 2005.

five years from 2005-06 and valid up to 2009-10 except in respect of one contract for supply of fines to ESSAR which is valid up to 2015.

4.7 The prices fixed for 2005-06 and subsequent years were based on the principle recommended by the Committee that net sales realization from exports to Japan be adopted as the basic price in the first instance, i.e., year 2005-06. The table below shows how the domestic prices were fixed on the basis of the prices offered by Japanese Steel Mills.

Table 10: Table indicating the basis for arriving at price as of 1 April 2005

Sr.	Particulars	BL*	BF*	DR CLO*	DL*	DF*
1	Price in US$/DLT[13] for Fe 65% as given by JSMs	50.44	39.13	50.44	48.74	39.13
2	Price in US$/ WMT[14] for Fe 65%	48.25	36.64	48.25	46.79	35.84
3	Bonus/ Penalty[15]	1.19	-0.56	4.76	0	-0.55
4	Price in US$/WMT including Sl. No. 3	49.44	36.08	53.01	46.79	35.29
5	Net FOB per WMT in ₹ (1 US$= ₹ 44.16)	2183	1593	2341	2066	1558
6	Less: Expenses (Freight, Port Charges, Royalty and Export Duty) in ₹	674	666	674	643	635
7	Net Sales Realization (₹ per WMT)	1509	927	1667	1423	923
8	Domestic Price (₹ per WMT)	1510	925	2000[16]	1450	925

* - BL: Baila Lump; BF: Baila Fines; DR CLO: Direct Reduction Calibrated Lump Ore; DL: Doni Lump; DF: Doni Fines.

4.8 The prices for the subsequent years were fixed considering the percentage increase negotiated with JSM on the initial price as above. The prices were also suitably adjusted for dollar-rupee parity.

Infirmities in the contracts pertaining to domestic LTA

4.9 In the international LTA, the prices were determined once a year and remained firm for the year. The Ganeshan Committee however recommended that for domestic LTA sales, the seller (the Company) should reserve the right to review the prices on mid-term basis in unprecedented upward price (25 *per cent* and above) in the market scenario. Accordingly, the Company in its domestic LTA provided, vide clause 4(B)(e), that seller reserved the right to review the prices on **mid-term basis** in an unprecedented variation in price of 25 *per cent* and above in the market scenario. The clause led to ambiguity as:

13 *DLT refers to Dry Long Ton. All export agreements are entered into in terms of DLT only. One DLT is 1.016 Dry Metric Ton.*

14 *WMT refers to Wet Metric Ton. Price per WMT = {Price per DLT * (100 - moisture percent) /100}. All domestic supplies are made in WMT.*

15 *For Baila Fines and Doni Fines, the bonus was shown as negative as the domestic supply of Fines contains only 64.5 Fe whereas the international contracts provide the minimum Fe content of 65 percent.*

16 *DR CLO contains higher Fe of 67 percent. Therefore, it commands premium. Hence, higher price was fixed.*

- **The term 'mid-term' was not defined in the contract and thus, the issue as to when the price revision would be effected lacked clarity. The Company revised the prices only once during each year ; and**
- **The LTA also did not specify as to by what percentage the price should be increased in the event of unprecedented upward variation of 25 *per cent* and above in price.**

4.10 Due to lack of clarity in the contract, the Company revised the prices by less percentage than the actual percentage increase in the spot market. The Company also did not revise the prices as and when the prices went up in the market. As a result of this the Company suffered a loss of revenue of ₹ 1,173.68 crore in 2007-08 and 2009-10 offset by a modest gain of ₹ 427.74 crore in 2008-09.

Price revision during FY 2007-08

4.11 The average monthly price in the spot market in August 2007 increased by 33 *per cent* over the base price of April 2007. The spot prices further increased by 62 *per cent* over the base price in September 2007. By December 2007, the prices were 95 *per cent* higher than the base price. However, the Company revised the prices only from October 2007 and that too by 47.5[17] *per cent* only. Though the Management approached (February 2008) the Board for increase in prices, the Board did not agree for the price increase on the ground that frequent revision of prices may not be compatible with the concept of LTA.

4.12 **The total loss of revenue suffered by the company during 2007-08 amounted to ₹ 976.17 crore.**

Price revision during FY 2008-09

4.13 Contrasting the position in 2007-08, in 2008-09 the international prices had decreased by 32 *per cent* in October 2008 and 43 *per cent* in November 2008 over the base price of April 2008. The Company reduced (December 2008) its domestic LTA price by a flat 25 *per cent* (over April 2008 rate) with effect from 1 December 2008. Even after a reduction in prices by 25 *per cent*, the domestic price[18] of ore (BF: ₹ 1519/ tonne) still remained substantially lower than the price[19] (BF: ₹ 3413/ tonne) charged to overseas LTA customers.

[17] *Average price increase for the months August 2007 (33 per cent) and September 2007 (62 per cent) came to 47.50%. This 47.50% was applied to the long term base price of BF/ DF to arrive at the quantum of increase (₹ 574/ tonne). This increase (₹ 574/ tonne) was added to the long term base price of all products to arrive at the revised price.*

[18] *Price includes Royalty charged at the rate of ₹ 19 per tonne.*

[19] *Net FOB price in ₹/ WMT considering 1 US$ = ₹ 40.08.*

Price revision during FY 2009-10

4.14 During the year 2009-10, the prices of iron ore fines in the spot market increased by 28 *per cent* by December 2009 over the base price of April 2009. Despite this, the Company revised the prices by 16 *per cent* only with effect from 1 January 2010. Consequently, the Company suffered a loss of revenue including bonus of ₹ 197.51 crore[20] on the total quantity of 6.11 MT of iron ore sold from January 2010 to March 2010. The Management approached (January 2010) the Board for increase in prices by ₹ 270 per tonne (16 *per cent* only) on the plea that the market may not be able to absorb the full increase and the Board agreed for the same.

As per LTA, NMDC reserved the right to review the prices on mid-term basis in an unprecedented variation in price of 25 *per cent* and above in the market scenario. The LTA were silent about the specific methodology for revision in prices relating to when to effect the price revision and by how much. We noticed revision of prices on the lower side by NMDC leading to a loss of revenue of ₹ 1173.68 crore during 2007-08 & 2009-10 and gain of ₹ 427.74 crore during 2008-09.

4.15 Though NMDC has not increased its prices fully on the ground that the market may not be able to absorb full increase, the fact is that, the Company has no control over prices charged by the steel producers to the end users as indicated below.

Table 11: Table indicating the prices charged for steel (Delhi market) during 2009-10

(₹ per tonne)

Sr.	Item	April 2009	January 2010	March 2010
1.	TMT 12 mm	33,041	33,620	34,200
2.	HR Coils 2.50 mm	33,608	34,270	34,660
3.	GP Sheets 0.63 mm	39,328	44,480	44,270

Source: Joint Plant Committee, Ministry of Steel

4.16 The Ministry's reply to the above observations of Audit on pricing during 2005-10 and Audit contentions are given below:

[20] *The loss has been worked out considering the increase in spot prices by 26% (average of percentage variation in spot prices from July 2009 to December 2009).*

Table 12: Table indicating the Ministry reply and remarks of Audit

Gist of Ministry reply	**Remarks of Audit**
Ganeshan Committee mentioned about 'mutual discussion' to arrive at price in falling market and had left applicability of this clause on the wisdom of NMDC Board to take care of cyclical nature of iron and steel industry and totality of circumstances. The Board was consciously and specifically vested with the power to judiciously invoke and implement the 'mid-term review' provision as warranted by the prevailing market condition in totality. The quantum and periodicity of applicability of 'mid-term' price revision was left to the wisdom of NMDC Board by the Ganeshan Committee.	Ganeshan Committee regarded that the phenomenon of 25 *per cent* upward variation above the base price at the beginning of the year unprecedented and stated that this may happen due to volatility in spot market and/ or abnormal fluctuation in dollar rupee conversion rate. The intention of the Committee behind 'mid-term' revision was to ensure revision in prices in the event of unprecedented increase. It was up to the Company and its Board to ensure that there was no ambiguity in the terms and conditions of the contract and the terms should be so clear as to enable the Board to revise the prices immediately and by the percentage by which the spot prices have increased. But no such clarity was ensured. The issue here is about the clarity of terms and conditions in the contract.
Incorporating sacrosanct and rigid provisions with respect to frequent periodical revision in prices to long term customers based on spot market vacillations would have deterred the customers from entering into long term agreement with NMDC as the advantage of predictability in prices would have been lost.	The Ganeshan Committee wanted to ensure revision in prices only in the event of unprecedented increase of 25 *per cent* and above. This provision cannot be termed as sacrosanct or rigid as it provides enormous protection to the buyers. Rather this provision, in a good measure, acts in favor of customers who are not required to pay higher price up to 24.99 *per cent* increase in spot price.
'Mid-term review' as the phrase connotes, would ordinarily mean in commercial parlance to review after six months after commencement of the financial year in a yearly calendar and could be invoked only once thereafter.	The contention of the Ministry should be considered in the light of the fact that the term 'mid-term' in the broader sense means between the two points and allows price revision during the currency of LTA for the year, should there be an unprecedented increase or decrease in price in the market. Even this provision allows price stability up to a change of 24.99 *per cent*. Interpreting "mid term" as once a year has deprived the Company of substantial revenue in these years.
The customers could have resorted to legal recourse as there were differing legal opinions by advocates of repute on this provision.	The reply supports the audit contention that the terms and conditions were ambiguous (and hence the differing legal opinions).
As ordinarily meant and also concurred by Additional Solicitor General of India, 'mid-term' price revision necessitated revision of long term domestic prices after 30 September 2007, i.e., from 1 October 2007.	It is not that the Company has consistently revised the prices on 01 October every year. Prices have been revised on different dates in different years. Further, the Solicitor General had further stated that he was "of the opinion that the LTA does not restrict the number of times a mid term review can be carried out."

<table>
<tr>
<td>Based on the spot price variation witnessed in iron ore fines prices till September 2007 on umetal website, NMDC effected mid-term price revision by an absolute amount of ₹ 574/ tonne with effect from 1 October 2007 for fines ore as well as lump ore even though there was no transparent and reliable indicator to indicate whether there was any variation in iron ore lump prices.</td>
<td>The contention of the Ministry that the price revision was by an absolute amount of ₹ 574/ tonne and not 47.5 per cent is incorrect. As per the recommendations of Committee of Directors (CoD) comprising Director (Production), Director (Finance) and Director (Commercial), price revision with effect from 1 October 2007 would be based on average variation of August (33%) and September 2007 (62%). This average price variation (47.50%) was applied to the long term base price of BF/ DF (₹ 1209/ tonne) and rounded off to the nearest rupee to arrive at ₹ 574/ tonne. This quantum of increase in Rupee (₹ 574/ tonne) was added to the long term base price as on 1 April 2007 of all the products to arrive at revised long term base price.

Further, the Ministry's contention that there was no transparent indicator to know whether there was any variation in iron ore lump prices is not convincing. The Company is in the business of selling iron ore for decades and it knows that if the prices of fines go up, the prices of lump ore (which generally have higher Fe content) would also go up.</td>
</tr>
<tr>
<td>Besides, NMDC's action of mid-term revision with effect from 1 October 2007 was highlighted as the cause for increasing of the steel prices by major steel producers during a meeting with Secretary (Steel) in February 2008. Any further increase of iron ore prices with effect from 1 January 2008 might have had an inflationary effect on steel prices besides defeating the essence of LTA and likely legal complication.</td>
<td>The Company increased the iron ore prices by 47.50 per cent with effect from October 2007 and declined to increase the prices with effect from January 2008 on the pretext that the increase will have an inflationary effect on steel prices. However, it can be seen from below that the increase in iron ore prices in October 2007 had an impact of increasing input cost by only ₹ 1,062 per tonne of steel produced in March 2008, whereas, the prices of steel increased by ₹ 10,350 per tonne of steel in March 2008 when compared to October 2007 prices.

Table indicating the prices charged for Rebars (12 mm) by RINL during 2007-08
<table>
<tr><th>Product (₹/ tonne)</th><th>April 2007</th><th>October 2007</th><th>March 2008</th></tr>
<tr><td>Iron ore price charged by NMDC (BF)</td><td>1,209</td><td>1,783</td><td>1,783</td></tr>
<tr><td>Cost of iron ore consumed per tonne of saleable steel produced (1.85 tonnes)</td><td>2,237</td><td>3,299</td><td>3,299</td></tr>
<tr><td>Increase over April prices</td><td></td><td>1,062</td><td>1,062</td></tr>
<tr><td>Rebars 12 mm</td><td></td><td>30,900</td><td>41,250</td></tr>
<tr><td>Increase over October prices</td><td></td><td></td><td>10,350</td></tr>
</table>
Source: Price Circulars, RINL

Thus, the cost of iron ore as a percentage of sale price of steel was about 10 per cent or less and hence the increase in price of saleable steel attributed to increase in iron ore price is not fully justified.</td>
</tr>
</table>

By application of the power vested in the NMDC Board, the mid-term review provision could fetch an additional revenue of about ₹ 950 crore to the coffers of NMDC during the years 2007-08 & 2009-10.	Though the Board exercised its powers and the Company generated additional revenue, if it had exercised the revisions fully and timely, the Company could have generated further additional revenue of ₹ 745.94 crore during 2007-10.
Increasing the iron ore prices by a higher amount in FY 2009-10 would have adversely impacted the lifting of iron ore by customers and thereby NMDC's sales also would have reduced drastically.	NMDC had signed LTA with the domestic customers according to which, each customer was liable to take a minimum off-take of the product agreed as per the contract (Clause 2). As per Clause 20 of the contract, on failure of the customer to lift less than 90 *per cent* of the quantities agreed, the buyer ceases to be a long term customer. The buyers, thus, would have lifted the ore particularly when it still would have come very cheap even after 26 *per cent* increase (BF: ₹ 2130/ tonne including royalty) as compared to the price (BF: ₹ 2891/ tonne at exchange rate of ₹ 50.53 per US$) charged to overseas customers during 2009-10.
There were domestic indicators, viz., OMC lump prices, lump and fine price variation as reported by www.steelprices-india.com in the domestic market, which were showing less than 25 per cent variation in market scenario.	As per the domestic LTA, the price fixation for 2006-07 and beyond was based on base price *plus* increase/ decrease in export price and price adjustment for JSM on FOB basis for the relevant year. Hence, until the completion of domestic LTA, i.e., up to 2009-10, the price fixation was based on export LTA prices. As the initial prices were based on the net realization from JSM prices which resulted in keeping the prices for domestic buyers lower than that of the overseas buyers, the international spot prices should have been the basis.
Monthly variation in iron ore (Lump) prices in domestic market in case of Gandhamardan Lump of Orissa Mining Corporation showed reduction in prices by 2.3% in December 2009 when compared to April 2009 prices.	As per the recommendations of CoD of NMDC, the prices of lump ore in both Barbil and Gandhamardan Sector of Orissa Mining Corporation had increased by 10% in the month of December 2009 compared to their respective prices of April 2009 and that of fines increased by about 24-36%.

Price fixation during FY 2010-11

4.17 The currency of the domestic LTA ended on 31 March 2010 and hence was due for renewal by 1 April 2010. However, the overseas LTA were valid up to 2010-11. Therefore, for 2010-11, the Company fixed prices on the basis of increase/ decrease given by JSM. In the meantime, globally pricing structure for iron ore had undergone change to quarterly pricing from April 2010. The Company also decided (June 2010) to revise the pricing mechanism from annual pricing to quarterly pricing.

4.18 The pricing mechanism followed for fixation of price as of 1 April 2010 is indicated below:

Table 13: Table indicating the price fixation as of 1 April 2010

Sr.	Item	BL[21]	BF/ DF[22]	DL[23]
1.	Price in US$/ DLT for Fe 65%	139.39	122.80	134.70
2.	Moisture content in % (Wt. avg. of 2009-10 for Export Dispatches)	2.82	4.55	3.21
3.	Price in US$/DMT for Fe 65% (Sr. 1/ 1.016)	137.19	120.86	132.57
4.	Price in US$/ WMT (Sr. 3 * (100-Sr. 2/ 100)	133.32	115.36	128.31
5.	Fe bonus rate (US$/ DLT) for additional Fe Fe bonus rate (US$/ WMT) for additional/ less Fe	6.88 6.58	1.8893 1.77	2.0723 1.97
6.	Additional/ less Fe%	0.50	-1.00	0
7.	Bonus/Penalty (US$/ WMT) (Sr. 5 * 6)	3.29	-1.77	0
8.	WMT Price (US$/ WMT) (Sr. 4 + 7)	136.61	113.59	128.31
9.	**Net FOB per WMT in ₹ (1US$= ₹ 45.22)**	**6177.50**	**5136.54**	**5802.18**
10.	Less: Expenses (export rail freight, port charges, royalty and export duty) in ₹	1988.50	1897.54	2012.18
11.	**Netback (₹ per WMT) – Reference Price**	**4189.00**	**3239.00**	**3790.00**
12.	Less: 5% loyalty bonus on Reference Price	209.00	162.00	189.00
13.	Base Price	3980.00	3077.00	3601.00
14.	Less: 5% Price Volatility Discount on Base Price in view of glut in steel market	199.00	153.00	180.00
15.	**Net Base Price charged for Q1 of 2010-11**	**3781.00**	**2924.00**	**3421.00**

NMDC passed on undue benefit to the customers by allowing loyalty bonus of 5 *per cent* and further reduction of 5 *per cent* from base price for market conditions. This unwarranted price reduction resulted in loss of revenue of ₹ 600.83 crore to the Company during 2010-11.

4.19 The Company after reducing the prices using net back method allowed further discount of 5 *per cent* by way of loyalty bonus to arrive at the base price. A further reduction in prices by way of 5 *per cent* incentive in view of the glut in the steel market was given to the customers during the first two quarters of 2010-11. The extension of loyalty bonus and incentive to LTA customers was unwarranted as the international prices are based on negotiations which inherently include all such factors as loyalty and incentives. As such there was no case for extending the same to domestic customers particularly, when the prices charged to them were much lower than that charged to overseas customers (Sr. 9 & 11 in Table 13). This reduction in reference price by 5 *per cent* throughout the year and further reduction in base price by another 5 per cent during the first two quarters resulted in passing on benefit to the customers amounting to ₹ 600.83 crore during 2010-11.

[21] BL: Bailadila Lump
[22] BF/DF: Bailadila Fine/ Doni Fine
[23] Doni Fine

NMDC has switched over to quarterly pricing with an option to increase price by two-thirds of the increase in the international price by more than 5 *per cent* but in case of decline exceeding 5 *per cent*, the price is reduced fully. This disparity in pricing has caused NMDC a further loss of ₹ 227.34 crore during 2010-11.

4.20 The price fixed in the first quarter of 2010-11 was the base price which was further adjusted in the subsequent quarters based on the percentage changes in the JSM prices. The Board decided (June 2010) to increase the price by two-thirds of the increase in the international price if the latter increases by more than five *per cent* in the current quarter over the price of previous quarter. However, in case of decline in the international price by more than five *per cent*, the Board decided to decrease the price fully, instead of two-thirds. **Therefore, the disparity remained in 2010-11 as the Company did not treat increase or decrease in prices on equal footing.**

4.21 The first quarter price fixation was based on the percentage of increase the Company obtained from JSM. During second and third quarters, the prices increased by 22.16 and 5.91 *per cent* respectively over Q1 prices and for fourth quarter, they increased by 7.67 *per cent* over the prices of previous quarter. However, the Company effected price increase by two thirds instead of full increase leading to loss of revenue of ₹ 227.34 crore on a quantity of 15.30 MT sold in the last three quarters of 2010-11.

4.22 The Ministry's reply (July 2012) on the above audit observations and the Audit contentions are mentioned below:

Table 14: Table indicating the Ministry reply and remarks of Audit

Gist of the Ministry reply	Remarks of Audit
Q1 FY 2010-11 net back prices were derived from JSM export prices of Q1. NMDC Board, with a philosophy of 100 per cent customer retention, decided to offer a discount of 5 per cent to all long term customers for the entire year.	The LTA price for export to JSMs is fixed after negotiations between officials of Ministry of Steel, NMDC, MMTC and JSMs/ POSCO. The negotiated price is based on the price increase offered to Australian suppliers of ore. The price in US$/ DLT for 65% Fe as on 1 April 2011 was already the negotiated price and can be said to have element of discount. **Hence, in a scenario of low base price and increased freight/ export duty, allowing a further discount was not in the financial interest of the Company.**
Besides, considering glut in steel market, prevailing at that point of time, NMDC Board decided to offer another tranche of 5 per cent discount (price volatility discount) on the base price for Q1 and Q2 only which enticed the long term customers to sign the long term agreement and ensured continuous revenue stream for the Company.	The net back prices were already substantially lower than the prices charged to overseas customers due to high export duty and export rail freight. Thus, price volatility discount was not justified.

In a very volatile market of rising price trend, it is a general commercial practice not to pass on entire increase to the customers as it may impact the sales volume severely. Whereas in a falling market, if the prices do not go down with the prevailing market condition, then there may be hardly any buyer. With this philosophy, NMDC decided to increase its domestic prices by only 2/3rd of JSM export price increase and to pass on the entire benefit in case of reduction in prices. *Audit suggestion to remove the disparity between upward and downward price revisions has been noted by the Company and the Company has already implemented a new pricing policy from the year 2011-12, which does not have any such provision.*	The prices of domestic LTAs during 2005-09 were based on the percentage increase effected by the JSMs. Similarly, even during 2010-11, when the export prices offered to JSMs were increased by a certain percentage, the same percentage increase should have been effected on the price charged to the domestic LTA.

Price fixation during 2011-12

4.23 The overseas LTA expired on 31 March 2011. These were not renewed as of March 2012. Therefore, there was no JSM reference price to form base for determining the domestic price. The Board decided (May 2011) to fix prices on a quarterly basis on a net-back method (i.e., notional net realization from export after deducting expenses) taking into account the international prices as per Platts Index (65% Fe content) as benchmark prices and suitably adjusting them for dollar-rupee parity. The domestic prices for the first quarter of 2011-12 were arrived at after deducting the export railway freight, port charges, export duty and royalty as shown in the table below.

Table 15: Table indicating the basis for arriving at price as of 1 April 2011

Sr.	Particulars	BL	BF/ DF	DL
1.	Price in US$/DLT[24] for Fe 65%	201.32	177.37	195.45
2.	Moisture content in % (Wt. avg. Q1 of 2010-11 for Export Dispatches)	1.56	3.12	3.19
3.	Price in US$/DMT for Fe 65% (Sr. 1/ 1.016)	198.14	174.57	192.36
4.	Price in US$/ WMT (Sr. 3 * (100-Sr. 2/ 100)	195.05	169.12	186.22
5.	Fe bonus rate (US$/ DLT) for additional Fe Fe bonus rate (US$/ WMT) for additional/ less Fe	9.93 9.62	2.7288 2.60	3.0069 2.87
6.	Additional/ less Fe%	0.5	-1.0	0

[24] *DLT price is arrived at by taking the average FOB price in the preceding quarter using Platts Index (65% Fe).*

7.	Bonus/Penalty (US$/ WMT) (Sr. 5 * 6)	4.81	-2.60	0
8.	WMT Price (US$/ WMT) (Sr. 4 + 7)	199.86	166.52	186.22
9.	Net FOB per WMT in ₹ (1US$= ₹ 44.45*)	8883.78	7401.81	8277.48
10.	Less: Expenses (export rail freight, port charges, royalty and export duty) in ₹	4942.12	4537.94	4842.42
11.	Netback (₹ per WMT)	3941.66	2863.87	3435.06
12.	Domestic price to be fixed based on net back	3942	2864	3436
13.	Domestic Price (₹ per WMT) fixed for 1st quarter of 2011-12	4540 [after 15% premium]	2870	3960 [after 15% premium]

** INR 44.45/ US$ - 60 days forward cover as on 5 April 2011*

4.24 The above mentioned price fixation methodology was followed to fix the prices for the second quarter of 2011-12. In the 3rd quarter, the prices of fines were fixed based on the similar method followed for 1st and 2nd quarter. However, in case of Lump ore, the premium was decreased from 15 *per cent* to 10 *per cent* citing the prevailing economy and the market conditions.

4.25 During the fourth quarter, the Company followed the same methodology for fixation of price of fines based on netback method as was done during the first three quarters of 2011-12. However, in respect of Lump, the Board approved for finalization of price based on weighted average prices obtained by Orissa Mining Corporation (OMC) from its four operating mines.

Issues in price fixation

4.26 The foregoing discussion indicates that the Company's pricing policies did not adequately reflect the movement in international prices. The Company followed different methods for price fixation during this period (2005-2012). The larger issue is how the Company should fix the price so that its financial interests get protected. There are no issues so far as export LTA prices are concerned as those prices are based on the international benchmark prices offered by JSM to suppliers from Brazil and Australia. However, there are issues in the fixation of domestic prices as discussed below.

4.27 The Company has mainly followed the 'Net back' method and 'Domestic price parity' method (based on the prices obtained by OMC) to fix the prices of domestic iron ore at different points of time. It has not explored the e-auction route on a large scale[25] to sell its ore.

4.28 Under the 'Net back' method, the domestic price is fixed after reducing expenses such as export railway freight, port charges, royalty and export duty from the international price (LTA or Spot). This price, however, suppresses the domestic price due to high export related expenses as shown below.

[25] *Between October 2011 and March 2012, 20 e-auctions were conducted and 2.79 MT (1.84 MT from Donimalai mine and 0.95 MT from Kumaraswamy mine) was sold.*

Table 16: Table below indicates the percentage of domestic price vis-à-vis export price for Baila Fines

BF Prices (₹/ WMT)	April' 05	April' 06	April' 07	April' 08	April' 09	April' 10	April' 11
Export FOB price	1,593	1,908	2,070	3,413	2,891	5,137	7,402
Less: Expenses	666					1898	4538
Net Back Price	927	1,114*	1,209*	1,970*	1,666*	3,239	2,870
% of Export FOB price to Net Back price	58	58	58	58	58	63	39
Price charged to domestic buyers (incl. royalty)	946	1133	1228	1989	1833	3216	3157

* - The price indicated is actual price charged for the year.

4.29 It can be seen from above that the 'Net back' price as a percentage of Export FOB price has declined considerably in 2011-12 mainly due to deductions of increased export railway freight and export duty which are Country specific. As a result, the domestic buyers are paying much less for iron ore than that paid by overseas buyers as shown above.

4.30 While the domestic buyers pay less price for iron ore than the overseas buyers, this does not necessarily get translated into price advantage to the customers as shown below.

Table 17: Table below indicating the price difference between overseas prices and domestic prices of Hot Rolled Coils

(₹/ Tonne)	April – December 2005	April 2011	March 2012
Overseas price of HR Coils	20,351	38,046	35,348
Domestic price of HR Coils 2 mm	28,444	43,020	47,630

4.31 Thus, the 'net back' method does not protect the financial interests of the Company, mainly due to high export related expenses. This method, in a good measure, is akin to extending a concession (in the form of lower iron ore prices than the international prices) to the domestic buyers. *On being pointed out that NMDC could consider e-auction method for sale of iron ore, the Ministry narrated the following factors which would render e-auction method unsuitable.*

- *Iron ore, being a bulk commodity, cannot be stored in large quantities. E-auction results in delays in evacuation. This would reduce the output and the Company cannot have economies of scale.*
- *Steel companies need assured supply of ore.*
- *Risk of likely cartelization in the long run.*

4.32 Wherever the price of end-product gets regulated by a regulator on the basis of input costs, the fixation of a low price for inputs helps in keeping the price of end-product low for the consumers. As the steel prices are determined by the demand and supply forces of market and are not regulated by a regulator, keeping the prices of iron ore low only results in steel producers making additional profit at the cost of iron ore suppliers. In such a scenario, it is desirable that the market driven price is charged while ensuring assured supply to customers and predictability of price.

4.33 It is, therefore, recommended that, in view of the present scenario where the steel product prices are market determined, the iron ore domestic price fixation mechanism may be established which would address the following issues:

(i) Optimum price realization for NMDC's ore;

(ii) Assured supply to domestic steel producers; and

(iii) Predictability of price.

Spot sales

4.34 The spot sales accounted for 5 *per cent* of total sales of the Company during 2005-12. The Company laid down spot market sales policy in December 2007. Spot sales are carried out through e-auction. The salient features of spot sales policy of the Company are:

i. The Committee of Directors (CoD) would decide the quantities for spot sales.

ii. The Company would adopt e-auction / competitive bidding for disposal of quantities.

iii. Reserve price shall be fixed based on the prevailing market trends before commencement of e-auction.

iv. Spot sales should be resorted to periodically after ascertaining the quantity for spot sales. The quantity for spot sales is the surplus quantity after meeting the commitments made to long term customers.

4.35 We observed that the spot sales were being conducted as per the laid down procedures and there were no material issues.

Recommendation # 4

The domestic price fixation mechanism for iron ore may be established which would address the following issues:

- ***Optimum price realization for NMDC's ore;***
- ***Assured supply to domestic steel producers; and***
- ***Predictability of price.***

Chapter – 5
Governance Issues

This chapter deals with the issues relating to governance by the Board of Directors and the oversight by the Administrative Ministry.

Governance by the Board of Directors

5.1 The Board of Directors is responsible for good governance in the Company and providing stewardship and direction and, therefore, it is imperative that the Board monitors the key areas of operations and directs suitable remedial action wherever the operations are not progressing as intended. The effectiveness of the Board lies in the Management actually implementing the remedial action directed by the Board.

The Board of Directors is responsible for good governance in the company and is expected to monitor key areas of operations and take remedial actions if the operations are found not to progress as intended.

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There were delays in implementation of two capacity expansion projects. NMDC was also saddled with inadequate evacuation capacity at Bailadila sector. There were issues relating to price revision as well.

****

Although the NMDC's Board held 63 meetings between April 2005 and March 2012, we noticed that the Board did not adequately monitor certain high risk areas of operations.

5.2 As discussed in the earlier chapters, our analysis revealed:

- delays in the two Capacity Expansion projects (Deposit 11B and Kumaraswamy project);
- inadequate Evacuation Capacity at Bailadila sector; and
- infirmities in fixation of prices for sale of ore.

5.3 Although a total of 63 Board Meetings were held between April 2005 and March 2012, audit review of the Board Meetings revealed that the Board did not adequately monitor the progress of the projects and did not provide guidance to safeguard Company's interests in the domestic LTA as discussed below:

- Although the Board discussed in several meetings, the award of works for appointment of consultants for project Deposit 11B and Kumaraswamy project and the additional capital outlay for these projects, the progress of implementation of these projects was not discussed by the Board. Later in March 2010, as per the directions (January 2010) of the Ministry of Steel, the Board constituted a sub-committee of Directors to monitor the progress of expansion schemes.
- Seven meetings of the sub-committee of the Board have been held since April 2010 till March 2012 to review the progress of various projects. The sub-committee has been insisting on the expeditious completion of project activities and analysis of delays in implementation. The minutes of the committee are being put up to the Board. While the overall effectiveness of such reviews will be known in due course, it is felt that for each project, the sub-committee minutes should invariably indicate the work planned to be

completed, actually completed, reasons for delay, if any and the proposed work to be completed after the meeting date with specific milestones and timeframes.

- The issue of inadequate evacuation facility at Bailadila sector was discussed in the Board Meeting held in July 2008 wherein, in-principle approval was given for laying of slurry pipeline from Bailadila to Visakhapatnam at an estimated cost of ₹ 2,500 crore. However, work for preparation of Techno Economic Feasibility Report (TEFR) was awarded to MECON only in June 2010 after a period of nearly two years. The Board failed to take feedback on the progress of the project.
- The Ganeshan Committee recommendations which proposed revision in prices on mid-term basis were approved by the Board in July 2005 and the same recommendations were included in the Domestic LTA signed in August 2005. The Board, however, did not provide any guidance regarding clarity of terms relating to revision in prices, i.e., when exactly to effect the revision in prices and by how much. There remained ambiguity in terms of LTA which resulted in the Company suffering loss of revenue.

Oversight by the Administrative Ministry

5.4 The Company enters into MOU with the administrative ministry (Ministry of Steel) every year. As per the achievements, the performance of the Company was ranked as "Excellent". However, the observations of Audit on the MoU targets are given below.

Table 18: Table indicating the MoU parameters relating to project implementation during the last three years ended March 2012

<table>
<tr><th>Year</th><th>Parameter (Target - Weightage)</th><th>Remarks of Audit</th></tr>
<tr><td>2009-10</td><td>• 11B – Completion of sub-station work (31.12.2009 - 2)
• 11B – Starting of trial run of Package-1 (31.01.2010 - 1)
• 11B – Starting of trial run of Package-2 (31.01.2010 - 1)
• KIOM – Award of works for Package-1 (30.09.2009 - 1)</td><td>No weightage was given to the projects viz., doubling of KK line between Kirandul and Jagdapur and laying of pipeline from Kirandul to Vizag, which were proposed to be taken up for increasing the evacuation capacity.</td></tr>
<tr><td>2010-11</td><td>• KIOM – Placement of order for Package-3 (31.12.2010 - 1)
• Preparation of TEFR for beneficiation, transportation of fines/ slimes from Bailadila to Vizag through pipeline and pellet plant at Jagdalpur
(31.01.2011 - 1)</td><td rowspan="2">• Even though the 11B project, with envisaged production capacity of 7 MTPA, was delayed beyond scheduled completion, no weightage was given for this project during 2010-11 and 2011-12.
• No weightage was given to projects facilitating evacuation during 2011-12.</td></tr>
<tr><td>2011-12</td><td>• KIOM – Completion of design and engineering for the Crushing Plant Package
(30.11.2011 - 1)</td></tr>
</table>

5.5 The Ministry in its Results Framework Document (RFD) for 2010-11 and 2011-12 set the following parameters in relation to execution of projects under implementation.

Table 19: Table indicating the parameters in the RFD relating to execution of projects

Year	Parameter (Target - Weightage)	Remarks of Audit
2010-11	• KIOM – Ensuring placement for Package-3 (31.01.2011 – 4) • Preparation of TEFR for beneficiation, transportation of fines/ slimes from Bailadila to Vizag through pipeline and pellet plant at Jagdalpur (31.01.2011 – 2)	The RFD is silent about 11B Project taken up at Bailadila Sector for creation of additional production capacity of 7 MTPA. As regards Kumaraswamy project, though there are five other packages (Packages 1, 2, 4, 5 and 6), which were not awarded till March 2010, no target date was set in the RFD.
2011-12	• 11B – Starting trial production (31.01.2012 – 2) • KIOM – Completion of design and engineering for Crushing Plant package	In respect of Kumaraswamy Project, though there were three packages (Package 4, 5 and 6) which were not awarded till March 2011, no target date was set in the RFD.

KIOM – Kumaraswamy Iron Ore Mine.

5.6 We are of the view that the Ministry needs to set targets for all important activities/ projects of the Company.

Response of the Ministry

5.7 In reply the Ministry stated (July 2012) that the Board of Directors of the Company meets frequently and takes stock of the progress of various projects mainly during evaluation of the Quarterly results of the Company and intensive discussions take place. The Budget Estimates and Revised Budget Estimates of capital expenditure envisaged during the current and next financial year are also discussed comprehensively, against actual achievements.

5.8 MOU evaluation also contains progress reports on capital expenditure programmes which is reviewed by functional directors & put up for information of Board. In addition, a Board sub committee has been constituted to monitor project implementation exclusively. The sub-committee includes two independent directors.

5.9 The monitoring activities stated by the Ministry are routine actions, and the specific review of the projects was started by the Board sub-committee only in April 2010. The review of Board meetings minutes for 2005-06 to 2011-12 shows inadequate and ineffective monitoring by the Company's Board as explained above.

5.10 The Ministry in its reply (July 2012) also stated that:

- *Due care is taken to include the projects of NMDC in the MoU in order of their priority. However, it may be appreciated that it may not be always possible to include* *all the packages/ sub packages of a project in the MoU with NMDC in view of the limited weightage assigned to this parameter as per DPE guidelines.*

- *Only those targets which are considered important milestones in the annual action plans of the Company are included in the RFD of the Ministry.*

5.11 The reply is not convincing in view of the following:

- As per DPEs guidelines, static/ financial parameters are fixed and are given a weightage of 50. Dynamic parameters, Sector specific parameters and Enterprise specific parameters have a combined weighatge of 50. Hence, the Ministry can very well ensure that projects get higher weighatge and the targets are realistic. Development of Deposit 11B, which has a capacity to enhance production by 7 MTPA was not at all given any weighatge in the MoUs for 2010-11 and 2011-12.

- NMDC is a major CPSE in the Ministry of Steel, next to SAIL and RINL. The parameters included in the RFD against NMDC should be important in view of its growth and financial achievement. Package 3 of KIOM was included as a parameter for 2010-11 instead of Package 1/ 2. Package 3 relating to electrical works is a non critical package. Similarly, in the year 2011-12, design and engineering for Package I of KIOM was given a weightage and the target was set as January 2012. The fact is that Package I of KIOM was awarded in August 2010 and was scheduled for completion by May 2012. When compared to the scheduled completion, the target set for just design and engineering for the Package seems to be too soft.

5.12 **The governance by the Board and the oversight by the Administrative Ministry needs to improve.**

Recommendation # 5

The Board of Directors of the company need to review the progress of ongoing projects periodically and suggest remedial action wherever warranted so that the projects are completed as envisaged.

Chapter – 6
Conclusion and Recommendations

Conclusion

6.1 The Company operates in business of iron ore mining with limited number of major players where the operating margins and profits are high. The Company has been performing well on this front as it clocked a profit before tax of ₹ 10,760 crore on an income of ₹ 13,278 crore in 2011-12.

6.2 Based on the audit objectives set by us, we have observed the following:

- *The Company's production capacity was in line with the target set in the Corporate Plan. The capacity utilization was 85 per cent or higher between 2005-09 and 2011-12. It declined below 80 per cent in 2009-10 and 2010-11 due to damage to the evacuation pipeline of ESSAR Steels Limited and also due to delays in implementation of evacuation capacity expansion projects.*

- *Anticipating the increase in demand, the Company decided to develop Kumaraswamy Deposit and 11B Deposit in the year 1997 and 2003 respectively. These two projects were still under implementation in March 2012. The delay in project implementation of Kumaraswamy Deposit was mainly due to delays in getting statutory clearances and Deposit 11B mainly due to external constraints. Delays were also noticed during implementation of packages which were due to deficiencies in project management. The project costs have gone up significantly.*

- *Production capacity needs to be supported by adequate transport facilities to evacuate production from mines to the buyers' sites. The evacuation facilities were inadequate in Bailadila sector. The alternatives available to increase the evacuation capacity were not pursued swiftly by the Company.*

- *The Company entered into long term agreements with JSM for supply of iron ore. The prices negotiated by the Company were in line with those paid by JSM to Australian and Brazilian suppliers. The export prices of the Company formed the basis for fixing domestic prices. However, due to non revision of domestic prices by the Company in line with the movement of market price, the Company suffered a revenue loss of ₹ 745.94 crore during 2007-10.*

- *By extending unwarranted reduction in price, the Company passed on benefit of ₹ 600.83 crore to the customers during 2010-11. Further, not increasing the prices by full percentage in line with increase in export prices led to loss of ₹ 227.40 crore during the same period.*

- *During 2011-12, the Company followed 'Net Back' method and 'Domestic Price Parity' method to fix the prices of iron ore. The net back method suppresses the price and the* *domestic price parity method which is based on OMC prices is an imperfect method of fixing prices as the ex-mine prices vary based on the quality of ore and transport distance. Considering that the end-product (steel) prices are market driven, it is desirable that NMDC follows a mechanism which fetches it optimum price while providing assured supplies and predictable prices to customers.*

- *The Board of Directors is expected to monitor the key areas of operations and take remedial actions if the operations are found not to progress as intended. There were delays in implementation of two capacity expansion projects. Although the Board held 63 meetings during 2005-12, it did not adequately monitor the progress of key projects which were not progressing well. Subsequently, the Board formed a sub-committee in March 2010 to review the progress of various projects. In respect of price revision in case of domestic LTA, the Board did not provide any guidance regarding clarity in terms relating to revision of prices, i.e., when exactly to effect the revision in prices and by how much.*

- *The oversight by the Ministry was deficient to the extent that it did not set appropriate targets in RFD for the projects under implementation.*

Recommendations

6.3 We make the following recommendations for improvement:

- ***The Company needs to formulate a strategy spelling out its plans for acquisition of new mines/ reserves;***

- ***The Company needs to enhance its project management capability by focusing on project planning, implementation and monitoring. In this regard, the Company needs to specify the timeframes and milestones for all project activities and ensure their strict adherence through continuous monitoring and requisite remedial action;***

- ***The Board should regularly monitor the progress of laying of slurry pipeline;***

- ***The issues relating to doubling of K-K line should be taken up at the Railway Ministry level and pursued so as to expedite its completion;***

- ***The domestic price fixation mechanism for iron ore may be established which would address the following issues:***

  - ***Optimum price realization for NMDC's ore;***
  - ***Assured supply to domestic steel producers; &***
  - ***Predictability of price.***

- ***The Board of Directors of the Company need to review the progress of ongoing projects periodically and suggest remedial action wherever warranted so that the projects are completed as envisaged.***

New Delhi
Dated:

(A K PATNAIK)
Deputy Comptroller and Auditor General and Chairman, Audit Board

Countersigned

New Delhi
Dated:

(VINOD RAI)
Comptroller and Auditor General of India