Chapter IV
Strategic Investment in Joint Ventures

The Company entered into Joint Venture (JV) agreements with various Central Government and State Government Public Sector Undertakings apart from private companies in India and abroad for establishing Steel Plants and for development of Coal and Iron ore mines. The following table indicates the details of equity contribution made by the Company in the JVs as at the end of 31 March 2017:

Table 4.1 – Details of Equity Contribution of NMDC Ltd in Joint Ventures

Name of the Associate / Joint Venture	Date of Association/ Acquisition	Shareholding of NMDC (%)	Investment of Equity (₹ in crore)
J&K Mineral Development Corporation Ltd.	19.05.1989	95.86	28.51
Neelachal Ispat Nigam Ltd.	08.12.2004	12.87	100.60
Krishnapatnam Railway Company Ltd.	13.10.2006	14.82	40.00
International Coal Ventures (P) Ltd.	14.01.2009	26.47	376.36
Legacy Iron Ore Ltd., Perth, Australia	21.12.2011	78.56	168.53
Total			**714.00**

The deficiencies observed in the investments made by the Company in the JVs are discussed in the subsequent paragraphs.

4.1 Investment in J&K Mineral Development Corporation Limited, Jammu

The Company had lease for mining low silica magnesite deposit at Panthal in Jammu & Kashmir (extending over an area of 4.853 sq. km). For development of the mine and for setting up a 30,000 TPA (tons per annum) capacity Dead Burnt Magnesite (DBM[32]) manufacturing plant at Panthal village (about 9 km away from the deposit), the Company formed (19 May 1989) a Joint Venture Company (JVC) named J&K Mineral Development Corporation Limited (J&KMDC) with J&K Minerals Limited (J&KML – a Government of Jammu & Kashmir Undertaking) with envisaged equity participation between NMDC and J&KML in the ratio of 74 *per cent* and 26 *per cent* respectively. The proposed project is located in proximity to the holy shrine of Shri Mata Vaishno Devi. The Shrine Board issued right of entry (18 July 1990) with respect to the land owned by them and falling within the Mining Lease area subject to provisions of MMDR[33] Act and the lease deed. The Company initially intended to sell the raw Magnesite but could not proceed due to decline in demand. Further efforts of the Company for producing value added products such as Calcined Magnesite were not taken up due to high freight charges,

[32] *DBM (Magnesium Oxide-MgO), is a hard/ rock solid/ high temperature-resistant and high load bearing capacity (under high temperature) material, produced from Magnesite ($MgCO_3$) by heating at a temperature of 1700^0C to 2300^0C for eliminating carbon dioxide content and used as refractory material with wide spread application in steel making / non-ferrous metal extracting / glass making furnaces.*

[33] *Mines and Minerals Development & Regulation Act, 1957*

locational disadvantage, high taxes and customer base being small scale producers besides over supply from overseas markets till 2005-06. Subsequently, when the market for Dead Burnt Magnesite increased, the Company appointed (April 2010) M.N. Dastur & Co. Pvt. Ltd. Kolkata as an EPCM Consultant for the project at a total cost of ₹4.54 crore and paid ₹2.36 crore towards Net Present Value (NPV)/ compensatory afforestation charges etc. to the Shrine Board, as the ownership of the land vested with the Shrine Board. The mining lease was transferred (April 2011) in the name of the JVC and the JVC received the Environment Clearance (03 May 2011) and clearance under Wildlife Protection Act (13 March 2012) for the project. The EPCM Consultant was to complete the entire work within a period of 38 months (i.e. by 12 June 2013) from the date of issue of Letter of Award of Contract which was divided into five packages viz. (i) Technology Package, (2) Electrical system, (3) Soil Investigation, (4) Balance Civil & Structural works and (5) Appointment of agency for operations and maintenance (O&M) for the project. The capital cost of the project was ₹243.70 crore (revised) and the works for all the packages except O&M Package (No.5) were awarded between November 2011 and May 2015.

We observed that:

(a) The Company abnormally delayed[34] the award (21 May 2015) of Technology Package (Pkg. No.1) to the consortium of FL Smidth Pvt. Limited, Chennai for a value of ₹119.40 crore (plus US $45,50,675) with a completion period of 18 months i.e. by 20 November 2016.

(b) Meanwhile, in October 2016, the MoEF&CC withdrew the Environmental Clearance granted to the project citing that the open cast mining in close proximity to the holy shrine of Shri Mata Vaishno Devi may lead to irreversible damage to pristine, fragile and environmentally sensitive area.

(c) The withdrawal of EC was done without considering the study report (February 2015) of Central Institute for Mining and Fuel Research, Dhanbad engaged by the Company which concluded that there would be no noise pollution, no vibration and no fly rock incident due to blasting.

(d) The amount of ₹42.37 crore already invested by NMDC in the JVC including the advances made to JVC (₹17.97 crore) was written off from the books of accounts in 2016-17. Thus, the entire amount spent by the Company proved infructuous.

The Management/Ministry stated (March/July 2018) that:

- The delay in finalization of Technology Package was due to repeated tendering for three times on modifications required to be carried out in the technical specifications, commercial clauses and issues pertaining to performance of one of the bidders viz. M/s HDOL.

[34] *Technology package was awarded in May 2015 i.e. after five years from award (April 2010) of EPCM contract to M.N. Dastur & Co. Pvt. Ltd.*

- Further, the Task force constituted for exploring the possible alternate use of the land including setting up of Solar Plant, other mineral based industry, industrial park etc. could not identify any alternate project which could utilize the infrastructure and site developed at Panthal.
- The Company was still pursuing the matter vigorously for revival of the project by utilizing the latest mining technology without blasting and hence, the amount of ₹42.37 crore spent by the Company on various package could not be considered as infructuous.

The Task Force did not find any alternate use of project facilities.

4.2 Investment in Neelachal Ispat Nigam Limited (NINL), Odisha

During the year 2002, NMDC invested ₹49 crore in Konark Met Coke Limited (KMCL), an Odisha Government PSU in anticipation of allotment of Mankadanacha Iron ore deposit in its favour which was under dispute. KMCL was taken over by Neelachal Ispat Nigam Limited (NINL), a Central Public Sector Enterprise, in the year 2004 and the Company further invested ₹51.60 crore (during 2010-11) of equity in NINL by subscribing to the Rights Issue[35] including unsubscribed portion (₹7.07 crore) of other shareholders, thus raising the total investment to ₹100.60 crore.

We noticed that:

a) Without exercising due diligence, the Company had invested on a disputed mining lease which remained unresolved till date.

b) The subsequent investment of ₹51.60 crore was made without conducting due diligence on its own on the financial position of NINL as it has been incurring continuous losses and its net worth for 2016-17 stood at ₹(-)175.14 crore.

Thus, the investment of ₹100.60 crore did not yield any returns so far.

The Management did not furnish any specific reply to the audit para. The Ministry stated (July 2018) that the investment in the Rights Issue of NINL was made after review by two independent Consultants whose reports were duly considered by NMDC, apart from internal diligence process by a high-level committee.

The reply was, however, silent on the reasons for investment despite being aware of the disputed mining lease.

4.3 Investment in Krishnapatnam Railway Company Limited

In view of Government's decision to discontinue the Iron ore exports from Chennai port from 2004-05 onwards, Iron ore exporters including NMDC/ the FIMI (Federation of Indian Mineral Industries) identified Krishnapatnam port in Nellore district of Andhra

[35] *Rights Issue is an issue of shares offered at a special price by a company to its existing shareholders in proportion to their holding of old shares.*

Pradesh as the preferred alternative port. It was proposed to develop a new railway line between Krishnapatnam and Obulavaripalle in Kadapa district of Andhra Pradesh (113 km) in two phases at an estimated cost of ₹587.49 crore with a completion period of 5½ years through SPV viz. Krishnapatnam Railway Company Limited (KRCL) formed (October 2006) jointly by Rail Vikas Nigam Limited, Krishnapatnam Port Company Limited and Government of Andhra Pradesh with an equity ratio of 30:30:13 respectively. The balance 27 *per cent* of the equity was left to Iron ore exports/strategic investors of which 15 *per cent* was acquired by NMDC, by contributing ₹40 crore to receive control over transport cost and to get preferential treatment in allocation of rail rakes. Phase-I works (20 km section of Venkatachalam and Krishnapatnam port) were completed in all aspects by March 2013 and the works under Phase-II (93 km stretch between Obulavaripalle to Venkatachalam) were still in progress which was proposed to be completed by March 2018.

We observed that the SPV could not get the full-fledged share from the revenue generated through operation of Phase-I from the Railways thereby there was delay in execution of Phase-II works. Further, NMDC did not get any returns on its investments and further exports from Bellary sector were unlikely in the foreseeable future in view of the ban imposed (March 2012) by the Hon'ble Supreme Court of India on Iron ore export sales from Karnataka.

The Management/Ministry stated (March/July 2018) that NMDC had written to the Railway Board for releasing the due share of revenue to KRCL and also indicated that it would not invest further in KRCL.

4.4 Investment in International Coal Ventures Limited

With the objective of sourcing Metallurgical Coking Coal and Thermal Coal supplies from overseas, an MoU was signed (August 2007) among Coal India Limited (CIL), Steel Authority of India Limited (SAIL), NTPC Limited, Rashtriya Ispat Nigam Limited (RINL) and NMDC Limited and accordingly a Special Purpose Vehicle (SPV) viz., **"International Coal Ventures Limited (ICVL)"** was formed (May 2009) with an initial equity capital of ₹3,500 crore to be contributed by all the five entities in the ratio of 2:2:1:1:1 respectively. Accordingly, the Company was required to invest ₹500 crore proportionate to its share in ICVL. NTPC (February 2012) and CIL (February 2015) exited from ICVL after making initial contribution of ₹1.40 crore and ₹2.80 crore respectively. As a consequence, the ratio of share capital in ICVL among the remaining three partners was revised to 48:26:26 between SAIL, RINL and NMDC respectively (September 2015).

In July 2014, ICVL decided to acquire 65 *per cent* of Coal mine and Coal assets located in Mozambique, viz. Rio Tinto Coal Mozambique (RTCM) through its subsidiary viz., 'ICVL Mauritius' incorporated in September 2014. The balance 35 *per cent* of RTCM was held by M/s Tata Steel. The asset portfolio of RTCM, Mozambique comprised of an operating mine at Benga, the Zambeze and the Tete East Greenfield assets[36]. The Benga mine produced Coking Coal and Thermal Coal and had an operational loss at the time of acquisition. From the above overseas Coal mining asset at Mozambique, ICVL projected production of 2.3 million tons (MT) of Hard Coking Coal (HCC) in 2014. Against this projected output, it was estimated that the purchase consideration would be ₹300.69 crore (US $50 million[37]) plus the need to provide an additional amount of ₹481.10 crore (US $80 million) towards accumulated loss till the SPV starts earning profits by 2017-18 for which Tata Steel was also to contribute its share. The total expected capex was worked out to be around ₹4,588.45 crore (US $763 million) for the three years' period i.e. from 2014 to 2016 besides the requirement of ₹811.85 crore (US $135 million) towards rolling stock over the years from 2015 to 2021. The Company had invested ₹213.36 crore[38] in ICVL as of March 2015.

The Company appointed (August 2015) an Internal Committee to examine further investment proposal in ICVL. The Committee in its report (February 2016) observed that the initial projections made during 2014 by ICVL on the production and revenue were overestimated. It was also observed that the Project was falling into the fourth quartile[39] (Q-IV) of the international Met-Coal industry cost curve. The risks referred by the Technical Consultant with reference to the operational risks were not heeded to by ICVL. Besides, the projected loss of ₹481.10 crore (US $80 million) for three years (2014-2016) was underestimated as the actual loss computed by the Internal Committee for the year 2013 alone was ₹668.49 crore (US $108 million[40]). Further, Internal Committee viewed and noted high cost of delivery at Port and the project falling into the fourth quartile of the industry cost curve, high ash content in Run-of-Mine (ROM) leading to lower yields, inability to increase mine output for want of logistic infrastructure involving significant capital investment and competitive disadvantage of cost to the similar grade of Australian coal. Further, no contribution was received from Tata Steel (post-acquisition) despite their commitment of 35 *per cent* in Benga Mine and as such the Committee projected the NMDC's exposure to ₹2,598.20 crore towards debt and equity upto the year 2019. The Internal Committee had opined that the Company was aware that ICVL was taking over a loss-making project and that Investment in ICVL would not yield returns both in short and medium term in the present market conditions (February 2016) and in the long-term, cost of sustaining the project and further investment in ICVL would prove to be significantly high and would entail very high risk.

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36 ICVL primarily focussed on the Benga Mine and is currently not pursuing the Zambeze and Tete East assets.

37 RBI declared exchange rate of ₹60.1370 per US$ as on 1st July 2014 was adopted for conversion of purchase consideration and proposed capex and rolling stock.

38 ₹2.41 crore (2011-12), ₹1.89 crore (2012-13), ₹0.70 crore (2013-14), and ₹208.36 crore (2014-15)

39 Fourth Quartile of the Coal Industry cost curve refers to the segment of the coal producers who are the first and worst affected producers by fall in International Coking Coal prices.

40 The loss was for the calendar year 2013 therefore, exchange rate of ₹61.8970 per US$ as on 31st December 2013 was adopted.

Further, Tata Steel in its letter to ICVL (July 2017) expressed their apprehensions that Benga Coal Mine is inherently in a disadvantageous position as compared to its Australian Peers and is projected to continue to lag behind other major Coal producers in the medium to long term. Besides, as a last quartile (Q-IV) Coal mine producer which is invariably the first and the worst to get affected by a fall in international coking coal prices, it would struggle to make profits even in the best case scenario in the long run.

We observed that:

a) The capital commitment of NMDC Ltd increased from the present ₹500 crore to ₹910 crore due to restructuring of equity sharing ratio.

b) Despite having appointed (August 2015) an Internal Committee to examine further investment proposal in ICVL, by which time the Company had already invested ₹213.36 crore in ICVL, further investment of ₹107.97 crore was made by the Company before the Internal Committee submitted (February 2016) its report. Besides, contrary to the Committee's recommendations to refrain from making further investments in ICVL and recover the investments already made during the last 3-5 years, the Company proceeded with further investment of ₹15.03 crore (June 2016) bringing the total investment in ICVL to ₹376.36 crore[41]. In addition, the Company also issued a Letter of Comfort for US $30 million which may be availed by ICVL for obtaining working capital loan from EXIM Bank.

c) The concerns raised by the Internal Committee were also confirmed by the Consultant (RPM-Runge Pincock Minarco) appointed (March 2015) by Tata Steel, who opined (July 2017) that the accumulated losses till 2016-17 stood at ₹8,300 crore (US $1.28 billion) and assessed that breakeven point of Benga Coal mine was still at a distance in view of the long-term price forecast of Coking Coal in international market.

Thus, the investment of ₹376.36 crore made by the Company based on the unrealistic business plan of ICVL has not yielded any returns so far and uncertainty of earning reasonable profits in the medium or long term persists.

Management stated (March 2018) that:

- A high-level team[42] visited ICVL in May 2016 and found that operations at low cost would still render the project viable. The Company further invested ₹15.03 crore in the equity of ICVL.

- While the restructuring of equity share capital among SAIL, RINL and NMDC Ltd was approved by NMDC Board in September 2015, the capex for the project as envisaged was not approved. The mining operations remained closed from January 2016 to October 2017. Additionally, the view of Audit on the increase in capex commitment over the years was unrealistic as the business plan had

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[41] *Including advance against equity amounting to ₹40 crore.*

[42] *Consisting of Chairman, SAIL; Joint Secretary, MoS; Director (Technical), NMDC; Director (Commercial), RINL and Chief Executive Officer, ICVL*

changed and ICVL continued with the same rated capacity by a new set of contractual agencies at reduced cost.

The contention of the Management that low cost operations at Mozambique would be viable was contradictory to the observation of the Internal Committee that the project was falling into the fourth quartile (Q-IV) of the international Met-Coal industry cost curve. Also, the report of Consultant of Tata Steel (JV partner in RTCM) corroborates the above fact that the Benga mine was in a disadvantageous position compared to its Australian peers. It was precisely due to this that Tata Steel had refrained from further contribution in RTCM post acquisition.

The Ministry stated (July 2018) that the accumulated losses were due to steep fall in coking coal prices and higher cost of production compared to the initial estimates during acquisition. With the present price of Coking Coal at Aus $180-$190, the project seemed viable.

The reply is not convincing since the project was supposed to turn profitable from 2017-18 and this would require wiping out of the accumulated losses of ₹8,300 crore (US $1.28 billion) up to the year 2016-17, which may take considerable time.

4.5 Investment in Legacy Iron Ore Limited, Australia

In response to the Global Expression of Interest (GEoI) floated during October 2009 for acquiring mineral properties abroad, Legacy Iron Ore Limited (LIOL), Australia (a listed entity in Australian Stock Exchange), holding mining rights in a number of mineral/ metal deposits in Australia, approached (August 2010) the Company for exploration of its Iron ore tenements[43] in Robertson Range and Hamersley Projects situated in Pilbara region, Australia. The Company decided in its 432 Board Meeting (29 April 2011) to acquire 50 *per cent* stake in Robertson Range and Hamersley Projects of LIOL. The Company noticed in May 2011 that LIOL had a farm-in[44] JV agreement for 60 *per cent* interest with another company viz. Hawthorn Resources Limited, the owner of Mt. Bevan project tenement. Hence, in May 2011, the Company decided to acquire 50 *per cent* shares in LIOL to have management control in it as the major shareholder which would serve as a growth platform in Australia. With an expected internal rate of return of 12 *per cent*, an MoU was signed on 21 May 2011 and the Company concluded a binding Share Subscription Agreement (20 October 2011) with LIOL and acquired 28,83,62,699 shares at a cost of ₹99.63 crore (Aus $18.89 million at 6.55 Aus cents per share) which were listed on the Australian Stock Exchange (ASX) (21 December 2011) and 15,56,49,619

[43] *Tenement is an exploration license which provides an entity the permission to explore the availability of mineral bodies.*

[44] *Farm-in agreements are contractual arrangements common in the Australian exploration sector. Typically, the owner of an interest in a tenement (farmor) agrees to transfer a percentage of their interest to another party (farmee) if the farmee meets specified exploration commitments or contributes a defined level of expenditure towards exploration activities.*

options[45] of LIOL (49.61 *per cent* of total equity). The move of the Company was also brought (22 November 2012) to the notice of Cabinet Committee on Economic Affairs (CCEA). Further, Mckinsey & Co., was appointed as a Consultant in May 2013 for preparation of strategy forward on LIOL at a cost of ₹3.40 crore approx. (Aus $ 6,17,980) who opined that Mt. Bevan was a negative Net Present Value (NPV) project and recommended to scale down the investments and even advised the Company to defer the purchase of stake in Hawthorn Resources Limited. However, the Company proceeded (March 2014) to subscribe to the Rights issue of LIOL justifying the move as a potential long-term resource augmentation strategy and with a view to strengthening its international operations. The Company subscribed to the Rights issue of LIOL (at 3 shares for each share) at an offer price of 1.40 Aus cents per share amounting to ₹68.90 crore (Aus $12.12[46] million), bringing the total investment in LIOL to the extent of ₹168.53 crore (Aus $31.01 million i.e., Aus $18.89 million at the time of acquisition and Aus $12.12 million in August 2014 i.e. during the Rights issue). The Company so far did not exercise any of the options. Thus, the equity holding in LIOL rose from 49.61 *per cent* to 78.56 *per cent*. As of March 2017, LIOL had 22 tenements comprising of one Iron ore tenement, 18 Gold tenements, and three Base metal tenements.

We observed that:

a) The acquisition proposal was approved based on inferred resources[47] of Iron ore and Gold and not on the proven reserves since the entire LIOL projects were still in their exploratory stages. These indicate that the projects were yet to undergo long gestation period before actual exploitation.

b) In addition to the expenditure of Aus $9.995 million incurred up to June 2011 (up to the date of acquisition), LIOL incurred a further expenditure of Aus $11.9 million on exploration of 58 tenements upto March 2017. Further, 36 tenements were surrendered after incurring a total expenditure of Aus $12.88 million which included three Coal tenements, bringing the total tenements to 22 as on March 2017.

c) At the time of acquisition of LIOL tenements, the Board's Sub-Committee of the Company in August 2011 observed that the estimated landing cost (CIF value) of Iron ore concentrate in India would be around ₹3,391.73 per ton to ₹3,611.97 per ton (US $77[48] per ton to US $82 per ton) which would prove to be much higher than the production cost[49] of the Company from its domestic mines rendering the import of ore to India costlier.

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[45] *Options are to be invoked and converted into equity before the expiry of the prescribed period on future date at a fixed price, irrespective of the actual market price. Acquisition of Options does not involve cash outgo until it is exercised within the validity period.*

[46] *28,83,62,699 existing shares* 3 * 1.4 cents per share/100 = Aus $ 12.12 million*

[47] *Inferred resources need to be further explored for classification as indicated resources and then to measurable or proven resources as per Joint Ore Reserves Committee (JORC) basis of classification.*

[48] *RBI reference rate of one US$ = ₹44.0485 as on 1 August 2011 was considered for conversion*

[49] *The production cost of Iron ore in Bailadila Sector was less than ₹1,000 per ton, whereas the landing cost of imported ore was around ₹3,465 per ton by considering exchange rate of ₹45 per US $ prevailing in 2011.*

d) As per the evaluation study of Mckinsey & Co., Mt. Bevan Iron ore project was a negative NPV project and was a marginal asset in the short to medium term and that it would potentially be strategic for NMDC only in the long term i.e. from the year 2030 onwards for which the Company would need to incur minimum exploration commitment expenditure of ₹89.67 lakh (Aus $1,77,000[50]) every year to retain the holding of these tenements and invest further as LIOL does not have its own revenue stream.

e) Further, in view of low grade quality of Iron ore (Fe 30.60 *per cent*), the viability of the project was highly questionable since it would not be feasible given the present technology level of the Indian Steel industry as IBM stipulated (July 2009) that iron ore below 45 *per cent* Ferrous (Fe) grade be treated as waste.

f) The share value of LIOL as on 03.11.2017 fallen to 0.30 Aus cents per share from the initial acquired price of 6.55 Aus cents per share resulting in erosion of ₹151.40 crore (Aus $27.55 million) as the initial investment of ₹168.53 crore (Aus $31.01 million) stood reduced to ₹17.13 crore (Aus $3.46 million[51]) as on that date.

Thus, the investment made by the Company in LIOL was not based on rational assessment of financials which was devoid of informed risk and return profiling and future projections. The imprudent investment move of the Company was reflected in terms of the need to make annual recurring exploration commitment cost and erosion of share value etc.

The Management/Ministry stated (March/July 2018) that:

- The valuation of exploration properties increase manifold when even one out of many tenements are converted to mines.
- The Company projected to import Iron ore from Mt. Bevan to feed the domestic Steel Plants subject to the detailed feasibility studies in view of projections of shortage of Iron ore by 2025 and beyond as per National Steel Policy.
- The Ferrous (Fe) content of 30.60 *per cent* of Mt Bevan can be beneficiated to more than 69 *per cent* (results of Davis tube recovery test) to produce the product fetching premium over blast furnace grade product subject to detailed feasibility studies.
- The exploration companies like LIOL did not have a continuous revenue stream, until project was brought to production which would take several years and the current market capitalisation of LIOL was Aus $8.81 million at 0.60 Aus cents per share. Any positive news flow in LIOL will result in significant variation in market capitalisation.

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[50] *RBI reference rate of one Aus$ = ₹50.6585 as on 18 December 2018 was considered for conversion*

[51] *RBI reference rate of one Aus$ = ₹49.5045 as on 3 November 2017 was considered for conversion*

- LIOL submitted applications for allocation of three Tungsten tenements and was in discussions with other Tungsten companies which had completed feasibility studies and hence, the presence of NMDC in Australia would help in targeting important resources beneficial to the country and the Company.

The reply is not acceptable in view of the fact that the Company's projections are based on expectations and assumptions rather than on scientific and reasonably acceptable grounds. Further, the Company is bound to spend annually ₹89.67 lakh (Aus $1,77,000) to retain the tenements besides expenditure to be incurred for development of infrastructure facilities like creation of Port, Railway line and Road ways to transport the ore from the mine to the Port, Power and Desalination Plant, ore beneficiation cost and lack of own revenue stream significantly impacting the viability of the project as well as the import of the ore to India.