सत्यमेव जयते

Report of the
Comptroller and Auditor General of India
on
CAPACITY EXPANSION OF RASHTRIYA ISPAT NIGAM LIMITED
For the year ended March 2014



Union Government (Commercial)
Ministry of Steel
No. 10 of 2015
(Performance Audit)

Report of the
Comptroller and Auditor General of India
on
CAPACITY EXPANSION OF RASHTRIYA ISPAT NIGAM LIMITED

For the year ended March 2014

Union Government (Commercial)
Ministry of Steel
No. 10 of 2015
(Performance Audit)

Index

Preface

The Audit Report has been prepared in accordance with the Performance Audit Guidelines and Regulations on Audit and Accounts, 2007 of the Comptroller and Auditor General of India.

In order to increase its existing steel making capacity from 3 MTPA to 6.3 MTPA, Rashtriya Ispat Nigam Limited (RINL), a Navratna Central Public Sector Enterprise and one of the large steel making enterprises in the country, had planned for capacity expansion in 2004.

Audit took up the performance audit of RINL with a view to examining the economy, effectiveness and efficiency in execution of the capacity expansion plan. The Audit Report examined the adequacy and results of efforts of RINL from conceptualisation to execution of capacity expansion from April 2004 to March 2014.

Audit wishes to acknowledge the co-operation received from RINL and the Ministry of Steel at each stage of the audit process.

Executive Summary

Executive Summary

Introduction

Rashtriya Ispat Nigam Limited (RINL), the first shore based Integrated Steel Plant in the country was incorporated on 18 February 1982 with an installed capacity of 3 million tonne per annum (MTPA) with the main objective of production and sale of iron and steel products. It commenced full-fledged operations from 1992-93. RINL has been making profit over the last 12 years and earned profit after tax of ₹ 366.45 crore on an income of ₹13,431 crore in 2013-14 while operating four captive mines at Madharam, Jaggayyapet, Garbham and Nellimarla, all situated in Andhra Pradesh and Telangana to meet its requirement of raw materials i.e. dolomite, limestone, manganese and sand. It has a Long Term Contract Agreement (LTA) with National Mineral Development Corporation (NMDC) Limited for supply of iron ore. RINL planned (2004) capacity expansion of installed capacity from 3 MTPA to 6.3 MTPA in two stages i.e. Stage-I and Stage-II.

Audit Scope and Audit Sample

We conducted performance audit of company's activities relating to capacity expansion covering the period, 2004-05 to 2013-14. We reviewed the activities of all the major projects of Stage-I i.e. Raw Material Handling Plant (RMHP), Blast Furnace (BF), Sinter Plant (SP), Steel Melt Shop (SMS) and two mills of Wire Rod Mill (WRM) and Seamless Tube Mill (SLTM) and Stage-II units namely Special Bar Mill (SBM) and Structural Mill (SM). A sample of 68 contracts of value ₹ 13275.79 crore representing 90 *per cent* of total 252 contracts valuing ₹ 14731 crore was examined in performance audit to assess the economy, efficiency and effectiveness of planning of capacity expansion including the system of award of contracts.

(Para 1.7 and Para 2.2.2)

Significant audit findings are as under :-

(i) Overshooting of target dates of capacity expansion

RINL took up capacity expansion from 3 MTPA to 6.3 MTPA at a cost of ₹ 8,692 crore from zero date i.e. 28 October 2005 with envisaged dates of completion of Stage-I in October 2008 and Stage-II in October 2009. Subsequently, RINL was conferred with Navaratna status in November 2010 by GoI. Accordingly, the Board of Directors (BOD) of RINL in July 2011 approved Revised Cost Estimates (RCE) of capacity expansion at an amount of ₹ 12,291 crore. In RCE, the completion dates of Stage-I and Stage-II were revised to October 2011 and October 2012 respectively. However, RINL has not achieved (August 2014) the dates of completion of capacity expansion and kept revising the same. Construction work in Stage-II units which was in progress was likely to be completed by February 2015 (as of August 2014) with a delay of

28 months against the revised time schedule of October 2012. Despite prolonged time and cost overrun, the capacity expansion has not materialised. The destruction caused by recent cyclone Hudhud (October 2014) would only compound the delays.

(Para 1.3 and Para 2.1.2)

(ii) Insufficient capacity of rolling mills

RINL was operating on insufficient rolling mills and earning lower margins on sale of semi steel instead of finished steel. RINL has not planned for establishment of sufficient matching capacity of rolling mills in the present capacity expansion from 3 MTPA to 6.3 MTPA. Further, RINL has dropped the work of SLTM (February 2008) on the ground of increase in cost estimates, technological, unfavourable market conditions etc. By that time RINL incurred an avoidable expenditure of ₹ 18.27 crore towards civil works of SLTM and missed out on conversion of semi steel into finished product that would have yielded higher margins.

(Para 2.5 and Para 2.5.1)

(iii) Risk to ensuring availability of raw material

With a view to having an uninterrupted supply of raw material, RINL acquired (January 2011) 51 *per cent* shares valuing ₹ 361 crore in Eastern Investments Limited (EIL) which had six licenses for iron ore and manganese mines in Odisha. However, RINL did not derive any benefit from this investment and all six licenses expired and were not renewed by Government of Odisha (March 2014). In respect of iron ore, RINL has Long Term Agreement (LTA) with NMDC Limited for supply of iron ore of 10.5 million tonne to feed up to the 6.3 MTPA capacity. As RINL has no captive mine of its own for acquiring iron ore and coking coal, it would be exposed to the risk of paying higher cost of raw material.

(Para 2.6)

(iv) Ineffectiveness in utilisation of services of consultant

Instead of preparing a Detailed Project Report (DPR), the consultant had prepared only a Project Report, which was submitted by RINL to MoS, which without insisting on DPR, communicated (October 2005) approval to capacity expansion proposed by RINL. There were variations from (-) 47 *per cent* to (-) 122 *per cent* in the updated cost estimates prepared by the consultant. RINL had not given any timeframe to the consultant for furnishing its recommendations on eligibility criteria, techno-commercial bids, finalizing the various stages of tenders, which eventually contributed to delays in execution of the project. The appointment of consultant had not served the intended purpose in expediting and ensuring quality of project management right from its conceptualisation to execution.

(Para 3.2.2.1)

(v) Inefficient contract management

In six civil contracts out of 18 civil works reviewed, the estimated cost varied by ₹ 158.64 crore and the percentage variation worked out between 31.76 *per cent* and 47.96 *per cent* of estimated costs which clearly indicated the failure of the consultant while estimating the BOQ.

(Para 3.2.2.2)

RINL paid mobilisation advance contrary to CVC guidelines, which resulted in extending undue favour to contractors of ₹ 156.02 crore including loss of interest of ₹ 38.68 crore on other than supply contracts like design and engineering, civil works, training, supply of maintenance spares etc.

(Para 3.2.2.4)

(vi) Inaccurate consideration of quantity of saleable steel and resultant deficient working of cash flow, PAT and IRR

The standard conversion rate for every tonne of liquid steel as per the production flow chart of RINL was 88.53 *per cent* of saleable steel for the existing plant. As per Project Report the conversion rate was envisaged at 92.23 *per cent* for the expansion plant. At the liquid steel production of 3.5 MTPA, the saleable steel could be 3.10 MTPA whereas RINL had considered production of saleable steel at base case only as 2.84 MTPA by considering production of liquid steel at 3.25 MTPA. Thus the production build-up of saleable steel in the base case was understated by 0.26 MTPA. At the level of 100 *per cent* capacity utilisation from the year 2014-15, RINL had estimated the production of saleable steel at 5.82 MTPA from liquid steel of 6.3 MTPA. At the standard conversion rate of 88.53 *per cent* from liquid steel to saleable steel for the existing plant and at the conversion rate of 92.23 *per cent* for the expansion plant against the production of liquid steel at 3.5 MTPA and 2.8 MTPA respectively, the production of saleable steel worked out only to 5.68 MTPA. Thus, the production build-up of saleable steel after capacity expansion was considered on higher side, by 0.14 MTPA. This error in considering quantity of saleable steel in base case and post expansion would have an adverse impact on cash flow, PAT and IRR. MoS, based on audit observations, has agreed that the IRR would come down to 12.96 *per cent* against the originally projected 14.02 *per cent.* This indicates that the IRR, cash flow and PAT calculated, while preparing the project report, were not realistic and not achievable.

(Para 3.1.3.2)

(vii) Monitoring Mechanism for Capacity expansion

In violation of MoS's directives (October 2005), RINL had not established an exclusive projects division headed by Director (Projects), who was appointed only in June 2009. Day to

day monitoring of the project for capacity expansion was thus adversely affected for more than three and half years, at a crucial stage.

(Para 4.3 B)

Despite the directions of Board of Directors (BOD) (February 2006) for reporting the progress (both physical and financial) made in respect of capacity expansion at every Board meeting for its information, neither RINL ensured compliance with BOD's direction nor BOD insisted for compliance of its own directives. Documentation of project monitoring by RINL/ BOD was deficient.

(Para 4.5)

(viii) Performance of RINL against MOU targets for capacity expansion

RINL made commitments in the Memorandum of Understandings (MOUs) entered with MoS for the year 2008-09 to commission the capacity expansion by 2010-11. Though RINL could not achieve the MOU target, it continued to make similar commitment in MOU for 2009-10, 2011-12 and 2012-13 with revised commissioning dates.

(Para 4.8)

Audit Recommendations:

Based on the audit findings, the following recommendations are made :-

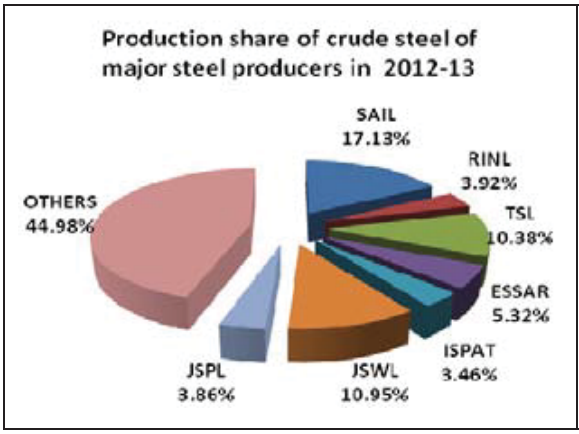
1. RINL may take up the matter of non renewal of mining licenses in Odisha with the MoS/ GoI, which, in turn, may take up the issue with appropriate agencies.
2. RINL may put in place a time bound programme to complete the work of capacity expansion by dovetailing the same with the revised scheduled dates of completion.
3. RINL may critically review the role of and value addition achieved with the engagement of the consultant in expediting the project of capacity expansion.
4. RINL may strengthen the monitoring mechanism to minimize controllable delays in project execution and delivery by fixing periodicity and levels of monitoring up to the Board of Directors.
5. MoS/RINL may ensure that there is a verifiable link between MOU targets and actual execution of work relating to capacity expansion.

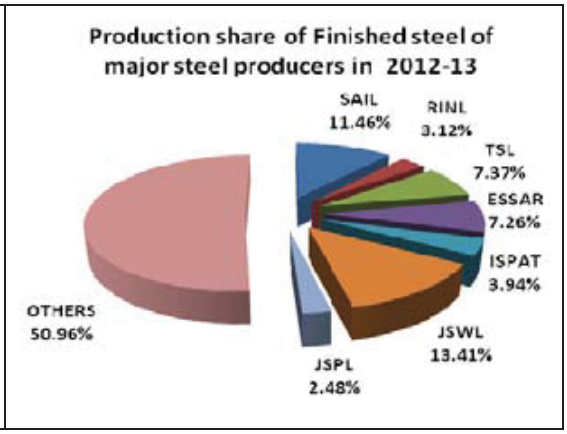
CHAPTER –1 INTRODUCTION

1.1 INDUSTRY PROFILE

At the time of independence in 1947, India had only three steel plants – the Tata Iron & Steel Company, the Indian Iron and Steel Company and Visveswaraya Iron & Steel Limited with one million tons capacity and a few Electric Arc Furnace-based plants. During the initial planning years i.e., from 1950 to 1970, large Integrated Steel Plants were set up in the public sector. The steel industry was de-licensed and decontrolled in 1991 and 1992 respectively. The liberalization of industrial policy and other initiatives taken by Government of India (GoI) have given an impetus to entry, participation and growth of private sector in the steel industry. With this, the fledgling one million tonne capacity status at the time of Indian independence had increased to 87.18 million tonne during 2012-13. Rapid rise in production made India the fourth largest producer of steel consistently for the five years ending 2012 with 76.70 million tonne of production out of total 1,547.80 million tonne world-wide[1].

The National Steel Policy 2005, envisaged steel production to reach 110 million tonne by 2019-20. The production share of crude steel and finished steel of Rashtriya Ispat Nigam Limited, Visakhapatnam (RINL) for 2012-13 was 3.92 *per cent* and 3.12 *per cent* of total production in India respectively. The production share of RINL compared with that of other major steel producers in India during 2012-13 was as given below:





1.2 COMPANY PROFILE

RINL, the first shore based Integrated Steel Plant in the country was incorporated on 18 February 1982 under the administrative control of the Ministry of Steel (MoS), Government of India (GoI) with an installed capacity of 3 MTPA[2] of liquid steel. RINL also has four captive mines at Madharam, Khammam District; Jaggayyapet, Krishna District; Garbham & Nellimarla, Vizianagaram District respectively situated in Telangana and Andhra Pradesh to meet its requirement of dolomite, limestone, manganese and sand respectively. It also has a captive power plant to meet its power requirement. The main objective of RINL is production

[1] ***As per the statistics of World Steel***
[2] ***Million Tonne per annum***

and sale of iron and steel products. It commenced full-fledged operations from 1992-93. RINL incurred losses since beginning and started earning profits from 2002-03 onwards and the accumulated loss of ₹4,982 crore (up to 2001-02) was wiped off by 2005-06. Navratna status was conferred on RINL in November 2010. It had accumulated profit of ₹ 6,390.38 crore at end of March 2014. The authorized and paid up capital of RINL were ₹ 8,000 crore and ₹ 5,739.85 crore respectively as on 31 March 2014. During 2013-14, it has recorded sales turnover (gross) of ₹ 13,431.48 crore with profit after tax of ₹ 366.45 crore.

1.2.1 PRODUCT PROFILE

The product profile of RINL comprises long products such as wire rods, bars, angles, channels / beams, rounds and billets. It also produces pig iron, granulated slag, coal chemicals as by-products. The actual production of liquid steel during 2013-14 was 3.39 million tonne representing 113 *per cent* of the installed capacity. From the liquid steel, a total of 3.02 million tonne of saleable steel was produced, which included bar products (0.87 million tonne), wire rods (1 million tonne), MMSM[3] products (0.94 million tonne) and billets (0.21 million tonne) respectively.

1.2.2 PROCESS DESCRIPTION

The iron ore fines along with coke, limestone, dolomite, sand and metallurgical wastes are charged in the Sinter Plant to produce sinter. The sinter along with coke, sized ore and manganese are heated up in the Blast Furnace to produce hot metal by removing impurities in the Iron ore. The hot metal is transferred to Steel Melt Shop (SMS) for conversion into liquid steel and balance hot metal is used for producing pig iron. Liquid steel is poured into the Continuous Casting Machines to produce bloom-part of which is converted into billets in billet mill. Blooms and billets are rolled in the mills to produce finished products.

1.2.3. ORGANISATIONAL SET UP

RINL is governed by the Board of Directors (BOD) headed by the Chairman-cum-Managing Director (CMD). CMD is assisted by five functional Directors of operations, commercial, projects, personnel and finance. The Projects Division was to be headed by a Director from 1 August 2006 and it was held as additional charge by other functional directors and CMD till 1 June 2009. A full-time Director (Projects) was available from 1 June 2009 to 31 July 2011. From 1 August 2011 to April 2012, the post of Director (Projects) was vacant and only thereafter a regular post of Director (Projects) is being operated. Executive Director (Projects) assisted by General Managers / Deputy General Managers, reports to the Director (Projects).

1.3 CAPACITY EXPANSION

RINL intended to increase its capacity from 3 MTPA to 6.3 MTPA. Accordingly, with the approval of the BOD, RINL submitted Draft Public Investment Board (PIB) note along with project report and feasibility report to take up the capacity expansion in two stages, to MoS

3 Medium Merchant and Structural Mill

in December 2004. The estimated project cost of the capacity expansion was ₹ 8,259 crore (base December 2004) with completion schedule of Stage-I being 36 months and Stage-II 48[4] months from the envisaged 'Go-ahead date' (1 April 2005). The project proposal was approved by GoI with updated estimated cost of ₹ 8,692 crore (base June 2005) with 'Go-ahead date' as 28 October 2005. Accordingly, the scheduled dates of completion of Stage I and Stage-II were October 2008 and October 2009, respectively.

1.3.1 REVISED COST ESTIMATES (RCE)

As per OM No.1 (3) PF II/2001 dated 18 February 2002 of Ministry of Finance (MoF), a mandatory review of cost estimates was needed to be carried out at the stage, when funds to the tune of 50 *per cent* of original project cost were expected to be spent. The said review of cost estimates was to be done to assess whether the total project costs would be within the original cost estimates. In case the increase in the revised cost estimates is expected to cross 20 *per cent* of the original cost estimates, the revised cost estimates shall be posed to EFC/PIB for appraisal and thereafter to CCEA for approval. RINL submitted the Revised Cost Estimates (RCE) to the Ministry in June 2008 in line with the said OM of MoF and again, at the instance of the MoS, in PIB memorandum in April 2010 for the approval of GoI. At that stage, MoS advised (February 2011) RINL to obtain the approval of RINL's Board of Directors (BOD) since RINL was conferred with Navratna status. Accordingly, BOD approved (July 2011) the RCE at ₹ 12,291 crore (base February 2011) with IRR of 14.02 *per cent.* As on 31 March 2014, the cumulative commitments made and expenditure incurred by RINL were ₹ 12,447.15 crore and ₹ 10,259.80 crore respectively (against RCE of ₹ 12,291 crore).

1.3.2 EXECUTION OF THE CAPACITY EXPANSION PROJECT

BOD of RINL approved (July 2011) a revised completion schedule for Stage-I as October 2011 and for Stage-II as October 2012. The execution of capacity expansion was under various stages and has not yet reached the stage of commercial production (March 2014). The scheduled completion dates were revised from time to time and as per the latest schedule for commissioning schedule (August 2014), various production units in Stage - I & II would be commissioned during March 2014 to February 2015. This situation arose as the time schedule provided for completion of Stage-I and Stage –II in the RCE approved by BOD did not specify definite timelines for various activities contained in the left over works. The Stage-I of the project was completed in March 2014 against the time schedule of October 2011 i.e. with a delay of 29 months and Stage-II was still in progress and the delay as of August 2014 worked out to 22 months against the time schedule of October 2012.

Audit observed that the major reasons for the time overrun were delay in engagement of consultant, absence of appropriate sub-activity wise timeframes for finalizing the contracts, delay in formulation of tender conditions or inadequate tender conditions, delay in constitution of board level sub-committees with adequate financial powers, extension of time for submitting price bids, post tender deviations (like change in vital commercial conditions relating to contract

[4] ***45 months for Special Bar Mill and 48 months for Structural Mill***

completion period, date of commencement of work etc., at the request of parties selected under the eligibility criteria) and inconsistencies in decisions by competent authority in respect of calling for revised price bids / revision in price bids etc.

RINL in its reply (April 2014) explained that major facilities of Raw Material Handling Plant, Caster and BF-3 were progressively commissioned in December 2011, January 2012 and April 2012 respectively. It was further stated that had the unfortunate accident not taken place in SMS-2, all units of Stage-1 & Stage-2 would have got commissioned progressively by October 12 and October 2013 respectively. Ministry in its reply (December 2014) endorsed RINL's reply.

The reply of RINL/Ministry needs to be viewed against the fact that commissioning of SP-3 the upstream unit, which supplies feed material to BF-3 and SMS-2, was not ready till August 2013. Hence commissioning of units of Stage –I by October 2012 was not practicable, even if there was no fire accident in SMS-2 in June 2012. Further, the RINL's monthly project implementation progress report for August 2014 indicated that the expected date of completion was February 2015.

1.4 AUDIT SCOPE

The Performance Audit covers the capacity expansion project, intended to increase the production capacity of RINL from 3 MTPA to 6.3 MTPA that was initiated in 2004 and was still in progress as on date (August 2014) with specific emphasis on pre-implementation procedures, award of contracts, execution of contracts and project monitoring. The entry and exit conferences with the management of RINL were held in July 2013 and April 2014 respectively. Audit conducted a comprehensive study analyzing the reasons for delay/deficiencies in various stages of execution of the capacity expansion on which audit observations were issued to RINL. The report was also issued to the MoS for comments and the replies of MoS/RINL, wherever received, were considered while drawing audit conclusion and recommendations as discussed in subsequent chapters. A list of abbreviations used in the report is listed as a ***Glossary*** at the end of the report.

1.5 AUDIT OBJECTIVES

The main objectives of the performance audit were to assess whether:

a) RINL had planned the project comprehensively by preparing detailed project report, specifying key milestones with timeframes, identifying implementing personnel with specific responsibilities and committing resources;

b) RINL implemented the project within the planned milestones, timeframes and the approved project cost;

c) RINL executed the contracts in a fair and transparent manner, by promoting competition; and

d) The monitoring mechanism was in place to review the progress of project implementation and take remedial action and that this mechanism was effective in monitoring the project.

1.6 AUDIT CRITERIA

Audit criteria adopted for the performance audit were derived from :

- Project report for capacity expansion;
- Agenda and Minutes of the meetings of the Board of Directors and its sub-committees;
- Sustainability Plan, Corporate Plan, Annual Plans and Annual Budgets;
- Consultant and Committee Reports containing the progress of tender finalisation, order placement, execution of the capacity expansion;
- Monthly Progress Reports and other MIS containing the progress and commissioning schedules of the capacity expansion;
- Procurement and tendering procedures;
- Construction / works contract agreements; and
- Memorandum of Understanding (MOU) with MoS.

1.7 AUDIT SAMPLE

Audit had undertaken overall review of project planning and project implementation of the capacity expansion. In the review of contract management, out of 252 contracts, audit had selected 68 contracts for detailed review of various activities beginning from initiation of tenders to erection & commissioning (up to October 2013). 90 *per cent* of the contract value of ₹ 14,731 crore was selected for review as detailed below:-

Table –1

Sampling analysis of capacity expansion of RINL

₹ in crore

Particulars	Total Contracts	Value	Percent of selection	No. of contracts selected	Value
Contracts above ₹ 50 crore	39	12,575.27	100	39	12,575.27
Contracts between ₹ 25 to 50 crore	26	890.48	50	13	472.42
Contracts between ₹ 10 to 25 crore	49	769.39	20	12	208.97
Contracts between ₹ 1 to 10 crore	112	484.72	5	4	18.93
Less than ₹ one crore	26	11.38	0	0	0
Total	**252**	**14,731.24**		**68**	**13,275.59**
Percentage of value selection	**90.12**				

Out of the 68 contracts, tender files of three contracts were not furnished to audit on the plea that two contracts (of value ₹ 80.05 crore and ₹ 80.78 crore) were with the Vigilance department of RINL and one contract file (of value ₹ 18.60 crore) was missing.

1.8 ACKNOWLEDGEMENT

Audit acknowledges the co-operation and assistance extended by RINL and Ministry of Steel (MoS) at various stages of Performance Audit.

1.9 AUDIT FINDINGS

The audit findings are discussed in the succeeding chapters as detailed below:

- **Chapter 2** includes issues relating to pre-implementation procedures and planning.
- **Chapter 3** deals with issues relating to implementation and contract management. Focus is on analysis of causative factors and deficiencies leading to delay in project implementation resulting in time and cost overruns.
- **Chapter 4** highlights inadequacies in project monitoring and impact of abnormal time overrun in project implementation.
- **Chapter 5** includes conclusion and recommendations.

CHAPTER -2: PLANNING

2.1 PROJECT INITIATION

2.1.1 DIFFERENCES IN CAPACITY ENVISAGED

The Corporate Plan 2020 of RINL envisaged (February 2007) increase of steelmaking capacity up to 6.8 MTPA by 2009-10, 8.5 MTPA by 2011-12, 13 MTPA by 2016-17 and 16 MTPA by 2018-19. However RINL's capacity expansion plan under examination in Audit was for increase of capacity from 3 MTPA to 6.3 MTPA in Phase-2 expansion (still in progress as of August 2014).

On a review of project report submitted (30 December 2004) to MoS, Audit noticed that RINL projected its operating capacity as 3.7 MTPA against actual operating capacity achieved i.e. 3.5 MTPA. The said project report envisaged establishment of additional facilities of 2.6 MTPA (liquid steel) only. While issuing NIT, the steel making capacity was, however, mentioned as 2.8 MTPA. This indicated that RINL did not adopt correct data in respect of present operational capacity as well as the additional steelmaking capacity while taking approval for the project report, especially as the total capacity after Phase-2 expansion remained at 6.3 MTPA.

RINL in its reply (April 2014) stated that the intention of the expansion was to enhance the existing operating capacity to 6.3 MTPA.

Further, MoS in its reply (December 2014) stated that the consultant had assessed the potential capacity of the existing plant at 3.7 MTPA and projected the capacity as 2.6 MTPA from the new plant. However, at later stage, the SMS-2 with a production capacity of 2.8 MTPA liquid steel was envisaged in the capacity expansion. The reply of MoS is an afterthought since RINL did not consider the revised capacities of the present and new plants as projected while finalising the RCE in July 2011. This indicated that RINL / MoS did not ensure correctness of the data regarding existing capacity and projected addition of capacity as well as the additional steelmaking capacity in its proposal for expansion.

2.1.2 GOVERNMENT APPROVAL

RINL's proposal for capacity expansion along with draft Public Investment Board (PIB) note was submitted (30 December 2004) to MoS for approval of Cabinet Committee on Economic Affairs (CCEA) at an estimated cost of ₹ 8,259 crore with 'Go-ahead date' as 1 April 2005. MoS circulated the draft PIB note in January 2005 to all the Ministries/appraising agencies and pre-PIB meeting was held in February 2005. The Planning Commission (PC) had given in-principle approval for the Feasibility Report (FR) in March 2005. PIB meeting was held in June 2005. At the instance of the MoF, the project cost was updated to ₹ 8,692 crore (base June 2005) and GoI accorded (October 2005) approval with 'Go-ahead date'[5] as 28

[5] ***Zero date***

October 2005. The project viability was assessed based on Incremental Rate of Return (IRR) and Pay-Back Period of the project at 23.04 *per cent* and six years respectively considering the plant life at 15 years. As per the project schedule approved by GoI, the Stage-I and Stage-II were scheduled to be completed by October 2008 and October 2009 respectively.

Examination in audit revealed that vide OM No. No.1 (2)-PF.II/03 dated 7 May 2003, GoI has fixed the time lines for every stage of approval of project. The project had got its approval in 40[6] weeks against 16 weeks prescribed. This was due to delay in applying for Environment Clearance by RINL and MoS forwarding PIB Note to various ministries without ensuring applicable statutory clearances.

RINL confirmed (April 2014) the delays and stated that these could not be avoided despite best efforts. MoS in its reply (December 2014) stated that against the time frame of 11 weeks allowed from the date of forwarding the draft PIB Note to the date of PIB Meeting, the actual time taken was 14 weeks. Hence, the delay was 3 weeks only.

The replies of RINL/MoS need to be viewed against the fact that RINL/MoS was to ensure the applicable statutory clearances before submitting the proposal so as to avoid delay in getting approval from GoI. Since the actual time taken was 22 weeks from the date of forwarding the draft PIB note (18 January 2005) to the date of PIB meeting held (24 June 2005) as against the scheduled time frame of 11 weeks allowed. Thus there was delay of 11 weeks upto PIB meeting.

2.1.3 CONSENT FOR ESTABLISHMENT

The project report envisaged establishment of air pollution control measures for ensuring ambient air quality through adoption of suitable air pollution control technologies, heat recovery from BFs, establishing bag filters at SMS and effective usage of gases for electricity generation. As envisaged in the project report, RINL established pollution control measures and Captive Power Plant-2 (CPP-2) for power generation with BF gas as discussed in the para 2.5.3. In respect of conservation of water, RINL had taken up the Zero Water Discharge (ZWD) project.

Examination in Audit revealed that as part of conditions to Consent for Establishment (CEF), Sl. No 3 of Schedule B, issued by the APPCB[7] (May 2005), RINL has to establish effluent treatment plant to adopt zero water discharge. RINL estimated the cost of the project for Zero Water Discharge (ZWD) at ₹ 114.85 crore. By treatment of 1180 to 1280 cum/hr of water after capacity expansion, a saving of ₹ 15 crore per annum was expected considering the raw water cost at ₹ 7.70 per KL. RINL committed to implement ZWD project by January 2010. RINL awarded five contracts out of which audit selected three contracts for examination, as given below:

[6] ***Period between 18 January 2005 to 28 October 2005***
[7] ***Andhra Pradesh Pollution Control Board***

Table-2

(₹ in crore)

Sr. No.	Spec. No.	Details of work	Name of the party	Cost esti-mate	Up-dated cost	Award Value	Fax LOA Date	Schedule Date of Completion	Actual / ex-pected date of completion	Delay in months	Avoidable expenditure
1	10-WTS-002	Water system in TPP	M/s. VA TECH WA-BAG Ltd.,	43.15	43.15	24.78	19 April 2008	18 October 2009	12 March 2012	29	9.09
2	14-WTS-002	Sewage pump house,	M/s. ADTIL & M/s. PMPL[8]	21.50	28.43	25.89	06 June 2008	05 August 2009	Time extension granted upto 31 August 2014	60	3.65
3	14-WTS-004	Balacheruvu treatment plant	M/s. ADTIL & M/s. PMPL	20.10	67.62	36.75	15 April 2008	14 October 2009	Time extension granted upto 31 August 2014	58	13.15
Totals				84.75	139.20	87.42					25.89

The delays in execution of the works were ranging from 29 to 60 months. These delays were mainly due to i) not concluding the contract as per schedule and delayed commencing the work (9 to 11 months), ii) deployment of inadequate manpower by contractors iii) non-handing over of site in time iv) non-availability of fronts and v) non-supply of equipment in time. As a result of these delays in completion of the Project, RINL could not fulfil its commitment given to the APPCB besides incurring avoidable expenditure on water charges of ₹ 25.89 crore between August 2009 and August 2014.

RINL in its reply stated (April 2014) that delays were mainly attributable to the contractors M/s Permionics and M/s Aeriff De Tox which could not be avoided fully despite best efforts and close follow up at various levels. However, recovery of LD and Milestone penalties would be made as per relevant contractual provisions, as per remedies available under the contracts. MoS in its reply (December 2014) endorsed RINL's reply. However, the fact remains that failure to achieve the ZWD resulted in avoidable expenditure of ₹ 25.89 crore.

2.2 PROJECT IMPLEMENTATION SCHEDULE

As per OM No 1(5)/PF.II/97, dated 06 August 1997 of MoF, it was required that every proposal should indicate in detail about the Project Implementation Schedule (PIS) giving all important milestones for various activities such as clearances, preparation of DFR, Notice of Inviting Tenders (NIT), Civil Engineering Works, placement of orders for plant & machinery, erection, trial runs etc,. It should also be certified that the PIS is consistent with the projected phasing of expenditure. The PIS would be part of PIB approval[9]. Project report[10] approved by RINL in December 2004, contained two broad time frames, one from zero date to awarding of contracts and second equipment supply, erection & commissioning. PIS were developed on the basis of estimated quantum of work, manufacture, delivery and installation schedule of various plant equipments and the commissioning schedules. It was, however, noticed in audit that the PIS was not supported by the detailed key milestones / time frames for each sub activity so as to demonstrate accountability and ensure timely completion of project.

RINL replied (April 2014) that it prepared delay analysis in respect of 14 contracts only i.e. 5.5 *per cent* of the 252 contracts awarded for capacity expansion. The fact remains that RINL

[8] ***M/s. Permionics Membranes Pvt. Ltd. (PMPL) & M/s. Aireff De Tox Incineration Limited (ADTIL).***
[9] ***O.M.No.1 (5)/PF.II/97 dated 06 August 1997***
[10] ***Para 44 of Executive Summary of PR***

did not make any delay analysis at each stage i.e., awarding, execution and commissioning. Such analysis would have enabled RINL to identify the responsibility centres for delays and take corrective action.

2.2.1 DETAILED PROJECT REPORT

As per GoI OM No 1(2)-PF.II/03 (May 2003), Detailed Project Report (DPR) should highlight the important issues relating to responsibilities of different agencies for project management, implementation, the organization structure, as well as monitoring and coordination arrangements, identification, assessment of project risks, proposals for mitigation thereof etc,. However, RINL furnished only a project report (December 2004) to GoI for approval. In spite of taking up the mega project of a value of ₹ 8692 crore, RINL did not prepare DPR and MoS also approved the project proposal without insisting on DPR.

RINL in its reply (April 2014) stated that the project report submitted contained all the required details such as project concept, market prospects, raw material linkups, major production facilities, auxiliary facilities, utilities, construction schedule, cost estimates, fund resourcing, financial analysis, sensitivity analysis, implementation strategy, category-wise man-power requirement, environmental pollution control measures etc. This report met broadly the requirement of GoI OM No.1 (2)-PF/II/03 (May 2003). MoS in its reply (December 2014) endorsed the views of RINL.

The reply of RINL/MoS is not tenable as RINL's decision not to prepare DPR was in violation of GoI guidelines. In fact, RINL later realised the consequences of not preparing the DPR like increase in cost of the project, cropping of installation of additional equipment's etc. during the implementation of the project (July 2011).

2.2.2 COMMISSIONING SCHEDULE OF THE PROJECT

The capacity expansion was envisaged in two stages by establishing long product mills. Stage-I included all major process equipment like Raw Material Handling Plant (RMHP), Blast Furnace (BF), Sinter Plant (SP), Steel Melt Shop (SMS) and two mills of Wire Rod Mill (WRM) and Seamless Tube Mill (SLTM). Stage-II contained two more mills namely, Special Bar Mill (SBM) and Structural Mill (SM). However the SLTM proposed in Stage-I was dropped (February 2008). The commissioning of Stage-I and Stage-II units were to be completed by October 2011 and October 2012 respectively as per RCE approved by BOD of RINL.

2.2.2.1 MASTER NETWORK

RINL has changed milestone schedules of various activities in the master network such as order placement, equipment supply & erection and commissioning compared to the project report approved by GoI within the overall limit as below:

Table-3

Sl. No	Milestone activity	Schedule completion period from 'Go-ahead date' (October 2005) as per the approved plan.				Schedule completion period from 'Go-ahead date' (October 2005) as per RINL's master network.			
		Stage-I		Stage-II		Stage-I		Stage-II	
		Month	Duration	Month	Duration	Month	Duration	Month	Duration
1	Order Placement	April 2006	6 months	April 2007	18 months	August 2006	10 months	July 2007	21 months
2	Equipment supply & Erection	July 2008	27 months	July 2009	27 months	August 2008	24 months	August 2009	25 months
3	Trials / testing & Commissioning	October 2008	3 months	October 2009	3 months	October 2008	2 months	October 2009	2 months
	TOTAL DURATION		36 months		48 months		36 months		48 months

Examination in audit revealed that RINL compressed the time schedule of second milestone 'equipment supply & erection' from 27 months to 24 months for Stage – I and from 27 months to 25 months for Stage –II. The actual time allowed for supply of major equipment package like SMS -2, SP-3, BF-3, rolling mills etc., was ranging from 28 to 30 months. The adverse impact of revising the GoI approved milestone for completing order placement without providing adequate time for supply / erection and commissioning activities are discussed in Chapter-3.

RINL in its reply (April 2014) stated that they compressed the duration of the second milestone to maintain the overall completion schedules as approved by GoI. This indicates that RINL did not consider the practicability of the implementation of the project with reference to the second milestone activity as RINL did not consider the supply schedules which were beyond the second milestone as per master network.

2.3 PROJECT SET UP

2.3.1 PROJECT IMPLEMENTATION TEAM

MoS directed (October 2005) RINL to strengthen the existing construction department by re-deploying personnel and to form an exclusive project division headed by a Director. Audit, however, observed that RINL, instead of creating an exclusive project division for capacity expansion, entrusted the project expansion work to the existing project division which was looking after the routine capital repairs and maintenance works, AMR schemes etc. Besides this, RINL also could not get an exclusive Director (Projects) for implementation of expansion required as per O.M. No. 13013/2/92-PMD (April 1998) within a reasonable time. There was a delay of 43 months in the said appointment. It could not be denied that this delay had deprived

RINL of increasing the effectiveness of and augmenting the monitoring mechanism of the project.

RINL had confirmed (April 2014) the audit observation.

2.4 APPOINTMENT OF CONSULTANT

In anticipation of the GoI approval for 6.3 MTPA capacity expansion by the end of March 2005, the BOD of RINL accorded (January 2005) approval to the appointment of consultant. Accordingly RINL floated (April 2005) Global Expression of Interest (EoI). In response to the EoI, three parties expressed their interest. RINL evaluated the offers and shortlisted (15 September 2005) two parties viz. M/s M.N. Dastur and Co. Pvt. Ltd, Kolkata and M/s MECON Limited, Ranchi. However, RINL finalised and issued General Conditions of Contract (GCC) to the short-listed parties in November 2005. The Techno-commercial bids and price bids of both the parties were opened on 28 November 2005 and 30 November 2005 respectively and Tender Committee recommended to award contract to L_1 party M/s M.N. Dastur and Co. Pvt. Ltd, Kolkata in December 2005 at a lump sum price of ₹ 273 crore inclusive of all taxes and duties excluding service tax.

Examination in audit revealed that the delay in finalization of consultancy contract for six months (May to November 2005) was due to delay in finalization of GCC which was issued to the short-listed tenderers belatedly (November 2005). Further, BOD delayed the approval by two months (December 2005 and January 2006).

BOD of RINL had decided in its 194th meeting to finalize the consultancy contract before obtaining the approval of GoI for capacity expansion i.e., before October 2005 so as to prepare, finalize GCC/SCC and to take up preparatory works of capacity expansion. The consultancy contract was finalized belatedly in February 2006. This contributed to delay in the first milestone of Stage-I i.e. award of contracts which was to be completed by April 2006 (i.e., 6 months from Go-ahead date). The same was belatedly completed during the period, November 2006 to December 2010.

The scope of consultancy contract comprised services relating to basic engineering, design and detailed engineering, deciding general scope and number of packages to cover capacity expansion, preparation of specifications with BOQ and price schedule on milestone achievement basis, furnishing estimates, assistance in tendering and placement of order for the various packages, carrying out design supervision, inspection services, surveying, site supervision, overseeing the erection activities, participation in testing and commissioning, project monitoring and cost control and post-commissioning services.

RINL in its reply stated (April 2014) that it had taken up timely action for appointment of consultant by issue of Global EoI so that the process of appointment could be completed before the receipt of approval for capacity expansion from GoI. In view of above, the appointment process of consultancy contract was completed within three and half months time from the date of approval from the GoI. MoS in its reply (December 2014) endorsed the views of RINL. The replies of RINL/MoS needs to be viewed against the fact that mere issue of Global EoI did not serve any purpose unless General Conditions of Contract (GCC) were finalised before issue of such EoI which contributed to delays in appointment of Consultant.

2.5 IMPROPER PLANNING TO INSTALL SUFFICIENT CAPACITY OF ROLLING MILLS

RINL had been producing and selling higher quantities of pig iron and billets with lower margins than on the finished steel due to insufficient rolling mills capacity. It resulted in financial imbalance and RINL sustained losses. The accumulated losses crossed over 50 *per cent* (around ₹ 3,626 crore by 31 March 1998) of net worth and RINL became sick in 1998-99 and qualified for a reference to Board of Industrial and Financial Reconstruction (BIFR). After capital re-structuring, RINL could finally wipe off the accumulated losses by 2005-06. In spite of the above bitter experience, RINL did not plan for deficit rolling capacity and inviting the risk of selling semi finished steel products with lower margins as discussed below :

It was evident that at 3 MTPA capacity, insufficient rolling mill capacity already existed and RINL had to sell surplus semis to the extent of 0.25 MTPA with lower gross margin. Again in the present Phase-2 capacity expansion also RINL did not plan for installation of rolling mills to match production capacities of the upstream units. Against the proposed increase in production capacity of liquid steel of 2.8 MTPA in the Phase -2, the minimum capacity of rolling mill to be installed was 2.48 MTPA[11]. In spite of this fact, RINL planned for installation of rolling mills with a capacity of 2.35 MTPA[12] only which included SLTM also. However, the proposed SLTM was dropped, (February 2008) thereby bringing the plant rolling capacity down to 2.05 MTPA leaving total surplus semis of 0.43 MTPA. Thus the project planning was defective and RINL failed to take care of installation of matching capacity of rolling mills to the extent of increase in liquid steel capacity so as to roll the total surplus semis of 0.68 MTPA (0.25 + 0.13 + 0.30). In view of the above, RINL would be left with no option but to sell semis to an extent of 0.68 MT at lower gross margin and RINL would be incurring loss of margin of ₹ 52.70 crore[13] per annum.

RINL in its reply stated (April 2014) that rolling mills were normally available in standard module sizes and surplus production of 0.38 MTPA semis for 6.3 MTPA plant was not considered abnormal. It was further stated that if all the mills were installed including SLTM, there would not be any loss of revenue margin.

MoS in its reply stated (December 2014) that sale in the form of semis under existing operations is limited to either value added category with higher margins or defectives (which are unavoidable). It was further replied that normally as the mill utilization increases over a period of time, semis would get consumed and quantum of surplus semis would come down.

The reply of RINL / MoS needs to be viewed in the light of the following:-

- The assumption of MoS that sale of value added semis fetch higher margins than that of finished steel is not tenable since the value added finished steel always earn higher margins than on value added semis.

---

[11] ***At the standard conversion rate of liquid steel to finished steel as per flow chart is 88.53 per cent. Thus the required installed capacity of mills worked out to 2.48 MTPA.***

[12] ***WRM-2 of 6 lakh tonne+ Structural Mill of 7 lakh tonne + SBM of 7.5 lakh tonne + SLTM of 3 lakh tonne = 23.50 lakh tonne or 2.35 MTPA***

[13] ***At the difference of gross margin between MMSM (Rs 2334) and Billets (Rs 1559) Rs 775 per tonne X 6.8 lakh tonne = ₹ 52.70 crore (at the rates for the year 2012-13).***

- RINL already under estimated the SMS-2 production capacity as 2.6 MTPA as against the rated capacity of 2.8 MTPA.
- Further, in case of higher utilisation of capacity of mills, the quantum of surplus semis would not come down due to similar higher capacity utilisation in SMS (the existing SMS capacity utilisation envisaged upto 123 *per cent* ({3.7 MTPA / 3 MTPA X 100}).

Thus RINL could have considered establishment of sufficient rolling capacity to ensure maximum production of finished products rather than sale of semis.

2.5.1 SEAMLESS TUBE MILL (SLTM)

RINL in its PIB Memorandum (December 2004) for approval of the project, included Seamless Tube Mill (SLTM) with a capacity of 0.3 MTPA and reported that the Feasibility Report was prepared based on complete studies and investigations. The NSR[14] on sale of seamless tubes was estimated at ₹ 45,000 per tonne.

While appraising the PIB note, the Planning Commission (February 2005) highlighted the need for detailed study / investigation justifying the establishment of SLTM and stated that estimation of demand was based on expected projects and not based on detailed analysis. Similarly, the ERU[15] also commented in its appraisal report (March 2005) that the data provided by RINL was sketchy and did not look completely reliable and RINL should have undertaken a detailed market survey on seamless pipes. Despite the adverse comments of the appraising agencies, GoI accorded approval (October 2005) for installation of SLTM without ensuring detailed further study / investigations. At a later stage, based on the results of detailed study done by RINL in January 2008, RINL dropped setting up of SLTM (February 2008) on the grounds of increase in cost estimates, technological and unfavourable market conditions. By the time RINL took a decision to drop the SLTM, RINL incurred avoidable expenditure of ₹ 18.27 crore towards civil works.

RINL in its reply (April 2014) stated that under the same location where SLTM was originally envisaged, it is now planned to install a Rebar Mill of about 0.6 MTPA capacity for which the consultant had already submitted the DPR which is under scrutiny to proceed further. It was further replied that all attempts shall be made to make use of the Piles and civil foundations to the extent possible by providing the relevant details, drawings etc. to the Mill Supplier and the related executing agencies. MoS in its reply (December 2014) endorsed the views of RINL.

The reply of the RINL/MoS needs to be viewed in the light of the following:

- The delayed decision of RINL to install a rebar mill in the place of dropped SLTM after nine years from the zero date (October 2005) and six years after dropping the proposal for installation of SLTM (February 2008) indicates managerial inefficiency.
- The establishment of bar mill was in primitive stage and the proposal was not even put up to the BOD of RINL for approval (December 2014).

[14] ***Net Sales Realization***
[15] ***Economic Research Unit vide its letter dated 18 March 2005 conveying its appraisal report.***

- Further making use of the existing civil works of SLTM for the new rebar mill may not be practicable since the design and capacities of rebar mill and SLTM would be different.

Thus, due to improper assessment and appreciation of the background to the establishment of SLTM and taking up civil works prematurely resulted in avoidable expenditure of ₹ 18.27 crore on civil works.

2.5.2 LOSS OF PRODUCTION DUE TO TIME OVERRUN IN COMMISSIONING OF THE MILLS

As per original approved schedule by GoI, the capacity expansion was to be completed by October 2008 in respect of Stage-I units i.e. RMHP, SP-3, BF-3, SMS-2 and WRM-2 and October 2009 in respect of Stage-II units i.e. SM and SBM. The Stage-I of the project was completed in March 2014 against the revised time schedule of October 2011 i.e. with a delay of 29 months and Stage-II was still in progress and was expected to be completed by February 2015 (as of August 2014) with a delay of 28 months against the time schedule of October 2012. Thus both the stages of capacity expansion were delayed and the time overrun worked out to 65 and 64 months respectively from the original GoI approved schedule. Delay in commissioning of various production units of capacity expansion has resulted in loss of production of 55.63 lakh tonne of saleable steel during the period from the scheduled date of commissioning as approved by BOD of RINL to the end of March 2014. At the gross margin earned by RINL during the above periods on the respective products, RINL has foregone opportunity to earn gross margin[16]of ₹ 1560.54 crore[17] as detailed below:

Table-4

LOSS OF PRODUCTION IN MILLS DUE TO DELAY IN COMMISSIONING OF THE CAPACITY EXPANSION														
YEAR	WRM			STRUCTURAL MILL			SPECIAL BAR MILL			BILLETS			Loss of saleable steel production	Grand total of loss of gross margin
	Loss of Production	Gross Margin	Loss of Gross margin	Loss of Production	Gross Margin	Loss of Gross margin	Loss of Production	Gross Margin	Loss of Gross margin	Loss of Production	Gross Margin	Loss of Gross margin		
	Tonne	₹ per tonne	₹ in crore	Tonne	₹ per tonne	₹ in crore	Tonne	₹ per tonne	₹ in crore	Tonne	₹ per tonne	₹ in crore	Tonne	₹ in crore
2011-12	200000	4537	90.74	0	0	0	0	0	0	642525	2902	186.46	842525	277.20
2012-13	530000	3487	184.81	233333	2334	54.46	250000	4448	111.20	1208487	1559	188.40	2221820	538.87
2013-14	600000	3487	209.22	618333	2334	144.32	662500	4448	294.68	617390	1559	96.25	2498223	744.47
Totals	730000		484.77	851666		198.78	912500		405.88	2468402		471.11	5562568	1560.54

RINL confirmed (April 2014) the audit observation. MoS replied (December 2014) that had the unfortunate accident not taken place in SMS-2, while commissioning the Pressure Reducing Station (PRS) due to which the overall commissioning schedule of various units got affected, all units of Stage-I and II would have been commissioned by October 2012 and October 2013 respectively.

The reply of the MoS needs to be viewed in the light of the following :

- Though there was no impact of fire accident on SP-3, the crucial unit SP-3 of Stage-I, which supplies feed material to BF-3 was commissioned belatedly in August 2013. Incidentally, delay in commissioning of SP-3, forced all the BFs to operate in throttled condition.

[16] ***Average net sales realization minus cost of goods sold or Works cost***
[17] ***Figures for 2013-14 are provisional***

- Similarly, though there was no impact of fire accident on rolling mills, WRM-2, the rolling mill of Stage – I was commissioned belatedly in March 2014 and the remaining two mills of Stage – II are yet to be commissioned (December 2014).

In view of the above, MoS's contention that the loss of production due to reasons beyond control of RINL because of unfortunate accident in PRS is not convincing since upstream and downstream units of SMS-2 were not yet ready for commissioning.

RINL would further forego the opportunity of earning gross margin because of subsequent delays in commissioning of the rolling mills beyond March 2014.

2.5.3 DELAY IN COMMISSIONING OF THE POWER PLANTS

Project Report envisaged outsourcing of construction of two power plants (PP-I[18] and PP-II[19]) by engaging a private party on Build-Own-Operate (BOO) basis for meeting the power requirement of capacity expansion. RINL however took a decision[20] (July 2007) to install PP-I on captive basis under AMR scheme (Addition, Modification and Replacement) at an estimated cost of ₹ 291.77 crore to maintain the health and safety of critical equipment. Accordingly, with approval of the BOD (September 2007), RINL awarded the work to M/s BHEL at a cost of ₹ 465.29 crore. RINL had granted 14 extensions and the PP-I was yet to be commissioned (August 2014) as against scheduled completion date of December 2009. The main reasons for delay were non-availability of erection fronts, delay in approval of drawings and abnormal delay in supply of equipment by BHEL. Due to delay in completion of the PP-I, , RINL enhanced the Maximum Demand (MD) from 1,00,000 KVA to 1,35,000 KVA in January 2010 and incurred avoidable additional expenditure of ₹ 17.46 crore for purchase of power including demand charges on enhanced MD over and above the 1,00,000 KVA.

Similarly, considering the tax benefits, RINL further decided (August 2008) to go for installation of PP-II (2x60 MW)- a Blast Furnace (BF) gas based power plant on its own instead of on BOO basis. After issue of NIT (November 2008) RINL continued to issue amendments/ addendum/corrigendum to the tender documents making revisions to all key factors like **(a)** eligibility criteria, **(b)** evaluation criteria, **(c)** checklist, **(d)** certain parts of technical specification, **(e)** performance guarantee parameters, **(f)** liquidated damages (LD) clause and **(g)** terms & conditions, **(h)** price format and **(i)** duration of the contract. Frequent revisions of all key factors of a tender, that too after prolonged discussions, pointed to deficiency in preparation of tender specifications / documents. In this process, enormous time of 950 days was taken from the NIT to Contract. BOD approved (February 2011) award of contract with 27 months completion period (i.e., by 17 September 2013) on M/s Thermax, at a cost of ₹ 366.34 crore in April 2011. The duration was, however, extended by nine months till June 2014 due to delay in fulfilment of milestone activities by M/s Thermax. Thus the PP-II operations were yet to commence as on date (August 2014).

RINL in its reply (April 2014) was silent about the delay in finalising the tender but accepted that there were delays in execution attributable to the contractor M/s BHEL which could not be avoided fully despite best efforts and close follow up at various levels and recovered

[18] *67.5 MW TG*
[19] *2X 60 MW TG*
[20] *Board meeting No. 228 dated 29 July 2007.*

/withheld about ₹ 9.85 crore towards milestone penalty/LD. MoS in its reply (December 2014) stated that during the period January 2010 to November 2013, the implication of import of power from State Grid works out to ₹ 2.70 crore only.

The reply of MoS needs to be viewed against the following facts :-

- PP-I was scheduled to be commissioned by December 2009. Due to delay in completion, RINL was forced to increase (January 2010) the MD from 1,00,000 KVA to 1,35,000 KVA.
- Commissioning PP-I according to schedule would have avoided need for increase in MD and additional expenditure on purchase of power, including demand charges payable over and above 1,00,000 KVA, amounting to ₹ 17.46 crore.

2.6 RAW MATERIAL TIE-UPS AND WATER AGREEMENT

The project report assessed the required additional major raw materials, i.e. iron ore, coking coals, limestone and dolomite for the production of liquid steel. RINL had captive mines only for dolomite and limestone. To meet the additional requirement of dolomite and limestone for capacity expansion, RINL had taken up expansion of the existing captive mines. RINL did not possess captive mines for its primary raw materials like iron ore and coking coal. Though RINL prepared Corporate Plan (for the years 2007-2012) to increase its capacity to 16 MTPA by RINL, it started filing applications for allotment of mines from 2003 onwards and could not make any break-through in acquiring captive mines (March 2014). RINL acquired (January 2011) 51 *per cent* stake of ₹ 361 crore in Eastern Investments Limited (ElL) which had six licenses for iron ore and Manganese mines in Odisha. In spite of this investment, RINL was unable to derive any benefit even after three years as all the six licenses that were available with ElL had expired and no license was renewed by the Government of Odisha (March 2014). This resulted in blocking of funds amounting to ₹ 361 crore as no benefit could be drawn from the investment by RINL for more than three years.

In respect of iron ore, there is a commitment from NMDC for supply of iron ore of 10.5 million tonne to feed RINL upto 6.3 MPTA capacity expansion. In absence of own captive mines for iron ore and coking coal, RINL is exposed to risk (likely to pay higher cost at a later stage) to achieve the objectives of the capacity expansion.

In respect of imported coking coal (ICC), as per RINL's procurement policy, up to 95 *per cent* of the requirement of ICC is tied up through long term agreements and balance five *per cent* through global tenders. Accordingly, RINL along with SAIL[21] was jointly procuring its full requirement of ICC through Empowered Joint Committee (EJC) by negotiating with long term suppliers from Australia, USA and New Zealand. In respect of medium coking coal (MCC), the maximum requirement was estimated at 4.67 lakh tonne per annum (6.3 MTPA capacity) which was slightly higher than the requirement at 3 MTPA stage. RINL intended to meet the additional requirement from Central Coalfields Limited with whom RINL entered into an MOU[22].

[21] ***Steel Authority of India Limited.***
[22] ***Memorandum of Understanding.***

Coming to water, RINL had an agreement with Visakha Industrial Water Supply Company (VIWSCO) for supply of water required for the plant. Though RINL projected the requirement of 204 million litres of water per day at the time of 100 *per cent* capacity utilization i.e., from December 2010, VIWSCO had given commitment for only 136 million litres per day. There was no requirement of additional water as the commissioning of capacity expansion was itself delayed. RINL otherwise also planned to meet the deficit water, if any, from ZWD scheme (Zero Water Discharge scheme).

RINL and MoS confirmed (April 2014 and December 2014 respectively) the audit observation.

Recommendation :-

1. **RINL may take up the matter of non renewal of mining licenses in Odisha with the MoS/GoI, which in turn may take up the issue with the appropriate agencies.**

CHAPTER-3: PROJECT IMPLEMENTATION

3.1 PROJECT EXECUTION

3.1.1 PROGRESS OF THE PROJECT

The capacity expansion of RINL was at various stages of execution and yet (as of August 2014) to reach the stage of commercial production. Progress of capacity expansion indicating the approved implementation schedule as well as revised schedule of commissioning (as of August 2014) was as under :

Table-5

Project/ Facility	Zero Date (GoI approval)	Original Schedule	Revised Schedule as per RCE (July 2011)	Present status as on August 2014 (MPR)	Delay/ likely delay w.r.t original schedule (Months)	Delay/ likely delay w.r.t re-vised schedule (Months)
Stage – I						
BF-3	October 2005	September 2008	October 2011	April 2012 (*)	43	6
SMS-2	October 2005	September 2008	October 2011	March 2014 (*)	66	29
WRM-2	October 2005	October 2008	October 2011	March 2014 (*)(#)	65	29
Stage – II						
Special Bar Mill	October 2005	July 2009	October 2012	December 2014	65	26
Structural Mill	October 2005	Oct 2009	October 2012	February 2015	64	28

(*) Month of Commissioning

(#) Date of commissioning of Line 2 is taken as date of commissioning

Thus, as per the progress report of August 2014, the total time taken from the zero date to commissioning date of Stage-I units was 101 months and 112 months for the Stage-II. The time overrun from the original completion schedule is 66 months for Stage-I and 65 months for Stage-II. The time overrun, however, from the revised completion schedule as per RCE which was approved by the BOD, is 29 months for Stage-I and 28 months for Stage-II.

Examination in Audit revealed the following broad reasons that contributed to delays in project implementation:

- Delay in finalization of contracts;
- Delay in clearing of drawings by the consultant;
- Failure to provide fronts in time to the civil and structural agencies and also for equipment erection;
- Delay in submission of basic engineering drawings by equipment suppliers for piling, civil and structural works;
- Delay in supply of indigenous and imported equipment and non-sequential supply of equipment by the equipment suppliers; and

- Other reasons like heavy rains and contractor's labour strikes.

All the major units of Stage-I were commissioned by March 2014. The balance Stage-II units were scheduled for commissioning between December 2014 and February 2015.

No single production unit was commissioned within the scheduled date of commissioning due to delays in award of contracts and various deficiencies in contract management which are discussed in the subsequent paras. Audit observed that delayed execution of all 66 contracts[23] selected for review involved time overrun ranging between 3 months and 63 months (except one contract which was completed with a delay of less than a month).

RINL in its reply (April 2014) attributed the following reasons for the delays:

- Delay in appointment of Consultant resulted in delay in issue of specifications for various packages;
- Shifting of Effective Date of Contract from date of issue of FAX letter of acceptance (LOA) to date of signing of agreement which was agreed on insistence of almost all technological equipment suppliers;
- Shortage of skilled manpower due to vibrant market demand, heavy attrition rates etc. and inadequate mobilization of Erection Equipment like Cranes by Structural Contractors;
- Non availability of fronts due to improper sequence of activities which were inter dependent on other agencies.

RINL further stated that the following remedial measures were taken to minimise the delays:

- To give thrust to the pending issues by directly taking up with CEOs of various organizations and commitments made by various agencies were being regularly followed up;
- Monitoring at various levels was continuously being taken up by RINL and, depending on the criticality, it was also taken up through MoS with other Ministries of GoI and relevant Embassies;
- Change in execution strategy to improve pace of work through innovative way of execution;
- Making available fronts for erection of inter dependent agencies on much faster pace by strategizing the activities; and
- Offloading of jobs from failing contractors etc.

The reply of RINL needs to be viewed against the fact that the delays as stated were controllable, such as timely appointment of consultant, rightly formulating the terms and conditions of the contract in co-ordination with the consultant, effective monitoring of contractors in deployment of sufficient manpower and ensuring timely availability of the fronts to the contractors. In spite of remedial measures stated to have been taken by RINL, the fact remained that no single major unit of the capacity expansion was commissioned within the approved time schedule.

[23] *Excluding the contract of new SLTM under tender process, consultancy contract, thus the balance contracts were 66*

Detailed audit observations relating to tender finalisation and execution of capacity expansion are discussed in paras 3.3 and 3.4 respectively.

3.1.2 DELAYS IN INSTALLATION OF MAJOR UNITS OF CAPACITY EXPANSION

The major units proposed to be installed in the capacity expansion of Phase-II were by and large similar to the units established in Phase-I. It was envisaged to increase the hot metal production by 2.5 MTPA by installing BF-3 along with required raw material processing units to feed BF-3 like Raw Material Handling Plant (RMHP) and Sinter Plant-3 (SP-3). A new Steel Melt Shop-2 (SMS-2) of 2.8 MTPA capacity was included in the capacity expansion to process the hot metal into liquid steel. In order to achieve the optimum benefit of capacity addition, synchronization in commissioning of the three major units i.e., SP-3, BF-3 and SMS-2 was essential. But RINL could not ensure commissioning these three units sequentially. There was a gap of 14 months between the commissioning of BF-3 (April 2012) and SP-3 (July 2013) and 2 years in commissioning of BF-3 (April 2012) and SMS-2 (March 2014). Therefore, RINL was unable to reap the benefit of establishing BF-3 during the period, April 2012 to March 2014.

A review of the planning of the project in terms of the actual costs, cost estimates, delays in tendering process, delays in execution, delays in entering into contract agreement, overall delay in commissioning, expenditure incurred etc., in respect of the major units[24] of Stage -I and Stage –II of the capacity expansion indicated the following position:

Table-6

Sl.No.	Particulars		Unit	RMHP	SP-3	BF-3	SMS-2	WRM-2	SM	SBM
1	Installed capacity		MTPA			2.50	2.80	0.60	0.70	0.75
2	No. of contracts selected in the review		No	12	1	2	11	5	5	3
3	Total estimated cost as per original estimates		₹ in crore	550.24	639.00	1309.00	1220.54	543.70	430.56	314.00
4	Total revised estimates at the time of opening of tenders		₹ in crore	566.41	698.00	1596.18	1326.43	677.03	584.15	594.12
5	Awarded value of contracts		₹ in crore	548.32	728.35	1550.99	2107.40	814.13	1113.65	833.90
6	Percentage of increase of LOA to original estimates		per cent	-29.15 to 87	14	18 to 173	13.58 to 119.07	17.33 to 73	10.71 to 1465	137.59 to 1969
7	Percentage of increase of LOA to revised estimates		per cent	-35.46 to 26.90	4.35	-10.64 to -2.80	-18.85 to 102.57	-13.30 to 25.05	-24.80 to 122.29	-18.83 to 52.97
8	Placement of order scheduled to be completed by		Month	04/2006	04/2006	04/2006	04/2006	04/2006	04/2007	04/2007
9	Actual placement of orders for the contracts	From	Month	12/2006	02/2007	03/2007	03/2007	11/2006	03/2008	09/2008
		To	Month	12/2010	-	10/2008	03/2008	01/2008	05/2011	09/2010
10	Delay in placement of order (The number of days taken beyond 70/80 days * for placement of LOA from the date of NIT)	From	Days	69	290	254	104	130	54	283
		To	Days	331	-	314	572	386	502	487
11	Scheduled period of commissioning		Month	08/2008	09/2008	09/2008	09/2008	10/2008	10/2009	07/2009
12	Actual / Proposed date of commissioning		Month	11/2014	07/2013	04/2012	03/2014	01/2014	02/2015	12/2014
13	Delay in commissioning of the unit		Months	75	58	43	67	64	65	66
14	Amount of expenditure incurred by the end of March 2014		₹ in crore	433.79	643.75	1412.61	1865.99	686.86	901.01	684.30

*** 70 days in the case of indigenous tenders and 80 days in the case of foreign tenders**

RINL attributed (April 2014) the delays to contractors / tenderers for various reasons like lack of adequate response or major deviations from the tender document. RINL's attribution of the entire delay to the contractor does not absolve it of several deficiencies / lapses on its part as well as its consultant in the execution of the capacity expansion project as discussed in subsequent paras.

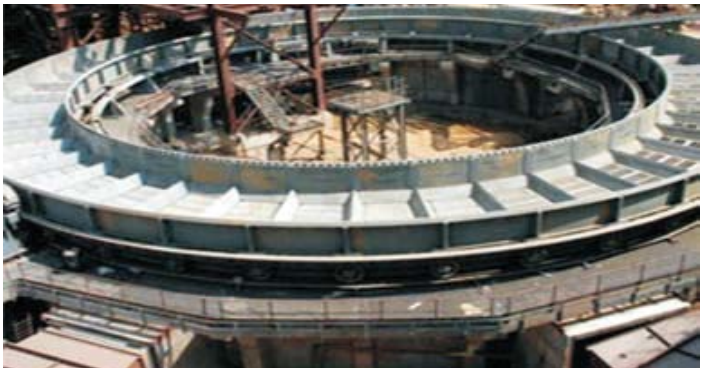
[24] *RMHP, SP-3, BF-3, SMS-2 and WRM-2 of Stage –I and SM and SBM of Stage – II of the capacity expansion Phase -2*

3.1.2.1 RAW MATERIAL HANDLING PLANT (RMHP)

The steel processing industry requires various raw materials in huge quantities. RMHP along with necessary facilities caters to the needs of unloading, storage and distribution of various raw materials required to be processed in major units of the steel plant. To handle the additional raw materials required for the capacity expansion, RINL envisaged a new RMHP to be commissioned by August 2008. Though placement of work orders was initiated in December 2006, erection of the same was yet to be completed (August 2014). Since RMHP was the primary unit to cater to raw material for processing units like SP-3 and BF-3, delay in its completion had adversely impacted the supply of feed material to SP-3 and BF-3. The main reasons for delay were (i) RINL protracted the correspondence with bidders for clarifications/ documents which were not submitted by bidders along with the PQC bids, (ii) extension of time to accommodate the commercial deviations sought by the bidders, and (iii) delays in issue of drawings, handing over of fronts for civil, structural works, supply of equipment & materials etc.

RINL replied (May 2014) that recipient departments were not ready by the time the particular stream of RMHP expansion unit was ready for commissioning. RINL's contention ignores the fact that BF-3 was already commissioned in April 2012 and owing to delay in commissioning of RMHP, all the three BFs ran in throttled condition during the period, April 2012 to October 2013.

3.1.2.2 SINTER PLANT – 3 (SP-3)



Sinter Plant

New Sinter Plant with 400 sq.m area to produce sinter of 36.11 lakh tonne per annum was proposed in the capacity expansion to feed raw material to BF-3. The scheduled date of completion of SP-3 was September 2008. The contract was awarded at a cost of ₹ 728.35 crore to consortium of M/s TPE, Russia and M/s MBE on 22 February 2007. The overall delay in execution of SP-3 was 58 months (October 2008 to July 2013).

Examination in Audit revealed that the main supply contract was finalized with a delay of 220 days. The reasons for the said delay were as under :-

- the foreign supplier M/s TPE, Russia had abnormally delayed the execution of the contract.
- there was delay in completion of civil works due to non-availability of drawings from the consultant.

As a result, sufficient sinter could not be provided to BF-3 for carrying out trial run and subsequent regular operation. In order to keep operation of BF-3, the sinter produced in the

existing SP-I and II was distributed among the three BFs. As a result, all the three BFs operated below the capacity.

3.1.2.3 BLAST FURNACE-3 (BF-3)

Blast Furnace – 3

As per project planning, the BF-3 to be commissioned by September 2008 was finally commissioned in April 2012 without Pulverized Coal Injection (PCI) system (likely to be commissioned by September 2014) with a delay of 42 months from the schedule completion date. The delay was due to revision in commercial conditions, change in GCC terms and delayed supply of plant & equipment by the supplier.

It was envisaged in the project report that against the normal consumption of 521 Kg of coke per tonne of hot metal in the existing BFs, the coke consumption for the BF-3 was estimated at 385 Kg. As it was supposed to be equipped with PCI system, saving of 136 kg of coke consumption per tonne of hot metal processed[25] was envisaged. Due to delay in installation of PCI system and running of BF-3 in throttled mode till March 2014, BF-3 had consumed excess coke of 4.91 lakh tonne valuing ₹ 981.61 crore (August 2014). After considering the cost of ₹ 346.86 crore on PCI coal at the rate of 168 kgs per tonne of hot metal which might have been incurred for consumption of coal in PCI in last two years ending March 2014, RINL had incurred avoidable extra expenditure of ₹ 635.16 crore. This expenditure is likely to increase further during the year 2014-15 as PCI is yet to be installed.

RINL in its reply stated (April 2014) that because of serious accident in SMS-2 (PRS), commissioning of Convertors got delayed and the Blast Furnace-3 was to run on throttled mode in order to keep all the three furnaces in running condition. RINL further replied (May 2014) that the implication on account of delay in commissioning of PCI System was about ₹ 98 crore only for the two year period without considering any operating costs.

Ministry in its reply stated (December 2014) the following :-

- In the PCI system, the actual coal injection can be started when the Blast Furnace is operating under prescribed regime, including Hot Metal production at a level of 5,500 t/day.
- Commissioning of Convertors got delayed due to accident and the BF-3 had to be run on throttled mode in order to keep all the three furnaces in running condition and the production of BF-3 was raised in October 2013 only and the loss worked out to ₹ 15.05 crore only.

[25] ***Source: Workings of input cost considered in the RCE submitted to the Board.***

The reply of RINL/MoS attributing the non-commissioning SMS-2 to the fire accident of June 2012, and operating BFs in throttled condition needs to be viewed in the light of the fact that even in case there was no fire accident in SMS-2, it was not feasible to operate BF-3 and SMS-2 at their rated capacities because the main upstream unit, i.e., SP-3 was commissioned in August 2013, i.e., after 14 months of fire accident. Thus, there was no bearing of accident that occurred in SMS-2 on the throttled operation of all 3 BFs. Further, the excess consumption of coke was mainly due to operating of BF-3 in throttled mode due to delayed commissioning of SP-3 combined with delay in installation of PCI system. The Ministry's working does not include the cost of excess consumption of coke due to operating the BF-3 in throttled mode for 18 months and the avoidable expenditure worked out to ₹ 635.16 crore.

3.1.2.4 STEEL MELT SHOP (SMS-2)

Steel Melt Shop

Installation of new SMS-2 with two converters[26] and three casters[27] to produce 2.8 MTPA of liquid steel was envisaged in capacity expansion and was scheduled for commissioning by September 2008. However, SMS-2 was commissioned with one convertor and one caster in October 2013 and remaining convertor/ casters were commissioned in March 2014. The major reasons for delay in commissioning were delayed tender process because of time extensions to accommodate the commercial deviations sought by bidders, repeated techno-commercial discussions and execution delays like delay in issue of drawings, delay in handing over of fronts for civil and structural works and delay in supply of equipment and materials. The fire accident of June 2012 further delayed the commissioning of SMS-2.

Examination in audit revealed the following:

- Initially SMS-2 was set for commissioning in September 2008 and rescheduled for commissioning in October 2011 by BOD due to the reasons stated above. In spite of rescheduling, commissioning of SMS-2 was finally planned for June 2012 and trial runs were commenced. While taking the first heat in the converter in SMS-2 on 13 June 2012, due to inadequate pressure in the oxygen blowing process in the Pressure Reducing Station (PRS) a fire accident occurred. GoI decided to conduct independent inquiry into the cause of accident and appointed a committee under the chairmanship of Ex-chairman of SAIL to investigate the incident, to determine the cause of accident, soundness of start-up procedures, built in mechanism of the system to prevent the incident, fix responsibilities and recommend steps for prevention of recurrence of such incidents in future.

[26] *150 tonne each.*

[27] *Six strand continuous casting machines.*

- As per the committee report when there was inadequate pressure in PRS, instead of taking corrective action, the action to open the second stream and change the settings manually resulted in the blast. The committee recommended proper training to personnel associated with the project and care be taken while taking the trial run of hazardous equipment.

- Thus there were deficiencies in RINL in ensuring proper training to project operating personnel, adequate safety measures etc., which led to a major accident causing loss of valuable time and human lives. This had a cascading impact on overall project completion schedule of Stage-I which was effected by seven months (i.e., from August 2013, the date of commissioning of upstream unit of SP-3 to March 2014, the date of commissioning of SMS-2).

RINL did not furnish reply. However, MoS in its reply stated (December 2014) that the High Level Committee appointed by GoI, while making several recommendations for prevention of similar accidents, also recommended for imparting training to RINL project operating personnel as well but did not cite the deficiency in training and safety measures as the reason for fire accident.

The reply of MoS needs to be viewed considering the fact that the expert committee reported that when there was inadequate pressure in PRS, the action to open the second stream and change the settings manually resulted in the blast. This indicates lack of proper training to the employees of RINL. The Committee also recommended for imparting training to RINL project operating personnel on adequate safety measures etc.

3.1.2.5 ROLLING MILLS - WIRE ROD MILL-2, STRUCTURAL MILL (SM) AND SPECIAL BAR MILL (SBM)

The downstream units of the steel industry are rolling mills which produce finished steel of rods, beams, channels etc,. Though the commissioning of WRM-2 was planned to be taken up in October 2008 and the other two mills of SM and SBM in July / October 2009, none of the mills was commissioned to date and was planned for commissioning between March 2014 and February 2015. The major delays in commissioning of mills were in finalising tenders because of revision in commercial conditions, change in GCC terms relating to CIF / FOB, LC, BG and format of Integrity Pact, delay in approval of the competent authority, delay in issue of LOA in respect of Civil works. Further, the execution of the mills was delayed due to delay in issue of drawings, delay in handing over of fronts for civil and structural works, delay in supply of equipment and materials, poor deployment of man power by contractor, delay in entering into contract agreement etc., and delay in issue of drawings by the equipment supplier.

RINL in its reply attributed (April 2014) the delays to entering into contract agreement, issue of drawings by Consultant, poor deployment of manpower by Contractor, delay in commissioning of upstream plants, unprecedented rains in 2010, etc. RINL agreed that there was delay in entering into contract / agreement. The reply of RINL for delay in execution of the mills indicates the lack of proper planning, control over the contractors and inefficiency of the consultant.

As a result of abnormal delay in commissioning of rolling mills, RINL was compelled to sell semi finished steel (Billets) with lower margin and is likely to incur loss of gross margin of ₹ 7.74 crore[28] per month during the intervening period of commissioning of SMS-2 and commissioning of rolling mills i.e. between the period of August 2013 and till commissioning of rolling mills.

3.1.3. COST IMPACT

3.1.3.1 COST OVERRUN

The project cost estimates worked out to ₹ 7,738 crore, after exclusion of the cost of SLTM (₹ 954 crore) dropped from approved project cost of ₹ 8,692 crore (Base June 2005). RINL had revised the cost estimates to ₹ 12,291 crore (base February 2011). The revised cost did not include the cost of PP-I & PP-II of ₹ 853.82 crore which were taken up by RINL under AMR Schemes instead. The revised cost should be at ₹ 13,144.82 crore [29](including the cost of PP-I & II). The total cost overrun works out to ₹ 5,406.82 crore[30] which includes ₹ 2,664 crore towards the variations allowable during the schedule period of completion. Thus, the net increase in the capital cost excluding allowable variations worked out to ₹ 2,742.82 crore (representing an increase of 35.44 *per cent*[31]). Consequent to cost overrun, the specific investment went upto ₹ 52,706[32] per tonne of saleable steel representing an increase of 52 *per cent* over ₹ 34,745 per tonne of saleable steel envisaged at the time of project approval. The effect of delays in obtaining approval to RCE is discussed in chapter– 4 (para 4.10).

Audit, observed that in case of civil, structural and piling works alone other than the supplies, the increase in cost, over and above the first RCE was ₹ 430 crore. Further, at the time of approval of the first RCE itself, RINL had anticipated likely increase in the cost of supply of imported and indigenous materials, the completion cost would be around ₹ 12,840 crore due to exchange rate variation and escalation on supplies and erection. Thus, increase in cost other than civil works anticipated by RINL was ₹ 549 crore (₹ 12,840 crore – ₹ 12,291 crore). Thus, total increase in the cost of capacity expansion over and above the first RCE was ₹ 979 crore (₹ 430 crore + ₹ 549 crore).

As per OM No.1(3)/PF-II/2001 dated 18 February 2002 issued by MoF, RINL must make a 'mandatory review' of the cost estimates with a view to making sure that revision would be required at the stage when funds to the extent of 50 *per cent* of the approved cost were released. Even though, RINL had incurred expenditure of ₹10,259.80 crore as on 31 March 2014 (i.e., 83 *per cent* of the approved RCE of ₹12,291 crore), RINL had not initiated proposal for second revision of cost estimates of capacity expansion.

RINL in its reply stated (April 2014) that while putting up a proposal for obtaining RCE to BOD, it had clearly brought out that cost of SLTM had not been considered in the amount of ₹ 12,291 crore. RINL further replied (May 2014) that Power Plant which was included in the

---

[28] ***At the difference of gross margin between MMSM (₹2,334) and Billets (₹1,559) ₹ 775 per ton X 5.99 lakh tonne = ₹46.42 crore/6 months = ₹7.74 crore***

[29] ***₹ 12,291 crore + ₹ 853.82 crore = ₹ 13,144.82 crore***

[30] ***₹ 13,144.82 crore - ₹ 7,738 crore = ₹ 5,406.82 crore***

[31] ***35.44 per cent = 100/ ₹ 7,738 crore * ₹ 2,742.82 crore***

[32] ***₹ 13,144.82 crore/24.94 lakh tonne = ₹ 52,706***

original project approval as BOO item remained a separate project all the time and was clubbed with 6.3 MTPA expansion only for the purpose of obtaining approval in the shortest possible time

MoS in its reply stated (December 2014) the following :-

- Including the ₹ 854 crore towards the cost of PP-I & II in the Revised Cost Estimates is not in order as they were envisaged as separate projects.
- It was further replied that as per the discussions with Planning Commission, variance in the cost estimate is to be worked out considering the approved project cost of ₹ 8,692 crore instead of derived approved cost as ₹ 7,738 crore. Thus, the Revised Cost Estimates worked out to ₹ 12,291 crore including value of additional items of ₹1,145 crore for enhancing operational flexibility and to suit the site conditions. In case of reducing this amount from the revised cost estimates, the variation is ₹ 2,454 crore only (₹ 12,291 crore – ₹ 1,145 crore – ₹ 8,692 crore), while the variation on account of allowable factors was ₹ 2,664 crore. Thus, there was no cost overrun.
- Even if cost of SLTM was to be deducted from the Original Cost Estimates for comparison purposes, the cost overrun would only work out to ₹ 744 crore as against ₹ 2,742 crore as stated by Audit. This would work out to 9.61 *per cent* over and above the project cost of ₹ 7,738 crore (excluding cost of SLTM) but not 35.4 *per cent* as worked out by Audit. Accordingly, additional specific investment per tonne of saleable steel would be ₹ 3,055 only and not ₹ 17,961 crore (₹ 52,706 crore – ₹ 34,745 crore) as worked out by Audit.

The reply of MoS needs to be viewed in the light of the following:-

- Regarding inclusion of power plants, Planning Commission opined that 'in the absence of any serious intention from promoters for power plant which was envisaged on BOO basis, the same should be accounted for in the project and IRR to be calculated accordingly.' Therefore, it is clear that the audit observation of including the cost of PP-I and II is in line with the opinion of Planning Commission.
- MoS had also opined in line with Audit that the cost of dropped SLTM should be reduced from the original cost estimates for comparison between original and revised estimates. The value of additional items of ₹ 1,145 crore as replied by MoS is not correct and as per approved RCE, the amount was ₹ 313 crore. Since this amount was not included in the original cost estimates (₹ 8,692 crore) and RINL agreed to incur the expenditure based on techno commercial discussions, the audit had considered it as cost overrun.

In view of the above calculation of cost overrun of ₹ 744 crore is not acceptable and cost overrun as calculated by Audit stands.

3.1.3.2 DEFICIENCIES IN EVALUATION OF REVISED COST ESTIMATES (RCE)

On review of RCE containing the production build up of base case and production after capacity expansion, Audit noticed irregularities in assessing the production build up as detailed below:

RINL had considered the liquid steel production of base case (existing plant) at 3.25 MTPA and at the time of achieving the 100 percent production in the year 2014-15, at 3.7 MTPA for base case and 6.3 MTPA for both the base case plus expansion plant (3.7 MTPA + 2.6 MTPA). In fact, though RINL had placed purchase order for 2.8 MTPA capacity of liquid steel (SMS-2) all along while working out the financials for the 15 years of operations, RINL had considered liquid steel production for the base case at 3.25 MTPA and after expansion at 6.3 MTPA. Thus RINL considered the incremental production at 3.05 MTPA as against the SMS-2 capacity of 2.8 MTPA only. Further RINL had never achieved the production beyond 3.5 MTPA of liquid steel by the time the project report was prepared. Considering liquid steel production at 3.7 MTPA for the base production from the year 2014-15 thus lacks justification.

As per the production flow chart of RINL, the standard conversion rate for every one ton of liquid steel, 88.53 *per cent* ton of saleable steel for the existing plant and at 92.23 *per cent* as per the project report for the expansion plant was considered by Audit. Based on this assumption, the production of saleable steel for the base case (existing plant) and after expansion including the base case are as follows:

- At the liquid steel production of 3.5 MTPA, the saleable steel could be 3.10 MTPA whereas RINL had considered the production of saleable steel at base case as 2.84 MTPA only as production of liquid steel was considered as 3.25 MTPA. Thus, the production build-up of saleable steel in the base case was understated by 0.26 MTPA.

- At the level of 100 *per cent* capacity utilization from the year 2014-15, RINL had estimated the production of saleable steel at 5.82 MTPA from the production of liquid steel of 6.3 MTPA. At the standard conversion rate of 88.53 *per cent* from liquid steel to saleable steel for the existing plant and at the conversion rate of 92.23 *per cent* for the expansion plant against the production of liquid steel at 3.5 MTPA and 2.8 MTPA respectively, the production of saleable steel worked out to 5.68 MTPA only. The production build-up of saleable steel after capacity expansion was considered on higher side by 0.14 MTPA.

Inaccurate consideration of quantity of saleable steel in base case and post expansion would have an adverse impact on cash flow, PAT, IRR etc.

The management did not furnish their reply. However, MoS in its reply (December 2014) stated the following :

- Considering the observations of Audit, RINL revised the workings of RCE by adjusting the Base Case for ramp up of production from 3.25 Mt to 3.7 Mt from Existing Units. Thus, the incremental production from Expansion is limited to 2.6 Mt Liquid Steel only. The revised workings with an IRR of 12.96 *per cent* justified the yield rates adopted by RINL for base case production as well as for capacity expansion units at 91.4 *per cent* and 93.7 *per cent* respectively due to technological variations in the actual production activity / project implementation process.

The fact remains that IRR envisaged in the Project Report as well as RCE was not based on correct figures, as RINL had to revise its IRR estimates from 14.02 *per cent* to 12.96 *per cent*. Further, yield rates adopted are far removed from the technical parameters provided in the respective project report. Output in the base case taken as 3.7 MTPA was also not correct

as the same was not achieved by RINL even as on date. Though production was taken as 2.6 MTPA for expansion units based on gross figure in the post expansion calculations, the base case revenue and cost were not rationally assessed. Thus IRR calculation was not realistic and not achievable.

3.2. CONTRACT MANAGEMENT

3.2.1. OVERVIEW

RINL had adopted three-bid system for tendering process: (i) Preliminary qualification criteria (PQC) (ii) Techno-commercial bids and (iii) price bids. The contracts were generally awarded to/on L_1 bidder after duly considering price negotiations, if any. However, there was no internal time frames for finalization of tenders and clear procedure for managing the contracts. This made it impossible to determine accountability of consultant / officials for delays in contract implementation.

RINL replied (April 2014) that it had fixed internal time frames of 70 / 80 days for finalization of domestic / global tenders with a view to match the schedule of 36 and 48 months envisaged for completion of Stage-I and Stage-II of the project respectively. It was also replied that the delays were inescapable. Further, MoS replied (December 2014) that the internal time frames for finalising the open / global tenders though not formally communicated to the Consultant, were discussed / reviewed from time to time during various meetings at various levels in which, the need to adhere to the time lines committed to GoI has been emphasised. MoS further stated that clauses for levy of penalties and LD existed in the GCC / SCC of consultancy contract.

The reply of RINL and MoS needs to be viewed against the fact that since RINL was undertaking a mega project, it should have evaluated the time frames for each activity involved in the process of finalisation of tenders like (i) freezing the specification, (ii) finalizing PQC, (iii) issue of NIT, (iv) tender opening, (v) finalization of technical specifications, (vi) tender negotiations and (vii) placement of orders to have better control over the project implementation and the same should have been communicated to all relevant agencies for their adherence and control. In this connection, it is also pertinent to note the strictures passed by BOD and Committee on Management (COM) on the officials of RINL for not adhering to the overall tendering schedule of 70 / 80 days. It could not be denied that time frames were necessary for each sub-activity of tender processing in order to identify the specific activity / area where the delays occurred.

3.2.2 PRE-TENDERING ACTIVITIES

3.2.2.1 COST ESTIMATES PREPARED BY THE CONSULTANT

As per the terms of the consultancy contract, one of the responsibilities of the consultant was to prepare package wise cost estimates. The consultant prepared the package wise estimates at the base price of June 2005 for obtaining the project approval. In addition, the consultant updated the cost estimate based on technical discussions held with the tenderers, where revision in scope of work if any and escalations were involved and furnished to contracts section of

RINL in sealed cover to be opened along with the price bids of the tenderers. Therefore, the estimates prepared by the consultant were expected to be credible, reliable, and reasonable duly reflecting the market trend. However, examination in Audit revealed that there were wide variations between the updated cost estimates prepared by the consultant and awarded values. The updated estimates after techno commercial discussions were not expected to have much variation as the consultant was expected to consider all additions/ deletions and escalations while finalising the same. In spite of the above, the variation between the L_1 prices and the updated estimates ranged from (-) 47 *per cent* to (+) 122 *per cent*. Out of 65 contracts[33], in respect of 20 contracts only, the variation was within 10 *per cent*, i.e. generally accepted variation.

RINL in its reply stated (April 2014) that major part of the estimates was based on data available with consultant for similar projects executed earlier and the estimates based on base prices as on June 2005 was given only for the purpose of fixing up of EMD and issuing NIT.

The reply of RINL stating that the estimates prepared by the consultant were confined to the purpose of fixing EMD and issue of NIT without explaining as to why and how the cost estimates were not credible, reliable and reasonably reflecting the market value of the cost of components of the project only underscores the fact that the estimates were deficient and contributed to delays in finalization of tenders.

3.2.2.2 TENDER CONDITIONS AND SPECIFICATIONS

A. Delay in release of specifications

Orders for all packages of capacity expansion were to be completed within six months, i.e. 180 days from the zero date (28 October 2005), out of which, 70 / 80 days (Indigenous / Foreign Orders) were earmarked for finalisation of tender after issue of NIT. Therefore time available for release of specifications i.e. the first sub-activity before issue of NIT was only 110 / 100 days (Indigenous / Foreign Orders) from the zero date.

Audit observed that in all the 58 contracts of Stage-I of capacity expansion selected for examination of Audit, the specifications were released with delays ranging between 61 and 2145 days over and above 110 / 100 (Indigenous / Foreign Orders) days available for release. In respect of Stage–II, out of the 8 contracts selected for examination in Audit, except in one case, there were delays in release of specifications ranging from 1 day to 1014 days.

RINL constituted (November 2005) a committee for finalizing the tender conditions like Instructions to Tenders (ITT), General Conditions of Contract (GCC), Special Conditions of Contract (SCC) etc. for various kinds of tenders like Total Turnkey, Discrete Turnkey, and Non-Turnkey exclusively for the capacity expansion. The said committee could finalise the tender conditions and got the same approved by the competent authority in June 2006. The delay in release of specification caused irrecoverable loss of valuable time with cascading impact on avoidable time overrun. Since the preparation of technical specifications like indicating the plant configuration including necessary facilities etc., was within the scope of consultancy contract, the delays could be attributed to the failure of the consultant. The accountability for

[33] ***Out of 68 contracts, excluding the consultancy contract, SLTM contract under tender stage and one contract not furnished to audit. Thus total 65 contracts***

such avoidable delays was not possible to be clearly established in the consultancy contract in the form of adherence to milestones and, therefore, the consultant would appear to have got away without being penalized in this regard.

RINL in its reply stated (April 2014) that in the consultancy contract, there were 16 milestone activities, penalty had been envisaged and it had already withheld amount towards milestone penalties from the fee payable to the consultant. MoS in its reply (December 2014) further stated that the specifications of major packages of Stage-I were issued by the consultant between April and May 2006.

The reply of the RINL / MoS needs to be viewed against the fact that as per the project implementation schedule, the placement of orders was to be completed by April 2006 and not mere release specifications i.e. a sub-activity before issue of NIT. Further, the sixteen milestones referred to in the reply pertain to the completion of the zone wise activities. RINL did not fix internal time frame for various activities involved in the process of placement of orders like finalisation of specifications etc and no delays were attributed to Consultant. Further, mere withholding of amount towards penalty did not constitute recovery towards penalties.

B. Incorrect preparation of bill of quantities (BOQ), tender conditions and price schedules.

Audit observed variations between the estimated and actual BOQ in respect of civil and structural contracts resulting in delays in completion of works and contributed to time overrun as well as cost overrun. Out of the eighteen civil works reviewed from the audit sample, in six civil contracts, the estimated cost was varied by ₹ 158.64 crore and the percentage variation works out between 31.76 *per cent* and 47.96 *per cent* of estimated costs which indicates the failure of the consultant while estimating the BOQ.

RINL replied (April 2014) that it would take two years time to prepare a civil tender with correct quantities and thus there would have been variations in quantities of civil contracts. It was further replied (May 2014) that consultants generally relied on in-house data to a large extent for arriving at rough estimated quantities to avoid wastage of time waiting for finalization of technological packages from equipment suppliers. This indicated that the service rendered by the consultant were not reliable. Further, RINL failed to safeguard its own interest through the mechanism of appointment of consultant at great cost.

3.2.2.3 INADEQUACY IN TENDER CLAUSES

As per clause 5.1 of schedule 5, of the contract with the consultant, the latter was required to prepare package-wise tender documents including technical specifications, drawings, GCC, SCC, NIT, cost estimates etc. Though the tender documents were finalized by April / June 2006, the terms and conditions of tenders were not frozen in respect of global tenders relating to major equipment packages. RINL had to revise majority of the tender / commercial conditions of the contract by issuing 2 addenda in November 2006 and December 2006, at the behest of some tenderers. In spite of revision of terms of the contract, again at the request of the global bidders, RINL had to accept further changes in commercial conditions and issued revised text to terms and conditions of the contract in March 2007. This caused delay in finalization of the

contract conditions by 16 months from the zero date (28 October 2005) and, meanwhile, the validity of the tenders expired. Thus, there was failure of the consultant to finalize the terms and conditions with relevance and reliability.

RINL replied (April 2014) that in spite of having a committee which recommended the Terms and Conditions (T&C) after studying the position in other companies like SAIL and interaction with various people / industries of the above, the tenderers proposed several changes to the terms and conditions. MoS in its reply stated (December 2014) that almost all technological equipment suppliers were having heavy order bookings when expansion tenders were floated by RINL as such the suppliers were not willing to agree to the tender terms & conditions and insisted for revised commercial terms & conditions. The reply of RINL and MoS is not convincing since it elucidated the efforts made by it in finalisation of terms and conditions of contract and attributed delays to monopolisation and 'ruling the roost' by tenderers of big packages, and continued to defend the consultant without initiating any penal action against the consultant for failure to sufficiently address the terms and conditions in respect of global tenderers as more than 50 *per cent* of the T&C were revised at the instance of the tenderers.

3.2.2.4 MOBILISATION ADVANCE

At the time of formulating the tender conditions of 6.3 MTPA capacity expansion, the prevailing CVC guidelines[34] on payment of mobilization advance were that the advance payments are to be generally discouraged. Whenever the payment of advance was considered unavoidable, the same should be interest bearing, so that the contractor does not draw undue benefit. Contrary to the CVC guidelines, RINL paid interest free advance of 5 to 10 *per cent* of total contract value subject to maximum of ₹ 75 crore indiscriminately. Subsequently CVC issued revised guidelines in April 2007, where the interest free advance was allowed at the discretion of the Board along with recovery within a specified time schedule. Review of interest free mobilization advances in audit revealed the following:

1. The interest free mobilization advance of ₹ 745.40 crore was paid in respect of 110 contracts and the overall percentage of advance paid vis-à-vis original cost estimates worked out to 8.58 *per cent*. Though the interest free advance was to be paid on need basis in only specific cases, RINL had paid the same to all contractors. Further, though the recovery should have been effected in a specified time, RINL, however, linked the recovery of advance to progress of work. Thus payment of interest free mobilization advances contrary to CVC guidelines resulted in extension of undue benefit to private contractors. The loss of interest suffered by RINL worked out to ₹ 156.02 crore, based on the lowest PLR (11.50 *per cent*[35]) of State Bank of India during the period of project execution.

2. As per the terms of the contract, mobilization advance could be recovered from each "Running account Bill" on pro-rata basis of work done and the entire amount of such advance could be recovered within the 80 *per cent* progress payments within the

[34] *OM No.NU/POL/19 dated 08 December 1997.*

[35] *Actual SBI PLR ranging from 11.50 per cent to 14.50 per cent.*

Contractual time schedule for completion of supply / delivery of all Plant, Machinery and Equipment, instead of in a fixed time frame. Thus, in all the cases, where the completion of work was delayed, the period of recovery of advance was prolonged and the actual period of recovery ranged between 159 days and 2013 days (Up to 31 March 2013). Thus, most of the contractors in the capacity expansion were unduly benefited by enjoying interest free advance for prolonged periods.

3. Further, there was no provision in the contract regarding period within which the recovery of advance was to commence. Thus, in the cases of delay in commencement of work, the commencement of recovery of advance was also postponed and there was abnormal delay in starting the recovery of advance. Out of 110 cases, only in 11 cases, recovery had commenced within a month. In the remaining 99 cases, the delay in first recovery ranged between 48 and 1638 days.

4. CVC guidelines clearly restricted the payment of mobilization advance to the extent of supply of goods wherever the contracts were split for supplies, erection and others. Contrary to CVC guidelines, RINL paid ₹ 149.94 crore interest free mobilization advance on other than supplies portion of goods like Design & Engineering, erection, civil works, training, supply of maintenance spares. Thus payment of interest free advance was irregular and RINL lost interest to the tune of ₹ 38.68 crore.

RINL in its reply stated (April 2014) that keeping in view the tight schedule for the project and market conditions, it was felt better to offer interest free advance. Therefore, a provision was made in the GCC/SCC for turnkey and discrete turnkey contracts to extend interest free advances. It further stated that since the recoveries would be effected in time bound manner, no provision for charging interest on account of delayed recoveries was envisaged and supported its action by stating that CVC guidelines of April 2007 allowed extending need based interest free advances with prior approval from the Board.

MoS replied (December 2014) that RINL, while issuing the tenders for 6.3 MTPA, stipulated for interest free mobilization advance in the NIT itself in a fair and transparent manner with due approval of the competent authority considering the past experience with the tenderers, prevailing market conditions and based on the reasonable assumption that the tenderers would possibly load the interest on mobilisation advance in their quoted price, if interest free mobilisation advance is not offered. Thereafter CVC also reviewed the prevailing guidelines on interest bearing mobilisation advance in April 2007 and allowed need based interest free mobilization advance.

The reply of RINL and MoS needs to be viewed against the fact that RINL has accepted that in view of the tight schedule for the project and prevailing market conditions, it offered interest free advance. The action of RINL to extend interest free advance was a clear violation of the CVC guidelines existing prior to April 2007. Especially payment of interest free advance to other than supplies portion of contracts like Design & Engineering, erection, civil works, training, supply of maintenance spares was in contradiction to that of the CVC guidelines issued in April 2007 also. Thus, the payment of mobilization advances was contrary to the CVC guidelines as well as financial propriety, which resulted in extending undue favour to the

contractors besides loss of interest to an extent of ₹ 156.02 crore on mobilization advances including loss of interest ₹ 38.68 crore on other than supply contracts like D&E, erection, civil works, training, supply of maintenance spares etc.

3.3 AWARD OF CONTRACTS

1. Contract Management plays a vital role in implementation of capacity expansion within the timeframe and approved cost. Though the key activity of 'awarding contracts' has six sub-activities, RINL did not fix sub-activity wise time frames. Hence, there was no benchmarking for each activity in the process of awarding of contracts commencing from zero date to release of specifications excepting the 30 days' time fixed for signing of the contract from the date of issue of LOA. In order to speed up the total process of awarding contracts for capacity expansion, RINL had fixed the total time frame of 70 days for indigenous tenders and 80 days for Global Tenders to complete the process of subsequent five sub activities i.e., from the date of NIT to issue of LOA. The actual time taken was ranging between 34 and 893 days as detailed in the table given below:

Table-7

Sub-activity	From	To	Actual Duration range
1. Release of specification	Zero date	Release of specification	161-2245 days
2. Invitation of Bids	Release of Tender Specifications	Issue of Notice Inviting Tenders (NIT)	4 - 883 days
3. Tender Opening	Issue of Notice Inviting Tenders (NIT)	Opening of Pre-Qualification Criteria (PQC) i.e., Env-I	8 -126 days
4. Evaluation of eligibility criteria	Opening of Envelope-I	Opening Techno-Commercial bid i.e., Env-II	5 - 236 days
5. Evaluation of Techno-Commercial bids	Opening of Envelope-II	Opening of Price bid or Revised bid/ Revision in price bid i.e., Env-III	2 - 534 days
6. Evaluation of Price Bids	Opening of Envelope-III	Issue of Letter of Acceptance (LOA)	2 - 318 days
7. Finalization of contract	Issue of LOA	Signing of the contract/ Effective date of Contract	12-409 days
Duration of time from issue of NIT to issue of LOA			34-893 days

Audit noticed various deficiencies in Contract Management leading to the abnormal delays in awarding contracts due to the following reasons:

- Delay in release of specifications by the consultant;
- Extension of tender opening date (TOD) due to deficiencies in tender conditions;
- Delay in opening technical bids due to delay in finalization of PQC by the consultant;
- Resolving commercial deviations for major technological process packages due to deficiencies in framing the GCC / SCC resulted into prolonged discussions and delay in order placement; and
- Inadequate draft specifications prepared by the consultant resulted in revisions of technical specifications, additions to plant requirements etc., during techno commercial discussions.

Examination in audit revealed that in all the 67[36] contracts of audit sample, except in one contract in Stage-II, in the other 66 contracts, there were delays ranging from 61 days to 2145 days in Stage-I and 1 day to 1014 days in Stage-II in release of specifications.

RINL in its reply stated (April 2014) that despite best efforts, there were delays at every stage of finalization of the tenders like tenderers asking for postponement of TOD, submitting conditional offers requiring repeated discussions, protracted price negotiations, delay in signing of agreements. All these reasons either singly or cumulatively added to delays because of limited vendors / parties.

The reply of RINL attributing the delays exclusively on tenderers needs to be viewed against the fact that there were failures on the part of RINL / consultant in properly framing GCC / SCC and failure to fix time frame for each sub-activity. RINL should have taken suitable measures with the prime object of completing the entire key milestone activity within the envisaged time frame by expediting subsequent sub-activities at each stage in order to off-set the slippages noticed in the previous activity. In the absence of sub-activity wise time frames, lack of continuous close project monitoring by designated Director for a substantial length of time and by BOD / MoS, major delays in the progress of the project were not possible to be avoided. Details of these deficiencies are discussed in Chapter-4.

2. Role of the Consultant

As per clause 1.6 (Schedule 5) of the consultancy contract, though the assistance of the consultant was mandated in the consultancy contract in respect of furnishing recommendations on eligibility criteria, techno-commercial bids, finalizing the various stages of the tenders etc., RINL however had not indicated the clear timeframes for furnishing complete recommendations by consultant in the terms of contractual obligations. Consequently, though there were abnormal delays at every stage of tender finalization in the most of the cases examined in Audit, the specific lapses and delays attributable to consultant could not be pin-pointed on time.

RINL in its reply stated (April 2014) that in practice it may not be feasible to fix time frame for each activity due to the fact that generally to a large extent consultants' activity is dependent on inputs to be provided by the external agencies which are beyond the control of the consultant. The reply is to be viewed against the fact that without time frames, no project can either be initiated or completed on time.

3.3.1 INVITATION OF TENDERS

Timely invitation of tenders is essential for timely implementation of the expansion project. Out of 67[37] contracts of audit sample, global tenders were issued in respect of 22 contracts and open tender mode was adopted in 42 contracts, two contracts on Limited tender basis and one contract on nomination basis. In this context, audit noticed that delayed release of NIT was one of the reasons for delay in completion of awarding of the contracts within approved timeframe. Normally NIT has to be issued immediately after releasing the tender

[36] ***Excluding SLTM contract***
[37] ***Excluding SLTM***

specification since the tendering process begins from issue of NIT. Even after allowing one week grace period, actual time taken for issuing NIT was in the range of 4 to 883 days in 61 contracts selected in audit sample.

RINL in its reply stated (March 2014) that the maximum time taken for issue of NIT was 24 days. The reply needs to be viewed against the fact that date of issue of NIT was worked out from the date of receipt of proposal at the Project office whereas the audit observation took into account the delay from the date of release of specification to the date of NIT.

3.3.2 DELAYS DUE TO EXTENSION OF TENDER OPENING DATE (TOD)

Extension of tender opening date (TOD) was another reason for delay in completing the process of awarding the contract within 70 / 80 days from the date of issue of NIT or first milestone within six months from the zero date as approved by Government. Audit observed that in 44 out of 68 contracts of audit sample, RINL extended TOD, 1 to 4 times and the excess time beyond the original period allowed for opening of tenders was in the range of 4 to 96 days. Reasons for such extension of TOD were not consistent. TOD was postponed due to change in eligibility criteria (9 contracts) revision in GCC (13 contracts) and also revision at the request of tenderers (40 contracts).

Instances of such avoidable delays in TOD noticed in audit are given below:

a) RINL issued NIT for supply of BF-3 on 26 April 2006 with scheduled TOD on 6 June 2006. TOD was however postponed at the request of the tenderers and also due to change of certain contract clauses of GCC / SCC, TOD was extended to July 2006. Due to participation of two more agencies and at their request, TOD was again postponed to 14 August 2006. Thus after postponing the TOD twice, with overall delay of 76 days, the tenders were opened. In spite of extending TOD on the grounds of reduction in the scheduled period of completion, RINL finally agreed to a completion period of 30 months.

RINL replied (April 2014) that delay in opening of the TOD was mainly due to the fact that all probable bidders requested for extension and addendum had to be issued to Technical Specifications.

The reply needs to be viewed against the fact that TOD of BF-3 was postponed because of revision in completion schedule from 27 months to 26 months which was attributable to RINL. Finally during the techno commercial discussions, the completion schedule was revised from 26 to 30 months. Thus failure to assess the scheduled period of completion of BF-3 was the main cause for postponement of TOD.

b) For supply of WRM-2, the NIT was issued in May 2006 with schedule tender opening date in June 2006. The TOD was postponed twice till August 2006 at the request of the bidders and also revision of PQC by RINL due to incorporating the turn-over criteria and second time due to a public holiday. Thus the tenders were opened after 100 days of issue of NIT with overall delay of 70 days.

RINL in its reply stated (April 2014) that majority of bidders / suppliers had sought extension and while extending TOD, RINL had also issued amendments to PQC / modifications

in certain statutory clauses of GCC / SCC. However, the fact remained that as against overall completion schedule of tender finalization of 80 days, RINL took 100 days for completion the sub-activity 'tender opening' in the tender finalization process.

c) For procurement of Captive Power Plant – II, RINL issued (November 2008) global NIT. After 103 days of issue of NIT, RINL continued to issue amendments / addendum / corrigendum to the tender documents making revisions to all key factors like eligibility and evaluation criteria, checklist, certain parts of technical specification etc. The due date of opening tender was extended thrice[38] and finally after 126 days from NIT, PQC bid was opened (16 March 2009) with a delay of 96 days.

d) In the case of NIT for water supply system for SMS-2, the scheduled date of TOD was 5 April 2007. This was postponed four times on the grounds of revision of conditions of contracts and at the request of the tenderers and finally on 20 June 2007 the PQC was completed with a delay of 76 days.

RINL replied (April 2014) that TOD was postponed twice due to inclusion of CVC guidelines on unconditional acceptance of integrity pact (2007) and mobilization advance (2007) to the tender condition by issue of corrigendum.

The reply of RINL needs to be viewed against the fact that the CVC guideline on integrity pact was issued in December, 2007 and not in the month of March, 2007. Likewise a CVC guideline on mobilization advance already existed even prior to April, 2007.

3.4 EVALUATION OF TENDERS

3.4.1 EVALUATION OF PRE-QUALIFICATION CRITERIA (PQC)

After finalizing the preliminary qualification criteria (PQC), based on supporting documents furnished by the bidders, the consultant would evaluate the bids and furnish list of tenderers qualified along with recommendations. The consultant was required to submit its recommendations without loss of time so as to complete the tender process within the scheduled time.

Audit, however, observed during review that some of the recommendations of the consultant / RINL on selection of parties based on PQC evaluation were not consistent leading to rejection of eligible parties and recommending ineligible parties for opening the techno commercial bids.

In case of civil work for WRM-2, three tenderers were technically qualified and the consultant recommended opening of the price bids in October 2006. Six weeks after recommendations, the consultant informed RINL (November 2006) not to open the price bids of one of the technically qualified parties Bridge & Roof (B&R) on the grounds of insufficient capacity to undertake the civil works of WRM-2 as the tenderer was already L_1 in two other civil contracts relating to RMHP and SLTM in the capacity expansion. RINL had issued (18 November 2006) LOA to B&R for undertaking SLTM work. RINL called for the spare capacity

[38] ***As per NIT – 20 December 2008, First extension, 30 January 2009 (corg.1), second extension, 23, February 209, (corrg. 2&3), third extension 16 March 2009 (corg.4)***

of the B&R who had indicated on 21 November 2006 that as on that date, in any particular location in India, it had spare capacity of 1.20 lakh cum. Thus from B&R letter it was clear that B&R could execute 1.20 lakh cum in Visakhapatnam area. The concrete works to be undertaken in the civil works of RMHP, SLTM and WRM-2 on annualized basis (per annum) worked out to 1.52 lakh cum. The required annual spare capacity (as per the evaluation of spare capacity) for opening of the price bids was 75 *percent* of annual concrete capacity which worked out to 1.14 lakh cum and therefore M/s B & R had surplus capacity of 0.06 lakh cum even after considering the civil works of WRM-2. Thus B&R should not have been disqualified. The B&R was L_1 in the civil works of SLTM and RMHP with 6 *per cent* and 9.5 *per cent* above the estimates respectively. After excluding the prospective bidder i.e. B&R, RINL finalized contract and placed order on L&T at ₹ 80.28 crore, 48.12 *per cent* over the estimate of ₹ 54.20 crore.

Examination in Audit revealed the following :-

- RINL deviated from a standard practice i.e. either to enquire regarding the capacity of all parties or to ignore that aspect for all. Thus insisting on availability of spare capacity exclusively from a public sector company is contrary to the tender conditions.
- Though the final price offered by the L&T was 48.12 *per cent* over the estimates, RINL instead of going for re-tender placed order on a private party with huge variation.

RINL in its reply stated (April 2014) that after considering the effective concrete period, the shortage of spare capacity of B&R for the four works put together was 1 lakh cum and the combined concreting work of SLTM and RMHP packages itself is beyond the capacity of B&R which may link to failure in fulfilment of the completion schedules.

MoS in its reply stated (December 2014) that the price bid of B&R for SMS & WRM-2 civil works packages were not opened on the ground that they might not be able to execute the work as two other packages of VSP expansion (i.e., RMHP & SLTM) were already awarded to them leading to limitation on their capacity to execute further jobs. B&R confirmed (21 November 2006) that they would be in a position to carry out 1,20,000 cum of concrete work in a year in any one location in the country. It was further replied that the other qualified tenderers in the civil works packages had not become L_1 in any of the tenders of VSP at that point of time. Hence, assessment of their capacity to take up civil works of expansion was felt not necessary.

The reply of RINL/MoS needs to be viewed in the light of the following :

- The audit para was on concrete works to be undertaken in the civil works of RMHP, SLTM and WRM-2 (but not SMS-2) by B&R. The annual concrete capacity of the three works was within the spare capacity to execute the concrete works by B&R in particular location i.e., 1,20,000 cum.
- MoS's reply that the price bids of B&R for SMS & WRM-2 civil works packages were not opened on the ground that they might not be able to execute is not acceptable since RINL called for the spare capacity of the prospective bidder B&R alone without calling for similar information from the other tenderers.

Hence, MoS's contention that they did not consider the available spare capacity of the other tenderers and calling for spare capacity of B&R alone was not prudent and justified.

3.4.2 DELAY IN OPENING OF TECHNICAL BIDS

Audit observed that there were delays in finalization of PQC resulting in delay in opening of the technical bids. Out of 67[39] contracts of audit sample in 60 contracts there was delay in opening of technical bids ranging from 5 to 236 days. The reasons for the delay in finalization of techno-commercial bids included delay in obtaining the approval of competent authority, issue of addenda to tender conditions to accommodate the commercial deviations sought by the bidders, which are discussed below :-

a) In case of tender for supply and commissioning of Thermal Power Plant and Blower House-2, RINL took 236 days for finalising the lone techno-commercial bids due to delay in obtaining the approval from the competent authority (BOD of RINL) for selecting bids of the lone tenderer, i.e. M/s BHEL which was avoidable.

RINL replied (April 2014) that it was not fully aware of the latest technological development and advantages at the time of initial issue of tender resulting in some mid-term changes.

The reply of RINL needs to be viewed against the fact that the consultant appointed by RINL was expected to be aware of the features of the project before issuing NIT.

b) In the case of 'Makeup water (Zone-14)', RINL took 130 days to open the technical bids and TC ultimately recommended M/s VA TECH WABAG Ltd (VWL) which was not qualified as per the legal opinion obtained by RINL. In spite of the above, TC recommended VWL on the grounds of better competition. The TC recommendation was, finally rejected by the competent authority on the ground that sufficient tenderers had participated in the bids. In this process, more than two months time was lost and three out of the five tenderers had refused to extend their prices as there was delay in finalization of tenders. In spite of availability of two valid price bids, RINL called for revision in price bids without availing the valid price bids. Finally, RINL placed order on M/s Tata Projects Limited at a cost of ₹ 79.14 crore. Thus, by ignoring the valid L_1 price bid of Technophobe Engineering Limited of ₹ 53 crore, RINL incurred an avoidable additional expenditure of ₹ 26.14 crore (₹ 79.14 crore– ₹ 53 crore).

RINL in its reply stated (April 2014) the following :-

- The BOQ issued along with the tender document did not have the bifurcation for BOQ quantities of CENVATABLE and NON-CENVATABLE hence called for revised reduced price bids.

[39] ***68 contracts excluding one of the contract SLTM project.***

- The price of M/s Technofab was valid only up to 27 April 2008. The other bidder M/s L&T had also sought to allow them to submit Revision in price or allow escalation clause. Revised Reduced Price bids were sought on 29 April 2008 and opened on 08 May 2008 and the same were considered for evaluation and order placement. Ministry endorsed (December 2014) the views of RINL.

The reply of RINL/MoS needs to be viewed in the light of the following :

- The reply of the MoS was silent regarding two months delay in finalization of tenders due to protracted deliberation between the decision making agencies which led the three tenderers intended to furnish revised price bids out of the five tenderers.
- Prior to one and half month before the date of issue of NIT itself the finance department had clarified that part of the work would get CENVAT credit. In spite of above, the BOQ was not prepared based on CENVATABLE and NON-CENVATABLE. Thus, RINL had not worked out detailed BOQ before issue of NIT.
- MoS's reply that Revised Reduced Price bids were sought on 29 April 2008, hence, M/s Technofab cannot be construed as valid L_1 bidder is factually incorrect since the RINL had called for revised price bids on 25 April 2008 itself, i.e. well before expiry of validity of the price bids of two tenderers.

Thus the protracted deliberation between the decision making agencies has resulted in abnormal loss of time in finalization of contract and unwarranted extra expenditure of ₹ 26.14 crore.

3.4.3 DELAY IN ENTERING INTO AGREEMENTS

It was stipulated in the tender conditions relating to the project that date of commencement of work would be reckoned from the date of LOA in some contracts and from tenth day from the date of LOA in other contracts. Further, within 30 days from the date of LOA, the agreement has to be concluded. In spite of the above in all the major equipment supply contracts, at the instance of the tenderers, the date of commencement of contract was reckoned as the date of signing of the contract instead of date of LOA. In spite of revising the condition, RINL could not conclude the contracts within the stipulated time of 30 days from the date of LOA due to delayed submission of contract specification, post revision of GCC, change in consortium members by the L_1, revision to source of supply of materials etc. Further, because of relaxation in date of commencement of contract, GoI approved period of 30 months from the date of order placement for completing the installation of major equipment, was stretched. Out of 15 turnkey contracts from the audit sample, in 14 contracts, the period of concluding contract was delayed beyond the stipulated period of 30 days ranging between 12 to 281 days (between the date of LOA and signing of agreement). This led to delay in approved project implementation schedule even before commencement of work.

In other than main contracts, as per terms and conditions of LOA relating to the contracts, the contractor has to submit various documents such as labour license, insurance, SD at

prescribed limits of the awarded value within 30 days from the issue of LOA for concluding formal agreement. However, Audit observed that the contractors furnished required documents as well as SD after expiry of the stipulated 30 days period. Consequently, out of 53 other than turnkey contracts from the audit sample, in 49 contracts there were delays in signing of agreement ranging between 1 day and 379 days beyond the prescribed 30 days. The contractors would derive financial benefit by not submitting SD / insurance / labour license. There was no safeguard in the contract either to prevent such delays or any disincentive for delays.

RINL in its reply stated (April 2014) that despite the change in GCC conditions as desired by the bidders, the parties were not coming forward to sign the agreements. Therefore there were lot of delays in commencement of contracts after finalization of bids due to non-stipulation of condition for certain formalities like obtaining labour licenses, collection of Security Deposits (SD). The contention of RINL that they did not make any payment before the collection of SD is not relevant as Audit pointed out the failure of RINL regarding not giving time frames for collection of SD and fulfilling other formalities like production of labour licenses by the contractors.

MoS replied (December 2014) that in respect of 94 *per cent* of the total expansion contracts, the effective date of contract commences from the date of issue of Fax LOA, based on which LD and recovery for non-achievement of milestone penalties are made. Since the contractual payments would commence only after signing of the agreement, the contractor would not get payments for the work already executed and on the other hand LD etc would be levied for delayed performance/non-performance.

The reply of MoS needs to be viewed against the fact that even though less in number, it could be observed that in respect of 53.27 *per cent* of cost of expansion, the date of commencement of contract is the date of signing of the contract and not from the date of issue of LOA. The company could have incorporated a clause by fixing up time limit to the contractor for submission of SD, licenses etc., in the terms and conditions of the contract to safeguard the interest of RINL for early completion of work and mere levy / collection of milestone penalties for delayed commencement of work did not serve the purpose.

3.4.4 PENDING RECOVERIES UNDER RISK PURCHASE

During the execution of the contracts, the contractors failed to execute / supply within the scheduled time, as per the terms of the agreement. As a result, RINL had off loaded the supplies / work to other contractors duly invoking the risk clause. Examination in Audit revealed that though RINL invoked the risk clause, no efforts were made by it to recover the additional expenditure incurred from the original tenderers as detailed below:-

Table-8

₹ in crore

Sl.No	Name of the party	Name of work	Amount of risk	Amount of risk claimed	Amount recovered
1	M/s. Jessop & Co	Special Purpose Double Girder EOT Cranes for Structural Mill (08-ELC-002)	0.89	0.89	NIL
2	M/s. Jessop & Co	General Purpose Double Girder EOT cranes for Structural Mill (08-ELC-001)	1.67	1.67	NIL
3	M/s. Real Fab India Pvt. Ltd.	Structural steel & cladding works for RMHS	6.98	6.98[40]	Nil
4	M/s. Vision Ventures	Civil Work for RMHP Area-2 (Zone-1) (01-CVL-004)	6.98	NIL	NIL

a. In the first two cases, RINL placed order (November 2009) for supply of cranes on L_1 basis on M/s Jessop & Co. Prior to issue of LOA, there was specific complaint against the supplier about their poor performance from SAIL. The committee constituted to review the performance of the contractor also reported that the contractor was not in a position to supply the cranes within the scheduled contract period. In spite of the above, RINL had issued LOAs. However, the contractor had not fulfilled contractual obligations like payment of SD and execution of contract. RINL after 10 months placed the orders on other suppliers at the risk & cost of the M/s Jessop & Co.

RINL in its reply stated (April 2014) that it took a decision to place the order on M/s Jessop & Co. based on the assurances given by the contractor regarding the improvements made in their manpower capabilities in various spheres of the work besides compressing the delivery schedule from 14 months to 12 months. Depending only on the assurances from the party and ignoring a negative report from SAIL and its own internal committee resulted in unwarranted extra expenditure of ₹ 2.56 crore.

b. In the above third case relating to M/s Real Fab India Limited, RINL already initiated arbitration for ₹ 5.31 crore and also decided to go for arbitration for the balance amount of ₹ 1.67 crore. Besides the above, the contractor had not returned free steel of 935.55 MT valuing ₹ 4.97 crore[41] issued between May 2007 and February 2011. As the steel was issued more than three years back, the value of the same might have been totally eroded. In addition, the contractor was facing financial crisis, hence the chances of recovery of ₹ 11.95 crore (₹ 5.31 crore + ₹ 1.67 crore + ₹ 4.97 crore) from the contractor was remote.

RINL noted (April 2014) the audit observation.

c. In the case of M/s Vision Ventures (VV), while executing the contract, RINL on the pretext of urgency of work, on its own had withdrawn (March 2009) part of the work worth ₹ 9.36 crore and offloaded it to another contractor, *viz.*, M/s SEW infrastructures (SEW) with 40 *per cent* enhancement of price at the risk and cost of VV. The final value of the offloaded work became ₹ 24.45 crore after allowing escalations and increase of works. RINL opined later (April 2009) that no risk and cost clause could be invoked on VV, as the off loading was not attributable

[40] ***Out of ₹ 6.98 crore, RINL filed an arbitration against the contractor to the extent of ₹ 5.31 crore and balance yet to be filed.***

[41] ***935.55 MT of steel at the rate of ₹ 53,131 per MT= ₹ 4.97 crore***

to the failure of VV. Thus due to failure of RINL to invoke the risk purchase clause, it was burdened with additional expenditure of ₹6.98 crore[42] on the part of the contract offloaded.

RINL stated (April 2014) that on the grounds of urgency, decision was taken in March 2009 to withdraw a part of the work from VV that was offloaded to SEW in April 2009. VV had categorically agreed in April 2009 that they were ready to execute the entire job provided the fronts were made available by RINL. The contention of urgency for withdrawing part of work from VV lacks justification as SEW could not execute the work within the time frames in which RINL wanted to complete the work. Therefore, offloading the work to SEW at higher rates (40 *per cent*) resulted in avoidable expenditure of ₹ 6.98 crore.[43]

3.4.5 IMPROPER GRANT OF TIME EXTENSIONS

In the mega projects like capacity expansion, particularly when the project was running behind the schedule with cost overrun, there was a need to establish the exact failure of the each party / RINL / consultant etc., within the terms of contract before according approval to time extensions by the competent authority. As per RINL's circular (November 2007), RINL as well as the consultant had to furnish delay analysis, record hindrances and liquidate them so that the capacity expansion was completed without further slippages. However, no such exercise was done by the consultant. Even the authority approving such time extensions, did not insist for details of delay analysis. At later stage in August 2009, RINL directed that the consultant should analyze the delays within two months of grant of extension. Meanwhile, RINL appointed a committee to study uniform procedure to recover LDs, penalties, time extensions etc., in August 2009. Based on the committee's report, COM had taken a decision (September 2009) that consultant should prepare delay analysis within two months of achieving the respective milestones. RINL had granted extension of time (one to 23 times) with period of extension ranging from 10 days to 1887 days.

Examination in Audit revealed the following:

- In none of the cases, RINL had carried out delay analysis;
- Competent authority allowed time extension with price escalation and without recovery of liquidated damages (LD) indicating lack of proper accountability for delays. The right to levy LD was, however, reserved in cases of supply contracts only;
- In five civil contracts of RMHP, PP, WRM-2, SMS-2, water supply to Zone –14, though RINL mentioned that third agency was responsible for delays like non-receipt of electrical feedback data / load data from electrical / equipment suppliers within time, ultimately, while recommending the time extension, third party's responsibility was, however, not established;
- As per delegation of powers, if LD was to be waived and escalation was allowed for delays, it could be done only as per the delegated authority, with finance concurrence and by recording the reasons in writing. Audit, however, observed that extension of time

[42] ***24.45 /140*100= ₹ 17.46 crore – additional expenditure = ₹ 24.45 crore – 17.46 crore = ₹ 6.98 crore***
[43] ***₹24.4 crore x 40/140 = ₹ 6.98 crore***

was granted by waiving LD and allowing escalation though required delay analysis duly fixing the responsibility had not been done till date. The amount of LD waived against the 18 civil works worked out to ₹ 31.30 crore.

The following cases substantiate the fact that time extension was irregularly allowed without LD and with price escalation:

a) Civil engineering works for WRM-2 were awarded to M/s L&T at 48.12 *per cent* above the estimates. The scheduled date of completion of contract (December 2008) was extended nine times up to April 2012 with escalations without LD and the entire delay was attributable to RINL. The main reasons for delay in execution were release of drawings, non-availability of fronts, low deployment of labour by the contractor, increase of work other than in the BOQ etc,. Though it was mentioned that the delay was due to consultant's failure to release the fronts for under-deck insulation, false ceiling etc., while approving time extensions, the specific responsibility on the consultant was mentioned as 'Nil'. Further, though one of the reasons for delay was low deployment of labour by the contractor that could be attributed to contractor, no single day of delay was indicated against the contractor. Out of the total escalation of ₹ 24.74 crore paid (30.82 *per cent* in the contract value ₹ 80.28 crore) the amount of escalation paid for the extended period itself was ₹ 22.82 crore. Further, the LD amounting to ₹ 4.01 crore was also waived.

b) In the case of civil engineering works for Structural Mill though delay was attributed to the contractor i.e. M/s GDC, in terms of non-deployment of adequate resources like manpower, equipment and non-functioning of equipment etc., while extending contract completion schedule by 1308 days, not even a single day of delay was attributed to the contractor. As a result, the contractor was allowed the benefit of price escalation (up to October 2013) and was spared from liquidated damages. RINL had paid escalation of ₹ 27.95 crore (42 *per cent* in the contract value ₹ 66.4 crore) for the extended period between July 2010 and March 2013. The payment of escalations would increase further due to extension of the contract up to February 2014. Further, the LD amounting to ₹ 3.32 crore was also waived.

c) In the case of civil engineering works for SMS-2 awarded to SEW, the contractor had not adhered to the quarterly completion schedule of concreting work due to deployment of insufficient labour. However, RINL extended the contract seven times up to September 2011 as against the scheduled date of completion in December 2008 with escalations without LD. Though the defaults existed on the part of the contractor, the entire delay was owned up by RINL which had paid (up to March 2013) total price escalations of ₹21.43 crore (30.32 *per cent* in the contract value of ₹ 70.68 crore) including the price escalation for the extended period ₹ 19.41 crore. Further, LD amounting to ₹ 3.53 crore was also waived.

RINL in its reply stated (April 2014) that wherever extensions had been granted, the same had been made as per the existing / laid down procedures of RINL duly indicating the reasons for delay, period of delay on each account along with responsibility for delay, whether

the recommendation was with LD / without LD / reserving the right to levy LD. RINL further replied (May 2014) that the delay analysis had been done for the contracts which had been completed and analysis for contracts under execution would be carried out after completion of remaining jobs. RINL further replied that in Project Management, issue of letters to contractors increasing manpower and other resources were routine in nature to expedite the job and delays could not be attributed to civil agencies.

MoS in its reply stated (December 2014) that wherever extensions had been granted, the same have been made with due approval of the competent authorities as per the laid down procedures of RINL. Most of the main technological packages could be awarded after the award of civil works and there was delay in issuing the Engineering drawings to the respective civil contractors. Thus, in cases where the delays were found to be clearly not attributable to the civil contractors, extensions were granted as per internal systems without LD and price adjustment was allowed as per contractual terms & conditions.

The reply of RINL/MoS needs to be viewed against the fact that RINL had failed to take up the delay analysis at the time of recommending extensions and RINL could do delay analysis in respect of only completed contracts. Thus, recommending for time extensions based on internal procedures without preparing the delay analysis was not correct. Further, RINL's statement that issue of letters to contractors to increase manpower and other resources were routine in nature to expedite the job was a clear indication that RINL extended undue favour to the contractors by extension of time with escalations and without LD. Therefore, the fact remains that extensions were given to contractors which resulted in payment of price escalations of ₹ 162.63 crore without proper analysis / reports which could identify the responsibility for delays. Besides, RINL has failed to recover LD to the extent of ₹ 31.30 crore which were waived due to non availability of delay analysis reports before waiver of LD.

Recommendations :-

2. **RINL may put in place a time bound programme to complete the work of capacity expansion by dovetailing the same with the revised scheduled dates of completion.**
3. **RINL may critically review the role of and value addition achieved with the engagement of the consultant in expediting the project of capacity expansion.**

Chapter – 4 Project Monitoring

4.1 PROJECT MONITORING SYSTEM

The following layers of authority were responsible for providing stewardship and direction for the effective implementation of the capacity expansion project within the time and cost approved by GoI:

- Director (Projects);
- High Power Steering Committee (HPSC) as constituted in February 2006 headed by Chairman-cum-Managing Director, Director (Finance), Director (Projects), Joint Secretary (MoS) and one independent Director as members of committee to oversee the implementation of the Expansion Project;
- Board of Directors (BOD) and
- Ministry of Steel (MoS)

The effectiveness of monitoring of implementation of the expansion project at various levels is discussed in the succeeding paragraphs.

4.2 APPLICATION OF PROJECT MONITORING TOOLS

The Master Network and PERT[44] network were required for monitoring the activities of the Capacity Expansion against the key milestones agreed in network. Further, a vital project monitoring tool (PERT network) was belatedly prepared in July 2007 that too after placement of orders for the main packages based on the directions from GoI. Apart from the above, the Consultant prepared L2 network by using project management tool viz. 'PRIMAVERA' software for tracking all the activities right from the tendering stage to commissioning of the Expansion units. The original PERT Network and L2 Network had not been revised in the absence of approval from MoS. However, the networks were being updated on monthly basis based on the progress of the project.

RINL in its reply stated (April 2014) that the project was delayed though the progress of the Project has been monitored closely by MoS, BOD, HPSC as well as other official agencies for timely remedial actions. Though corrective measures were taken under monitoring mechanism by taking periodical reviews at various levels, certain delays could not be averted because of complexity in nature of the project work.

The reply of RINL needs to be viewed against the fact that despite the stated monitoring, RINL went on changing the scheduled commissioning dates in the Monthly Progress Reports. The frequent change of commissioning dates and granting number of extensions to the contractors indicated that the project monitoring mechanism of RINL was not efficient. Though RINL committed different dates to MoS, RINL had not fulfilled its commitments.

[44] ***Project Evolution and Review Technique***

4.3 DIRECTOR (PROJECTS)

A. Appointment of Director (Projects)

As per O.M.No.13013/2/92-PMD (April 1998) issued by the MPPI[45], which contains the GoI directions on project formulation, appraisal and approval, a nodal officer (Chief Executive for the Project) responsible for project implementation should be appointed for the project duration and he should have leftover service of at least five years to ensure his involvement in the project up to its completion stage so that he could be made fully responsible for the implementation of project. In line with the above directions, RINL requested the MoS for appointment of Director (Projects) in July 2005. Further, as per the Note for CCEA cleared by PIB in June 2005, exclusive department was to be formed for projects to take care of the capacity expansion. Despite specific directions for ensuring the accountability for time and cost overrun, the Director (Projects) was appointed only in June 2009. Meantime, during the intervening period of 44 months, four Functional Directors and CMD held additional charge of Director (Projects).

Examination in Audit revealed the following:

- Though BOD of RINL had given directions (June 2004) to RINL for preparation of FR for approval of MoS, the CMD made a request for appointment of Director (P) in July 2005 not supported with Board approval, that too after more than a year. The same proposal was turned down by MoS and the proposal was re-submitted with approval of the Board in November 2005. Thus there was a delay of 17 months exclusively on the part of RINL.

- While making the proposal, neither RINL nor MoS ensured compliance with the DPE guidelines[46] that total number of Functional Directors should not exceed 50 *per cent* of the total number of BOD. At the time of proposal put up to MoS, the BOD of RINL consists of five Functional Directors including the CMD and two Government Directors only. Thus at the request of RINL, after 10 months three more part time directors (September 2006) were appointed and later on the post of Director (Projects) was sanctioned in September 2006. The above delay was also attributable to RINL for not making the proposal for appointment of part time directors to GoI in time.

RINL in its reply stated (April 2014) that though Director (Projects) was not positioned, there was no complacency in monitoring the progress of the Project as either CMD or one of the Directors of RINL was always holding additional charge to look after the day to day activities of the Project. MoS in its reply endorsed (December 2014) the views of RINL.

The reply of RINL / MoS needs to be viewed against the fact that as per O.M.No. 13013/2/92-PMD (April 1998) issued by the MPPI[47], a nodal officer (Chief Executive for the Project) responsible for project implementation should be appointed for the project duration and he should have leftover service of at least five years to ensure his involvement

[45] *Ministry of Planning and Programme Implementation*
[46] *DPE OM No.9 (15)/99-GM-GL-29 dated 9 October 2000*
[47] *Ministry of Planning and Programme Implementation*

in the project up to its completion stage so that he could be made fully responsible for the implementation of project. Hence, there was no accountability and responsibility for delay in completion of the project in absence of Director (Projects), though CMD or one of the other Director were holding additional charges for looking after day to day activities. Further, though the BOD of RINL had given direction for preparation of Feasibility Report in June 2004 itself, it was only after 17 months that RINL obtained the approval of BOD for appointment of Director (Projects) which lacked justification.

B. Monitoring by the Director (Projects)

MoS had given specific direction (October 2005) that new Project Department be formed exclusively for taking care of the capacity expansion to be headed by the Director (Projects). As per the approved project schedule, all the Stage-I units were to be commissioned by October 2008 and the Stage-II units were to be commissioned between July-October 2009. Full time Functional Director for Projects division was, however, posted in June 2009 i.e., after expiry of seven months from the original completion schedule for Stage-I (October 2008). Thus, during the crucial period of capacity expansion, RINL was deprived of effective and continuous day to day monitoring of the capacity expansion project despite direction of MoS.

RINL replied (April 2014) that CMD, Director (Personnel), Director (Operations) & Director (Finance) of RINL were given additional charge at various periods of time to take care of the activities of Project Division prior to the appointment of Director (Projects) in June 2009. Thus, all the times a Director of RINL was in position to look after the progress of the projects. The reply of RINL is not tenable as CMD, Director (Personnel), Director (Operations) & Director (Finance) were given additional charge from time to time and were not available for full time and continuous monitoring of the capacity expansion project.

4.4 MONITORING BY THE HIGH POWER STEERING COMMITTEE (HPSC)

As per the directive of MoS (October 2005), HPSC had to be constituted to oversee the implementation of the Expansion Project. Subsequently in February 2006, BOD of RINL constituted HPSC and directed it to meet once in a quarter or more frequently as required to monitor the progress of the implementation of the Expansion Project. The first meeting of the HPSC was held in April 2006 and details of subsequent meeting held are given below:

Table-9

Sl. No.	Year	Minimum No. of meetings to be held	No. of meetings held	Shortfall
1.	2006-07	4	10	-
2.	2007-08	4	4	-
3.	2008-09	4	4	-
4.	2009-10	4	2	2
5.	2010-11	4	3	1
6.	2011-12	4	4	-
7.	2012-13	4	5	-

Thus during the years 2009-10 and 2010-11, HPSC had fallen short in the number of review meetings that were expected of it in respect of the project.

RINL in its reply stated (April 2014) that although the number of HPSC's meetings held was less during the year 2009-10 and 2010-11 compared to other years, the performance/ progress of Expansion was monitored by BOD of RINL where the HPSC members were also present and hence it could be construed that due monitoring by HPSC was done.

The reply of RINL does not dispute the fact that there was shortfall in the number of mandated review meetings.

4.5 MONITORING BY THE BOARD OF DIRECTORS (BOD)

MoS granted approval to the project in October 2005 and the BOD of RINL (April 2006) had directed that progress report on the activities of capacity expansion should be submitted to it in every subsequent Board Meetings (BMs). The details of the BMs held, the agenda items put up to BOD, directions given by the BOD, details of BMs where the agenda was deferred etc., during the period from July 2006 to September 2013 are detailed below :

Table-11

Year	No.of Board Meetings (BMs) Conducted	No of BMs in which progress report on Expansion Project was submitted	No.of BMs in which the Agenda item was considered	No.of BMs in which the Agenda item was deferred	No.of BMs in which the Board had given directions	No.of BMs the minutes recorded as Noted
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2006-07	13 (212 to 224)	8	7	1	4	3
2007-08	9 (225 to 233)	7	3	4	1	2
2008-09	6 (234 to 239)	6	2	4	0	2
2009-10	6 (240 to 245)	4	2	2	0	2
2010-11	5 (246 to 250)	3	3	0	1	2
2011-12	8 (251 to 258)	6	5	1	4	1
2012-13	8 (259 to 266)	4	4	0	2	2
2013-14	11 (267 to 277)	1	1	0	0	1
Totals	66	39	27	12	12	15

The following could be observed from the above table :-

1) The BOD met 66 times during the period April 2006 to March 2014 but report on Expansion Project was submitted before it only on 39 occasions.

2) Out of the 39 occasions in which report on Expansion Project was submitted to the BOD, only on 27 occasions the BOD could consider the said reports and on 12 occasions they were deferred.

3) Out of the 27 occasions, the BOD could consider the said reports on 15 occasions and the BOD just noted the progress despite the fact that the progress of capacity expansion was very unsatisfactory and on 12 occasions only the BOD gave directions on the project implementation.

Thus, neither RINL ensured compliance of its BOD's decision to ensure proper project monitoring by putting up the progress of capacity expansion in each and every Board Meeting nor the BOD insisted for compliance of its own directive issued in April 2006.

RINL in its reply stated (April 2014) that critical issues related to expansion were being put up to the BOD on continuous basis for its direction and on several occasions the BOD has given its guidelines to resolve the issues at the earliest. MoS in its reply stated (December 2014) that out of the 66 Board meetings referred, 25 Board meetings took place within a period of 3 to 30 days due to various exigencies and accordingly the agenda on progress of Project was not put up to BOD as a formal agenda. In any case, Agenda was put up in 39 occasions and BOD was practically being kept informed about the progress of Expansion in almost all the Board meetings and got the directions / approvals as and when required.

The reply needs to be viewed against the fact as per the BOD's decision (April 2006), RINL was required to place the progress report on Expansion Project before the BOD in each and every Board Meeting. Further out of 25 Board meetings wherein agenda on capacity expansion included during the original completion period i.e., from 28 October 2005 to October 2009, the agenda in 11 Board Meetings was deferred and in the nine Board meetings, it was simply recorded as noted. This indicates that the BOD had not given proper directions / monitoring during the crucial time period of the project execution. Hence, RINL's contention that the critical issues related to expansion were being put up to the Board on continuous basis for its direction and on several occasions BOD has given guidelines to resolve the issues does not compensate the deficiency in the number of meetings of BOD or the absence of effective and continuous review of the progress of work at that level.

4.6 MONITORING BY MINISTRY OF STEEL (MOS)

On a review of quarterly meetings on the capacity expansion progress by the Secretary, MoS, Audit observed that contrary to the instructions of the O.M. No.13013/2/92-PMD dated 26 March 1997, against the six quarterly review meetings scheduled to be taken up in the initial first one and half years from the zero date i.e., from 28 October 2005 to March 2007, the Secretary, MoS had taken up no review meeting. The frequency of the review meetings decreased year after year. Details of review meetings taken up from October 2005 to April 2014 were given below :

Table-10

Year	Scheduled No. of meetings	No of meetings held	Shortage	Year	Scheduled No. of meetings	No of meetings held	Shortage
2005-06	2	0	2	2010-11	4	2	2
2006-07	4	0	4	2011-12	4	0	4
2007-08	4	6	Nil	2012-13	4	1	3
2008-09	4	2	2	2013-14	2	1	1
2009-10	4	1	3	Totals	**32**	**13**	**21**

In the review meeting held on 3 November 2010, though RINL made a commitment to the Secretary of MoS to implement and commission all the packages of Stage-I by March 2011 and for Stage-II projects (Special Bar Mill and Structural Mill) that physical erection would be completed by third quarter of 2011-12, the capacity expansion was abnormally delayed by more than 60 months and cost overrun was about ₹ 4,553 crore[48] (₹ 12,291 crore - ₹ 7,738 crore) which was likely to be increased further.

Review meetings at the level of Secretary could in fact, have helped in containing, if not eliminating many slippages that had occurred during October 2005 to March 2007, in appointment of consultant, delayed release of specifications by the consultant, abnormal delay in finalization of the tenders, time and cost overrun etc.

RINL in its reply stated (April 2014) that as many as 26 review meetings (including 2 cases reviewed along with MoS and review meetings of ₹ 20 crore & above projects which includes expansion) were held by Secretary (Steel) as against 13 meetings considered by Audit. MoS in its reply stated (December 2014) that during the period from October 2005 to March 2007, the High Power Steering Meeting (HPSC) met 10 times wherein Joint Secretary, MoS was a member.

The reply needs to be viewed against the fact that as per O.M. No.13013/2/92-PMD dated 26 March 1997 responsibility of reviewing the implementation of projects rests with the administrative Ministries apart from the monitoring of implementation of projects costing ₹ 20 crore and above. The review meetings by MoS were also apart from the HPSC review meetings. Hence the review meetings conducted by the Ministry were 13 only. In case MoS conducted quarterly review regularly the time and cost overrun could have been minimised.

4.7 MONITORING BY THE CONSULTANT

The capacity expansion was divided into 16 zones. However, none of the zones was commissioned as per the time schedule. As per the terms of the contract, payment to the consultant was based on achievement of 14 milestones against the time schedules given in the bar charts of the respective zones. The terms of the contract also prescribed penalties and incentives. As seen from the conditions of the incentives, the consultant had not fulfilled any conditions and as such was not eligible for incentive. Instead, the consultant was responsible for delay in completion of the project and penalties were recoverable as per the terms of the contract. From the running account bills furnished to Audit, it was observed that the consultant had claimed an amount of ₹ 197.34 crore and RINL released payments to the extent of ₹ 186.18 crore after withholding ₹ 11.16 crore towards ad-hoc recoveries (for milestone penalties and liquidated damages).

RINL in its reply stated (April 2014) that against the payable contract value of ₹ 245 crore (excluding SLTM), the consultant has been paid about ₹ 191 crore as on date and the balance payable would be about ₹ 42 crore. An amount of about ₹ 12 crore was recovered / withheld towards LD. All recoveries as per contractual provisions shall be made including recovery of

[48] ***Without considering the escalation related major packages of Power Plant – I&II and SLTM***

Milestone penalties and levy of LD based on detailed delay analysis after completion of the Project. MoS endorsed (December 2014) the view of RINL.

The reply of RINL / MoS needs to be viewed against the fact that in many cases Audit already pointed out the delays / lapses of the consultant in the earlier paras of this report. Thus, MoS's contention that action would be initiated against the consultant if it was proved that delays were attributable to the consultant based on detailed delay analysis after completion of the project was not tenable as by this time RINL should have evaluated the delays of the consultant since all the Stage-I units stood commissioned.

4.8 MEMORANDUM OF UNDERSTANDING (MOU)

RINL made commitments in the Memorandum of Understanding (MOU) entered with MoS for the year 2008-09 to commission the 6.3 MTPA capacity expansion by 2010-11. Though it could not achieve the MOU target, it continued to make similar commitments in MOUs for the years 2009-10, 2011-12 and 2012-13 with revised commissioning dates extended up to December 2012. RINL could not keep up any of the agreed dates.

MoS replied (December 2014) that challenging milestones have been targeted / accepted to accelerate the pace of progress and all out efforts were made to achieve the unfulfilled targets in the successive years, wherever delays took place due to reasons beyond reasonable control. Therefore, MoU targets committed were appropriate and quite challenging which is evidenced by the very fact that some of the targets could not be fulfilled.

The reply of MoS needs to be viewed against the fact that it agreed that RINL had not achieved some of the targets. Further MoS's reply did not deny the fact that MOU targets fixed were neither in line with the original commissioning schedule of the project nor with the dates in the approved RCE. Also, the MOU targets entered with MoS were on lower side and not commensurate with the commissioning schedule of project approved. As a result, even though the overall project was originally envisaged to be completed within 48 months (i.e., by October 2009), the MOU targets, however, were continued to be fixed upto the year 2014 because of the delays in execution. Therefore the MOU between MoS and RINL did not serve as an effective monitoring tool.

4.9 COMMITTEE ON PUBLIC UNDERTAKINGS (COPU) RECOMMENDATIONS

The COPU recommended (December 2010) that RINL should take steps to ensure minimum further delay, evolve a comprehensive and effective project planning and monitoring mechanism to minimize the future delays and associated escalation of cost and such steps were to be communicated to COPU committee within six months.

RINL assured COPU of the following steps in this regard:

- Regarding commissioning of the Stage-I and Stage-II, RINL replied that efforts were on hand to commission the various units without commitment of exact date of completion of capacity expansion. Commissioning of two converters of SMS simultaneously to avoid time overrun; the periodical reviews were taken up by HSPC, CMD, Secretary (Steel),

other officials of MoS etc., depending upon criticality, issues were taken up with other Ministries, and Embassies;

- Offloading the jobs of failing contractors, timely payment of bills, free issue of steel, providing own cranes etc., further helped to compress the completion schedule of the project; and
- There was no major cost escalation over and above ₹ 12,291 crore except due to statutory variations during project cycle like exchange rate variation, taxes etc.

However, the assurance of RINL did not indicate the effective date of completing the project at the earliest. In spite of commitment to commission two convertors at a time, only one convertor was commissioned in October 2013 and second convertor was commissioned in March 2014. In spite of taking up project reviews at various monitoring levels, RINL kept on changing the effective commissioning dates which indicated that RINL had no effective control over the execution of the capacity expansion. Further, RINL's contention that there was no increase in the project cost was factually incorrect and actual variation was about 35.44 *per cent*.

4.10 ACCOUNTABILITY MECHANISM FOR TIME AND COST OVERRUN

As per the decision (June 1998) of Cabinet Committee of Economic Affairs (CCEA) in every case, where the project cost overrun is over 20 *per cent* along with time overrun of above 10 *per cent*, the revised cost estimates should be brought up for approval of the CCEA only after fixing up responsibility for the cost and time over-run and a standing committee has to be set up for the fixation of responsibility. It was further clarified (November 2007) that every PIB note should mandatorily be appended by a report on the recommendations of the standing committee and action taken thereon. Despite the specific directions, neither RINL nor MoS insisted on accountability for time and cost overrun.

The project cost stood at ₹ 7,738 crore, after exclusion of the cost of dropped SLTM (₹ 954 crore) from approved project cost of ₹ 8,692 crore (Base date June 2005). RINL had revised the cost estimates to ₹ 12,291 crore (base February 2011). The revised cost did not include the cost of PP-I & II of ₹ 853.82 crore originally envisaged under BOO basis and finally taken up by RINL under capital cost. The cost overrun beyond allowable three factors[49] was worked out by audit at 35.44 *per cent* (₹ 2,742.82 crore) of approved cost (₹ 7,738 crore[50]) to end of May 2008.

For the first time, the Board approved the RCE and submitted to MoS in PIB format in March 2009 for an amount of ₹ 12,228 crore. Though review of RCE was mandatory as per CCEA directions issued in August 1998, no such review was done by MoS. RINL again submitted PIB Note for RCE to the MoS in April 2010 updated at ₹ 14,489 crore with base date in December 2009 against the original approved cost of ₹ 8,692 crore. After lapse of

[49] ***(a) statutory levies (b) exchange rate variations and (c) price escalation within the originally approved project time cycle***
[50] ***₹7,738 = ₹ 8,692 - ₹ 954 (SLTM Cost estimate).***

substantial time, in February 2011, the MoS informed RINL to obtain the approval of the Board for the RCE in view of the Navratna status conferred on RINL.

Thus, though clear instructions exist for approval of the RCE, substantial time was consumed by RINL and MoS between June 2008 and March 2011. Ultimately, the Board approved (July 2011) the RCE at ₹ 12,291 crore (base February 2011) without completing the exercise of fixing up of responsibility for both time overrun (above 100 *per cent*) and overall cost overrun (59 *per cent)* on the grounds that RINL was conferred with Navratna status.

RINL in its reply stated (April 2014) that while furnishing proposal for approval of RCE it had put up checklist for determining the responsibility for time and cost overrun to GoI with approval of BOD. The reply of RINL is not tenable since as per Planning Commission's D.O. No.O-14015/2/98-PAMD (August 1998), where the project cost overrun is above 20 *per cent* along with time overrun of above 10 *per cent*, the revised cost estimates should be brought up for approval of the CCEA only after fixing up responsibility. For fixing up responsibility, a standing committee has to be set up. However, no standing committee has been set up by the MoS.

Recommendations :-

4. **RINL may strengthen the monitoring mechanism to minimize controllable delays in project execution and delivery by fixing periodicity and levels of monitoring up to the Board of Directors.**

5. **MoS/RINL may ensure that there is a verifiable link between MOU targets and actual execution of work relating to capacity expansion.**

Chapter–5 Conclusion and Recommendations

5.1 CONCLUSION

5.1.1 RINL took the capacity expansion from 3 MTPA to 6.3 MTPA at a cost of ₹ 8,692 crore from zero date i.e. 28 October 2005 with envisaged date of completion of Stage-I in October 2008 and Stage-II in October 2009. Subsequently, RINL was conferred with Navratna status in November 2010 by GoI. Accordingly, the Board of Directors (BoD) of RINL in July 2011 approved Revised Cost Estimates (RCE) of capacity expansion at an amount of ₹ 12,291 crore. The completion dates of Stage-I and Stage-II were also revised to October 2011 and October 2012. However, RINL has not achieved the dates of completion of capacity expansion and kept revising the same. The construction work in Stage-II units was still under progress (as of August 2014). Thus despite prolonged time and cost overrun, the capacity expansion has not yet materialised.

5.1.2 Initially RINL estimated IRR at 14.02 *per cent*. However, based on the audit observations, MoS has now agreed that the IRR would come down to 12.96 *per cent* against the originally projected 14.02 *per cent*. This indicates that assessment of project viability was not done by RINL / MoS holistically based on which decision on the expansion proposal was to be taken. Thus IRR, cash flow and PAT calculated in the project report, were not realistic and not achievable.

5.1.3 The appointment of consultant has not served the intended purpose as the consultant was to perform an important role right from conceptualisation of the project to execution of the capacity expansion. Instead of preparing a Detailed Project Report (DPR), the consultant had prepared only a Project Report, which was in turn submitted by RINL to MoS which communicated the approval of capacity expansion to RINL without insisting for DPR. Further, there were variations from (-) 47 *per cent* to (-) 122 *per cent* in the updated cost estimates prepared by the consultant. RINL has not given any timeframes to the consultant for furnishing its recommendations on eligibility criteria, techno-commercial bids, finalizing the various stages of the tenders, which eventually contributed to the delays in execution of the project.

5.1.4 With a view to having an uninterrupted supply of raw material, RINL acquired (January 2011) 51 *per cent* shares valuing ₹ 361 crore in Eastern Investments Limited (EIL) which had six licenses for iron ore and manganese mines in Odisha. However, RINL could not draw any benefit from this investment and all the six licenses had expired. No license was renewed by the State Government (March 2014). RINL has no captive mine of its own for iron ore and coking coal and hence post capacity expansion, RINL is likely to be exposed to the risk of paying higher cost towards raw material.

5.1.5 RINL in 3 MTPA stage was operating on insufficient rolling mills and earning lower margins on sale of semi steel instead of finished steel. RINL has not planned for establishment of sufficient matching capacity of rolling mills in the present capacity expansion. Further, RINL has dropped the work of SLTM (February 2008). Thus, the project planning was deficient as it did not take care for installation of matching capacity of rolling mills to the extent of increase in capacity so as to roll the semi steel into finished product in order to earn higher revenue.

5.1.6 There were considerable delays in release of specification, issue of NIT, opening of PQC, Techno-Commercial bids and issue of letters of acceptance which has resulted in delay in pre-implementation and execution process of capacity expansion. There was absence of internal timeframes for finalising the contracts and delay in formulation of tender conditions resulting in time overrun. RINL has not managed the contracts efficiently and granted extensions to contractors without examining the factors contributing to such delays.

5.1.7 Despite BOD's directions (February 2006) for reporting the progress (both physical and financial) made in respect of capacity expansion at every Board meeting for its information, neither RINL ensured compliance with the decision nor BOD insisted for compliance of its own directives. The project monitoring mechanism by RINL / BOD was thus, deficient.

5.1.8 RINL made commitments in the Memorandum of Understanding (MOU) entered with MoS for the year 2008-09 to commission the capacity expansion by 2010-11. Though RINL could not achieve the MOU target, it continued to make similar commitment in MOUs for the years 2009-10, 2011-12 and 2012-13 with revised commissioning dates. Thus the MOUs between MoS and RINL did not serve as an effective tool for monitoring the progress of capacity expansion.

5.2 RECOMMENDATIONS

We recommend the following :-

1. RINL may take up the matter of non renewal of mining licenses in Odisha with the MoS/ GoI, which in turn may take up the issue with the appropriate agencies.

2. RINL may put in place a time bound programme to complete the work of capacity expansion by dovetailing the same with the revised scheduled dates of completion.

3. RINL may critically review the role of and value addition achieved with the engagement of the consultant in expediting the project of capacity expansion.

4. RINL may strengthen the monitoring mechanism to minimize controllable delays in project execution and delivery by fixing periodicity and levels of monitoring up to the Board of Directors.

5. MoS/RINL may ensure that there is a verifiable link between MOU targets and actual execution of work relating to capacity expansion.

In respect of the above recommendations, MoS stated (December 2014) that RINL acknowledged the recommendations of audit and would make all attempts to duly comply with them.

(PRASENJIT MUKHERJEE)
Deputy Comptroller and Auditor General
and Chairman Audit Board

New Delhi
Dated : 20 March 2015

Countersigned

(SHASHI KANT SHARMA)
Comptroller and Auditor General of India

New Delhi
Dated : 21 March 2015

GLOSSARY

GLOSSARY

Sl. No.	Abbreviation	Full Form
1	AMR	Addition Modification and Replacement
2	APPCB	Andhra Pradesh Pollution Control Board
3	B&R	Bridge & Roof
4	BF	Blast Furnace
5	BHEL	Bharat Heavy Electricals Limited
6	BIFR	Board of Industrial and Financial Reconstruction
7	BMs	Board Meetings
8	BOD	Board of Directors
9	BOO	Build-Own-Operate
10	BOQ	Bill of Quantities
11	CCEA	Cabinet Committee on Economic Affairs
12	CEF	Consent for Establishment
13	CMD	Chairman-cum-Managing Director
14	COM	Committee on Management
15	COPU	Committee on Public Undertakings
16	CPP	Captive Power Plant
17	CVC	Central Vigilance Commission
18	DPE	Department of Public Enterprises
19	DPR	Detailed Project Report
20	EIL	Eastern Investments Limited
21	EJC	Empowered Joint Committee
22	EMD	Earnest Money Deposit
23	EoI	Expression of Interest
24	ERU	Economic Research Unit
25	FR	Feasibility Report
26	GCC	General Conditions of Contract
27	GoI	Government of India
28	HPSC	High Power Steering Committee
29	ICC	Imported Coking Coal
30	IRR	Internal rate of return
31	ITT	Instructions to Tenders
32	JV	Joint Venture
33	LD	Liquidated Damages
34	LOA	Letter of Acceptance
35	MCC	Medium Coking Coal
36	MMSM	Medium Merchant and Structural Mill

Sl. No.	Abbreviation	Full Form
37	MoF	Ministry of Finance
38	MoS	Ministry of Steel
39	MoU	Memorandum of Understanding
40	MTPA	Million tonne per annum
41	NIT	Notice of Inviting Tenders
42	NMDC	National Mineral Development Corporation Limited
43	NPV	Net present value
44	NSR	Net Sales Realization
45	PAMD	Project Appraisal & Management Division
46	PC	Planning Commission
47	PCI	Pulverized Coal Injection
48	PERT	Project Evaluation and Review Technique
49	PIB	Public Investment Board
50	PIS	Project Implementation Schedule
51	PP	Power Plant
52	PQC	Preliminary Qualification Criteria
53	RCE	Revised Cost Estimates
54	RINL	Rashtriya Ispat Nigam Limited
55	RMHP	Raw Material Handling System
56	SAIL	Steel Authority of India Limited
57	SBM	Special Bar Mill
58	SCC	Special Conditions of Contract
59	SLTM	Seamless Tube Mill
60	SM	Structural Mill
61	SMS	Steel Melt Shop
62	SP	Sinter Plant
63	T&C	Terms & Conditions
64	TC	Tender Committee
65	TOD	Tender opening date
66	TPP	Thermal Power Plant
67	VIWSCO	Visakha Industrial Water Supply Company
68	WRM	Wire Rod Mill
69	ZWD	Zero Water Discharge