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Asian Development Bank

Asian Development Bank

Railway Investment Programme

Institutional Assessment

TA 36330-02



Project Report

March 2009

Final 02

Railway Investment Programme Institutional Assessment

For

Asian Development Bank
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1. INTRODUCTION

1.1 General

As part of the preparation of the proposed investment projects for funding by ADB Scott Wilson Railways have been asked to undertake an initial institutional assessment of RVNL who are the likely implementation agency for the works.

The efficiency of the implementation agency is critical to the success of the projects. It must be managerially, technically and financially capable of effectively and efficiently delivering these projects. The broader objective of this institutional assessment will be to provide as necessary recommendations for improving the efficiency and efficacy of RVNL's operation.

Issues mentioned in the project remit focus on RVNL's ability to deliver proposed works in accordance with ADB's requirements and are summarised as follows:-

- Confirm Suitability of RVNL for undertaking its allotted remit.
- Confirm Staff strengths and expertise
- Establish the authority inherent in RVNL
- Confirm if implementation assistance is required for:-

Due Diligence reviews

Project Evaluations

Project Monitoring

Reporting on the loan.

The consultant's team which is made up of international experts and Indian National experts many of whom have had experience of RVNL projects have contributed their views and experiences.

The assessment has taken a broad overview of RVNL's experience and its institutional framework. From this we have formed a view of the organisations suitability and capacity and in conclusion we have suggested some measures for improvement where thought beneficial.

Overall the greatest problem facing the consultant team was the lack of time to undertake a thorough and in depth study of all aspects of the organisation.

1.2 Appraisal Methodology

The suitability of RVNL has been investigated by examining their organisation structure, with the systems and procedures they have adopted for managing loans and delivering the projects. A brief review of RVNL's legal framework and their organisational remit, obligations and requirements gives an insight into the powers and authority invested in RVNL and their statutory capability to deliver their remit. Internal RVNL documents have been examined to gain an insight into the internal structure and operational procedures of the organisation. The strengths and expertise of the staff plays a key part in this and we have looked at the way in which they are recruited trained, and directed to provide an indication of the sufficiency and suitability of the organisations resources.

We have attempted to identify the critical challenges facing RVNL and some of the strengths and weaknesses of the organisation. The recommendations for efficiency improvements are based on our findings and the emphasis has been on policies and practical actions which could be adopted without necessitating a major restructuring of the RVNL organisation.

A series of informal interviews have been conducted with staff to understand their perceptions of their roles, objectives and those of the organisation. Opinions on specific areas such as staff selection and training and project management procedures have been canvassed. The objective is to try and gain a view of how those working within RVNL see themselves and the organisation. Additionally the views of some contractors, staff of Indian Railways and at the Ministry of railways have been gathered to get an external perspective on the company from those who work closely with it.

Interviews were loosely structured and covered a broad range of themes. Questions open and relaxed so as not to constrain responses to interviewer's prompts or the formality of a questionnaire. Respondents were encouraged to develop their perspective so that new ideas may emerge.

In trying to gain an understanding of how RVNL operates and where its strengths and weaknesses lay we opted for an ethnographic or observational approach. This approach is very flexible. It can examine topics with different levels of meaning and is useful for investigating context behaviour by studying a group in its natural environment.

Hard systems or quantitative approach normally involves producing questionnaires and surveys. Many people are not used to thinking about their activities and behaviours in abstract terms and may find it difficult to articulate the reasons for their actions. A simple questionnaire gives little scope for developing ideas or expanding on a theme initiated by one of the questions. Surveys can also produce very superficial results there being a difference between what people say and what they actually do. The hard systems approach was rejected due to complexities of RVNL's undertaking the multidisciplinary nature of construction procurement and the wide range of stakeholders.

The principal weakness of the ethnographic approach is that it can have difficulties in establishing clear cause and effect relationships. There are no control groups and there are inherent difficulties in eliminating or manipulating independent variables. There will always be doubts about the reliability of the analysis as observations are inevitably selective about what is observed and what is recorded. Problems were anticipated where managers might be unwilling to co-operate due to preconceived ideas about issues and their relative importance. Some parties might also see the process as a threat and modify their responses in an attempt to influence the outcome.

A workshop was held as a forum in which the principal stakeholders, RVNL, MOR and ADB could put forward and discuss their main concerns. This allowed some specific issues to be aired which can then be investigated in more detail later.

1.3 Assumptions and Limitations

The overall project remit did not require an in-depth analysis of all aspects of RVNL's organisation. It is hoped that the approach used in the study has enabled the team to develop a holistic view of the operation through coupling the findings of our investigation with existing tacit knowledge of railway investments. Our investigation has attempted to

target those areas which impact directly on RVNL's objectives and are within the capability of the organisation to correct and / or improve.

It has been assumed that the basic structure of RVNL and its fundamental remit is not to change. It will remain a SPV charged with the delivery of railway investment projects within the ownership of Indian Railways. On the other hand whilst its links with Indian Railways are obvious and strong, it has not been assumed that the relationship will necessarily remain exactly as it currently exists. The possibility of change must be acknowledged if RVNL is to develop and improve its offerings into the future.

2. RVNL ORGANISATION

2.1 Objectives and Remit

Indian Railways have undergone some internal reforms recently and part of this is the creation of Rail Vikas Nigram Limited (RVNL) as a special purpose vehicle (SPV). RVNL is as a Government owned public service undertaking formed as a limited company 100% owned by the Government of India. It was established by mandate in December 2002 to offer railway infrastructure development services. The principal objective was to provide a pro-active response to the rapid growth of the economy and to re-develop the railway infrastructure to support this.

As stand alone units SPVs are expected to allow some independence in decision making which will help in to achieve operational efficiency whilst maintaining a commercial focus on projects. RVNL would be able to form alliances with other public bodies or the private sector and obtain financial support from outside the IR organisation.

RVNL's overall remit was to undertake works specifically with a view to strengthening the Golden quadrilateral routes and its diagonals connecting the four metro cities of Delhi, Mumbai, Chennai and Kolkata. The organisation was also to focus on providing rail based port connectivity and development of corridors to the hinterland for general freight and container traffic. RVNL was charged with the mobilisation of financial resources to increase rail capacity ahead of demand on a commercial format. And where thought beneficial mandated to establish project specific SPVs to deliver individual projects.

RVNL's corporate objectives include the following:

- Successful project development for strengthening of the golden quadrilateral and hinterland connectivity and other rail projects. (*eliminating bottlenecks*)
- Mobilise financial and human resources for project implementation
- Timely execution of projects
- To maintain a cost effective organisational set up.
- Encourage public / private participation in rail projects managed by RVNL
- To be a project management company committed to sustainable development and environmentally friendly construction.
- To acquire purchase licence concession or assign rail assets.

RVNL's role is to undertake project development and execution of the works. IR will operate and maintain railway projects under specific financial arrangements.

2.2 Organisation and Structure

RVNL is primarily a project delivery organisation and it is the project management department which takes the lead through its HQ and field staff to bring projects to completion. The projects teams are supported by a number of functional departments which offer technical, financial and administrative support as required.

The organisation of RVNL comprises a Board of Directors of 7, a Head Office of 5 departments and an establishment of 28 persons and 7 Field Offices with 32 persons

The organogram in Appendix 1 shows how management responsibility is distributed throughout the RVNL. The structure reflects the actual reporting lines of the organisation.

2.3 Relationship with External Bodies

The vast majority of the existing railway infrastructure in India is owned and operated by Indian Railways. However as with any large scale infrastructure enhancement project there are other interested parties such as state governments, businesses and local people affected by the works who all have an interest in the project. In undertaking these projects RVNL must interact with these stakeholders.

Most of RVNL's projects are sponsored and financed via the MOR. In order to gain sanction for a project proposal MoR requires a bankability study to be completed to demonstrate that the proposal is financially viable. These studies may be carried out by IR, an outside consultant or passed to RVNL to procure. Indian Railways is also the approving authority for any works affecting its infrastructure and RVNL cannot undertake works on the railway without obtaining their approval. This involves submission of the proposals to the zonal railway authority who pass the request to their Divisional (and sub Divisional) offices. After consideration by all officers concerned approval is either granted or changes are requested.

The ultimate beneficiaries of an investment are IR's customers. These are business users and passengers who may also desire some input into the project requirements and proposed scope of works.

State governments may also wish to have some input into the development of projects which may form part of their development plans for their region. The official route is by application to the MOR but States sometimes try to influence RVNL by more direct routes. State Governments and local authorities may be involved in granting permission for and making the legal arrangements for works which might require the acquisition of land.

Projects requiring permissions as a result of national legislation such as Environmental issues, Protected forests etc. will require the cooperation of the relevant statutory bodies responsible.

2.4 Formal Limitations to Financial Responsibility

Although it was originally intended that RVNL would raise a significant amount of its finance by its own authority the major proportion of the finance for infrastructure projects is obtained via Indian Railways. The financial authority vested in RVNL officers are stipulated for all grades / posts throughout the organisation. Inherent conflicts between budget control and expenditure are managed by the board of directors. The margin of discretion for individual staff is clearly limited.

Financial responsibility is organised as Tabulated in Appendix II.

3. FINANCIAL MANAGEMENT

3.1 Background

The setting up of RVNL was a major initiative to mobilise additional budgetary resources for rail projects and places a special emphasis on leveraging of funds through the public private partnership. RVNL has been provided with an authorised share capital base of Rs.3000 crore (\$700m USD) to enable the organisation to leverage its equity for project financing through long term debt up to Rs 8000 crore (\$1.9 bn USD). Ministry of Railways has also been allotting funds to RVNL from its own surplus through the Capital Fund which reduces the requirement for debt. The equity of RVNL comes from the Ministry of Railways (in turn from MOF through Gross Budgetary Support) and includes a loan from ADB. RVNL has entered into a MOU with Ministry of Railways to facilitate the financing, execution of projects and debt servicing for Railway projects and for establishing a revenue stream for RVNL. RVNL has been delegated substantial independent financial and executive powers for smooth operation of the Company.

At present the total strength of the Finance and Accounts Department of RVNL in the Corporate Office and PIUs is of 39 officers and staff. With the increase in the number of projects and their geographical distribution it is anticipated that this number may need to be increased to approximately 50 staff.

3.2 Sources of Funds

RVNL plans its requirement of funds through annual budgetary exercises under the following segments;

(i) Funds from Ministry of Railways including EAP component from ADB Loan

Funds are released by the Ministry of Railways (MOR) to RVNL for sanctioned projects. This may be through the gross budgetary support from Ministry of Finance or through the Railways own funds. Claims for reimbursement for the EAP (Externally Aided Projects) funded by ADB are submitted by the RVNL to the Ministry of Finance who settle the claims with ADB.

(ii) Market borrowings by RVNL

MOR has also allowed RVNL to raise debt for the execution of financially viable projects from borrowings through, the Indian Railway Finance Corporation, a sister company under the Ministry of Railways. MOR has undertaken to bear the re-payment liability of principal and cost of borrowing (interest and processing charges) on the entire sum of the borrowed funds.

(iii) Equity mobilisation and raising of non-recourse debt through joint ventures for port connectivity by SPVs

RVNL is also entering into strategic partnerships with Port Authorities, State Governments and Private Partners in Projects related to port connectivity. RVNL is executing these projects for and on behalf of the SPVs. SPVs are raising funds in the form of both equity and debt.

In some cases RVNL has been independently assigned the task of execution of projects for and on behalf of Port Authorities (*e.g. Kochy Port Trust*). In these cases, RVNL may receive funds in advance of incurrence of the expenditure.

3.3 Cash Flow Management

The monthly requirements for cash are projected by Project Implementation Units which are consolidated in the Corporate Office. The timing of mobilisation of funds from these sources is done through a planned calendar and mid course corrections are made based on requirement of cash flows.

Funds are released as per requirement by the MOR or on request from the IRFC. Parties for and on whose behalf projects are being executed also release funds depending on demand or receipt of advance. Any surplus funds, if available, are invested in short term deposit with Public and Private Sector Banks. No long term commitments are entered into to ensure availability of funds. An Investment Committee takes decisions on the surplus funds within the framework of guidelines laid down by Government of India.

Accounting Processes

Payments are processed and released at the level of Project Implementation Units (PIUs). Details of expenditure incurred are reported to the RVNL's Corporate Office on a daily basis. All the vouchers are received in Corporate Office where they are accounted for centrally in Corporate Office.

3.4 Financial Control

Finance functions are being carried out at the level of both the PIU and Corporate Office. The finance functions include financial approval of proposals, scrutiny of bankability reports based on project cost, anticipated revenues and expenditure likely to be incurred on operation and maintenance of the project line. A sensitivity analysis is also carried out to analyse the implications of project cost overrun, variation in traffic arising etc.

Estimates for execution of works, are also reviewed along with the bills of quantities, proposals related to contract execution and monitoring (including examination of financial implications of conditions of contract agreements), and other proposals with regard to incurrence of expenditure by the organisation.

Internal Control Mechanism

As the main activity of RVNL is the execution of projects, the Company has put into place an internal control system for monitoring the implementation of projects. This involves periodic review of physical and financial progress, evaluation of the efficiency of cost control measures based on inputs of both the Technical and Finance Departments. The Finance and Accounts Department also conducts reviews of the progress budget and nature of expenditure.

3.5 Auditing

The Internal Audit and Control Procedure operate at various levels including that of Internal Audit, review by the Audit Committee of RVNL, Statutory Audit and Government Audit. The specific role and functions of each level of audit are:-

Internal Audit at RVNL is outsourced to a firm of Chartered Accountants. This audit is undertaken to ensure the effectiveness and reliability of control systems and submit comments on the appropriateness of expenditure and accounting by the Company. The Internal Audit function is supervised directly by the Audit Committee. The appointment of auditor, their Terms of Reference, Scope of work, periodicity of reporting, format of reporting etc are approved by the Audit Committee.

The scope of work is communicated to the firm entrusted with the work of Internal Audit at the beginning of the year. The scope includes inter-alia the following :

- a) Review of existing processes and internal controls and suggestions for strengthening of these processes and controls
- b) Verifications of transactions on a test check basis to ascertain the accuracy of financial statements.
- c) Review of Operational MIS to ascertain the efficiency of Project execution and accuracy of reporting of Project progress status.
- d) Review of accounting policies of the company and to ensure that they are in line with applicable accounting standards.

The Internal Audit is carried out for every quarter. The audit is taken up during the last month of the quarter and is normally completed in a period of 3 weeks. The draft report is submitted to Management for comments and action. The draft report is circulated to the various departments for comments before the report is finalised by Internal Auditors.

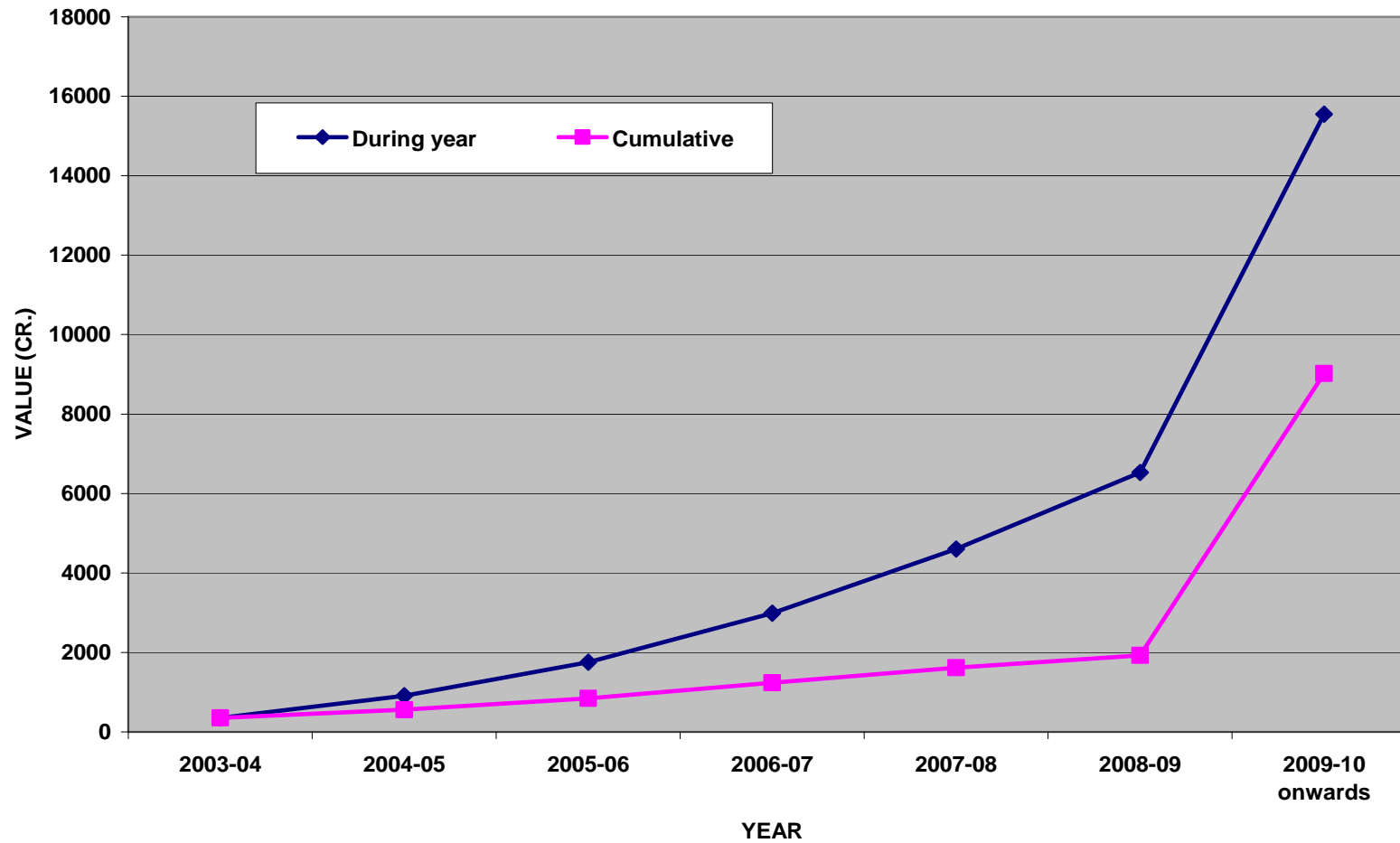
Review by Audit Committee

The Audit Committee meets periodically and reviews the report of Internal Auditors. The discussions focus on strengthening the processes and internal controls. The Audit Committee provides guidance on specific areas which need to be reviewed or where there is a need for management action. In the subsequent Audit Committee meetings, 'Action Taken Notes' on actions arising out of the decisions of the Audit Committee are issued for information.

Statutory Audit and Government Audit

After the annual accounts of RVNL are finalised they are audited by Statutory Auditors, appointed by Member Audit Board (Commercial) of the Office of Comptroller and Auditor General of India. The Statutory Auditor carries out the audit of the accounts as per Section 227 of the Companies Act, 1956. The accounts are then certified by the Principal Director Commercial Audit, of the Office of Comptroller and Auditor General of India under section 619(4) of Companies Act.

RVNL TURNOVER RS.



4. INSTITUTIONAL RESOURCES

4.1 General

Delivering a programme of works valued in excess of 1200Cr requires significant staff resources which in turn require significant management effort to direct and control. The teams working on project implementation and in corporate and specialist support functions are all integral to RVNL's successful delivery outcomes. A wide range of skills and expertise, engineering, finance, budget control, planning and project management is required for undertaking these multidisciplinary infrastructure projects.

4.2 Staff Establishment

RVNL's human resources policy is for a lean structure and the organisation has developed a 'Needs based' manpower plan. Corporate HQ is in Delhi which is where most of the senior posts and support departments are located. RVNL currently employs over 350 staff at all grades. The grading system is based on that used by IR and since the staff are mostly drawn from there they are readily located into the RVNL structure at their appropriate level.

The Project Implementation Units are responsible for Project Management and includes HQ project staff, planning and field units directly supervising works.

See Appendix 1 - Organogram.

4.3 Skills and Training

The staff recruited by RVNL are almost entirely drawn from the ranks of Indian Railways on short three year contracts. As such they bring with them the technical skills, knowledge and experience gathered during their years of service with the railway. Indian Railways has reputable training facilities and railway staff are encouraged to attend residential training courses. Successful completion of these courses influences an individuals prospects for promotion. Engineers focus on technical subjects but project management methods are also covered. It is assumed by many RVNL officers that the training they have received from IR will be sufficient for their needs whilst at RVNL.

RVNL carries out no formal in-house training itself but nominated a number of staff to attend training courses provided by other organisations such as Indian Railways. Staff Recruitment and Retention

The high level of competition for skilled staff created by the infrastructure boom in India and internationally has made recruiting difficult. Both RVNL and Indian Railways are experiencing shortages and there has been an increased focus on selection and retention strategies.

Indian Railways staff volunteer for service with RVNL for one or a combination of two principal reasons.

Firstly it is seen as an opportunity to develop their careers by getting involved with larger more complex infrastructure projects. The possibility to learn new skills and deal with more challenging work not normally undertaken by zonal railways acts as an incentive.

Secondly it is seen as a stepping stone leading to faster promotion. Individuals see it as an opportunity to grow professionally and be in a position to take on more responsibility when they return to their posts in Indian Railways.

Permission for IR staff to transfer to RVNL is granted by the individual's current line managers. Although RVNL has the final say in who it takes on it often receives a very limited choice as a result of IR priorities.

RVNL obtains the bulk of its staff from Indian Railways but other appropriately skilled staff are recruited from other governmental departments. Very few of their employees have a background in the private sector. RVNL has been reluctant to recruit from the private sector where it believes that the skills it needs are not generally available. However RVNL is now looking at recruiting junior staff directly from schools and colleges or the open market with a view to training and developing them to work on RVNL projects.

5. FINDINGS

5.1 General

Our discussions with RVNL staff and various personnel involved in the investment has left us with a favourable impression of both the competence of the workforce and the enthusiasm with which they approached their work. Staff were all willing and interested to talk about their work and the challenges they were facing. RVNL's annual turnover is approaching 1200Cr and projected to rise further in the next few years. When asked about their performance on the programme RVNL's staff generally felt that they were doing well under the circumstances. They were delivering projects and achieving results that IR could not have done on their own.

However when asked about their perception of customer satisfaction despite some positive feedback they believed this to be mostly poor. This was partly due to RVNL's performance. Many projects are not being delivered on time and costs tend to drift upwards. One officer described RVNL's performance as "fire fighting" with no planned strategy for its customers.

There were no major changes planned for RVNL's organisation in the near future. It was acknowledge that there is a need to expand to meet the expected increase in work load.

The principal areas of concern for the organisation were identified by RVNL staff as:-

- Overall shortages of skilled staff which is affecting both RVNL and its suppliers.
- RVNL's dependence on co-operation of zonal railways for approvals and access to the railway.
- Programme delays resulting from awaiting approvals and problems in acquiring land.
- Variable quality of main contractors and Project Management Consultants.

5.2 Aims Objectives, Leadership and Direction

RVNL's targets and performance indicators are derived from the high level objectives set for RVNL. The impression gained from all stakeholders consulted was that the objectives set for the organisation were appropriate for meeting the needs of Indian Railways and the investment programme. Although the organisation had undergone some change since its initial inception senior RVNL managers considered these primary objectives to still be valid. All parties agreed that the Focus on the Golden Quadrilateral, and port connectivity was correct. With freight growth estimated at 12% pa the removal of operating constraints is seen as an imperative.

The broad view of the RVNL staff consulted was that the basic structure of the organisation was effective and staff had the necessary empowerments to undertake their tasks however there were some doubts expressed about the organisations leadership and direction. Some officers felt that a lack of vision and poor business leadership has resulted in loss of focus on the strategy or objectives of the organisation. One manager commented on the need for a more control of RVNL's direction saying "*Things feel indefinite*". Whilst the aims of RVNL are clear and well understood down to the lower levels of the company there was a feeling of a lack of leadership in their application.

Speed of decision making both inside and outside of RVNL was raised as another issue. Delays in responding to critical events gave rise to frustration amongst responsible

managers and although difficult to quantify it was believed this was costing projects significant amounts in money and time.

5.3 Recruitment and Training

Recruitment

With the projected increase in railway enhancement projects RVNL's workload will increase rapidly over the next few years for which it will need to increase staff resources. The view was expressed that RVNL needs to expand to achieve a "critical mass". This view stems from a feeling that the organisation needs to grow larger in order to properly manage its ongoing workload and future commitments.

RVNL currently obtains the majority of its staff from Indian railways on short three year secondment contracts. The procedure is that RVNL sends a request for staff to the MOR with the appropriate job description grade and location of the post. The posts are then advertised internally across the whole of Indian Railways

Initially RVNL had wanted to develop its own personality and avoid being just another IR office. An absorption policy is being developed whereby new staff sever their connections with IR and become full RVNL staff. It is hoped that this will improve commitment to the organisation and promote an '*Espirit de core*'.

Officially the applications from interested railways staff are then forwarded directly to RVNL for consideration, but in practice IR managers review applications from their staff and approve only those who they feel can be released. The applicants are discussed and agreed between IR and RVNL before any appointments are made. RVNL are also recruiting retired IR staff on contract or as '*re-employed*' staff. These staff can be engaged on contracts which maintain their IR conditions of service. Retired staff are generally perceived as valuable because of their wealth of experience but some concerns were voiced about their ability to undertake field jobs which can sometimes be physically demanding.

Both IR and RVNL have middle level staff shortages however RVNL has not considered recruiting from the private sector for senior positions. There was a lot of resistance to this suggestion from RVNL managers who believed that the private sector does not have the skills required. "*They don't know the railway*" and "*The Railway will not delegate critical safety issues to outsiders*". Whilst these comments have some grain of truth in them it was not explained why suitable individuals could not be deployed in areas where they do have appropriate skills or why they could not be trained.

Skills and Training

Most officers assumed that suitably skilled staff will be recruited and training requirements will be minimal. This view that there were no particular training requirements was common, although it was generally agreed that the work being undertaken was of a different scale to projects that staff may have experienced during their careers with Indian Railways.

Despite initially holding the view that knowledge and skills of staff were adequate following some discussion most officers could think of areas within their control where staff might benefit from improved techniques and skills.

RVNL have no training facilities and rely on IR for any training support that might be required. No induction / orientation training is offered to new starters. Senior managers agreed there should be some introduction for new staff and there may be a need for

training in specific areas. For example the finance dept generally recruits experienced people from IR. However some training is required for tax, project analysis issues etc as this type of work is not often done in IR

To fill some of the new posts RVNL are now considering recruiting school leavers and training them. It was likely that the resources of IR would be called upon to assist in this.

5.4 Financial Management

One of the reasons why RVNL was formed was to look for new methods for financing projects and finding new sources of funds for infrastructure enhancement projects. RVNL have been empowered to create joint ventures or PPPs. Mostly for port connectivity projects, which include the Port authority, State government and users of the line.

The use of 'None recourse' funding, i.e. liability only with the equity partners of which RVNL generally hold between 30 and 49%, has proved successful. No serious funding conflicts have arisen with investors who remain happy to work with RVNL. With the previous ADB and other financing programmes RVNL has now also gained experience in managing this type of loan funding.

Senior managers expressed the view that project managers are on top of finance procedures as are the PMCs. They were confident that the "*staff know what is expected of them*" and how the work should be executed. As with other public sector units RVNL who have to agree targets with their respective government departments and RVNL is expected to meet MOR financial targets. Manager's performance related pay is based on their ability to hit these targets. Bonuses could be up to 200% of their standard salary.

Project performance is regularly monitored against targets and the view was that overall expenditure performance is generally reported as being on target including the target for savings on overheads. However it was noted that there were significant variations between estimated costs and final outturn figures. This was attributed to two factors; Cost escalation due to inflationary pressures and scope changes during the development of the project. Other sources commented that there was a significant degree of programme slippage on many major projects. This will also put pressure on RVNL's ability to meet its targets. With this slippage in project programmes it is difficult to see how this can be reconciled with the achievement of financial targets.

RVNL's ability to control projects was felt to be undermined by areas which were still under the control of the railway board such as Loan Covenants with ADB, or MOR. ADB commented that they were not entirely satisfied with RVNL's current loan disbursement which was not matching the annual estimate. This is an area where they were keen to see improvements. Particularly in respect to reporting.

Risk Management

Managers confirmed that the 'Bankability' of a project is reviewed regularly throughout the project cycle. However risk assessment was not normally undertaken on MoR projects. PPP projects receive a full project risk assessment including construction risks, financial risks, and analysis of operations and maintenance costs. Some mitigation measures have been attempted where necessary. At lower levels in the RVNL organisation there was a general lack of knowledge of risk assessment and risk management techniques.

5.5 Project Management

Structure and Organisation

The question of accountability was raised by some staff. There was a belief that the way the organisation is structured leads to a lack of accountability in the way the program is managed. There was perceived to be a need to focus responsibilities onto specific individuals and departments. One surprising fact was that there are no regular meetings of project managers. These had been arranged on regular intervals in the past but have now been discontinued adding to the feeling of loss of control and drift.

Project Teams

The Project Implementation Units generally use static team structures. Projects are allocated to existing teams rather than teams being assembled to fit the specific project requirements. These are fully functional project management teams with capability and support from all disciplines. RVNL's internal structure was not seen as a problem and decision making within the PIU was thought to be acceptable. However there was a general feeling that overall standard of contract management needs to improve.

Critical to project delivery is the CPM. There was a perceived need to strengthen the field team. Field staff generally and CPMs in particular are very busy often covering multiple projects spread over a wide geographical area. RVNL is critically short of experienced CPMs. Suggestions made by field officers were that only one project is allocated per officer to ensure that he is able to give the project his full attention. The number of reporting channels should also be reduced with the CPME & AGM roles combined into one level.

The introduction of more computers and project management software could help ease some of the pressure on field teams. Staff were mostly aware of data systems and tools used by Project Management consultants for planning and managing contracts, though few had any hands on experience of using them on RVNL projects. More computers with project management software could be introduced. Additional staff training to make full use of the systems will be required particularly in the area of project planning.

Project Management Procedures

RVNL does not have a company project management manual. There are standard procedures for some specific activities e.g. procurement, contracts etc. and detailed instructions have been issued and some systems codified. This is thought by senior managers to be adequate. However some officers commented that there was "*not much consistency*" in their approach and they thought more standard procedures would be of benefit.

There was a feeling that RVNL had learned a lot from applying ADB's requirements for procurement contracts. Some officers took the view that these procedures should be developed and written into RVNL's standard contract procedures for all projects.

The bankability reports contain conceptual drawings which unfortunately carry little or no authority with the project stakeholders. Following their acceptance there are generally no further feasibility or project development reports produced. There appears to be no formal stage control for project scoping, no definitive close out of feasibility and no design freeze. Little further progress is made in fixing the scope of the work until the detailed location surveys and engineering designs are completed which might be 3 or 4 years later. In addition to the lack of scope fixing there appears to be no effective change control procedures.

Planning

When a project is transferred to RVNL for development or implementation it will have high level programme information including target dates for project completion. RVNL's procedures start with a presentation to branch officers giving details of the proposed works prior to detailed programming. A second presentation includes the initial project delivery programme. The third and final presentation is to the contractor undertaking the works. Lastly the contractor makes his planning input to and produces the final programme

Multi disciplinary Co-ordination with Indian Railways is the responsibility of senior officers within RVNL.

The does not appear to be one consistent project programme process running from inception with Indian railways to project completion and handover to service. Risks and potential delays are not captured on an overall baselined plan.

As with any major civil engineering project once on site events soon require changes to be made to the programme. However there does not seem to be a disciplined approach to ensuring programme control. One officer described the bar charts as "Decoration" with very little attention being paid to rescheduling the works and maintaining programme control.

Approvals

The problems surrounding obtaining technical approvals for works was a recurring theme amongst all officers spoken to from RVNL and PMCs and IR. It was clearly one of the major issues affecting RVNL's and MoR ability to deliver its works programme.

The MOR approvals system requires the railway zones to review, comment and accept the project proposal. The zones are known to be very slow in processing information and responding. The zone appoints a nodal officer such as the Chief Traffic Planning Manager (CTPM) Responsible for planning the operational requirements of the zones. However, the appointed Nodal officers at the zones are not seen by RVNL as being affective. Approvals for major enhancement projects are all referred to Divisional operations managers for comment and endorsement.

It was claimed that ESPs are currently signed off by "*up to seventeen officers*" at division and zonal HQs requiring '*months*' of work. ESPs are sent to the nodal officer at the zone who forwards them on to the Division who hand it down to sub-division level. The sub divisional managers append their comments and pass the documentation back up via the Division to the zonal officer. On its journey the documentation is seen in turn by Divisional Managers, operations manager, discipline engineers, commercial managers etc. It is then returned to RVNL via the 'Nodal officer'. A time consuming exercise compounded by all the questions and alterations proposed by the various officers who have reviewed the submissions. Revisions have to be returned to the relevant officers for acceptance.

To improve this process one suggestion was to ensure that a nodal officer was appointed in every case. However in some areas it was commented that the nodal officers were ineffective. It was believed that these time lags at divisional level could not be addressed without additional manpower.

There was also a belief amongst some of RVNL's officers that the review of RVNL engineering drawings is treated differently from those of divisional projects. It was suggested that Local IR officers were making "*arbitrary*" decisions. However IR officers at

zonal level complained about the number of errors found on drawings which made their job more difficult and extended the time required for approval. RVNL believed that the issue of design drawings quality had been resolved.

The time required to complete the approvals process is difficult to predict. The major programme delays create an overall feeling of uncertainty. One officer commented that *"Final drawings are NOT normally available at the start of the contract"* and *"RVNL loose control of projects from the very start of a contract"*. Because of these delays in supplying data the contractors loose focus and no longer feel bound by the requirements of the project programme. One comment was that *"Contractors are routinely blamed"* for delays even though these are caused by problems of the system. There was general agreement that these delays were costing the investment programme very significant amounts of money.

A number of suggestions were made for how to resolve this issue. The most common was that RVNL are given approving powers with the same authority as IR's zone construction officers. An alternative proposal was that a committee be formed with representatives from RVNL and MOR to finalise drawings and plans.

RVNL does not have the authority to make submissions to the CRS. This has to come from the Zone where it has to be approved by the same procedure used for ESP submissions. Gaining these approvals via IR is another source of delay and it was suggested that RVNL could be covered by the railway act and be allowed to approve their own works. (Note: This has already been done in the case of the DFC.)

Contracts

RVNL uses a two envelope system for procuring contractors. Previously a detailed Pre-Qualification system was used. However this system resulted in only a limited number (2 or 3) of contractors being accepted and these were international contractors. No Indian contractors qualified and the system was abandoned without any contracts being awarded. The reason for their rejection was explained as being due to the very high rates they had quoted. These were up to three time's equivalent rates from Indian contractors the overall cost of the works could not be contained within the original budget estimates.

Eligibility criteria have now been changed and Indian contractors are able to meet these requirements. All the major Indian contractors are now represented. With the two pack system 3 or 4 contractors selected from opening the first envelope are taken forward to the second stage.

ADB requirements brought in following the previous loan were viewed positively. There had been an issue with the procurement of rail where ADB's requirements for 'Bid Security' had not been met but this had now been resolved.

There was generally a lack of railway experience amongst contractors and in specialist areas such as signalling the choice is even more limited. Only a few contractors had experience of undertaking railway contracts of this size. Most IR jobs were less than 15Cr whilst RVNL projects are in the region of 100Cr.

RVNL confirmed that all contractors were being paid on time and there have been relatively few disputes over payments. Payment period is set at 56 days and actual payments are normally made within one month. It appears that many contractors experience cash flow problems and a system for making additional Add Hoc payments to assist contractors is in place. Contractors can be paid within a few days if necessary.

RVNL believed that all contractors are losing money on contracts. So far only one firm has been awarded a second contract by RVNL. The other contractors are currently busy but officers expressed a real concern that they might not be interested in future work. The view was expressed that to improve delivery of work RVNL would now need to start considering only contractors with experience. Many officers felt that RVNL must make sure the rates improve to attract the right quality of contractors but there was a possibility that RVNL senior management might be resistant to this.

RVNL staff preferred all discipline contracts because they would avoid programme and conflict issues. Although some officers had reservations about this because most contractors did not have capability in all fields and had to use sub contractors for specialist areas. This produced challenges in contract management for the main contractor. It was accepted that detailed design should be done by one agency for a whole project route ensuring consistency and avoiding conflicts.

Everyone agreed that designs should be fully completed before tendering, however this is rarely achieved. Obtaining design approval from IR was cited as the cause of this problem. RVNL officers believed that D&B contracts would not be possible due to the delays in gaining approvals.

Variations

Normal contract variations can be dealt with by the usual machinery written into the contracts. However it was noted that RVNL had taken a very rigid approach to dealing with changes. Requests are often simply refused in the hope that by avoiding change the project will remain on programme and budget. Many of these variations are in fact scope changes and with no accepted change control procedures there is no mechanism for reviewing, and / or accepting changes.

5.6 Project Management Consultants

There was some concern over the quality of Final location surveys, detailed project reports and PMCs. Consultants had been contracted on the basis of cost and quality however cost had become the primary criteria. The possibility of reintroducing a prequalification system for these contracts was suggested which would help to reduce the number of contractors currently on the lists.

The role of the PMC was viewed as vital to the successful progress of these projects. However of all the relationships in the railway investment programme the interface between RVNL and the PMC appears to be one of the most problematic. The PMCs felt that while RVNL will not let go of authority it does not wish to take responsibility placing its contractors in an invidious contractual position.

There was a feeling from the PMC that RVNL are not making use of their skills and knowledge. They felt there was also a lack of co-ordination between RVNL's field staff and the PMC. Contacts with IR were often passed through RVNL. All contract decisions are referred to RVNL officers who were not always supportive of the PMC in their dealings with the contractors. In places RVNL officers were giving instructions directly to contractors without involving the PMC.

It was suggested that the structure of the PMC teams could be simplified reducing from the current five levels down to three. This would both simplify their operations and allow more flexibility on staffing provision.

6. WORKSHOP

6.1 General

A workshop was held at the ministry of Railways offices at 14:30hrs 8th August 2008 attended by representatives from MoR, RVNL and ADB

The session was an informal discussion of issues affecting RVNL and the railway investment programme and to investigate options for efficiency improvement measures. The intention was to focus on some of the principal themes which had been highlighted during our discussions with personnel involved in the investment programme.

6.2 Discussion

Planning

There was general agreement that project planning and programming needed some improvement. It was pointed out that gaining approvals from Zones was taking some considerable time and the process resulted in numerous changes to scope which was having a significant impact on project programmes. One example mentioned was of a project to install a third track on an existing double track railway where the signalling requirement had been overlooked in the original scheme. RVNL were aware of weaknesses in the scope definition process. It was estimated that these issues were leading to cost escalations of the order of 30 to 40%.

MoR pointed out that in their view changes were inevitable. However they agreed that there was a need for plans to be frozen and programmes baselined.

Recruitment & Training

RVNL highlighted that their workload has more than doubled since their inception. Recruitment was continuing but there was a general shortage of trained / experienced resources in the industry.

The majority of RVNL staff are recruited from IR on short, three year, contracts. There was general agreement that this was too short a time. RVNL suggested five year posting should be considered.

RVNL had recently launched an absorption policy by which staff could transfer to RVNL as full time employees. Existing railway privileges could be carried over with the transfer. Take up has been low to date but it was hoped that this would improve in time.

Project Management

RVNL stated their belief that projects were being let down by poor contractor performance. It was suggested that they lacked experience in project management of contracts of this size. Contractors were used to undertaking works valued at less than 10Cr and were only now gaining experience working with RVNL on much larger projects.

Contractors also had cash flow problems. In order to address weaknesses in contractor's capitalisation advanced payments of up to 10% had been made. However issues of the contractor's performance project delays continued.

PMC Concept

RVNL's felt that they were not getting the service they required from their PMCs and it was their view that the PMC concept was a failure. PMC staff generally lacked experience

and to address resource shortages were resorting to staff who do not have a background in Indian Railways.

RVNL said that they would like to take on the PMC's role themselves and employ their own staff. RVNL's MD did not believe there would be any difficulties in recruiting staff and if necessary that they could increase resources by training fresh staff.

Commercial

ADB asked how the performance of RVNL compared with Indian Railways Works Directorate on railway infrastructure projects. RVNL and the MoR did not have information on this to hand, however RVNL believed that their performance was similar to that of the works directorate. RVNL is dealing with much larger contracts and had the advantage of being able to use bigger contractors. The works directorate were bringing down unit costs by using more experienced contractors on smaller projects.

6.3 Summary

The meeting proved a useful forum to air some of the main issues affecting the railway investment programme. There was agreement on many of the problems faced by RVNL.

Whilst planning and programming needed improvement the question of scope definition was highlighted as a major issue. Significant improvements in investment performance would be achieved if the 30-40% cost escalations were reduced or eliminated. With an efficient process many of these changes could be forecast and possibly avoided altogether.

The staff resources problems were recognised by all parties and the need for a more innovative approach to recruitment and training.

The weakness of contractors and PMC's remains an issue. In view of the recruitment problems faced by all businesses in this sector, RVNL's suggestion of bringing the PMC role in-house may require some careful planning to bring about.

7. DISCUSSION OF FINDINGS

7.1 Introduction

Railway investment is a large and complex undertaking. It involves a variety of sector strategies, investment classifications, technical functions, resources and locations. A difficult aspect of the investigation and the major challenge to our writing a successful report is that none of the issues can be taken in isolation from one another. The consultants team has had limited time to examine RVNL's capability and as a result the area covered by the study has had to be restricted.

To manage a programme of this size requires an organisation which is highly controlled against the business objectives, but it also requires considerable delegation of responsibility to those dealing directly with projects. Most of the problems with the investment programme appear to be related to overall investment management process and organisation issues. Difficulties experienced in specific projects were often a consequence of the process rather than fundamental to the project.

The task is complicated by two factors:

Firstly the Lack of executive authority for project scope within the overall investment structure. This responsibility is derived from the Zones responsibility for control of project approval, safety compliance, and subsequent maintenance of the asset. These basic responsibilities need to be placed within a framework of integrated project control and investment management. This will reduce zonal executive isolation from the development process with its budget constraints and reporting requirements.

Secondly, the current arrangement has what is in effect a matrix management structure with three dimensions, business sponsor, project delivery function and asset owner. Sponsors or business departments normally highlight the need for a project and provide the funds for the investments via MoR. The functions, including RVNL, supply and manage the resources to deliver the requirement, and the asset owner (zones) are responsible for approving and co-ordinating the programme and maintaining the completed asset. This is a complex organisation structure with inevitable difficulties in communicating and agreeing priorities.

7.2 RVNL's Aims and Objectives

RVNL's objectives are clearly laid down in the company's documentation and from speaking to staff it was apparent that the aims of the business were well understood.

KPIs need to be carefully constructed to fit in with the company's objectives and allow effective goal setting and ensuring the commitment of the team to them.

As a relatively new and immature business unit which has grown rapidly in status and capability RVNL may need to consider updating some of its primary objectives to reflect the current and future changes in its situation.

7.3 Structure of RVNL

The organisation of RVNL has a traditional pyramid management structure with authority being passed down through various levels to the project and functional teams. Individual projects are managed through the project implementation units with field based project teams focused on the delivery of the physical works. These project teams are regionally based looking after projects within their geographical area.

The support groups in its HQ office are largely functionally arranged providing technical and management support functions.

In functional structures communication and control of resources are notionally via the functional managers. Projects require resources from different parts of the organisation this can encounter problems in the way the workload is distributed and prioritised. The organisation of RVNL has a mixture of project focus and functional structure. A functional management tends to react rather than anticipate and as a result adopts a passive rather than responsive style. Whilst functional organisations are effective in maximising the utilisation of resources they often have difficulty in handling projects of varying size and complexity requiring varying amounts of input. This mixture of functional and project organisation within RVNL is not, of itself, a weakness, provided its inherent internal conflicts are managed and the organisation does not lose sight of its overall objectives which are to deliver the projects to time quality and budget.

Linking the structure of an organisation to its performance is notoriously difficult to assess. The fundamental structure of RVNL appears sound and the company does deliver projects of the required quality. Problems occur with programme, budget control and its interface with stakeholders. However these may be a function of factors which are not wholly within the control of RVNL.

In fulfilling its objectives RVNL is required to interface with a number of major stakeholders. These stakeholders might vary from project to project but the major interface is with Indian Railways which has a traditional rigidly functional structure. RVNL is obliged to receive its remit from one part of Indian Railways at the MoR HQ and deliver the project with another part of the railway organisation at zonal level. These stakeholders viewed together forms the framework of the matrix structure with its complex interfaces, divided loyalties and difficult arbitrations between competing demands for resources. The zonal structure of IR means that interfaces can be further confused with some authority coming from zonal head quarters and some from the MoR. All levels within the RVNL team identified the interface between RVNL and railway Zones as a major issue. Equally zonal staff commented on their difficulties in working with RVNL.

Field units generally appeared satisfied with the support they were receiving from RVNL HQ. However their resources were clearly stretched. CPMs may be committed to a number of projects at one time and the time they spend on any one of these projects is therefore limited which implies that their effectiveness as managers will be restricted. Ideally the CPM and the project team would be dedicated solely to a single project with a single CPM/APM for each major contract.

7.4 Resources and Training

RVNL has a substantial establishment for managing its current workload. Staff numbers will undoubtedly need to grow as the work load expands. There appears to be a critical shortage of suitably skilled CPMs who are the front line managers of individual projects and there are also some shortages of technical specialists for railway related disciplines. RVNL needs to focus on workforce planning, the selection and retention of resources being the central plank in this.

RVNL recruits the majority of its staff from Indian Railways and this pool of resource is very limited. Indian railways already have staff shortages in many areas and are increasingly reluctant to release staff to RVNL. At the same time the PMCs and Contractors who have been criticised for weaknesses in their expertise are also competing for the same resources. If it is to fulfil its expanded remit RVNL needs to look at other options for providing staff resources.

The three year secondment from IR should be seen only as an option for employment with a permanent transfer being the preferred option. These three year contracts militate against an employee's commitment to the organisation. RVNL should be seen by staff as a positive career move which people adopt with the intention of building their medium and long term futures with the organisation.

There were no specific complaints about equipment shortages such as computer software. However since these can be supplied at a relatively modest cost there should be no reason why the latest tools are not available. Consideration might also be given to improving transport arrangements for field officers. It might be possible to obtain an unrestricted train pass from IR which would cut down on time and cost currently expended in arranging rail travel.

Training

Training has been given the highest priority by RVNL and this may have been necessary in its early phase of development but in view of the resource constraints impacting on the organisation consideration should now be given to introducing some formal development programmes. These could be integrated with existing IR programmes. Staff have generally received good technical training during their careers with IR and RVNL's manpower plan should provide a framework to further build an existing staff capabilities. The organisation can offer opportunities to develop further in areas individuals may not have had exposure to previously.

With so many staff being drawn from Indian Railways it is inevitably that RVNL will take on some of the atmosphere of a railway office. Some form of orientation training should be introduced for new starters so that the process of making people identify with the RVNL organisation can start as early as possible.

7.5 Financial Management

The auditing and reporting systems allow a level of transparency which helps to inspire confidence in the organisation. The relationship with ADB has initiated a number of operational reforms within the RVNL organisation. This work should continue and further improvements can be expected in the future.

ADB have provided financial and commercial management support and financed priority investment projects. However concerns have been raised about the disbursement of loan monies. Our review of the operation of RVNL would not suggest that the financial management is at the root cause of this weakness. Whilst accounting reforms might improve the way in which the disbursement is managed it cannot be expected to have much effect on the overall rate of disbursement. The work done by and payments to contractors is the major influence on this aspect of performance and improvements to this must come from the way projects are managed.

7.6 Project Management

Whilst RVNL have a range of standards and procedures for the delivery of projects there were some comments about the lack of consistency in the way in which these were applied. A Project Management manual would go some way in addressing this issue and provide a foundation for developing improved systems.

The introduction of Formal project management plans for each project would assist in clarifying roles and responsibilities and programme delivery dates. The plan would set quality standards and detail the acceptance criteria for each component of the project as described in the scope of works.

Planning and Programming

RVNL has experienced some control weakness with regard to project programmes. An outline project programme is produced during the project scheme development phase but these are not formally baselined and are routinely redrawn as the projects develop. Detailed programmes are normally prepared by the works contractors on commencement of site works. These are also very quickly overtaken by events.

The current approach used lacks structure and offers limited scope for managing and controlling the project to programme. It is difficult to see how RVNL can undertake any kind of change management control without an adequate baselined programme. Inadequate planning is one of the major reasons why projects fail and for projects of this nature require full 'End to End' planning with linked cost and resource plans.

Scope Fixing

It is not uncommon for a major investment project to look quite differently on completion from its original scheme proposal. Scope management is required to control and avoid "scope creep" in later stages of the projects.

With a defined, agreed and fixed scope of work an estimate can be made and a budget can be set. The delivery organisation, RVNL, can then plan and manage the project delivery.

Change Control

From all parties involved in the investment projects we heard that projects were plagued with requests for changes and modifications to original proposals right into the construction phase. Many of these requests originate with IR zonal offices reflecting changed circumstances or business requirements which may have occurred during the project development period.

To reduce scope creep and consequential impact on programme and cost a formal Change Control procedure should be introduced. Changes to the baseline scope of work should have their objectives and / or benefits identified, evaluated and agreed with the relevant stakeholders. Any change requests should be evaluated and their programme implications established before being passed to the project sponsor (MoR) for sanction. This will not of itself eliminate change requests with potential programme delays and cost adjustments but it will provide an agreed and auditable trail of all decisions made regarding the project scope.

Value Management

Value management or value engineering leads to a formalised Project specification which can be viewed and agreed by all parties involved. The bankability reports mostly only examine one option proposal and alternatives are not evaluated. Other options are not modelled or tested so the project relies on the experience and intuition of the officers concerned to identify the most appropriate solution. Project proposals should be formally reviewed and tested against alternative options.

Once project development commences a 'Validation and Verification' Process to confirm that the technical proposals are appropriate for the project requirements and there are no conflicts with existing or proposed equipment can be instigated. This process is valuable in reviewing change proposals and keeping track of parallel developments which might not be part of the projects remit.

Risk Management

We saw no evidence of any kind of risk assessment procedure within RVNL. Knowledge of risk management was generally very limited amongst the officers spoken to. High level project risks were only touched on in the bankability reports. Technical and delivery risks were not covered at all. Risk management gives the project manager the confidence that all eventualities that might affect the project have been considered. It allows the project manager to identify and plan a suitable response to future events.

Procurement

The RVNL procurement approach uses National competitive bidding for all major contracts. The basic contract documents being used are based on harmonised documents approved for adoption by multilateral funding agencies in 2005. These are based on the International Federation of Consulting Engineers standards.

Tendering is by single stage two envelope bidding procedure with a first envelope outlining the contractor's proposals which are assessed for technical and programme compliance and a second envelope containing the contractor's tendered price for the works. The advantages of this system are perceived by RVNL as requiring less time to complete than a prequalification system. And it helps to avoid cartels which may have the opportunity to form during a lengthy qualification processes. Contractors are still expected to meet the eligibility requirements as laid down in RVNL's contract requirements. But this represents a far less onerous prequalification requirement than the previous formal pre-qualification system.

Another reason given as a benefit from the two envelope system was that *"it allows selection of bids fulfilling qualification criteria before reviewing financial offers"*. This suggests that RVNL would be bound to accept the lowest bid regardless of quality and implies a lack of flexibility in the decision making process.

One of ADB's requirements was for contract packages to include all activities required for a project so that the responsibility for the commissioning of the works to time, quality and cost remains with one agency. There was general agreement from RVNL that this had brought about positive improvements. However few Indian contractors would be able to deliver a complete multi disciplinary package of railway works.

RVNL proposed to present separate contract packages for the supply of materials such as sleepers, rails and S&C. Ontrack machines were made available free of charge from IR and contractors only required to supply consumables and manpower for pre and post tamping. Previously these had been part of the main contract. By removing this from the contract packages it brought about a significant reduction in the contractors finance requirement allowing more competitive bids from Indian Contractors. This may also have helped RVNL to avoid some contractor overheads on materials supply

7.7 Contractors

Many of the projects managed by RVNL are perceived by their clients as running late compared to their original expectations. It is not clear whether this reflects poor performance or an inaccuracy in the original programme estimate. These programme failures with consequential increases in costs, were regularly blamed on poor contractor performance or weaknesses in the PMCs.

However the lack of baselined programmes or a firmly defined scope of works means no project can be confirmed as over budget or programme at time of completion. As a result it is difficult to identify exact causes and effects.

RVNL should consider measures to enhance contractor performance via a continuous improvement process. This could start with a focus on the contractor performance reporting. This will provide records of performance that will contribute to the contractor eligibility and tender assessment processes. Contractors can be assessed and graded in accordance with a range of standards linked to a prescribed list of actions to benchmark good practice, and improve on poor performance. High performing contractors would be selected for future contracts. The system should be consistent with IR / ADB guidelines for contractor performance reporting.

The report should be offered to contractors who should be encouraged to strengthen their offerings and provide evidence of improvements in their systems. It is important to avoid placing blame on contractors for shortcomings which could have been anticipated and managed in advance.

The PMCs have particular problems in recruiting and maintaining skilled staff. With rapid wage inflation in the Indian construction market PMCs need to review their costs at regular intervals. A mechanism for adjusting rates in accordance with national price indices should be incorporated into contract agreements.

Railway Investment Process

Railway investment projects face a number of challenges along the path from concept to final commissioning. The investment planning process needs to follow a logical sequence from MoR objectives to build up the investment programme and enhancement budgets.

The initial project definition is produced by MoR following an identification of a requirement from one or more of the railway departments. The business case is developed in the form of a bankability report which is based on a high level requirements and concepts proposals. Building the business case to justify a project proposal requires an evaluation of the benefits, costs and risks of the scheme and compares them with other options. This appraisal process should encourage careful consideration of investment options and discourage fixing on a particular solution before considering how they meet business objectives.

The process should start with a Requirements definition exercise. Only then can the various project options be developed and reviewed to produce a scope of works. The bankability documentation examined did not include details of, or any reference to, the primary project requirements. It was not clear on what some of the assumptions were based and there was no easily referenced audit trail to demonstrate the decision making process. The reports also contained no exploration or discussion of alternative options.

The business case for a project should be built on a robust work scope and this starts with the requirements definition process. This is a major area of weakness with no one individual or group in overall control of the project requirements management. Any project proposal will lead to conflicts of interest between the various stakeholders. Early resolution of issues will reduce time and cost associated with managing the uncertainty or changing decisions already made. Failure to resolve conflicts and make decisions early on in the process will prolong the degree of uncertainty.

The whole process needs discipline and control to ensure effective investment planning and accountability. An effective chain of responsibility needs to be established from sponsor to project manager and on to the contractor.

7.8 Concluding Remarks

In reviewing the overall project development process it is clear that there is a need for a formal project development process with established roles and responsibilities for all concerned. Projects succeed where there is a high level of support for the objectives of the project either within the railway corporately or within the department responsible.

Role of project sponsor lies with the MoR. They propose the investments and also authorise them. On completion of the works they 'buy' the asset. The sponsor is the prime instrument for converting business objectives into specific investment proposals. Ultimately it is the sponsor who is accountable for completion on the project on time, to budget and to specification.

The sponsor's agent or investment manager should be made responsible for leading project development allocating and controlling the budget, reporting on programme and expenditure to the sponsor. His prime function will be to plan and control at an aggregate level the resources used in investment projects. Investment managers must set clear development goals on investment planning and management. This requires a manageable process for arbitrating between competing demands and clear interfaces with functions managing resources. In this case this will be mainly RVNL and the zonal railways.

Two themes reoccur throughout our investigations. The first is an apparent programme slippage on a significant proportion of projects. There is a lack of a robust approach to project planning from inception through to completion. A formal project development process would give substance to planning and help in ensuring accountability for results against the original plan and project requirements. There must be an insistence on keeping projects to programme and consequentially on budget.

Common reasons for programme slippage are:-

- *Sponsor changes in requirements on the project.*
- *Sponsor changes in requirements on other projects.*
- *Delay in obtaining project authorisation / sanction.*
- *Insufficiently detailed plan.*
- *Approvals not received as expected.*
- *Poor Co-ordination on project has masked underlying problems.*
- *Project practically complete but implementation delayed.*

There can be elements of circularity in these arguments. For example, Sponsor's changes could be due to delays in gaining approval or completing the works. However most of these issues will be familiar to RVNL's project management team. The delays have their root in the weaknesses of the project development process.

The second issue is the technical approvals and acceptance process. As RVNL pointed out they are beholden to IR for approval of project proposals. These are constantly subjected to demands for changes from local IR officials who may have had no involvement in developing the original project proposal. These officials also are not responsible for the overall investment budget or programme, their focus tends to be both functional and local. This issue is linked to the project development process and scope



definition. No investment programme can remain on track when subject to unforeseen and short term changes. MoR must take control of the approvals process and ensure that as much as possible of this is closed out before the project is handed to RVNL for implementation.

8. CONCLUSIONS

8.1 General

The limited time available to undertake this study means that it is difficult to make specific and detailed recommendations with total confidence. Hence the following recommendations should be viewed as suggestions that may well require further investigation and development before an acceptable policy can be agreed and actions taken

The primary objective of this assessment is to review RVNL's capacity to implement ADB rules on procurement safeguards, due diligence, governance, and reporting. Whilst the primary focus of concern is RVNL as the proposed implementation agency the other stakeholders in the railway enhancement programme should not be overlooked. They are all intimately involved in the successful completion of any programme of works that they cannot be separated from the process.

Individual stakeholders will have different priorities with respect to the investment programme and as a result their priorities for improvements in the implementation agency will vary. As a funding organisation ADB's concerns relate to the authority inherent in RVNL for procurement and project management of the programme of works, and the Suitability, strength and expertise of RVNL's current staff.

We have restricted our investigation to those areas we believed could have an impact on RVNL's performance in the short and medium term. In so doing we have limited are recommendations to actions which can be undertaken by RVNL and MoR without requiring fundamental and far reaching reforms to the structure of their existing organisation.

8.2 Concluding Comments

Governance and Due Diligence

The fundamental establishment of RVNL as a SPV fulfils the Indian Railways requirements of the company. RVNL currently operates with a MoU with the Ministry of Railways. There would be a benefit in substituting this with a formal agreement to facilitate securing highest rating for its Debt market instruments with assured cash flows from the Government, and would help in avoiding any conflict of interpretation in the future.

Project assessments are mostly undertaken by reputable consultancy firms who follow accepted methodologies in analysing scheme proposals. The reports examined appeared to be based on scheme proposals the details of which were not available. As a result it was not possible to challenge the accuracy of the physical estimates. In view of the scope development which accompanies most railway investment projects as they progress towards completion, a case could be made for revisiting the cost benefit analysis before construction contracts are awarded.

RVNL has had some experience with ADB funded projects and has modified some of its procedures to suit the bank's requirements and we believe RVNL's management accept that these have produced positive results. There would undoubtedly be benefits in continuing these processes for future projects. RVNL should consider the possibility incorporating some of the changes into its procedures for all projects regardless of the source of funding. RVNL could consider setting up a working group with ADB to develop procedures which meet the requirements of ADB's rules.

Procurement and Contractors

The RVNL procurement system has gone through some reforms and appears to be giving satisfactory results. ADB reforms have been well received and have brought positive improvements in the process. Standardising this approach into RVNL's procedures may help in bringing about overall performance benefits.

RVNL need to build on contractors experience to improve performance particularly in the area of contract management and in the engagement and management of subcontractors. The best performing contractors should be selected for further opportunities.

RVNL could also consider using alternative contracting arrangements such as 'Design and Build'. RVNL and MoR will need to resolve issues with the approvals process in order to allow this to work efficiently. Possible benefits would be a shortening of the overall project procurement period.

Organisation and Structure

Some of the comments received from RVNL staff suggested that the organisation needed more clarity in its direction. There are no major inadequacies in the structure of RVNL however there is a need to maintain the organisations focus on its project delivery role. The role of the functional organisation is to support project implementation. There is a clear need to strengthen resources in the front line project delivery staff. The PIUs need more CPM's who in turn need to be appropriately supported in the field both from HQ and with sufficient numbers of their own staff.

Resources

From the time we have spent with RVNL and our brief investigation of their capabilities and processes we have gained a generally favourable impression. RVNL's officers are highly competent, well trained and their background with Indian Railways means that they have appropriate experience to deliver the investment programme.

It was clear that RVNL is experiencing difficulties in recruiting and maintaining sufficient staff to deliver its current workload and this problem is set to worsen with the projected increase in the number of projects they will be required to undertake. RVNL's management is aware of this issue and is beginning to take actions to deal with the problem. We feel that this area needs to be addressed as a matter of urgency and RVNL needs to develop a clear strategy for ensuring sufficient human resources over the next few years.

Planning and Programme Control

Fundamental to any investment programme there is a prime requirement for robust planning and budget forecasting. Cost control is undermined by planning weaknesses.

A clear weakness in the investment programme is in the overall project planning and programming. The root cause can be traced back to the lack of focus on planning in the early stages of projects. From the inception of the project all activities should be planned and controlled with appropriately baselined programmes. Project plans can be linked to expenditure / disbursement forecasts, resource planning, and programme reporting at relevant stages of project development. Changes should follow a mandated change control procedure and have their cost and programme implications established before they are accepted for inclusion in the plan.

Approvals

Obtaining technical approvals for project works was highlighted as a major cause of delay and disruption with numerous requests for changes and additional work. The problems encountered in this area mask the fundamental issue which is to do with stakeholder input. This derives from different organisations / departments feelings of ownership and control over the infrastructure. The responsibility for managing this must remain with MoR who need a stronger team to develop and manage the investment process. Obtaining input from all interested parties is critical to avoiding and resolving internal conflicts.

Transferring approval authority to RVNL would not solve the problem of gaining zone acceptance to proposals. Giving these powers to RVNL will marginalise the zonal engineers and make it less likely that they co-operate in delivery of the project or tacking ownership of the assets on completion.

Process Control

Many of the problems of late project delivery, cost escalation; project control, obtaining approvals etc are compounded by the lack of a robust project development process.

The MoR needs to develop a formal process for taking a project from inception to completion. This will aim to establish and agree the requirements of a project at the earliest possible stage. It should include risk and value management systems linked to the project approvals processes. No project should be sanctioned for delivery without a robust scope of works. This will have the benefit of eliminating 'Late changes' and providing the project with some budget security built on robust estimates. A set of logical gateways or 'hold points' will allow management to check and sanction the progression of a project. The process should be understood and open to all potential stakeholders so that it is clear where and how they may make inputs to the project development.

Responsibility for developing the process and managing projects through it might require an expanded 'Project evaluation team' to be set up in MOR.

8.3 Recommendations

RVNL is a competent project management organisation and it is hoped that the following recommendations will assist in addressing some areas of weakness and providing the means for making improvements to the overall project implementation process.

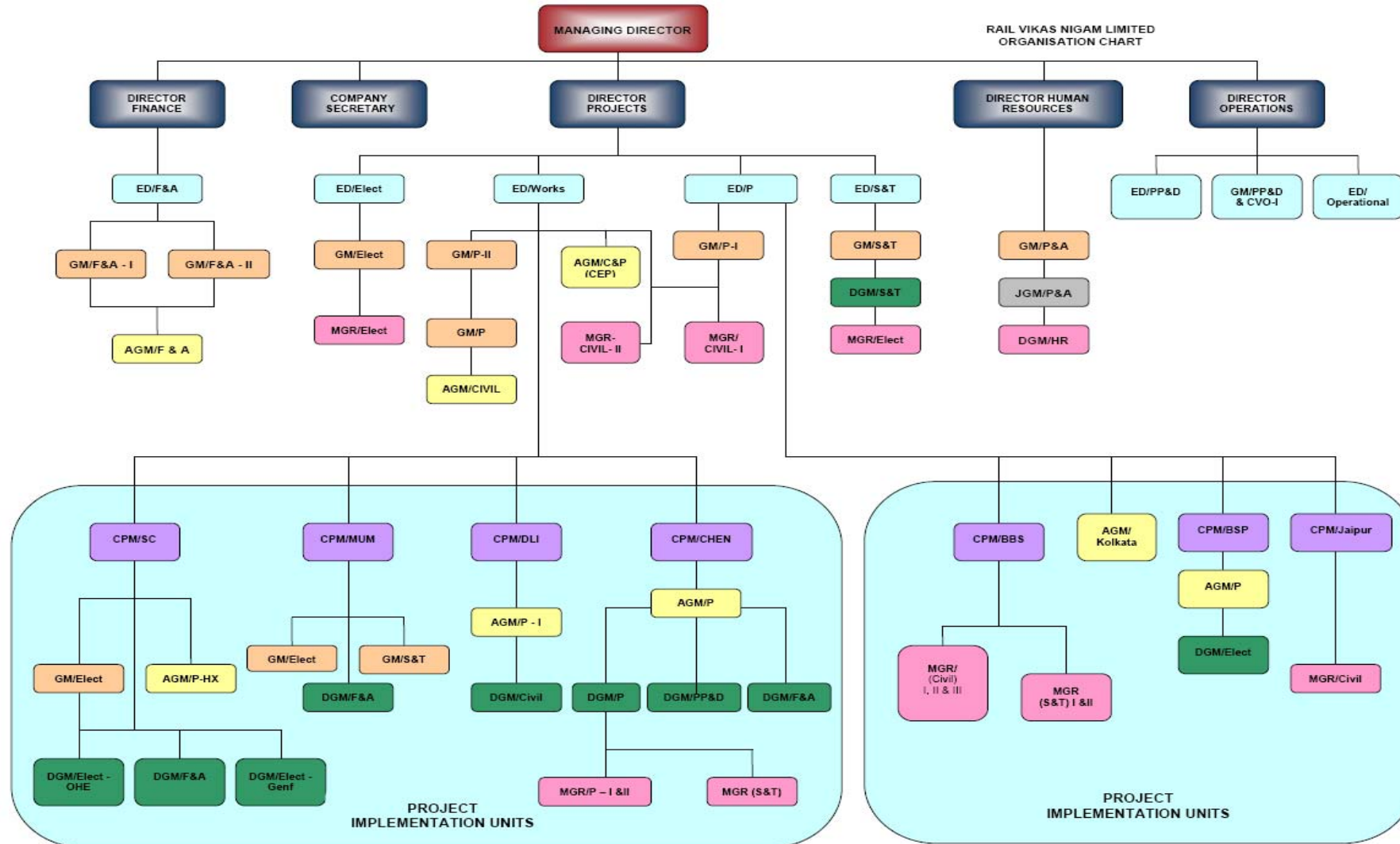
Recommendations listed in table below.

Item	Recommendation	Ownership
Process Control	<p>Set up a task force to develop a project development process.</p> <p>To improve project planning systems, ensure stakeholder involvement, Control and manage 'End to End' project planning, reduce late changes (<i>Scope Creep</i>). Process is to formalise and take control of the approvals procedure.</p> <p>See Appendix III</p>	<p>MoR</p> <p>with Input from RVNL</p>
Planning and Programming	<p>Improve approach to project planning.</p> <p>Planning / Programming to start at project inception. Programmes to be baselined at specific gateway / hold points. All changes to be marked against baselined programme.</p> <p>Integrate programme with resources and cost reporting systems.</p>	RVNL
Procurement and Contractors	<p>Develop the performance measurement process.</p> <p>Assess and contractor performance to identify the better performing companies. Provide assistance in building capability and experience by briefing / training contractor's management teams.</p>	RVNL
Finance	<p>Improve disbursement reporting to meet ADB requirements for frequency and detail.</p> <p>Review levels of authority for letting small contracts.</p>	RVNL & ADB

<p>Resources</p>	<p>Orientation training encourage a feeling of connection / permanence in staff employed by RVNL</p> <p>Broaden the recruitment base consider training of fresh graduates and recruitment from other engineering backgrounds.</p> <p>Development of project teams and project management skills. Need to continue to strengthen training in PM techniques.</p> <p>Suitable technology / software to be supplied as necessary.</p> <p>Strengthen field teams – One CPM and team per contract package</p>	<p>RVNL</p>
<p>Governance and Due Diligence</p>	<p>Revise the process of planning development and implementation</p> <p>Integrate bankability studies into development process. Ensure all options are explored and data is recorded.</p> <p>Process to review viability assessment if project is subject to change in cost or programme.</p>	<p>RVNL</p> <p>With Input from ADB & MoR</p>



APPENDIX I - RVNL ORGANOGRAM



APPENDIX II - LIMITS OF FINANCIAL RESPONSIBILITY

SCHEDULE OF POWERS FOR GENERAL MATTERS (SOPGEN)

Amount in Rs.

S.No.	Subject	DIR	ED	CPM	AGM/AGM DGM	MGR	Remarks
1	Sanction of Project Estimate	100cr.	50Cr.	25Cr.	Nil	Nil	Estimate to be vetted by Finance
2	Sanction for Purchase						Subject to finance concurrence for value more than Rs.50.000/- in each case
2.1	Plant, Machinery, and survey instruments	Full	10 Lakh	5 Lakh	Nil	Nil	Subject to following annual ceiling: ED-50 Lakh; CPM/GM- 10 Lakh
2.2	Furniture, Office Equipment Lab Equipment, Electric Appliances	Full	4 Lakh	2 Lakh	Nil	Nil	Subject top following annual ceiling; ED-20 Lakh; CPM/GM-10 Lakh
2.3	Computers, IT Peripherals, Stationery & other Consumables	Full	2 Lakh	1 Lakh	Nil	Nil	Subject top following annual ceiling; ED-20 Lakh; CPM/GM-10 Lakh
2.4	Software	Full	2 Lakh	50.000/-	Nil	Nil	Subject top following annual ceiling; ED-5 Lakh; CPM/GM-1 Lakh
2.5	Books, periodicals, Newspapers etc	Full	10.000/-	5.000/-	Nil	Nil	Subject to following annual ceiling: ED-40000/-; CPM/GM-20.000/-
2.6	Vehicles	Nil	Ni	Nil	Nil	Nil	
3	Sanction for Hiring of Services						Subject to finance concurrence for value more than Rs.50.000/- in each case
3.1	Legal/statutory/professional services	Full	50.000/-	20.000/-	Nil	Nil	
3.2	Advertisement for Tender Notices and recruitment	Full	10 Lakh	5 Lakh	Nil	Nil	For advertisement recruitment power shall be exercised by nominated office in Corporate Office Only.
3.3	Advertisement for statutory requirements	Full	Full	Full	Nil	Nil	
3.4	Utility services e.g. sanitation, security, office upkeep etc	Full	10 Lakh	5 Lakh	Nil	Nil	Subject top following annual ceiling; ED-20 Lakh; CPM/GM-10 Lakh
3.5	Photocopy, Courier Services, Postage etc	Full	5 Lakh	2 Lakh	Nil	Nil	Subject top following annual ceiling; ED-20 Lakh; CPM/GM-10 Lakh
4	Sanctions for Hire/Lease of Plant & Machinery, Equipment, Offices/other Spaces, Vehicles, etc						Subject to finance concurrence for value more than Rs.50.000/- in each case
4.1	Plant & Machinery	Full	10 Lakh	5 Lakh	Nil	Nil	Subject to following annual ceiling: ED-1 Cr; CPM/GM-50 Lakh
4.2	Office Equipment and Electrical Appliances	Full	5 Lakh	2 Lakh	Nil	Nil	Subject to following annual ceiling: ED-1 Cr; CPM/GM-50 Lakh
4.3	Office Space, Storage, Auditorium, etc	Full	1 Lakh	50.000/-	Nil	Nil	Prior finance concurrence shall be taken in all cases
4.4	Vehicles	Full	Full for specific occasion only	Full for specific occasion only	Nil	Nil	

SCHEDULE OF POWERS FOR GENERAL MATTERS (SOPGEN)

S.No.	Subject	DIR	ED	CPM	AGM/AGM DGM	MGR	Remarks
5	Sanction for Repair and Maintenance						Subject to finance concurrence for value more than Rs.50.000/- in each case
5.1	Plant , Equipment & Vehicles	Full	2 Lakh	1 Lakh	Nil	Nil	Subject top following annual ceiling; ED-20 Lakh; CPM/GM-10 Lakh
5.2	Computers, Office equipment, Furniture, Electric Appliances, etc	Full	50.000/-	25.000/-	Nil	Nil	
5.3	Office and Company Owned residences & Rest Houses	Full	50.000/-	25.000/-	Nil	Nil	
6	Approval/short Listing of Agencies for single/Special Limited Tenders	Full powers within their powers of acceptance as per para 7 below		Nil	Nil	Nil	Subject to finance concurrence
7	Calling and Acceptance of Tender						Prior approval/short listing of agencies as per para 6 above required for special limited and single tender
7.1	Works and Material for Works						
(a)	Open/Limited Tender	60Cr.	25Cr.	15Cr.	Nil	Nil	
(b)	Special Limited Tender	20Cr.	10Cr.	Nil	Nil	Nil	
(c)	Single Tender	10Cr.	5Cr.	Nil	Nil	Nil	
7.2	Consultancy Services						
(a)	Open/Limited Tender	2Cr.	1Cr.	30 Lakh	Nil	Nil	
(b)	Special Limited Tender	1Cr.	50 Lakh	Nil	Nil	Nil	
(c)	Single Tender	25 Lakh	10 Lakh	Nil	Nil	Nil	
7.3	Purchase of Plants, machinery and Survey Instruments						Subject to prior sanction under item 2
(a)	Open/Limited Tender	2 Cr.	1Cr.	50 Lakh	Nil	Nil	
(b)	Special Limited Tender	1Cr.	50 Lakh	Nil	Nil	Nil	
(c)	Single Tender	50 Lakh	25 Lakh	Nil	Nil	Nil	
7.4	Purchase of Furniture, Office Equipments, Lab Equipments, Electric Appliances, Computers, IT Peripherals, Office Consumables, etc						Subject to prior sanctions under Item 2
(a)	Open/Limited Tender	Full	20 Lakh	10 Lakh	Nil	Nil	
(b)	Special Limited Tender	Full	10 Lakh	Nil	Nil	Nil	
(c)	Single Tender	Full	5 Lakh	Nil	Nil	Nil	
7.5	Hire, Lease, Repair, Maintenance and Other Misc. Services						Subject to prior sanction under item 3 or 4 or 5
(a)	Open/Limited Tender	Full	2Cr.	1 Cr.	Nil	Nil	
(b)	Special Limited Tender	Full	1Cr.	Nil	Nil	Nil	
(c)	Single Tender	Full	50 Lakh	Nil	Nil	Nil	

SCHEDULE OF POWERS FOR GENERAL MATTERS (SOPGEN)

S.No.	Subject	DIR	ED	CPM	AGM/AGM DGM	MGR	Remarks	
8	Dispensing with Tenders							
8.1	Related to Project Execution	25 Lakh	15 lakh	10 Lakh	1 Lakh	Nil	i) Quotation not required for expenditure up to Rs 10,000/- in each case (for both works and supply matters) including purchase of gifts. ii) Purchase beyond Rs 10,000/- will be made by obtaining quotations from minimum three agencies. iii) Purchases beyond 50,000 shall be accepted with finance concurrence. iv) In cases of local purchases through spot purchase committee consisting of one member from executive branch and one from finance branch no quotation will be required for purchases costing up to 1.0 Lakh in each case. v) The powers to be exercised subject to the following: (a) Specific reasons for dispensing with calling of tenders should be recorded. (b) The work should not be split up for the purpose of bringing it within the ambit of dispensation and © The reasonableness of rates should be gone into objectively. vi) The powers to be exercised within following annual ceiling limit: Dir-2.5Cr.;ED-1.0 Cr.;CPM/GM-50 Lakh; AGM/JGMJDGM-10 Lakh	
8.2	Related to Running and Maintenance of Office and Office Equipment	10 Lakh	5 Lakh	3 Lakh	0.5 Lakh	Nil		
9	Approval of Bidding Documents	Same as for calling and acceptance of tenders under para 7						
10	Serving in Bid Evaluation Committee							
10.1	Works Tender							
(a)	Open/Limited Tender	Full	200Cr.	100Cr.	25Cr.	3Cr.		
(b)	Special Limited Tender	Full	100Cr.	50Cr.	15Cr.	2Cr.		
(c)	Single Tender	Full	20Cr.	10Cr.	2Cr.	Nil		
10.2	Consultancy/Services Tender							
(a)	Open/Limited Tender	Full	10Cr.	5Cr.	30 Lakh	10 Lakh		
(b)	Special Limited Tender	Full	6Cr.	3Cr.	20 Lakh	5 Lakh		
(c)	Single Tender	Full	2Cr.	1Cr.	5 Lakh	Nil		
11	Signing of Contract Agreement	Full subject to Power of Attorney			Nil	Nil	Agreement will require prior finance vetting	
12	Extension of Date of Completion/Delivery Period	Full powers for contracts within their powers of acceptance of tender under para 7						

SCHEDULE OF POWERS FOR GENERAL MATTERS (SOPGEN)

S.No.	Subject	DIR	ED	CPM	AGM/AGM DGM	MGR	Remarks
13	Variations in Contract						
13.1	Variations in Contract conditions	Full powers for contracts within their power of acceptance.		Nil	Nil	Nil	Subject to Finance Concurrence
13.2	Variation in Quantity of an Item in Contract.	Full powers with finance concurrence	Full powers with finance concurrence for contracts accepted up to Director	Full powers for decrease and up to 25% of value of item or 0.25% of contract value. Which is more for increase	Nil	Nil	Subject to the following: i) Increase or decrease in quantity does not require fixing of new rate for the item as per contract conditions. ii) In case of vitiation in contract Directors approval with concurrence of ED (F&A) will be required and iii) For decrease in quantity CPM/GM shall certify that the decreased quantity of the item shall not be got executed through other means/agency.
13.3	Administrative Approval for Inclusion of New Item in Contract and Sanction of Rate for New Item and Existing Item in Contract Requiring Fixing of New Rate due to Variation in Quantity as per Contract.	2 Cr per item	1 Cr per item	25 Lakh per item	Nil	Nil	Subject to the following: i) Before permitting operation of new item administrative approval shall be obtained. ii) New rate with total value up to Rs 1 lakh in a contract can be sanctioned by CPM/GM without finance concurrence. Subject to an overall limit of Rs 5 Lakh or 0.1% of contract value whichever is more. Such rate shall not be quoted as LAR. iii) All new rates above (i) are to be decided on the basis of rate analysis/LAR with finance vetting and iv) Till new rate is sanctioned by the competent authority the interim payments shall be made at the rate of 80% of the rate proposed by the engineer and accepted by CPM/GM in charge of the project, subject to obtaining Prior administrative approval of competent authority for operation of the item.
13.4	Variation in Value of Contracts for Consultancy Services.	Full	Increase up to 20%. Full for decrease	Increase up to 10%. Full for decrease	Nil	Nil	Subject to the following: i) Concurrence by associate finance shall be required for increase beyond 25% of contract value and ii) Directors approval will be required in case of vitiation.

SCHEDULE OF POWERS FOR GENERAL MATTERS (SOPGEN)

S.No.	Subject	DIR	ED	CPM	AGM/AGM DGM	MGR	Remarks
14	Placement of Works Order on Railways. Railway Workshops, Railways Production Units, for Manufacturing and Supply of Materials and Providing Services.	Full	5 Cr	1 Cr	Nil	Nil	Sanctioning authority shall satisfy itself that the quantity of item for which work order is being placed is not included in any other contract.
15	Fixing of Contract on Rates Terms and Conditions of Existing Railways Board Contracts without Tendering Process.	Full	5Cr	Nil	Nil	Nil	Agency/Agencies will be selected with finance concurrence.
16	Termination of Contract	Full powers within their powers of acceptance of tenders under Para 7					
17	Sports / Canteen Subsidy	Full	Nil	Nil	Nil	Nil	
18	Expenditure on Housing site Meeting Inspections visits of Dignitaries	Full	10.000/-	5.000/-	1.000/-	Nil	
19	Gifts/Sponsorship of Events and Functions Related to RVNL/Railway	25.00/- per occasion subject to annual ceiling of 2 Lakh	Nil	Nil	Nil	Nil	
20	Insurance	Full	Nil	Nil	Nil	Nil	Finance concurrence to be obtained if the amount exceeds Rs. 20.00/- in each case.
21	Write off						
21.1	Cash Loss	20.000/-	5.000/-	Nil	Nil	Nil	
21.2	Losses (other than cash) and Write Off of Unserviceable Items	5 Lakh in each case	1 Lakh in each case	50.000/- in each case	Nil	Nil	Financial concurrence to be obtained in each case
21.3	Disposal of Plant Machinery, Vehicles, Survey instruments, Computers, Furniture, Lab Equipment, Other Office Equipment and Misc' Surplus/Waste Material	Full	Up to book value of 1	Up to book value of 1	Nil	Nil	The disposal shall be on the basis of a recommendation of a committee consisting of one member from finance and one from executive constituted by the accepting authority.

SCHEDULE OF POWERS FOR GENERAL MATTERS (SOPGEN)

S.No.	Subject	DIR	ED	CPM	AGM/AGM DGM	MGR	Remarks
22	Settlement of Claims Against the Company and a Acceptance of Award of Arbitration/Conciliation/Dispute Resolution	5Cr,	Nil	Nil	Nil	Nil	i) To be exercised with financial concurrence and legal vetting. ii) All arbitration awards should be put up to MD through DF before payment.
23	Sanction of Telephones, Fax Internet Connection Including Cell Phone	Full	Full power as per entitlement		Nil	Nil	In corporate office procurement to be done by GM(S&T) officer in charge of telephone connections etc.
24	Sanction of Imprest	Full	50,000/-	20,000/-	Nil	Nil	To be exercised with finance concurrence.
25	Payment / Advances to Government Departments/PSUs/Public utility Companies for Provision/Modification of Services Required for Execution of RVNL Projects.	Full	5 Cr in each case	1 Cr in each case	Nil	Nil	i) ED and GM/CPM/AGM in charge shall exercise powers if provision exists in the sanctioned estimate. ii) prior finance concurrence will be required
26	Sanction of Award to Subordinate Officers and Staff	2500/- per head	2,000/- per head	1000/- per head	Nil	Nil	Subject to the following annual ceiling; Dir 50,000/-; ED 25,000/-; CPM/GM 10,000/-
27	Petty Expenses of Misc Nature.	Full	40,000/- per occasion	20,000/- per occasion	Nil	Nil	Subject to finance concurrence and following annual ceiling; ED 4 lakh; CPM/GM 2 Lakh

SCHEDULE OF POWERS FOR ESTABLISHMENT MATTERS

S.No.	Subject	DIR	ED	CPM/GM	AGM/JGM/DGM	Remarks
1	Pay fixation and payment of Salary	Full	Full	Full	Full	As per applicable CDA/IDA rules To be exercised by HR Dept
2	Power to authorise Tours in India and sanction of TA/DA and air and rail fare.	Full	Full	Full	Full	As per entitlement
3	Sanction of Allowances such as HRA,CCA Deputation Allowance etc.	Full	Full	Full	Full	As per entitlement To be exercised by HR dept
4	Reimbursement of Medical Expenses	Full	Full	1 Lakh	25,000/-	As per reimbursement entitlement To be exercised by HR dept
5	Sanction of transfer and packing grant and related expenses	Full	Full	Full	Full	As per entitlement To be exercised by HR dept
6	Sanction of lease rent and leasing of residential property	Full	Full	Full	Full	As per entitlement To be exercised by HR dept
7	Power to sanction local travel expenses	Full	Full	Full	Full	As per entitlement for officers working under them
8	Training/Conference/Seminars	Up to SG/JAG	Nil	Nil	Nil	With finance concurrence
9	NOCV for passport	Up to SG/JAG	Up to SG/JAG	Up to SG/JAG	Nil	To be exercised by HR dept
10	Forwarding of application to outside parties	Up to SG/JAG	Up to SG/JAG	Up to SG/JAG	Nil	To be exercised by HR dept
11	Medical advance for emergency treatment	Full	Full	Full	Nil	To be exercised by HR dept and CPM in the fields with finance concurrence
12	Loan/ Advances	Full	Full	Full	Nil	To be exercised by HR dept

APPENDIX III - OUTLINE PROJECT DELIVERY PROCESS

Institutional Assessment Report

Outline Project Development Process

Project Lead	Stage	Activity	Outputs	Gateway Controls
M o R	1	Project Definition Strategic requirements. The initial phase of requirements definition aimed at defining the project and its principal requirements and objectives	Stakeholders to be identified and their requirements gathered. Record stakeholder acceptance criteria. Budget estimate for project development.	Acceptance by senior Investment Manager. And approval of budget
	2	Pre-feasibility Concept solution proposals and development. Appoint Investment Manager <i>Identify mode of solution / commission surveys and investigations.</i>	Initial project programme and cost estimates. Risk and Assumption Registers	Project Sanctioned for Option Development
	3	Option Development Development of alternatives leading to preferred option selection	Schedule of approvals required. Preliminary Financial appraisals Outline implementation programmes and High level cost estimates. Update project risk and assumption registers.	Preferred Option Selected
	4	Single option development Outline design development (scheme plans), Specification, technical acceptance criteria, cost estimates based on preliminary surveys and record data.	Detailed project work scope. Schedule of approvals obtained Baselined Project Programme with costs. Updated project risk and assumption registers. Financial appraisal. (Bankability report.	Project Sanctioned for Implementation. Approval of funding requirements.

Implementation Agency	5	Design Development Site Surveys Detailed design, Technical specification, and Cost estimates.	Detailed design – Final Location Surveys etc. Updated cost estimates and financial reappraisal. Produce Contract documents and procure Design / construction / supervision contractors. Baselined Implementation Programme with costs.	Confirm project meets Financial Appraisal and Stakeholder Acceptance Requirements prior to letting contracts.
	6	Construction / Testing / Commissioning Monitor progress and cost against plan. Change control procedures.	Progress / Cost reporting.	Contract Completion
	7	Scheme completion Obtain final commissioning and safety approvals.	Prepare record data, 'As-Built' information	Acceptance by asset owner
	8	Close out Lessons learned review.	Package all record data. Produce project review report.	

Notes:

- 1. This process must be linked to the overall railway investment management process. The staged approach is to enable the establishment of clearly defined project Gateways.*
- 2. Ownership of critical issues must be clearly defined at all stages.*
- 3. Ensuring that the requirements of gateway approvals are maintained and closed out at each stage is critical to the success of the process.*
- 4. Management control must be maintained throughout the progress of individual projects.*