

**Report of the
Comptroller and Auditor General of India
ON
ECONOMIC (NON-PSUs) SECTOR**

for the year ended 31 March 2012

Government of Madhya Pradesh
Report No. 3 of the year 2013

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PREFACE

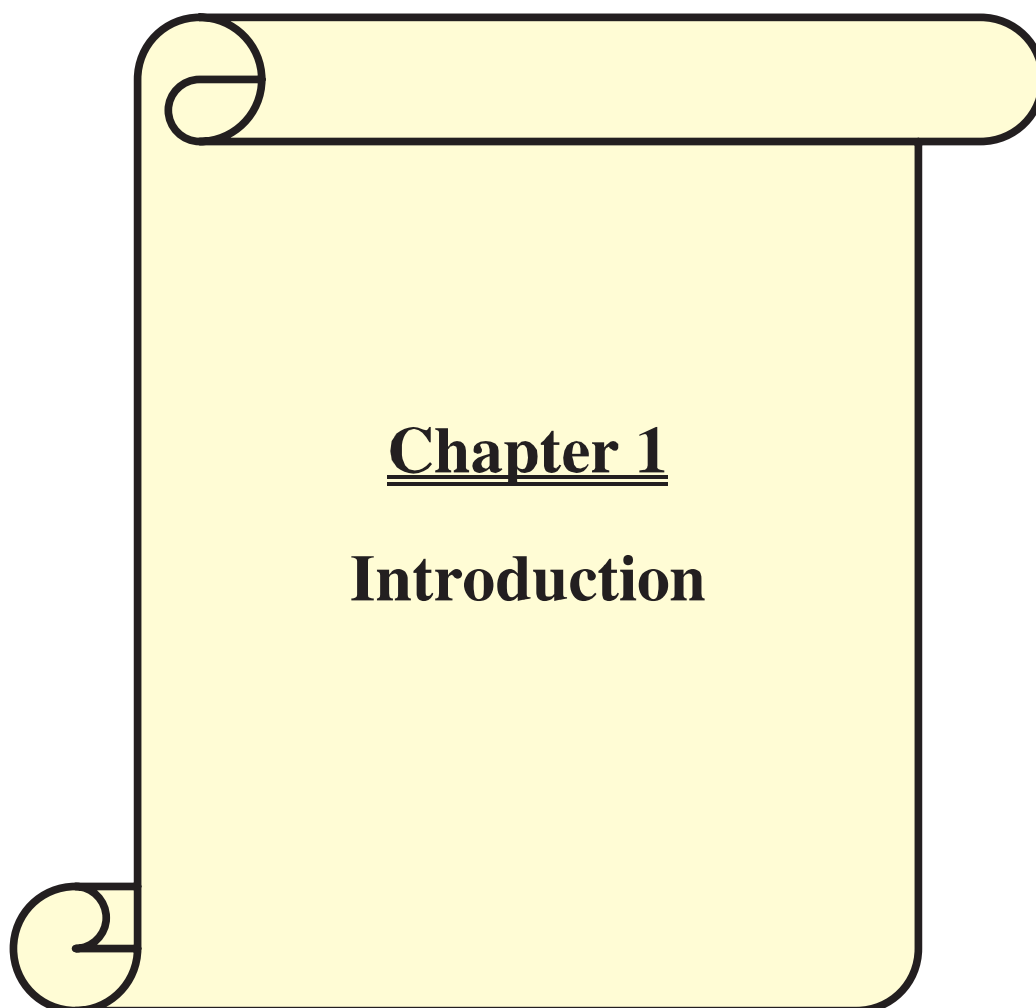
This Report of the Comptroller and Auditor General of India has been prepared for submission to the Governor under Article 151 of the Constitution for being laid before the State Legislature.

The Report, covering the year 2011-12, contains significant results of the compliance audits and performance audits of the Departments of the Government of Madhya Pradesh under Economic (Non-PSUs) Sector including Departments of Forest, Narmada Valley Development, Public Works and Water Resources. However, Departments under the General, Social and Revenue Sectors are excluded and covered in the Reports on the General, Social and Revenue Sectors.

The cases mentioned in the Report are among those which came to notice in the course of test audit of accounts during the year 2011-12 as well as those which came to notice in earlier years but could not be reported in previous Audit Reports; matters relating to the period subsequent to 2011-12 have also been included, wherever necessary.

Audit has been conducted in conformity with the Auditing Standards issued by the Comptroller and Auditor General of India, based on the auditing standards of the International Organisation of Supreme Audit Institutions.

Chapter 1 of this report narrates the planning and extent of audit, responses of the departments to draft paragraphs and Audit Reports and provides a synopsis of significant audit observations included in this Report. Chapter 2 deals with the findings of Performance Audit on Development of Roads in Madhya Pradesh and two thematic studies on Construction of Minor Irrigation Schemes in Wainganga Basin and Distribution Network of Rani Avanti Bai Lodhi Sagar Project respectively, while Chapter 3 contains findings on Department Centric Audit of Narmada Valley Development Authority. Chapter 4 deals with audit findings of compliance audit in various Departments.



Chapter 1

Introduction

CHAPTER-I

Introduction

1.1 About this Report

This Report of the Comptroller and Auditor General of India (C&AG) relates to matters arising from performance audit of selected programmes and activities and compliance audit of Government departments and autonomous bodies falling under economic sector in the state of Madhya Pradesh.

Performance Audit (PA) is undertaken to ensure whether the Government programmes have achieved the desired objectives at the minimum cost and given intended benefit. In the last few years, Audit has reported on several significant deficiencies in implementation of various programme/activity through Performance Audit as well as audit of selected departments.

Compliance audit refers to examination of the transactions relating to expenditure of the audited entities to ascertain whether the provisions of the Constitution of India, applicable laws, rules, regulations and various orders and instructions issued by competent authorities are being complied with and the objectives of the programme/activity/department are achieved economically and efficiently.

The primary purpose of the Report is to bring to the notice of the State Legislature, important results of audit. The findings of audit are expected to enable Executive to take corrective actions as also to frame policies and directives that will lead to improved financial management of the organisations, thereby, contributing to better governance.

This chapter in addition to explaining the profile of audited entities, the planning and extent of audit, provides a synopsis of the significant deficiencies and achievements in implementation of selected schemes, significant audit observations made during the audit of transactions and follow-up on previous Audit Reports. Chapter-2 of this report contains findings arising out of performance audit and audit on selected themes and Chapter-3 of this report contains Department Centric audit of Narmada Valley Development Department. Chapter-4 deals with significant finding relating from the compliance audit of various departments under Economic Sector.

1.2 Audited Entity Profiles

There are 56 departments in the State at the Secretariat level, headed by Additional Chief Secretaries/Principal Secretaries/Secretaries, who are assisted by Commissioner/Directors and subordinate officers under them. Of these, 15 departments including Public Sector Units (PSUs)/Autonomous bodies/ Local Bodies coming under these departments, are under the audit jurisdiction of the Accountant General (Economic & Revenue Sector Audit) Bhopal. These departments were covered for audit for inclusion of audit findings in this Audit Report.

The comparative position of expenditure of the Government during the year 2011-12 and in the preceding two years is given in **Table-I** below:

Table 1.1: Comparative position of expenditure

(₹ in crore)

Disbursements	2009-10			2010-11			2011-12		
	Plan	Non-plan	Total	Plan	Non-plan	Total	Plan	Non-plan	Total
Revenue expenditure									
General Services	123.81	11889.97	12013.78	112.70	14533.98	14646.68	137.53	16091.11	16228.64
Social Services	5712.12	7249.73	12961.85	7857.02	9488.38	17345.40	9836.94	10460.00	20296.94
Economic Services	3652.22	4719.15	8371.37	4394.59	5689.89	10084.48	5464.93	7499.98	12964.91
Grants-in-aid and contributions	349.53	2200.37	2549.90	546.41	2388.62	2935.03	577.15	2626.07	3203.22
Total	9837.68	26059.22	35896.90	12910.72	32100.87	45011.59	16016.55	36677.16	52693.71
Capital Expenditure									
Capital Outlay	7863.82	61.05	7924.87	8657.07	142.81	8799.88	9022.87	32.30	9055.16
Loans and advances disbursed	47.25	3769.63	3816.88	959.32	2755.41	3714.73	1079.25	14681.31	15760.56
Repayment of public debt (excluding transactions under ways and means advances)	—	—	2394.05	—	—	2529.23	—	—	3149.79
Inter-State settlement	—	—	2.78	—	—	1.85	—	—	3.70
Contingency fund	—	—	—	—	—	—	—	—	100.00
Public account disbursements	—	—	50871.84	—	—	62344.26	—	—	73279.04
Total	7911.07	3830.68	65010.42	9616.39	2898.22	77389.95	10102.12	14713.61	101348.25
Grand Total	17748.75	29889.90	100907.32	22527.11	34999.09	122401.54	26118.67	51390.77	154041.96

(Source: Finance Accounts of the respective years)

1.3 Authority for Audit

The authority for audit by the C&AG is derived from Articles 149 and 151 of the Constitution of India and the Comptroller and Auditor General's (Duties, Powers and Conditions of Service) Act, 1971. C&AG conducts audit of expenditure of the Departments and Autonomous Bodies of Government of Madhya Pradesh under Section 13¹, 14², 15³, 19⁴ and 20⁵ of the C&AGs (DPC) Act. The Principles and methodologies for various audits are prescribed in the Auditing Standards and the Regulations on Audit and Accounts, 2007 issued by the C&AG.

1.4 Organisational Structure of the Accountant General (Economic and Revenue Sector Audit), Madhya Pradesh

As a part of restructuring of State Audit Offices by the CAG, erstwhile office of the Accountant General (Works and Receipt Audit), Madhya Pradesh became the office of Accountant General of the Economic Services and Revenue Services Departments of the Government of Madhya Pradesh and was renamed as Accountant General (Economic and Revenue Sector Audit),

¹ Audit of (i) all transactions from the Consolidated Fund of the State, (ii) all transactions relating to the Contingency Fund and Public Accounts.

² Audit of expenditure

³ Audit of grants and loans

⁴ Audit of Government companies and corporations

⁵ Audit of accounts of certain authorities or bodies

Madhya Pradesh from 2 April 2012. After restructuring, audit of accounts of State Departments/Agencies/Public Sector Undertakings/Autonomous Bodies grouped under Economic Sector and Revenue Sector is conducted by Accountant General (Economic and Revenue Sector Audit). The Accountant General is assisted by four Group officers.

1.5 Planning and conduct of audit

Audit process commences with the assessment of risk of the department/organisation/autonomous body/scheme, etc. based on expenditure incurred, criticality/complexity of activities, level of delegated financial powers, assessment of internal controls and concerns of stakeholders. Previous audit findings are also considered in this exercise. Based on this risk assessment, the frequency and extent of audit are decided and an annual audit plan is formulated to conduct audit on the basis of such risk assessment. During 2011-12, 10560 party days were used to carry out audit of 781 units and to conduct one Performance Audit Review and two theme based audit & other audit of various departments.

After completion of audit of each unit, Inspection Reports (IRs) containing audit findings are issued to the head of the unit with a request to furnish replies within one month of receipt of the IR. Whenever replies are received, audit findings are either settled or further action for compliance is advised. Significant audit observations pointed out in these IRs, which require attention at the highest level in the Government, are processed for inclusion in the Audit Reports which are submitted to the Governor of the State under Article 151 of the Constitution of India for causing them to be laid on the table of the State Legislature.

1.6 Significant Audit Observations

In the last few years audit has reported several significant deficiencies in the implementation of various programmes/activities through performance audits, as well as on the quality of internal controls in the selected departments. Similarly, the deficiencies noticed during compliance audits of the Government departments/organisations have also been reported upon.

1.6.1 Performance Audit and Thematic Audit

The present report contains one performance audit review, and two thematic paragraphs. The highlights are given in the following paragraphs.

1.6.1.1 Development of Roads in Madhya Pradesh

The road works in Madhya Pradesh are executed by the Public Works Department with the funding of CRF, NABARD and State Budget.

The fund management of works undertaken through CRF was deficient. The year wise targets were not fixed for effective monitoring of the programmes. There were instances of unfruitful expenditure without obtaining forest clearance. Execution of work was deficient as in large number of cases MORT&H specifications were disregarded. Tenders were accepted on unworkable rates resulting in slow progress of works under NABARD.

(Paragraph 2.1)

1.6.2 Thematic Paras

1.6.2.1 Construction of minor irrigation schemes in Wainganga Basin

Wainganga Basin of the Water Resources Department covers 1.62 lakh ha area through 778 MI schemes up to end of 2011-12. The basin covers eight districts, namely Balaghat, Chhindwara, Dindori, Jabalpur, Katni, Mandla, Narsinghpur and Seoni and consists of 12 water resources divisions.

The thematic study of construction of minor irrigation schemes in Wainganga Basin revealed that construction of minor Irrigation schemes was affected due to inadequate survey, non-synchronisation of process of land acquisition with tendering process and award of work in mid-way of acquisition of land. Performance of Lift Irrigation Schemes was poor due to lack of participation of users. Overlapping of command area of Minor Irrigation schemes with other Irrigation Schemes was not identified within time resulting in wasteful expenditure. Monitoring and quality control mechanism were deficient as basic records were not maintained and inadequate samples were being taken for testing.

(Paragraph 2.2)

1.6.2.2 Distribution Network of Rani Avanti Bai Lodhi Sagar Project

Rani Avanti Bai Lodhi Sagar (RABLS) Project was initiated with the objective to irrigate 1.57 lakh hectare through Left Bank Canal (LBC). Construction of 135.50 km long left bank main canal along with its 1915.04 km distribution network was taken up in 1982 at a cost of ₹ 251.85 crore and was to be completed in 1990. The project was still incomplete after spending ₹ 1099.66 crore as of March 2012. Irrigation potential of 1.23 lakh hectare was created till January 2012 against the target of 1.57 lakh hectare.

Though the Authority had no financial constraints between 1996-97 and 2009-10, the canal construction work could not be completed within the targeted date due to delay in award of work, delay in acquisition of land and slow progress of works. The RABLS project rescheduled to be completed by 2015 has not achieved the desired objectives of providing irrigation due to non-synchronisation of work of distribution system and field channels with the main canal, as only 29,721 ha out of the created IP of 1.23 lakh ha was utilised as of March 2012. Abnormal delay in execution of main canal from km 130.67 to km 135.50 and its distribution network would be a major bottleneck in achieving the objective of irrigating 34,382 ha in Narsinghpur district. Contract management at the field level was defective and as a result, progress was not achieved as targeted.

(Paragraph 2.3)

1.6.3 Department Centric Audit

This report contains department centric audit on Narmada Valley Development Department. The highlights are given in the following paragraphs:

NVDA incurred expenditure of ₹ 5472.40 crore against allotment of ₹ 6014.88 crore for creation of infrastructure to utilise Narmada water during 2007-12. There were delays in approval of DPRs from CWC, obtaining

environment clearances and award of work. There were further slippages in execution of dams as well as canals. So far, 11 dams for 13 major projects across the Narmada and its tributaries for storage of 9.114 MAF water and canal system for utilisation of 3.157 MAF water only could be completed.

NVDA could not complete canal network of any major project during 2007-12. Ineffective monitoring, non-preparation of alternative plans and award of works to ineligible contractors resulted in delays in construction. Assessment of requirement of fund for completion of the remaining projects was also inadequate.

NVDA may be able to complete construction of remaining dams and canal works of major projects by the review year only if works are awarded and taken up immediately and execution of works is monitored meticulously. Further, remaining medium projects may be completed by the review year if all the medium projects are identified immediately, clearances are obtained in minimum time, funds required for the projects are tied up and other activities are meticulously planned, monitored and executed.

Audit analysis revealed that preparedness for tapping and utilisation of Narmada water as per NWDT award is tardy as present progress was not found satisfactory. Effective action would be required to achieve the targets, else MP will be lagging behind in getting its due share of Narmada water.

(Paragraph 3.1)

1.6.4 Audit of transactions

Audit has also reported on several significant deficiencies in critical areas which impact the effective functioning of the Government departments/organisation. These are broadly categorised and grouped as:

- Non-compliance with rules.
- Expenditure without propriety.
- Persistent and pervasive irregularities.
- Failure of oversight/ governance.

1.6.4.1 Non-Compliance with rules

For sound financial administration and financial control, it is essential that expenditure conforms to financial rules, regulations and orders issued by the competent authority. This not only prevents irregularities, misappropriation and frauds, but helps in maintaining good financial discipline. This report contains instances of non-compliance with rules involving ₹ 36.79 crore. Some significant audit findings are as under:

- *Belated deposit of ₹ 34.97 crore towards forest development cess by MP Forest Produce (Trade & Development) Co-operative Federation Ltd. in violation of rules resulted in loss of interest of ₹ 4.94 crore to the Government.*

(Paragraph 4.1.1)

- *Khair wood was auctioned below upset price resulting in loss of revenue of ₹13.82 lakh.*

(Paragraph 4.1.2)

- *The department spent ₹2.17 crore on promotion of Eco-tourism in forest area in violation of Forest (Conservation) Act, 1980 and without obtaining approval from Central Government.*

(Paragraph 4.1.3)

- *Amounts allocated for Joint Forest Management Committee in the budget were drawn and kept in bank accounts instead of in Personal Deposit Account in violation of MP Financial Code.*

(Paragraph 4.1.4)

- *Amount of ₹1.32 crore was paid to DGS&D for procurement of wireless sets and peripherals without obtaining license under Indian Telegraph Act, 1885 and returned amount was kept in Personal Deposit Account of DFO instead of remitting to the Government account.*

(Paragraph 4.1.5)

- *The component of 'open trough' costing ₹48.32 crore was deleted from the scope of an on-going composite contract. After absorbing an amount of ₹21.15 crore in substituted items of work, the resultant cost saving of ₹27.17 crore was also paid by increasing the rates of other items in the work instead of reducing the over all contract price.*

(Paragraph 4.1.6)

- *Recovery of ₹1.05 crore was not made for the excavated hard rock required in four canal construction works.*

(Paragraph 4.1.7)

1.6.4.2 Expenditure without propriety

Authorisation of expenditure from public funds is to be guided by the principles of propriety and efficiency of public expenditure. Authorities empowered to incur expenditure are expected to enforce the same vigilance as a person of ordinary prudence would exercise in respect of his own money and should enforce financial order and strict economy at every step. Audit has detected instances of impropriety, extra and infructuous expenditure, some of which are mentioned below:

- *A contractor showing skewed progress of work was sanctioned cash incentive of ₹11.68 crore (paid ₹5.84 crore) for early achievement of financial milestones despite failure to achieve the specified physical milestones and continued delayed execution.*

(Paragraph 4.2.1)

- *Excess payment of ₹ 85.59 lakh to a contractor towards price adjustment towards price adjustment due to adoption of incorrect ratio of Petrol Oil Lubricant and Material component.*

(Paragraph 4.2.2)

- *Delay in sanction and execution of a 35 kilometer road under Twelfth Finance Commission grants resulted in abandoning the work mid way due to expiry of scheme period and stoppage of funds, and consequential nugatory expenditure of ₹ 4.94 crore.*

(Paragraph 4.2.3)

- *The total command area of 1628 hectares of Rajapur Lift Irrigation Scheme in Rewa district, taken up in 2007, overlapped with the command area of another major Lift Irrigation Scheme at Teonthar resulting in wasteful expenditure of ₹ 1.63 crore.*

(Paragraph 4.2.4)

1.6.4.3 Persistent and pervasive irregularities

An irregularity is considered persistent if it occurs year after year and it becomes pervasive, when it is prevailing in the entire system. Reoccurrence of irregularities despite being pointed out in earlier audits, is not only indicative of non-seriousness on the part of the Executive but is also an indication of lack of effective monitoring. This, in turn, encourages willful deviations from observance of rules/regulations and results in weakness of the administrative structure. Cases of persistence irregularity reported in audit are discussed below:

- *Additional Security Deposit of ₹ 3.56 crore were not deducted from contractors against the unbalance rates.*

(Paragraph 4.3.1)

- *Extra payment of ₹ 9.33 crore on account of escalation was made to contractors by adopting revised factor for price escalation prior to approval of the Government*

(Paragraph 4.3.2)

1.6.4.4 Failure of oversight/governance

The Government has an obligation to improve the quality of life of the people through fulfillment of certain goals in the area of health, education, development and upgradation of infrastructure and public service. However, Audit scrutiny revealed instances wherein the funds released by the Government for creating public assets for the benefit of the community remained unutilised/blocked and/or proved unfruitful/unproductive due to indecisiveness, lack of administrative oversight and concerted action at various levels. A few such cases have been discussed below:

- *Undue financial aid to contractors of ₹ 8.48 crore and loss to Government of ₹ 43.92 lakh occurred due to non-deduction of additional security deposit for unbalanced rate items.*

(Paragraph 4.4.1)

- *Loss to Government ₹ 1.68 crore occurred due to non-recovery of liquidated damages for delay on part of contractors in execution of seven works.*

(Paragraph 4.4.2)

- *Excess payment was made to contractor ₹ 81.71 lakh due to adoption of higher rates for steel in calculating price adjustment and payment for work not done.*

(Paragraph 4.4.3)

- *Deficient planning and non-synchronisation of nalla closure work with waste weir construction led to idle expenditure of ₹ 1.53 crore.*

(Paragraph 4.4.4)

- *Earth work was done without watering and rolling resulted in substandard work costing ₹ 49.59 lakh.*

(Paragraph 4.4.5)

- *Increase in quantities of item of work due to improper survey and estimation resulted in extra cost of ₹ 57.55 lakh.*

(Paragraph 4.4.6)

1.6.4.5 Recoveries at the instance of Audit

As a result of audit during the year 2011-12, amount of ₹ 124.89 crore was accepted by the audited entities for affecting recoveries. During the same period audited entities of four departments⁶ recovered ₹ 5.07 crore. Instances of significant recoveries are given below:

- *Excess payment of ₹ 58.41 lakh made to contractor on account of inflated measurement of work was recovered.*

(Water Resources Department)

- *Payment of ₹ 25.71 lakh made to contractor for work not done was recovered.*

(Water Resources Department)

1.7 Lack of responsiveness of Government to Audit
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1.7.1 Inspection reports outstanding

The Heads of Offices and next higher authorities are required to comply with the observations contained in the Inspection Reports (IRs), promptly rectify the defects/omissions and report their compliance to the Accountant General Economic & Revenue Sector Audit (AG) within four weeks of their receipt. The AG also bring serious irregularities to the notice of the Heads of Departments.

⁶ Forest, Public Works, Water Resources, Madhya Pradesh Rural Road Development Authority.

As of 30 June 2012, 4831 IRs (19054 paragraphs) were outstanding against civil departments⁷. Of these, 2730 IRs (8499 paragraphs) were pending settlement for more than five years. Year wise details of IRs and paragraphs outstanding are detailed in **Appendix-1.1**. Financial rules of the Government needs to be modified to include provisions and appropriate deterrence to ensure speedy compliance/response to audit observations

1.7.2 Constitution of Audit Committee

The Government while accepting the recommendations of Shakhdar Committee (High Powered Committee) constituted a High Power Committee (May 2000) for monitoring the follow-up action on audit observations. The Government constituted an Apex Level Committee (April 2009) and 44 Departmental Level Committees (DLCs) for speedy settlement of audit observations. But no periodicity of meeting of Apex Level Committee was prescribed in the order. However, departmental level committees are required to meet once in three months.

While Apex Level State Audit Committee did not meet, only three meetings of DLC⁸ were held during 2011-12 in the Economic Sector Departments.

1.7.3 Follow up on Audit Reports

As per instructions issued (November 1998) by the Madhya Pradesh Vidhan Sabha Secretariat, the departments are to intimate the Public Accounts Committee (PAC) and the PAG/AG about the action taken or any action proposed by them in respect of Audit Report paragraphs within three months of presentation of the Audit Report in the State Legislature.

A review of the audit paragraphs pertaining to six Audit Reports disclosed that departmental replies to 11 paragraphs were still awaited (September 2012) as per details given in **Appendix-1.2**.

1.7.4 Paragraphs for discussion by the Public Accounts Committee

Details of paragraphs (excluding General and Statistical) pending discussions by the Public Accounts Committee as of 30 June 2012 are detailed in **Appendix-1.3**.

1.7.5 Government response to PAC's recommendations

The Chief Secretary, Government of Madhya Pradesh issued (November 1994) instructions to all the departments to inform PAC about the action taken or the action proposed by them in respect of PAC's recommendations within six months of presentation of PAC's report in the State Legislature. The copies of action taken notes are also to be endorsed to the PAG/AG for his comments.

The departments did not furnish ATNs on PAC's recommendations on 300 Audit Report paragraphs (September 2012). ATNs had not been furnished on the recommendations made on the Audit Reports for the year as early as 1986-87. Department-wise and year-wise details are given in **Appendix-1.4**.

⁷ As per Appendix 1.1

⁸ DLC meetings of MPRRDA, PWD and NVDA were held on 30.6.2011 5.12.11 and 15.12.11 respectively

Pending position had been brought to the notice of the Chief Secretary (November 2012) and requested to issue suitable instructions to the departments concerned.

1.7.6 Response of the departments to Draft Audit Reports

Draft Paragraphs and Performance Audit are forwarded to the Principal Secretary, Finance and Principal Secretaries of different departments demi-officially seeking confirmation of facts and figures and their comments thereon within a period of six weeks. Out of 19 Draft Paragraphs, one Performance Audit Reports, two Thematic paras and one department centric audit forwarded to the various departments between June and October 2012, the Government had replied to only 10 draft paragraphs.

Chapter 2

Performance Audit

- 2.1 Performance Audit on
Development of roads in Madhya
Pradesh**
- 2.2 Thematic paragraph on
construction of minor irrigation
schemes in Wainganga Basin**
- 2.3 Thematic paragraph on
Distribution Network of Rani
Avanti Bai Lodhi Sagar Project**

CHAPTER-II

Performance Audit

Public Works Department

2.1 Performance Audit on Development of roads in Madhya Pradesh

Highlights

The Government of India, Ministry of Road Transport and Highways (Department of Roads and Transport) approved 298 works of Major District Roads and Other District Roads in Madhya Pradesh, between 2001 and 2012¹ for widening, strengthening and upgradation at a cost of ₹ 2224.78 crore; out of which 152 works were sanctioned during 2007-08 to 2011-12 at a cost of ₹ 1653.67 crore. During 2007-08 to 2011-12, the Government of Madhya Pradesh approved 510 works of village roads for construction and improvement at a cost of ₹ 1499 crore from National Bank for Agriculture and Rural Development (NABARD) loan assistance. Government had also undertaken the development and maintenance of roads through the State Budgetary Provision under plan and non-plan heads on which, an expenditure of ₹ 1109.86 crore was made during the review period. Between 2007-08 and 2011-12, 42 works under Central Road Fund (CRF) and 169 works under NABARD were actually completed. Huge shortfall in achievement of planned connectivity was noticed under the CRF/ NABARD schemes, though there was no financial constraint.

Major deficiencies noticed during audit are mentioned below:

- There were instances of misutilisation of CRF amounting to ₹ 12.34 crore.
(Paragraph 2.1.6.1 and 2.1.13.4)
- There were abnormal delays in completion of sanctioned roads under CRF/ NABARD. Premature upgradation of roads and award of works without clearance from Forest Department resulted in wasteful/unfruitful expenditure of ₹ 15.19 crore and extra cost of ₹ 5.69 crore.
(Paragraph 2.1.8.1 and 2.1.8.2)
- Misclassification of work of strengthening as renewal work led to extra cost of ₹ 2.30 crore besides violation of the orders of Finance Department.
(Paragraph 2.1.9.2)
- Unwarranted provision of Surface Dressing (SD) on Water Bound Macadam (WBM) resulted in extra cost of ₹ 2.76 crore.
(Paragraph 2.1.9.3)
- Short levy of liquidated damages (LD), ineligible payment of price variation and instances of loss to Government amounting to ₹ 25.37 crore were noticed.
(Paragraph 2.1.10.1, 2.1.10.2 and 2.1.10.3)
- There were instances of short recovery of mobilisation advance, undue financial aid and irregular sanction of secured advances.
(Paragraph 2.1.10.4 and 2.1.10.5)
- Expenditure of ₹ 109.54 crore incurred on road works remained unfruitful

¹ Period taken 2001-02 to 2011-12 to exhibit the correct position of Budget estimates and actual expenditure under the funding of CRF.

due to delay and non-completion of works besides interest burden of ₹ 20.39 crore on the loan.

(Paragraph 2.1.10.7)

2.1.1 Introduction

Roads play a vital role in the economic development of the State. Since Madhya Pradesh is centrally located in the country, most of the long haul road



traffic in the north-south and east-west directions in the country has to pass through the State. The comparative position of length of roads under the control of Public Works Department (PWD) of the State as of March 2008 and March 2012 is as under:

Table 2.1

Particulars of Roads	Length of roads (in Kms)	
	2007-08	2011-12
National Highway	4280	4709
State highway	8729	10501
Major District Roads	11572	19574
Village Roads	48733 ²	23639

(Source: Administrative report of PWD for the year 2007-08 and 2011-12)

The Ministry of Road Transport and Highways of Government of India, (MORT&H) approved between 2007-08 and 2011-12 widening, strengthening and upgradation of 2409.74 kms of roads (152 works) in Madhya Pradesh at a cost of ₹ 1653.67 crore through Central Road Fund (CRF)³. The Government of

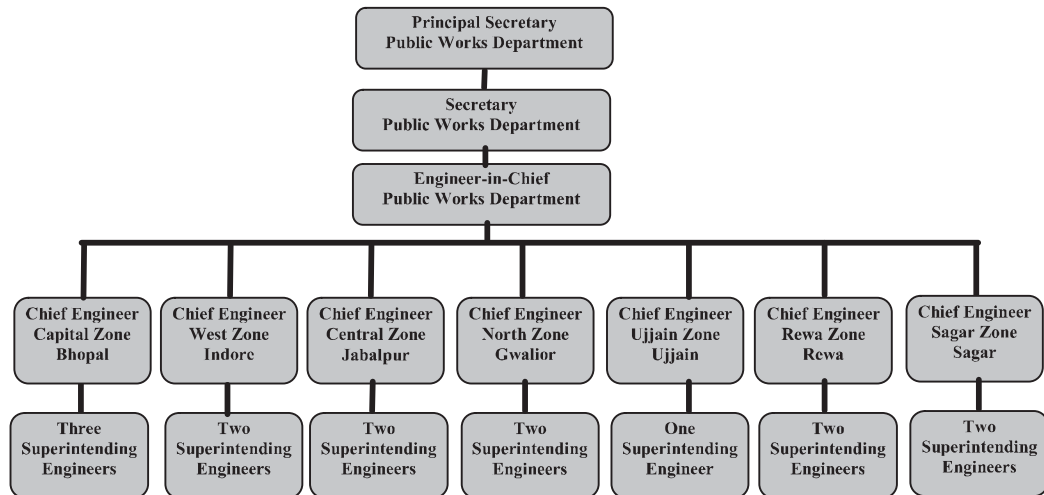
² Length of rural roads reduced due to transfer of roads to Madhya Pradesh Rural Road Development Authority.

³ CRF under the control of MORT&H is created by imposing cess on petrol and diesel at the rate of ₹ one per litre. The Ministry distributes this fund among the State Governments according to their requirements after according administrative approval (AA) to the sponsored works. The fund provided for development and maintenance of

Madhya Pradesh (GOMP) also got (2007-12) approval of the National Bank for Agriculture and Rural Development (NABARD) for loan assistance to improve 4457.27 kms of village roads (510 works) at a cost of ₹ 1499 crore through different phases of Rural Infrastructure Development Fund (RIDF). Besides, the State Government also provided budget of ₹ 1232.17 crore during 2007-12 for the development and maintenance of roads in Madhya Pradesh.

2.1.2 Organisational set-up

The PWD, an implementing agency for taking up road works with the funding of CRF, NABARD and State budget, is headed by Principal Secretary (PS) at the Government level. Engineer-in-Chief (E-in-C) is the technical head of the department, who is assisted by seven Chief Engineers (CEs) in zones. There are 14 Superintending Engineers (SEs) at the circle level as detailed in the organogram. The SEs are assisted by 53 divisions, each headed by an Executive Engineer (EE) for execution of roads and building works.



(Source: Administrative report of PWD for the year 2011-12)

2.1.3 Audit objectives

The audit was conducted with a view to assess whether:

- financial management was effective and adequate control existed for management and utilisation of funds;
- road works were well planned and executed according to the milestones, standard designs and specifications of Ministry of Road Transport and highways (MORT&H) and Indian Road Congress (IRC)⁴ with due attention to efficacy and economy; and

State Highways (SH) and Major District Roads (MDRs), widening of two lanes to four lanes and strengthening of weak pavement sections etc.

⁴ Specifications of MORT&H and IRC were applicable for execution of roads under CRF, NABARD and State Budget.

- contract management and quality control monitoring mechanism were effective.

2.1.4 Audit criteria

The audit findings were based on criteria drawn from:

- Provisions of the Works Department Manual (WD Manual), specifications of Indian Road Congress (IRC), Financial Rules, instructions issued by the Government of India (GOI), State Government and MORT&H,
- CRF Act 2000 and Rules 2007, and
- NABARD guidelines,
- Approved designs and specifications as prescribed in the Detailed Project Report (DPR) for construction of roads and
- Terms and conditions of contracts.

2.1.5 Scope and methodology of audit

The development of road works was being undertaken through 53 divisions of Public Works Department (Building and Road) under seven Zones (headed by CEs) and 14 circles (headed by SEs). For the performance audit, 16 divisions⁵ were selected. Statistical information and data were collected from the E-in- C office. In the performance audit, transactions for the period 2007-08 to 2011-12 relating to planning, implementation and execution of 120 road works in Madhya Pradesh undertaken with the assistance of CRF, and NABARD, were examined during November 2011 to August 2012.

The audit objectives, criteria and methodology were discussed with the Secretary, PWD during the entry conference held in January 2012. In the exit conference held in September 2012 with the Principal Secretary, PWD, audit findings were discussed and the response of the Department elicited. The draft Performance Audit Report was issued to the Department (September 2012), the reply has not been received so far (March 2013) .

2.1.6 Fund Management

Under Section 7 of the CRF Act, funds are disbursed for projects, schemes or activities relating to the construction and development of State roads and routed through the State Budget. NABARD releases the sanctioned amount of loan for road works on reimbursement basis. NABARD may also release funds as advances according to the norms applicable from time to time, if the State Government so desires.

During the period 2007-2008 to 2011-2012, an expenditure of ₹ 996.90 crore and ₹ 1741.09 crore was incurred utilising the CRF and NABARD funds, respectively. Besides, the State Government also provided funds of ₹1232.17 crore from State Plan Budget for development and maintenance of existing

⁵ Ashoknagar, Bhopal 2, Chhindwara, Dewas, Guna, Gwalior 2, Khargoon, Khandwa, Narsinghpur, Rewa, Sagar, Shajapur, Satna, Indore, Sehore and Vidisha.

roads. Out of this, an expenditure of ₹ 1109.86 crore was incurred during the period 2007-08 to 2011-12.

The year wise break up of allotment and expenditure is given as under:

Table 2.2

(₹ in crore)

Years	Central Road Fund			NABARD			State Plan Budget		
	Allotment	Expenditure	Utilisation percentage	Allotment	Expenditure	Utilisation percentage	Allotment	Expenditure	Utilisation percentage
2007-08	122.56	92.59	75.55	360.91	313.38	86.83	391.94	357.15	91.12
2008-09	135.85	113.72	83.71	345.51	321.38	90.65	211.29	219.05	103.67
2009-10	251.00	180.78	72.02	422.09	391.03	92.64	200.74	163.90	81.64
2010-11	481.00	293.97	61.12	432.51	408.20	94.37	173.65	162.15	93.38
2011-12	260.00	315.84	121.48	431.72	307.91	71.32	254.55	207.61	81.56
Total	1250.41	996.90	79.72	1992.74	1741.09	87.37	1232.17	1109.86	91.08

Source: Information provided by E-IN-C, PWD.

It may be seen that the actual expenditure in CRF and NABARD were 79.72 per cent and 87.37 per cent resulting in savings to the extent of 20.28 per cent and 13.02 per cent under CRF and NABARD respectively during 2007-12. The main reasons for savings were delay in award of works and tardy progress by the contractors as discussed in subsequent paragraphs.

Work valued at ₹ 7.20 crore was irregularly awarded through supplementary schedule instead of inviting tender.

2.1.6.1 Misutilisation of Central Road Fund

According to the guidelines issued⁶ (May 1984) by MORT&H for the work under CRF, no work beyond sanctioned estimates leading to increase in scope of work or change in the specification, should be undertaken without the prior written approval from MORT&H. Further, according to the provision of WD manual anticipated or actual saving on sanctioned estimates for a definite project may not, without the sanctioning authority, be applied to additional work which was not included in the original scope of work.

We noticed (April 2012 to May 2012) that supplementary schedule for additional work of Maksudangarh bypass road (Guna) for ₹ 3.10 crore and Uchehra bypass Road (Satna) for ₹ 4.10 crore were sanctioned by the Chief Engineer (North Zone) and Chief Engineer (Rewa Zone), respectively without approval from MORT&H and without inviting tenders for the supplementary works.

The E-in-C during exit conference stated (September 2012) that looking to the lower tender percentage, the additional works were taken up with due consent of MORT&H.

The reply of E-in-C is not convincing as the works were not included in the administrative approval sanctioned by MORT&H and any change in the original scope of work required prior written approval from the MORT&H. No evidence of prior written approval from MORT&H was produced to Audit.

⁶ Letter no. RW/NH11/coord/32/84 dated 19.05 1984.

2.1.7 Physical targets and achievement

Implementation of the programmes is required to be monitored by the E-in-C and the CEs of the zones so as to achieve the targets within the specified time and cost and realisation of benefits expected from the programmes.

We observed that though financial and physical status of the works was prepared by the E-in-C, year wise targets were not fixed for effective monitoring of the programmes and timely completion of projects. The completion of the works was delayed as discussed in the following paragraphs.

2.1.7.1 Works under Central Road Fund (CRF)

The achievements against the sanctioned work as on March 2012 under CRF are summarised in the table below:

Table 2.3

Year	Roads sanctioned (in number)	Roads sanctioned (in km)	Roads completed (in number)	Works under progress at the end of the year (in number)	Roads completed (in km)
Up to 2006-07	146	3026.01	142	4	2971.5
2007-08	18	293.93	15	7	223.59
2008-09	14	261.72	10	11	227.21
2009-10	58	1140.69	17	52	663.08
2010-11	62	713.40	00	79 (35 works not taken up)	10.20
2011-12	00	00	00	79	00
Total	298	5435.75	184	114	4095.58

(Information furnished by the O/o the E-in-C, PWD)

It would be seen from the table that under CRF, 142 works were completed for which sanctions were obtained up to March 2007. During 2007-12, 152 works were sanctioned. The time allowed for completion of individual work under Central Road Fund from the date of issue of administrative approval was for varying periods, maximum up to 24 months. Thus, the works taken up during 2007-10 should have been completed by March 2012.

We noticed (April 2012) that out of 90 works which were taken up during 2007-10, only 42 works were actually completed and 48 works were under progress as of March 2012. Thus, there was a shortfall of 54 *per cent* against the works taken up during 2007-10. Besides, as against the prescribed period of four months for award of works from date of administrative approval (AA), agencies were not fixed for 35 works of CRF out of 62 works even after expiry of two years from the date of AA in 2010-11. We further noticed that information regarding achievement of targeted connectivity to habitations was not compiled in the department.

The E-in-C during exit conference stated (September 2012) that length-wise target was not fixed due to disproportionate release of funds by the MORT&H. The reply is not acceptable. In terms of the Rules for the release of funds under CRF, release of funds was tied to the submission of utilisation certificates and physical progress of the work. Besides, the fact that the department had over ₹ 309.35 crore at the end of March 2011 and ₹ 253.51 crore remaining in the fund as at the end of March 2012, indicated that release of fund had no impact on the progress of work.

2.1.7.2 Works under National Bank for Agriculture and Rural Development (NABARD)

The achievements against the sanctioned work as on March 2012 under NABARD are summarised in the table below;

Table 2.4

Year	Roads sanctioned (in number)	Roads sanctioned (in km)	Roads completed (in number)	Roads completed (in km)
2007-08	80	1091.25	71	965.55
2008-09	No work was sanctioned under NABARD			
2009-10	114	1373.09	71	960.84
2010-11	225	1781.94	27	401.18
2011-12	91	210.99	00	18.92
Total	510	4457.27	169	2346.49

(Information furnished by the O/o the E-in-C, PWD)

It would be seen from the table that while 510 works were sanctioned under NABARD during 2007-12, only 169 works were completed during that period with a delays of one to four years. Thus, there was shortfall in achievements in completion of road works though there was no financial constraint.

Reasons for delay in completion of road works as identified by us were acceptance of tenders on unworkable rates for the works under NABARD scheme, sudden increase in the price of bitumen (2007-08) and unwillingness of contractors to complete works as discussed in details in paragraph 10.7 *infra*.

The Principal Secretary, PWD and E-in-C during exit conference (September 2012) stated that these programmes suffered due to paucity of funds and assured to improve the progress of the works.

The reply is not convincing as the allotted fund under NABARD was never fully utilised during the years 2007-08 to 2011-12.

2.1.8 Planning and Project Management

Road construction requires correct planning, construction methods, execution and implementation of critical safety standards. Since the main reasons for delays in overall execution and cost overruns are delays in land acquisition, forest clearance and planning inaccuracies, project and logistics planning can help in timely execution of projects and avoidance of cost overruns. For every project, detailed survey and investigation are required for proper planning and correct estimation before awarding the work for execution.

The issues relating to the deficiencies in planning are discussed below:

2.1.8.1 Improper planning for development of roads

The guidelines of CRF provide that roads where improvement work has been undertaken in last three years would not be eligible to be considered for sanctioning. Further, the IRC⁷ specifications provide that renewal work should be undertaken at the rate of 20 *per cent* of the constructed roads length per year. Besides, the terms and conditions of contracts provide that contractors are responsible for repair and maintenance of roads till the performance guarantee period (18 months after completion of works).

⁷ Indian Road Congress

Expenditure of ₹ 6.34 crore proved infructuous due to premature upgradation of roads.

Under State Road Improvement Programme (SRIP), seven roads in three divisions⁸ were renewed in total 92.00 kms length during January 2008 to November 2008. The roads were under performance guarantee for the period up to November 2009 to September 2010. Nevertheless, these roads were prematurely reselected (between May 2008 and August 2009) for widening and strengthening work under CRF and NABARD. As a result, the work of renewal of roads (with bituminous course) valued at ₹ 6.34 crore executed earlier proved infructuous as detailed in the **Appendix 2.1**. This is indicative of the fact that there was no long term planning to avoid selection of roads for development as even the works not due for renewal were selected for upgradation resulting in wasteful expenditure thereon.

The E-in-C during exit conference stated (September 2012) that only 20 mm to 25 mm thin layer of bituminous course was executed to maintain the riding quality of the roads and there was no improvement work on these roads. The Principal Secretary, PWD agreed to look in to the matter.

The reply of the E-in-C is not acceptable because works executed were under improvement plan of SRIP using bituminous renewal.

2.1.8.2 Deficient planning in awarding the works without clearance from Forest Department

According to the order (June 2000) of the Government of India, Ministry of Forest and in terms of the provisions of the Forest (Conservation) Act, 1980, it is necessary to obtain clearance of land from the Forest Department before taking up the work of upgradation of roads in forest areas. According to the provision of IRC, one of the primary considerations in the location and design of a road is that the overall cost of transportation of material is the minimum. For satisfying this consideration, detailed survey and investigation should be undertaken to determine the most desirable alignment. All the operations involved should be planned in advance in a logical sequence. Further, in order to mitigate adverse impact on the environment, it is imperative to consider the environmental impact of Highway projects also at all stages including the planning stage.

Expenditure Of ₹ 13.69 crore was unfruitful /extra due to irregular award of work without clearance from Forest Department.

Instances of deficient planning in awarding of works without obtaining clearance for forest land resulting in unfruitful expenditure are discussed in the succeeding paragraphs:

- Two works of roads in PWD Division 2 Gwalior, were taken up (April 2005/ November 2007) irregularly for construction without obtaining clearance from Forest Department though there were involvements of Sonchiraya sanctuary in the roads alignment. The department had to foreclose these works in July 2009/ September 2009 in terms of the agreements after incurring expenditure of ₹ 3.35 crore as clearances for the forest land (Sonchiraya sanctuary) included in the alignment of the two roads, could not be obtained from the Forest Department. This

⁸ Ashoknagar, Shajapur and Vidisha.

resulted in unfruitful expenditure of ₹ 3.35 crore as detailed in the table below:

Table 2.5

Sl. no.	Name of road	Agreement no. work order date and period	PAC/ Tender percentage	Date of foreclosure	Status of payment on the date of foreclosure
1	Dadakhirak-Tighra road 34.20 km under NABARD	265/07-08 30.11.07/10 months	₹ 450 lakh/ (+) 4.77	4.07.09	₹1.80 crore
2	Ghati GaonDada Khirak-Bhawtpura 23 km (CRF)	04/05-06 04.04.05/10 months	₹ 275 lakh/ (-) 23	25.09.09	₹1.55 crore
					₹3.35 crore

We further noticed (March 2012) that the balance works of Dadakhirak-Tighra road was awarded (November 2010) to another contractor, without obtaining forest clearance. This led to cost overrun of ₹ 85.29 lakh⁹ besides the time overrun of more than four years and non-accrual of the intended benefit of all weather roads.

In the exit conference (September 2012), the E-in-C, confirming the facts, stated that works were awarded without getting clearance from the Forest Department to avoid delay in completion of the works and assured that instruction for not awarding works before obtaining forest clearance would be issued. Principal Secretary, PWD agreed to look in to the matter regarding foreclosure of Dada Khirak- Tighra road and subsequent award of balance work again without getting forest clearance.

- In terms of the Central Road Fund (State Roads) Rules 2007, work under Economic Importance (E & I) and Inter State Connectivity (ISC) Schemes can be approved only when the executing agencies render a certificate to the effect that land is available for road development.

We noticed (April 2012) that while preparing estimates of Anarad-Nihaldevi road (length 48 Km) under E&I¹⁰, the department erroneously prepared a detailed estimate (September 2009) taking into account the width of road as 10 metre against the width of 4.5 metre approved (November 2009) by the Forest Department. Though the 21 km road alignment was passing through the forest area, the work was awarded to a contractor (February 2010) without obtaining approval from the Forest Department.

The Forest Department objected and ordered (June 2010) to stop the work. By that time, the department had paid ₹ 5.50 crore to the contractor. The execution of the work was yet to be resumed (April 2012). Thus, the expenditure of ₹ 5.50 crore became unfruitful and the intended benefits did not accrue so far.

In the exit conference (September 2012), the E-in-C, confirming the facts, stated that works was awarded without getting clearance from the Forest Department to avoid delay in completion of the works and assured that

⁹ (A) PAC of Initial work = ₹ 450 lakh plus 4.77% tender premium = ₹ 471. 46 lakh.
work done up to date = ₹ 180.31 lakh

Balance = ₹ 291.15 lakh

(B) PAC of later Agreement = ₹ 453.00 lakh (-) 16.90 % tender premium = ₹ 376.44 lakh
(B) (A) = ₹ 85.29 lakh

¹⁰ Road of E&I connected Madhya Pradesh and Rajasthan Border.

instruction for not awarding works before obtaining forest clearance would be issued. The reply, however, does not explain the reason for taking up the work in more width than approved by the Forest Department.

- The work of upgradation of Bistan-Sirwel road (PWD Division Khargaon) of 48.40 km under NABARD was awarded (March 2005) to a contractor without obtaining forest clearance from the Forest Department. The work was foreclosed on 20 March 2007 by the department for want of clearance from the Forest Department with the condition that the contractor should complete a specified part of the work. Immediately after foreclosure of the work in March 2007, the Department obtained clearance on 10 April 2007 from the Forest Department. The balance work was awarded (February 2008) to another contractor on new SOR effective from 1 April 2007. This resulted in avoidable extra cost of ₹ 4.84 crore as detailed in the table below;

Table 2.6

(₹ in lakh)

Name of roads	PAC/ tender percentage	Total cost to be incurred if completed by the earlier contractor	Amount paid	PAC of balance work/ tender percentage	Amount to be incurred till completion	Total (4+6)	Extra Cost (7-3)
1	2	3	4	5	6	7	8
Bistan Sirwel 48.40.Km (Khargaon)	786.12 (-)7.18	729.68	241.42	868.74 (+)11.90	972.12	1213.54	483.86

In the exit conference (September 2012), the E-in-C and the Principal Secretary assured to look in to the matter of conditional foreclosure of the contract.

2.1.9 Execution of work

All the works executed under CRF requires approval from MORT&H and the scope of work with respect to specifications was not to be changed during execution without the prior approval of the MORT&H. In the case of the works executed under NABARD funding, the terms and conditions of the agreement require that the works are executed strictly as per MORT&H specifications. It however provides that if any changes in the specifications become necessary due to site condition, they should be incorporated in the DPR¹² for the approval of the Government. According to the specifications of MORT&H and pocket book for Highway Engineers (IRC), Flexible Pavements for new roads should be designed in accordance with IRC: 37 Guidelines for the design of Flexible Pavement.

2.1.9.1 Incorrect designing of flexible pavement

The design of Flexible Pavement should be based on various parameters like sub-grade strength in terms of California Bearing Ratio (CBR), Traffic count,

¹¹ The department foreclosed the contract in March 2007 with the instruction to the contractor to execute the bituminous work up to village Pipaljhopa i.e. the contractor had to execute the work up to village Pipaljhopa after foreclosure of contract.

¹² Detailed Project Report

vehicles damage factor (VDF), lane distribution factor, rainfall data, traffic growth rate and designed life of flexible pavement.

The issues relating to the deficiencies in the designing and consequential extra cost are discussed below:

➤ ***Extra cost due to unwarranted provision of richer specification***

According to the provision of IRC: 37, where the designed traffic is less than one Million Standard Axles¹³ (MSA) and sub-grade¹⁴ CBR¹⁵ of more than five *per cent*, provision of 20 mm Open Grade Premix Carpet (OGPC) with seal coat should be provided as a bituminous course.

We observed (February 2012 to August 2012) in 13 test checked works of roads¹⁶ in eight divisions¹⁷ that the estimates of the roads were erroneously prepared. Though the sub-grade was prepared with the soil having CBR more than five *per cent* and designed traffic intensity was less than one MSA, Bituminous Macadam (BM) and Semi Dense Bituminous Macadam (SDBC) were provided and executed instead of OGPC and Seal coat. This led to avoidable extra cost of ₹ 11.50 crore as detailed in **Appendix 2.2**.

The E-in-C during exit conference stated (September 2012) that specifications were only guidelines and Engineer in Charge, having technical expertise, were empowered to deviate from the specifications according to site conditions.

The reply is not acceptable as the MORT&Hs technical instruction provides that the specifications of work will not be changed during execution without prior approval of the Ministry. Besides, all the parameters of site condition which determine the design of the flexible pavement had been considered in IRC specifications. Therefore, adoption of a higher specification due to faulty estimation resulted in extra cost which was avoidable.

The Department incurred extra cost of ₹ 11.50 crore due to unwarranted execution of BM and SDBC instead of OGPC and Seal Coat.

➤ ***Excess execution of Granular Sub-Base (GSB) beyond the scope of specifications and DPR***

The choice and thickness of GSB is decided on the basis of specifications prescribed in IRC: 37, 2001. The thickness of GSB is based on the sub-grade strength in terms of CBR and projected traffic.

We observed (December 2011 - July 2012) in nine test checked works of roads in seven divisions¹⁸ that traffic intensity were wrongly calculated by adopting initial traffic count different from those obtained during survey, using increased lane distribution factor than those prescribed and incorrect determination of the strength of subgrade¹⁹ in respect of four works²⁰. As a result, thickness of GSB provided was in excess of the required thickness in

Execution of GSB in excess of requirements led to avoidable extra cost of ₹ 3.64 crore.

¹³ Million standard axles denotes load of traffic on road.

¹⁴ Sub grade is top 30 cm to 50 cm layer of earth work in roads.

¹⁵ California bearing ratio (CBR) denotes strength of soil.

¹⁶ Six roads (CRF), four roads (NABARD), one road (DTAPT) and two roads (State Plan).

¹⁷ Ashoknagar, Chhindwara, Dewas, Khargwan, Narsinghpur, Rewa, Satna and Sehore.

¹⁸ Ashoknagar, Dewas, Guna, Khandwa, Shajapur, Satna and Sehore.

¹⁹ Top 30 cm to 50 cm soil surface on which road is constructed.

²⁰ Awan Janjali road, Amarpatan to Rampur, Sehore Bilkisganj and Nagod Uchehra road.

terms of IRC 37. In other five works²¹, execution of GSB was in excess of the thickness provided in the DPRs. Provision and execution of excess thickness in the nine works resulted in avoidable extra cost of ₹ 3.64 crore as detailed in **Appendix 2.3.**

The EEs replied (December 2011 - July 2012) that the execution of GSB was according to sanctioned estimates duly approved by the competent authority. The replies of EEs are not acceptable as the sanctioned estimates were based on erroneous computation of traffic intensity which resulted in unwarranted provision and execution of excess thickness of GSB. Besides, no specific reply was given regarding execution of GSB in thickness more than that provided in the DPRs in respect of the five works.

➤ **Extra cost due to unnecessary widening of road width**

According to guidelines issued (December 1999) by the MORT&H and circular issued (August 2010) by E-in-C, the traffic that should be considered for design improvement of road should be based on expected volume of traffic at the end of design life with the specified traffic growth rate. The volume of traffic is to be calculated in terms of numbers of passenger car units for the purpose of determining the width of the road. The capacity of road that could cater the traffic for the design life is as detailed below:

- (i) Traffic volume up to 4000 PCU²² single lane having formation width 9.00 metre and carriage width 3.75 metre.
- (ii) Traffic volume above 4000 PCU up to 10000 PCU - intermediate lane having formation width 10 metre and carriage width 5.50 metre.
- (iii) Traffic volume above 10000 PCU double lane having formation width 10 metre and carriage width 7.0 metre.

We noticed (August 2012) that in case of improvement and up-gradation of five road works in two divisions²³ the projected traffic volume was computed considering MSA as the factor instead of adopting PCUs as prescribed in the MORT&H guidelines. Adoption of MSA as a factor was prescribed only to determine the thickness of the crust. Due to adoption of MSA instead of PCUs for determining the traffic volume, the roads were constructed in carriage width of 5.5 metre and 7.0 metre against the required carriage width of 3.75 metre and 5.5 metre, respectively in terms of the projected traffic (designed traffic) on these roads. This resulted in extra cost of ₹ 8.16 crore as detailed in **Appendix 2.4.**

The EEs replied (August 2012) that the widening of roads were as per the sanctioned estimates.

The replies are not acceptable as sanction for the estimates were obtained based on incorrect computation of projected traffic volume, which had resulted in extra cost.

Unnecessary widening of roads led to extra cost of ₹ 8.16 crore.

²¹ Vijayapura - Eshagarh, Agar Sarangpur-Sadipura, Hatpipaliya-Bhousara, Dewas-Rajosakelod-Doublechauki and Pandhana-Chaigaon Makan

²² Passenger car unit.

²³ Chhindwara and Dewas.

Provision and execution of bituminous base course was not according to specifications

➤ **Inadequate provision of bituminous base course**

According to IRC: 37, 2001, application of Bituminous Macadam (BM) base course may desirably be restricted only to the roads designed to carry traffic less than five million standard axle (MSA). Dense Bituminous Macadam (DBM) binder course is recommended for roads designed to carry more than five MSA. It also provides that for traffic of more than five MSA and sub grade strength of more than five *per cent*, 78 mm BM is required and for traffic of 3 MSA, 50 mm BM is required. According to the specifications, 55 mm DBM can be taken as equivalent to 78 mm of BM.

We observed (April 2012 to May 2012) in test check of records of three roads in three divisions that provision of BM base course in the DPR was not adequate in terms of the IRC 37, 2001 specifications as detailed in the table below;

Table 2.7

Sl. No.	Name of Division	Name of road	Agt. No.	Design traffic	Sub grade CBR (per cent)	Requirement of BM base course (according to IRC 37)	Actually provided in the road	Inadequate provision in the road
1	Narsingh-pur	Mungawali Gorakhpur road under CRF	15/CRF/2009-10	>5 msa	5	55 mm DBM or 78 mm BM	50 mm BM	28 mm BM
2	Guna	Awan (Janjali) to Maksudangarh Rd under CRF	02/CRF/2009-10	5.7 msa	6	55mm DBM or 78 mm BM	50 mm BM	28 mm BM
3	Satna	Deori- kumhari-Pathar Rd. under plan	216/EE/2011-12	3 msa	5	50 mm BM	20 mm OGPC ²⁴	Necessary BM course not provided

Premature failure was noticed in the case of Mungawali-Gorakhpur road (Sl. No.1 of the table) under CRF soon after execution due to inadequate provision of bituminous base course. Therefore, execution of below specification works even if these were executed as provided in the DPR may result in premature failure of rest with respect to the designed life.

The E-in-C during exit conference stated (September 2012) that specifications were only guidelines and Engineers in Charge, having technical expertise, were empowered to deviate from the provision of specifications according to site conditions.

The reply is not convincing as the adequate bituminous crust was not provided according to the requirements of specification. The argument of site conditions can only be advanced when the DPR provides richer specifications than those prescribed in the guidelines.

2.1.9.2 Unwarranted execution of Bituminous Macadam (BM) work

According to the specifications of MORT&H and provisions prescribed in Manual for Construction and Supervision of Bituminous Work (IRC 2001) and IRC 82, renewal of bituminous surface having traffic of 1500 commercial vehicles per day should be considered after five years from its construction or 20 *per cent* of road length per year. Renewal work covers application of a seal or thin surfacing course. Strengthening is a substantially major work intended

²⁴ Open graded premix carpet (OGPC)

Superfluous execution of Bituminous Macadam Led to extra cost of ₹ 2.54 crore.

to restore or upgrade the pavement which covers execution of bituminous base course above 25 mm.

Tenders for the work of renewal of three roads were invited (2012-13) in PWD Division Dewas, with a provision of pothole filling, PCC using Bituminous Macadam (BM), BM as a binder course followed by wearing course of SDBC.

We noticed (June 2012) that the work of renewal required only thin surfacing up to 25 mm SDBC in terms of the provision of IRC 82. Instead, BM in thickness of 50 mm followed by 25 mm thick bituminous surfacing was executed, which was required only for strengthening work. Thus, the execution of entire quantity of 5225 cu m of BM was in excess of the requirement in terms of the provisions of IRC. This resulted into an extra cost of ₹ 2.54 crore as detailed in the table below:

Table 2.8

Agt. No.	Name of work	Qty. of BM (cu m)	Rate (₹ per cu m)	Tender percentage	Total (amount in ₹)
5/SAC/12-13	BT renewal of BKSK road 14 km	1087.50	₹ 4628	(+) 4.99	5284094
07/SAC/12-13	BT renewal of Satwas-Dhasod rd Km 2 to 6.11, 18= 7 Km	2310.00	₹ 4628	(+) 4.98	11223075
04/SAC/12-13	BT renewal on Tonk Kala Khurd rd 7.40 Km	1827.50	₹ 4628	(+) 4.97	8878016
Total		5225			25385185

The E-in-C, during exit conference (September 2012) agreed with the audit findings.

2.1.9.3 Unwarranted execution of Surface Dressing and Intermediate Tack coat

According to the construction procedure stipulated in the specifications²⁵, during execution of the work, the contractor should provide and maintain a passage for traffic either along a part of the existing carriageway under improvement or along a temporary diversion constructed close to the highway. All the arrangement like construction of temporary diversion or execution of single coat surface dressing (SD) and intermediate tack coat (prior to execution of semi dense bituminous concrete on BM) for traffic during construction are considered incidental to the works and was the responsibility of the contractor.

Unwarranted execution of surface dressing beyond the scope of specification led to extra cost ₹ 2.76 crore.

- We observed (November 2011 to August 2012) that 27 contractors executed SD in between WBM and Bituminous Macadam surfaces (BM) in 10 works under CRF in six divisions²⁶, 13 works under NABARD in six divisions and four works under State Plan in four divisions, to allow traffic over freshly laid WBM and were paid for that. Since the execution of surface dressing for traffic arrangement during construction was incidental to the works, the contractors should not have been paid for

²⁵ Clause 112 of MORT&H specifications.

²⁶ Ashoknagar, Chhindwara, Dewas, Guna, Narsinghpur and Sagar.

execution of SD. This led to extra payment of ₹2.76 crore as detailed in the **Appendix 2.5**.

The E-in-C, during exit conference, stated (September 2012) that surface dressing was provided to allow traffic on newly laid WBM.

The reply of E-in-C is not acceptable as the arrangement of traffic was the responsibility of the contractors in terms of clause 112.2 of MORT&H specifications as the work of surface dressing was incidental to the work.

- We further observed (April 2012 to July 2012) that the department provided application of additional/ intermediate tack coat in estimates and in the bills of quantity (BOQ) forming part of the agreements of eight road works in five divisions²⁷. The contractors executed tack coat and were paid for that. As the arrangement of traffic was the responsibility of the contractor and incidental to the works according to MORT&H specifications, the provision for tack coat in the estimates and BOQ and payment on that account, was not justified. This resulted in extra cost of ₹ 0.54 crore to the contractors as detailed in **Appendix 2.6**

The E-in-C during exit conference stated (September 2012) that additional tack coat became necessary for providing a wearing course of SDBC on the BM surface after passing the traffic over BM.

The reply is not acceptable as application of additional/intermediate tack coat was incidental to the work and separate payment was therefore not to be made to the contractors.

2.1.9.4 Excess payment to the contractor due to non-deployment of Electronic Sensor Paver

Deductions of ₹ 73.65 lakh was not made from contractors for non-deployment of Electronic Sensor paver in CC pavement work.

According to the provision of Schedule of Rates (SOR) of PWD, Cement Concrete (CC) pavement of M 40 grade and Dry Lean Concrete (DLC) sub-base should be laid with Electronic Sensor Paver. In the event of non-deployment of Electronic Sensor Paver, deduction at the rates of ₹ 150 per cu m and ₹ 350 per cu m from the rates of DLC and CC M40 grade respectively, should be made from the bills of contractor against the quantities executed.

We observed (April 2012 to May 2012) in respect of four road works in three divisions²⁸ that the contractors were neither having Paver with Electronic Sensor nor had they deployed the machinery through lease. Hence, deductions at prescribed rates were to be made from the contractors, which were not done by the department. This resulted in excess payment of ₹ 73.65 lakh to the contractors as detailed in **Appendix 2.7**.

The EEs Satna and Narsinghpur stated (May 2012) that Paver with Electronic Sensor was deployed by the contractors.

The replies of EEs Satna and Narsinghpur are not acceptable as Paver with Electronic Sensor neither existed in the list of plant and machinery submitted by the contractors in technical bids nor any lease certificates produced in

²⁷ Khargoan, Narsinghpur, Rewa, Sagar, Satna and Sehore.

²⁸ Narsinghpur, Rewa and Satna.

support of the deployment of Paver with Electronic Sensor. Deployment of sensor paver was also not indicated in Measurement books of the works.

2.1.9.5 Excess payment to the contractor due to non-deployment of technical expertise

Deductions of ₹ 74.70 lakh was not made from contractors for non-deployment of technical expertise.

According to the provisions of Standard Bidding Documents (SBD) vide Annexure II, six graduate Engineers were required for the execution of work valued more than ₹ five crore. In the event of non-deployment/short deployment of technical expertise, recovery at the rate of ₹ 10000 per graduate Engineer or ₹ 5000 per diploma holder Engineer per month was to be made.

We observed (February 2012 to June 2012) during scrutiny of eight road works in five divisions²⁹ that the contractors neither deployed adequate technical expertise as required in terms of the provisions of contract nor did the Department recover the amount from the bills of contractors on account of inadequate deployment of technical experts. This not only entailed excess payment of ₹ 74.70 lakh as detailed in **Appendix 2.8**, but also exposed the department to the risk of execution of sub-standard works.

The EEs stated (February 2012 to June 2012) that adequate technical staff were deployed by the contractors.

The replies are not acceptable as the statements submitted by the contractors indicated deployment of less technical staff than mentioned in the contracts.

2.1.10 Contract Management

Contract management is the process of systematically and efficiently managing contract creation, execution and analysis for the purpose of maximising financial and operational performance and minimising risk. The contracts of road works were executed on item rate and percentage rate basis. Shortcomings noticed in contract management are discussed in succeeding paragraphs.

2.1.10.1 Short recovery of Liquidated Damages (LD)

According to the contractual provisions, the time allowed as entered in the agreement should be strictly observed by the contractor and shall be reckoned from the date of work order. The terms and conditions of agreements further provides that LD at the rate 1/16 *per cent* of value of works per week limited to 6 *per cent* of contract price for delay in works should be recovered from the contractor under the contracts on percentage rate tender³⁰. In the case of item rate contract³¹, if the contractor fails to comply with the time for completion as stipulated in the contract, the contractor shall pay to the employer at the rate 1/2000th of initial contract price per day as LD for such default subject to a maximum of 10 *per cent* of contract price.

²⁹ Dewas, Rewa, Sagar, Satna and Sehore.

³⁰ Contract on tender form A

³¹ On tender form SBD.

Liquidated damages of ₹ 17.15 crore was not imposed on contractors despite abnormal delays in execution.

We observed during test check of 28 road works³² in eight divisions³³ out of fifteen divisions that there were delays of 156 days to 1305 days which were attributable to the contractors. The EE served several notices for imposition of penalty under the agreement. Nevertheless, LD of ₹ 17.15 crore leviable on the contractors was not deducted from the bills of contractors as detailed in **Appendix 2.9**.

The E-in-C during exit conference stated (September 2012) that necessary steps would be taken to assess quantum of delays attributable to the contractors.

2.1.10.2 Ineligible payment of price variation

The instruction issued (March 2007) by E-in-C, appended as additional special conditions of contract lays down that any variation (plus/minus) in the cost of bitumen/steel will be paid or deducted on the theoretical consumption of bitumen/steel. The difference in price would be worked out for the agreement period only.

Contractors were paid price variation of ₹ 2.47 crore though not eligible.

We noticed (December 2011 to May 2012) in eight agreements under four divisions³⁴, that the contractors executed bituminous work after the agreement period. Nevertheless, price variation was paid to the contractors. This resulted in ineligible payment of ₹ 2.47 crore to the contractors as detailed in **Appendix 2.10**.

The E-in-C during exit conference stated (September 2012) that the contractual provision would have to be amended to facilitate payment of price variation, where necessary.

The reply does not give any reason for payment of price variation for period beyond the agreement period in these works in violation of the existing contract conditions.

2.1.10.3 Control failure and injudicious decisions

The CE (Controlling Officer) is responsible for overall planning, construction and maintenance of all infrastructural facilities. The CE is also responsible for taking policy decisions, to develop strategies for the good governance and for improving the performance of the Department.

Instances of control failure and injudicious decisions are discussed below:

➤ Loss to the Government due to injudicious decision

Clause 3(a) of the contract, provides that on rescission of contract, the security deposit of the contractor shall stand forfeited and be at the disposal of the Government. Clause 3 (c) of contract provides that if any part of the work that remains unexecuted is given to another contractor, expenses incurred in excess of the original contract value on that part of work shall be borne and paid by the original contractor.

³² CRF: nine works NABARD: 13 works and State Plan: six works.

³³ Ashoknagar, Chhindwara, Khandwa, Rewa, Sagar, Shajapur, Sehore and Vidisha.

³⁴ Ashoknagar, Gwalior 2, Shajapur and Satna.

Injudicious decision of cancellation of penal decision led to loss to the Government of ₹ 2.92 crore.

We observed (June 2012) that two road works³⁵ in Dewas division were terminated by the Executive Engineer at risk and cost of contractor (under clause 3 C of contracts) due to tardy progress by contractors. The balance works were assessed and awarded (March 2009 and October 2008) at the risk and cost of the original contractors. While the balance works were ongoing, the Chief Engineer (CE), Ujjain Zone, without assigning any reason, cancelled the earlier order of the termination of the two works by the EE. As a result, the department could not enforce recovery of extra cost of ₹ 2.92 crore incurred on the balance work from the original contractors, as detailed in the table below:

Table 2.9

(₹ in lakh)

Agt. No./ source of funds	Name of road	PAC/ tender percentage	Period (months)	Value of work executed	Value of balance work	Agt. No. of balance work/ status	PAC/ Tender percent age	Extra cost debit to original contractor
60/07-08 CRF	Hatpiplya Bhourasa road	445.00 lakh/ 4.86% above	16	4.50	440.50	336/08-09 Completed	440.00 lakh/ 59% above	238.21
59/07-08 NABARD	Hatpiplya Barkheda Soma Kamawad Road	189.00 lakh/ 7.86% below	12	57.80	131.20	271/08-09 In progress	126.53 lakh/ 35% above	54.23

The Principal Secretary PWD and E-in-C assured to look into the matter during exit conference (September 2012) on the issue of change of EEs decision of termination of work under risk and cost clause by the CE.

Further action is still awaited (February 2013).

➤ **Irregular foreclosure of contract**

The work of Khardonkala-Ugli-Sujalpur road (NABARD assistance) under PWD Division Shajapur was awarded (April 2007) to a contractor at probable amount of contract (PAC) of ₹ 4.41 crore with tender premium of 19.55 *per cent on SOR* (April 2005). The work was foreclosed³⁶ (June 2009) without risk and cost of contractor attributing paucity of funds under NABARD. The incomplete bill of ₹ 3.03 crore was paid (May 2010) to the contractor.

The NIT for balance work was issued (October 2010) for ₹ 405.64 lakh and the work was again awarded to the same contractor at 17.60 *per cent* below SOR (April 2009).

Irregular foreclosure of contract led to extra cost of ₹ 1.10 crore.

We observed (November 2011) that in the division, there were several other ongoing works funded under NABARD. These works were not foreclosed despite the lapse of period of three to four times of the stipulated completion period. Thus, the decision to foreclose the contract was arbitrary which led to extra cost of ₹ 1.10 crore as detailed in table below:

³⁵ Hatpiplya Bhourasa road under CRF and Hatpiplya Barkheda Soma Kamawad Road under NABARD (Dewas District).

³⁶ Clause 14 of the contract provided for foreclosure of work without risk and cost of the contractor.

Table 2.10

(`in lakh)

Name of roads	PAC/ Tender percentage	Total was to be incurred if completed by earlier contractor	Amount paid to earlier contractor	PAC of Balance work/ Tender percentage	Amount to be incurred till completion	Total (4+6)	Extra cost (7-3)
1	2	3	4	5	6	7	8
Khardon Kala Ugli Shajapur	441.00 /(+19.55%	527.21	302.86	405.64 / (-)17.60%	334.25	637.11	109.90

The EE stated (December 2012) that though the work was sanctioned under NABARD, the project could not be financed by NABARD. He further stated that as price variation clause was not included in the agreement, the department instructed to close the work.

The justification given by the EE for foreclosure of the work is not convincing as NABARD was releasing fund on reimbursement basis and only the said work was foreclosed without risk and cost of the contractor out of several other ongoing works being executed with the assistance of NABARD where also the terms of the agreement did not include price variation clause.

➤ **Extra cost due to injudicious/ irregular award of work**

According to the provision of WD manual, any change in the amount of work beyond 10 *per cent* of amount of administrative approval requires revised administrative approval.

Irregular award of work beyond the administrative approval led to extra cost of ₹ 1.73 crore.

We observed (April 2012) that the work of Strengthening and Upgradation of Bhapel-Jaisinagar road under PWD Division Sagar was awarded (August 2007) to a contractor at ₹ 5.84 crore (PAC of ₹ 6.30 crore) against administrative approval of ₹ 4.96 crore (November 2006). The Ministry stopped funding through CRF for want of revised AA, when the contractor had executed work amounting to ₹ 5.68 crore. Due to paucity of fund, the department foreclosed (December 2010) the contract without risk and cost of contractor leaving the balance bituminous work in 7.2 km road. The balance work was awarded (February 2012) to another contractor at PAC of ₹ 1.93 crore (based on new SOR) under CRF through the funding of Annual Repair. Thus, the decision of the department to award work without obtaining revised AA resulted in extra cost of ₹ 1.73 crore³⁷.

The Principal Secretary PWD and E-in-C during exit conference (September 2012) agreed that the revised administrative approval should have been obtained before floating the NIT for the work on the issue of award of work of strengthening and upgradation at cost more than the sanctioned cost and consequential termination of the work.

Further action is still awaited (February 2013).

37

PAC of the initial work = ₹ 629.62 lakh

Minus tender premium @ 7.29%

Cost of work = ₹ 583.72 lakh

Payment already made = ₹ 567.68 lakh

(A) cost of work after completion = ₹ 567.68 lakh + ₹ 189.53 lakh = ₹ 757.20 lakh

(B) cost of work when entire work was completed by earlier contractor = ₹ 583.72 lakh

A B = ₹ 173.48 lakh

PAC of the balance work = ₹ 193.00 lakh

Minus tender premium @ 1.8 %

Cost of work = ₹ 189.53 lakh

2.1.10.4 Non-recovery of mobilisation advance from contractors

According to Clause 51 of Standard Bidding Document for item rate contract, the employer shall make advance payment to the contractor at the rate of 10 *per cent* of contract price against an unconditional Bank Guarantee. The terms and conditions of contract further provide that the advance loan shall be repaid with percentage deductions from the interim payments certified by the Engineer under the contract. Deductions shall commence in the next Interim Payment Certificate following that in which the total of all such payments to the contractor has reached not less than 20 *per cent* of the contract price or six months from the date of payment of first installment of advance, whichever period concludes earlier, and shall be made at the rate of 20 *per cent* of the amounts of all Interim Payment Certificates until such time the loan is repaid. It is also provided that the loan shall be completely repaid prior to the expiry of the original time for completion.

Mobilisation advance of ₹ 2.14 crore was not recovered/short recovered from contractors.

We observed (December 2011 to August 2012) in test check of three road works in three divisions³⁸ that an amount of ₹ 2.14 crore of mobilisation advance remained unrecovered even though the entire stipulated period of completion of works expired between May 2011 and December 2011. This resulted in undue financial aid to the contractor of ₹ 2.14 crore as detailed in **Appendix 2.11.**

The Principal Secretary PWD and E-in-C during exit conference (September 2012) stated that advances had already been recovered from the contractors.

The reply is not acceptable as the entire amount of mobilisation advance was not recovered before the expiry of the scheduled completion period in terms of the contracts.

2.1.10.5 Irregular refund of performance security deposit

Security deposit ₹ 83.42 lakh was irregularly refunded.

According to additional special conditions appended with agreements, performance security deposit (PSD) to be taken for the due performance and maintenance of the contract under the terms and conditions of contract, will be the earnest money *plus* a deduction of 10 *per cent* from the payment made in the running bills. Fifty *per cent* of the PSD shall be released to the contractor after two years from the date of completion. Balance 50 *per cent* shall be released to the contractor after three years from the date of completion.

We observed (December 2011 to April 2012) that the performance security deposit (PSD) of ₹ 83.42 lakh was refunded to the contractor prior to the

³⁸ Chhindwara, Guna and Shajapur.

expiry of defect liability period as detailed in the table below:

Table 2.11

Sl. No.	Name of Division	Name of work	Agreement no.	Name of contractor	Defect liability period	Refunded in	Amount (₹ in lakh)
1	Shajapur	Shajapur-Dupada-Kanad road under CRF	121/2005-06	M/s T.R. Trehan	23.02.11 (work completed on 23.02.08)	May 2010	48.90
2	Gwalior	Ghatigoan Dada Khirak Bhawarpura road under CRF	04/2005-06	M/s Tomar Builder	30.08.12(as last measurement on 30.08.09)	March 2010	23.25
3	Sagar	Bhapel Jaisinagar road under CRF	61DL/2007-08	M/s Jitendra Je Patel Project Limited.	20.06.13 (last paid on 26.06.10)	February 2009	11.27
						Total	83.42

We further observed that PSD of ₹ 48.90 lakh in case of Shajapur-Dupada-Kanad road work was refunded though there was net recoverable amount of ₹ 44.09 lakh from the contractor on completion of the work.

The EE Shajapur (December 2011) stated that the PSD was not charged against any specific recovery. The EE Sagar stated (April 2012) that the PSD was refunded by the then EE. The EE Gwalior stated (March 2012) that PSD was released as per rule.

The replies of EEs are not acceptable as the PSDs were refunded to the contractors before the expiry of the defect liability period mentioned in the contract.

2.1.10.6 Irregular grant of secured advance

According to the terms and conditions of contract, secured advance should be paid only on imperishable material brought to the site by the contractor for its use in the respective work. The advance shall be paid at the rate of 75 per cent of the amount mentioned in the invoice.

We observed (February 2012 to June 2012) during the scrutiny of two roads in two divisions that secured advance was paid to the contractor on perishable material like 4 mm metal³⁹ and VG 30 (Bitumen) which were brought to the site by the contractors as detailed in table below:

Table 2.12

Name of road	Division	Quantity/ particulars	Total SA paid (₹ in lakh)
Sehore-Bilkisganj -Bhadbhada Rd. (CRF)	Sehore	5000 cu m (4mm metal)	25.00
		305.994 MT VG30	64.26
Hatpipaliya-Tappa-Siddikganj Rd. (CRF)	Dewas	74.54 MT VG 30	15.93
			105.19

Secured advance of ₹ 1.05 crore was given to contractors on imperishable material.

As the said materials came under the category of perishable materials, grant of secured advance was irregular and led to undue benefit of ₹ 1.05 crore to the contractor.

The E-in-C during exit conference stated (September 2012) that items were not of perishable nature.

³⁹

The 4 mm metal, classified in the category of sand (4.75 mm sieve size), is perishable material.

The reply of the E-in-C PWD not acceptable as 4 mm metal came under the category of sand and bitumen which are perishable in nature. Hence grant of secured advance on perishable materials was irregular.

2.1.10.7 Slow progress of work under NABARD

According to the terms and conditions of sanctions of loan by NABARD, once a particular project is cleared, loans are released in installments usually on reimbursement basis by the Regional Offices of the NABARD. Payment by NABARD depends on the progress of the project and utilisation of funds. The terms and conditions of contracts for works provided that the time specified for completion of work was the essence of contract. Monthly progress reports of works are sent by the divisional authority to CE and E-in-C for monitoring purpose. The progress reports sent by the divisional offices are compiled at Office of the E-in-C at monthly basis. Finance Department (FD) of the State Government would continue to be the nodal department for documentation, drawal of fund, etc. Therefore the projects have to be routed through the FD for sanction under RIDF and watched quarterly during the high power committee headed by the Chief Secretary, GOMP.

Since the works were being undertaken through NABARD loans, they were required to be completed in time so as to avoid unnecessary accrual of interest on NABARD loan and to provide the maximum benefits to the habitations.

Due to slow progress of works under NABARD, expenditure of ₹ 109.54 crore on works remained unfruitful and led to accrual of interest of ₹ 20.39 crore.

We observed between November 2011 and May 2012 during test check of road works undertaken through NABARD loan during the period 2006-07 to 2009-10, that in respect of 56 works in seven Divisions⁴⁰, progress was very slow and remained incomplete. These works were executed up to Earth Work/ GSB/ WBM level; even after lapse of three to four times of the stipulated completion period. Bituminous works were neither started by the contractors nor any penal action taken by the department in terms⁴¹ of the contracts. The tardy progress of works not only led to unfruitful expenditure of ₹ 109.54 crore but also created a liability of ₹ 20.39 crore on account of interest payable to NABARD as detailed in **Appendix 2.12**. We analysed that one of the main reason for slow progress of the work was awarding the contract on unworkable rates which were up to 32.34 *per cent* below the estimates. Where the tender percentage was 3.33 *per cent* below the estimates, the works were almost completed.

The Principal Secretary, PWD and E-in-C during exit conference (September 2012) stated that these works suffered due to paucity of funds and assured to improve the progress of the works.

The replies are not acceptable as penal action was not taken by the department for the abnormal delays in completion of works to avoid interest payable to NABARD on incomplete works.

⁴⁰ Gwalior 2, Narsinghpur, Rewa, Sagar, Shajapur, Sehore and Vidisha.

⁴¹ Clause 2 of the contract provides for imposition of liquidated damages based on quantum of delays attributable to the contractors.

2.1.10.8 Undue financial aid due to non-obtaining additional security

According to clause 29.5 and 34.1 of Instructions to bidder of contract documents, if the bid of the successful bidder is seriously unbalanced⁴² in relation to the Engineers estimate of the cost of work, the employer may require the amount of the performance security to be of a level sufficient to protect the employer against financial loss in the event of default of the successful bidder under the contract.

The terms and conditions of contract further provides that the contractor has to deposit an amount equivalent to 5 *per cent* of the contract price *plus* additional security for unbalanced bids within 21 days of receipt of the letter of acceptance. The additional security for unbalanced bids shall be held by the department up to 28 days from the date of issue of the certificate of completion.

Contractors were given undue financial aid due to not deducting additional security of ₹ 2.66 crore from their bills.

We noticed (July 2012 to August 2012) in respect of three road works in two divisions⁴³ that the contractors quoted disproportionately unbalanced rates in respect of some of the items against the estimated rates. Nevertheless, the department did not obtain additional security deposit to meet financial loss in the event of default by the contractors. This led to undue financial aid to the contractors of ₹ 2.66 crore as detailed in **Appendix 2.13**.

The EE PWD, Khandwa stated (July 2012 to August 2012) in replies that the work is likely to be completed in time. The EE PWD, Chhindwara further stated that ₹ 45.00 lakh has been kept in deposit as additional security deposit.

The replies are not acceptable as additional security deposit against the unbalanced items have not been obtained to the extent prescribed in the agreements to protect the financial interests of the department.

2.1.11 Quality assurance and monitoring mechanism

According to the provision of IRC SP 11 and contractual provision appended with the contract, it is the prime responsibility of the Engineer-in-charge to ensure that the work performed and all the material incorporated in works conforms to the specifications. Tests for checking if the quality of material is in accordance with the specifications are also to be conducted at required frequencies. It is also essential that the results of all quality control tests and observations are systematically recorded and carefully preserved.

Instances of weak quality control and monitoring mechanism are discussed below;

⁴² Seriously unbalanced denotes the quoted rates of certain items which are disproportionately higher than the estimated rates of that particular item plus or minus overall tender percentage.

⁴³ Chhindwara and Khandwa.

Execution of Bituminous Macadam work valued at ₹ 17.27 crore was below specification

2.1.11.1 Execution of Bituminous Macadam work below specifications

The specifications of MORT&H require that the work of Bituminous Macadam (BM) shall be covered with the wearing course of Semi Dense Bituminous Concrete (SDBC) within 48 hours. If there was a delay, the BM shall be covered with a seal coat to be treated as incidental part and not to be paid to the contractors separately. The specifications further required that SDBC should be provided on firm bituminous course (BM).



View of Basoda Sironj road under CRF

We noticed (November 2011 to July 2012) in 13 road works in seven Divisions⁴⁴ that the BM executed in 50368.84 cu m quantity at a cost of ₹ 17.27 crore were overlaid by the next wearing course of SDBC after expiry of 15 days to one year and in few cases it remained exposed during the rainy season as seal coat was not done as detailed in **Appendix 2.14**.

The Principal Secretary PWD and E-in-C during exit conference (September 2012) stated that due to practical difficulties in simultaneous execution of BM and SDBC, BM was not covered immediately with next wearing course.

The replies are not acceptable as in case of any difficulty in timely execution of SDBC, BM should be covered by seal coat at the cost of the contractor as the work of seal coat is treated as incidental. If the BM remains exposed during the rainy season, there remained the possibility of premature slippage of SDBC (wearing course) even after application of tack coat prior to the execution of SDBC because of dust deposit over BM course and thereby weakening the bond between BM and SDBC. We further noticed (May 2012) that contrary to these specifications, SDBC on 38599.28 sq m of Lalganj-Mangawan road work under NABARD in Rewa division was provided on WBM surface resulting in below specification work valued at ₹ 45.34 lakh. The EE stated (May 2012) that the work was done according to site requirement and traffic intensity.

The reply is not acceptable as specifications and guidelines of MORT&H were not adhered to.

2.1.11.2 Substandard execution of work

➤ Substandard execution of dry lean concrete (DLC)

Execution of Dry Lean Concrete valued at ₹ 49.82 lakh was below specification

According to the specifications of MORT&H, minimum cement content required in the lean concrete shall not be less than 150 kg per cu m of concrete and minimum average compressive strength of each consecutive group of five cubes shall not be less than 10 Mega Pascal (MPa) at seven days of castings. The Engineer shall give notice to the Contractor of any defects before the end

⁴⁴ Ashoknagar, Dewas, Guna, Khargaoan, Sagar, Satna and Vidisha.

of the Defects Liability Period, which begins from the date of completion and as defined in the contract documents.

We noticed (April 2012) that test result of cubes in respect of Satna-Semariya road conducted during October 2010 to March 2011 indicated very poor average compressive strength of 7-8 MPa in seven days. This indicated substandard execution of 2930.591 cu m dry lean concrete (DLC) valued at ₹ 49.82 lakh⁴⁵. This may lead to premature failure of the road works.

The E-in-C during exit conference (September 2012) stated that required strength of DLC was achieved in 28 days.

The reply is not acceptable as the specification of MORT&H prescribes that the requisite compressive strength of 10 MPa should be achieved in seven days as the DLC was required to be covered by the next rigid pavement within seven days. As the test results showed poor average strength after seven days, allowing the contractor to carry out the work of covering the DLC by rigid pavement indicated poor monitoring.

➤ ***Below specification work of Cement Concrete (CC) pavement***

M40 grade cement concrete pavement should be executed wherever cement concrete road is required to be laid, according to the approved Design Mix in terms of specifications of IRC 44.

Execution of cement concrete pavement work valued at ₹ 87.36 lakh was below specification.



View of Sehore Bilkisganj Bhadbhada Road

We noticed (February 2012) that according to the approved design mix of M40 grade CC, the requirements of cement was 424 and 427.14 kg per cu m of concrete. The contractors, however, executed the work using 400 kg cement per cu m of concrete. Thus, in execution of CC work, there was less utilisation of 27.14 kg cement per cu m of concrete. This resulted in substandard execution of CC pavement valued at ₹ 87.36 lakh⁴⁶ in execution of 2239.97 cu m of M40 grade CC. Besides, the excess

payment of ₹ 3.16 lakh⁴⁷ on account of short utilisation of cement was also recoverable from the contractor.

Short utilisation of cement in CC pavement has resulted in premature deterioration of CC pavement, which may be seen from the photograph of the site.

The EE PWD, Sehore, stated (February 2012) that design mix for further work was approved, which required 400 kg per cu m cement for desired strength.

⁴⁵ Calculated at the rate of ₹ 1700 per cu m.

⁴⁶ $2239.97 \times ₹ 3900 / \text{cu m} = ₹ 8735883$

⁴⁷ $2239.97 \times (427.14 - 400.00) = 60.79 \text{ MT cement @ ₹ 5200 / MT} = ₹ 3.16 \text{ lakh}$

The reply of EE is not acceptable as the approved design mix required 424 kg to 427 kg cement per cu m of concrete and not 400 kg as stated by the EE. Utilisation of 400 kg per cu m has therefore resulted in substandard execution.

➤ ***Substandard execution of granular sub-base (GSB)***

According to the provisions of IRC pocket book for Highway Engineers, sub-base material should be utilised having CBR more than 20 *per cent* in case of traffic intensity up to 2 million standard axles (MSA) and of 30 *per cent* in case of traffic intensity more than 2 MSA.

We noticed (February 2012) in respect of the work of Sehore-Bilkisganj-Bhadbhada road in PWD Division, Sehore, that though the traffic intensity on this road was more than 3 MSA, the GSB utilised on this road was having CBR of 22 *per cent*. This resulted in below specification execution of GSB. We further observed that there was no system of submitting reports to higher authority in case of execution of work with deviations from the specifications.

The EE PWD Division, Sehore stated (February 2012) that the works were carried out using GSB having CBR value more than 30 *per cent*.

The reply of EE is not acceptable as the CBR test results depicted that the GSB utilised in the work was having CBR of 22 *per cent* only.

2.1.12 Monitoring

According to the departmental instructions, implementation of the programme was required to be monitored by the E-in-C and the CEs of the Zone for achieving the targets within time and realisation of full economic benefits. The guidelines (2007) of CRF provided that project monitoring shall be done at regular intervals in methodical manner to avoid time and cost overrun.

For execution of projects under NABARD loan, allotment is made in the budget. Expenditure incurred there against is claimed on monthly basis from NABARD. Therefore, close monitoring is required for watching progress of works so as to avoid time and cost overrun as delays result in extra interest burden on the State Government. Year wise targets are also required to be fixed so as to enable the higher authority to monitor progress of works vis-a-vis targets so fixed and thereby ensuring timely completion of projects.

For the purpose of monitoring works, monthly progress reports are sent by the divisions to the controlling offices (CE and E-in-C).

We noticed from the monthly progress reports being sent by the divisions that monthly progress reports are not in uniform format across the divisions. Schedule completion dates, projections of completion of works in case of delays, fact of approval/ non approval of time extension and reasons for delay in completion of works are not being mentioned in the reports. In the absence of these details, proper appreciation of progress of works, problems in execution and necessary remedial measures may not be adequate. No target of completion of works was fixed by the department. Only actual financial and physical progress of the works was being compiled by the E-in-C and reported to the Chief Secretary GOMP on quarterly basis. In the absence of a target for completion of works, shortfall, if any, cannot be identified and remedied. We

further noticed that there were delays in completion of works with reference to schedule completion periods as discussed in paragraph 10.7 *supra*.

The E-in-C during exit conference stated (September 2012) that length-wise target was not fixed due to disproportionate release of funds by the MORT&H. With respect to works under NABARD, it was stated that the programme suffered due to paucity of funds. He also assured to improve the progress of the works.

The reply is not convincing as generally there were savings of funds in all the three categories, viz, CRF, NABARD and State budget as shown in paragraph 6 *supra* and none of the works suffered due to lack of funds.

2.1.13 Other issues

2.1.13.1 Execution of earthwork after granular sub-base (GSB) work

According to the chronology of activities in the road work prescribed in the specification, the GSB work should be taken up after completion of earthwork. We noticed (April 2012) in respect of work of Khurai-Rajwansh road under CRF that against 52853.60 cu m of earth work provided in bill of quantity, 81411 cu m of earthwork was executed. Of the total executed quantity, 27766 cu m of earthwork was executed after execution of GSB. The excess quantity of 28557.40 cu m of earthwork was sanctioned through supplementary schedule. We further, noticed that the quantity of earthwork sanctioned through supplementary schedule was shown executed and recorded in Measurements Book⁴⁸ before the date of issue of the MB to the concerned sub engineer. Since the GSB is executed after earthwork, the quantity of 27766 cu m of earthwork valued at ₹ 36.10 lakh⁴⁹ was of doubtful nature.

The EE PWD, Sagar stated (April 2012) that the matter was being investigated and action would be taken accordingly.

2.1.13.2 Irregular issuance of misleading completion certificate

According to the guidelines of CRF, completion certificate with respect to the execution of work should be submitted to the MORT&H after its completion. Further, any change in the scope of work required revised AA from MORT&H.

We observed (April 2012 to June 2012) during scrutiny of two works under CRF in two divisions that lengths of the road works actually executed were less than that sanctioned as detailed in the following table below:

Table 2.13

Sl. No.	Name of road	Amount of AA	Sanctioned road length	Total Exp.	Length actually completed
1	Hatpipalya Bhourasa road under CRF(Dewas)	₹ 445.47 lakh	21.20 Km	₹ 463.57 lakh	11.00 Km
2	Mayana Naisarai road under CRF(Guna)	₹ 469.18 lakh	21.00 Km	₹ 556.09 lakh	19.00 Km

⁴⁸ Measurements Book number: 21612.

⁴⁹ 27766 cu m earthwork at the rate of ₹ 130 per cu m.

Though these works were executed in the reduced length, completion certificates were issued by the department with a remark that the aforesaid works were complete in all respects.

The EE Dewas stated (June 2012) that due to higher tender premium, the road was completed in only 11 km. whereas no specific reply was offered by the EE Guna.

The reply of EE Dewas is not acceptable as the Guidelines of the Ministry that change in length of the road from 21.20 km to 11 km amount to change in scope of work requiring revised administrative approval, which were not followed. Besides, the completion certificate stating that the work had been completed in all respects was not correct.

2.1.13.3 Excess payment due to irregular replacement of item

According to the provisions of item rate contract, contractor was bound to execute entire work as detailed in bill of quantity (BOQ) within the specified period and in accordance with the drawing and specifications provided in DPR sanctioned by the MORT&H.



View of Basoda Sironj road under CRF

We observed (February 2012) that the work of widening and upgradation of BasodaSironj road under CRF was awarded (January 2010) to a contractor at agreed cost of ₹ 25.07 crore, which was revised to ₹ 29.12 crore on item

rate contract. The contractor executed only 47 *per cent* of work at the end of stipulated completion period (November

2011). To accelerate progress of the work, the department introduced the costlier alternative of Wet Mix Macadam (WMM) in 250 mm thickness in replacement of the WBM consolidation in 250 mm. The replacement by costlier item resulted in extra cost of ₹ 70.46 lakh⁵⁰ up to the execution of 30590 cu m. Extra cost will further increase up to ₹ 1.54 crore on execution of total 67422.50 cu m of WMM as per bill of quantity.

The EE stated (February 2012) that the replacement was sanctioned by CE considering the progress of work.

The reply is not acceptable as the delay was attributable to the contractor and any extra cost caused by delay should have been borne by the contractor. Besides, for change in the scope of work, it required approval from the MORT&H as the original scope of work was sanctioned by the MORT&H.

Irregular replacement of WBM consolidation by costlier item resulted in extra cost of ₹ 70.46 lakh.

⁵⁰

Qty. executed till 14th R.Bill- 30590 cu m WMM, Rate of WMM ₹ 886.031 per cu m
Average rate of WBM ₹ 635.66 per cu m
Difference = ₹ 230.36 per cu m
Total undue favour = 30590*230.36 = ₹ 7046712

2.1.13.4 Irregular expenditure

According to the guidelines issued from time to time and in August 2010 by E-in-C, PWD and MORT&H circular (May 1984) for execution of CRF works, the items of road furniture⁵¹ must be included in the scope of work. No work beyond the scope of sanctioned estimate should be undertaken without obtaining prior written approval of the MORT&H.

Irregular expenditure on road furniture of ₹ 5.14 crore.

- We noticed (April 2012 to June 2012) that in seven road works⁵² under CRF in PWD Divisions, Guna and Dewas, items like road marking, speed bump, road studs, cats eye and sign boards etc. costing ₹ 5.14 crore were purchased directly through the open market without obtaining prior written approval of MORT&H. These items were shown utilised by the department by directly charging to the work. We also noticed that in two road work⁵³ under PWD Division, Dewas, though the road furniture items were included in the scope of work and also executed by the contractors, road furniture costing ₹ 1.06 crore was again charged on these two works by making transfer entry from another road work viz. Rajoda-Kelod-Double Chowki. Though the transfer entry once the material was directly charged on work was not allowed in terms of the provisions of MPWD Manual. As the road furniture on the above two works had already been executed, the possibility of fictitious accounting by further transfer of road furniture amounting to ₹ 1.06 crore cannot be ruled out in Audit.

The E-in-C stated (September 2012) during exit conference that the road furniture works were executed through the saving of CRF, which was within the amount of administrative approval. The Principal Secretary, PWD assured to look into the matter of transfer entry.

The reply is not acceptable as prior approval for undertaking work beyond the scope of sanctioned estimates was not obtained from the MORT&H.

Irregular expenditure through piecemeal work of ₹ 2.54 crore.

- We further noticed (March 2012) in three road works in Gwalior Division-2 that ₹ 2.54 crore out of the funds provided under CRF (₹ 0.66 crore) and NABARD (₹ 1.68 crore), was shown utilised during 2010-12 for items of work like berm filling, water bound macadam (WBM) and bituminous (BT) patch repair, special repair and construction of embankment etc. through various piecemeal works though the works had already been stopped (July-September 2009) due to non-clearance of land by the Forest Department. Besides, repair work on these three roads

⁵¹ Road marking with thermoplastic retro-reflective compound, signboards, speed bumps, road studs, place identification marker and cats-eye.

⁵² Mayana Naisarai ₹ 36.88 lakh, Anarad Nihaldevi ₹ 38.95 lakh, Bahwra Kohan Hamirpur ₹ 32.39 lakh (Guna), Pipalrawa Ilashkhedi- Balon-Bigrod ₹ 151.45 lakh, Hatpipaliya Bhausara ₹ 76.53 lakh, Hatpipaliya-Tappa- Siddikganj ₹ 69.45 lakh and Devli-Chaubaradhira-Iklehra-Surjana- Pipalrawa ₹ 108.47 lakh.

⁵³ Pipalrawa Ilashkhedi- Balon-Bigrod and Devli-Chaubaradhira-Iklehra-Surjana- Pipalrawa

⁵⁴ Ghatigaon Dada Khirak Bhawarpura ₹ 65.91 lakh (CRF), Dadakhirak-Tighra ₹ 43.22 lakh (NABARD), Makoda-Antari Chimmak ₹ 144.23 lakh (NABARD) under Gwalior Dn.2.

was not required to be undertaken as the completed part of the work was already covered under performance guarantee.

The E-in-C stated (September 2012) during exit conference that expenditure was incurred on the available reaches under revenue land and instructed the concerned SE to verify the facts of the matter.

The reply is not acceptable as ongoing works were foreclosed due to involvement of forest land and the roads completed on the revenue land were covered under the performance guarantee period. Incurring further expenditure on maintenance, therefore was irregular.

2.1.14 Conclusion

The fund management of works undertaken through CRF was deficient and there were instances of misutilisation of funds as works beyond the approved scope of work were executed. The year wise targets were not fixed for effective monitoring of the programmes and timely completion of projects. There were instances of unfruitful expenditure due to incorrect selection of road alignment and awarding of works without obtaining forest clearance. Execution of work was deficient as in large number of cases MORT&H specifications were disregarded during preparation and approval of estimates. Works were awarded without invitation of tenders and liquidated damages were not recovered though the delays were attributable to contractors. Tenders were accepted on abnormally unworkable rates resulting in slow progress of works under NABARD. The stipulated mobilisation advances were not recovered from the contractor in time.

2.1.15 Recommendations

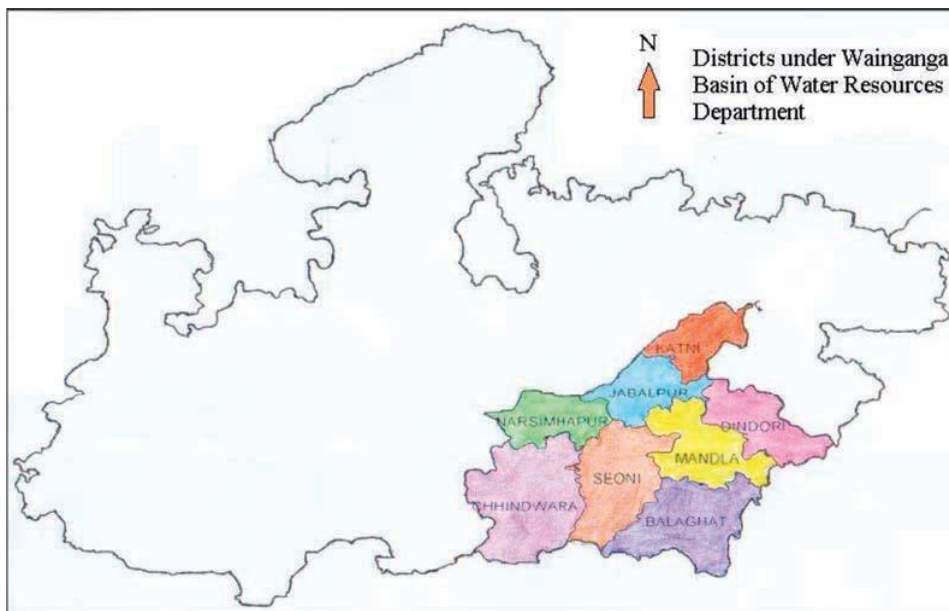
- The progress of the works should be reviewed at periodic and regular intervals at various levels so as to identify bottlenecks and ensure timely completion.
- The work should be taken up after obtaining all the necessary clearance from the concerned authority.
- Contractual provisions should be enforced in case of withdrawal/ termination of the contract to safeguard the interest of the Government. Contract management needs further strengthening in ensuring that payments are made according to progress of work and as provided in the contracts.
- A well structured system for internal control and monitoring of works should be put in place.

Water Resources Department

2.2 Thematic paragraph on construction of minor irrigation schemes in Wainganga Basin

2.2.1 Introduction

Wainganga Basin of the Department covers 1.62 lakh ha area through 778 MI schemes up to end of 2011-12. The basin covers eight districts, namely Balaghat, Chhindwara, Dindori, Jabalpur, Katni, Mandla, Narsinghpur and Seoni and consists of 12 water resources divisions headed by Executive Engineers (EEs) under administrative control of four Superintending Engineers (SEs). CE Wainganga Basin is responsible for administrative control over works under the Basin. Sub Divisional Officers (SDOs), who are under the control of EE of Division, are responsible for preparation of new schemes.



2.2.2 Audit Scope and methodology

The thematic study covered transactions relating to construction and maintenance of Minor Irrigation (MI) schemes⁵⁵ of the Wainganga Basin during the period 2007-12. During audit, records relating to planning and construction of MI schemes, utilisation of created irrigation potential and utilisation of created infrastructure of MI schemes were scrutinised. Out of the 12 divisional offices in the Wainganga Basin, Audit examined in detail the records of randomly selected six divisional offices and office of the Chief

⁵⁵

The surface and ground water irrigation schemes having cultivable command area up to 2000 hectare (ha) are classified as minor irrigation (MI) schemes.

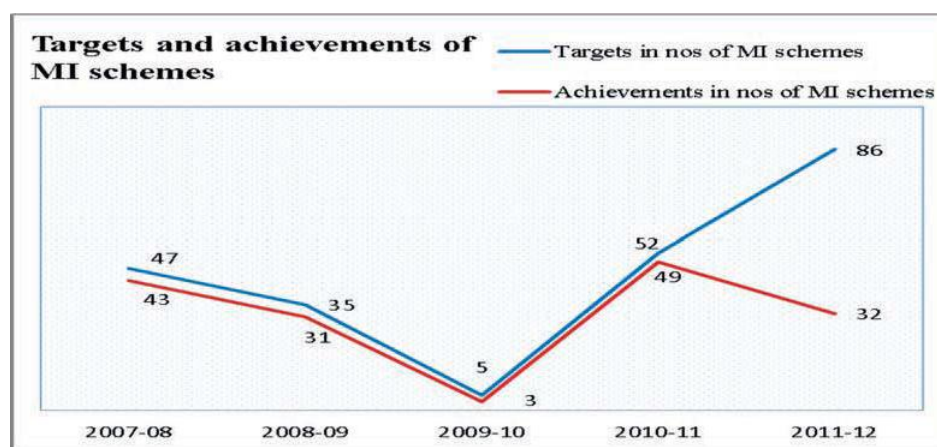
Engineer, Wainganga Basin, Seoni between December 2011 and May 2012 and information has been collected from remaining six divisional offices.

Entry conference with the executives of the Department was held in October 2011. Exit conference was held in September 2012 with the Principal Secretary (PS) to discuss the audit findings and replies of the Department are incorporated at suitable places. The reply of E-in-C was received in October 2012.

2.2.3 Planning

The planning process in the context of MI schemes includes identification of command area to be irrigated, feasibility of project, assessment of site suitability for head works⁵⁶ as well as canal works⁵⁷, formulation of strategies to achieve them, arrangement of the means required, and implementation, direction and monitoring of all steps in their proper sequence for execution of works according to the Technical Circulars of Water Resources Department.

There were 620 MI schemes covering 127452 ha of created irrigation potential (IP) up to March 2007 in Wainganga basin. The Department constructed 158 MI schemes with IP of 34902 ha during the period 2007-08 to 2011-12 against the target of 225 MI schemes for development of 37904 ha of IP after incurring an expenditure of ₹ 447.73 crore. Thus, 30 *per cent* of targeted schemes could not be completed during the period. In total there were 778 MI schemes covering 162354 ha of created IP in Wainganga Basin up to end of 2011-12.



Source: Information provided by the Chief Engineer Wainganga Basin

Year wise targets and achievements for completion of MI schemes in terms of number of schemes, are detailed in the chart. Only three MI schemes were completed in the year 2009-10. The achievements in all the five years were less than the targets. The shortfall in achievements which increased from four (47 targeted, achieved 43 as given in the above graph) in 2007-08 to 54 in

⁵⁶ Include construction of dam, sluice and spill channel etc.

⁵⁷ Include construction of canals and water regulating structures.

2011-12 in construction of schemes was mainly due to non-acquisition of land, poor planning, improper survey and estimates as discussed in succeeding paragraphs:

2.2.3.1 *Overlapping of command area of MI schemes due to ill planning*

Ill planning in construction of MI schemes resulted in overlapping of command area.

According to para 2.007 and 7.008 of Madhya Pradesh Works Department (MPWD) Manual, detailed estimates are prepared after completion of survey and alignment and after approval by EE. SDOs are responsible for preparation of Detailed Project Report (DPR) after obtaining details on gauge and discharge, rainfall, meteorological data, agricultural statistics of villages under submergence and command etc. Instances of command area having overlapping MI schemes due to improper survey and investigations are discussed below;

- In Katni division, the work of construction of Bhainswahi MI scheme envisaged to irrigate 105 ha was taken up in January 2009 at a cost of ₹88.38 lakh. The scope of work included construction of earthen bund, excavation and filling of puddle, filter blanket, rock toe, seepage drain, chipping and pitching, turfing, head sluice, excavation for approach channel and spill channel, waste weir and fall. The contractor executed earthwork for earthen bund in entire length excluding length for nalla closure and sluice (November 2010). Thereafter work was stopped as the command area of scheme was overlapping with the command area of right bank canal of Bargi dam. An expenditure of ₹ 36.26 lakh was incurred till February 2012 on the work.

On this being pointed out in audit E-in-C stated (October 2012) that even after detailed survey of the scheme and award of headwork in January 2009, overlapping of command area of Bargi canal was not known which was noticed only during preparation of land acquisition cases for canal. It was further stated that Minor schemes often came in the command area of major schemes and structures constructed for minor schemes would be utilised for other works.

The reply is not acceptable as work on Bargi Diversion Project was ongoing since 2001 and overlapping of command area could have been identified in alignment survey for canal. Thus, due to lack of coordination between the two Departments of the Government, the expenditure of ₹ 36.26 lakh on survey and construction proved wasteful.

- In Seoni division, the work of construction of Bothiya MI scheme envisaged to irrigate 252.94 ha of area was taken up (November 2008). Till March 2012, 80 *per cent* of the head work was completed and no progress in canal work was reported. Further, proposal to acquire the land for canal system was sent to Land Acquisition Officer (LAO) in August 2010. An expenditure of ₹ 2.58 crore has been incurred up to 2011-12.

We noticed (April 2012) that a part of command area of Bothiya MI

scheme came under the command area of Pench Diversion Project which was a major project undertaken by WRD in 1987-88. The Department, however, did not take initiative to reduce/modify the command area so as to reduce cost of project or cover new command area. Further, the agreement for work was rescinded in 2011-12 due to slow progress of work by the contractor. Thus, the expenditure of ₹ 2.58 crore remained unfruitful so far (October 2012).

E-in-C stated (October 2012) that the scheme was situated at tail of Pench Diversion Project and partial command of the scheme was affected by the command of Pench Diversion Project; therefore it was decided to complete the scheme.

The reply confirms that the division was aware that part of the command area was overlapping but did not take any corrective action.

The Principal Secretary, WRD stated (September 2012) in exit conference that the works of major schemes generally covered command area of MI Schemes and asserted that MI schemes would still be useful even after completion of major projects and supplement irrigation for additional crop. It was further stated that completion period of major projects were very long due to land acquisition, rehabilitation and environmental clearances.

The reply is not acceptable because overlapping of command area could have been identified at time of alignment survey of canal and corrective actions for avoiding overlapping of command should have been taken by the Department as it resulted in avoidable expenditure.

2.2.3.2 Poor planning of designs, survey etc. causing unfruitful expenditure

III planning in construction of MI schemes led to unfruitful expenditure of ₹ 5.89 crore.

Para 7.002 and 7.003 of the MPWD Manual provides that the reconnaissance report⁵⁸ in respect of medium and minor projects shall be initiated by the EE and the SDO. After receipt of Administrative Approval (AA) for survey and investigation, technical sanction for survey estimate shall be accorded by the officers competent to sanction it and thereafter, detailed survey and investigation will start for the project. Technical circular (No.53) issued in February 2006 stipulated that no project was to be submitted above the level of EE without ensuring general feasibility of project which included ascertaining sufficiently impervious dam site.

We noticed (December 2011 to May 2012) in three divisions that five MI schemes covering 607.46 ha of area to be irrigated, were non functional due to poor planning of designs, survey etc. rendering an expenditure of ₹ 5.89 crore unfruitful to a large extent as detailed in **Appendix 2.15**. The failure in planning for the schemes mainly resulted in;

- non-retaining of water in the tank basin,

⁵⁸ Report for assessment of feasibility of scheme by preliminary survey and investigation

- abandonment of the scheme due to incorrect identification of catchment area,
- execution of works without canal system due to inadequate survey and
- obstructions in execution of works due to non-identification of hurdles by land owners.

The Principal Secretary, WRD stated (September 2012) in exit conference that geotechnical investigations were done for only medium and major irrigation projects.

The reply is not acceptable as the geotechnical investigations were necessary in terms of the Technical circular. Further, fixing the location of dam/spill channel foundation in case of minor project is required to be done in consultation with Engineering Geologist according to Appendix 7.02 of MPWD Manual. Thus, poor planning resulted in the investment of ₹ 5.89 crore remaining largely unfruitful.

2.2.3.3 Plan for acquisition of land

As per note 3 below paragraph 2.104 of MPWD Manual, notification for the acquisition of land required for any particular work must be submitted before the work is put in hand. Thus availability of land is the first pre requisite for proceeding with the construction of any irrigation project.

Non-acquisition of land led to incomplete MI schemes rendering expenditure of ₹ 16.89 crore unfruitful.

We noticed (December 2011 to April 2012) in six test checked divisions that 13 MI schemes covering 3057.41 ha of targeted irrigation remained incomplete due to non-acquisition of land rendering expenditure of ₹ 16.89 crore unfruitful as detailed in the **Appendix 2.16**. The delays in execution were mainly due to non preparation of plans and time schedule for acquisition of land.

The Principal Secretary, WRD accepted (September 2012) in exit conference that there were delays in acquisition of land and stated that to a large extent the problem has been resolved by continuous monitoring and dialogue with the Collectors. He further stated that the Department was contemplating to make payment for land acquisition after notification under Section 9 of the Land Acquisition Act and revenue authorities were being requested for mutation of acquired land in favour of WRD within 15 days of payment of compensation, to avoid any hindrance later on.

The fact however remains that due to taking up works before ensuring acquisition of land required for the schemes rendered the investment of ₹ 16.89 crore unfruitful.

2.2.4 Budget allocation and expenditure

The Government provides the funds for MI Schemes under the head of accounts 4702- Capital outlay on MI (Plan). Finance Department releases the funds under this head to the Department. The funds are further distributed to the divisional offices for execution of works. The budget allotment and expenditure of the Wainganga basin for construction of MI schemes of the Department during the years from 2007-08 to 2011-12 is given in the table

below:

Table 2.14

(₹ in crore)

Year	Allotment	Expenditure	Savings/Excess (in per cent)
2007-08	107.53	100.87	6.66 (6.19)
2008-09	117.35	112.51	4.84 (4.12)
2009-10	72.25	69.97	2.28 (3.15)
2010-11	70.55	70.47	0.08 (0.11)
2011-12	94.14	93.91	0.23 (0.24)
Grand Total	461.82	447.73	14.09

Source: Information provided by the E-in-C WRD

As may be seen from the table, savings during 2007-12 ranged from 0.11 per cent to 6.19 per cent only.

2.2.5 Execution

2.2.5.1 Excess expenditure over Administrative Approval

As per para 2.005 of MPWD Manual, revised AA of the competent authority should be obtained when the expenditure exceeds or is likely to exceed the amount approved by more than 10 per cent. Further, as per note 3(b) below para 2.120, the amount of the detailed estimate must not exceed the amount included in the expenditure sanction.

We noticed (February 2012 to April 2012) from records of five divisions⁵⁹ test checked that excess expenditure on 26 MI schemes was incurred over the AA to the tune of ₹ 29.34 crore, as ₹ 76.67 crore was actually incurred against the amount of AA of ₹ 47.33 crore. The excess expenditure over AA ranged between 11.36 per cent and 267.32 per cent as detailed in **Appendix 2.17**. However, revised AA was not obtained though the expenditure exceeded the AA.

The Principal Secretary, WRD stated (September 2012) during exit conference that excess expenditure over AA was due to price escalation and increased cost of land acquisition and the process of issuing revised AA was underway. He further stated that system had been refined and administrative approval for works was being given after examining feasibility of scheme, detailed survey, technical sanction and preparation of case for land acquisition.

The fact remains that revised AA was not obtained before incurring excess expenditure beyond 10 per cent over the AA.

➤ We further noticed that for two MI schemes of Dindori, technical sanctions (TS) of the projects were accorded in excess of AA of the GOMP after

Excess expenditure of ₹ 29.34 crore over administrative approval was done in 26 MI schemes.

⁵⁹ Dindori: 16.61 crore (08 MI schemes), Narsinghpur: 1.94 crore (05 MI schemes), Hiran Jabalpur: 1.89 crore (04 MI schemes), Katni: 3.89 crore (04 MI schemes), Seoni: 3.54 crore (05 MI schemes)

delay of four to five years as detailed in the table below:

Table 2.15

Name of project	CCA in ha	AA amount in crore ₹ and date	TS amount in crore ₹ and date	Excess TS in crore ₹	Delay in years
Bilaikhar Tank MI scheme	105.26	1.03 crore 31 August 2004	1.35 crore 13 August 2008	0.32	4 years
Silighati Tank MI Scheme	165.92	1.37 crore 31 August 2004	2.44 crore 1 December 2009	1.06	5 years
Total	271.18			1.38	

As evident from the above table, revised AA was not obtained by the Divisional Officer though TS was already accorded for amount in excess of AA. Amounts of ₹ 2.36 crore and ₹ 2.26 crore had been incurred (March 2012) on Bilaikhar and Silighati MI schemes respectively which were in excess of AA as well as TS.

- We further noticed in four MI schemes of Dindori and Jabalpur including the above mentioned two schemes that technical sanctions were also unrealistic as additional quantities of more than 10 *per cent* of estimated quantities were executed by the contractors who were also paid accordingly as detailed below:

Table 2.16

Name of the project	Items works of excess quantities	Amount paid to the contractor without approval (₹ in lakh)	Increase in quantity in per cent
Bilaikhar Tank MI scheme	Two items	3.67	19 to 34 <i>per cent</i> ⁶⁰
Silighati Tank MI Scheme	five item	34.34	55.90 to 156.65 <i>per cent</i> ⁶¹
Dandananaalla Tank MI scheme	Four item	289.34	27.89 to 213.14 <i>per cent</i> ⁶²
Marhapatha Tank MI scheme	One item	3.90	349.71 <i>per cent</i> ⁶³
Total		₹ 331.25	

EE Dindori stated (February 2012) that proposal for sanction of excess quantities had been submitted to higher authority. The EE Jabalpur stated (April 2012) that as per site condition and availability of strata the work was executed.

The reply is not acceptable as the excess quantities should have been executed and paid only after approval of competent authority.

Thus, technical sanction to works in excess of AA resulted in provision of excess quantities in schedule of quantities and execution of work thereafter resulted in excess expenditure over AA.

⁶⁰ Earthwork 19 *per cent*, Uncoursed rubble masonry 34 *per cent*.

⁶¹ Earthwork 55.90 *per cent*, Filter blanket 70.84 *per cent* and excavation 156.65 *per cent*

⁶² Earthwork 27.89 *per cent*, Stone pitching 93.50 *per cent*, Puddle filling 107.96 *per cent* and excavation 213.14 *per cent*

⁶³ Excavation in DR and SR

- The terms of agreement provided for payment at the estimated rate *plus* or *minus* overall tender percentage, if executed quantity of an item increases by more than 10 *per cent* of the estimated quantity.

In case of work of Gorakhpur tank of Seoni division undertaken in April 2007, the quantity of construction of rock toe was 2465.35 cu m at the rate of ₹ 150 per cu m in terms of the agreement, while the rate according to the estimates for this item of work was ₹ 331.45 per cu m. The quantity was subsequently increased to 4700.50 cu m. Due to increase in quantity, the Department had to pay the higher estimated rate of ₹ 331.45 per cu m for 1990.52 cum of excess quantity. The extra expenditure of ₹ 3.61 lakh could have been avoided by accurate estimation of the item of work.

The EE stated (April 2012) that the excess quantities were paid according to the agreement and with the sanction of the CE. The reply confirms that payment at higher rates for extra quantities was necessitated due to incorrect estimates.

2.2.5.2 Non-deposit of performance security by the contractors

As per conditions of contract in Appendix 2.14 (clause 1) of MPWD Manual, the person whose tender is accepted, shall deposit security alongwith earnest money in cash or Government securities and amount of shortfall in security will be recovered from his running bills to make up total amount of security not exceeding 10 *per cent* of estimated cost of work.

Further, according to the order of the Government (May 2003), the person whose tender is accepted shall within 30 days from the date of acceptance letter of his bid or before entering into an agreement, furnish initial security deposit (performance security deposit) equal to five *per cent* of the contract value which shall include the amount of earnest money deposit. In addition to the above initial security deposit, deduction shall be made from the running bill equal to 5 *per cent* of the total value of each bill. Besides, in terms of rule 21 of MPFC Vol-II, clauses of the agreement should not be changed without concurrence of the Finance Department.

Performance security of ₹ 3.72 crore was not obtained by irregular exclusion of performance guarantee clause from agreement.

We noticed (December 2011 to April 2012) that the decision for excluding the clause of five *per cent* security deposit was taken by committee headed by E-in-C in June 2006 on submission of application in this respect by the contractors. The Department did not obtain the performance security deposit amounting to ₹ 3.72 crore in 50 agreements of six divisions as detailed in **Appendix 2.18**. We also observed that the clause of five *per cent* security deposit was reintroduced from March 2011. The action of deleting the clause of five *per cent* performance security at E-in-C level without consent of the Finance Department was irregular and led to undue financial aid of ₹ 3.72 crore to the contractors. Besides, performance of the works was not secured as discussed in paragraph 2.2.5.6.

The Principal Secretary, WRD stated (September 2012) during exit conference that contractors quoted rates considering terms and conditions of the contracts and deduction of performance security would have impacted on their quoted

⁶⁴ WRD Dn Chhindwara: (7 agreements), WRD Dn Dindori: (12 agreements), WRD Dn Hiran Jabalpur: (6 agreements), WRD Dn Katni (8 agreements), WRD Dn Narsinghpur (8 agreements), WRD Dn Seoni (9 agreements).

price and therefore, there was no loss. He further stated that the objective of tendering had been to get the works executed in a cost effective way.

The reply is not acceptable as the department did not have powers to make any changes in the contract document without obtaining the consent of the Finance Department in terms of provisions of MPFC and the department did not provide any evidence that by making changes to the contract conditions, the department derived cost effectiveness in execution of the work.

2.2.5.3 Non-deduction of additional security deposit for unbalanced items

Additional security deposit for unbalanced items was not recovered to the tune of ₹ 3.87 crore.

According to standard clause 3.28 of the agreements, in case the approving authority considers that the tenderer has quoted disproportionately high rates for some items when compared to the estimated rate of such items, the tender is to be considered unbalanced and he shall have the power to limit the payment of such items to the estimated rate of that item plus or minus overall tender percentage above/below as the case may be. The withheld amount on such items shall be retained by the Engineer-in-charge as additional security deposit. If the contractor leaves the work incomplete for any reason, the additional security deposit so deducted shall stand forfeited to the Government.

We noticed (December 2011 to April 2012) in five divisions⁶⁵ that divisional officers did not recover the amount of additional security deposit on account of unbalanced rates of items of works to the tune of ₹ 3.87 crore in 13 on-going works as detailed in the **Appendix 2.19**. Non-retention of amount of additional security deposit for unbalanced items of works was contrary to the provisions of the agreement.

The Principal Secretary, WRD stated (September 2012) during exit conference that the Department had taken corrective measures in this regard and tenders were being invited on percentage rate basis.

2.2.5.4 Unfruitful expenditure on construction of Lift Irrigation Schemes

Expenditure of ₹ 6.68 crore on LISs was unfruitful due to incomplete and non-functional LISs.

Lift Irrigation Schemes (LIS) are constructed in the areas where irrigation through gravity canals is not possible. Feasibility of the scheme is ascertained by conducting survey and preparing the estimates to arrive at the probable cost by considering all the expenses for its construction as well as for maintenance. According to the directions of WRD, electric connection for LIS was to be taken by beneficiary farmers. There were 44 completed LISs in the Basin of which 18 LISs were examined in six divisions. Instances of partial execution of four LISs and abandonment of completed LIS etc. are detailed below;

Table 2.17

Name of division	Name of MI scheme, IP in ha	Completion and expenditure	Observation	Reply of the EE/ Further comment of Audit
Katni	Chapna LIS, 858 ha	Ongoing ₹ 4.50 crore	Vacuum pump of second pump house could not be finalised up to December 2007. Thereafter, the work of LIS was stopped	According to the instructions given by the Government, all the work of lift irrigation schemes was to be stopped till acceptance

⁶⁵ Chhindwara, Dindori, Katni, Narsinghpur and Seoni

Name of division	Name of MI scheme, IP in ha	Completion and expenditure	Observation	Reply of the EE/ Further comment of Audit
			according to instructions of the Department and the entire expenditure of ₹ 4.50 crore was rendered unfruitful.	was given by water users to run the schemes on cooperative basis. It was further stated that where farmers did not agree to form registered societies and take electric connections, no allotment was being issued since the last two years. The reply is not acceptable as the viability of the schemes should have been ascertained before taking up the work for execution.
WRD division Hiran, Jabalpur	Katav and Shahgarh LIS, 202 ha and 466 ha	2010 ₹ 13.00 lakh and ₹ 1.20 crore	No irrigation in the year 2011-12 through LISs were reported from these completed LISs, rendering the expenditure of ₹ 1.33 crore on the schemes unfruitful.	Designed irrigation from Katav and Shahgarh LISs could not be achieved because electric connections were disconnected due to non-payment of electric bills. No irrigation has been done during 2011-12 by these LISs. The reply is indicative of the fact that fund for electricity were not tied up.
WRD division Hiran, Jabalpur	Sukri LIS, 241.40 ha	Ongoing ₹ 85.37 lakh	The farmers committee was unable to take electric connection for operating LIS. As per the directions of WRD, allotment for completion of the balance work was to be given only after taking the electric connection by beneficiary farmers. The CE instructed in January 2012 to disconnect the electric connection, transfer the land to the Revenue Department and keep the machinery in stores. Thus, the expenditure of ₹ 85.37 lakh was rendered wasteful.	Efforts were being made to solve the problem by contacting the members of Farmers Committee and other farmers.

Further, E-in-C stated (October 2012), that consideration at Government level for alternative arrangement of these schemes is being done due to excess expenditure on running and maintenance and non-availability of an interrupted power supply to the schemes. The works would be completed only after formation of committee of farmers and taking responsibility of operation by them.

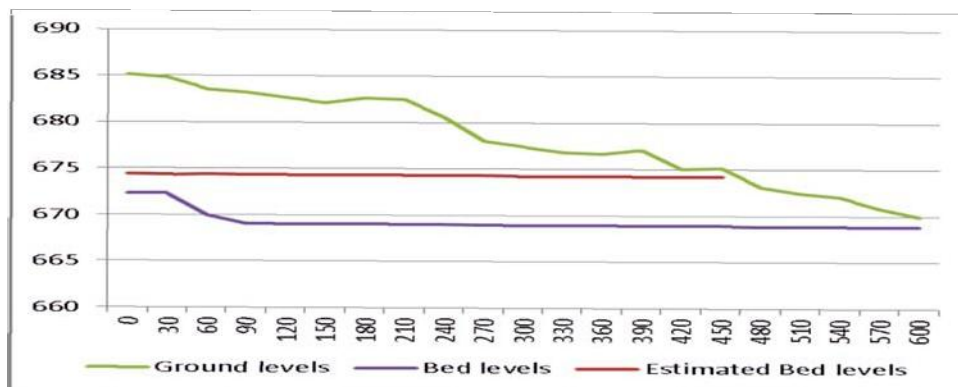
The reply confirms that the feasibility of the schemes was not ascertained before the schemes were taken up thus resulting in imprudent expenditure.

Avoidable expenditure of ₹ 2.32 crore was incurred due to non-observance of economical arrangements in spill channel.

2.2.5.5 Avoidable expenditure in construction of spill channel

In the agreement entered into in February 2008 for the work of construction of head work of Dandana Nalla Tank MI scheme, a provision of 184723.43 cu m excavation in all types of disintegrated rock, soft rock (DR/SR) for puddle trench, cut off trench, boulder toe filter, sluice waste weir, out drains, approach and spill channel, was made. Of this, 171327.57 cu m excavation for DR and SR were provided in spill channel⁶⁶ constituting 92.75 per cent of the total excavation in DR/SR.

Graph showing difference in levels of executed excavation of spill channel with respect to estimated



We noticed (February 2012) that the quantity of excavation in DR and SR increased up to 578445.02 cu m, for which ₹ 3.84 crore was paid to the contractor. The proposal for approval of excess quantities was sent (November 2009) to the CE, Wainganga Basin, Seoni mentioning the reasons, such as increase of bed width and length with respect to the technical sanction for excess excavation of DR/SR in spill channel. The CE observed (November 2009) that the work was executed without approval of revised drawing and not as per technical sanction. Sanction of excess quantities was still awaited (February 2012). As envisaged in the design, the bed level of the spill channel was to meet at reduced distance (RD) 450 m. The division, however under took excavation by increasing the depth of the spill channel to meet the downstream of the reservoir at RD 600 m. As a result, the quantity of excavation for the spill channel increased and therefore there was extra expenditure of ₹ 2.32 crore⁶⁷. The E-in-C stated (October 2012), that there was no fall in spill channel. Therefore, excavation in designed depth and designed bed grade was essential and as such it had been excavated. It was further stated

Spill channel or spillways are provided to release surplus water from reservoir in order to prevent rise of water level above a specific level in reservoir. This avoids unwanted submergence of the upstream or consequent overtopping and possible failure of dam (WRD Technical circular no. 28).

1.	Estimated quantity of DR/SR	184723.43 cu m
2.	10% of the estimated quantity	18472.34 cu m
3.	Total allowable quantity	193195.77 cu m
4.	Executed quantity according to RA bill 22 nd	578445.02 cu m
5.	Unwarranted execution (4-3)	385249.25 cu m
6.	Unwarranted execution of DR/SR in spill channel @ 92.75%	357318.67 cu m
7.	Avoidable expenditure @ ₹ 65/- per cu m	₹ 23225713.55

that the quantity of excavation in the estimate was not included due to omission.

The fact remains that excess quantities were executed without sanction of competent authority which had not been given even after more than two years of submission of proposal.

2.2.5.6 Execution of earthwork below specification

Substandard earthwork for ₹ 56.66 lakh was executed without watering and puddle trench was not executed in work of dam.

Para 2.028 of MPWD Manual provides that an officer according technical sanction to an estimate is responsible for soundness of design and for incorporating all the items required for inclusion in the estimate with reference to the drawings. Para 4.9.9 (section-II, volume-I) of specifications for irrigation projects (of the Unified Schedule of Rates for works) provides that in the earth fill embankment watered, rolled and compacted at optimum moisture content and at dry density, settlement allowance of one *per cent* and two *per cent* of designed height for unyielding (rock) and compressible (soil) foundations, respectively shall be deducted from the executed quantity. According to irrigation specifications, earthwork on bund includes the laying of earth in 15 centimetre layer, watering and compaction of earthwork at optimum moisture content to achieve maximum dry density.

We noticed (April 2012 and May 2012) that:

- In Katni division, the G schedule of the work of Jamunchua MI scheme included an item of watering for earthwork. Payment for 1,17,874.38 cu m of watering was made (March 2010) but in the next running bills, the up to date quantity of watering was shown as nil indicating that no watering was done. Shrinkage allowance deducted at 20 *per cent*, also confirmed that watering was not done. Thus, the execution of earthwork valued at ₹ 56.66 lakh ⁶⁸ was below specification which may result in rapid depletion of water due to seepage.

The E-in-C stated (October 2012) that disciplinary action would be taken against the field staff for non-execution of work as per established norms.

- Technical circular 27 issued (August 1990) by E-in-C provides that alignment of the puddle trench ⁶⁹ should be fixed in such a way that the downstream edge of its bottom width should coincide with the central line of the dam crust throughout its length. Moreover, at sites where the cost of complete seepage cut off is not big, it should always be provided even if the loss of water due to under seepage would have no importance. Thus, puddle trench is required to be executed in the entire length of earthen dam.

In Hiran division, for the balance work of Imlai MI scheme, no work was indicated in measurement book from RD metre 126.70 to RD

⁶⁸ Amount of 118043.18 cu m earthwork at rate ₹ 48 per cu m.

⁶⁹ Puddle trench is excavated for construction of dam

metre 178.35 of the dam indicating gap left for nalla closure. We observed (May 2012) that earth work of 11891.6 cu m was executed (March 2006) at RD metre 150 of bund. The item of puddle trench on the left out distance from RD metre 126.70 to RD metre 178.35 was not executed. This indicated that the earthwork was executed without execution of puddle trench in RD metre 126.70 to RD metre 178.35 which was contrary to the provisions of specifications. An amount of ₹ 4.43⁷⁰ lakh was paid (March 2006) for the earthwork executed at RD metre 150. Thus, non-observance of bund specifications resulted in substandard work of ₹ 4.43 lakh.

The E-in-C stated (October 2012), that original sanction of the scheme was given in January 1982 under relief head and the work of puddle filling was done under relief head. It was further stated that 90 *per cent* head work and 50 *per cent* canal work was completed and the scheme was to be completed up to October 2012.

The reply is not acceptable as there was no evidence to show that the works of puddle trench was earlier executed and remained intact at the time of taking up the said work later. The work was still in progress (March 2013)

2.2.5.7 Excess payments to the contractors

Excess payment were made to contractors due to non-regulation of rates and non-consideration of rebate offered by the contractor.

As per the orders of GOMP (October 1987) forming part of agreement, EE shall have no powers of determining the rates for extra items and prior sanction of CE shall be necessary for execution of and payments for additional quantities of more than 10 *per cent* in case of works for which technical sanction has been accorded by CE. Instances of excess payments to the contractors noted in audit are discussed below;

- In construction of Patharia MI scheme by Seoni division, we observed that the estimated quantity of earthwork of 53691.36 cum was included in the G schedule. The contractor executed 71179.45 cum of earthwork and was paid at the rate of ₹ 50 per cum. Thus, the quantities of the work were exceeded and proposal for approval of rates for payment of quantities in excess of 10 *per cent* was sent (June 2011) to the CE. The CE granted permission for payment of excess executed quantity at 90 *per cent* of the worked out rate of the items under clause 4.3.13.3 (a) of the agreement or the quoted rate of the contractor, whichever was lower. Therefore, the payment for excess quantities of more than 10 *per cent* was to be regulated at the rate of ₹ 36.42 per cum⁷¹ according to orders of the CE. The division however paid the contractor at the rate of ₹ 50 per cu m. Payment at higher rate led to excess payment of ₹ 1.64 lakh⁷² to the contractor. We further observed that an amount of ₹ 7.52 lakh was paid to the contractor for execution of extra items

⁷⁰ 11891.6 cu m * ₹ 37.29 per cu m = ₹ 443438/-

⁷¹ Estimate rate of ₹ 32.39 per cu m multiplied by 24.94 *per cent* being the percentage above the estimated rate = ₹ 40.47 per cu m (at rate of 90 *per cent* = ₹ 36.42 per cu m)

⁷² {71179.36 cu m (1.10*53691.36)} * 13.58 = ₹ 1,64,574.17

without approval of the competent authority. This resulted in irregular expenditure of ₹ 7.52 lakh.

The EE of the division stated (April 2012) that the excess payment would be adjusted after sanction and the sanction granted by the CE for payment of 90 *per cent* rates included the extra items. Further, E-in-C stated that permission for payment of extra executed quantity at 90 *per cent* of the rate of the items under clause 4.3.13.3 (a) or the quoted rate of the contractor, whichever was lower was given for continuity of work. Payment to contractor for extra quantity/extra items is still pending.

The reply is not acceptable as payment should have been made according to the orders of the CE and the sanction of CE did not include approval for payment of extra items.

- In case of construction of Saliwara tank by Seoni division, the contractor offered five *per cent* rebate on all the items of work. Ninth running bill for total value of work done of ₹ 1.22 crore was paid (March 2012) to the contractor. We noticed (April 2012) that the rebate offered by the contractor was not deducted from the running bills. This resulted in excess payment of ₹ 6.09 lakh ⁷³ to the contractor.

The EE stated (April 2012) that the rebate would be recovered from the contractor.

2.2.5.8 Execution of Cement Concrete (CC) lining with higher specification

Adoption of higher specifications for CC lining resulted in avoidable extra cost of ₹ 15.88 lakh.

As per the provisions of technical circular (1/84) issued by the E-in-C in March 1984, canals having discharge up to 3 cumec should be lined with precast slabs with M-10⁷⁴ cement concrete.

In Katni division, in work of restructuring of Dhorsi regulator, the canal section had 0.30 m of full supply depth and bed width of 0.60 m (indicating discharge of much less than 3 cumec). The contractor was paid (June 2011) an amount of ₹ 47.64 lakh for 1588.27 cu m of M-15 grade cement concrete (a richer specification) for CC lining. Adoption of richer specification of CC lining resulted in extra cost of ₹ 15.88 lakh⁷⁵. We further noticed that the Chief Technical Examiner, Bhopal has also pointed out (November 2010) that lining with M-10 grade for such small section would be sufficient.

The EE stated (April 2012) that looking to the experience of precast lining, cast *in situ* lining had been provided to prevent theft of lining in panels and

⁷³ Five *per cent* of ₹ 12189114.00.

⁷⁴ This represents cement, sand and coarse aggregate in the ratio of 1:3:6.

⁷⁵	1. Executed Qty. of CC 1:2:4	1588.27 cu m
	2. Rate paid	₹ 3000 per cu m
	3. Rate for CC 1:3:6 payable	₹ 2000 per cu m
	4. Difference in rate	₹ 1000 per cu m
	Extra cost of lining work	₹ 15,88,270

there was a letter dated 9 January 2012 issued by E-in-C in which it was clearly stipulated that there was heavy theft of CC precast (tiles) and therefore *in situ* lining should be adopted. Further, E-in-C also agreed (September 2012) with the reply of the EE.

The reply is not acceptable as the circular was issued after the execution of the said work and the reply does not explain the reason for adoption of M-15 cement concrete in place of M-10 cement concrete.

2.2.5.9 Constitution of less number of territorial constituencies in farmers organisation

Less number of territorial constituencies were constituted.

The National Water Policy 2002 stresses participatory approach in water resources management. Participation of beneficiaries helps in the optimal upkeep of irrigation system and effective utilisation of irrigation water. According to the provisions of Madhya Pradesh Krishak Sangthan Gathan Niyam, 1999, (Rule 10), command area of the schemes are to be divided in territorial constituencies (TCs) for effective utilisation of water by Water User Associations (WUAs) in case of MI schemes as detailed below:

Table 2.18

Area in ha	Number of TCs
200 ha	4
201 to 400 ha	6
401 to 600 ha	8
601 to 2000 ha	10

We noticed (February 2012 to May 2012) that territorial constituencies for WUAs were not constituted according to the said provisions as detailed in table below:

Table 2.19

Name of division	Total schemes	Schemes covered by WUAs	Nos of WUAs	Total required TCs	Constituted TCs	TCs not constituted	WUAs with less TCs
Narsinghpur	25	18	7	60	37	23	6
Hiran Jabalpur	47	38	16	110	88	22	7
Seoni	112	86	45	314	266	48	20
Dindori	81	64	23	184	138	46	17
Katni	106	87	30	270	227	43	14
Total	371	293	121	938	756	182	64

As evident from the above table, the WUAs were constituted for 293 MI schemes against the 371 total MI schemes in five test checked divisions. Further, only 756 TCs were constituted against the required 938 TCs. Out of total 121 WUAs, in 64 WUAs less number of TCs were constituted with respect to the above said provisions. Thus, the objectives of optimal upkeep of irrigation system and effective utilisation of irrigation water were not fulfilled to that extent.

The EEs of the five divisions stated (February 2012 to May 2012) that irrigation was done in total command area through TCs and as far as possible the number of TCs was constituted keeping in view the command area slab

fixed for TCs. It was further stated that a few WUAs had more than one project associated with it and that constitution of less TCs had no relation with less utilisation of irrigation potential, while in some places command area was overlapping with that of other tanks.

The replies of the EEs are not acceptable as the TCs were not formed as required under the norms and all the MI schemes were not covered by formation of WUAs to ensure effective utilisation of water.

2.2.5.10 Irregularities in works through MNREGS funds

Maintenance works of minor irrigation schemes amounting to ₹ 12.96 crore were executed directly by the Department, instead of WUAs resulting in deprival of participation of WUAs in maintenance of MI schemes.

As per directions issued (order no 4823, dated 20 December 2007) by the Panchayat and Rural Development Department, the Water User Associations shall be the executing agency for the maintenance work of minor irrigation tanks and canals undertaken through MNREGS funds.

We noticed (February 2012 to April 2012) that:

- In Dindori division, the works amounting to ₹ 12.96 crore for maintenance of minor schemes were executed departmentally by the division using the MNREGS funds. There were 14 WUAs constituted for 44 minor irrigation schemes in the year 2010-11 and 23 WUAs were constituted for 64 minor irrigation schemes in the year 2011-12 covering 8627.270 ha and 12574.27 ha respectively. Execution of works of MNREGS directly by the sub-divisional authorities was thus irregular. This deprived the WUAs from participating in the works under MNREGS which was against the requirement of the said provision of Panchayat and Rural Development Department.

The E-in-C *inter alia* stated (October 2012) that WUAs did not propose any work under MNREGS and the EE was fixed as executing agency for MNREGS works.

The reply is not acceptable as the Department could not get WUAs associated in execution of works as required in the directives of the Panchayat and Rural Development Department.

The form of muster roll prescribed in directions issued (January 2006) by Panchayat and Rural Development Department provides for signature of witnesses at the time of payment to labourers and name of banks where accounts of labourers are maintained. Further, according to para 4.013 of MPWD Manual, muster roll is not used within three months of issue, it should be reissued. Cutting and use of correction fluid in the muster roll is restricted.

In four divisions, an amount of ₹ 49.43 lakh ⁷⁶ was paid to the labourers through nominal muster rolls (NMRs) but NMRs were used after three months, signature of witnesses were not found recorded and the name of the bank was not recorded against the payment made to the

⁷⁶ Dindori ₹ 12.90 lakh, Hiran Jabalpur ₹ 12.68, Katni ₹ 7.45 lakh and Seoni ₹ 16.39 lakh = ₹ 49.43 lakh

labourers. Thus due to non-observance of the instructions issued by the GOMP, the propriety of expenditure could not be ensured.

The E-in-C stated that the work wise muster rolls were provided by the Janpad Panchayat, name of work, name of department etc. were mentioned in the muster roll which could not be utilised on other works, post office/bank of all the labourer engaged were mentioned.

The reply is not correct as signatures of witnesses were not found on the enlisted muster rolls and muster rolls were used after issue of more than three months.

According to para 2.075 (b) of the MPWD Manual, tenders must be invited for all works proposed to be given on contract unless the amount of work is ₹ 15,000 or less. Supply of road material such as moorum, metal, sand etc. and building materials such as masonry stones, rubble, material for puddle filling, bricks, metal, moorum, sand and timber shall be treated as work⁷⁷ and not as purchase of store materials.

In three divisions irregular expenditure of ₹ 1.36 crore was incurred.

- In three divisions,⁷⁸ the divisional officers incurred (March 2011 to March 2012) an expenditure of ₹ 1.36 crore on procurement of boulders, moorum, sand, stone and metal etc. for maintenance of 54 schemes without inviting tender, resulting in irregular expenditure of ₹ 1.36 crore.

The E-in-C stated that sand, moorum, aggregate and earth for puddle were utilised after procuring at rate sanctioned by the Chief Executive Officer, Jila Pachayat.

The reply is not acceptable as works were to be executed as per provisions of MPWD Manual.

- In Seoni division, an expenditure of ₹ 28.22 lakh was incurred (June 2011 to March 2012) on transport of material through tractor and trolley on petty vouchers on 21 schemes. Tender was not invited for the said work as required in the Manual. Thus, the execution of work was irregular and contrary to the said guidelines.

The EE stated (April 2012) that the work was carried out through tractors being the work beyond the capacity of labourers as the lead was more than 200 metre provided in the Current Schedule of Rates (CSR).

The reply does not address the point raised by Audit.

2.2.6 Monitoring and quality control

2.2.6.1 Inadequate monitoring of MI schemes

The MPWD Manual (paras 8.001 and 8.006) provides that maintenance of dam and canal should be undertaken keeping in view the design assumptions and completion drawings.

⁷⁷ It means that procedure for awarding works shall be followed instead of MP Store Purchase Rules.

⁷⁸ Dindori ₹ 81.31 lakh, Katni ₹ 4.27 lakh and Seoni ₹ 50.25 lakh

Utilisation of irrigation potential remained low due to non-adherence to provisions of WD manual.

The utilisation of irrigation potential in six⁷⁹ test checked divisions is detailed in the table below:

Table 2.20

Year	Total MI schemes	Created IP in ha	Utilisation in ha	Percentage utilisation
2007-08	411	89727	22155.45	24.69
2008-09	434	92969	26308	28.30
2009-10	452	96851	22873	23.62
2010-11	489	105554	27613.9	26.16
2011-12	520	113068	45501.9	40.24

As detailed in the table, utilisation of irrigation potential ranged between 23.62 per cent and 28.30 per cent during the years 2007-08 to 2010-11 and 40.24 per cent in the year 2011-12. The reasons for short utilisation of irrigation potential, as analysed by us, are discussed below;

- As per para 8.009 of the MPWD Manual, if the water way (discharge of water) at the designed full supply level decreases or increases by 20 per cent, the SDO shall prepare estimate for remodelling of canal and submit it to EE who will then obtain approval of the competent authority.

We noticed (February 2012 to April 2012) that no remodelling⁸⁰ work was carried out by four⁸¹ of the five divisions despite deteriorating condition of water way.

- As per para 8.015 (b) of MPWD Manual, irrigation of the command area depends upon the performance of the canal system. Performance of the canals shall, therefore, be watched through the canal guage register and performance table for canals.

We noticed (February 2012 to April 2012) that canal gauge register and performance table for canals were not being maintained.

- Para 7.004 of MPWD Manual provides that printed field books⁸² and level books⁸³ having machine numbered pages shall only be used. Account of level books/field books shall be maintained as that of measurement books. The same importance as for measurement book is prescribed for level/field books. The level/field books shall be returned to division office for record after plotting of level is done.

We noticed (February 2012 to April 2012) in four⁸⁴ out of six test checked divisions that no field books and level books were maintained. In Katni division, review of the field books/level books was not done

⁷⁹ Chhindwara, Dindori, Jabalpur, Katni, Narsinghpur and Seoni,

⁸⁰ Reconstruction of canals according to original drawing and specifications.

⁸¹ Dindori, Hiran Jabalpur, Narsinghpur and Seoni

⁸² Field books are used to record details of detailed survey for later reference.

⁸³ Level books are used to record the levels at time of survey for later reference.

⁸⁴ Dindori, Hiran Jabalpur, Narsinghpur and Seoni

as required under para 7.007 of MPWD Manual in accordance with the checklist given in appendix 7.01 of MPWD Manual.

As detailed above, the performance of canals could not be watched by the higher authorities due to non maintenance of records as required under the MPWD Manual and remodeling work was not carried out which resulted in deteriorating condition of canal network and short utilisation of irrigation potential.

The E-in-C stated (October 2012) that utilisation of irrigation potential was dependent on availability of water and sanction for schemes under Repair, Renovation and Restoration head were being given for works of repair, strengthening and re-establishment of canals. He further stated that computerised management information system had been adopted for monitoring running of canals and its flow capacity and as a result there was increase in actual irrigation and instructions were being issued by E-in-C for maintenance of level books and field books.

The fact remains that non-compliance of provisions of MPWD manual in undertaking remodeling work resulted in deteriorating conditions of canals, which ultimately resulted in short utilisation of irrigation potential.

2.2.6.2 Inadequate inspection of works at division level

Inspections for MI schemes at division level was inadequate.

Para 8.016 of WD Manual prescribes that annual/periodical inspection of:

- (I) All head works of major/ medium /minor projects with culturable command area above 500 hectares annually and head works of other minor projects once in four years and
- (ii) Canals with carrying capacity of more than three cumecs annually and canals carrying less than three cumecs at least once in four years should be carried out by the Executive Engineer.

We noticed (March 2012 and April 2012) in four divisions out of the six test checked divisions that during 2007-12, inspections by the EE were not done according to the required frequency as detailed in the table below:

Table 2.21

SI No	Name of Division	MI schemes inspected	Total MI schemes
1	Hiran Jabalpur	4	47
2	Katni	5	106
3	Narsinghpur	13	25
4	Seoni	6	112
	Grand Total	28	290

The E-in-C stated in exit conference (September 2012) that provisions of MPWD Manual was not practical and EEs were overburdened and did not have time for inspections as per the required frequency. He further stated that the Department had amended (September 2012) the provision and work of inspections had been distributed among SEs, EEs, and SDOs and Sub-Engineers.

2.2.6.3 Inadequate quality control due to inadequate sampling

Quality control over cement concrete work was inadequate due to shortage of samples.

Para 15.2.2 of IS 456: 2000, prescribes minimum frequency of sampling of concrete of each grade for quality test of cement concrete with reference to the quantity of concrete in the work as below;

Table 2.22

Quantity of concrete in the work (cu m)	Numbers of samples
1 – 5	1
6 – 15	2
16 – 30	3
31 – 50	4
51 and above	4 plus one additional sample for each additional 50 cu m or part thereof

Further, standard clause 14.0 of agreements for Madhya Pradesh Water Sector Restructuring Programme (MPWSRP) provides that contractor shall arrange to take sample of cement concrete as directed by Engineer-in-Charge at random to evaluate the quality of concrete lining laid in respective reaches of canal and frequency of taking sample core shall be determined by the Engineer which should be one sample from bed lining and another sample from side lining for every 250 M length for core test.

We noticed (March 2012 and April 2012) in Katni and Narsinghpur divisions out of the six divisions test checked, that in three works, only 51 samples were taken against the required 105 samples for testing the compressive strength. In six works of the Katni division, no test was carried out. The details are given in **Appendix 2.20**.

The EE of Katni division stated (April 2012) that work was done according to specification and field tests carried out such as, slump etc. He further stated that in the absence of test results, appropriate amount had been deducted from contractors bills.

The reply does not explain the reason for not conducting test for compressive strength and the fact remains that deduction of amount for not conducting the tests for prescribed samples indicated that the works were accepted without proper quality control.

Similarly, in respect of the work of restructuring of head work, main canal and RBC of Dhorsi regulator under MPWSRP (Katni division), the prescribed core tests were not done for the work of lining. Thus, divisional authorities accepted the work without assuring the quality of the work.

The EE stated (April 2012) that the test results were awaited from the contractors. Further, E-in-C stated (October 2012) that new structure for quality control is being proposed. It was also stated that work of quality control was affected due to lack of trained officials and lack of equipment, though it does not mean that quality of works have been affected.

The reply is not acceptable as the quality control over the work could not be assured due to lesser tests than the required frequency of tests or non-testing.

2.2.7 Conclusion

The construction of Minor Irrigation schemes in Wainganga Basin of Water Resources Department was affected due to inadequate survey, non-synchronisation of process of land acquisition with tendering process and award of work in mid-way of acquisition of land. Performance of Lift Irrigation Schemes was poor due to lack of participation of users. Overlapping of command area of Minor Irrigation schemes with other Irrigation Schemes was not identified within time resulting in wasteful expenditure. Monitoring and quality control mechanism were deficient as basic records were not maintained and inadequate samples were being taken for testing.

Narmada Valley Development Department

2.3 Thematic paragraph on Distribution Network of Rani Avanti Bai Lodhi Sagar Project

2.3.1 Introduction

Rani Avanti Bai Lodhi Sagar (RABLS) Project previously known as Bargi Multipurpose Project, located in Jabalpur district was the first project on Narmada River under Narmada Valley Development Programme. The Project consisting of dam and distribution network was initiated with the objective to irrigate 1.57 lakh hectare (ha) through Left Bank Canal (LBC). Right Bank Canal (RBC) is separate project and it was not examined in this review.

The distribution network consisting of LBC including main canal, branch canal, distributaries, minors, sub-minors, water course and field channels⁸⁵ under RABLS Project is a major irrigation project to provide irrigation facilities in Jabalpur (95000 ha) and Narsinghpur (62000 ha) district. The cost of LBC was initially met out by the State funds but due to paucity of fund it was taken up under National Bank for Agriculture and Rural Development (NABARD) loan since 1996-97. Construction of 135.50 km long left bank main canal along with its 1915.04 km distribution network was taken up by the Irrigation Department (renamed as Water Resources Department in July 1985) in 1982 at a cost of ₹ 251.85 crore and was to be completed in 1990. The RABLS project was still incomplete after spending ₹ 1099.66 crore as of March 2012. Irrigation potential of 1.23 lakh hectare was created till January 2012 against the target of 1.57 lakh hectare as compiled by us. However, balance works for creation of IP have not been started till March 2012.

The Narmada Valley Development Authority (NVDA, hereinafter referred to as the Authority) was constituted under Narmada Valley Development Department (NVDD) in 1985 with a view to give special attention for development of irrigation facilities in the Narmada Basin. The Authority took over the construction of distribution network in 1992 from Water Resources Department (WRD). The Minister of Narmada Valley Development Department in Madhya Pradesh is the ex-officio chairman of the Authority, who is assisted by a Vice Chairman and five full time members (Engineering, Finance, Power, Environment and Forest & Rehabilitation). The distribution network of the RABLS project is being executed under the Chief Engineer, RABLS Project, Jabalpur. The Chief Engineer (CE) is assisted by three Superintending Engineers (SEs) and four Executive Engineers (EEs) at the field level.

2.3.2 Audit scope and methodology

The audit of distribution network of RABLS Project was undertaken with a view to assess whether the funds were available and utilised effectively,

⁸⁵ The definition of main canal, branch canal, distributary, minors, sub-minors, water course and field channel are explained in the glossary to the report.

irrigation potential was created and utilised as envisaged in the Detailed Project Report and contract management was effective in ensuring timely completion of work in an economical manner. Records of offices of the Member (Engineering) of NVDA, CE, RABLS Project and all the four divisions⁸⁶ engaged in construction of distribution network of LBC were reviewed between December 2011 and March 2012 covering the transactions during 2007-12.

An entry conference was held in October 2011 with Member (Engineering), NVDA to explain the audit objectives, scope and methodologies of audit. Exit conference was held in June 2012 with the Vice Chairman, NVDA and other officials of the Authority. Views of the Authority expressed during exit conference have been incorporated at appropriate places.

This report was issued to Government (August 2012). However, the reply has not been received so far (March 2013).

2.3.3 Financial Management

Excess expenditure over AA was incurred without obtaining revised Administrative Approval.

After taking over the construction work of the distribution network from WRD, the Administrative Approval (AA) for the project amounting to ₹ 309.81 crore was obtained from Government of Madhya Pradesh (GOMP) in 1992 by the Authority. The revised estimate of ₹ 1060.97 crore was submitted by the Authority to the Government (June 2002) for which AA had not been received till March 2012. Another revised estimate for ₹ 1552.85 crore was submitted in March 2012, which has also not been approved by the Government so far (March 2013). The Authority incurred total expenditure of ₹ 1099.66 crore on the distribution network up to 2011-12. Thus, revised AA was not obtained prior to incurring excess expenditure over the AA as required under Para 2.005(1) of Madhya Pradesh Works Department (MPWD) manual which stipulates that when the expenditure exceeds 20 per cent of the sanctioned estimate, revised AA should be obtained.

During 2007-12, the funds allotted were not fully utilised.

An amount of ₹ 846 crore was incurred during the years prior to 2007-08 and ₹ 253.66 crore has been incurred during the five years period from 2007-08 to 2011-12, as shown in the table below:

Table 2.23: Allotment and Expenditure

(₹ in crore)

Year	Budget provision	Allotment	Expenditure				Percentage of unspent balance
			State Govt.	NABARD Loan	Total	Unspent balance	
Up to 2006-07	873.25*	808.43*	459.54	386.46	846.00	----	---
2007-08	60.67	60.40	24.14	31.87	56.01	4.39	7.27
2008-09	58.70	58.70	25.24	36.90	62.14	----	----
2009-10	66.50	66.50	41.10	11.06	52.16	14.34	21.56
2010-11	42.36	49.81	47.29	0.84	48.13	1.68	03.37
2011-12	57.87	38.66	35.22	----	35.22	3.44	8.90
					1099.66		

*Note: Budget Provision & Allotment from 1979-80 to 1985-86 was not available. However, expenditure was taken since beginning i.e. 1979-80.

(Source: Information provided by the CE RABLS Project and Authority)

⁸⁶ (1) Canal Dn. No.-2 Jabalpur, (2) Canal Dn. No.-2 Gotegaon, (3) Canal Dn. No.-1 Kareli and (4) Disnet Dn. Narsinghpur

It would be seen from the table that utilisation of allotment was short by three to 22 *per cent* during 2007-08 to 2011-12. The original allotments were reduced in the last five years due to non-utilisation of allotted fund. The reasons for non-utilisation of available funds were delays in completion of works due to lack of monitoring, delays in acceptance of tenders and award of works and contractors leaving the work incomplete, as discussed in detail in paragraphs 4 and 6.1 to 6.4.

2.3.3.1 Non-availing of NABARD loan

Out of
₹ 576.96 crore
sanctioned by
NABARD,
the Authority
could obtain
reimbursement
of only
₹ 467.13 crore.

According to the schedule II, special terms and conditions of NABARD, Government of Madhya Pradesh (GOMP) shall ensure timely execution of projects by meticulous planning and adequate monitoring in view of the limited period available for construction of canal for irrigation.

Loans aggregating ₹ 576.96 crore were sanctioned under Rural Infrastructure Development Fund (RIDF)⁸⁷ by NABARD in six phases between 1996-97 and 2005-06. According to the schedule of disbursement of the loan, the whole of the sanctioned amount was to be disbursed by the end of 2006-07 by way of reimbursing expenditure already incurred by the project Authorities. Status of sanctions of NABARD loan, claims and reimbursement is shown in the table below:

Table 2.24: Sanction and utilisation of NABARD loan

(₹ in crore)					
Phase and year of sanction	Amount Sanctioned	Claimed	Reimbursement by NABARD	Disallowed by NABARD	Percentage of utilisation
RIDF-II-1996-97	43.26	47.73	40.57	7.16	93.78
RIDF-V-2000-01	87.61	91.06	81.44	9.62	92.96
RIDF-VI-2000-01	83.64	54.03	49.14	4.89	58.75
RIDF-VIII-2002-03	171.23	167.79	153.99	13.80	89.93
RIDF-IX-2003-04	58.35	59.72	56.68	3.04	97.13
RIDF-X-2005-06	132.87	94.42	85.31	9.11	64.21
Total	576.96	514.75	467.13	47.62	80.96

(Source:- Information provided by NVDA)

We noticed that:

- The NABARD sanctioned the last loan in April 2005 with the condition to complete the project by March 2007. As the works could not be completed within the schedule period, the NABARD extended the completion period up to March 2010, for reimbursement of loan for the last phase (RIDF-X-2005-06). The Authority, however, could not complete the work even in the extended period.
- According to the reimbursement schedule of sanctioned loans, an amount of ₹ 576.96 crore was to be disbursed by the end of March 2010. The Authority, however, obtained reimbursement of only ₹ 467.13 crore against claimed amount of ₹ 514.75 crore as of March 2010 leaving a shortfall in reimbursement of ₹ 47.62 crore. Thus, there was a shortfall of

⁸⁷ Rural Infrastructure Development Fund (RIDF) was instituted by NABARD during 1995-96 with the main objective of providing loans to State Government and State-owned corporations to enable them to complete ongoing rural infrastructure projects.

19 per cent in getting loan from NABARD which finally stopped the loan after March 2010. Less utilisation of NABARD loan by the Authority of 41 per cent and 36 per cent for RIDF-VI and X phase respectively was significant.

- According to general terms and conditions of NABARD loan, any cost escalation was to be borne by the GOMP. NABARD disallowed the claims of ₹ 47.62 crore of the Authority on grounds, such as, expenditure incurred on excess quantities and in excess of the sanctioned amount which shows poor planning and estimation by the Authority.

The reasons for shortfall in utilisation of the loan were delays in completion of work due to lack of monitoring, poor planning, delay in land acquisition and non-synchronisation of the works of canal network with the main canal and contractors leaving the work midway.

The CE, RABLS project stated (March 2012) that the reason for non-utilisation of fund was the contractors leaving the work incomplete. The CE, however, did not explain the other factors contributing to delay in completion of work as stated above.

2.3.4 Creation of Irrigation Potential (IP) targets and achievement

Specific targets and milestones were prescribed in the Detailed Project Report (DPR) for execution and creation of the specified irrigation potential to avoid delay and ensure timely accrual of the intended benefits. The works were to be executed according to the provisions of the Madhya Pradesh Works Department Manual.

As against targeted IP of 1.57 lakh ha, the Authority created IP of only 1.23 lakh ha by the end of January 2012. Yearwise creation of IP during the last five years is shown below:

Table 2.25: Creation of Irrigation Potential

Year	Target for creation of IP	Achievement reported	Actual creation of IP	Progressive IP created	(IP in hectare)
					Expenditure (₹ in crore)
Up to 2006-07	156981	111314	111314	111314	846.00
2007-08	20000	16614	4063	115377	56.01
2008-09	16000	19113	4006	119383	62.14
2009-10	9959	4630	1100	120483	52.16
2010-11	500	495	970	121453	48.13
2011-12	---	--	1146	122599	35.22
Total		152166	122599		1099.66

(Source:- Information provided by the CE RABLS Project and field units)

Authority created 1.23 lakh ha IP against targeted IP of 1.57 lakh ha so far and during last five years, only 11 thousand ha IP was created.

The above indicated that only 11,285 ha IP was created in the last five years (2007-08 to 2011-12) by the Authority after incurring expenditure of ₹253.66 crore. In the year 2011-12, no target was fixed for creation of IP. The CE, however, reported (November 2011) creation of 1.52 lakh ha IP to the higher Authority whereas actual creation of IP was only 1.23 lakh ha. The IP reported by the CE is not correct as the Executive Engineer, RABLS Canal division No.1, Kareli intimated (December 2011) to us the fact of non-completion of the main canal from km 130.67 to km 135.50 and its distribution network for IP of 34,223 ha⁸⁸. The shortfall in creation of IP of 34,223 ha deprived of farmers from cultivation in the said reach.

The matter was reported to Government (August 2012) and reply has not been received so far (March 2013).

2.3.4.1 Non-achievement of targets

The lengthwise targets and achievements for creation of IP under LBC are as below:

Table 2.26: Targets and achievements

Reach in km	Designed irrigation (in ha)	Created IP (in ha)	Initial/ current Target	Designed length (in km)	Completed length (in km)	Balance length (in km)	Cost of balance work (₹ in crore)
0 km to 64 km of main canal & 760.89 km distribution system	61587	58330	June 1990	64.00	Completed		163.07
			March 2015	760.89	723.43	37.46	
64 km to 84 km of main canal & 310.58 km distribution system	22204	22105	June 1990	20.00	Completed		47.39
			March 2015	310.58	304.61	5.97	
84 to 130 km of main canal & 508.3 km distribution system	38404	42164	June 1990	46.00	Completed		94.57
			March 2015	508.30	499.23	9.07	
130 to 135.50 km of main canal & 335.27 km distribution system	34786	Nil	June 1990	5.50	5.37	0.13	165.03
			March 2015	335.27	186.79	148.48	
Total	156981	122599		2050.54		201.11	470.06

(Source:- Information provided by the CE RABLS Project)

The reasons for shortfalls in targeted creation of IP of LBC network as observed in audit were paucity of funds, delay in award of work, contractors leaving the work incomplete, work not completed within the scheduled period by contractors and inadequate drainage system as discussed in the succeeding paragraphs:

2.3.4.2 Delay in creation of Irrigation Potential of Left Bank Canal distribution network

(i) Paucity of funds

Canal network could not be completed as per scheduled targets due to paucity of funds up to 1995-96. The work was taken up under NABARD loan in 1996-97 for completion by 2007. After allowing reimbursement of expenditure of ₹ 467.13 crore, the loan assistance from NABARD was stopped from March 2010 as the Authority could not complete the work even in the extended period specified for reimbursement of expenditure by the NABARD. The canal network was still incomplete and now it is targeted to

Paucity of fund up to 1995-96 hampered the progress of work of canal network.

⁸⁸ Against the targeted IP of 1, 56,981 ha, actual created IP was 1, 22,599 ha. Out of the remaining IP of 34,382 ha, IP of 34,223 ha was to be created in canal reach from km 130.67 to km 135.50 and remaining IP of 159 ha in other reaches.

be completed by March 2015. The project is now being executed through State budgetary grants.

The CE accepted the fact (March 2012) that construction activities were stopped during 1992 to 1996 due to paucity of funds.

(ii) Delay in award of work

In respect of 12 works, there were delays in award of work due to delay at different levels and stages.

Clause 4.7 of Appendix 2.10 of MPWD Manual stipulates that tender should be accepted within four months from the date of tender. Clause 8.1.1 of Appendix 2.10 of MPWD Manual as well as agreement (clause 2.10) further stipulates that the contractor will execute the agreement within 30 days of the date of acceptance of his tender.

We noticed in respect of 12 works (design IP 52,111 hectare) out of 21 works test checked in four divisions⁸⁹ that there were delays in issue of work order (three to 11 months) in four cases⁹⁰ and delays at EE level in sending Notice Inviting Tender (NIT) programme to higher authority (eight to 36 months) in other four cases⁹¹. There were delays of five to 12 months in five cases⁹² for finalising NIT and delays of four to 13 months in ten cases⁹³ in acceptance of tenders at the Authority level. In two cases⁹⁴, tenders for balance work were not finalised even after a delay of 24 to 36 months from the date of rescission of original work. Thus, in respect of these works, there were delays at different levels and stages as detailed in **Appendix 2.21**.

In particular, four works (Sl. No. five to eight of Appendix 2.21) of construction of LBC from km 130.67 to km 135.50 with its distribution system (design IP 34,223 hectare) were taken up in 2005-06 to be completed between July 2008 to December 2009 which was still incomplete (March 2012). All the four works were rescinded between July 2009 and October 2010 due to slow progress of works by the contractors. Tenders for three balance works were accepted with the delays of seven to 13 months and in one case the decision of rejection and invitation of tender with splitting the work in four parts, was taken after delay of nine months.

Regarding delay in finalising of tender, the EE Canal division no. 1 Kareli replied that it was only a procedural delay which was not attributable to the department. The reply is not correct because tender for all balance works (Sl. No. five to 12 of Appendix 2.21) were not finalised even after delays of 19 to 39 months from the date of rescission. In two balance works (Sl. No. 11 and 12 of Appendix 2.21), tenders were not invited even after a lapse of 24 to 36 months.

⁸⁹ (1) Canal Dn. No.-2 Jabalpur, (2) Canal Dn. No.-2 Gotegaon, (3) Canal Dn. No.-1 Kareli and (4) Disnet Dn. Narsinghpur

⁹⁰ Sl. No. One to four of Appendix-A

⁹¹ Sl. No. Nine to twelve of Appendix-A

⁹² Sl. No. Five to eight and eleven of Appendix-A

⁹³ Sl. No. One to ten of Appendix-A

⁹⁴ Sl. No. Eleven and twelve of Appendix-A

(iii) Contractors leaving the work incomplete

Non-observance of penal/contractual provision resulted in contractors leaving the work incomplete.

Eight works for construction of canals (for creation of IP of 50,321 ha) out of 21 works test checked by us, were awarded to various contractors from April 2003 to March 2008 for completion by October 2004 to December 2009 (within 13 to 21 months). All the eight works were rescinded between June 2007 and October 2010 due to poor progress by the contractors. Out of this, one work (Nagna distributary) was completed (June 2011) through another contractor with a delay of seven years and extra cost of ₹ 2.93 crore which is recoverable from original contractor. Balance seven works were still incomplete (July 2012).

As the Authority did not have adequate security deposit in their contracts, which could have been adjusted if the contractor failed to complete the work, it was unable to ensure completion of works by the contractors, which are discussed in paragraphs 6.1 to 6.4. Thus, the works for creation of 50,321 hectare IP were delayed from two to seven years as the contractors left the works incomplete as detailed in **Appendix 2.22**.

(iv) Non-completion of work in scheduled period

None of the construction works of LBC were completed in schedule period.

Time schedule is the essence of any agreement. It was, however, observed that none of the works awarded to contractors for construction of distribution network was completed within the scheduled time. Scrutiny of all the 10 completed works during May 2006 to March 2012 indicated that there were delays ranging up to six years in completion of works due to delay in acquisition of land, shifting of electric lines, handing over drawing & design and execution of excess quantities. Delays in acquisition of land in all 10 cases were significant as detailed in **Appendix 2.23**.

2.3.4.3 Inadequate planning resulting in non-creation of IP

According to paragraph 2.025 and 2.026 of the MPWD Manual, project reports are required to be prepared on the basis of detailed survey and investigation. The designs and estimates should also conform to the relevant Indian Standards. Para 2.028 of the MPWD Manual further provides that the officer according the technical sanction to an estimate is responsible for ensuring the soundness of design.

(i) Inadequate drainage system

Hareri branch canal breached due to poor drainage and below specification work resulting in wasteful expenditure of ₹ 1.60 crore.

Hareri branch canal from km 31.30 to km 52.83, constructed between 1992 and 2002 at a cost of ₹ 1.60 crore to irrigate 3,093 ha of Narsinghpur district, was an unlined canal. After a lapse of five years, the canal was tested for the first time in 2007. During testing, the canal breached at km 33.18. After rectification, the canal was tested in the year 2008-09 but failed again and breached at km 37.50 km. It was also rectified in 2008-09. During running of water in 2009-10, the canal again breached at km 43.500, 47.700, 48.100, 52.400. During rains, various other reaches of canal also got damaged.

G.S. Institute of Technology & Science, Indore authorised by the department for analysing the reasons for damage of canal, reported that the canal was

damaged due to the absence of properly designed cross drainage and use of unsuitable soil in the embankment. The technical advisor of the Authority also reported (December 2009) in his inspection report that the canal was not constructed according to earth dam specifications although it was passing through the local ridges and the valleys of the ravines near the river Narmada.

We further noticed that Hareri Branch canal from km 31.30 to km 52.83 was completed during 1992 to 2002 but it was not run immediately and was lying idle due to non-completion of previous reaches (km 00 to km 31.30). As a result, maintenance work is also not being undertaken between km. 31.30 and km. 52.83. Besides, the canal was aligned along the ridge, only one Cross Drainage⁹⁵ (CD) was provided at km 33.19 in the entire reach. In the estimate (December 2011) for reconstruction of breached canal, two additional CDs in km 38.50 & km 41.50 were provided which indicates that the previously planned design for drainage was deficient. Tenders of ₹ 3.20 crore, to correct the damaged work was yet to be invited (March 2012). Therefore, the expenditure of ₹ 1.60 crore on construction of the canal became substantially unfruitful and 3,093 ha IP could not be utilised so far.

The Vice Chairman of the Authority agreed with the audit contention and stated in the exit conference (June 2012) that breach of the canal was a technical failure and the reconstruction work would be done as per Central Water Commissions recommendation.

(ii) Non-planning for outlets and re-sectioning work

Defective estimation resulted in non-creation of 1,791 ha IP and extra cost of ₹ 5.17 crore for completion of balance work.

Earth work, lining, structures and outlets between km 66 and km 84 of main canal, and its branches and distributaries was awarded by the EE Canal Dn. no. 2 Gotegaon in March 2002 for ₹ 17.26 crore to be completed by September 2004. After execution of work valued at ₹ 15.68 crore by the contractor, the Authority withdrew the balance work (₹ 1.58 crore) in September 2008 stating that:

- (i) The outlets could not be constructed due to the reason that the exact place of the outlet shall be decided during execution of the field channels.
- (ii) Cement Concrete (CC) lining could not be completed as the earth work of the minor canal, which was completed long back, had settled down and required re-sectioning work which was not in the scope of agreement.

The reasons on which the work was withdrawn indicate that the work was taken up without properly determining place of outlets and items of work that would be required to be executed. Inadequate planning for the work, thus resulted in avoidable extra cost of ₹ 5.17 crore⁹⁶ for the balance work and non-creation of IP of 1,793 ha. We further noticed that there was no provision for re-sectioning of the canal system even in the revised estimate.

⁹⁵ The alignment of the canals crosses the natural drainage valleys and provision has to be made to take the drains safely across the canal without damaging it.

⁹⁶ Difference of estimated cost for execution of balance works (₹ 6.75 crore) and value of work withdrawn (₹ 1.58 crore)

The EE canal Dn. no. 2 Gotegaon accepted (February 2012) the audit observation and stated that item of re-sectioning of canal system was to be provided at the time of inviting the tender. The reply confirms that estimate was prepared without conducting adequate survey.

2.3.5 Poor utilisation of created Irrigation Potential

Utilisation of created IP was only eight to 25 per cent during last five years (2007-12).

The Authority had created IP of 1.15 lakh ha up to March 2008 which was increased to 1.23 lakh ha up to January 2012 but against this utilisation ranged from 7,903 ha to 30,923 ha. Thus, the utilisation was only eight to 25 per cent during 2007-08 to 2011-12 of the created IP as detailed below:

Table 2.27: Creation and utilisation of Irrigation Potential (In hectare)

Year	IP created	IP utilised during the year	Percentage of utilisation
Up to 2007-08	115377	7903	10
Up to 2008-09	119383	9980	8
Up to 2009-10	120483	15516	13
Up to 2010-11	121453	30923	25
Up to 2011-12	122599	29721	24

(Source: Information provided by CE RABLS and field units)

The reasons for poor utilisation of created IP were non-construction of Water Courses⁹⁷ (WC) and Field Channels⁹⁸ (FC) and non-running of completed canal in full swing due to various reasons such as silting, non-construction of structures, damages of structures and breach of canal in various places as discussed in the succeeding paragraphs.

2.3.5.1 Non-construction of Water Course/Field Channel simultaneously with canal network

Non-construction of Water Course/Field Channel caused less utilisation of created IP.

The canal system comprises of Main Canal, Branch Canal, Distributaries, Minors, Sub-Minors, WC and FC. Approved DPR (1989) of LBC network provided for construction of WC/FC in 1.57 lakh ha for maximum utilisation of created IP.

We noticed that WC/FC essential to carry water from the canal to the fields were not constructed simultaneously with the canal network. The work of WC/FC for 17,870 ha out of 1.23 lakh ha created IP was completed through Command Area Development Authority⁹⁹ (CADA) between 1991 and 2004. Thereafter, the work of WC/FC was stopped and no effort was made by the Authority to complete the balance work. In 2009-10, the work of WC/FC was again taken up under National Rural Employment Guarantee Scheme (NREGS) and CADA. The works of WC/FC were completed only for 10,194

⁹⁷ Water course: A channel taking off from a canal which conveys water to the turn out

⁹⁸ Field channel: A channel taking off from the Government outlet and leading to the farm gate

⁹⁹ GOI launched a Centrally Sponsored Scheme of Command Area Development Programme in 1974-75 with the objective to bridge the gap between the irrigation potential created and that utilised through developing the command area. This programme is monitored by constituting a multi-disciplinary team under the overall control of the Command Area Development Authorities.

ha between 2009-10 and 2011-12, WC/FC works were ongoing for 4,830 ha and for remaining 89,705 ha, works were not started (as of March 2012). Irrigation was being done by cultivators by lifting the water from the canal or by using their own arrangements. Thus, the benefit of irrigation was available only to cultivators having fields near the canal. Non-construction of WC/FC simultaneously with canal system deprived the cultivators from the benefit of irrigation even after completion of the canal.

In the exit conference, the Vice Chairman of the Authority stated (June 2012) that non-construction of WC/FC was not the only reason for less utilisation of IP but non accounting of utilisation of irrigation potential, irregular rain and unwillingness of farmers to change crop pattern (requiring more water) also caused lesser utilisation of IP. He further added that delay in completion of the work of WC/FC was mainly due to frequent changes in the policy of the Central Government regarding development of command area for such project and the work of WC/FC would be completed early.

The fact remains that due to delay in completion of the work of WC/FC, the cultivators who were not in proximity to the canal were deprived of the facility of irrigation and resulting in less utilisation of IP of 92,878 hectare.

2.3.5.2 Non-running of completed canal

For maximum utilisation of created IP (1.23 lakh ha), it was necessary to run the canal in full capacity up to the tail.

We noticed that 17 *per cent* of the created IP was not utilised due to non-running of completed canal in full capacity. Out of 590 minors/sub-minors, 143 minors/sub-minors having IP of 20,437 ha were not in a condition to carry water due to silting in bed (58 minors/sub-minors; IP 9,852 ha), non-construction of structures like head regulator, village road bridge and cross drainage (55 minors/sub-minors; IP 6,636 ha), breach of canal (24 minors/sub-minors; IP 3,093 ha) and damage in canal structures (six minors/sub-minors; IP 856 ha). The main reason for silting in canal bed of minors/ sub-minors was its non-maintenance. Action for rectifying damage and construction of incomplete structures was also not initiated on time, which caused lesser utilisation of Irrigation Potential.

The matter was reported to Government (August 2012) and reply has not been received so far (March 2013).

2.3.6 Deficiencies in management of Contracts

Instances of violation of the provisions of the agreements and the Manual leading to inadmissible payment, excess payment and irregular release of Security Deposit (SD) /Performance Security Deposits (PSD) were noticed which are discussed in the succeeding paragraphs.

2.3.6.1 Non-adherence to contractual provisions resulting in excess payment

Non-adherence of contractual provision resulted in recoverable amount of ₹ 5.35 crore from defaulting contractor.

The Executive Engineer Canal Dn. no. 2, Jabalpur awarded (April & July 2003) two works¹⁰⁰ to a contractor. The works were scheduled to be completed by January 2005 and April 2005 respectively. The contractor failed to complete the works even within the extended period (31 March 2008). The works were rescinded in December 2008 and final bills of incomplete works were passed (November 2010) for recoverable amount of ₹ 5.35 crore (₹ 3.09 crore for Agreement no. 01/03-04 and ₹ 2.26 crore for Agreement no. 02/03-04), whereas only ₹ 1.53 crore was available with the division in the form of security for both the agreements.

We noticed that recovery arose due to various irregularities like erroneous payment of escalation, payment for sub-standard work, execution of excess quantity and non-recovery of royalty charges for the material consumed in canal works by the Authority in running payment to the contractor as detailed below:

Table 2.28: Recoveries to be effected due to mistakes in payments

Description	Agreement no. 1 Amount (in ₹)	Agreement no. 2 Amount (in ₹)
Escalation erroneously paid	85,96,376	92,70,528
Penalty for unfinished work	7,40,000	9,10,000
Penalty for bad work	13,88,300	--
Royalty not deducted	66,44,198	44,97,237
Amount of quantity reduced from previous bill due to sub-standard work	96,22,573	43,14,415
Amount of quantity reduced from previous bill due to excess quantity	46,47,113	47,95,439
Total	3,16,38,560	2,37,87,619
Amount payable in final bill	(-) 6,165	(-) 2,40,444
Amount released in final bill	(-) 7,40,000	(-) 9,10,000
Net recoverable amount	3,08,92,395	2,26,37,175
Total recoverable amount		535.30 lakh

(Source:- Information provided by the EE Canal dn. 2 Jabalpur)

The Executive Engineer Canal Dn. no. 2, Jabalpur stated (March 2012) that:

- the contractor was not entitled for escalation as time extension was granted under penal clause,
- in some places lining of canal were damaged and the contractor promised to rectify the damaged work but the same was not rectified by him. He further stated that quantities of damaged works were deducted from the final (paid) quantity and

¹⁰⁰ Belkhedi distributary from km 0.00 to km 34.00 and its distribution system (Agt. 01/03-04)
Pipariya sub-distributary km 0.00 to km 12.00, Belkhedi tail minor km 0.00 to km 15.00 and its minors & sub-minors (Agt. 02/03-04)

- (iii) the extra executed quantities were reduced up to agreed quantities due to non-sanction of these by the competent authority.

The reply confirms that the payments on account of escalation initially made were wrong. Extensive damage of lining work was indicative of sub-standard material/ workmanship and extra works should have been executed after obtaining sanction from the competent authority to avoid such situation and any dispute with contractor at later stage.

Irregular release of Security Deposit/Performance Security Deposit

Performance security of ₹ 1.54 crore was irregularly released though the work was rescinded under risk and cost of the defaulting contractor and ₹ 5.35 crore was recoverable from him.

In terms of the standard clause 4.3.17.2 of the agreement, SD/PSD of the contractor shall be released only after twelve months from the date of completion of the work. Clause 4.3.3.3 of the agreement stipulates that if the contractor fails to complete the works, competent authority shall have power to measure up the work of the contractor and entrust the unexecuted part of the work to another contractor. Any extra cost in the execution of the balance work shall be borne and paid by the original contractor which may be adjusted from SD/PSD of the contractor and any money due to him by the Government.

We noticed that both the above agreements were rescinded on 22.12.08 under clause 4.3.3.3 of the agreement due to slow progress of work. Therefore, the balance work was to be completed through another agency and the extra cost should have been adjusted from the contractors deposits. Contrary to this, the EE Canal division no-2, Jabalpur irregularly released two Fixed Deposit Receipts (FDRs) deposited by the contractor towards PSD for ₹ 1.54 crore¹⁰¹ to the contractors on 22 November 2009, that is, after recession of the agreements as detailed in the table below:

Table 2.29: Details of security deposits and performance security deposits

(₹ in lakh)						
Agreement no.	PSD in the shape of FDR	/SD the of	SD deducted from RA Bills	Total Amount	PSD released	Balance SD available
1/2003-04	122.95		35.63	158.58	73.65	84.93
2/2003-04	99.96		48.25	148.21	79.85	68.36
			Total	306.79	153.50	153.29

(Source:- Information provided by the EE Canal dn. 2 Jabalpur)

The Authority, therefore, lost the opportunity to adjust the recoverable amount to the extent of ₹ 1.54 crore out of the net recoverable amount of ₹ 3.82 crore (₹ 5.35 crore - ₹ 1.53 crore). Recovery of balance amount of ₹ 3.82 crore was yet to be effected. Besides due to slow progress of work and subsequent rescission of the contract, the completion of the project has suffered delays and consequently the cultivators were deprived of the irrigation facilities as the canal work is still incomplete (March 2013).

¹⁰¹

Agt. No.1 FDR No. 770083 dated 10.04.03 for ₹ 73.65 lakh

Agt. No.2 FDR No. 770642 dated 14.07.03 for ₹ 79.85 lakh

Total ₹ 153.50 lakh

The CE accepted (March 2012) the audit observation and replied that release of SD and PSD was not according to the agreement clause. It was also stated that departmental enquiry had been initiated against the concerned Executive Engineer.

2.3.6.2 Inflated measurement of works resulting in excess payment

Inflated measurements led to excess payment of ₹ 62.05 lakh to the defaulting contractors.

The MPWD Manual envisaged that running payments to the contractor should be made after recording measurements by the Sub Divisional Officer. 10 per cent of such measurements should be test checked by the Divisional Officer.

Two works¹⁰² were awarded (August 2004 and November 2006) by the EE Canal Dn. no. 1 Kareli to contractors for ₹ 32.87 crore with the scheduled completion period by May 2006 and July 2008 respectively. Due to slow progress, the works were rescinded in March 2010 and July 2009, respectively.

We noticed in the examination of final bills of the said incomplete works that the executed quantities of several items of work in final bills were less than the quantities for which payments were made up to the penultimate bills. The reason was non-deduction of excavated soil used in embankment from earth work, non-deduction of shrinkage allowances, excavated quantities of Cohesive Non-swelling Soil (CNS)¹⁰³ material not deducted from execution of CNS and wrong calculation in previous bills.

The excess payment of ₹ 62.20 lakh (**Appendix 2.24**) due to inflated measurement up to the penultimate bills signifies that the EE failed to exercise control over the measurements recorded in the measurement books.

The EE Disnet Division, Narsinghpur accepted (January 2012) the excess payment due to inflated measurement and stated that it would be adjusted from the contractors deposits. The payments on inflated measurement also resulted in cost overrun of the project without creating tangible assets for the project.

2.3.6.3 Avoidable payment of escalation

Delay in acquisition of land led to avoidable payment of escalation of ₹ 4.81 crore besides delaying irrigation facility in 25,675 ha.

According to the Appendix 1.25 (vi) of the MPWD Manual it is the responsibility of the Executive Engineer to work out the requirement of land for work, quarries and draw up programme for land acquisition/land transfer with a view to ensure transfer of required land before target date set for starting of works.

In three agreements (**Appendix 2.25**) of canal works intended to provide irrigation in 25,675 ha, we noticed that works were not completed within the stipulated period due to delay in acquisition of land. The competent authority granted time extension to the contractors on this ground. According to the clause 2.40.2 of the agreements, the contractors were entitled for escalation in

¹⁰² (i) Construction from km 126.190 to km 130.670 of LBC and its distribution system
(ii) Construction of Sadumar Branch Canal from km 0.0 to km 4.5 & Dungaria Distributary km 5 to km 23

¹⁰³ They are soils possessing the property of cohesion of varying degree and having non-expanding type clay minerals such as illite and kaolinite and their combination with low plasticity with liquid limit not exceeding 50 per cent.

the extended period for delay not attributable to them. We further observed that works were awarded either without initiating the process of land acquisition or land were acquired after 27 to 39 months from the date of award of work to the contractors. This had resulted in increase in schedule completion period and avoidable payment of escalation for the period beyond the stipulated period to the contractors of ₹ 4.81 crore. Thus due to delay in completion of work from one year to three and a half years as detailed in **Appendix 2.25**, there was consequential delay in providing irrigation facility in 25,675 ha.

The EE Disnet Dn, Narsinghpur (January 2012) stated that the proposal of land acquisition for branch canal was submitted before start of the work, whereas the proposal of minors and sub-minors was submitted later due to paucity of funds as the work was sanctioned under NABARD in February 2003. The reply however does not give explanation for award of works without acquisition of land. Other two divisions did not give any reply. The excess payment of escalation would also increase the cost of the project.

The matter was also reported to the Government (August 2012) and reply has not been received so far (March 2013).

2.3.6.4 Non-observance of terms and conditions of contracts resulting in undue financial benefits to contractors

We noticed that the Authority, on many occasions, failed to enforce the provisions of the contracts to secure its interest or avoid loss to the Government, which also resulted in undue financial benefits to the contractors as summarised below:

Nature of Irregularities	Audit observation
(i) Non-invoking of clause for defaulting contractors in termination of contracts	<p>Clause 4.3.2 of the agreement stipulated that if the contractor fails to complete the work and the contract is terminated, the amount of SD/PSD shall stand forfeited to the Government. The balance work shall be got executed through another agency, at the cost of the contractor and extra cost if any shall be recovered from the original contractor.</p> <p>Further, clause 4.3.3.3 of the agreement stipulated that if the contractor failed to complete the works, competent authority shall have power to debar the defaulting contractor from taking part in any other new tender/contract, to blacklist and cancel registration of the contractor in addition to forfeiture of security deposit and performance security.</p> <p>We noticed in the scrutiny of eight rescinded agreements that in four agreements for construction of main canal (km 130 to km 135), branch canal and its distributaries, the contractors failed to achieve the milestones and the</p>

Nature of Irregularities	Audit observation
	<p>contracts were rescinded under clause 4.3.3.3 of the agreement instead of clause 4.3.2. The rescission of contract under 4.3.2 was more advantageous to the Government because the additional expenditure incurred for the completion of balance work was also recoverable from the original contractor, in addition to forfeiture of the security deposit and black listing of contractors for award of further works. Thus, by not invoking clause 4.3.2, the Authority lost the opportunity to recover extra cost incurred on completion of balance work from the original contractor, resulting in overall increase in the project cost and avoidable loss to the Government of ₹ 37.06 crore as detailed in Appendix 2.26.</p> <p>We further noticed that though the contracts were terminated under clause 4.3.3.3 of the agreement, the division forfeited SD and PSD of ₹ 1.82 crore only out of ₹ 7.02 crore of the contractors, which was available with the Authority.</p> <p>During the exit conference, the Vice Chairman of the Authority accepted and stated (June 2012) that legal advice would be taken to revise the order of rescission of the contracts issued by the EE, so that the extra cost could be recovered from defaulting contractors. The fact remains that rescinding the works in non-panel clause resulted in cost overrun of the project.</p>
<p>(ii) Excess payment to contractors due to non-deduction of additional security deposit for unbalanced items</p>	<p>Clause 3.26 of the agreement provided that if the rates quoted by the contractor for different items are disproportionately high as compared to the estimated rates of such items, payment for those items is to be made at the estimated rate <i>plus/minus</i> overall tender percentage. The balance payments are to be withheld as additional security deposit until completion of the entire work. The withheld amount will, however, be forfeited if the contractor abandons the work. Besides the provision in the agreement, the tender approving authority also specifically directed (in their acceptance letters) to regulate payment of unbalanced items as per clause 3.26 of the agreement.</p> <p>In scrutiny of 12 agreements of LBC and its distribution network, we noticed that the contractor had quoted higher rates than the estimated rates for some items of work, for which an amount of ₹ 9.51 crore was required to be retained towards additional security deposit. Out of the 12 agreements, seven agreements were rescinded due to slow</p>

Nature of Irregularities	Audit observation
	<p>progress of work. In the two cases¹⁰⁴ where additional security deposits of ₹ 1.01 crore were recovered, ₹ 92 lakh was subsequently released to the contractor before rescinding the work. Non-recovery of additional security deposit as per the provisions of the agreement and specific instructions of the tender approving authority, resulted in unrecoverable amount of ₹ 8.56 crore¹⁰⁵ from the contractors in seven rescinded cases and undue financial aid to the contractors of ₹ 86 lakh in five completed works (Appendix 2.27). Evidently, due to not invoking this clause, the deterrent effect on contractors to ensure completion of work within the estimated time and cost remained unrealised.</p> <p>The EE LBC Dn. No. 2 Jabalpur stated (March 2012) in reply that since the contractor was executing both lower and higher rate items simultaneously, in the interest of work, additional security for unbalanced items was not retained. The reply does not justify the non-recovery of additional security deposit in respect of unbalanced items as the terms of the agreement provided for this. The tender approving authority also identified the unbalanced items in his approval letters and directed to enforce the unbalanced item clause of the agreement.</p>
(iii) Non-imposition of penalty on contractors for delay in completion of works	<p>Clause 4.3.5.3 of the agreement stipulates that grant of time extension shall be without prejudice to the rights to recover liquidated damages as per terms of the agreement. Further, Clause 4.3.2 of Appendix 2.14 (Standard format of Item rate tender) of MPWD Manual provided the quantum of the penalty.</p> <p>We noticed that three contracts of Canal division no. 1 Kareli, were rescinded as the contractors failed to achieve the milestones specified in the contracts. Time extensions were granted under penal clause 4.3.5.3 but the quantum of penalty was not specified in the contracts as clause 4.3.2 was amended by the Authority. Since the time extensions were granted under penal clause, liquidated damages (LD) amounting to ₹ 4.62 crore (Appendix 2.28) should have been imposed on the contractors. The Authority, however,</p>

¹⁰⁴ (i) Agreement No. 1/07-08, construction of LBC from 130.670 km. to 135.50 km. and Renuka distributary from 0 to 5 km. (ii) Agreement No. 2/07-08, construction of Sadumar branch canal from 4.50 to 9.00 km. and Amoda distributary.

¹⁰⁵

Amount to be recovered from seven rescinded cases	₹ 8.64 crore
Available amount with the division	₹ 92 lakh
Recoverable amount	₹ 8.56 crore

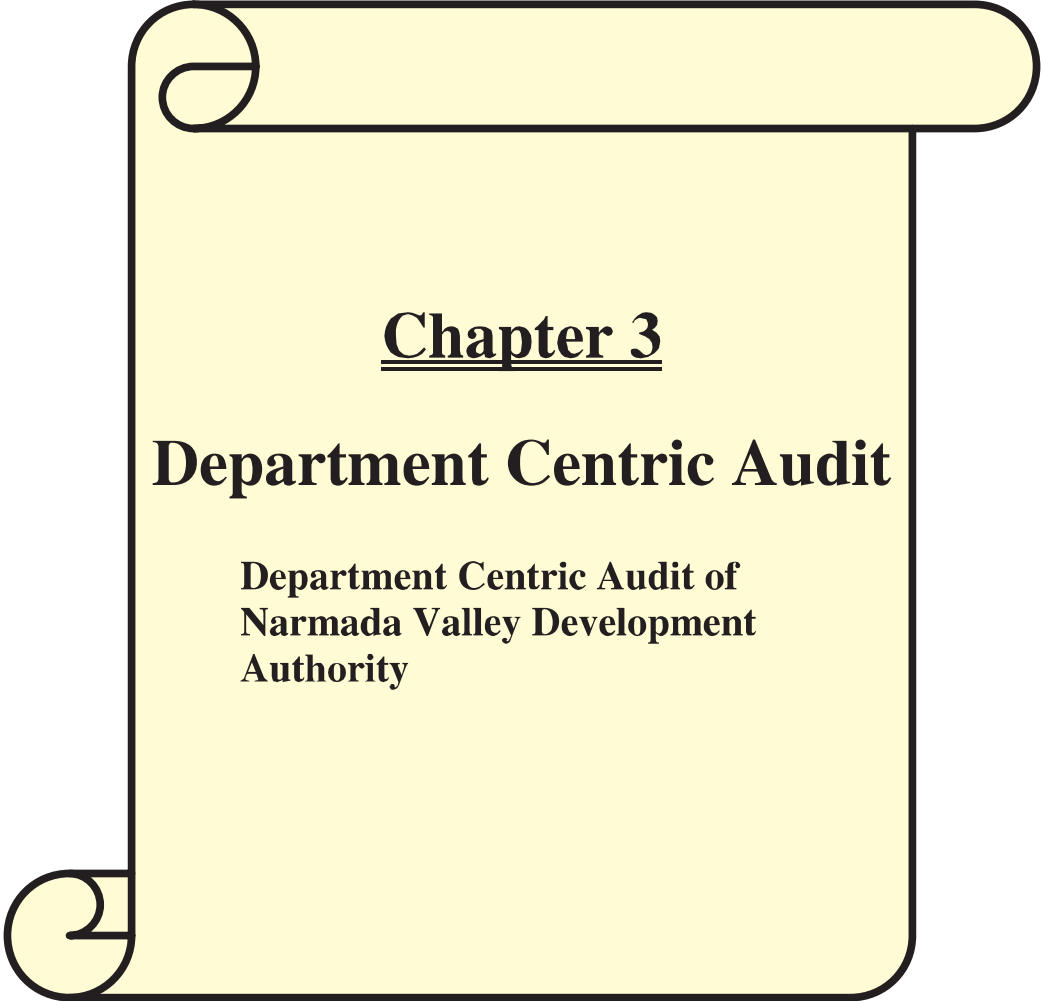
Nature of Irregularities	Audit observation
	<p>did not impose LD on the defaulting contractors. Thus, the defective penalty clause facilitated the contractors to escape from the liability of LD thereby impacting the overall project cost.</p> <p>The EE of the division stated (January 2012) that there was no provision in the agreement to recover liquidated damages, hence it was not recovered. From the reply, it is clear that contracts were defective.</p>
(iv) Short recovery of secured advance from contractor	<p>As per clause 3.25 of the agreement, recovery of secured advance is to be effected in each succeeding bill to the extent materials are consumed in the finished items.</p> <p>We noticed in construction of Sadumar branch canal from km 0.0 to km 4.5 that secured advance of ₹ 58.95 lakh was paid (December 2006 to November 2008) to the contractor. While recovery of ₹ 37.45 lakh was made (March 2007 to February 2009) from his bills, the contractor left the work incomplete (July 2009) and balance amount of ₹ 21.50 lakh remained unrecovered in the last bill of the contractor taking into account the erroneous adjustment of ₹ 10.19 lakh in that bill.</p> <p>The Government replied (December 2012) that only ₹ 11.31 lakh of secured advance was outstanding for recovery in the final bill against which precast tiles amounting to ₹ 18 lakh was available with the division. The reply was not correct as ₹ 10.19 lakh was erroneously adjusted in the final bill and therefore, ₹ 21.50 lakh (₹ 11.31 lakh plus ₹ 10.19 lakh) was outstanding for recovery. Further, value of lying material on site cannot deem adjusted against the recoverable amount unless it was consumed in the works as such adjustments inflate the cost of the project without corresponding benefits in terms of irrigation potential.</p>

2.3.7 Conclusion

Though the Authority had no financial constraints between 1996-97 and 2009-10, the canal construction work could not be completed within the targeted date due to delay in award of work, delay in acquisition of land and slow progress of works. The RABLS project rescheduled to be completed by 2015 has not achieved the desired objectives of providing irrigation due to non-synchronisation of work of distribution system and field channels with the main canal, as only 29,721 ha out of the created IP of 1.23 lakh ha was utilised as of March 2012. Abnormal delay in execution of main canal from km 130.67 to km 135.50 and its distribution network would be a major

bottleneck in achieving the objective of irrigating 34,382 ha in Narsinghpur district.

Contract management at the field level was defective and as a result, progress was not achieved as targeted. There were instances of non-invoking of contractual provisions like non-retention of security amount for unbalance items, excess payment to contractors, non-invoking of risk and cost clause and non-levy of penalty.



Chapter 3

Department Centric Audit

**Department Centric Audit of
Narmada Valley Development
Authority**

CHAPTER-III

Narmada Valley Development Department

3.1 Department Centric Audit of Narmada Valley Development Authority

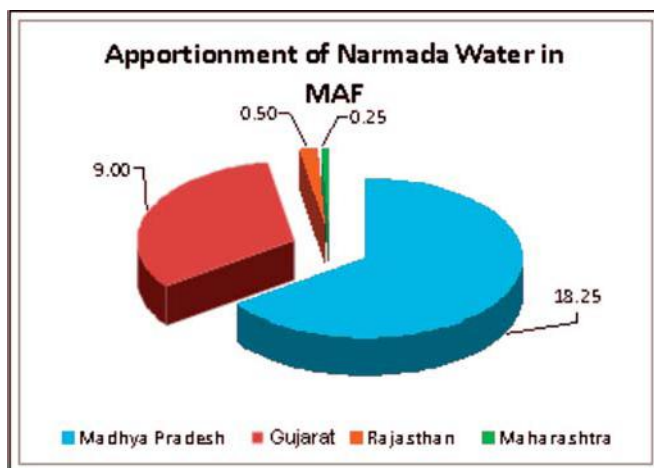
Highlights

Narmada river, originates from Amarkantak Hill in Shahdol district and flows westwards over a length of 1,312 km before draining through the Gulf of Cambay (Khambhat) into the Arabian Sea in the Bharuch district of Gujarat State. As there were disputes over the sharing of water among the riparian States, the Government of Gujarat submitted (July 1968) under the Inter State Water Dispute Act, 1956, a formal complaint to the Ministry of Water Resources for sharing of Narmada water and a tribunal (NWDT) was set up in 1969 to adjudicate in the matter of sharing of water. According to the award of tribunal in December 1979 Madhya Pradesh was to get 18.25 MAF of water of Narmada. This was to be reviewed by the NWDT in 2024. For expeditious development of irrigation facilities in the Narmada basin, the Government of Madhya Pradesh established (July 1981) Narmada Valley Development Department (NVDD). In July 1985, planning and execution of major projects in the Narmada Valley was entrusted to the multi disciplinary authority of the Narmada Valley Development Department (NVDA). So far, 11 dams for 13 major projects across the Narmada and its tributaries for storage of 9.114 Million Acre Feet water and canal system for utilisation of 3.1565 Million Acre Feet water could be completed. A department centric audit on Preparedness of State for tapping of Narmada Water as per Narmada Water Dispute Tribunal award revealed:

- There were slippages in planning for utilisation of Narmada water due to slow progress by the contractor, delay in obtaining environment clearances and delay in preparation of resettlement and rehabilitation plans.
(Paragraph 3.6)
- There were delays in completion of all the components of projects execution resulting in cost overrun and non-completion of dams as well canals and distribution system.
(Paragraph 3.7)
- Delays in approval of drawing, design and Detailed Project Reports (DPRs) were due to non-submission of reports in prescribed format, incomplete information, inadequate drawings etc.
(Paragraph 3.7.2)
- Delays in obtaining environment clearances were due to submission of incomplete information to the Ministry of Environment and Forest (MOEF), delay in preparation and submission of Environment Impact Analysis/Environment Management Plan.
(Paragraph 3.7.3)
- The delays in acceptance of tenders and award of work contributed to delays in completion of projects.
(Paragraph 3.7.6)

- Execution of canals works were delayed mainly due to slow progress by contractors, delays in land acquisition in few reaches, inadequate estimates and execution of works in a phased manner for different reaches instead of taking up execution of all the reaches simultaneously.
(Paragraph 3.7.7 (ii))
- The scheduled completion period of 18 to 36 months in respect of eight turnkey contracts had already lapsed. All the works were however, incomplete as of August 2012 after delays of 12 to 20 months.
(Paragraph 3.7.7(iii))
- Survey works for medium and minor projects (2.677 Million Acre Feet for 710000 ha) in remaining portion of the Narmada basin (Amarkantak to Handia gauge) was not awarded as of August 2012.
(Paragraph 3.8)
- After lapse of more than 33 years from the date of award of the Tribunal, total utilisation of water was only 5.51 Million Acre Feet during the water year ending June 2012 against the allotted share.
(Paragraph 3.9)
- After imposition of the ceiling by State Planning Commission, Narmada Valley Development Authority has not so far planned to tie up funds for bridging the gap of ₹ 11002 crore required for completion of remaining projects.
(Paragraph 3.10)

3.1 Introduction



Source: Information provided by NVDA

The Narmada river, the fifth longest river in India, covers 20 districts of Madhya Pradesh (MP). It originates from Amarkantak Hill in Shahdol district and flows westwards over a length of 1,312 km before draining through the Gulf of Cambay (Khambhat) into the Arabian Sea

in the Bharuch district of Gujarat State. As there were disputes over the sharing of water among the riparian States, the Government of Gujarat submitted (July 1968) under the Inter State Water Dispute Act, 1956, a formal complaint for sharing of Narmada water to Ministry of Water Resources, Government of India.

Narmada Water Disputes Tribunal (NWDT) was constituted in October 1969 to adjudicate upon the dispute regarding sharing of Narmada water. The

Tribunal determined the utilisable quantum of Narmada waters to be 28 million acre feet (MAF) at 75 per cent dependability and allocated it among the four riparian states through its award (Award) in December 1979 as detailed in the table below:

Table No: 3.1

Quantity of water	Madhya Pradesh	Gujarat	Rajasthan	Maharashtra	Total
(in MAF)	18.25	9.00	0.50	0.25	28.00
(in Million Cubic Metre)	22511.01	11101.32	616.74	308.37	34537.44
Ratio	73	36	2	1	

(Source: Information provided by NVDA)

The award further provided:

- That apportionment was to be done on the basis of actual withdrawals and not consumptive use¹.
- That within its share of water, each party State was free to make such changes in the pattern of water use and in the areas to be benefited within or outside the Narmada basin in its territory as it may consider necessary.
- Review at any time after a period of 45 years from the date of publication (December 1979) of the decision of the Tribunal in the Official Gazette, with regard to the equitable allocation of water.

Thus, the State of Madhya Pradesh has to ensure that the allocated share of 18.25 MAF water is fully utilised by creation of necessary infrastructure by 2024 to avoid reallocation of unutilised water during review by the NWDT in or after 2024.

The Narmada Valley Development Department (NVDD) was created in 1981 with the objective of executing major irrigation and multipurpose projects in the Narmada Valley. Execution of irrigation projects till 1985 was undertaken by the Government of Madhya Pradesh through the Irrigation Department.

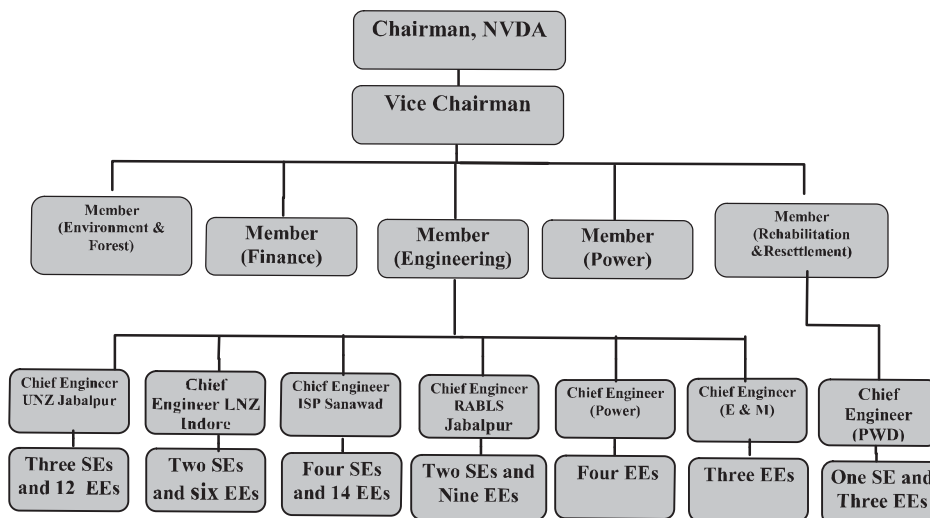
The NVDA was constituted in July 1985 for specific purpose of planning the construction of hydropower and irrigation projects in Narmada Basin and execution of major irrigation projects for utilisation of apportioned share of Narmada water before review year of the NWDT award. The organisation is mandated to meet its manpower requirements by recruitment through deputation from other Government Departments and re-employment of retired personnel besides hiring of consultants for a fixed period.

3.2 Organisational set-up

NVDA is headed by the Minister of State in the Government, who is ex-officio Chairman of NVDA. The Chairman is assisted by the Vice Chairman,

¹ Consumptive use of water means water utilised from available supplies without return to a water resources system for reuse (e.g. water used in agriculture is not returned to a stream, river).

who is the Chief Executive Officer in charge of the day to day affairs of NVDA. Vice Chairman is assisted by Member (Rehabilitation & Resettlement), Member (Finance), Member (Engineering), Member (Power) and Member (Environment and Forest). Member (Engineering) is supported by four Chief Engineers (two at Jabalpur and one each at Indore and Sanawad) who in turn are assisted by the Superintending Engineers and Executive Engineers at field level as shown in the organogram:-



3.3 Audit objectives

The department centric audit of NVDA was conducted to assess achievement of NVDA so far in completion of projects in Narmada basin and plan for completion of remaining projects by the review year. For this, Audit examined following aspects;

- Identification and planning of projects
- Implementation of projects activities as planned
- Utilisation of water in completed and ongoing projects
- Funding of the projects
- Monitoring of project execution

3.4 Audit criteria

The audit findings were based on the criteria drawn from provisions of;

- the award of the Tribunal, Master plan (1972), Madhya Pradesh Works Department (MPWD) Manual and Madhya Pradesh Financial Code (MPFC),
- Madhya Pradesh Karya Avantan Niyam (MPKAN), Vision documents (2012, 2015 and 2020), reverse calendar 2012 and

- provisions of the Forest (Conservation) Act, 1980, the Land Acquisition Act, 1894 and Guidelines for submission, appraisal and clearance of Irrigation and Multipurpose project, 2010 and
- reports of the Working Group on Minor Irrigation, Ministry of Water Resources, Government of India and Planning Commission.

3.5 Scope and methodology of audit

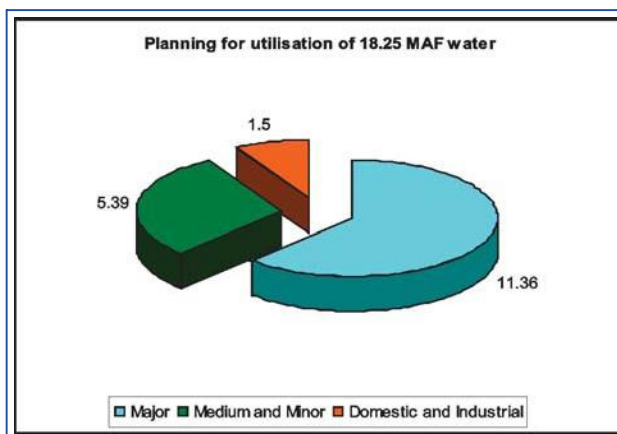
The department centric audit covered review of projects implemented so far, planning and implementation of the remaining projects and extent of utilisation of Narmada water. The department centric audit was conducted during June 2012 to September 2012.

The audit objectives, criteria and methodology were discussed with NVDA during entry conference in June 2012.

Audit findings were discussed in the exit conference held (December 2012) with the Vice Chairman, NVDA. Views of the Authority expressed in the exit conference have been included in this report. The audit findings were sent to the Government (October 2012). Their reply has not been received (March 2013).

3.6 Planning for utilisation of Narmada water

NVDA revised project completion period thrice and is now slated for completion by 2020-21.



Source: Information provided by NVDA

The Master plan for utilisation of 24.08 MAF Narmada water through 31 major, 441 medium and 1927 minor projects was prepared in 1972 by GOMP. After award by the Tribunal, utilisation of reduced share of 18.25 MAF (Appendix 3.1) was planned (September 1978) through major (23), medium (135) and minor (3000) projects²

with cumulative capacity of 16.75 MAF for irrigation use and the remaining 1.5 MAF for domestic/industrial use as shown in the graph. The project wise details of proposed utilisation of 18.25 MAF water is shown in Appendix 3.1.

In December 2003, “Vision 2012” document for development of water resources through major projects in Narmada basin was prepared by NVDA.

² The projects having command area more than 10000 ha are classified as major projects, having command area between 10000 ha and 2000 ha are classified as medium projects and having command area less than 2000 ha are classified as minor projects.

According to the Vision document, all the major projects in Narmada basin were to be completed by the end of the 11th Five Year plan, i.e. up to the year 2011-12.

Due to slow progress, there were slippages in completion of major projects. Therefore, Vision 2012 was modified and a reverse calendar³ was introduced in May 2007 to indicate all action necessary towards achieving the targets and efforts required to overcome shortfalls or bottlenecks. All major projects were planned for completion up to 2011-12 by undertaking construction of canal system simultaneously with construction of dams.

As there were further slippages, mostly due to delays in environment and forest clearances and approval of rehabilitation and resettlement plans, Vision 2015 document (published in 2009) was prepared with a view to complete all major projects by the year 2015. According to the Vision 2020, all the major projects have been planned for completion by 2021-22.

NVDA could complete only two major projects for utilisation of 0.2045 MAF out of 18 projects to be completed by it.

3.7 Status of implementation of major projects

Utilisation of allocated share of 18.25 MAF was planned through 23 major projects, 135 medium projects and 3000 minor projects. The status of implementation of major projects (**Appendix 3.2**) in Narmada Basin as of August 2012 is summarised in the table below;

Table: 3.2

Executing Agency	Number of project	Proposed water utilisation in MCM	Proposed water utilisation in MAF	Project status	Completion year
WRD	5	3641.39	2.952	Completed	Before 1988
NVDA	2 ⁴	242.245	0.2045	Completed	2010-11
NVDA	7 ⁵	7484.8	6.068	Ongoing	-
NVDA	2 ⁶	312.93	0.2537	Tendering process	-
NVDA	7 ⁷	1931.23	1.57	Yet to be taken up ⁸	-
Total	23	13612.595	11.05		

As per Vision 2012 document of NVDA, twenty six dams (**Appendix 3.1**) were to be constructed under 23 major projects till end of 2011-12. As of August 2012, 11 dams of 13 major projects⁹ (9.114 MAF) and canals system

³ Reverse calendar: As the word denotes, target date of completion is set and all the activities are scheduled so as to complete the project by the target date.

⁴ Man: 140.1 MCM and Jobat: 112.145 MCM

⁵ RABLS: 1681 MCM, BDP : 2510.6 MCM, ISP: 1625.26 MCM, Omkareshwar (OSP): 1300 MCM, Upper Bada: 101.09 MCM, Punasa LIS 130.20 MCM and Lower Goi: 136.65 MCM = Total 7484.8 MCM (6.068 MAF)

⁶ Halon: 134 MCM and Upper Narmada: 178.93 MCM = 312.93 MCM (0.2537 MAF)

⁷ SMS: 486.600 MCM, Dudhi: 317.46 MCM, Morand Gunjal: 427.65 MCM, Upper Burner: 82.72 MCM, Ataria: 112.00 MCM, Chinki: 458.60 MCM and RRB: 46.20 MCM= 1931.23 MCM (1.57 MAF).

⁸ There is net reduction of 0.31 MAF water in capacity of major projects after detailed survey for which there was no plan to bridge the gap.

⁹ Tawa, Barna, Kolar, Sukta, Matiyri, RABLS, BDP, ISP, Punasa LIS, OSP, Man, Jobat. Upper Bada.

for utilisation of 3893.635 MCM water (3.157 MAF) had since been completed.

As per the reverse calendar, NVDA had identified the following major components in execution of major projects;

- Survey and investigation
- Drawings, designs and DPRs and approval from CWC
- Obtaining clearance MOEF
- Fixing of agency for execution of project including preparation of tender document, finalisation of tender and award of work for construction dams and canals.

Status of completion of various major components as identified in the action plan prepared by NVDA is discussed below:

3.7.1 Survey and investigation

Survey and investigation in respect of seven projects could not be completed.

Survey and investigation activity includes site clearance for survey work, hydrological survey, dam alignment including grid survey, geological investigation survey, basin survey, construction material survey including testing, fixing of levels and submergence survey for resettlement and rehabilitation (RR) plans.

As of May 2007, out of 23 major projects survey and investigation was not completed in respect of seven major projects¹⁰. It was seen in audit that survey and investigation of these seven major projects was still in progress as of September 2012.

3.7.2 Drawings, designs and DPRs

There were delays in obtaining approval of DPRs from CWC.

Drawings, designs and DPRs are prepared on the basis of detailed survey and investigation for which time period of three months has been provided in the reverse calendar. As per the Guidelines issued in 2010 by the Central Water Commission (CWC) for submission, appraisal and clearance of Irrigation and Multipurpose project, 18 weeks is required for examination of preliminary reports and six months for project appraisal by Central Water Commission (CWC).

As per the reverse calendar, approval of DPR component including drawing and design was to be completed in respect of the above said seven major Projects during 2007-08. Approval of DPR in respect of these projects could not be obtained from CWC even till September 2012. As observed in audit, the delays in obtaining approval from CWC were mainly due to non-submission of reports in prescribed format, incomplete information, inadequate drawings etc.

Keeping in view the past experience in approval of DPRs, NVDA will be able to complete these seven projects before the review year i.e. 2024 if it effectively addresses the shortcomings, such as, non-submission of reports in

¹⁰ Ataria, Chinki, Dudhi, Morand-Gunjal, RRB, SMS, and Upper Burner.

prescribed format, incomplete information, inadequate drawings etc. noticed in the past in obtaining approval of DPRs.

In the exit conference NVDA stated (December 2012) that the Authority was tightening the blacklisting action and prequalification clause (in tender document) to ensure that the preparation of DPRs is completed by contractors on time.

3.7.3 Obtaining clearances from MOEF

There were delays in obtaining clearance from MOEF for major projects.

Environment and forest clearance involves activities of site clearance, preparation of EIA/ EMP report, public hearing and final appraisal. As per the notification issued by MOEF in 2006, clearance from MOEF is expected in 27 months.

Out of the 23 major projects, clearance from MOEF in respect of 11 projects had been obtained prior to 2006-07. NVDA obtained clearance for five projects during 2007-12 as detailed below;

Table: 3.3

Sl. No.	Name of Project	Date of submission for approval	Date of Environment clearance	Time taken in Months
1	Upper beda	NA	16-07-2007	NA
2	Punasa LIS	16-07-2004	16-07-2007	36
3	Lower Goi	24-10-2002	17-01-2008	63
4	Upper Narmda	29-10-2001	10-09-2009	107
5	Halon	29-10-2001	04-01-2010	111

It is evident from above that time taken for clearance from MOEF was ranging from three years to nine years against expected 27 months as per the notification of 2006.

We noticed that there had been delays in respect of all the four activities envisaged for environment clearance (**Appendix 3.3**) in four out of five major projects cleared by MOEF during the period 2007-12, as summarised below;

- Site clearance activity should take approximately 180 days. Against this it took only 73 days in case of Punasa LIS whereas it took 432 days to 806 days in other three projects, the maximum of 806 days being in Upper Narmada.
- Preparation of EIA/EMP activity should take approximately 540 days. Against this it took only 129 days to 529 days in case of three Projects whereas in case of Upper Narmada Project it took 730 days.
- Public hearing activity should take approximately 90 days. Against this it took only 18 days in case of Upper Narmada whereas in case of three projects it took 145 days to 342 days.
- Final appraisal activity should take approximately 60 days to 90 days. Against this, it took 129 days to 773 days in all the four cases.

As observed in audit, main reasons for delays in obtaining environment clearances were submission of incomplete information to the MOEF, delay in preparation and submission of EIA/ EMP¹¹ and impact of the new notification

¹¹ EIA: Environment Impact Analysis and EMP: Environment Management Plan.

issued by MOEF in 2006 requiring prior environmental clearance from the concerned regulatory authorities¹². In respect of remaining seven projects¹³ for utilisation of 1.57 MAF water, the process for obtaining clearance was undertaken between March 2008 and June 2012 and clearance has not been received from MOEF as of August 2012.

Keeping in view the actual time taken in obtaining Environment and Forest clearance in the past ranged from three to nine years, clearances from the MOEF for the remaining seven projects before 2015-16 to 2020-21, will be difficult unless immediate steps are taken to overcome the impediments encountered in the past.

In the exit conference NVDA stated (December 2012) that process of environment clearance included preparation of DPRs, EIA/EMP study, public hearing and vetting from expert committee. It was further stated that laws for clearance had been changed and there were delays mainly on part of MOEF as it takes two to three years to complete the process.

The reply is not acceptable to the extent that submission of incomplete information and delay in preparation and submission of EIA/ EMP reports by the Authority to MOEF contributed to delays in clearance from MOEF. Besides, time taken by MOEF in clearance should also be factored in while making calendar for completion of projects.

3.7.4 Preparation of tender document

There was no bottleneck in preparation of tender document.

Tender documents are prepared after obtaining clearance from MOEF and technical sanctions from the competent authority. For this activity, a schedule of two months has been proposed in the reverse calendar 2012 for the remaining seven projects¹⁴.

Forms of tender documents for item rate contracts are standardised in the MPWD Manual which was adopted by NVDA. NVDA introduced (August 2005) turnkey contract system with a view to ensure timely completion of projects. Preparation of tender documents for turnkey contracts was generally outsourced to consultants. This activity either in case of item rate contracts or turnkey contracts had not created bottlenecks in implementation of programmes for projects.

3.7.5 Land acquisition

As per note 3 below paragraph 2.104 of MPWD Manual, notification for the acquisition of land required for any particular work must be submitted before the work is put in hand. In case of turnkey contracts, responsibility of preparing land acquisition cases has also been entrusted with contractors.

¹² The Ministry of Environment and Forests in the Central Government and the State Environment Impact Assessment Authority (SEIAA) in the State according to the category of projects.

¹³ SMS, Dudhi, Morand-Gunjal, Upper Budner, Chinki, RRB and Ataria.

¹⁴ SMS, Dudhi, Morand-Gunjal, Upper Budner, Ataria, Chinki and RRB. Out of 23 major projects, seven projects were completed, seven projects were ongoing and two projects were already in tendering process.

NVDA did not analyse delays in land acquisition for projects and did not consider it as a separate process in execution of a project during preparation of reverse calendar 2012. Thus, NVDA did not consider land acquisition a major bottleneck, while making its plan/calendar.

However, we observed that land acquisition had posed hurdles in timely completion of works in some projects (OSP, ISP, etc.) and in most other projects only in a small part of the whole land required and did not result in increasing the total duration of construction during the year 2007-12.

In the exit conference NVDA stated (December 2012) that land acquisition was a major bottleneck in some areas. Narmada Bachao Andolan (NBA) had created hindrances by way of court cases which were cleared only after verdict of Honble High Court and Honble Supreme Court and there were interference of international organisation and NGOs.

We however noticed that NBA mainly raised issues relating to rehabilitation and resettlement. Thus, preparation of plans/calendar without considering the possible impact of rehabilitation and resettlement in land acquisition would result in time over run in execution of projects affected by litigation and may result in non-completion of affected projects by the review year.

3.7.6 Fixing of agency

There were delays in acceptance of tenders and award of works which contributed to overall delay in completion of projects.

As per clause 2.41 of draft Notice Inviting Tender (NIT) specified in Appendix 2.10 A of MPWD Manual, validity of offer is six months in case of tender accepted by the Chief Engineer. Thus, tender should normally be accepted within a period of six months from the date of submission of tender.

We noticed in test check of 128 agreements entered into between 2007-08 and 2011-12 relating to construction of canals that NVDA took 188 days to 347 days in 10 agreements for acceptance of tenders against the normal period of six months for its acceptance (**Appendix 3.4**). We further noticed that in 67 agreements detailed in **Appendix 3.5**, NVDA took 11 days to 426 days in issuance of work orders from the date of acceptance of tenders. These delays contributed to overall delay in the completion of works. Some of the contractors left the works incomplete. This caused further delays in completion of works due to extra time involved in retendering and award of works. This reflected mismanagement in execution of major projects.

In the exit conference NVDA stated (December 2012) that there was no delay in award of work and issue of work order for construction of dams.

The reply is not acceptable as the observations raised in audit relate to the delays in award of work in construction of canals.

Delays in acceptance of tenders and issuance of work orders contributed to delays in completion of work. NVDA has to strengthen its mechanism of evaluation of tenders and award of works to cut short the time being taken for award of contracts so as to ensure completion of the remaining projects before the review year. A computerised management information system having database of all contractors and works executed by them could provide assistance in finalising award of work to a capable contractor.

3.7.7 Execution of works

After clearance of projects by MOEF and preparation of DPRs, construction of dams take three to four years as provided in the reverse calendar. As planned in the reverse calendar, all the major projects in Narmada Basin were to be completed up to 2011-12. The target could not be achieved due to slippages in execution of works of dams as well as canals as detailed below;

(i) Dams

NVDA could complete only two dams and transferred two dams to NHDC due to paucity of funds.

WRD constructed five dams¹⁵ (capacity: 2.952 MAF) across tributaries of Narmada river during the years 1956 to 1988 by taking time ranging from seven to 22 years as shown in **Appendix 3.6**.

NVDA completed construction of two dams (Man and Jobat) in 2006 and 2007, respectively by taking time of 20 to 23 years. Due to paucity of funds with NVDA, two dams¹⁶ (2.477 MAF) were transferred (May 2000) to National Hydro Power Development Corporation (NHDC), that completed these projects within four years.

During 2007-12, one dam viz. Upper Beda (capacity: 101.09 MCM) was completed (2010) by NVDA in seven years against the scheduled period of completion of four years as per the reverse calendar. The delay was mainly due to delay in change of drawing by CWC.

Lower Goi dam (136.65 MCM) taken up for construction in February 2009 and scheduled to be completed in 36 months as per the reverse calendar was still in progress (March 2013). The delay was mainly due to slow progress by contractors.

Construction of 13 dams of nine major projects¹⁷ for utilisation of 1.819 MAF water and dams of all the medium and minor projects for utilisation of 4.985 MAF water, were yet to be started.

Considering the delays in past in construction of dams of the projects, it may not be able to complete all of the remaining 13 dams by the review year unless NVDA effectively address the problems associated with the construction of dams, such as slow progress by the contractors and increase in quantities during execution.

In the exit conference NVDA stated (December 2012) that two dams were transferred to NHDC due to logistics of finance and human resources and one of the major dams, namely OSP, was completed within the short span of four years. NVDA further stated that the agency for Halon project would be fixed in next meeting of Narmada Control Board (NCB) and in Upper Narmada Project, affected families had lodged a court case. It was further stated that

¹⁵ Barna, Kolar Matiyari Sukta and Tawa

¹⁶ ISP dam, transferred to NHDC in the year 2000, was completed in 2005. OSP dam was constructed by NHDC within four years (2003 to 2007).

¹⁷ Dudhi, Morand-Gunjal, Upper Burhner, Chinki, Ataria, RRB, SMS, Halon and Upper Narmada.

tenders received for Halon Project was on higher side; therefore there was problem in accepting the tender.

The reply does not address the issues of delays due to slow progress by contractors and increase in quantities during execution. Moreover, the reply does not give details of plans to tackle the court cases by the project affected families and expeditious finalisation of tenders so as to complete construction of dams by the review year.

(ii) Canals

NVDA could not complete canal networks of any major project during 2007-12.

In the Vision 2015 document, NVDA estimated the time required for development of canals under major projects as five to six years.

Time taken in the construction of canals for completed projects, is detailed in the table below:

Table No: 3.4

Sl. No.	Name of Department	Name of Project	Projected use of water in MCM	Year of start of canal	Year of actual completion of canal	Time taken in years
1	WRD	Tawa	2386.72	1956	1998	42
2	WRD	Barna	559.82	1968	1997	29
3	WRD	Kolar	435.90	1979	1990	11
4	WRD	Sukta	170.57	1973	1985	12
5	WRD	Matiyari	88.38	1973	1985	12
6	NVDA	Man	140.10	1984	2006	22
7	NVDA	Jobat	112.15	1984	2007	23
		Total	3893.64			

(Source: - Information provided by NVDA)

As evident from the above, WRD took 11 years to 42 years in construction of canals for five major projects for utilisation of 2.952 MAF water, while NVDA took 22 years to 23 years in construction of canals in two projects (Man and Jobat) for utilisation of 0.114 MAF and 0.902 MAF water, respectively.

Works of canals of seven major projects¹⁸ started during 1991 to 2009 for utilisation of 6.068 MAF water, were still in progress (August 2012). Canals of two out of these seven major projects (ISP and BDP) started by NVDA in 1991 and 1996 for utilisation of 1.318 MAF and 2.035 MAF water, were still in progress with a cost overrun of ₹ 1016.01 crore and ₹ 4025.99 crore after lapse of 21 years and 16 years, respectively. Construction of canals of RABLS project was started in 1992 and four other projects¹⁹ started during 2005 to 2009, were in progress. The percentage completion of canals of RABLS, BDP

¹⁸ ISP, BDP, RABLS, OSP, Upper beda, Punasa LIS and Lower Goi

¹⁹ OSP, Upper Beda, Punasa LIS and Lower Goi

and ISP was 99.90 per cent, 59.68 per cent and 54.38 per cent²⁰ in respect of main canal and 89.51 per cent, 21.55 per cent and 49.57 per cent in respect of distributaries and minors respectively as of June 2012. The works of canals were delayed mainly due to slow progress by contractors, delays in land acquisition in a few reaches, inadequate estimates and execution of works in a phased manner for different reaches instead of taking up execution of all the reaches simultaneously. Details in respect of these projects are shown in **Appendix 3.6**. Thus, NVDA could not complete canal network of any project during 2007-12.

NVDA may consider execution of canal works in all the reaches simultaneously instead of taking them up in a phased manner in different reaches as envisaged in reverse calendar. Remaining seven major projects (1.57 MAF water) can be completed prior to the review year 2024 if all the clearances are obtained latest by 2018-19, award of works and execution are undertaken immediately after obtaining clearances and there are no delays in execution beyond the scheduled completion period of approximately five years envisaged for these projects.

As all the activities of these seven major projects have to be completed during the remaining period up to 2024, NVDA has to deploy adequate and suitable manpower for evaluation of tenders, capability of contractors, feasibility and close monitoring of programme of execution of works by contractors to ensure completion within the programmed period. NVDA has to closely monitor the progress of works by contractors and delay in land acquisition in reaches affected by litigations and take steps that are necessary for timely completion.

In the exit conference NVDA stated (December 2012) that it was not practicable and advisable to take up the entire canal network at one go as the water flow is unidirectional. It was further stated that if contractors at tail end completed the work and head end remains incomplete then work at tail end would be ruined by the time work at the head was completed and only main canal works could be undertaken simultaneously.

The reply is not acceptable as reverse calendar envisaged execution of canal works including distributaries simultaneously to avoid delay in creation of irrigation facilities. The issue of contractors at the tail end completing the work, while the works at the head end remaining incomplete could be managed through project management techniques such as CPM and PERT.

²⁰

	Main Canal and distributory			Distributory and minors		
	<i>Total</i>	<i>Completed</i>	<i>percentage</i>	<i>Total</i>	<i>Completed</i>	<i>percentage</i>
RABLS	135.5	135.37	99.90	1915.04	1714.06	89.51
BDP	270.705	161.57	59.68	1076.86	232.04	21.55
ISP	239.9	130.45	54.38	1228.11	608.74	49.57

(iii) Introduction of turnkey contracts

NVDA introduced (August 2005) turnkey contract system with some special conditions such as interest free mobilisation advance and machinery advance to enable contractors to immediately start works, deposit of Bank Guarantee (BG) towards performance security deposit, penalty for not achieving the specified milestone, incentive for early completion, preparation of cases for acquisition of land and its follow up, etc. The main objective for introducing turnkey system of contract was to complete projects by specialised firms within specified time frame and also to overcome the deficiencies/ hurdles noticed in item rate contracts.

We noticed that 37 turnkey contracts at total contract value of ₹ 5472.84 crore were entered into during 2007 to 2012 (**Appendix 3.7**) for construction of BDP, ISP, Lower Goi, Punasa LIS, Upper Beda (canal), and Omkareshwar (OSP) major projects including two contracts for survey and investigation of medium and minor irrigation projects. Of these, 19 contracts were for construction works, 12 contracts for consultancy services and six contracts for survey and investigation works. The scheduled completion period of 18 to 36 months in respect of eight turnkey contracts had already lapsed. All the works were however, incomplete as of August 2012 after delays of 12 months to 20 months (**Appendix 3.8**). The main reasons for delay in execution of works as observed in audit were insufficient resources deployed by the contractors, award of works to contractors who had defaulted in earlier contracts, slow progress by the contractors and poor monitoring by NVDA.

NVDA, with a view to avoid payment of escalation and to help better monitoring of projects decided (January 2012) to award works in small packages and reduced the completion period from 30 months to 18 months. Till August 2012, no work was awarded in small packages as envisaged.

In the exit conference NVDA stated (December 2012) that it learnt from past mistakes and floated new tenders on turnkey basis to execute the works of dams and canals simultaneously. NVDA further stated that imposition of penalty and payment of incentive had been linked with creation of irrigation potential.

In the reply, issues of deployment of insufficient resources by the contractors, award of works to contractors who had defaulted in earlier contracts and slow progress by the contractors were not addressed.

3.8 Implementation of medium and minor irrigation projects

To utilise 5.39 MAF water out of the award of the total 18.25 MAF water, construction of 135 medium and 3000 minor projects was planned.

As per Madhya Pradesh Karya Avantan Niyam as amended up to 1 January 2009, NVDA was entrusted with the work of preparation and execution of all irrigation projects in Narmada Valley excluding medium and minor projects and WRD was to execute construction of major, medium and minor irrigation projects other than in Narmada Basin. NVDA recommended (February 2004) modifications in Madhya Pradesh Karya Avantan Niyam for entrusting the works of medium and minor irrigation projects of Narmada Basin to NVDA.

Keeping in view the past achievements, it would be difficult for NVDA to complete the remaining 266 medium projects by the review year.

The proposal was still under consideration of the Government (August 2012). Thus, there was no specific mandate for construction of medium and minor irrigation projects in Narmada Basin. As of August 2012, 19 medium and 976 minor projects (**Appendix 3.9**) had been completed (0.405 MAF) which were constructed by WRD.

NVDA meanwhile took up (October 2008) survey and preparation of DPRs for medium and minor irrigation (MMI) projects (1.087 MAF water for 290000 ha) in Narmada Basin as detailed below:

Table No: 3.5

Sl. No.	Name of work	NIT no. & date	Probable amount of contract (₹ in crore)	Date of receipt of tender	Date of work order & due date of completion of work	Time extension up to
1	Survey work from Hadia gaze site to Omkareshwar site (Group -1) for 130000 ha	NIT No. 13/ 08-09 dt. 13.10.08	32.11	23.12.08	28.10.2009 27.04.2011	26.4.2012
2.	Survey work from Omkareshwar dam site to Gujarat state (Group 2) for 160000 ha	NIT No. 13/ 08-09 dt. 13.10.08	40.61	23.12.08	28.10.2009 27.04.2011	26.9.2012

(Source: - Information provided by NVDA)

The survey works, scheduled to be completed by April 2011, were in progress up to August 2012. The contractor submitted (August 2012) DPRs of 15 medium and 308 minor irrigation projects, of which 123 DPRs had been approved by the competent authority. As decided in the meeting (February 2012) of officers of WRD and NVDA, DPRs for construction of 15 medium and 85 minor irrigation schemes (for 129251 ha) were handed over (February 2012) to WRD.

Survey works for projects (2.677 MAF for 710000 ha) in the remaining portion of the Narmada basin (Amkantak to Handia gauge) was not awarded as of August 2012. NVDA proposed to execute 50 *per cent* of the MMI projects through registered societies under its supervision after finalisation of DPRs, and the rest through WRD.

NVDA, for planning and execution of medium and minor projects, constituted Narmada Basin Projects Company Limited (NBPCL) in October 2011 with the objective of:

- promoting and operating the schemes for irrigation, water supply and drainage,
- acting as a nodal agency of the State Government for development of irrigation, power and allied projects,
- identifying probable projects for development and
- raising funds necessary for development of irrigation, power and allied projects etc.

So far (August 2012), execution of remaining medium and minor projects could not be started either by NVDA, NBPCL or WRD.

As per the Report (May 2009) of the Task Force on Irrigation, Planning Commission, Government of India, five to 10 years are required for completion of medium projects. Therefore, all the activities such as, survey and investigation, preparation of DPRs, various clearances, acquisition of land, resettlement of project affected families and fixation of agencies should be completed before 2019 to complete the projects before the review year 2024. After identification of projects, a minimum of 27 months are required for environment clearance alone which is an external factor on which NVDA does not have control and two years for other activities.

Considering the minimum actual time of three years in environment clearance and 12 years in other activities including construction, it may be difficult to complete the remaining 266 medium projects²¹ by the review year unless all the medium projects are identified by 2014, clearances are obtained in minimum time, funds required for the projects are tied up and other activities are meticulously planned and executed within the minimum prescribed time. The mandate for execution of medium and minor projects needs to be made clear for ensuring completion of the works before 2024.

As per the Report (August 2001) of the Working Group on Minor Irrigation, Ministry of Water Resources, Government of India, minor projects generally take three to seven years time in total implementation. Therefore, implementation of minor projects before the review year is possible if project-wise plans are prepared, agencies are tied up for execution and funds for the projects are made available.

The Member (Engineering) stated (October 2012) that 135 medium and 3000 minor projects were to be completed by the WRD against which only 19 medium and 1134 minor projects could be completed. He further explained that absence of arrangement for timely identification of schemes and detailed survey of the basin were the reasons for not taking up these projects and that it had decided to complete survey through basin-wise satellite imageries and identify the projects for preparation of DPR and detailed estimates.

In the exit conference NVDA stated (December 2012) that NBPCCL had undertaken the survey work, which was in progress. NVDA further stated that arranging finance for execution of these projects was a major area of concern.

The replies do not give details of plan to complete the medium and minor projects before the review year.

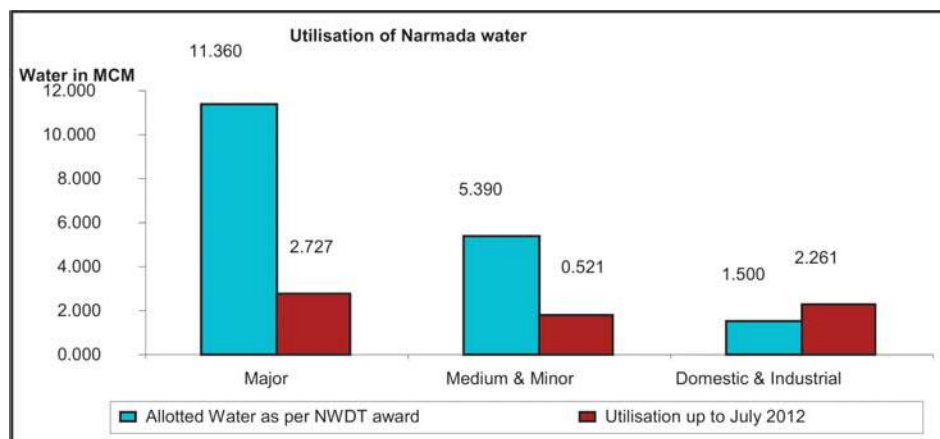
3.9 Status of utilisation of water

According to the award, utilisation of water in a water year²² through every major and medium project by each party State shall be figured out on the basis of actual daily discharge at canal head. Water account of reservoirs shall be

²¹ Total medium projects: 300 minus 34 (19 completed and 15 identified).

²² Water year: This is meant for counting of water utilisation from July to June of every year.

kept by 10 daily periods²³. Status of utilisation of water through major, medium and minor projects up to July 2012 against the planned utilisation of water as per NWDT award is given in the graph below:



(Source: - Information provided by NVDA)

3.9.1 Shortfall in utilisation of water

Overall status of water utilisation through major, medium and minor irrigation projects including domestic and industrial use of water in the last five years up to 2011-12 is shown in the table below;

Table No: 3.6

(Water in MCM)

Particulars of utilisation	Water Years				
	2007-08	2008-09	2009-10	2010-11	2011-12
Allocated Water according to NWDT award	24797.82	15369.54	17467.53	17776.49	28070.00
Actual utilisation through Major Projects	3018.44	2335	2581.86	3171.77	3363.30
Utilisation through Medium Projects	239.15	194.65	193.87	252.86	237.10
Utilisation through Minor Projects	280.76	189.02	293.87	406.06	3195.00
Utilisation through Domestic, Industrial use and Pumping schemes	1251.1	2949.55	2579.98	2838.43	
Total utilisation of water (in MCM)	4789.45	5668.22	5649.58	6669.12	6795.40
Total utilisation of water (in MAF)	3.88	4.60	4.58	5.41	5.51
Total utilisation in per cent with reference to allocated water as per actual availability of water	19.31	36.88	32.34	37.52	24.21
Total utilisation in per cent with reference to allocated water of 18.25 MAF as per award	21.26	25.21	25.10	29.64	30.19

(Source: - Information provided by NVDA)

As evident from the above, after lapse of more than 33 years from the date of award of the Tribunal, total utilisation of water was only 5.51 MAF representing 24.21 per cent of the total water allocated during the water year ending June 2012.

We noticed that:

²³

It is an account which shows water utilisation during a period of 10 days (In a month, utilisation is measured for the dates 1-10, 11-20 and 21 to last date of the month).

- Total water utilisation of Narmada water through major projects (WRD: 1.858 MAF from five projects and NVDA: 0.868 MAF from four projects) was 2.726 MAF only during the water year 2011-12 against the created storage capacity of 9.11 MAF for utilisation in irrigation, which was far behind the planned utilisation of 11.05 MAF. The less utilisation of water despite creation of higher storage capacity was mainly due to non-completion of distribution network of canals.
- In case of two major projects namely RABLS and BDP, construction works of canals were taken up²⁴ after completion of construction of dam (1988). Construction of canal works in the three major projects, taken up during the years 1990 to 1992 could not be completed so far (March 2012) after lapse of 20 to 22 years from start of the works due to reasons such as delay in development of micro distribution network, contractors abandoning the works before completion and engaging contractors having poor bid capacity.
- In case of three major projects²⁵ where dams had been completed during 1988 to 2009, water could not be utilised at all due to non-completion of canals system mainly due to slow progress by the contractors and partially due to delay in acquisition of land.
- The total planned utilisation of 11.05 MAF water through major projects also included utilisation of additional water of 0.096 MAF. No plan has, however, been prepared to create capacity for utilisation of the said additional water as of August 2012.

3.9.2 Absence of plan after decrease in proposed utilisation of water

No plan was made either for proposed increase in water utilisation or for compensating decrease in utilisation of water.

NVDA changed (March 2012) the planned water use in major projects (vide **Appendix 3.10**) assigning reasons such as, change of three²⁶ power projects into multipurpose projects, non-diversion of water in to Mahanadi basin and execution of Punasa LIS instead of Chhota Tawa project, as under;

Table No: 3.7

1.	Increase in projected use of water from the reservoirs (four completed by WRD and four ongoing under NVDA)	8 Projects	0.867 MAF
2.	Decrease in utilisation of water (three completed and six ongoing)	9 Projects	0.707 MAF
3.	Decrease in utilisation of water (Forthcoming projects)	6 Projects ²⁷	0.627 MAF
Total decrease			1.334 MAF

(Source: - Information provided by NVDA)

²⁴ RABLS: 1992 , BDP: 1990.

²⁵ BDP, OSP, Upper Beda.

²⁶ Raghopura- Rosra-Basania

²⁷ Dudhi: 127.030 MCM, SMS: 81.36 MCM, Morand Ganjal: 37.83, Chhota Tawa: 317.32 MCM, Chinki: 163.68 and RRB: 46.20 MCM= total 773.420 MCM.

Though increase in utilisation of 0.867 MAF water was envisaged, there was no plan for increasing utilisation of water either by increasing the command area or by increase in the storage capacity of dams. The proposed increase in utilisation of water may not be achievable in view of non-achievement of planned utilisation of water up to the water year 2011-12.

NVDA has also not prepared any plan so far (August 2012) to compensate the decrease in utilisation of 1.334 MAF (0.707 MAF + 0.627 MAF) water for 15 projects either by increasing capacity of existing projects or taking up new project.

- Construction of BDP project, which is right bank canal of RABLS dam, envisaged utilisation of 2.035 MAF water. Due to insufficient water in RABLS dam to cater to the requirement of BDP, a plan to feed water from reservoir of Ataria major project (0.091 MAF) to BDP was prepared (January 2009). According to the reverse calendar, the reservoir of Ataria was planned for completion by the year 2019-20 whereas BDP was planned to be completed by the year 2016-17. Subsequently, Ataria major project was converted (January 2009) into minor project due to reduction in command area at the time of detailed survey to utilise only 0.017 MAF water. Thus, the requirement of water for BDP would not be met and might impact the actual drawal of water awarded by NWDT.

Thus, on the one hand there was no plan to make up the decrease in utilisation (1.334 MAF) of water and use of additional water (0.096 MAF), on the other hand the proposed increase in utilisation of water (0.867 MAF) may not be achieved considering the utilisation of water up to 2011-12.

Looking to the slow pace of work of completion of canals system, utilisation of less water than the created potential and unrealistic change in proposed utilisation, it may therefore not be possible for the State to utilise the allocated water by the review year unless factors contributing to delay in completion of the works are effectively tackled.

The Member (Engineering) stated (October 2012) that the utilisation of water to full extent could not be achieved as canal work was time consuming and land acquisition work was spread over more than 2000 villages. In the exit conference NVDA stated (December 2012) that utilisation of water through Omkareshwar Project was affected due to hindrances by activists of Narmada Bacho Andolan (NBA). Regarding increase in utilisation of water in Tawa project, it was explained that it would be achieved by linking it with Morand-Gunjat Project. In case of Bargi Diversion Project, it was stated that full utilisation of water would be achieved after completion of tunnel within four to five years and construction of up stream reservoirs.

The reply gives details of proposed utilisation of 0.658 MAF water only in respect of three major projects and not about NVDA's plan to complete projects so as to utilise the entire allocated water by the review year.

3.10 Constraints in funding for the projects

Funds of ₹ 11001.60 crore required to complete remaining projects could not be tied up.

The projects of NVDA are financed through Accelerated Irrigation Benefit Programme (AIBP), National Bank for Rural and Agricultural Development (NABARD) and State funds. NVDA incurred total expenditure of ₹10371.88 crore up to 2006-07. Details of the last five years allotment and expenditure are given in the table below:

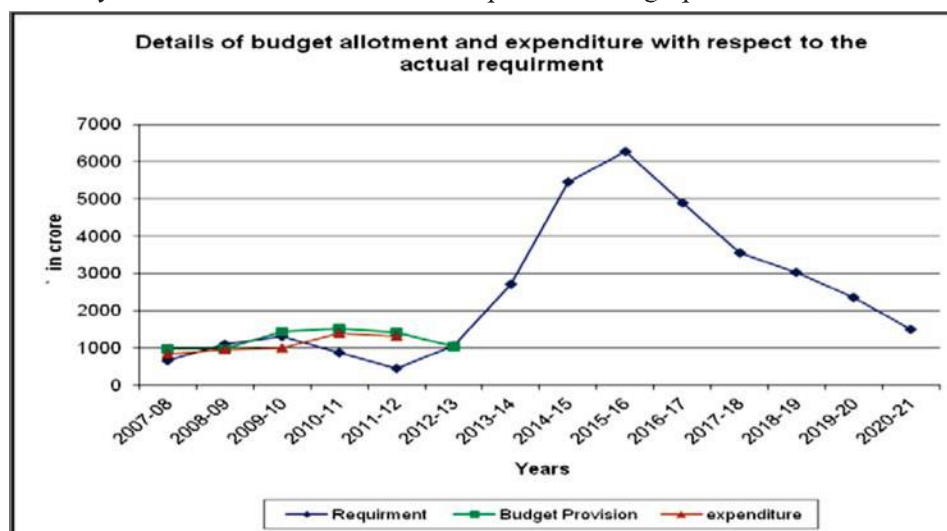
Table: 3.8

Year	Budget provision (₹ in crore)	Total expenditure (₹ in crore)	Savings (Percentage)
2007-08	965.43	835.44	129.99 (13.46)
2008-09	981.34	946.46	34.88 (3.55)
2009-10	1127.79	1003.35	124.44 (11.03)
2010-11	1526.83	1384.57	142.26 (9.32)
2011-12	1413.49	1302.58	110.91 (7.85)
Total	6014.88	5472.40	542.48

Source: Information provided by NVDA

As would be seen from the table, budget provision could not be fully utilised during the last five years up to 2011-12. Total savings of ₹ 542.48 crore during the last five years were mainly due to delay in approval of detailed project reports from Central Water Commission (CWC), delay in getting clearance from Ministry of Environment and Forest (MOEF), delay in fixing of agencies and slow progress of works by contractors, etc.

According to Vision 2012 (prepared in December 2003), NVDA planned to complete all major projects by 2012. NVDA assessed total requirement of ₹ 7068.28 crore for execution of major projects from 2007-08 to 2011-12. NVDA could however, spend only ₹ 5472.40 crore against allotment of ₹ 6314.88 crore during this period. Consequently, the projects remained incomplete and there was increased requirement of funds to complete the remaining projects during the period up to 2024. NVDA assessed (2012) total requirement of ₹ 30760 crore as mentioned in **Appendix 3.11** to complete the remaining projects (major, medium and minor) by 2020-21. Requirement of funds for the years 2007-08 to 2020-2021, allotment and actual expenditure for the years 2007-08 to 2011-12 are depicted in the graph below:



Source: Information provided by NVDA

The State Planning Commission imposed (March 2012) a ceiling of ₹ 9351.40 crore against projected requirement of ₹ 20353 crore (**Appendix 3.11**) for the 12th Five Year plan (2012-2017). After imposition of the ceiling, NVDA has not planned to tie up funds for bridging the gap of ₹ 11001.60 crore.

We further noticed that:

- The requirement of ₹ 30760 crore assessed for completing remaining projects during the period up to 2020-21, was based on current schedule of rates (Year: 2009). Considering the inflationary tendency of developing economies, an assessment of additional fund and plan to meet escalation in cost during the entire period up to which project construction would continue was to be made. Though lumpsum escalation provision of 10 *per cent* for projects due for completion till 2016-17 has been made, we noticed that the provisioning did not consider the inflationary trends after 2009 schedule of rates based on which estimates had been prepared. We noticed that requirement of funds in eight projects will not be sufficient considering their completion period one year to five years (**Appendix 3.11**). Besides, in case of RABLS project having requirement of ₹ 694.30 crore for completion by 2015-16, no provision for escalation was made in the projections. These may cause serious resource constraints during coming years which may affect timely completion of projects.
- NVDA has never been able to utilise the allotted fund during the last 21 years as shown in **Appendix 3.12**. During the remaining period of the plan for completion of remaining projects (that is up to 2021), annual requirement of funds will range from ₹ 1495 crore to ₹ 6261 crore. The details are shown in **Appendix 3.10**. As the quantum of projects/works and funds that may have to be handled would increase substantially, NVDA has to take necessary measures to overcome inadequacies in planning, scheduling and monitoring of works for projects and consequent delays in completion of works so as to ensure completion of projects as envisaged in Vision 2020.
- The NBPCL formed in October 2011 has not come into operation so far (August 2012) for want of adequate manpower deployment in the Company. Consequently, process for raising funds for development of irrigation, power and allied projects etc. could also not be initiated through NBPCL as of August 2012.

The Member (Engineering) stated (October 2012) that the budget could not be utilised in 2005-06 and 2006-07 as there were delays in processing of tenders. He further stated that the extent of utilisation of funds provided had improved after 2006-07. In the exit conference NVDA stated (December 2012) that 13th plan document envisaged that no new projects would be taken up under Accelerated Irrigation Benefit Programme as sufficient large dams for storage had been constructed and therefore NVDA anticipated problem in funding for balance projects. It was further stated that the authority even now had resource constraint to implement all the projects and feasibility of market borrowing and other funding options through NBPCL was being explored to ensure timely availability of funds for the projects.

The reply is not acceptable as the department continued to surrender funds ranging from ₹ 34.88 crore to ₹ 124.44 crore during the period 2007-08 to 2011-12 and it would have to gear up for complete utilisation of the allotted funds by closely monitoring the works under execution.

Thus, funding arrangement for the projects remaining to be executed continues to remain a threat in timely execution of the projects for utilisation of allocated share of 18.25 MAF water before the review year.

3.11 Monitoring

Monitoring and evaluation are essential components of project execution that aid completion of projects in a time bound manner with appropriate quality and economy.

3.11.1 Ineffective monitoring of works by apex level office

The Vision 2012 document envisaged establishment of monitoring cells under each of the members of NVDA for weekly monitoring and computerisation at Headquarters as well as in the field formations for quick transmission of information on the progress of the projects.

We noticed that:

- The Vision 2012 envisaged time event network analysis system in which various events in a project can be identified within the planned time for each event and are placed in network showing relationship of each event to the other event. The system would enable the department to identify and reduce the risks in various event of the project and provide a guidance frame work to develop and implement measures necessary for proper execution of the projects. This system has not been put in place so far (August 2012). As a result, mechanism for assessment of risks which arose during implementation of projects and solutions to address such risks, was not available at the apex level office to avoid delay in implementation of projects.
- Monitoring cell was not established as envisaged and there was no system of regular submission of periodical progress report of works to respective members at headquarters of NVDA. Progress reports of works were being submitted by the field formations as and when demanded by the apex office. As such, execution of works was not being monitored on regular basis at apex level. In the absence of a system of regular monitoring, apex level officers will not be able to identify the problems in execution of works in time and take remedial action. The weakness in monitoring system may lead to delay in completion of remaining works.

Although NVDA has installed computers at field formations and headquarters, an effective on-line management information system has not been developed so far (August 2012) to monitor progress of works.

In the exit conference NVDA stated (December 2012) that there was a mechanism for monitoring through reports prescribed from field and monthly/

Monitoring cells at headquarters of NVDA was not in place.

bimonthly meetings were taken by CE and at NVDA headquarters for monitoring.

The reply is not acceptable as the reports were not being obtained on regular basis and in the absence regular returns with up to date information, objectives of the meetings would not be achieved.

3.11.2 Non-adoption of Programme Evaluation and Review Techniques (PERT) and Critical Path Method (CPM) for effective monitoring and evaluation

PERT and CPM were not being applied in execution of the projects.

In the case of turnkey contracts being entered in to for the remaining projects/ remaining works of ongoing projects, a bar chart showing start date, completion date and duration of completion was being submitted by contractors as a programme for execution of works. In case of delays, contractors were being allowed to submit revised construction programme according to the delays.

As bar chart is a linear representation of construction activities, it does not indicate the activities that are critical and those which could be undertaken simultaneously to complete the project in shortest possible time. As a result, it does not indicate the effect of slippage in any activity from original time schedule. The monitoring of the projects through Programme Evaluation and Review Techniques²⁸ (PERT) and Critical Path Method²⁹ (CPM) provide a solution to this.

We noticed that PERT and CPM was not being applied in NVDA to identify critical activities of a project so as to ensure close monitoring in respect of such activities and avoid overall delays.

In the absence of monitoring cells at headquarters of NVDA, regular system of submission of progress report of works, on-line management information system and non-application of PERT and CPM for monitoring, evaluation and alternative plans, management may not be in position to assess the impact of delays in order to take corrective steps during the course of execution so as to complete the projects before 2024.

The Member (Engineering) stated (October 2012) that all the projects were being monitored using management information system (MIS) which is an advance version of CPM-PERT and was essential to all turnkey contracts. He further stated that the consultants independently completed MIS and submitted to NVDA for monitoring of contracts. In the exit conference (December 2012) NVDA stated that CPM/PERT charts were prepared in NVDA but in case of slippage of one activity like land acquisition and rehabilitation and resettlement due to agitation and litigation, the purpose of whole chart was defeated.

²⁸ This is a time event network analysis system in which various events in a project are identified with the planned time for each and are placed in a network showing relationships of each event to other event

²⁹ The method which calculates the longest path of planned activities to the end of the project, and the earliest and latest that each activity can start and finish without making the project longer

The reply is not convincing as monitoring cell did not exist at headquarters of NVDA. Regular system of submission of progress report of works to headquarters of NVDA and use of CPM/PERT were also not noticed in Audit.

3.12 Conclusion

NVDA incurred expenditure of ₹ 5472.40 crore against allotment of ₹ 6014.88 crore for creation of infrastructure to utilise Narmada water during 2007-12. There were delays in approval of DPRs from CWC, obtaining environment clearances and award of work. There were further slippages in execution of dams as well as canals.

Out of the 23 major projects, seven projects have been completed for utilisation of 3.157 MAF water, seven projects were ongoing and nine projects were yet to taken up. Further, out of 26 dams of these 23 projects, 11 dams (storage capacity of 9.114 MAF) for 13 projects were already completed, work of one dam was in progress and works for 14 dams were yet to be started.

Survey and investigation work for all the remaining medium and minor projects for utilisation of 3.764 MAF water was still not complete as such projects are not identified in most cases. Ineffective monitoring, non-preparation of alternative plans and award of works to ineligible contractors resulted in delays in construction. As a result, NVDA could increase the utilisation of water by only 1.63 MAF during 2007-12. Assessment of requirement of fund for completion of the remaining projects was also inadequate. Process for raising funds for development of irrigation, power and allied projects etc. could not be initiated through Narmada Basin Projects Company Limited so far.

NVDA may be able to complete construction of remaining dams and canal works of major projects by the review year only if works are awarded and taken up immediately and execution of works is monitored meticulously. Further, remaining medium projects may be completed by the review year if all the medium projects are identified immediately, clearances are obtained in minimum time, funds required for the projects are tied up and other activities are meticulously planned, monitored and executed.

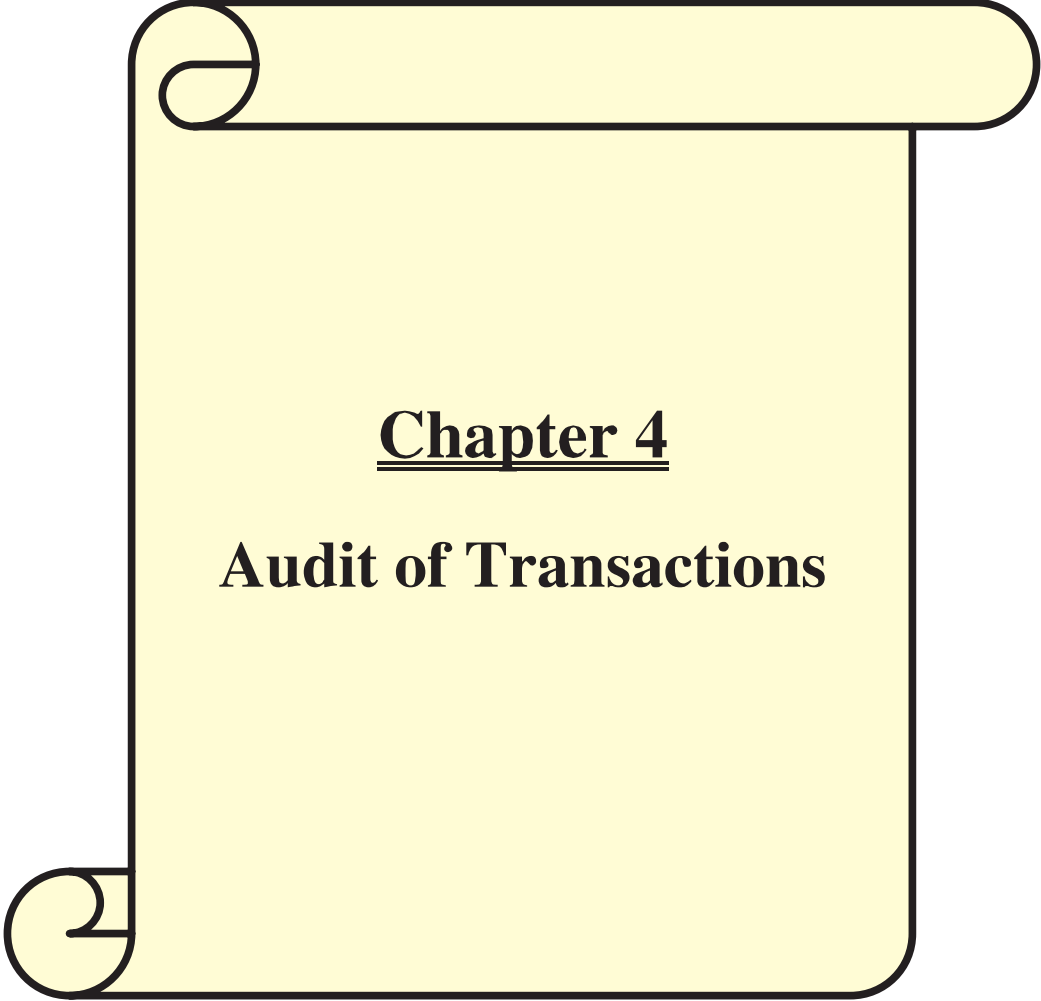
Audit analysis revealed that preparedness for tapping and utilisation of Narmada water as per NWDT award is tardy as present progress was not found satisfactory. Effective action would be required to achieve the targets, else Madhya Pradesh will be lagging behind in getting its due share of Narmada water.

3.13 Recommendations

The Government, in order to utilise the allocated share of water by the review year, may consider to;

- prepare a realistic reverse calendar by considering internal as well as extraneous factors for appropriate planning of works.

- establish a system of identification of risks involved and develop a mechanism for planning to address such risks to reduce delay in execution of works by effective monitoring.
- examine reasons for delay in environment and forest clearances and develop a mechanism to reduce delay in obtaining clearances.
- strengthen mechanism for evaluation of bids to ensure engagement of competent contractors.
- adopt Programme Evaluation and Review Techniques and Critical Path Method to ensure synchronised construction of dams and canals.
- make realistic assessment of requirements of funds and take steps for ensuring timely availability of funds.
- identify medium projects immediately to take up implementation of those projects.



Chapter 4

Audit of Transactions

CHAPTER-IV

Compliance Audit of Transactions

Compliance audit of the Government departments, their field formations brought out several instances of lapses in management of resources and failures in the observance of the norms of regularity, propriety and economy. These have been presented in the succeeding paragraphs under broad objective heads

4.1 Non-compliance of the rules

For sound financial administration and financial control, it is essential that expenditure conforms to financial rules, regulations and orders issued by the competent authority. This not only prevents irregularities, misappropriations and frauds, but helps in maintaining good financial discipline. Some of the audit findings on non-compliance with rules and regulations are as under:

FOREST DEPARTMENT

4.1.1 Abnormal delay in realisation of cess led to loss of interest to the Government

Belated deposit of ₹ 34.97 crore towards forest development cess by MP Forest Produce (Trade & Development) Co-operative Federation Ltd. in violation of rules resulted in loss of interest of ₹ 4.94 crore to the Government.

Rule 29 of Madhya Pradesh Financial Code provides that it is the duty of the departmental controlling officers to see that all sums due to Government are regularly and promptly assessed, realised and duly credited in the Consolidated Fund or the Public Account of the State Government. Further, Rule 3 of Madhya Pradesh Karadhan (Van Vikas Upkar) Rules, 1982 provides that the cess collected on sale of forest produce during the month shall be paid to the Principal Chief Conservator of Forests, Madhya Pradesh through a crossed cheque latest by the 15th of the following month along with the details of recovery.

We observed (March 2012) that there was no enabling provision in the Rules for levy of penalty for belated payment of cess. We also observed from the records of Principal Chief Conservator of Forests (PCCF), Bhopal that the amount of due in respect of Forest Development Cess (Cess) amounting to ₹ 34.97 crore for the period from 2007-08 to 2010-11 was paid belatedly by 11 to 35 months by M. P. State Minor Forest Produces (Trade & Development) Co-Operative Federation Ltd. (Federation) Bhopal in the office

of the PCCF Bhopal. This not only resulted in loss of interest to the tune of ₹ 4.94 crore, calculated based on the Bank deposit rate time to time (as shown in the **Appendix 4.1**) but also unauthorised financial aid to the Federation. Departmental Controlling Officer neither assessed the amount of cess due vis-a-vis the amount paid by Federation nor did he verify the details of cess collected by the Federation through sale of forest produce.

On the matter being pointed out (May 2012), the Government accepted (July 2012) the delay in payment of cess by the Federation to Forest Department by attributing the reason that the annual accounts of district unions were received late in the office of the Federation which, in turn, resulted in delay in computation of actual amount of cess payable to the Government.

The reply is not in consonance with the provisions of Madhya Pradesh Karadhan (Van Vikas Upkar) rules and M.P. Financial Code. It is recommended that the rules governing Forest Development Cess should be amended by incorporating penal provisions for belated transfer of cess into Government account to act as deterrence against belated remittance.

4.1.2 Loss of revenue due to sale below upset price

Khair wood was auctioned below upset price resulting in loss of revenue of ₹ 13.82 lakh.

According to Para 102(3) of the Madhya Pradesh Forest Manual, forest produce with a commercial demand shall be disposed of preferably by public auction or, in case it fails to secure a reasonable price approximating the upset price¹, by calling for sealed tenders.

Test check of records² relating to disposal of *Khair* wood in Sheopur General Division indicated (February 2011) that in four auctions held between December 2009 and April 2010, 33 lots comprising 11336 items were sold for ₹ 11.35 lakh against total upset price of ₹ 25.17 lakh. Sale below the upset price ranged from 35 to 78 *per cent* for various lots. The process of calling sealed tenders was not resorted to and the Department also did not take cognisance of the high undervalued sale resulting in loss of revenue of ₹13.82 lakh (**Appendix 4.2**)

On this being pointed out in audit, the Government stated (March 2012) that as Sheopur Division is remotely located, the number of bidders did not exceed seven and demand for *Khair* has decreased to almost zero due to sale of artificial *Kattha*. Regarding non-invitation of sealed tenders, it was stated that action was taken according to prevailing departmental orders.

¹ Upset price refers to the minimum reserve price at which forest produce may be auctioned or sold at public scale. It is fixed in April and October each year on the basis of sale price obtained in the preceding year.

² Bid sheets, results of auction, approvals and sale register, cash book etc.

The reply is not acceptable as the provision for calling sealed tenders as prescribed in Rule 102(3) of MP Forest Manual was not adopted even though the rates obtained in the auctions were below the upset price fixed by the Department. The reply also did not explain the reasons for not disposing the produce through centralized Public Auction as followed by the department for disposal of industrial bamboo.

4.1.3 Expenditure on Eco-tourism activities without approval of the Central Government

The department spent ₹ 2.17 crore on promotion of Eco-tourism in forest area in violation of Forest (Conservation) Act, 1980 and without obtaining approval from Central Government.

Forest (Conservation) Act, 1980 (Act) provides that no State Government or other authority shall make, except with the prior approval of the Central Government, any order directing use of any forest land or portion thereof for any non-forest purpose. Ministry of Environment and Forest, Government of India (MOEF), New Delhi categorically clarified (May 2010) that Eco-tourism has been regarded as a non-forestry activity and taking up of any non-forest activity, including permanent structures, amounts to violation of the provisions of the Act. Conservator of Forest (Central), MOEF, Bhopal also reiterated (September 2011) this stating that construction of approach road, *vanaspati vatika*, *udyan van chetna kendra*, log hut, cafeteria and nature trails for eco-tourism requires approval of MOEF under the Act.

We observed (January 2012) from the records of Chief Executive Officer (CEO), Eco-tourism Development Board (Board), Madhya Pradesh, Bhopal that out of 92 eco-tourism activities costing ₹ 6.39 crore, 21 activities were taken up by the Board in forest areas spending ₹ 2.17 crore through respective Divisional Forest Officers and Field Directors of National Parks between June 2005 and January 2012. The activities included construction of approach road, tree huts, platforms, nature trails, cafeteria, boating facilities, development and repair of Forest Rest Houses, etc. (as detailed in **Appendix 4.3**). Approval of Central Government was not taken before undertaking such activities, which resulted in violation of the Act.

On this being pointed out in audit (January 2012), the Government stated (December 2012) that (i) Government of India's clarification of May 2010 stipulating prior permission of Central Government in the matter of use of forest land for non-forestry activities was issued to Government of Haryana and its application cannot be generalised to other states; (ii) the works under eco-tourism activities were executed by the Board after approval by General Body comprising Honorable Minister of Forest and Additional Chief Secretary etc; the activities were in conformity with provisions of various Forest Acts and there was no violation of Forest Conservation Act; (iii) the importance of eco-tourism as an effective tool for management of forests and wildlife has been duly recognized both nationally and internationally and (iv) similar eco-tourism activities have been taken up in a big way by States like Karnataka,

Andhra Pradesh, Kerala, Uttarakhand, Chhattisgarh, Maharashtra, Assam, Sikkim etc.

The reply is not in consonance with the Act and clarification (May 2010 and September 2011) of MOEF. The clarification issued by MOEF to Haryana Government was an interpretation of Forest Conservation Act and those clarifications are equally applicable to all the states throughout India. Further, similar clarification was also issued by the Conservator of Forest (Central), MOEF to the State Forest Department stipulating prior permission from the Central Government before undertaking any eco-tourism activities. The clarification also elaborated the nature of activities constituting violation of Forest Conservation Act and the eco-tourism activities noticed in audit were violative of provisions of Forest Conservation Act.

4.1.4 Irregular parking of funds

Amounts allocated for Joint Forest Management Committee in the budget were drawn and kept in bank accounts instead of in Personal Deposit Account in violation of MP Financial Code.

As part of benefit sharing, the Government of Madhya Pradesh Forest Department decided (February 2005) to spend 10 and 20 *per cent* of the net profit earned from production of timber and bamboo, respectively, for Joint Forest Management Committee³. Net profit for the purpose was to be calculated by deducting the prescribed expenditure from sale proceeds of timber and bamboo. The scheme provided that 80 *per cent* of the aforesaid 10 and 20 *per cent* of the net profit was to be disbursed directly to the Joint Forest Management Committees (JFMC) and the remaining 20 *per cent* was to be spent on training, creation of awareness and development of accommodation facilities etc of the JFMC members. The amount payable to the JFMCs towards benefits sharing was to be provided in the annual budget allocation of the department. According to Rule 6 of the Madhya Pradesh Financial Code (MPFC), moneys should not be withdrawn from the Consolidated Fund and Public account for investment of deposit elsewhere without the consent of the Finance Department.

During scrutiny of records of Additional Principal Chief Conservator of Forests (Development) Bhopal (APCCF), we observed (February 2012) that during the period between 2007-08 and 2011-12, ₹ 39.15 crore was provided in the budget as the allocable share of 20 *per cent* to be spent on training, creation of awareness etc. The department drew these amounts and kept in the bank account opened in the name of Chief Executive Officer, Forest Development Agency, Bhopal. Subsequently, the balances lying in this account were transferred in August 2011 and kept in another bank account in

³ As per Government (Forest Department) Gazette Notification dated 22 October 2001, Forest Committees are to be constituted which comprises of dwellers in the forest area (range) and functions akin to Gram Sabha of Panchayat Raj Institution.

Central Bank of India, Bhopal in the name of APCCF (JFM) without the consent of the Finance Department. Out of this, the department spent ₹ 20.08 crore on activities prescribed under the scheme during the period between 2007-08 and 2011-12. The amount of unspent balance parked in bank account was ₹ 19.07 crore as of March 2012. Drawal of funds and keeping it outside the Government Account is not only irregular but also undermines the budgetary control mechanism of the Government. The Principal Secretary, Finance Department had also instructed (February 2009) all officers to close such bank accounts and transfer the money to Government account in the respective treasuries.

On this being pointed out in audit (February 2012) the Government stated (May and August 2012) that decisions were taken by the Committee from time to time under Rule 4 of MP Development Fund Utilisation Rules, 2006 to utilise the amount and that the human resource development was a continuous process and cannot be bound under the limit of a financial year. The reply is not acceptable as rules did not provide for drawing the funds allotted through budget to be deposited in bank accounts. Further, the Government order dated 28 January 2012 categorically clarified that separate development fund should be created for the purpose of providing training; awareness etc. and the amount pertaining to this activity should be operated through a personal deposit account. Operating the funds through bank accounts outside the Government Accounts thus violated the provisions of financial codes and directions (February 2009) of Finance Department.

4.1.5 Irregular payment for purchase of wireless sets

Amount of ₹ 1.32 crore was paid to DGS&D for procurement of wireless sets and peripherals without obtaining license under Indian Telegraph Act, 1885 and returned amount was kept in Personal Deposit Account of DFO instead of remitting to the Government account.

According to section 4 (i) of Indian Telegraph Act, 1885, the Central Government shall have exclusive privilege of establishing, maintaining and working telegraphs, provided that the Central Government may grant a license, on such conditions and in consideration of such payments as it thinks fit, to any person to establish, maintain or work a telegraph within any part of India.

We observed from the records in office of the Principal Chief Conservator of Forest, Madhya Pradesh (PCCF) that without having license for its establishment and maintenance an amount of ₹ 1.37 crore was paid (March 2010) as advance to Director General of Supplies and Disposal, New Delhi (DGS&D) for supply of Wireless sets and peripherals through M/s Motorola India Private Limited. M/s Motorola supplied peripherals amounting to ₹ 6.09

lakh between March 2010 and August 2011. In September 2010, DGS&D intimated the department that the wireless sets cannot be supplied unless the department obtains the operating license from the Telecommunication Department of Government of India. As the department could not provide the license to DGS&D till March 2012, DGS&D returned the unspent amount of ₹ 1.32 crore to the State Forest Department in March 2012. Instead of remitting the refund amount into Government account, the PCCF irregularly sent the bank draft to Divisional Forest Officer (DFO), Vidisha for crediting the amount in his Personal Deposit Account without seeking the requisite sanction of Finance Department. In violation of Rule 6 of the Madhya Pradesh Financial Code (MPFC), which provided that money should not be withdrawn from the Consolidated Fund and Public account for investment of deposit elsewhere without the consent of the Finance Department.

On this being pointed out in audit (March 2012), the Government, inter alia, stated that at the time of placing in the orders necessity of a license was not intimated and as DGS&D was a Government institution advance was paid according to the conditions of supply.

The reply is not acceptable as the department should have been aware of the legal requirement to establish and operate telegraph lines. Besides, parking of funds allotted through the annual budget in Personal Deposit account was in violation of Rule 6 of Financial code and instruction dated 10th February 2009 issued by Finance Department.

NARMADA VALLEY DEVELOPMENT DEPARTMENT

4.1.6 Loss due to non-reduction of value of turn-key contract on substitution of a component

The component of open trough costing ₹ 48.32 crore was deleted from the scope of an on-going composite contract. After absorbing an amount of ₹ 21.15 crore in substituted items of work, the resultant cost saving of ₹ 27.17 crore was also paid by increasing the rates of other items in the work instead of reducing the over all contract price.

The Narmada Valley Development Authority (NVDA) awarded (March 2008) the work of 'Execution of Canal system of Indira Sagar Main Canal from RD 130.935 km to 155 km including distribution network' on a 'turnkey' contract of ₹ 242.55 crore to a joint venture formed by two constructing firms (Contractor). The work was scheduled for completion in 36 months i.e. by March 2011. The contractor started the work in March 2008 and completed only 73 *per cent* work in 48 months as of March 2012. A cumulative payment of ₹ 199.77 crore has been made to the contractor as of March 2012

The contract schedule divided the entire work in to four major components viz

⁴ Running Distance

(i) Complete work of Main Canal	-	₹ 100.73 crore
(ii) Construction of Satak Aqueduct	-	₹ 62.87 crore
(iii) Construction of open trough	-	₹ 48.32 crore
(iv) Construction of distribution network system (disnet)	-	₹ 30.63 crore.

During the course of execution, the entire component of open trough (990 m), was deleted (March 2009) from the scope of work by the Chief Engineer and the length of Satak Aqueduct and main canal was increased by 273 m and 717 m respectively.

We observed that due to change in the scope of work there was net reduction in the cost of work by ₹ 27.17 crore (as detailed in **Appendix 4.4**). The Authority, instead of reducing the contract price, unauthorisedly increased (March 2009) the agreed rate for different sub components of Canal work. Thus, by not reducing the overall value of the turn-key contract, the Government was put to loss of ₹ 27.17 crore resulting in undue financial benefit to the contractor.

We further observed that before deciding on the deletion of work, an expenditure of ₹ 96.63 lakh was already incurred on the work of open trough. As this work stands abandoned due to change in scope of work, the entire expenditure of ₹ 96.63 lakh has been rendered unfruitful.

On this being pointed out in audit (November 2011), the Executive Engineer, Narmada Development Canal Division, Khargone stated (November 2011) that the Project Co-ordination Committee approved the proposal while revising payment schedule. He also stated that the overall value of work was limited to the value of the contract.

The reply is not acceptable because: (i) The turn-key contract was approved by the Government and deletion of distinct component costing ₹ 48.32 crore from scope of work by the Chief Engineer after award of work was improper as it vitiated the entire tendering and contract processes, (ii) As there was a change in scope leading to an overall cost reduction, passing on the benefit of reduction in cost to the contractor by increasing the rates of individual items in other components of work resulted in loss to the government.

4.1.7 Short recovery on excavated hard rock

Recovery of ₹ 1.05 crore was not made for the excavated hard rock required in four canal construction works.

Narmada Valley Development Authority follows the Unified Schedule of Rates issued by Water Resources Department for preparation of estimates and execution of work. Further, according to provisions of Unified Schedule of

Rates, quantity of utilisable hard rock is required to be recorded in material at site (MAS) by multiplying the quantity with 1.3 times.

According to General terms and conditions governing contracts, the material obtained from excavation work was to be used in the work and recovery for such material used in the work shall be made in accordance with the issue rate mentioned in the contract document.

We noticed (November 2011 to December 2011) in four contracts of canal work under two divisions⁵, that the terms and conditions of the contracts for execution provides for recovery at the rate of ₹ 27 per cu m to ₹ 41 per cu m for usable hard rock available from excavation work.

We further noticed that 6,67,427 cu m of hard rock was available from excavation against which, the hard rock required for the four works worked out to be 2,98,917.75 cu m. Thus the entire hard rock requirement could have been met by the contractors from the excavated hard rock, and recovery was to be made at the issue rates determined in the contracts. Recovery for only 14,467.87 cu m quantity of hard rock however effected from the contractors. This resulted in short recovery of ₹ 1.05 crore from the contractors as detailed in **Appendix 4.5**.

The Executive Engineer ND 21 Sanawad stated (November 2011) that recovery was effected only for 14,467.87 cu m hard rock as remaining metal was brought by the contractor from another quarry.

The Executive Engineer ND 24 Khargone stated (December 2011) that amount will be deducted from the contractors running bill.

The reply of the Executive Engineer, Sanawad is not acceptable as the contractor was required to utilise the available hard rock in terms of the contract. As hard rock required in the work was available from excavation, the divisions should have insisted on using the excavated hard rock and the recovery should have been made at the issue rate prescribed in the contract.

Matter was reported to the Government in August 2012; their reply has not been received (March 2013).

4.2 Expenditure without propriety

Authorisation of expenditure from public funds is to be guided by the principles of propriety and efficiency of public expenditure, Authorities empowered to incur expenditure are expected to enforce the same vigilance as

⁵ Narmada Development (ND) 24 Khargone, ND 21 Sanawad.

a person of ordinary prudence would exercise in respect of his own money and should enforce financial order and strict economy at every step. Audit has detected instances of impropriety, extra and infructuous expenditure, some of which are mentioned below:

NARMADA VALLEY DEVELOPMENT DEPARTMENT

4.2.1 Inadmissible payment of incentive

A contractor showing skewed progress of work was sanctioned cash incentive of ₹ 11.68 crore (paid ₹ 5.84 crore) for early achievement of financial milestones despite failure to achieve the specified physical milestones and continued delayed execution.

The Narmada Valley Development Authority (NVDA) awarded (September 2008) the work of Execution of Puna sa Lift Irrigation Scheme including distribution network by pipelines down to 40 hectare *chak*⁶ for irrigation of culturable command area of about 35,008 hectares on a turnkey contract of ₹ 418.50 crore to a contractor. The contract involved 12 distinct items of work and was scheduled for completion in 36 months i.e. by September 2011. Even after expiry of 45 months, the work is still in progress (June 2012). A cumulative payment of ₹ 417.86 crore has been made to the contractor as of September 2012.

According to Clause 71 of the contract conditions, the progress was to be monitored every six months and in the event of achieving early targets during the six months slab, the contractor shall be entitled to get incentive at the rate of 0.2 *per cent* per week during the six month slab. Fifty *per cent* of such incentive was to be released through intermediate payments and balance 50 *per cent* was to be paid at the end of completion of the entire work

The contractor was paid ₹ 234.92 crore for the work done during the first three six monthly periods ending February 2010. He was also additionally sanctioned (March 2010), cash incentive of ₹ 11.68 crore by the Superintending Engineer (SE), Narmada Development Circle, No.8, Sanawad,

⁶ Chak means the size of farm (directly related to intensity of delivery of irrigation water) that can achieve irrigation efficiently entailing minimum wastage of water in lateral or vertical direction

as detailed in the table below:

Table 4.1: Incentive paid to contractor

S.No	Six monthly periods	Targets in terms of Money Value (₹ in lakh)	Achievement (₹ in lakh)	Incentive Sanctioned (₹ in lakh)
1.	September 2008 to February 2009	600	1,625.18	74.76
2.	March 2009 to August 2009	2,400	11,327.84	566.39
3.	September 2009 to February 2010	7,000	10,538.83	526.94
	Total		23,491.85	1,168.09 ⁷

We observed (November 2011) that although the contract conditions categorically specified simultaneous execution of different items of work (12 items) given in the work programme for determining the milestone achieved, the contractor neglected execution of the works as specified in the work programme during the first two six monthly periods and focussed on procurement and supplies. Against the financial target of ₹ 30 crore specified in the work programme for execution of 10 out of 12 items in the first and second six monthly periods ending August 2009, the entire amount of ₹ 129.53 crore paid to the contractor was towards procurement made. In the third six monthly period also against the financial target of ₹ 70 crore, an amount of ₹ 84.21 crore was paid to the contractor against fabrication /procurement of material and only ₹ 21.17 crore was paid against execution of two items of works against the specified 10 items as detailed in **Appendix 4.6**. The expenditure pattern against the specified milestones for all the three six monthly periods (September 2008 to February 2010) was, therefore, skewed. Since the execution failed to demonstrate achievement of the specific milestones prescribed in the work schedule, the contractor was not eligible for any incentive in terms of the contract conditions. The sanction of incentive of ₹ 11.68 crore and payment there against of ₹ 5.84 crore was inadmissible and recoverable from the contractor.

On this being pointed out in audit, the Executive Engineer (EE), Narmada Development Division No. 25, Narmada Nagar replied (November-2011) that the delay in achieving the targets was mainly due to land acquisition problems. He also stated that the payment of incentive is directly linked to achievement of financial targets. He further added that the clause enabling payment of incentive did not stipulate any linkage between financial progress and milestones mentioned in the agreement. It was further stated that since the financial targets were achieved early against the work programme submitted by the contractor, the incentive was paid.

The reply is not acceptable because: (i) the contractor was adequately compensated by way of price escalation (₹ 6.24 crore as of September 2012

⁷ ₹ 5.84 crore was paid in March 2010 and the balance 50 per cent was withheld as cash deposit for eventual release after completion of work

over and above the contract price) for the delay in land acquisition. (ii) achievement of early targets vis-à-vis the achievement of milestones for each item specified in the work programme in each six monthly periods was a pre-condition for grant of incentive as per conditions of contract (iii) the EE in his letter (8, October 2010) to the contractor had also observed that the work done by the contractor was procurement oriented and directed him to follow the proper work sequence and boost up the progress of work, and (iv) the succeeding SE also questioned (November 2010) the justification for the grant of incentive. Thus, grant of incentive was unjustified.

4.2.2 Excess payment on account of price adjustment

Excess payment of ₹ 85.59 lakh was made to a contractor towards price adjustment due to adoption of incorrect ratio of Petrol Oil Lubricant and Material component.

The work of construction of Canal system of Indira Sagar Project (ISP) main canal from RD 206 km to 243.896 km was awarded by the ND division 11, Barwani to M/s Somdutt Builder New Delhi in June 2009 at an estimated cost of ₹ 243 crore with scheduled completion period of 48 months from the date of issue of work order.

As per clause 31.1 of the agreement entered into with the contractor, payments were to be made to the contractor according to quarterly increase or decrease in the cost of steel, material, labour and Petrol Oil Lubricants (POL). For calculation of price variation of POL and material (other than steel, cement), percentage of POL and material component was fixed 15 *per cent* and 29 *per cent* of the work respectively considering the quantum of each component with reference to the overall cost of the work. In terms of the contract, the percentage of different components for the purpose of payment of price adjustment would remain unchanged during the currency of the contract. Any change in the percentage of the components would have an impact on the quantum of price adjustment payable to the contractor.

We noticed (February 2012) in the execution of the work that the division adopted 30 *per cent* for both POL and material components as against the percentage of 15 and 29 determined in the contract. This resulted in excess payment of ₹ 85.59 lakh to the contractor towards price adjustment during the period January 2011 to December 2011.

The divisional officer stated (February 2012) in reply that recovery of excess payment would be made from the contractor.

The matter was reported to the Government (August 2012), their reply has not been received (March 2013).

PUBLIC WORKS DEPARTMENT

4.2.3 Wasteful expenditure due to defective planning

Delay in sanction and execution of a 35 kilometer road under Twelfth Finance Commission grants resulted in abandoning the work mid way due to expiry of scheme period and stoppage of funds, and consequential wasteful expenditure of ₹ 4.94 crore.

As per the guidelines of Twelfth Finance Commission for release of Grants-in-aid for maintenance of roads and bridges issued (May 2005) by the Government of India (GOI), the State Government was required to prepare the project reports by duly ensuring that the work sanctioned could be completed within the stipulated period by utilising the grant in full. The guidelines also provided that the grant will be paid in equal installments for the last four years of the forecast period (2006-10) so that the State gets the first year for making preparations to absorb these funds.

Administrative Approval of ₹ 16.57 crore for renewal of bituminous topped Banda-Baraytha-Girar road (length 35 km) was accorded (30 September 2008) by the State Government for execution under Twelfth Finance Commission (TFC) grants. The TFC grants were admissible only for works executed up to March 2010 and no further funds were admissible after 31 March 2010. Since only 18 months were left for closure of TFC grants, looking to the magnitude of work, it was imperative on the part of the Department to complete the tender approval and tendering processes promptly.

We observed (April 2012) that the draft tender documents submitted by the Chief Engineer, (CE) Public Works Department (PWD), Sagar for approval in May 2009 was found deficient by the Engineer-in-Chief (E-in-C). The documents were, therefore, returned (May 2009) by the E-in-C to the CE for immediate rectification. After rectification, the documents were re-submitted by the CE in June 2009. After completing the tendering process, the work with a probable amount of contract of ₹ 17.53 crore was awarded (October 2009) to a contractor at 13.50 *per cent* below Schedule of Rates (SOR). We further noticed that although the funds under TFC were available only up to 31 March 2010, the work order specified a completion period of 17 months i.e up to April 2011. The contractor executed work costing ₹ 4.94 crore up to March 2010 by uprooting the existing bituminous surface and abandoned the work in semi-finished granular stage, as funds for the work were stopped after 31 March 2010. Neither was the specified bituminous topping executed nor was the semi-finished surface covered by any appropriate protective layer. As such, the work has been rendered vulnerable to rapid deterioration.

Thus, the unplanned and belated execution of the TFC work, compounded with avoidable delays in preliminary processes, rendered the expenditure of ₹ 4.94 crore substantially wasteful.

On being pointed out in audit (April 2012), the EE admitted the facts and stated that the work was to be completed by the end of March 2010 but could

not be completed due to unavoidable delay in fixing contract agency as well as calling of tender in a single group instead of splitting the work in more than one groups.

The matter was referred to the Government (June 2012); their reply has not been received.

WATER RESOURCES DEPARTMENT

4.2.4 Irregular execution of irrigation schemes having common command area

The total command area of 1628 hectares of Rajapur Lift Irrigation Scheme in Rewa district, taken up in 2007, overlapped with the command area of another major Lift Irrigation Scheme at Teonthar resulting in unproductive expenditure of ₹ 1.63 crore.

The Bansagar multipurpose project on the river Sone is an inter-state project of Madhya Pradesh (MP), Uttar Pradesh (UP) and Bihar. The project, inter alia, envisages construction of the Teonthar Lift Irrigation Scheme (LIS), comprising 36 km canal with structures and allied electro-mechanical equipments, for creation of irrigation potential of 11,330 hectares. The Detailed Project Report (DPR) for the Teonthar LIS was submitted to the Central Water Commission for approval in October 2007. The Government permitted (February 2008) the Department to start the work of Teonthar LIS at an estimated cost of ₹ 96.36 crore (as revised in December 2009). The Department started the work in August 2008.

We noticed that the Government of Madhya Pradesh had accorded (November 1984) Administrative Approval (AA) for construction of another LIS (Rajapur LIS project) at a cost of ₹ 41.97 lakh for irrigation of 1628 hectare area, which was fully covered in the projected command area⁸ of 11,330 hectares of Teonthar LIS. Due to non-allotment of funds, the work of Rajapur LIS was not taken up until 2007, when the Chief Engineer, Ganga Basin, Rewa accorded technical sanction for ₹ 40.58⁹ lakh in July 2007 for the head work of Rajapur LIS. The work was awarded to contractors from November 2007 through three agreements at a total contract value of ₹ 1.77 crore. As the end of March 2012, work valued at ₹ 1.63 crore had been completed against which payment of ₹ 71 lakh had been released.

As the DPR of Teonthar LIS was submitted for approval before the work of Rajapur LIS was awarded in November 2007, the entire expenditure of ₹ 1.63

⁸ Rajapur, Bhagwanpur, Chunri, Sohagi, Sahijwar, Pancha, Antsuiya, Khatia and Belloha village.

⁹ A proposal for according revised AA for ₹ 5.62 crore for Rajapur LIS have been submitted in (October 2010) to the Government. Revised AA was awaited (June 2012).

crore¹⁰ thereon could have been avoided. It was also indicative of non coordination amongst different Divisions within the administrative control of the Chief Engineer of Water Resources Department and absence of a control mechanism to identify schemes having overlapping command area.

The matter was referred to the Chief Engineer, Ganga Basin, Rewa and Government (July 2012). The Chief Engineer, Ganga Basin Rewa, admitted (August 2012) the audit observation and stated that the command area of Rajapur LIS is entirely covered under Teonthar LIS and will be no more in use. He also stated that the cost of abandoned works would be required to be written off.

The Government reply has not been received so far (March 2013).

4.3 Persistence and pervasive irregularities

An irregularity is considered persistent if it occurs year after year it becomes pervasive, when it is prevailing in the entire system reoccurrence of irregularities despite being pointed out in earlier audits, is not only indicative of non-seriousness on the part of the Executive but is also an indication of lack of effective monitoring. This, in turn, encourages willful deviations from observance of rules/regulations and results in weakness of the administrative structure. Cases of persistence irregularity reported in audit are discussed below:

NARMADA VALLEY DEVELOPMENT DEPARTMENT

4.3.1 Non deduction of additional security deposit

Additional Security Deposit of ₹ 3.56 crore were not deducted from contractors against the unbalance rates.

Clause 3.26 of item rate contract agreement provides that in case the approving authority considers that quoted rates for some items are disproportionately high or the tender is unbalanced, he will have the power to limit the payment of such items to the estimated rate of that item plus or minus over all percentage above/below of the tender, as the case may be. The payment not released shall be retained by the Engineer-in-charge as additional security deposit, which shall be released only after completion of entire work.

We noticed (June 2011 and December 2011) in two divisions that the divisional officers short deducted the Additional Security Deposits (ASD) by ₹ 3.56 crore (**Appendix 4.7**) against the items where disproportionately higher rates than the estimated rates were quoted by the contractors. As contractors were not executing the remaining items of works after release of payment for items which were unbalanced, the progress of works were hampered. The works have already been delayed by 21 months to 28 months from scheduled date of completion (December 2012).

¹⁰ ₹ 71.38 lakh already paid *plus* ₹ 91.69 lakh outstanding liability.

¹¹ ND24 Khargone and ND 19 Bhikangaon

The Executive Engineer ND division 24, Khargaon, accepted (December 2011) the fact and assured to recover the amount after due calculation. The Executive Engineer ND division 19, Bhikangaon, stated (June 2011) that the ASD was not recovered as the contractor had simultaneously executed the items of higher rate and lower rate. The reply of Executive Engineer, Bhikangaon does not address the issue of non-recovery of ASD as stipulated in Clause 3.26 of the contract Agreement.

The matter was reported to the Government (August 2012), their reply has not been received (March 2013).

4.3.2 Modification in price escalation clause entailing excess payment to contractor

Extra payment of ₹ 9.33 crore on account of price escalation was made to contractors by adopting revised factor for price escalation prior to approval of the Government.

As per the standard terms and conditions of the contract, whole-sale price index published by the Government of India, Ministry of Industry, office of the Economic Advisor would be the basis for computation of price escalation for various commodities like cement steel and other material. According to the Rule 21 of Madhya Pradesh Financial Code Volume I, Chapter 2, Section IV any change in any clause of Standard Bidding Document (SBD) required prior approval from Law and Finance Department.

We noticed (November 2011 to May 2012) in three contracts under Narmada Valley Development Authority that the terms and conditions in the SBD provided for payment of escalation on the basis of a formula¹² by applying a multiplying factor of 0.75. The department on the demand of the contractors, proposed change in the multiplying factor to 0.85 and sent a proposal to the Finance Department for which approval was accorded in October 2008. In the meanwhile, the department invited tenders in January 2008 adopting the multiplying factor as 0.85. As change in the SBD required prior approval of Finance Department, entering into contracts with multiplying factor of 0.85 for calculation of price escalation before its approval amounted to violation of Rule 21 of MP Financial Code and resulted in excess payment of ₹ 9.33 crore¹³.

The matter was reported to the Government (August 2012); their reply has not been received (March 2013).

¹²

Provision according to SBD	Modified Clause
$V = 0.75 * P_s * R * (X - X_o) / X_o$	$V = 0.85 * P_s * R * (X - X_o) / X_o$

Where P_s = percentage of component i.e. Labour, POL, Material, Cement, Steel

R = Value of work done during respective quarter

V = increase or decrease in the cost of work due to material, POL, cement

X = Average price index of all commodities for respective three months

X_o = Base index of all commodities at the time of opening of tender.

¹³

Agreement No. 16/07-08: ₹ 1.73 crore, Agreement No. 07/07-08: ₹ 3.66 crore and Agreement No. 14/07-08: ₹ 3.94 crore.

4.4 Failure of oversight/governance

The Government has an obligation to improve the quality of life of the people through fulfillment of certain goals in the area of health, education, development and upgradation of infrastructure and public service. However, Audit scrutiny revealed instances where in the funds released by the Government for creating public assets for the benefit of the community remained unutilised/blocked and/or proved unfruitful/unproductive due to indecisiveness, lack of administrative oversight and concerted action at various levels. A few such cases have been discussed below:

WATER RESOURCES DEPARTMENT

Long Para on Contract Management issue in units of Chambal Betwa Basin

The Chambal Betwa (CB) Basin is one of the biggest river basins of the State of Madhya Pradesh. Irrigation in the command area of the CB Basin is managed by the Water Resources Department through 11 divisions¹⁴. The contract management in seven out of the 11 divisions of the CB basin was reviewed in Audit between November 2011 and April 2012. Audit examined 61 agreements, in the seven divisions¹⁵ and the deficiencies noticed in Audit resulting in undue financial aid to contractors for unbalanced rates, non/short recovery of liquidated damages, excess payment of price adjustment, non-execution of works as per specifications and extra cost due to inadequate survey are discussed in detail in succeeding paragraphs.

4.4.1 Undue financial aid to contractors for unbalance rate items

Undue financial aid to contractors of ₹ 8.48 crore and loss to Government of ₹ 43.92 lakh occurred due to non-deduction of additional security deposit for unbalanced rate items.

According to Clause 3.28 of agreement, in the case of unbalanced rate items¹⁶ the amount for which the contractor had quoted higher rate as compared to the estimated rate of item plus or minus overall tendered percentage, was required to be withheld from the bills of contractors, as additional security deposit. In the event of default in execution of work, the additional security deposit so deducted shall be forfeited to the Government.

¹⁴ Ashok Nagar, Bhopal, Guna, Narsinghgarh, Raghogarh, Raisen, Rajgarh, Samrat Ashok Sagar (SAS) Vidisha, Sanjay Sagar (Bah) Project Ganjbasoda, Sehore, and Vidisha.

¹⁵ Bhopal, Narsinghgarh, Raisen, Rajgarh, Samrat Ashok Sagar (SAS) Vidisha, Sanjay Sagar (Bah) Project Ganjbasoda and Sehore,

¹⁶ Unbalanced rate item- Items for which the contractor had quoted higher rates as compared to the estimated rate plus or minus overall tender percentage.

We noticed (February 2012 to April 2012) in three divisions¹⁷ (seven works), that additional security deposit of ₹ 9.58 crore arising due to unbalanced rates was required to be deducted from running bills of contractors against which only ₹ 0.66 crore was deducted in five on-going works, resulted in undue financial aid of ₹ 8.48 crore. In respect of two other works, the contractors left the work incomplete resulting in loss of ₹ 43.92 lakh on account of non-recovery of additional security deposit from them as detailed in **Appendix 4.8**.

The Principal Secretary stated (July 2012) that system of contracting had since been modified to percentage above or below the overall estimated contract value instead of item rates contract to avoid recurrence of such situation.

The fact remains that in these cases the recovery of additional security deposit was not made resulting in undue financial aid to the contractors of ₹ 8.48 crore and loss of ₹ 43.92 lakh to Government.

4.4.2 Non/short recovery of liquidated damages

Loss to Government ₹ 1.68 crore occurred due to non-recovery of liquidated damages for delay on the part of contractors in execution of seven works.

Clause 49.1 of the agreement provides that in the event of failure to achieve specified progress, the contractor would be liable to pay liquidated damages to the employer. The maximum amount of liquidated damages (LD) is 10 *per cent* of the contract amount.

We noticed (December 2011 to April 2012) in four divisions (seven works), the contractors failed to achieve the specified progress as given in the contracts. Therefore, the contractors were liable to pay liquidated damages of ₹ 2.46 crore but only ₹ 78 lakh was recovered from the contractors bills on account of liquidated damages. This resulted in loss to Government ₹ 1.68 crore as detailed in **Appendix 4.9**.

The Principal Secretary stated (July 2012) that liquidated damages would be recovered at the time of completion of works and the amount of liquidated damages was secured because of security/performance guarantee available with the department.

The reply is not convincing as the terms of agreement provided for recovery of liquidated damages on non-achievement of each milestones defined in the agreements. Security/performance guarantee were obtained to secure against damage to and bad performance of the work and appropriation of this amount against liquidated damages was therefore necessary.

4.4.3 Irregular payment of price adjustment for steel

Excess payment was made to contractor ₹ 81.71 lakh due to adoption of higher rates for steel in calculating price adjustment and payment for work not done.

¹⁷ Narsinghgarh, Raisen, Sanjay Sagar (Bah) Project, Ganjbasoda,

The Divisional Officer, Narsinghgarh awarded (March 2005) the work of supply of radial crest gate including stop log and lifting beam and gantry crane with design, fabrication and erection for Koshalpura tank to Anil Steel, Indore through Madhya Pradesh Laghu Udyog Nigam (MPLUN). The work order was issued to the supplier on 24 March 2005 with stipulated period of completion as 15 months. According to special terms and conditions of the agreement, 85 *per cent* of the payments shall be released after supply of material. The remaining 15 *per cent* shall be released in two installments; first 10 *per cent* after satisfactory erection and second five *per cent* after successful commissioning, testing and trial by the consignee. Price adjustment was payable to the contractor according to the terms of the agreement. Clause 2.40.1 of the agreement provided that rate quoted by the contractor would be based on stock yard prices and if the stockyard prices of the steel were increased by Steel Authority of India Limited (SAIL) subsequently and the contractor procured steel at such increased prices from SAIL or any authority, then the difference shall be reimbursed to the contractor.

The Division paid price adjustment of ₹ 5.48 crore on steel supplied calculated on the basis of difference between the rates of SAIL as prevailing on the date of inviting tenders by MPLUN (July 2004) and the rate on the date of actual supply during March 2005 and December 2011.

We noticed (February 2012) that the rates of steel on the dates of supplies considered for payment were higher than the actual rates of SAIL steel on those dates. Thus, computation of price adjustment by taking into account incorrect (higher) rate for steel resulted in excess payment of ₹ 15.10 lakh.

We further noticed that the division paid price adjustment on erection and commissioning for ₹ 66.16 lakh also although this work had not been done by the contractor. This resulted in total excess payment of ₹ 81.71 lakh vide details given in **Appendix 4.10**.

The Principal Secretary stated (July 2012) that price variation paid in excess would be recovered and directed his officers to examine other cases of payment of price variation. Recovery of excess payment has not been intimated to us (March 2013).

4.4.4 Poor planning resulting in idle expenditure

Deficient planning and non-synchronisation of nalla closure with waste weir construction led to idle expenditure of ₹ 1.53 crore.

Para 7.016 of Madhya Pradesh Works Department (MPWD) manual provides that before taking up the nalla closure¹⁸ work, construction of surplussing arrangements (Waste Weir¹⁹), completion of other portions of dam/saddle dam in all respect, cut-off-trench in nalla bed²⁰, should be completed. In Rajgarh

¹⁸ Nalla closure refers to construction in a portion of dam with a view to stop flow of water in river/ nalla for storing water in upstream of the dam.

¹⁹ Waste weir is constructed to allow discharge of excess water after water level in the dam reached full reservoir level.

²⁰ Cut off trench be provided to minimise seepage losses both below and above nalla bed.

division, we noticed (February 2012) that the nalla closure of Chountra Tank was done (June 2010) before the construction of Waste Weir. As a consequence, the flood water spread in the villages during the monsoon 2011 and the dam had to be cut in 80 metre length on the left side in emergency to save the inhabitants of nearby areas and also to save the dam. Although the canal of the said dam was completed (February 2011), non-reconstruction of cut portion of dam as well as non-completion of Waste Weir before rainy season (2012) resulted in idle expenditure of ₹ 1.53 crore.

The Divisional Officer stated (February 2012) that when the nalla closure was done (June 2010), there was sufficient time for excavation since it was not expected that the strata would vary as much and the quantity of hard rock excavation will increase. The reply is not acceptable. The Manual prescribed that the Waste Weir construction should be completed before taking up nalla closure, which was not followed.

4.4.5 Non-execution of works according to specifications

Earth work was done without watering and rolling resulted in substandard work costing ₹ 49.59 lakh.

According to para 2.028 of MPWD Manual, an officer according technical sanction to an estimate is responsible for soundness of design and for incorporating all the items required for conclusion in the estimate with reference to the drawings. Para 4.9.9 (section-II, volume-I) of specifications for irrigation projects (of the Unified Schedule of Rates for works) provides that in the earth fill embankment watered, rolled and compacted at optimum moisture content and at dry density, settlement allowance of one *per cent* and two *per cent* of designed height for unyielding (rock) and compressible (soil) foundations, respectively shall be deducted from the executed quantity and also provides that if the item of earthwork is neither rolled nor watered, deduction of 25 *per cent* is to be made from the executed quantity of earthwork. Irrigation Specifications provides that the earthwork on bund includes the laying of earth in 15 centimeter layer, watering and compaction of earthwork at optimum moisture content to achieve maximum dry density.

In Water Resources Division, Narsinghgarh, the work of Restructuring and Modernisation of Shamshepur Tank under MPWSRP was awarded to contractor in December 2010 scheduled to be completed by December 2011. The work was still in progress and an amount of ₹ 1.74 crore had been paid to the contractor through RA bills till November 2011. The agreement provides that item earthwork for canal in 161436.65 cu m and item for canal lining in 1076.59 cu m. The executed work included execution of earthwork for 159441.85 cu m and execution of lining of 810.65 cu m at a cost of ₹ 68.99 lakh and ₹ 36.48 lakh respectively.

We noticed (March 2012) that the earthwork (filling quantity) of 134024.59 cu m quantity was executed for which payment was made after deduction of 25 *per cent* shrinkage allowance. This indicates that earthwork was done without rolling and watering, which is an essential part of the complete earthwork.

Thus, the execution of earthwork valuing ₹ 49.59 lakh²¹ was below specification which may result in rapid depletion of water due to seepage. Besides, possibility of premature deterioration of canal lining cannot be ruled out.

The Principal Secretary stated (July 2012) that the height of canals was less than three metre or it was unlined canal and therefore, watering and compaction was not necessary. The Principal Secretary further assured that for future works, the specification would be changed to provide for watering and compaction in earthwork of all canals.

The reply is not acceptable as work is related to a lined canal hence watering and compaction of the earth work was essential components of earth work.

4.4.6 Extra cost due to inadequate survey and estimation

Increase in quantities of item of work due to improper survey and estimation resulted in extra cost of ₹ 57.55 lakh.

According to Para 2.028 of the Madhya Pradesh Works Department (MPWD) Manual, estimate of the works should be prepared realistically after conducting judicious field investigation and survey to avoid any undue variation in the quantities at the stage of execution.

We noticed (December 2011 to February 2012) in Sehore and Rajgarh divisions that actual quantity of excavation in all strata of rock other than hard rock in Titoriya tank (Sehore) and actual quantity of excavation of hard rock in Chountra tank (Rajgarh) was found to be abnormally higher than the estimated quantities as detailed in **Appendix 4.11**. The divisional officer, Sehore invited fresh tender for additional quantities and the divisional officer, Rajgarh executed the additional quantity by Heavy Earth Mover (HEM) division of the department after refusal by the contractor to execute the additional quantity. Thus, inadequate survey and estimation resulted in extra burden of ₹ 57.55 lakh²² to the Government due to higher rate of the item for balance quantity of the works.

The Divisional Officer, Sehore stated (December 2011) that excavation in quantity of hard rock increased by nearly 10,000 cu m and therefore, the contractor refused to execute the work beyond the agreement quantity. The Divisional Officer, Rajgarh stated (February 2012) that the quantity was estimated as per excavated trial pits but the strata of excavation did not follow the expected result of trial pits. It was further stated that abnormal increase in quantity might be due to variation of strata and improper site selection of trial

²¹ Narsinghgarh division (Ag No.6/10-11) 134024.59 cu m at the rate ₹ 37.00 per cu m.
²² Sehore Division-Agreement No 172/2007-08 ₹ 13.19 lakh (Qty 10608 cu m at the rate ₹ 205.80 ₹ 81.46 (Estimated rate ₹.79.47/cu m +1.86 tender *per cent*), Rajgarh Division- Agreement No 11/2008-09 ₹ 44.36 lakh [31000 cu m at the rate ₹ 143.10 [Rate levied by HEM ₹ 307.74 per cu m -₹ 164.64 per cu m {Estimated rate ₹196 per cu m 16 *per cent* (Tender percentage)}]

pits. The Principal Secretary stated (July 2012) that cumulative quantity of excavation for different kinds of strata did not change for the work.

The replies of Divisional Officers are not acceptable as the reply confirms the fact that there were inadequacies in selection of site for survey, which resulted in abnormal increase in quantities. The improper survey had a consequential impact in foreclosure of contract, which was further awarded to other agencies at higher rates.

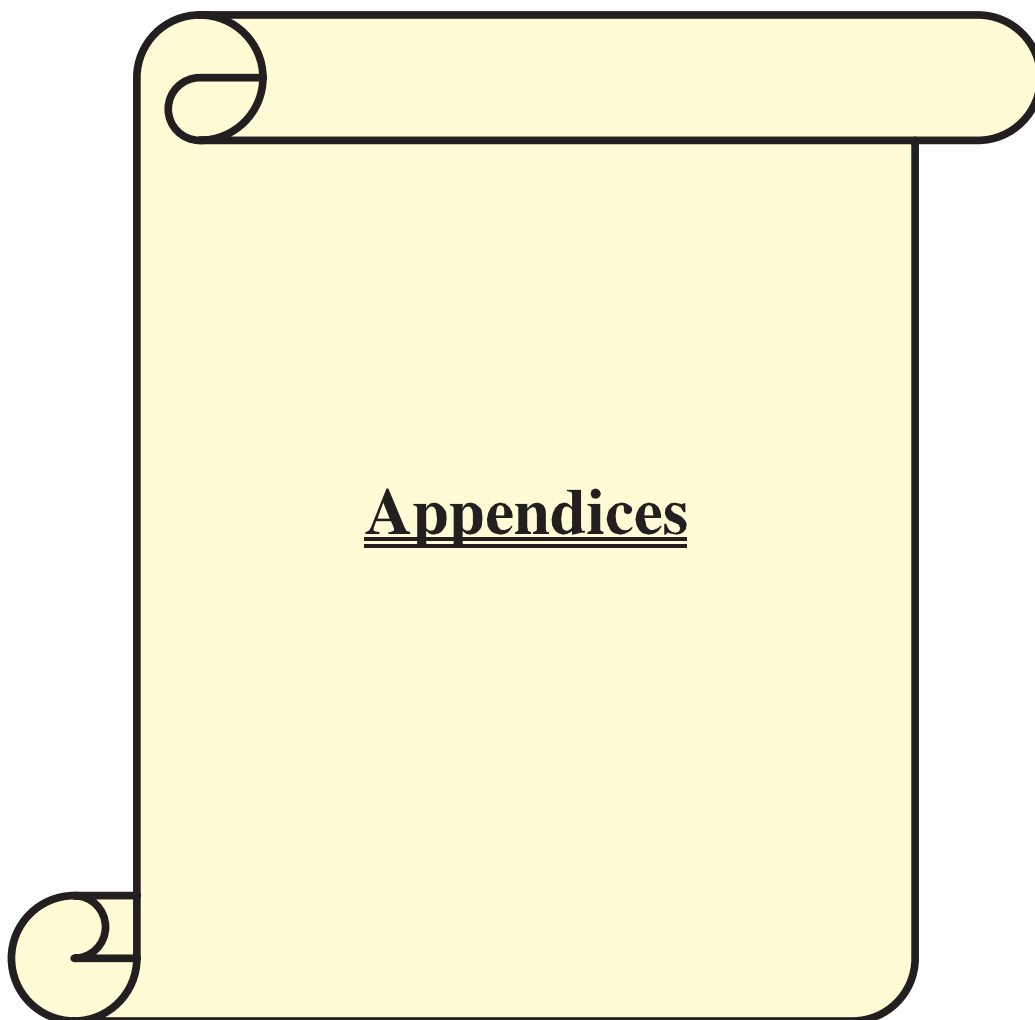
Bhopal
The

(D.K. SEKAR)
Accountant General
(Economic and Revenue Sector Audit)
Madhya Pradesh

Countersigned

New Delhi
The

(VINOD RAI)
Comptroller and Auditor General of India



Appendices

Appendix 1.1
(Reference paragraph 1.7.1 Page 9)
Year-wise break-up of outstanding Inspection Reports (IRs) as of 30th June 2012

Sl. No.	Department	Year Up to 2006-07		2007-08		2008-09		2009-10		2010-11		2011-12		Total	
		IRs	Paras	IRs	Paras	IRs	Paras	IRs	Paras	IRs	Paras	IRs	Paras	IRs	Paras
1.	Public Works	786	3213	88	512	83	440	77	551	67	393	21	158	1122	5267
2.	Water Resources	965	2973	136	593	123	551	109	549	92	429	38	274	1463	5369
3.	Narmada Valley Development Authority	147	294	30	70	30	87	28	77	32	95	13	99	280	722
4.	Panchayat & Rural Development (MIPRRDA)	101	468	51	223	51	232	60	302	33	200	4	31	300	1456
5.	Forest	103	150	24	25	33	69	59	143	84	1121	54	813	357	2321
6.	Agriculture & Farmers Welfare	230	422	79	192	46	105	68	175	62	284	61	295	546	1473
7.	Animal Husbandry	144	324	10	44	20	73	26	84	36	172	12	60	248	757
8.	Fisheries	25	57	2	5	7	20	15	43	4	16	13	40	66	181
9.	Rural Industries	64	169	8	28	8	28	14	52	12	44	14	70	120	391
10.	Commerce, Industries & Employment	84	150	1	1	8	19	11	38	21	83	22	90	147	381
11.	Energy	7	8	-	-	-	-	1	2	-	-	-	-	8	10
12.	Tourism	5	16	-	-	1	7	-	-	1	1	1	10	8	34
13.	Aviation	8	32	-	-	-	-	1	5	-	-	1	10	10	47
14.	Horticulture and Food Processing	61	223	7	15	6	6	28	83	22	94	32	224	156	645
Total		2730	8499	436	1708	416	1637	497	2104	466	2932	286	2174	4831	19054

Appendix 1.2

(Reference paragraph 1.7.3 Page 9)

Details of audit paragraphs in respect of which Departmental Replies were pending as of 30 September 2012

Sl. No.	Department	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	Total
1	Farmer Welfare and Agriculture Department					1	1	2
2	Horticulture & Food Processing			3				3
3	Commerce, Industry & Employment	1						1
4	General (All departments)		1	1	1	1	1	5
Total		1	1	4	1	2	2	11

Appendix 1.3

(Reference paragraph 1.7.4 Page 9)

Paragraphs yet to be discussed by PAC as of 30 June 2012

Sl. No.	Department	2005-06	2006-07	2007-08	2008-09	2009-10	Total
1.	Public Works	7	-		3	-	10
2.	Water Resources	3	-	2	4	7	16
3.	NVDA	1	-	-	-	-	1
4	Animal Husbandry Department	-	-	-	-	2	2
Total		11		2	7	9	29

Appendix 1.4
(Reference paragraph 1.7.5 Page 9)
Statement showing year-wise and department-wise position of Audit Report paragraphs/reviews on which departmental Action Taken Notes on PAC Reports are pending as of September 2012

Departments	YEAR OF AUDIT REPORT																				Total	
	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06		2006-07
Co-operation													4	4		2	1					11
Agriculture		2		2	3	3	4	1	5						1		3		2	1		27
Animal Husbandry					3			1	1	2			2	2					1			12
Rural Industry									1		1				1							3
Fisheries											1						1					2
Commerce/Industries & Employment			2				3			4		3							1			13
Public Works	4	2	6	4	4	3	2	3	3	2	7	5	9	-	8	1	7					70
Water Resources	25	-	30	13	13	13	2	6	4	5	4	3	7	5	2	2	4					138
Narmada Valley Development Department	-	-	1	-	-	1	2	3	3	2	-	1	1	1	-	2	2	2	3			24
Total	29	4	39	19	23	20	13	14	17	15	13	12	23	12	12	7	18	2	7	1		300

Appendix 2.1
(Reference paragraph 2.1.8.1 Page 20)
Statement showing premature upgradation of roads under CRF and NABARD

Sl. no.	Name of division	Name of road	Scheme	Expenditure under SRIP	Work completed	Defect liability*	AA of GOI	Work order date
1	Ashok Nagar	Ashok Nagar Vidisha road 13 Km	CRF	72.43	Mar-09	Sept. 10	Jul-08	07.07.09
		Ashok nagar Piparai road 12 Km	CRF	76.67	Mar-09	Sept. 10	Dec-08	28.08.09
		Mungawali Piparai road 18 Km	CRF	116.11	Mar-09	Sept. 10	Dec-08	28.08.09
		Saraskheddi Naisarai road 18 Km	CRF	121.2	Mar-09	Sept. 10	Dec-08	20.08.09
2	Vidisha	Lateri Samsabad Rd (KM 0-16)	NABARD	123.99	May-08	Nov-09	Apr-07	29.05 08
3	Shajapur	Amla-Nalkheda (14KM)	CRF	62.01	Jul-08	Jan-10	Dec-08	27.02.09
		Barod-A lot (13.80km)	CRF	61.74	Jul-08	Jan-10	Dec-08	02.03.09
				634.15				

*Defect liability period (performance guarantee) was 18 months from the date of actual completion of work.

Appendix 2.2
(Reference paragraph 2.1.9.1 Page 23)
Statement showing Extra cost due to execution of BM plus SDBC instead of OGPC plus Seal Coat

Sl. No.	Name of Divisions	Name of works	Agt. No.	Fund	Crust Design by Dept.	Crust Design by Audit	Executed item	Qty.(cum)	Rate	To be executed	Qty. (sqm)	Rate	Tender %	Extra cost
1	Ashoknagar	Vijaypura to Essagath road	62/09-10	CRF	1.14 msa	<1 msa	BM	5174.53	3890	OGPC	103957.44	69	(-) 21.21	190.3
							SDBC	2613.96	5594	Seal coat	103957.44	33		
2	Narsinghpur	Lalpur Usri Gorakhpur road	152/08-09	CRF	Not calculated	<1msa	BM	4209.27	3890	OGPC	84185.68	80	14.84	214
							SDBC	2104.63	5594	Seal coat	84185.68	33		
3	Satna	Uchehra Parasmaniya Dureha road	394/07-08	MDR	< 1 msa	<1msa	BM	4511.661	3059	OGPC	90233.22	79	(-) 11.70	74.06
							SDBC	1004.81	4311	Seal coat	90233.22	29		
4	Rewa	Lalgani-Mangawan road	135/08-09	NABARD	1 msa	<1msa	SDBC on WBM	964.982	5594	OGPC	38599.28	80	(-) 16.01	8.71
							Seal coat			Seal coat	38599.28	33		
5	Rewa	Sitapur Bahera Dabar via Bador Harrana road	03/2010-2011	MDR	1 msa	< 1 msa	BM	3007.5	3000	OGPC	60150	63.2	Item rate overall 20% below	105.86
							SDBC	3007.5	4499	Seal coat	60150	23.2		
6	Ashoknagar	Khadwaya Mamoni road	71/10-11	DTAPT Fund	SP 20	curve C	BM	1875	3925	OGPC	37500	87	(-) 15.61	78.68
							SDBC	881.25	5640	Seal coat	37500	32		
7	Sehore	Bhopal Naka Sehore to Jamuniya road	01/2007-08	NABARD	SP 20	curve D	BM	1031.25	2059	OGPC	20625	44	21.00	26.96
							SDBC	515.615	2643	Seal coat	20625	17		
8	Sehore	Bhowkhedi	51/07-08	NABARD	SP 20	curve D	BM	2232.96	2059	OGPC	44659	44	21.00	58.13

Sl. No.	Name of Divisions	Name of works	Agt. No.	Fund	Crust Design by Dept.	Crust Design by Audit	Executed item	Qty.(cum)	Rate	To be executed	Qty. (sqm)	Rate	Tender %	Extra cost
		Amlaha Dhamanda road					SDBC	1108.96	2643	Seal coat	44659	17		
9	Dewas	Hapiplya Bhourasa road	336/08-09	CRF	3 msa	<1msa	BM	2917.5	2059	OGPC	58350	56	59.00	75.43
							SDBC	1133.75	2643	Seal coat	58350	17		
10	Khargone	Kastrawad-Pipalgoan road	105 DL/08-09	NABARD	3.3 msa	3.3 msa	DBM	3355.55	4955	BM	3355.55	3890	16.66	41.69
11	Chhindwara	Manegoan Pipariya Gamani Akalma Khursipar Khireti road	10/CRF/2 011-12	CRF	2 msa	< 1 msa	BM	1931.25	3878	OGPC	10300	87	Item rate overall 14.29% below	78.33
							SDBC	965.63	5528	Seal coat	10300	32		
12	Chhindwara	Nawegaon Bindrai-Bordari road	249 DL/CRF/2007-08	CRF	2 msa	< 1 msa	BM	2834.01	3059	OGPC	55112.4	64	0.79	96.27
							SDBC	1377.81	4311	Seal coat	55112.4	25		
13	Chhindwara	Sitadongri Bamhani road	26/CRF/09-10	CRF	1 msa	1msa	BM	2540.624	3984	Already provided executed OGPC,Sealcoat			At par	101.22
	Total													1149.64

Appendix 2.3
(Reference paragraph 2.1.9.1 Page 24)
Statement showing execution of work beyond the scope of DPR and IRC 37 specifications

Sl. No.	Name of Division	Name of work	Agt. No.	Item executed	As per DPR		Actually executed		Allowed	Excess	Tender percent	Amount
					Thickness	Width	Thickness	Width				
1	Ashoknagar	Vijayapura to Essagarh road under CRF	62/09-10	GSB	180 mm	7 m	200 mm	11.7 m to 16.6 m	180 mm in 7 m	20 mm > 7 m @ 407/-	(-) 21.21	43.77
2	Guna	Awari (Janjati) to Maksudangar Rd under CRF	02/CRF/2009-10	GSB	210 mm	11.80 m	210 mm	11.8 m	150 mm as a drainage layer in 11.80 m	60 mm (26190 x 4.8 x 0.6) @ 380/cu m	SBD	28.66
3	Shajapur	Agar-Sarangpur Sadipur Mohanbadoria road under CRF	7/CRF/10-11	GSB	180 mm	3.75 m	225 mm	10 m	180 mm in 3.75 m	16742.75 cu m @ 368	SBD	61.61
4	Satna	Amarpatan to Rampur road under CRF	17/CRF/09-10	GSB	300 mm	5.5 m	300 mm	5.5 m	230 mm for 3 msa traffic CBR 5%	(21583 mx 5.5x0.07) @ 375/cu m	SBD	31.55
5	Sehore	Sehore Bilkisganj Bhadbhada road under CRF	06 DL/CRF/2009-10	GSB	250 mm	7 m	250 mm	7 m	180 mm for 3 msa CBR 6%	13230 cu m (27000x7x0.07) @ 350/cu m	SBD	46.31
6	Satna	Nagod Uchehra road length under CRF	7/CRF/09-10	GSB	300 mm	5.5 m	300 mm	5.5 m	230 mm for 3 msa CBR 5%	12705 cu m (33x 1000x5.5x0.07) @ 375/cu m	SBD	47.64
7	Dewas	Hatpihya Bhourasa road under CRF	336/2008-09	GSB	225 mm	1m both side in 21.20 km	220 mm, 100 mm & 200 mm	2.5 m, 3.0 m & 8.5 m in 11 km	5885 cu m	(12373 5885) @ 389/cu m	59.00	40.12
8	Dewas	Dewas-Rajoda-Kelod-Double Chowki road under CRF	52/2009-10	WBM	250 mm	3.75 m	250 mm WMM	4.25 m	250 mm in 3.75 m	(29070.48 - 25654.68) @ 659/cu m	(-) 9.99	20.26
9	Khandwa	Pandhana to Chaigaon Makhani road under NABARD	01 DL/2007-08	GSB	100 mm	3.75 m	130 mm	8.84 m	100 mm in 3.75 m	9346.72 cu m @ 387	24.90	43.73
363.65												

Appendix 2.4
(Reference paragraph 2.1.9.1 Page 24)
Statement showing unnecessary widening led to extra cost

Sl. No	Name of Division	Name of work	Agreement no.	Initial PCU	PCU after design life and completion period	Widening of carriage width	Un necessary widening	Calculation of extra cost						Amount (in lakh)	Total amount (in lakh)
								Item executed	Length (m)	width	thickness	Qty (cu m)	Rate		
1	Dewas	Pipalrawa Ilashkhedi Balon Birgod Cerchha road 17 Km under CRF	19/2009-10	962	2500	3.75 m to 5.5 m	1.75 m	GSB	11500	1.75m	250 mm	5031.25	290	14.59	106.96
								WWM	9800	1.75m	250 mm	4287.5	760	35.58	
								BM	9750	1.75m	50 mm	853.125	4055	34.59	
								SDBC	9750	1.75m	25 mm	426.56	5205	22.2	
								CRM	18800	1.50 m	100 mm	2820	705	20.09	
2	Chhindwara	Amarwara Umariya Banki Beharia road under CRF	05/CRF/2009-10	2305	4590	5.5 m to 7 m	1.5 m	WWM	18800	1.50 m	250 mm	7050	1094	77.13	195.32
								Primer Coat	15400	1.50 m	0	23100 sqm	19	4.39	
								Tack Coat	15400	1.50 m	0	23100sqm	10	2.31	
								BM	15400	1.50 m	50 mm	1155	3878	44.79	
								SDBC	15400	1.50 m	25 mm	577.5	5528	31.92	
								GSB	19600	1.50 m	100 mm	2940	415	12.20	
								CRM	19600	1.50 m	200 mm	5880	590	34.69	
								WWM	19600	1.50 m	250 mm	7350	875	64.31	
								Primer Coat	19600	1.50 m	0	29400 sqm	22	6.47	
								Tack Coat	19600	1.50 m	0	29400 sqm	11	3.23	
3	Chhindwara	Sausar Rajana road under CRF	01/CE JBP/2010-11	2408	5729	5.5 m to 7 m	1.5 m	DBM	19600	1.50 m	50 mm	1470	5000	73.50	238.50
								BC	19600	1.50 m	30 mm	882	5000	44.10	
								GSB Gr.I	17320	1.75 m	100 mm	3031	387	11.73	
								GSB Gr.II	17320	1.75 m	200 mm	6062	407	24.67	
								CRM	17320	1.75 m	300 mm	9093	523	47.55	
4	Chhindwara	Samaswara Santh Khamera road	75 DL/08-09 (12.99% above)	1072	2551	3.75 m to 5.5 m	1.75 m	Primer Coat	17320	1.75 m	0	30310 sqm	17	5.15	192.45
								Tack Coat	17320	1.75 m	0	30310 sqm	7	2.19	
								BM	17320	1.75 m	50 mm	1515.5	3059	46.36	
								SDBC	17320	1.75 m	25 mm	557.75	4311	32.67	
								GSB	6800	1.5m	100 mm	1020	405	4.13	
5	Chhindwara	Multai Rohana-Gaurayya Pawana Road	14/CRF/2010-11	2070	4790	5.5 m to 7.0 m	1.5 m	CRM	6800	1.5m	225 mm	2295	675	15.49	82.38
								WWM	6800	1.5m	250 mm	2250	872	19.62	
								BM	6800	1.5m	60 mm	612	3690	22.58	
								SDBC	6800	1.5m	40 mm	408	5040	20.56	
Total															815.61

Appendix 2.5
(Reference paragraph 2.1.9.3 Page 27)
Statement showing execution of surface dressing instead of primer coat

Sl. No.	Name of Divisions	Name of works	Agt. No	Funds	Qty of SD (in sq m)	Rate of SD	Rate of Primer coat	Tender%	Diff. amount
1	Guna	Myana Nai Sarai road to Mavan via Khonkar	179/SAC/06-07	CRF	67281.75	23	18	4.17	3.50
2	Guna	Chachoda-Mrigwas-Bakanya road	01/SAC/07-08	CRF	89127.99	23	13	14.21	10.18
3	Asoknagar	Ashoknagar Eshagarh road	31/2009-2010	CRF	124740	47	25	2.89	28.24
4	Asoknagar	Asoknagar Piprai Mugawali road	32/2009-2010	CRF	104445	47	25	(-) 6.80	21.42
5	Narsinghpur	Mungawali Gorakhpur road	15/CRF/2009-10	CRF	80190	44	19	SBD*	21.68
6	Narsinghpur	Lalpur Usri Gorakhpur road	152DL/2008-09	CRF	82585.68	47	25	14.84	20.87
7	Sagar	Bhapel jaisinagar road	61DL/ 2007-08	CRF	64177	36	17	(-) 7.29	11.30
8	Rewa	Piprahi Jarkundi road	90 DL/2008-09	NABARD	61076.63	36	18	(-)18.33	8.98
9	Rewa	Lalganj-Mangawan road	135DL/2008-09	NABARD	23268.38	47	25	(-) 16.01	4.30
10	Gwalior	Shetla Mata Chinor road	20 SAC A/07-08	Plan	57909.75	23	18	17.00	3.36
11	Narsinghpur	Paloha Amoda Ulthan road	216/08-09	Plan	22226.62	47	25	19.77	5.86
12	Sagar	Sahajpur Tendukheda road	225 DL/2007-08	Plan	37875	36	17	(-) 4.00	6.91
13	Satna	Kripalpur Ramasthan road	69/05-06	NABARD	43841.21	23	provided	(-) 16.06	10.08
14	Sehore	Dhamnda vi Amlaha road	51/07-08	NABARD	37323	23	18	21.00	2.26

Audit Report Economic (Non-PSUs) Sector for the year ended 31 March 2012

Sl. No.	Name of Divisions	Name of works	Agt. No	Funds	Qty of SD (in sq m)	Rate of SD	Rate of Primer coat	Tender%	Diff. amount
15	Sehore	Charnal Chandbad road	52/07-08	NABARD	61657.50	36	17	7.55	11.5
16	Shajapur	Khardonekala ugli Shujalpur road	18/2007-2008	NABARD	24675.00	23	18	19.55	1.47
17	Shajapur	Balnce work Khardonekala ugli Shujalpur road	177/10-11	NABARD	67875	42	22	17.60	11.19
18	Shajapur	Bhesoda Badagoan road	168/07-08	NABARD	33525	36	17	(-) 2.90	6.55
19	Shajapur	Sundersi Khadi polay pipalranva road	339/2006-07	NABARD	67363.12	23	18	14.31	3.85
20	Shajapur	Barod to Susner	139/08-09	NABARD	54375	47	25	(-) 14.00	10.28
21	Vidisha	Anuppur-Majaharkhedi	13/2008-2009	NABARD	62219.98	36	17	(-) 11.31	10.48
22	Vidisha	Sanchi-Udaigiri-Gulabganj-Basoda-Bareth-Udaipura road	10/2007-2008	NABARD	125446	23	18	38.07	8.66
23	Vidisha	Gadhi-Ahmadpur-Vidisha	112/10-11	Plan	65659.48	42	19	(-) 22.11	11.76
24	Dewas	Hatpihya Bhourasa road	336/2008-09	CRF	58500	23	18	59.00	4.65
25	Dewas	Hatpihya-Tappa-Sidhikganj road	50/2009-10	CRF	106469	51	22	(-) 15.66	26.04
26	Khandwa	Jalkuwa Bhagiyapur Semliya Gudi road	57 DL/2006-07	NABARD	58564.94	23	13	9.90	6.44
27	Chhindwara	Nawegaon Bindrai- Bordari road	²⁴⁹ DL/CRF/2007-08	CRF	25205.23	36	17	0.79	4.82
	Total								276.63

Overall below tender premium 10.58 per cent 80190{44 - (19 - 10.58%)}

Appendix 2.6
(Reference paragraph 2.1.9.3 Page 27)
Statement showing inadmissible payment of tack coat

(₹ in lakh)

Sl. No.	Name of Divisions	Name of works	Funding	Agt. No	Qty. of tack coat (in sqm)	Rate	Tender ^o %	Total amount
1	Satna	Satna Semariya road	CRF	12/CRF/2010-11	105455.27	10	SBD	10.54
2	Satna	Amarpatan to Rampur road	CRF	17/CRF/09-10	124579.65	3	SBD	3.73
3	Satna	Nagod Uchehra road	CRF	7/CRF/09-10	131210.06	8	SBD	10.50
4	Sagar	Khurai Rajwas road	CRF	02/CCS/10-11	24557.50	8	SBD	1.96
5	Narsinghpur	Mungawali Gorakhpur	CRF	15/CRF/2009-10	80190	8	SBD	6.42
6	Narsinghpur	Lalpur Usri Gorakhpur road	CRF	152DL/2008-09	84185.68	9	14.84	8.70
7	Rewa	Govindgarh Tikar road	MDR	4MDR/2010-11	48678.75	7	SBD	3.41
8	Khargone	Kasrawad Pipalgoan Londi road	NABARD	105/2008-09	80348.40	9	16.66	8.44
Total								53.70

Appendix 2.7
(Reference paragraph 2.1.9.4 Page 27)
Statement showing excess payment to the contractor due to non-deployment of electronic sensor paver

(₹ in lakh)

Sl. No	Name of divisions	Name of roads	Agt. No	Item executed	Quantity	Difference	Tender %	Amount
1	Satna	Cement concrete road from civil line chowk to under bridge 2.08 Km (Scotland road)	274/2010-11	DLC	3104.166 cu m	150/cu m	(-) 17.01	25.08
				M 40	7305.66 cu m	350/cu m		
		Satna Chitrakut Road under plan	414/2008-09	DLC	4046.454 cu m	150/cu m	6.20	36.37
				CC	8050.616 cu m	350/cu m		
2	Rewa	SemariyaKakredi road MDR	2MDR/2010-11	DLC	453.90 cu m	150/cu m	SBD	4.16
				M 40	993 cu m	350/cu m		
3	Narsinghpur	Paloha Amoda Ulthan road under plan	216/08-09	DLC	703.85 cu m	150/cu m	19.77	8.04
				M40	1616.89 cu m	350/cu m		
	Total							73.65

Appendix 2.8
(Reference paragraph 2.1.9.5 Page 28)
Statement showing excess payment due to short deployment of technical staff

Sl. No.	Name of Divisions	Name of roads	Agt. No.	Period	Engineer required to be deployed	Engineer actually deployed	Graduate @ 10000/month	(₹ in lakh) Amount
1	Schore	Schore Bilkisganj Bhadhadra road under CRF	06 DL/CRF/ 2009-10	22 months	6	nil	6	11.50
2	Schore	Daroha- Ahamadpur Road under plan	1DL/2011-12	8 months	6	1	5	4.40
3	Sagar	Khurai Rajiwansh road KM 1-to KM 14 under CRF	01 DL/CSS/ 2010-11	16 months	6	Nil	6	9.60
4	Satna	Satna Semariya road under CRF	12/CRF/2010-11	21 months	6	Nil	6	12.60
5	Dewas	Pipalrawa Ilashkhedi Balon Birgod Cerehha road Under CRF	19/2009-10	20 months	6	2	4	8.00
6	Dewas	Devli-Choubaradhira Eklara Surjana Pipalrawa road under CRF	20/2009-10	18 months	6	1	5	9.00
7	Rewa	Govindgarh Tikar road under Plan	4MDR/2010-11	25 months	6	2	4	10.00
8	Rewa	SemariyaKakredi road under Plan	2MDR/2010-11	24 months	6	2	4	9.60
Total								74.70

Appendix 2.9
(Reference paragraph 2.1.10.1 Page 29)
Statement showing non-imposition of liquidated damages

(₹ in lakh)

Sl. No.	Name of Divisions	Name of works	Agt. No.	Funding	PAC	Date of W.O	Completion period	Delay	Penalty	Amount
1	Sagar	Ujjainaithi Patan Road	03 DL/ 2008-09	NABARD	204.77	03.05.08	16 months i/c rainy season up to 02.09.09	497 days	1/16% per week	9.07
2	Sagar	Sahajpur Tendukheda road	225 DL/2007-08	NABARD	470.2	28.02.08	16 months i/c rainy season up to 27.06.09	990 days	6%	31.81
3	Sagar	Khurai Thawri Road	231/07-08	NABARD	308.44	29.02.08	16 months i/c rainy season up to 28.06.09	900 days	6%	18.51
4	Sehore	Dhamnda- Amlaha	51/07-08	NABARD	251.36 lakh	04.07.07	14 months i/c rainy season up to 03.09.08	1245 days	6%	15.08
5	Sehore	Charnal - chandbad	52/ 07-08	NABARD	494 lakh	17.07.07	14 months i/c rainy season upto 16.09.08	1232 days	6%	29.64
6	Sehore	Kalwana jholiyapur	90/08-09	NABARD	403.66 lakh	11.08.08	12 months i/c rainy season upto 10.08.09	880 days	6%	24.21
7	Sehore	Shahganj Abudullah ganj	15/2007-2008	NABARD	447.14 lakh	24.05.07	14 months i/c rainy season upto 23.07.08	818 days	6%	26.83
8	Sehore	Nasrullah Ganj Package	64DL/2008-09	Plan	3259	24.07.08	17 months i/c rainy season up to 21.12.09	763 days	6%	195.54
9	Sehore	Bhaukhedhi- Bisankhedhi road	78/08-09	Plan	230.66	04.04.08	10 months i/c rainy season upto 03.06.09	678 days	6%	12.88
10	Rewa	Govindgarh Tikar road	4MDR/2010-	MDR	246.35	07.04.10	10 months i/c rainy	450	10%	24.64

Sl. No.	Name of Divisions	Name of works	Agt. No.	Funding	PAC	Date of W.O	Completion period	Delay	Penalty	Amount
			11(SBD)				season up to 02.02.10	days		
11	Rewa	Piprahi Jarkundi road	90 DL/2008-09	NABARD	536.26	01.09.08	16 months i/c rainy season up to 31.12.09	850 days	6%	32.29
12	Rewa	Lalganj Mangawa road	135DL/2008-09	NABARD	296.45	15.10.08	16 months i/c rainy season up to 14.02.10	400 days	6%	17.78
13	Rewa	Sitapur Bahera Dabar via Bador Harrana road	03/MDR/10-11 (SBD)	MDR	478.16	07.04.10	13 months i/c rainy season up to 06.05.11	365 days	10%	47.81
14	Vidisha	Basoda Sironj road	01 DL/CRF/09-10	CRF	2507.00 lakh	29.01.10	22 months i/c rainy season up to 28.11.11	156 days	1/2000 per day of initial cost	195.57
15	Vidisha	Basoda Sombara road	33 DL/CRF/07-08	CRF	462.53 lakh	4.06.07	13 months i/c rainy season up to 03.07.07	334 days	1/16% per week	12.72
16	Vidisha	Anuppur-Majaharkheddi	13/2008-2009	NABARD	451.30 lakh	15.04.08	15 months i/c rainy season up to 14.07.09	546 days	6%	27.08
17	Vidisha	Sanchi-Udaigiri-Gulabganj-Basoda-Bareth-Udaipura road	10/2007-2008	NABARD	1446.72	18.04.07	18 months i/c rainy season upto 17.10.08	1095 days	6%	62.80
18	Vidisha	Pagrani to Mahukheda Prathvirajpur	136/08-09	Plan	356.26	10.10.08	13 months i/c rainy season upto 09.11.09	749 days	6%	21.38
19	Vidisha	Gyarshpur-Indravas	112DL/06-07	NABARD	357.87	20.01.07	12 months i/c rainy season upto 19.01.08	1092 days	6%	21.47
20	Shajapur	Agar-SarangpurSadipur Mohanbadoria road	7/CRF/10-11	CRF	847.41	02.07.10	15 months i/c rainy season up to 01.10.11	Item rate	10%	84.74

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Sl. No.	Name of Divisions	Name of works	Agt. No.	Funding	PAC	Date of W.O	Completion period	Delay	Penalty	Amount
21	Shajapur	JethdaJod-Kalapipal-Magarkhedi-Chandbad road	11/CRF/09-10	CRF	2309	15.02.10	22 months i/c rainy season up to 14.12.11	Item rate	10%	230.90
22	Shajapur	Susner to Pidawa via Patpada road	07/MDR/2010-11	MDR	454.39	09.04.10	13 months i/c rainy season up to 08.05.11	206 days	10%	45.43
23	Ashoknagar	Ashoknagar-Piprai-Mungaoli road	32/2009-10	CRF	2086	28.08.09	17 months i/c rainy season upto 27.01.11	396 days	6%	125.16
24	Khandwa	Pandhana to Chaigaon Makhani road	01 DL/2007-08	NABARD	432.83	11.04.07	16 months i/c rainy season up to 10.08.08	862 days	6%	25.97
25	Chhindwara	Sausar Rajana road	01/CE JBP/2010-11	CRF	1342.01	16.12.10	18 months i/c rainy season up to 15.06.12	Item rate	10%	134.20
26	Chhindwara	Manegoan Pipariya Gamani Akalma Khursipar Khireti road	10/CRF/2011-12	CRF	679.88	08.07.11	15 months i/c rainy season, even 1st milestone not achieved	Item rate	10%	67.98
27	Chhindwara	Amarwara Umariya Banki Beharia road	05/CRF/2009-10	CRF	1480.87	01.02.10	18 months i/c rainy season up to 31.07.11	Item rate	10%	148.08
28	Chhindwara	Nawegaon Bindrai-Bordari road	249 DL/CRF/2007-08	CRF	415.72	03.11.07	12 months i/c rainy season up to 02.11.08	1305 days	6.00%	24.94
Total										1714.51

Appendix 2.10
(Reference paragraph 2.1.10.2 Page 29)
Statement showing inadmissible payment of Price Variation after agreed period

Sl. No.	Name of Divisions	Name of works	Agt. No.	Funds	Date of work Order	Completion period	Amount
1	Gwalior 2	Shetla Mata Chinor Road	20 SAC A/07-08	Plan	14.05.2007	10 months i/c RS	46.37
2	Satna	Uchehra Parasmaniya Dureha road	394/EE/N/07-08	MDR	02.01.2008	16 months i/c RS	35.92
3	Shajapur	Bhesoda Badagoan road	168/07-08	NABARD	03.11.07	10 months i/c RS	16.96
4	Shajapur	Sundersi Khadi polay pipalranva road	339/2006-07	NABARD	02.03.07	11 months	31.64
5	Shajapur	Polaikala to Ranayal	321/06-07	NABARD	15.02.07	16 months	17.61
6	Ashoknagar	Vijayapura to Essagarh road	62/09-10	CRF	24.09.09	12 months	8.83
7	Ashoknagar	Ashoknagar-Piprai-Mungaoli	32/09-10	CRF	28.08.09	17 months	37.97
8	Ashoknagar	Ashoknagar-Essagarh to Naisarai	31/09-10	CRF	20.08.09	15 months	52.15
Total							247.45

Appendix 2.11
(Reference paragraph 2.1.10.4 Page 32)

Statement showing non recovery of mobilisation advance

(₹ in lakh)

Sl. No.	Name of Divisions	Name of Works	Agt. No.	Date of Work order	Completion period	Outstanding Amount
1	Guna	Awan (Janjali) to Maksudangarh Rd. under CRF	02/CRF/2009-10	09.01.2010	22 Months up to 28.11.11	127.65
2	Shajapur	JethdaJod-Kalapipal-Magarkhedi-Chandbad road under CRF	11/CRF/09-10	15.02.2010	22 Months up to 14.12.11	57.72
3	Chhindwara	Sausar Rajana road under CRF	01/CE JBP/2010-11	06.12.2010	18 months i/c rainy season up to 05.06.12	28.68
Total						214.05

Appendix 2.12
(Reference paragraph 2.1.10.7 Page 34)
Statement showing delay in completion of NABARD works

Sl. No.	Name of Division	Name of Work	Road length (in Km)	PAC (in lakh)	Tender %	W.O. date	To be completed	Exp. (in lakh)	Status of work as on	Interest @ 6.5%
1	Sehore	Charnal Chandbad to Parason road	19.00	494.00	7.55	17.07.07	16.09.08	505.45	Incomplete as of Jan 2012	109.51
2		Gopalpur Seegoan Narayanpur road	10.00	212.30	29.99	15.05.07	14.04.08	269.58		65.71
3		Bhaukhedi Jode to Dhamanda	17.60	251.36	21.00	04.07.07	03.08.08	251.36		55.82
4		Neelbad approach road	7.00	119.82	16.11	22.02.07	21.10.07	52.30		14.44
5		Rala Tilariay road	7.18	(i)145.19 (ii)106.95	(i) 74.90 (ii) 18.90	26.04.07	25.12.07	163.52		43.48
6		Kalwana canal to Jholiapur	15.00	403.66	(-) 7.50	11.08.08	10.07.09	292.23		47.48
7		Gilarhi to Doma road	4.00	134.17	(-) 1.73	25.07.08	24.05.09	59.02		10.23
8		Amon to Sagpur road	3.40	114.35	10.90	18.05.09	17.01.10	137.50		17.87
9		Aroliya Kurawar	9.00	296.64	(-) 10.88	18.05.09	17.04.10	180.92		19.60
10		Obadullaganj Sahganj road	18.00	(i)447.14 (ii)114.61	21.99 25.00	24.05.07	23.07.08	419.77		95.50
11		Semaradagi to Atralia Jetali Baradi	11.00	348.98	(-) 18.47	23.01.09	22.03.10	140.95		16.03
1	Gwalior 2	Rangawa Deygarh Jigania road	9.60	300.00	3.99	30.11.07	29.09.08	228.13	Incomplete as of Jan 2012	49.52
2		Makoda Antri Chhimak road length	25.60	375.00	19.60	18.04.07	06.02.08	417.95		108.66
3		Balance work -----do-----		206.00	11.70	08.12.11	07.06.12			
		Danda Khirak Tighra road length	34.20	450.00	4.77	30.11.07	29.09.08	223.53		48.56
		Balance work -----do-----		453.00	(-) 16.90	13.12.10	13.11.11			

Sl.	Name of	Name of Work	Road	PAC (in	Tender	W.O.	To be	Exp. (in	Status of	Interest
4		Karahia to Aron via Golar Ghati road length	15.00	363.12	(-) 22.57	07.10.08	07.08.09	55.56		8.66
1	Narsinghpur	Karapgoan Khamariya Aamgaon road	8.40	306.87	11.00	05.02.10	04.07.11	230.12	Incomplete as of March 2012	9.97
1		Kathulia Hardi road length	11.00	226.66	(-) 13.39	23.07.07	22.07.08	159.27		37.95
2		Shanab Hardi Rahat Dadar road	7.93	275.27	(-) 26.26	13.10.08	12.12.09	34.94		5.10
3		Lalgaon Mangawa road	14.60	296.45	(-) 16.01	10.10.08	09.02.10	198.32	Incomplete as of March 2012	25.78
4		Gangev Tikuri road	7.20	136.78	(-) 16.63	13.10.08	12.10.09	31.50		4.94
5		Chandrapur More to Baroo road	4.50	128.00	(-) 32.34	19.11.10	18.05.11	103.51		05.60
6		Gangev Khaira keuti road	13.00	240.71	(-) 15.11	26.06.07	13.12.08	204.33		43.09
7		Chak Chandpur road	13.25	284.78	(-) 3.33	07.06.07	06.06.08	245.38		59.81
8		Pipari jadkur road	25.00	538.26	(-) 18.33	01.09.08	31.12.09	329.15		48.13
1		Pajnari to Kandhari road	6.00	195.54	(-) 27.00	15.02.08	14.02.09	82.61		16.55
2		Mokalpur to Udayapura Bersela road	11.00	320.93	(-) 28.18	05.03.08	04.07.09	92.53		15.53
3		Hilgan to bhaswahi road	6.70	221.76	(-) 5.50	15.02.08	14.06.09	172.12		30.76
4		Luhagar Nawalpur Sahua Hard road	6.80	251.74	(-) 25.78	11.02.08	10.06.09	240.54	Incomplete as of March 2012	42.99
5		Khurai thawari road	9.31	308.44	(-) 32.18	05.03.08	04.07.09	168.74		29.24
6		Bhapsone to Satoria road	5.70	154.23	(-) 25.00	18.02.08	17.02.09	75.84		15.19
7		Khurai Nagna Donga Barodiay Ballav Luhar road	15.40	639.37	(-) 21.50	07.02.09	06.07.10	484.34		52.44
8		Sihora Lotna Lotni Hirapur Nariabali road	14.00	621.64	(-) 22.05	30.01.09	29.07.10	224.27		24.59
1		Lateri Shamshabad km 32 to Nathanpura Kamarkhedli	7.50	187.02	(-) 22.80	16.05.06	02.12.06	104.13	Incomplete as of Oct. 2011	32.71
2		Dudhawari to chhapara	6.00	138.11	3.48	27.11.06	26.08.07	63.31		17.14
3		Lashkar Jamldi Kheruahat	7.00		(-) 22.00	27.04.05	27.01.06	57.62		21.53
4		Karariya Shamsabad Km	16.65	446.83	(-) 22.89	16.05.05	15.04.06	102.60		36.67

Sl.	Name of	Name of Work	Road	PAC (in	Tender	W.O.	To be	Exp. (in	Status of	Interest
		16/2 to Nathanpur Karrakhedi Mudra Naktara Nateran								
5		Babachia to Mudrachand	5.80	133.8	3.47	27.11.06	26.08.08	144.87		29.81
6		Bairasia road to Bagri jambar	4.00	104.25	0.47	27.11.06	26.07.07	55.12		15.22
7		Sayar to Kosakhede	3.80	96.52	(-) 5.11	29.01.07	28.10.07	86.71		22.40
8		Kurwai to Barual via Kathora nahi	12.40	266.74	20.70	19.04.07	18.04.08	230.02		52.33
9		Vidisha to Ashoknagar	24.80	506.87	14.40	26.06.07	25.09.08	370.06		74.16
10		Shanchi Udaygiri	83.20	1042.3	38.07	18.04.07	17.10.08	1059.7		206.64
11		Pathari to Kirakhedi	15.00	527.15	(-) 9.68	02.02.08	01.05.09	129.29		21.00
12		Soothiya to Ahmadpur	11.00	296.87	(-) 11.00	10.04.08	09.04.09	67.23		10.92
13		Barjheda approach road	4.60	166.23	(-) 10.00	16.01.09	15.07.09	142.48		80.83
14		Puragosai Ghatera Ponia Murghuri	10.00	323.00	(-) 2.51	09.05.08	08.06.09	88.59		13.43
15		Badi Ukawad to Mundela	9.50	258.06	(-) 19.27	18.06.08	17.06.09	54.60		8.28
16		Durang Dhamukhedi	16.00	539.98	(-) 11.51	12.11.09	11.01.11	333.66		18.07
17		Gruut to Balakheda road.	26.00	963.61	(-) 18.82	19.01.10	18.06.11	168.49		3.65
18		Dayanandpur to Badanpur	6.00	160.92	1.47	27.11.06	26.09.07	160.92		42.71
1		Nainwar Girwar Karedi road	8.20	186.1	2.00	01.08.06	31.07.07	85.45		24.06
2		Kalapipal Kurawar	7.00	198.00	(-) 9.55	01.05.08	28.02.09	119.31	Incomplete as of Nov. 2011	21.32
3	Shajapur	Polaikala Khatsur via Himleshwar	8.00	181.00	(-) 9.55	01.05.08	28.02.09	157.86		28.21
4		Barod Susner	25.40	364.19	(-) 14.00	22.10.08	19.10.09	317.96		43.05
5		Kalisindh Kulmankhedi	8.00	250.62	7.49	11.11.08	15.07.09	229.29		34.77
6		Mansaya Semaliya	9.50	250.62	1.00	30.01.09	30.12.09	149.26		18.59
			720.72					10953.81		2038.59

Appendix 2.13

(Reference paragraph 2.1.10.8 Page 35)

Statement showing undue financial aid to contractor due to non-obtaining additional security for unbalance bid

(₹ in lakh)

Sl. No.	Name of Divisions	Name of works	Fund	Item	Quantity	Estimated rate	Quoted rate	Difference	Total amount
1	Chhindwara	Sausar Rajana road	CRF	E/w manual	27027 cu m	73	150	77	20.81
2	Chhindwara	Balance work of Amarwara-Umariya-Banki-Behariya road	CRF	CRM	12656 cu m	705	900	195	24.68
				BM	5390 cu m	3878	5600	1722	92.82
				SDBC	2695 cu m	5528	6200	672	18.11
3	Khandwa	Khandwa Mundi road	MDR	WMM	45281.30 cu m	659	900	241	109.13
									265.55

Appendix 2.14
(Reference paragraph 2.1.11.1 Page 36)
Statement showing sub standard execution of work of Bituminous Macadam under CRF

Sl. No.	Name of Divisions	Name of Works	Agreement number	Funds	Qty. of BM (cu m)	Rate	Tender %	Total amount	Delay in execution of SDBC (₹ in lakh)
1	Ashoknagar	Ashoknagar-Piprai-Mungaoli road	32/2009-10	CRF	2224.75	3890/cu m	(-) 6.8%	80.66	15 days to 365 days
2	Guna	Awan (Janjali) to Maksudangarh Rd	02/CRF/2009-10	CRF	7812	3500/cu m	item rate	273.42	3 months to 11 months
3	Guna	Myana Nai Sarai road to Mavan via Khonkar	179/SAC/06-07	CRF	900	2059/cu m	4.17%	19.30	after 1 year
4	Sagar	Khurai Rajvansh road phase 1 KM 1-to KM 14	01 DL/CSS/ 2010-11	CRF	1485	3920/cu m	item rate	58.21	35 days to 75 days
5	Sagar	Khurai Rajwas road Km 17.80 Phase II (Km 15 to 32/2)	02/CCS/10-11	CRF	2396.615	4000/cu m	item rate	95.86	22 days to 1 year
6	Satna	Satna Semariya road	12/CRF/2010-11	CRF	5282.718	3600/cu m	item rate	190.18	5 days to 53 days
7	Satna	Nagod Uchehra road	7/CRF/09-10	CRF	6560.53	3875/cu m	item rate	254.22	after 48 hours
8	Vidisha	Basoda Sironj road	01 DL/CRF/09-10	CRF	5978	3970/cu m	item rate	194.25	6 months
9	Satna	Uchehra Parasmariya Dureha road	394/EE//07-08	MDR	2502.041	3059/cu m	(-) 11.7%	65.58	1 year
10	Dewas	Hatpihya Bhourasa road	336/2008-09	CRF	2917.5	2059/cu m	59%	95.91	7 days to 41 days
11	Dewas	Dewas-Rajoda-Kelod-Double Chowki road	52/2009-10	CRF	3575.44	3702/cu m	(-) 9.99%	119.14	15 days and 120days
12	Dewas	Hatpihya-Tappa-Sidhikganj road	50/2009-10	CRF	6121.5	3702/cu m	(-) 15.66%	191.13	more than 48 hours
13	Khargone	Bedia Pipalgoan road	08/MDR/2010-11	MDR	2612.75	3400/cu m	item rate	88.83	more than 3 months
		Total			50368.844			1726.69	

Appendix 2.15
(Reference paragraph 2.2.3.2 Page 46)
Statement showing wasteful expenditure on construction of MI schemes due to poor planning

Name of division	Name of MI scheme, IP in ha	Year of start of work and expenditure	Provision	Observation	Reply of the EE/ Our further remarks
WR division Chhindwara	Jhirlinga tank, 182 ha	2004 ₹ 1.48 crore	As per para 7.008 and 8.001 of WD Manual, gauge and discharge data, rainfall data, meteorological data including should be collected for preparation of Detailed Project Report (DPR) for irrigation projects. Therefore, detailed survey including geotechnical investigations is required to be done before taking up an irrigation scheme.	We noticed that geotechnical investigations including porosity of Jhirlinga tank basin was not done. After execution of the work it was found that the tank basin had excessive porosity. As a result, water was not retaining in the basin in sufficient quantity. Therefore, only 12 ha irrigation for Rabi in the year 2009-10 and only five ha irrigation for Rabi in the year 2010-11 could be done. Thus, meagre irrigation after completion of the project proved the project unfeasible and expenditure of ₹ 2.48 crore largely remained unfruitful due to inadequate planning.	The EE stated that the geological test for strata verification was not done for construction of minor projects. Generally seepage is possible due to porosity of strata. The proposal to stop seepage of this scheme was sent to dam safety BODHI for suggestions to stop the seepage. The treatment would be done as per suggestions. E-in-C further stated (October 2012) that directions were being given to Director, BODHI for ensuring availability of the water in the tank. The reply confirms that geological test for strata verification was not done before taking up construction of minor projects.
WR Division Hiran Jabalpur	Marhapatha tank, 55.46 ha	October 2008 ₹ 86.57 lakh	Before taking up any project, feasibility of various alternatives of the scheme should be ascertained so as to avoid abandonment of project at later stage due to its non-feasibility.	We noticed that the canal of Marhapatha tank was excluded from the scope of work in January 2012 without assigning any reason for abandonment after incurring an expenditure of ₹ 86.57 lakh. The E-in-C asked (December 2011) to ensure the possibility of irrigation by means of lift and other resources. Thus, feasibility of the scheme was not	As per instruction of the PS, WRD, canal work was not executed. Therefore, there was no planning and design deficiency of the project. E-in-C further stated (October 2012) that it was decided to execute the work without canal as the capacity of scheme is only

Name of division	Name of MI scheme, IP in ha	Year of start of work and expenditure	Provision	Observation	Reply of the EE/ Our further remarks
WR Division Hiran Jabalpur	Pipariya tank, 85 ha	March 2009 ₹ 10.60 lakh	As per para 7.008 and 8.001 of WD Manual, gauge and discharge data, rainfall data, meteorological data including geological reports should be collected for detailed investigation for irrigation projects. Therefore, detailed survey including command area is required to be planned and done before taking up a MI scheme to establish feasibility of a scheme.	established while planning for the MI scheme. As a result, expenditure of ₹ 86.57 lakh remained locked in the incomplete scheme.	55 ha. The reply confirms that feasibility of construction of canal was not ensured at the time of planning of MI.
WR Division Hiran Jabalpur	Silwa tank, 85 ha	October 2008 ₹ 95.42 lakh	As per para 2.028 of the WD Manual an officer according the technical sanction to an estimate is responsible for soundness of design and for incorporating all the items required for the inclusion in estimate with reference to drawing.	We noticed that the Department prepared a plan for Piparia MI scheme having less than one square mile catchment area. Later on, after taking up the work for execution and incurring an expenditure of ₹ 10.60 lakh, the EE requested (February 2011) for writing off the schemes on the ground that the scheme had catchment area less than one square mile as per the direction of Principal Secretary, WRD. The SE granted (April 2011) permission to stop the work. Thus, it is evident that feasibility was not established before taking up the work. As a result, the expenditure of ₹ 10.60 lakh remained unfruitful.	E-in-C stated (October 2012) that work of scheme was stopped due to less catchment area and an amount of ₹ 9.68 lakh for land acquisition would be utilised for other schemes. The reply confirms inadequate survey and planning before taking up the work.
WR Division Hiran Jabalpur	Silwa tank, 85 ha	October 2008 ₹ 95.42 lakh	As per para 2.028 of the WD Manual an officer according the technical sanction to an estimate is responsible for soundness of design and for incorporating all the items required for the inclusion in estimate with reference to drawing.	We noticed that work of construction of Silwa tank project included construction of canal. Notification under Section-4 for acquisition of private land was published in February 2009 for canal work i.e. after issue of work order (October 2008). The acquisition of land for the canal was under process. Meanwhile, the canal work was deleted (April 2010) from the scope of work and the contract was finalised (December 2011) for incomplete work. This resulted in unfruitful expenditure of ₹ 95.42	The canal work at RD 0 m to RD 150 m was completed during the month February 2011. Meanwhile, Principal Secretary, WRD instructed for deletion of canal work from the project. In compliance to the order, canal beyond 150 m was not constructed by the contractor. E-in-C further stated (October 2012) that canal was not being constructed as area

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Name of division	Name of MI scheme, IP in ha	Year of start of work and expenditure	Provision	Observation	Reply of the EE/ Our further remarks
WR Division Katni	Jujhari Kalhiya, 200 ha	January 2009/ ₹ 2.48 crore	As per para 7.003 of WD Manual, after receipt of AA for survey and investigation, technical sanction to the survey estimate shall be accorded by the officers competent to sanction it and thereafter detailed survey and investigation of the project will be started. Before starting the survey work, permanent bench marks will be established at suitable places. The Sub-Engineers entrusted with the survey work shall be fully responsible for the correctness of survey and levels. Therefore, survey should be done according to the laid down procedure so as to find out all the bottlenecks and difficulties which may arise during execution.	lakh on head work as the canal work was not completed. We noticed that the head work of the MI scheme planned to be completed by April 2010, was not completed by the contractor (April 2012) attributing existence of stone quarry in approach channel of waste weir. Thus, expenditure of ₹ 2.48 crore on construction of head work remained unfruitful, even after a lapse of 24 months.	of scheme was less than 100 ha. The reply, however does not explain reasons for inclusion of canal initially in the scope of work, and its deletion afterward, is indication of poor planning. E-in-C stated (October 2012) that there was no quarry at time of survey for the work as well as at time of start of work. The work was not delayed due to quarry in waste weir. Work of headwork has been completed and irrigation facility would be provided up to March 2013 after completion of canal work. The reply, however, does not explain reasons for delay in completion of head work.
Total	607.46 ha	₹ 5.89 crore	Five schemes		

Appendix 2.16
(Reference paragraph 2.2.3.3 Page 47)
Statements showing unfruitful expenditure on construction of MI schemes for want of land

SL No	Name of Division	Name of MI scheme, IP in ha	Year of start of work / expenditure	Observation	Reply of the EE/ Our further remarks
1	WR Division, Seoni	Pipartal tank, 480 ha	February 2008 ₹ 2.58 crore	<p>For successful execution of the project a detailed plan should be prepared defining all the activities including acquisition of land required for execution and time schedule considering time required for various components of work based on specifications and past experiences.</p> <p>We noticed that the Department did not plan and prepare a time schedule for acquisition of forest land required for spill channel of the work. The case for acquisition of land for spill channel of the scheme was not prepared up to March 2011. The process of acquisition of forest land was in progress. As a result, the work which was scheduled to be completed by October 2009, could not be completed up to April 2012. Thus, investment of ₹ 2.58 crore proved idle due to non-acquisition of forest land prior to execution of work.</p>	<p>The spill channel situated in initial reach of the dam was covered by teak wood trees. As acquisition of forest land was under process, spill channel could not be demarked on site. E-in-C further stated (October 2012) that acquisition of private land under process and for forest land was under process at O/o the CCF, Bhopal.</p> <p>The reply is indicative of the fact that no concrete plan was prepared for timely acquisition of forest land causing bottleneck in completion of the work.</p>
2	WR Division, Hiran Jabalpur	Hardua tank, 91 ha	February 2009 ₹ 67.19 lakh	<p>Plan for execution of works should also include plan for arrangement of sufficient funds at appropriate time.</p> <p>The case for acquisition of land for canal was submitted in October 2010, i.e. after award of the work. Thus, delay in acquisition of land contributed to delay in the execution of work as the work was scheduled to be completed by August 2009. Thus, the expenditure of ₹ 67.19 lakh on the work remained unfruitful so far.</p>	<p>No fund was allotted in canal land acquisition case. Further, E-in-C stated (October 2012) that the dam of the scheme has been completed and work of canal was being done on the Government land, therefore canal work is not affected due to land acquisition. The reply is not acceptable as the case for land acquisition of Government land was submitted belatedly in October 2010.</p>
3	WR Division, Dindori	Sarai tank, 151.82 ha	February 2010 ₹ 25.58 lakh	<p>The tenders for canal work were invited by the Department in November 2009. The work was awarded in February 2010. By that time land was not acquired as payment of compensation</p>	<p>The work could not be started due to agitation by the farmers coming under submergence of tank. Further, E-in-C stated (October 2012)</p>

SL No	Name of Division	Name of MI scheme, IP in ha	Year of start of work / expenditure	Observation	Reply of the EE/ Our further remarks
				for acquisition of land was not made to farmers. Subsequently, it was proposed to close the contract of canal work due to agitation of people and delay in payment of compensation for land acquired. The SE, WR Circle Jabalpur granted (November 2011) permission to rescind the contract of canal work. Thus, delay in making payment and not resolving the issue of farmers caused delay in completion of work. As such, the expenditure of ₹ 25.58 lakh incurred on Sarai tank up to January 2012 remained unfruitful due to delay in land acquisition.	that the agency could not start the work due to agitation of local people. This scheme has been proposed to be deleted from AIBP. The reply is not acceptable as the Department should have taken up the work after assurance of availability of land.
4	WR Division Chhindwara	Bheda tank, 640 ha	July 2009 ₹ 4.48 crore	The construction of the work was started in July 2009. Total 80.22 per cent of the work was reportedly completed as of April 2011. Further, first time extension up to April 2011 was recommended on the basis of non-acquisition of land for spill and approach channel. The last notice for rescinding the contract was issued (December 2011) to the contractor when the work was completely stopped, due to non-availability of land. This resulted in idle investment of ₹ 4.48 crore due to delay in acquisition of land.	The E-in-C stated (October 2012) that the work was awarded for completion by October 2010, time extension was granted due to non-availability of compensation for acquisition of land for spill channel and approach channel and award had been passed for acquisition of private land in approach channel and spill channel. It was further stated that action as per provisions of agreement was being taken against the contractor for non-completion of work. The reply confirms the delay in acquisition of the land for spill and approach channel due to non availability of compensation.
5	WR Division Narsingpur	Alod tank, 231 ha	November 2009 ₹ 1.56 crore	The available allotment for the work was utilised for disbursement compensation for land acquired, for canal work whereas the tenders were invited for construction of head works. As a result, the work of head work could not be started up to January 2011 due to non-acquisition of land for head work. The proposal for acquiring the land for headwork was sent to LAO Narsinghpur belatedly in October 2011.	It was due to non-availability of funds in that period. Further, E-in-C stated (October 2012) that the area of scheme has been revised to 500 ha from 231 ha and new agency has been fixed. The reply does not explain the reason for not utilising the fund for head work for which

SL. No	Name of Division	Name of MI scheme, IP in ha	Year of start of work / expenditure	Observation	Reply of the EE/ Our further remarks
				Meanwhile, the contract was proposed to be rescind for ascertaining the feasibility of the scheme again.	tenders were invited.
6	WR Division Katni	Ghunnor tank, 91 ha	January 2009 ₹ 7.24 lakh	The construction work of boundary of dam and spill channel was affected by forest land for which correspondence with the forest authorities was not found on records. Compensation for LA of private land could not be distributed reportedly for want of funds though there were overall savings out of the allotments made for the Department. The proposal to close the contract was sent in April 2010. Thus, the expenditure became unfruitful due to delay in land acquisition.	The CE, Wainganga Basin stated (September 2012) that as per instruction of PS, WRD new feasibility report was sent to higher authorities for approval. The reply is not acceptable as the funds for acquisition of land were not tied up.
7	WR Division Katni	Salhana tank, 83 ha	December 2008 ₹ 34.68 lakh	We noticed that only partial work could be executed due to non-acquisition of private land because of non-payment of compensation as fund for that was not tied up by the Department. The work was still incomplete. This resulted in idle expenditure of ₹ 34.68 lakh.	The CE, Wainganga Basin stated (September 2012) that demand note of ₹ 28.22 lakh of head work was received from LAO but due to lack of fund, work was stopped and then the contract was terminated. Now the feasibility report has been sent to the Government for approval. The reply is not acceptable as the funds for acquisition of land were not tied up.
8	WR Division Katni	Barhi tank, 288 ha	March 2009 ₹ 32.15 lakh	We noticed that the Department did not plan for ensuring availability of sufficient funds for acquisition for said scheme. The LAO Bahoriband sent a demand note of ₹ 103.86 lakh for acquiring 57.77 ha for head work of scheme against which the Department could provide funds of ₹ 15.00 lakh as per allotment available. The proposal for closing the contract was sent (March 2011) due to non-acquisition of land and non-completion of work within proposed period. The Department decided (August 2010) to stop the work of land acquisition. The LAO was intimated to transfer the funds of ₹ 9.00 lakh for LA of other Khalhara MI scheme.	E-in-C stated (October 2012) that this scheme has been re-examined and previously deposited amount for land acquisition would be utilised on other schemes. Work of land acquisition is being completed before start of work. The reply is not acceptable as the work was affected due to non-acquisition of land for which funds were not tied up.

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SL. No	Name of Division	Name of MI scheme, IP in ha	Year of start of work / expenditure	Observation	Reply of the EE/ Our further remarks
9	WR Division, Hiran Jabalpur	Imlai tank, 98 ha	March 2006 ₹ 1.38 crore	As a result, expenditure of ₹ 32.15 lakh remained unfruitful. Land acquisition for the work was initiated in April 1987. The award for land acquisition for canal work was pending up to July 2009. The EE WRD Hiran requested (October 2010) to SDO (LA and revenue) for getting the compensation for LA of 8.954 ha and 2.15 ha for canal. The SDO (Revenue) intimated (July 2011) that the award has been passed and payment of compensation was under progress. Notice to the contractor was served (August 2011) and final measurements were not taken up to March 2012. An expenditure of ₹ 1.38 crore has been reported to be done up to March 2012. Thus even after lapse of more than five years. Expenditure of ₹ 1.38 crore remained unfruitful due to tardy progress of LA.	EE confirmed the facts and stated that delay on the part of the Division cannot be related with the work. E-in-C further stated (October 2012) that original AA for the project was given in January 1982 under relief work. The Department sanctioned ₹ 98.88 lakh in December 2004. Award for canal work was passed in July 2009. 90 per cent dam work and 50 per cent canal work is complete. The work was targeted to be completed by October 2012. The reply is not acceptable as the work was not executed in planned manner.
10	WR Division, Hiran Jabalpur	Dungargawan tank, 243 ha	March 2010 ₹ 92.19 lakh	The notification under Section-4 for acquisition of land for headwork was published in September 2010 and under Section-6, in February 2011. The Department accorded TS for the work in November 2008. The action of awarding the work without publishing notification for land acquisition was contrary to the provisions of WD Manual. An expenditure of ₹ 92.19 lakhs had been incurred on the work up to February 2012 and only 15 per cent physical progress of head work could be achieved due to partial payment of compensation for head work of scheme. Thus, MI scheme could not be completed after incurring an expenditure of ₹ 92.19 lakh due to delay in acquisition of land.	The AA was accorded on the basis of USR 2003 whereas the TS was accorded on the basis of USR 2007, hence the cost of the project was increased. The agreement with the contractor for construction of project was done in anticipation of funds on 30 March 2010. The delay in the construction of the project was mainly due to unavailability of the funds before 2010-11. Further E-in-C stated that in absence of sufficient provisions, payment to LAO were made on different dates. The award was passed in May 2011. The reply is not convincing as the work was started without ensuring availability of land.
11	WR Division, Seoni	Pathria, 185 ha	May 2007 ₹ 2.19 crore	The work was awarded in May 2007. The proposal for supplementary land of 3.63 ha for submergence area and spill channel was submitted belatedly by the Sub Divisional Officer in May 2009. An expenditure of ₹ 2.19 crore was incurred on the scheme and the MI scheme was reported	E-in-C stated (October 2012) that award for land acquisition was passed in May 2007 for construction of dam and canal. There was a delay in supplementary case for land acquisition for construction of spill channel,

SL. No	Name of Division	Name of MI scheme, IP in ha	Year of start of work / expenditure	Observation	Reply of the EE/ Our further remarks
				complete in the year 2011 against the scheduled completion of the work by November 2008. Thus, the benefits expected from the work was delayed by 40 months.	but the work has been completed. The reply is not acceptable as the timely acquisition of land for spill channel could be done with proper planning and delay in providing of irrigation facility could have been avoided.
12	WR Division Seoni	Saliwara tank, 151.82 ha	July 2008 ₹ 1.22 crore	The notification under Section 6 for acquisition of land for spill channel and main canal was issued in January 2011 after more than two years of issue of work order. As a result, the work was delayed due to delay in acquisition of land and the expenditure of ₹ 1.22 crore lakh remained unfruitful.	Work was delayed due to delay in acquisition of land and process of land acquisition for canal was in progress. E-in-C further stated (October 2012) that award for acquisition of private land under submergence of dam and canal was passed during December 2008 and March 2012. Construction work was delayed due to delay in payment of compensation to cultivators who were demanding compensation at higher rates. The reply is not acceptable as the process of land acquisition should have been completed before award of work.
13	WR Division Katni	Paharua tank, 324 ha	November 2009 ₹ 88.79 lakh	The Department released (March 2010) the funds to LAO after issue of work order which led to obstruction of work of canal due to delay in payment of compensation. The work of flush bar, approach channel and canal could not be initiated up to May 2011. Thus, belated initiation of process for acquisition of land caused slow progress of work. As a result, expenditure of ₹ 88.79 lakh remained unfruitful.	60 per cent canal work was completed and remaining canal work could not be done due to sowing of fields by the cultivators. The work, however was in progress but at slow rate. CE, Wainganga Basin stated (September 2012) that 80 per cent tank and 90 per cent canal work has been completed. The reply does not explain the reason for delayed release of fund to LAO.
	Total	13 schemes, 3057.41 ha	₹ 16.89 crore		

Appendix 2.17
(Reference paragraph 2.2.5.1 Page 48)
Statement showing details of excess expenditure over Administrative Approval

Sl No	Name of Division	Name MI scheme	Amount of AA	Actual Expenditure	Excess over AA	Excess in per cent	Status
1	WR Dn Dindori	Banjartola	121.62	141.75	20.13	16.55	Complete
2	WR Dn Dindori	Udar	131.01	259.53	128.52	98.10	Complete
3	WR Dn Dindori	Bilaikhar	102.59	235.53	132.94	129.58	Complete
4	WR Dn Dindori	Bhaganwara	140.90	296.00	155.10	110.08	Complete
5	WR Dn Dindori	Karonda	130.56	197.83	67.27	51.52	Complete
6	WR Dn Dindori	Dandana	709.12	1640.25	931.13	131.31	Incomplete
7	WR Dn Dindori	Silighati	137.40	225.51	88.11	64.13	Complete
8	WR Dn Dindori	Khargahana	115.72	254.13	138.41	119.61	Complete
9	WR Dn Narsinghpur	Pamhansi	119.46	164.87	45.41	38.01	Complete
10	WR Dn Narsinghpur	Kunda	280.00	318.13	38.13	13.62	Incomplete
11	WR Dn Narsinghpur	Gurra	219.55	244.48	24.93	11.36	Complete
12	WR Dn Narsinghpur	Dungria (Usri)	151.60	170.19	18.59	12.26	Incomplete
13	WR Dn Narsinghpur	Mehgaon	193.23	259.90	66.67	34.50	Complete
14	WR Dn Katni	Deori hattai	222.07	273.01	50.94	22.94	Incomplete
15	WR Dn Katni	Chapna LIS	334.33	449.65	115.32	34.49	Incomplete
16	WR Dn Katni	Shantinagar	383.87	569.45	185.58	48.34	Incomplete
17	WR Dn Katni	Bandarchua	152.41	189.64	37.23	24.43	Incomplete
18	WR Dn I Seoni	Gorakhpur (Ajania)	58.79	215.95	157.16	267.32	Complete
19	WR Dn I Seoni	Khamkhareli	275.46	311.25	35.79	12.99	Complete
20	WR Dn I Seoni	Kandipar	141.54	200.02	58.48	41.32	Complete
21	WR Dn I Seoni	Pathria	163.32	218.86	55.54	34.01	Complete
22	WR Dn I Seoni	Saliwara	151.82	198.54	46.72	30.77	Incomplete
23	WR Dn Hiran Jabalpur	Pitkuhi	63.20	130.45	67.25	106.41	Complete
24	WR Dn Hiran Jabalpur	Marhanatha	55.45	104.80	49.35	89.00	Complete
25	WR Dn Hiran Jabalpur	Bandhi	49.96	163.79	113.83	227.84	Complete
26	WR Dn Hiran Jabalpur	Chirai	127.52	233.14	105.62	82.83	Complete
		Total	4732.50	7666.65	2934.15		

Max	267.32
Min	11.36

Besides above excess expenditure over AA was incurred to the tune of ₹ 1.06 crore on Shahgarh LIS.

Appendix 2.18
(Reference paragraph 2.2.5.2 Page 50)

Statement showing details of schemes in respect of which performance security were not obtained from the contractors
(₹ in lakh)

Sl No	Name of Division	Agt. No.	Name of Scheme	Contract Value	EMD in ₹	PSD
1	WRD Dn Chhindwara	05/08-09	Bagla Tank	323.23	308000	13.08
2	WRD Dn Chhindwara	13/08-09	Pindraisaraf Tank	259.23	248400	10.48
3	WRD Dn Chhindwara	02/08-09	Futera Tank	104.81	102000	4.22
4	WRD Dn Chhindwara	01/09-10	Bheda Tank (head work)	539.08	526000	21.69
5	WRD Dn Chhindwara	01/10-11	Bischwasni Tank	424.25	490000	16.31
6	WRD Dn Chhindwara	02/10-11	Khamibadela Tank	454.53	519000	17.54
7	WRD Dn Chhindwara	02/11-12	Bheda Tank (canal)	219.58	305000	7.93
8	WRD Dn Narsinghpur	01/07-08	Swamisagar Tank	151.6	148000	6.10
9	WRD Dn Narsinghpur	11/08-09	Dungaria Tank	132.53	130000	5.33
10	WRD Dn Narsinghpur	15/08-09	Bamhani Tank	148.58	147000	5.96
11	WRD Dn Narsinghpur	19/08-09	Mehgaon Tank	145.67	140000	5.88
12	WRD Dn Narsinghpur	03/09-10	Dungaria Usri Tank	183.08	158000	7.57
13	WRD Dn Narsinghpur	04/09-10	Alod Tank	223.96	193000	9.27
14	WRD Dn Narsinghpur	03/08-09	Gadria Tank	114.96	111000	4.64
15	WRD Dn Narsinghpur	10/08-09	Curra Tank	139.05	135000	5.60
16	WRD Dn Dindori	02/07-08	Dandana tank H/W	498.79	381000	21.13
17	WRD Dn Dindori	07/09-10	Bhaganwara Tank	146.47	161300	5.71
18	WRD Dn Dindori	15/09-10	Devalpur Tank	82.93	118000	2.97
19	WRD Dn Dindori	01/10-11	Khargahana Tank	143.5	188100	5.29
20	WRD Dn Dindori	14/09-10	Keolari Tank	117.21	162000	4.24

Sl No	Name of Division	Agt. No.	Name of Scheme	Contract Value	EMD in ₹	PSD
21	WRD Dn Dindori	04/08-09	Udar Tank	144.82	158700	5.65
22	WRD Dn Dindori	06/09-10	Sarai Tank	122.52	136300	4.76
23	WRD Dn Dindori	13/09-10	Barga Tank	86.52	120000	3.13
24	WRD Dn Dindori	05/08-09	Rachho Tank	149.61	137000	6.11
25	WRD Dn Dindori	03/10-11	Dandana tank canal	301.55	448000	10.60
26	WRD Dn Dindori	02/10-11	Silighati Tank	154.03	195300	5.75
27	WRD Dn Dindori	03/08-09	Bilaikhar Tank	120.04	116800	4.83
28	WRD Dn Katni	19/08-09	Jamunchua Tank	172.16	174060	6.87
29	WRD Dn Katni	09/08-09	Magetahata Tank	252.33	215130	10.47
30	WRD Dn Katni	06/08-09	Bhainsawahi Tank	88.38	84260	3.58
31	WRD Dn Katni	24/09-10	Barhi Tank	209.03	222610	8.23
32	WRD Dn Katni	17/08-09	Salhana Tank	85.45	82090	3.45
33	WRD Dn Katni	02/09-10	Gaura Tank	86.43	79460	3.53
34	WRD Dn Katni	22/08-09	Chhahar Tank	89.66	87540	3.61
35	WRD Dn Katni	23/08-09	Ghunnaur Tank	85.61	85940	3.42
36	WRD Dn Seoni	03/07-08	Patharia Tank	134.5	108000	5.65
37	WRD Dn Seoni	01/07-08	Gorakhpur Tank	144.36	119200	6.03
38	WRD Dn Seoni	17/07-08	Pipartal Tank	430.66	419000	17.34
39	WRD Dn Seoni	16/07-08	Baigapiparia Tank	130.87	127000	5.27
40	WRD Dn Seoni	05/08-09	Saliwara Tank	169.56	181000	6.67
41	WRD Dn Seoni	06/08-09	Katoli Tank	186.25	173000	7.58
42	WRD Dn Seoni	07/08-09	Bothiya Tank	292.76	256000	12.08
43	WRD Dn Seoni	08/08-09	Dalalnalla Tank	294.33	257000	12.15
44	WRD Dn Seoni	04/06-07	Khamkhareli Tank	232.23	187000	9.74

Sl No	Name of Division	Agt. No.	Name of Scheme	Contract Value	EMD in ₹	PSD
45	WRD Dn Hiran Jabalpur	03/08-09	Siluwa Tank	85.98	91500	3.38
46	WRD Dn Hiran Jabalpur	04/08-09	Mathapatha Tank	71.64	72000	2.86
47	WRD Dn Hiran Jabalpur	03/09-10	Dungargawa Tank	214.5	237000	8.36
48	WRD Dn Hiran Jabalpur	01/08-09	Deharikala Tank	62.61	63000	2.50
49	WRD Dn Hiran Jabalpur	12/08-09	Piparia Tank	106.65	107000	4.26
50	WRD Dn Hiran Jabalpur	09/08-09	Hardua Tank	71.72	72000	2.87
	Total					371.67

Appendix 2.19
(Reference paragraph 2.2.5.3 Page 51)
Statement showing details of non recovery of additional security deposits for unbalanced items

Sl No	Name of Division	Agreement No	Name of work	Items of work	Amount of additional security deposit in lakh ₹
1	WRD Dn Chhindwara	13/2008-09	Pindrai Saraf Tank	14	13.79
2	WRD Dn Chhindwara	14/2008-09	Bagdari Tank	8	34.51
3	WRD Dn Dindori	02/2007-08	Dandana Nalla Tank	7	101.66
4	WRD Dn Katni	20/2009-10	Paharua Tank	6	12.52
5	WRD Dn Narsinghpur	03/2009-10	Dungria (Usri)	8	19.06
6	WRD Dn Narsinghpur	10/2008-09	Gurra Tank	10	14.74
7	WRD Dn Narsinghpur	11/2008-09	Dungria Tank	7	10.50
8	WRD Dn Narsinghpur	19/2008-09	Mehgaon Tank	6	17.49
9	WRD Dn Seoni	03/2007-08	Pathria Tank	5	11.81
10	WRD Dn Seoni	05/2006-07	Kandipaar Tank	7	21.17
11	WRD Dn Seoni	05/2008-09	Saliwara Tank	4	31.34
12	WRD Dn Seoni	16/2007-08	Baigapiparia Tank	7	34.31
13	WRD Dn Seoni	17/2007-08	Pipartal Tank	6	63.95
	Total			95	386.84

(Say ₹ 3.87 crore)

Appendix 2.20
(Reference paragraph 2.2.6.3 Page 62)
Statement showing details of sampling for compressive strength tests of structure of MI schemes

Sl No	Name of division	Name MI scheme	Agreement No	Quantity of CC	Type of CC	Required samples ¹ (Number) 50}/50+4	Tests done (Number)	Short samples (Number)	Amount (in ₹)
1	2	3	4	5	6	7	8	9	10
1	WR Dn Narsinghpur	Mehgaon tank	19/2008-09	2302.75	CC 1:3:6, CC 1:4:8	49	14	35	4238714
2	WR Dn Narsinghpur	Dungaria (Gotegaon) tank	11/2008-09	1192.662	CC 1:3:6, CC 1:4:8	26	15	11	1866983
3	WR Dn Narsinghpur	Gurra tank	10/2008-09	1366.94	CC 1:3:6, CC 1:4:8	30	22	8	2133592
4	WR Dn Katni	Jujhari tank	21/2008-09	247.79	CC 1:3:6, CC 1:2:4	8	0	8	617451
5	WR Dn Katni	Gureha Pipra	48/2007-08	90.79	CC 1:3:6, CC 1:2:4	5	0	5	181580
6	WR Dn Katni	Gurahaband tank and deori regulator	05/2010-11	1028.528	CC 1:3:6, CC 1:2:4	24	0	24	4196061
7	WR Dn Katni	Jamunchua tank	19/2008-09	289.985	CC 1:3:6, CC 1:2:4	9	0	9	679186
8	WR Dn Katni	Chhahar tank	22/2008-09	587.805	CC 1:3:6, CC 1:2:4	15	0	15	1355945
9	WR Dn Katni	Megarehata tank	19/2009-10	345.594	CC 1:3:6	10	0	10	829426
		Total		8819.784		176	51	125	16098938
		Total for Katni				71	0		7859649

¹ Four samples plus one additional sample for each additional 50 cu m or part thereof when quantity of cement concrete is equal to or above 51 cu m

Appendix 2.21

(Reference paragraph 2.3.4.2 (ii) Page 69)

Statement showing delay in award of original work

Sl. No.	Name of work	NIT date	Stipulated date for acceptance of tender (Four Months from the date of tender) as per Manual	Tender accepted by NVDA	Delay in acceptance of tender	Work order date Stipulated date for completion of work	Delay in issue of work order
	Canal Division No. 1, Kareli						
1.	Construction of LBC 130.67 to 135.50 km, Dungariya (0 to 5 km) and Renuka Distributary	13.4.06	12.08.06	7.3.07	07 months	<u>7.3.08</u> 6.12.09	11 months
2.	Sadumar Branch canal 0 to 4.50 km, Dungariya Distributary 5 to 23 km	7.10.05	06.02.06	19.7.06	05 months	<u>1.11.06</u> 31.07.08	03 months
3.	Sadumar Branch canal 4.50 to 9 km, Amoda Distributary 0 to 23 km	13.4.06	12.08.06	7.3.07	07 months	<u>7.3.08</u> 6.12.09	11 months
4.	Sadumar Branch canal 9 to 21 km	1.8.06	30.11.06	26.4.07	08 months	<u>10.3.08</u> 9.12.09	10 months

Delay in award of balance work

Sl. No.	Name of work	Rescind Date of original work	G schedule for bal. work sent to CE by EE for approval	Delay in sending of NIT (in month)	NIT sent to NVDA for approval by CE	Date of approval of NIT by NVDA	Delay (in month)	Date of NIT for balance work	Tender accepted /rejected by NVDA	Delay (in month)	Delay in finalising of tender for balance work after rescind date
Canal Division No. 1, Kareli											
5.	Balance work of LBMC 130.67 to 135.50 km Dungariya (0 to m 5km) and Renuka Distributary	10.9.10	----	----	27.11.09	16.11.10	12	9.2.11	28.12.11	07	19 months
6.	Balance work of Sadumar Branch canal 0 to 4.50 km, Dungariya Distributary 5 to 23 km	29.7.09	----	----	27.11.09	31.7.10	08	19.4.11	25.9.12	13	38 months
7.	Balance work of Sadumar Branch canal 4.50 to 9 km, Amoda Distributary 0 to 23 km	26.11.09	----	----	27.11.09	31.7.10	8	2.8.11	14.09.12 Rejected	09	34 months
8.	Balance work of Sadumar Branch	28.10.10	----	----	27.11.09	31.7.10	8	10.12.10	28.12.11	08	14 months

Canal Division No. 1, Jabalpur											
9.	Balance work of Belkhedi Distributory 0 to 34 km with its distribution system	22.12.08	25.10.10	22	----	13.1.11	Nil	13.4.11	23.02.12	05	38 months
10.	Balance work of Pipariya sub-Distributory	22.12.08	25.10.10	22	----	13.1.11	Nil	23.02.12	17.10.12	04	46 months
Disnet Division, Narsinghpur											
11.	Balance work of LBC from 126.19 to 130.67 with its distribution system	26.03.10	16.12.10	8	24.10.11	Not approved as on 31.03.12	5	Tender not invited	---	---	24 months
Canal Division No. 1, Gotegaon											
12.	Balance between 66 to 84 of LBC with its minors	02.09.08	3.9.11	36	Pending at CE level as on 31.03.12	----	----	Tender not invited	----	----	36 months

Appendix 2.22

(Reference paragraph 2.3.4.2 (iii) Page 70)

Statement showing delay in completion of canal network due to contractors left the work incomplete

(₹ in lakh)

Sl. No.	Name of work	Designed IP (in hectare)	Contract amount	Work order date / Stipulated date	Rescind date	Value of work done	Cost of left over work	Delay up to March 2012
1	Construction of LBC 130.67 to 135.50 km, Dugariya Distributary 0 to 5 km and Renuka Distributary 0 to 14.35 km	34223	1946.74	<u>7.3.08</u> 6.12.09	10.9.10	1170.54	776.20	2 year three months
2	Sadumar Branch Canal 0 to 4.50 km and Dugariya Distributary 5 to 23.50 km.		1745.86	<u>1.11.06</u> 31.7.08	29.7.09	1357.74	388.12	3.5 years
3	Sadumar Branch Canal 4.50 to 9 km and Amoda Distributary 0 to 23 km.		2344.03	<u>7.3.08</u> 6.12.09	26.11.09	1037.74	1306.29	2 year three months
4	Sadumar Branch Canal 9 to 21 km		2211.98	<u>10.3.08</u> 9.12.09	28.10.10	384.45	1827.43	2 year three months
5	Belkhedi Distributary 0 to 34 km	5171	1472.95	<u>17.4.03</u> 16.1.05	22.12.08	1213.85	259.10	07 years
6	Pipariya sub-Distributary 0 to 12.10 km and Belkhedi sub-minor 0 to 15 km	7941	1596.99	<u>26.7.03</u> 25.4.05	22.12.08	1090.89	506.10	07 years
7	LBC 126.19 to 130.67 km with its Distributary	2986	1540.50	<u>19.8.04</u> 18.5.06	26.3.10	1292.26	248.24	5.5 years
8	Nagna Distributary	-	787.14	<u>19.9.03</u> 18.10.04	13.6.07	Work completed in June 2011.		6.5 years
		50321	13646.09			7547.47	5311.48	

Appendix 2.23

(Reference paragraph 2.3.4.2 (iv) Page 70)

Statement showing canal works not completed in schedule period

Sl. No.	Name of the Main/Branch Canal	Scheduled date of completion	Actual date of completion	Delayed period	Total Created Irrigation (in hectare)	Reasons for delay
1.	Bhadguwan Branch and its distributories (Gundrai, Magardha, Bamhni, Machwara) and its minors	3-12-2004	31-05-2008	3.5 years	18937	Delay in acquiring land, shifting of electric lines and excess quantities
2.	Shahpura distributor	09.06.04	30.06.10	6 years	3750	Original work was foreclosed due to LA and balance work was completed in 30.06.10
3.	Construction of LBC & its distribution system km 111 to km 117.177	09.05.06	15.05.07	1 year	2273.075	Delay in acquiring land and excess quantities
4.	Construction of LBC & its distribution system km 119.500 to km 126.190	23.05.06	31.01.08	1.5 year	2206.15	Delay in acquiring land, excess quantities and delay in issuing of working design
5.	Construction of main Canal km 117.175 to km 119.500	13.12.08	15.03.09	04 months	Main canal only	Delay due to clearance of forest land and increase of excess quantities
6.	Seoni Distributary and network	13.10.04	31-05-2006	1.5 years	3543.65	Delay in LA & handing over drawing of structure
7.	Kandeli Distributary and its network	03.12.04	31-03-2008	3.5 years	11614.08	Delay in acquiring land, shifting of electric lines and excess quantities
8.	Construction of earth work in 14 km length 12 no. structure form km 97.00 to km 111.00 km	16.7.04	30.03.07	2 year 09 month	Main canal only	Delay in award of land, shifting of electric lines
9.	Construction of main canal km 126.19 to km 130.67 and its distribution system	18.05.06	31.3.08	2 years	2986.00	Work was rescinded in March 2010 but delay due to LA, shifting of electric line was up to 31.03.08
10.	Balance work Nagna sub distributories system	13.05.10	10.06.11	1 year	---	Non-availability of site
				Total	45309.925	

Appendix 2.24
(Reference paragraph 2.3.6.2 Page 76)
Statement showing excess payment due to inflated measurement
Construction of LBC from km 126.19 to km 130.67 Agreement no. -1/04-05

							(Amount in ₹)	
Sl.No.	Item no.	Item	Unit	Quantity in penultimate bill	Qty. in incomplete final bill	Excess paid Qty.	Rate	Excess payment
1	1	Excavation of soil	cu m	549728.09	407564.404	142163.68	19.00	2701109
2	7	Providing & placing Cohesive Non Soiling (CNS) material	cu m	112080.04	97002.668	15077.37	93.00	1402195
3	8	Providing & placing filter material	cu m	4949.83	4835.198	114.63	270.00	30950
4	11	Cement Concrete (CC) M-10 40 mm metal	cu m	17051.80	16866.705	185.10	1685.00	311894
5	13	Providing & Laying Low Density Poly Ethylene (LDPE) film	cu m	103806.33	95225.784	8580.55	10.00	85805
6	14	RCC M-15 20 mm metal	cu m	79.151	70.424	8.73	2105.00	18377
7	16	Providing & Laying CC 20 mm metal	cu m	52.43	50.941	1.49	2310	3442
8	18	Providing and fixing Steel bars	MT	337.596	334.0424	3.55	25125	89194
9	20	Providing and fixing PVC pipe 150 mm dia	RM	7367.73	7066.865	300.87	165	49643
10	21	Providing and fixing contraction joint	m	52210.15	51154.15	1056	14	14784
11	23	Providing and fixing PVC water joints 225 mm wide	m	285.062	257.65	27.41	567	15541
12	26	Providing and fixing AC Pipe 100 mm dia	m	184.32	160.75	23.57	92	2168
13	32	Providing & Laying moorum	cu m	34669.680	32303.039	2366.62	89	210629
14	33(a)	Providing and fixing hume pipe 600 mm	RM	547.500	434.5	113.00	900	101700
15	33(c)	Providing and fixing hume pipe 1000 mm	RM	107.500	100	7.50	1155	8663
						Total		5046094
Construction of Sadumar Branch Canal from km 0.0 to km 4.5								
1	7	Providing & Placing CNS material	cu m	197282.49	187776.26	9506.23	122	1159760
2	32	Filling foundation	cu m	2600.827	2106.228	494.599	28	13849
						Total		1173609
						Grant Total		6219703

Appendix 2.25
(Reference paragraph 2.3.6.3 Page 76)
Statement showing avoidable payment of escalation beyond stipulated period

Sl. No.	Name of unit	Agreement No.	Name of work	Work order/ stipulated period	Month of Land acquisition	Escalation paid up to	Delay (in month)	Escalation paid beyond stipulated period (₹ in lakh)	Reasons for delay
1.	Disnet Dn. Narsinghpur	14/02-03	Bhadgawan Branch Canal including its minors/sub-minors	<u>04.03.03</u> 03.12.04	June-2006	31.5.08	39	372.15	Land acquisition, shifting of electric poles, Excess quantity
2.	Disnet Dn. Narsinghpur	03/04-05	LBC 126.19 to 130.67 including its minors/sub-minors	<u>19.08.04</u> 18.05.06	December -2006	31.3.08	27	75.53	Land acquisition, shifting of electric poles
3.	Canal Dn. No. 2 Jabalpur	13/02-03	Shahpura distributary including its minors/sub-minors	<u>10.09.02</u> 09.06.04	March-2005	30.6.05	30	33.27	Land acquisition
								480.95	

Appendix 2.26

(Reference paragraph 2.3.6.4 Page 78)

Statement showing avoidable loss to Government due to non-invoking of risk and cost clause

Sl. No.	Agt. No.	Name of work	Date of award		Amount of original contract	Final bill paid for the incomplete work	Amount of the balance work	Amount put to tender for execution of balance work	Amount increased due to extra quantities	Extra cost/loss to Govt.	Amount of SD/PSD available at time of rescission	Amount of SD/PSD forfeited by the division	Unadjusted Amount of SD/PSD
				Rescind date									
1.	01/07-08	Construction of LBC 130.67 to 135.50 km, Dungariya Distributary 0 to 5 km, Renuka Distributary 0 to 14.35 km.	7.3.08	10.9.10	1946.74	1170.53	776.21	1406.37	460.17	170.00	189.50	115.74	73.76
2.	01/06-07	Sadumar Branch Canal 0 to 4.50 km, Dungariya Distributary 5 to 23 km	1.11.06	29.7.09	1745.86	1357.74	388.12	1233.44	-	845.32	162.78	Nil	162.78
3.	02/07-08	Sadumar Branch canal 4.50 to 9 km, Amoda Distributary 0 to 23 km	7.3.08	26.11.09	2344.03	1037.73	1306.3	2294.29	-	987.99	178.13	Nil	178.13
4.	03/07-08	Sadumar Branch Canal 9 to 21 km	10.3.08	28.10.10	2211.88	384.44	1827.44	3529.98	-	1702.54	201.92	95.92	106.00
			Total							3705.85	732.33	211.66	520.67

Appendix 2.27
(Reference paragraph 2.3.6.4 Page 79)
Statement showing the excess payment due to non-retention of additional security deposit for unbalanced items

Over all Tender per cent 1.96 per cent above ¹										Amount in ₹
Agreement no. 1/07-08 (Rescind work)	Sl. No.	Item no.	Item	Executed quantity	Unit	Paid rate	Estimated (Est.) rate	Est. rate + or - tender %	Difference (6-8)	Excess payment
	1	2	3	4	5	6	7	8	9	10
	1	1	Excavation of soil	422527.137	cu m	30	19.46	19.84	10.16	4292876
	2	2	Earth work	532476.757	cu m	35	22.21	22.65	12.35	6576088
	3	12	P/P 1:3:6 40 mm in situ lining	17113.498	cu m	2200	1729.73	1763.63	436.37	7467817
	4	17	P/P 1:3:6 40 mm in foundation	7995.00	cu m	2300	1208.79	1232.48	1067.52	8534822
	5	21	P/F steel bars	114953.61	Kg.	32	25.56	26.06	5.94	682824
	6	31	P/F hume pipe 600 mm dia	60.00	RM	1000	853.40	870.13	129.87	7792
	7	33	P/L sand layer	281.11	cu m	80	59.67	60.84	19.16	5386
						A		Total		27567605

2. Belkhedi Distributories Km 0 to km 34

Over all Tender per cent 5.897 per cent above										Amount in ₹
Agreement no. 1/03-04 (Rescind work)	Sl. No.	Item no.	Item	Executed quantity	Unit	Paid rate	Estimated rate	Est. rate + or - tender %	Difference (6-8)	Excess payment
	1	2	3	4	5	6	7	8	9	10
	1	4	P/P CNS material	278265.64	cu m	200.00	126.25	133.69	66.31	18451795
	2	17	PCC 1:5:8	154.683	cu m	1300.00	847.4	897.00	403.00	62337
						B		Total		18514132

¹ Rates were quoted item wise by the contractor. The overall percentage (above or below) of the total quoted cost to the total estimated cost was applied uniformly to individual items of the work to arrive of the current price of individual items.

3. Pipariya sub distributories

Agreement no. 2/03-04 (Rescind work)

Over all Tender *per cent* 8.212 *per cent* above

Sl. No.	Item no.	Item	Executed quantity	Unit	Paid rate	Estimated rate	Est. rate +or- tender %	Difference (6-8)	Amount in ₹
1	2	3	4	5	6	7	8	9	10
1	4	P/P CNS material	172898.53	cu m	180.00	113.74	123.08	56.92	9841384
2	7(b)	RCC 1:2:4	163.661	cu m	1800.00	1552.61	1680.00	120.00	19639
3	9	P/P LDPE film	325262.6	sq m	18.00	12.40	13.42	4.58	1489703
					C		Total		11350726

4. System correction work of Patan Branch canal, Belkhedi and Kunwarpur Distributories

Agreement no. 4/09-10 (Rescind work)

Over all Tender *per cent* 4.679 *per cent* above

Sl. No.	Item no.	Item	Executed quantity	Unit	Paid rate	Estimated rate	Est. rate +or- tender %	Difference (6-8)	Amount in ₹
1	2	3	4	5	6	7	8	9	10
1	2	P/P 1:3:6 40 mm	179.172	cu m	3200.00	2097.70	2195.85	1004.15	179916
2	3	P/P 1:3:6 20 mm	217.144	cu m	3200.00	2435.89	2549.87	650.13	141172
3	4	Labour for hume pipe 150 mm	1011.5	RM	70	56.98	59.65	10.35	10469
4	6	Collection spreading moorum	43814.92	cu m	220.00	189.83	198.71	21.29	932820
					D		Total		1264377

5. System correction work of PSB canal, Khajuri & Mohantara Distry, and Hasua sub distributary

Agreement no. 3/09-10 (Rescind work)

Over all Tender *per cent* 4.41 *per cent* above

Sl. No.	Item no.	Item	Executed quantity	Unit	Paid rate	Estimated rate	Est. rate +or- tender %	Difference (6-8)	Amount in ₹
1	2	3	4	5	6	7	8	9	10
1	2	P/P 1:3:6 40 mm	688.874	cu m	3500.00	2097.70	2190.20	1309.80	902287
2	3	P/P 1:3:6 20 mm	899.799	cu m	3500.00	2435.89	2543.31	956.69	860829
3	4	Labour for hume pipe 150 mm	3260	RM	70	56.98	59.49	10.51	34263
4	6	Collection spreading moorum	53194.74	cu m	230.00	189.83	198.20	31.80	1691593
					E		Total		3488972

6. Construction of of CC lining & structures from RD 4.50 to 9.00 km of Sadumar branch canal and RD 00 to 23.56 km Amoda distributary

Agreement no. 2/07-08 (Rescind work)									
Over all Tender per cent 7.56 per cent above									
Sl. No.	Item no.	Item	Executed quantity	Unit	Paid rate	Estimated rate	Est. rate +or- %	Difference (6-8)	Amount in ₹
1	2	3	4	5	6	7	8	9	10
1	1	Excavation of soil	462729.581	cu m	26.50	18.59	20.00	6.50	3007742
2	2	Earth work	867139.125	cu m	30.50	21.58	23.21	7.29	6321444
3	12	P/P CC M-10 40 mm metal	7188.787	cu m	2000.00	1655.17	1780.30	219.70	1579377
4	17	P/P CC 1:3:6 40 mm metal	8106.942	cu m	2100.00	1199.63	1290.32	809.68	6564029
5	21	P/F cold work steel	61514.130	kg	32.00	25.08	26.98	5.02	308801
6	29	P/L RCC 1:2:4 20 mm metal	16.240	cu m	2400.00	1779.28	1913.79	486.21	7896
					F		Total		17789289

7. Construction of LBMC from 126.190 to km 130.670 and its distribution system

Agreement no. 01/04-05 (Rescind work)									
Over all Tender per cent 0.99 per cent below									
Sl. No.	Item no.	Item	Executed quantity	Unit	Paid rate	Estimated rate	Est. rate +or- %	Difference (6-8)	Amount in ₹
1	2	3	4	5	6	7	8	9	10
1	2	Excavation in DR/SR	7696.92	cu m	63	62.85	62.22	0.78	6004
2	4	Earth work	495932.8	cu m	32	19.64	19.45	12.55	6223957
3	18	P/F cold worked steel	334.0424	MT	25125	25124.29	24875.55	249.45	83327
4	28	Painting vertical faces	8830.456	sq m	14	13.60	13.47	0.53	4680
5	33(a)	P/F hume pipe 600 mm	434.50	RM	900	744.89	737.52	162.48	70598
6	33(b)	P/F hume pipe 150 mm	150.00	RM	740	177.04	175.29	564.71	84707
					G		Total		6473273

8. Balance work of Shahpura Distributary km 6.40 to km 11.48

Agreement no. 1/07-08 (Completed work)

Over all Tender per cent 38.39 per cent above

Sl. No.	Item no.	Item	Executed quantity	Unit	Paid rate	Estimated rate	Est. rate +or- tender %	Difference (6-8)	Excess payment
1	2	3	4	5	6	7	8	9	10
1	1	Excavation of soil	37148.35	cu m	35	17.7	24.50	10.50	390058
2	2	Earth work	10566	cu m	40	20.9	28.92	11.08	117071
3	6	Labour for LDPE film	21699	sq m	8	2.3	3.18	4.82	104589
4	15	P/P RCC 1:5:8	44.362	cu m	1950	953.26	1319.22	630.78	27983
5	16	Precast slab	7817.70	cu m	116	65.46	90.59	25.41	198648
6	17 (a)	P/P hume pipe 600 mm	44	RM	1500	120.63	166.94	133.06	58655
7	17(b)	P/P hume pipe 900 mm	7.50	RM	1600	204.98	283.67	1316.33	9872
8	17 (c)	P/P hume pipe 1200 mm	22	RM	1600	321.25	444.58	1155.42	25419
9	22	Fabrication of gate	0.16	sq m	60000	38644.44	53480.04	6519.96	1043
					H		Total		933338

Amount in ₹

9. Balance work of Shahpura Distributary km 22.00 to km 24.20

Agreement no. 2/07-08(Completed work)

Over all Tender per cent 38.83 per cent above

Amount in ₹

Sl. No.	Item no.	Item	Executed quantity	Unit	Paid rate	Estimated rate	Est. rate +or- tender %	Difference (6-8)	Excess payment
1	2	3	4	5	6	7	8	9	10
1	1	Excavation of soil	7412.66	cu m	35	17.7	24.57	10.43	77314
2	2	Earth work	20471.57	cu m	40	20.9	29.02	10.98	224778
3	5	Labour for LDPE film	14893.5	cu m	9	2.3	3.19	5.81	86531
4	6(a)	P/P 1:3:6 40 mm	344.674	cu m	2600	1126.4	1563.78	1036.22	357158
5	6(b)	P/P 1:3:6 20 mm	262.02	cu m	2700	1788.04	2482.34	217.66	57031
6	15	Precast slab	6851.833	cu m	300	185.23	257.15	42.85	293601
7	16 (a)	P/P hume pipe 600 mm	55	RM	1500	120.63	167.47	1332.53	73289
8	16(b)	P/P hume pipe 1000 mm	16.5	RM	1600	204.98	284.57	1315.43	21705
9	16(c)	P/P hume pipe 1200 mm	7.5	RM	1700	321.25	445.99	1254.01	9405
					I		Total		1200812

10. Balance work of Shahpura Distributary km 11.48 to km 22.00

Agreement no. 3 /07-08(Completed work)

Over all Tender per cent 38.79 per cent above

Sl. No.	Item no.	Item	Executed quantity	Unit	Paid rate	Estimated rate	Est. rate +or- tender %	Difference (6-8)	Excess payment
1	2	3	4	5	6	7	8	9	10
1	1	Excavation of soil	42980.47	cu m	32	17.7	24.57	7.43	319345
2	2	Earth work	9691	cu m	35	20.9	29.01	5.99	58049
3	5	Labour for LDEP film	16378.44	sq m	11	2.3	3.19	7.81	127916
4	6(a)	P/P 1:3:6 40 mm	660.05	cu m	1950	1126.4	1563.33	386.67	255222
5	12	P/P 1:5:8	46.577	cu m	1875	953.26	1323.03	551.97	25709
6	13(a)	Precast slab	6558.4	cu m	285	185.23	257.08	27.92	183111
7	14 (a)	Labour for hume pipe 600 mm	230	RM	1700	120.63	167.42	1532.58	352493
8	14(b)	Labour for hume pipe 900 mm	5	RM	1950	204.98	284.49	1665.51	8328
9	14(c)	Labour for hume pipe 1000 mm	15	RM	2150	321.25	445.86	1704.14	25562
10	17	Fabrication of gate	0.72	sq m	70000	38644.44	53634.62	16365.38	11783
					J		Total		1367518

11. Balance work of Shahpura Distributary km 00 to km 6.40

Agreement no. 4/ 07-08 (Completed work)

Over all Tender per cent 4.07 per cent above

Sl. No.	Item no.	Item	Executed quantity	Unit	Paid rate	Estimated rate	Est. rate +or- tender %	Difference (6-8)	Excess payment
1	2	3	4	5	6	7	8	9	10
1	1	Exc. of soil	28142.46	cu m	29.80	23.00	23.94	5.86	164915
2	3	Exc. of S/R	2532.2	cu m	550	112.13	116.69	433.31	1097228
3	8(a)	P/P 1:3:6 40 mm	584.36	cu m	2500	2145.05	2232.35	267.65	156404
4	17	Precast slab	1900.00	cu m	115.30	98.58	102.59	12.71	24149
					K		Total		1442696

12. Nagna Distributary

Agreement no. 01/09-10(Completed work)

Over all Tender per cent 119.80 per cent above

Amount in ₹

Sl. No.	Item no.	Item	Executed quantity	Unit	Paid rate	Estimated rate	Est. rate +or- tender %	Difference (6-8)	Excess payment
1	2	3	4	5	6	7	8	9	10
1	2	P/P CNS material	35321.915	cu m	320.00	133.42	293.26	26.74	944508
2	8	P/P 1:3:6 20 mm	1082	cu m	2800.00	1168.13	2567.55	232.45	251511
3	9	P/P 1:3:6 40 mm	5369.541	cu m	2930.0	1152.31	2532.78	397.22	2132889
4	19	P/F cold steel work	10654.00	kg	80.00	20.8	45.72	34.28	365219
Total									3694127
Grand Total (A to L)									95086865

Incomplete work (A to G) ₹ 86448377

Completed work (H to L) ₹ 8638491

Grand total ₹ 95086865

Appendix 2.28

(Reference paragraph 2.3.6.4 Page 79)

Statement showing loss due to non-recovery of liquidated damages for delay

Group	Agt. No.	Contractor	Estimated cost	WO No./Date	Stipulated period/ date for completion	Value of work done up to stipulated date	Rescind date	Delay	Loss due to non-recovery of penalty for delay (one per cent per day not exceeded eight per cent of estimated cost)
1.	1/07-08	M/s. G. Venkata reddy, Hyderabad	1909	319/7.3.08	21 months/6.12.09	1139.97 (59 per cent)	10.9.10	9 months	152.72
2.	1/06-07	SV/EC Construction, Hyderabad	1659	1686/1/11.06	21 months/31.7.08	1250.66 (72 per cent)	29.7.09	12 months	132.72
4.	3/07-08	M/s GSC Construction, Kanpur	2208	324/10.3.08	21 months/9.12.09	284.34 (13 per cent)	28.10.10	11 months	176.64
								Total	462.08

Appendix 3.1
(Reference paragraph 3.6 and 3.7 Page 89)
Statement showing project wise details for projected utilisation of Narmada water as per Vision 2020

Sl no	Name of Project	No. of dams	Area in lakh ha	Projected use of water in MCM	Date of Environment clearance	Status of Project/ Projects
(A) Projects with environment clearance						
1	Tawa	1	2.469	2386.72	Already completed projects by WRD	Completed
2	Barna	1	0.548	559.82		Completed
3	Kolar	1	0.451	435.9		Completed
4	Sukta	1	0.166	170.57		Completed
5	Matiyari	1	0.101	88.38		Completed
6	RABLS	1	1.57	1681	24-07-1990	Ongoing
7	Bargi Diversion Project	0	2.45	2510.6	12-05-1993	Ongoing
8	Indira Sagar Project	1	1.23	1625.26	24-06-1987	Ongoing
9	Omkareshwar	1	1.47	1300	13-10-1993	Ongoing
10	Man Project	1	0.15	140.1	02-01-1984	Completed
11	Jobat Project	1	0.098	112.145	01-07-1986	Completed
12	Upper beda	1	0.099	101.09	16-07-2007	Ongoing
13	Punasa LJS	0	0.35	130.2	16-07-2007	Ongoing
14	Lower Goi	1	0.137	136.65	17-01-2008	Ongoing
15	Upper Narmda	1	0.185	178.93	10-09-2009	Under Process
16	Halon	1	0.130	134.000	04-01-2010	Under Process
	Sub total (A):			11691.365 MCM/ 9.48 MAF		
(B) Projects for which environment clearance is under process						
17	Sher, Sakkar and Machraha	3	0.648	486.600	Environment clearance of seven projects are under process	Under Survey
18	Dudhi	1	0.500	317.460		Under Survey
19	Morand Gunjal	2	0.580	427.650		Under Survey
20	Upper Burner	1	0.890	82.720		Under Review
21	Ataria	1	0.020	112.000		Under Review

Sl no	Name of Project	No. of dams	Area in lakh ha	Projected use of water in MCM	Date of Environment clearance	Status of Project/ Projects
22	Chinki	1	0.739	458.600		Under Review
23	Raghopur, Rosra and Basania	3	0.100	46.200		Under Review
	Sub total (B)			1931.230MCM/ 1.57 MAF		
	Total for major projects	26		13622.595MCM/ 11.05 MAF		
24	Additional water uses through major projects			119.000		
25	MMR already constructed		2.000	500.000		
26	MMR handia to Gujrat		2.900	1348.500		
27	MMR Amarkantank to Handia		7.100	3301.500		
28	Pumping		1.211	1769.195		
29	Domestic and industrial Use			1850.220		
	Sub total			8888.415 MCM/ 7.21 MAF		
	Grand Total ¹			22511.010 MCM/ 18.25 MAF		
						1233.48 MCM= 1 MAF

¹ 23 major projects having 26 dams on Narmada and its tributaries (for utilisation of 11.36 MAF) consisting of three complexes of eight dams (1. Sher, Marchrewa and Sakkar (SMS), 2. Raghopur, Rosra and Basania (RRB), 3. Morand and Ganjal) and four projects having two dams (Bargi dam for Rani Avantti Bai Lodhi Sagar (RABLS) and Bargi Diversion Project (BDP) projects and Indira Sagar Project (ISP) dam for ISP canal and Punasa LJS projects) as per Vision 2012 document of NVDA.

Appendix 3.2
(Reference paragraph 3.7 Page 90)
Statement showing details of major projects to be constructed in Narmada Basin as per reverse calendar 2007

Sl no	Name of Project	No. of dams	Area in lakh ha	Projected use of water in MCM	Status of Project/ Projects
(A) Completed projects					
1	Tawa	1	2.469	2386.72	Completed by WRD
2	Barna	1	0.548	559.82	
3	Kolar	1	0.451	435.9	
4	Sukta	1	0.166	170.57	
5	Matiyari	1	0.101	88.38	
Sub total			3.735	3641.39 (2.952 MAF)	
(B) Projects under construction					
6	RABLS	1	1.57	1008	Ongoing
7	Bargi Diversion Project	0	2.45	1008.10	Ongoing
8	Indira Sagar Project	1	1.23	1674	Ongoing
9	Omkareshwar	1	1.47	1300	Ongoing
10	Man Project	1	0.15	140.1	Completed
11	Jobat Project	1	0.098	112	Completed
12	Upper beda	1	0.099	90	Ongoing
Sub Total			7.067	6177.10 (5.007 MAF)	
(C) Proposed projects					
13	Punasa LIS	0	0.35	105	Ongoing
14	Lower Goi	1	0.137	133	Ongoing
15	Upper Narmda	1	0.185	178.93	Under Process
16	Halon	1	0.130	134.00	Under Process
17	Sher, Sakkar and Machraha	3	0.648	567.960	Under Survey
18	Dudhi	1	0.500	444.49	Under Survey
19	Morand Gunjal	2	0.580	465.48	Under Survey
20	Upper Burner	1	0.890	82.720	Under Review

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Sl no	Name of Project	No. of dams	Area in lakh ha	Projected use of water in MCM	Status of Project/ Projects
21	Ataria	1	0.020	112.36	Under Review
22	Chinki (including future projects)	1	0.739	1969.90	Under Review
23	Raghopur, Rosra and Basania	3		Power project	Under Review
	Sub total (B)			4193.840MCM/ 3.40 MAF	
	Total for major projects	26		14012.33MCM/ 11.36 MAF	
					1233.48 MCM= 1 MAF

Appendix 3.3
(Reference paragraph 3.7.3 Page 92)
Statement showing delay in environment clearances

S. No.	Name of project	Site clearance (180 days)		EIA/EMP Report (540 days)			Public hearing (90 days)			Final Appraisal (60 to 90 days)			Time taken in years (30 months)
		submission	approval	Time	submission	approval	Time	start	Final date	Time	submission	approval	Time
1.	ISP												
2.	Omkareshwar												
3.	Man												
4.	Jobat												
5.	RABLS												
6.	BDP												
7.	Punasa LIS	16-07-04	27-09-04	73	02-02-06	16-07-07	529	20-04-05	28-03-06	342	20-02-06	16-07-07	511
8.	Lower Goi	24-10-02	30-12-03	432	13-11-06	17-01-08	430	19-04-06	11-09-06	145	13-11-06	17-01-08	430
9.	Halon	29-10-01	18-11-03	750	28-08-09	04-01-10	129	12-02-09	24-08-09	193	28-08-09	04-01-10	129
10.	Upper Narmada	29-10-01	13-02-04	837	11-01-07	10-01-09	730	07-03-09	25-03-09	18	11-01-07	10-09-09	973

Being old projects all necessary clearances had already been got prior to 1993

Appendix 3.4
(Reference paragraph 3.7.6 Page 94)
Statement showing details of delay in acceptance of tenders

Sl No	Name of division	Name of project	Name of works	Name of contractor	Date of NIT	Date of acceptance of tender	Time taken in acceptance (in days)
1	ND 25 Narmada Nagar	MMR	Survey work of medium and minor from Omkareshwar Dam to Gujarat Border for 160000 ha irrigation	EGIS and RMSE JV	13-10-2008	25-09-2009	347
2	ND 25 Narmada Nagar	MMR	Survey work of medium and minor from Handia to Omkareshwar Dam for 130000 ha irrigation	M/s Secon pvt ltd	13-10-2008	25-09-2009	347
3	ND 16 Kukshi	Jobat Canal	Construction of lining of balance reaches between RD m 380 to m 7730, m 8470 to m 12130 and m 15900 to m 29000 distributary of Jobat Project	M/s R R Agrawal	24-04-2010	15-03-2011	325
4	ND canal Khargone	ISP	Construction of Earth work structure and lining (with paver) of ISP main canal from RD km 125 to km 130.935	M/s Karan Developers Pvt. Ltd.	25-02-2006	05-01-2007	314
5	ND 21 Sanawad	ISP	Balance work of earth work and WBM road of ISP main Canal RD km 64.50 to RD km 67.04	BC Biyani	15-05-2008	27-01-2009	257
6	ND 16 Kukshi	Jobat Canal	Construction of Deck slab, right side abutment of down stream bridge of Jobat Project	M/s R R Agrawal	06-04-2010	18-11-2010	226
7	ND 16 Kukshi	Man	Construction of lining work in balance reach of LBC main canal of Man Project	M/s Ravi Construction	24-04-2010	18-11-2010	208
8	ND 20 Mandleshwar	OSP	Work survey planning design and perpartion of estimate of distribution network between RD km 9.775 to km 146 of OSP	M/s NK Buildcon	27-05-2008	12-12-2008	199
9	ND 16 Kukshi	Man	Construction of lining and balance earth work of distributary and minor of RBMC of Man Project	M/s Advantage Equifund Pvt. Ltd	11-08-2010	24-02-2011	197
10	ND 12 Rajpur	Lower Goi	On turnkey basis consultancy of Dam, Canal and distribution system of Shaid Bheem Naik Project Sagar	Cade system service private Ltd	20-01-2009	27-07-2009	188

Appendix 3.5
(Reference paragraph 3.7.6 Page 94)
Statement showing details of delay in issue of work order

Sl no	Name of division	Name of project	Name of work	Name of contractor	Date of acceptance of tender	Date of work order	Delay in days
1	ND 19 Bhikangoan	Kathora LIS	Construction of retaining wall for jeeckwell in kathora LIS	M/s Rakesh Kumar Sawla	22-05-2010	22-07-2011	426
2	ND 25 Narmada Nagar	ISP	Construction of grouting stone pitching in Punasa exit canal RD km 69.10 to km 93.60	M/s Manoj Enterprises	05-02-2011	26-12-2011	324
3	ND 16 Kukshi	Man	Construction of canal lining along RM 1 Minar of Panwa distributray from RD m 3630 to m 10060	M/s Mohanlal patidar	11-03-2009	12-11-2009	246
4	ND 25 Narmada Nagar	ISP	Execution of Punasa LIS including distribution network	M/s Secon pvt ltd	23-02-2008	06-08-2008	165
5	ND 16 Kukshi	Man	Construction of PCC lining b/w RD m 60 to m 13640 of Man RBC.	M/s Pratik Construction	12-08-2008	01-01-2009	142
6	ND 16 Kukshi	Man	Construction of PCC lining b/w RD m 5905 of RM 6 Minor of Panwa Distributary	M/s Mohanlal patidar	14-08-2008	01-01-2009	140
7	ND 11 Badwani	ISP	Consultancy work for IPS main canal RD km 206 to km 248.65	M/s Span Consultant	12-12-2008	30-04-2009	139
8	ND 16 Kukshi	Jobat Canal	Construction of down stream RCC duct Bridge of Jobat Project	M/s R R Agrawal	09-06-2008	15-10-2008	128
9	ND 11 Badwani	ISP	Construction of main canal and network of ISP Main canal RD 206 to 243.895	M/s Som Datta and K.D.S.JV	21-02-2009	22-06-2009	121
10	ND 16 Kukshi	Man	Construction of lining and balance earth work of distributary and minor of RBMC of Man Project	M/s Advantage Equifund Pvt. Ltd	24-02-2011	11-05-2011	76
11	ND 16 Kukshi	Man	Construction of lining work in balance reach b/w RD km 0 to km 16.27 of RBC main canal of Man Project	M/s Jagdish Gupta	29-06-2010	06-09-2010	69
12	ND 19 Bhikangoan	Kathora LIS	Construction of RBC RD 0 to m 170 including pipe laying work and construction of distribution chamber at RD 170	Rakesh Kumar Sanwal	06-10-2008	12-12-2008	67
13	ND 16 Kukshi	Man	Construction of down stream bridge of Man Project	M/s Ravi Construction	02-02-2011	09-04-2011	66
14	ND 16 Kukshi	Man	Construction of APM type pipe outlet of minor & sub minor of MAN RBC.	M/s Pratik Construction	20-06-2008	21-08-2008	62

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Sl no	Name of division	Name of project	Name of work	Name of contractor	Date of acceptance of tender	Date of work order	Delay in days
15	ND 19 Bhikangoan	Kathora LIS	Construction of Jeckwell and I type quarter in DC 123 and 4 in Kathora LIS	M/s Chokda Agency	22-05-2010	22-07-2010	61
16	ND 14 Thikri	ISP	Consultancy service for Construction of ISP main Canal RD 155 to 206 including distribution system	M/s Gherji Eastern	16-05-2008	08-07-2008	53
17	ND 19 Bhikangoan	Kathora LIS	Construction of BT road along the rising main Jeckwell to DC -4 at Kathora LIS	M/s Radhakishn	05-06-2009	27-07-2009	52
18	ND 28 Punasa	ISP	Construction of sub minor offtake from RD m 3350 of Gudariya distributary	M/s Shephard Mathew	05-12-2011	25-01-2012	51
19	ND 28 Punasa	ISP	Construction of grouting stone pitching in ISP main canal RD km 10 to km 17 and ramp	M/s Manoj Enterprices	14-11-2011	03-01-2012	50
20	ND 16 Kukshi	Jobat Canal	Construction of lining of L-4 distributary of Jobat Project	M/s Advantage Equifund Pvt. Ltd	14-03-2011	26-04-2011	43
21	ND 16 Kukshi	Jobat Canal	Construction of lining of L-5 distributary of Jobat Project	M/s Advantage Equifund Pvt. Ltd	14-03-2011	26-04-2011	43
22	ND 16 Kukshi	Jobat Canal	Construction of lining of L-6 and 7 distributary of Jobat Project	M/s Advantage Equifund Pvt. Ltd	14-03-2011	26-04-2011	43
23	ND 28 Punasa	ISP	Construction of tar road RD km 0 to km 17 of ISP main canal	M/s Batwant singh Ataer	05-12-2011	16-01-2012	42
24	ND 16 Kukshi	Jobat Canal	Repair work of lining b/w RD km 0 to km 18 of Jobat main canal	M/s R R Agrawal	08-08-2008	19-09-2008	42
25	ND 16 Kukshi	Jobat Canal	Escape cum cross regulator at RD km 13.300 and km 25.600 of Jobat main canal	M/s R R Agrawal	08-08-2008	19-09-2008	42
26	ND 28 Punasa	ISP	Construction of cross regulator at RD m 2220 of ISP main canal excluding steel gate and hoisting.	M/s Shephard Mathew	28-07-2009	07-09-2009	41
27	ND 28 Punasa	ISP	Construction of WBM road in left bank of Bijapur distributary	M/s Shephard Mathew	01-08-2009	10-09-2009	40
28	ND 28 Punasa	ISP	Construction of grouting stone pitching in ISP main canal RD km 0 to km 4.36 and ramp	M/s Manoj Enterprices	24-11-2011	03-01-2012	40
29	ND 28 Punasa	ISP	Construction of grouting stone pitching in ISP main canal RD km 4.36 to km 10 and ramp	M/s Manoj Enterprices	24-11-2011	03-01-2012	40
30	ND 32 Barwaha	OSP	Construction of New RCC Bridge at RD m 8875 of CWC	M/s Batwant singh	11-04-	19-05-	38

Sl no	Name of division	Name of project	Name of work	Name of contractor	Date of acceptance of tender	Date of work order	Delay in days
			Canal (Bhogawan)	Ataer	2011	2011	
31	ND 16 Kukshi	Man	Construction of lining work in balance reach b/w RD km 0 to km 10.92 of LBC main canal	M/s Ravi Construction	29-06-2010	06-08-2010	38
32	ND 09 Bhikangoan	Upper Beda dam	Construction of rawown Masonary wall in Upper Weda Project	M/s Dharmnadar Sing tomar	18-01-2012	24-02-2012	37
33	ND 16 Kukshi	Jobat Canal	Construction of lining of balance reaches between RD m 380 to m 7730, m 8470 to m 12130 and m 15900 to m 29000 distributory of Jobat Project	M/s R R Agrawal	15-03-2011	21-04-2011	37
34	ND 16 Kukshi	Jobat Canal	Construction of up stream bridge at chotti Khaltali of Jobat Project	M/s Ravi Construction	03-04-2012	09-05-2012	36
35	ND 28 Punasa	ISP	Construction of head regulator at RD km 15.225 of ISP main canal and beripura Distributary	M/s Nagarjun Construction	03-10-2009	07-11-2009	35
36	ND 25 Narmada Nagar	ISP	Survey work, design and construction work of CWC of OSP main canal and irrigation connectivity DPR	M/s Tecon Infrastructure	16-05-2008	20-06-2008	35
37	ND 16 Kukshi	Jobat Canal	Construction of lining of L-8 distributory and minor M-2 of Jobat Project	M/s Mohanlal patidar	08-03-2011	11-04-2011	34
38	ND 16 Kukshi	Jobat Canal	Construction of lining of L-9 and 10 distributory of Jobat Project	M/s Mohanlal patidar	08-03-2011	11-04-2011	34
39	Canal Khargone	ISP	Construction of ISP main Canal RD 130.935 to 155 including distribution system	Gayatri-BC Biyani JV	23-02-2008	27-03-2008	33
40	ND 25 Narmada Nagar	MMR	Survey work of medium and minor from Omkareshwar Dam to Gujrat Border for 160000 ha irrigation	EGIS and RMSE JV	25-09-2009	28-10-2009	33
41	ND 25 Narmada Nagar	MMR	Survey work of medium and minor from Handia to Omkareshwar Dam for 130000 ha irrigation	M/s Secon pvt ltd	25-09-2009	28-10-2009	33
42	ND 16 Kukshi	Jobat Canal	Construction of PCC lining b/w RD m 5905 to m 12000 of Panwa distributory of Man RBC	M/s Mohanlal patidar	20-06-2008	22-07-2008	32
43	ND 28 Punasa	ISP	Construction of WBM road in left bank of Gudaniya distributary	M/s Thakur Govind Singh Tomar	22-07-2011	22-08-2011	31
44	ND 09 Bhikangoan	Upper Beda dam	Construction of sluice at RD m 895 of Upper Beda Project	M/s Tirathdas Shukatrai	13-01-2008	13-02-2008	31
45	ND 16 Kukshi	Man	Construction of canal lining along LM 1 of Tonkey	M/s Ravi	03-11-	04-12-	31

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Sl no	Name of division	Name of project	Name of work	Name of contractor	Date of acceptance of tender	Date of work order	Delay in days
			distributary of LBC of Man Project	Construction	2009	2009	
46	ND 16 Kukshi	Jobat Canal	Construction of lining work of M-1, 3,4,5,6 and 7 of L-8 distributary and minor of LBMC of Jobat Project	M/s Narayan Das phoolchand Mishra	23-04-2011	23-05-2011	30
47	ND 16 Kukshi	Jobat Canal	Construction of lining work of L-1,2, 3 distributary and minor of LBMC of Jobat Project	M/s Narayan Das phoolchand Mishra	23-04-2011	23-05-2011	30
48	ND 20 Mandleshwar	OSP	Consultancy for construction of LIS phase IV and RBL from RD 0 to 51.281 of OSP.	M/s Secon pvt ltd	17-10-2011	16-11-2011	30
49	ND 20 Mandleshwar	OSP	Consultancy for construction of LIS phase IV and RBL from RD 51.281 to 125 of OSP.	M/s Secon pvt ltd	17-10-2011	16-11-2011	30
50	ND 32 Barwaha Canal	OSP	Construction of LBC Main canal Distributary RD km 9.75 to km 68.92 and distributary system.	M/s Som Datta and K.D.S JV	27-02-2008	27-03-2008	29
51	Khargone	ISP	Consultancy for construction of ISP main canal from RD km 130.935 to RD km 155	M/s Sungrace	19-02-2008	17-03-2008	27
52	ND 16 Kukshi	Man	Construction of lining work in balance reach of LBC main canal of Man Project	M/s Ravi Construction	18-11-2010	15-12-2010	27
53	ND 20 Mandleshwar	OSP	Work survey planning design and perpartion of esimate of distribution network between RD 9.775 to 146 of OSP	M/s NK Buildcon	12-12-2008	07-01-2009	26
54	ND 16 Kukshi	Man	Construction of canal lining along LM 5 Minar of Panwa distributray	M/s Bundela construction	22-06-2009	17-07-2009	25
55	ND 09 Bhikangoan	Upper Beda dam	Construction of Submersible box culvert bridge at down stream of Upper Beda Project	M/s Rakesh Kumar Sawla	26-12-2008	19-01-2009	24
56	ND 16 Kukshi	Jobat Canal	Repair work of V R B at RD 12130,12370,18258,21600,22815 M & 14 Nos Structure B/w RD 18 to 27 repair of steel aqueduct etc construction of inlet structure	M/s Giriraj Earth Movers	20-06-2008	14-07-2008	24
57	ND 16 Kukshi	Jobat Canal	Constuction of inlet outlet head regulator, V R B CD repair of structure and fixing gate of Jobat main canal	M/s Giriraj Earth Movers	20-06-2008	14-07-2008	24
58	ND 21 Sanawad	ISP	Balance work of earth work and WBM road of ISP main Canal RD km 64.50 to RD km 67.04	BC Biyani	27-01-2009	19-02-2009	23
59	ND 28 Punasa	ISP	Construction of escape at RD km 15.720	M/s Shephard Mathew	16-07-2009	04-08-2009	19

Sl no	Name of division	Name of project	Name of work	Name of contractor	Date of acceptance of tender	Date of work order	Delay in days
60	ND 25 Narmada Nagar	ISP	Construction of Mahseer hatchery and fishfarm at Chandel village	M/s Jitendra singh	20-04-2011	09-05-2011	19
61	ND 19 Bhikangoan	Upper Beda Canal	Consultancy work for Upper Beda Project	M/s Zeo Informatic	26-06-2009	14-07-2009	18
62	ND 25 Narmada Nagar	ISP	Construction of hatchery and fishfarm at Chandel village	M/s Piush Sharma	29-09-2011	17-10-2011	18
63	ND 21 Sanawad	ISP	Balance work of ISP Canal main Canal RD 42.05 to 51.506 and WBM road	M/s Raian Associates Pune	06-05-2009	23-05-2009	17
64	ND 12 Rajpur	Lower Goi	On turnkey basis construction of Dam, Canal and distribution system of Shaid Bhm Naik Project Sagar	M/s IVRCL and MBL Join venture	21-01-2009	07-02-2009	17
65	ND 16 Kukshi	Jobat Canal	Construction of Deck slab, right side abutment of down stream bridge of Jobat Project	M/s R R Agrawal	18-11-2010	03-12-2010	15
66	ND 24 Khargoan	ISP	Construction of 8 head regulator in ISP main canal RD km 89.710 to km 125 and distribution system between RD km 80 to km 125	M/s Goodwill Adv. Const.	28-08-2008	08-09-2008	11
67	ND 18 Khargoan	ISP	Construction of Khargone LIS	MIL-KBL JV	17-03-2011	28-03-2011	11

Appendix 3.6
(Reference paragraph 3.7.7(i) and (ii) Page 95)
Statement showing details of delays in construction of dams and canals

Sl no	Name of Project	Amount of AA in crore ₹	Revised cost of project in crore ₹	Cost overrun in crore ₹	Projected use of water in MCM	Year of start of dam	Year of completion of dam	Year of start of canal	Year of completion of canal	Years taken for dam	Years taken for canal	Reasons for delay
1	Tawa	Projects were completed by the WRD			2386.72	1956	1978	1956	1998	22	42	Projects were completed by the WRD
2	Barna				559.82	1968	1975	1968	1997	07	29	
3	Kolar				435.9	1983	1988	1984	1990	05	06	
4	Sukta				170.57	1973	1985	1973	1985	12	12	
5	Matiyari				88.38	1978	1986	1973	1985	13	12	
6	RABLS	566.34	2260.40	1693.06	1681	1971 ²	1988	1992	ongoing	17	ongoing	Micro distribution network was in progress (Jan. 2013) Leaving of incomplete works by contractors and slow progress Engaging of contractors having poor bid capacity rendering incomplete works in initial reaches Engaging of contractors having poor bid capacity rendering incomplete works in initial reaches since completed since completed Micro distribution network is still in progress Slow progress by the contractor
7	BDP	1101.23	5127.22	4025.99	2510.6	Not Applicable	Not Applicable	1990	ongoing	-	ongoing	
8	ISP	2166.67	3182.77	1016.01	1625.26	1984 ³	2006	1992	ongoing	22	ongoing	
9	Omkareshwar	788.08	2504.80	1716.72	1300	2003	2007	2006	ongoing	04	ongoing	
10	Man Project	35.94	246.03	210.09	140.1	1983	2006	1983	2006	23	22	
11	Jobat Project	26.91	230.61	203.07	112.145	1987	2007	1987	2007	20	20	
12	Upper beda	87.86	224.41	136.55	101.09	2003	2010	2008	ongoing	07	ongoing	
13	Punasa LIS	185.04	488.06	303.02	130.2	Not Applicable	Lift from canal	2008	ongoing 09/2012	-	ongoing	
14	Lower Goi	137.44 (Estimated cost)	360.37	222.93	136.65	2009	ongoing	2009	ongoing	ongoing	ongoing	
	Total	5095.51	14624.67	9527.44	11378.435							

² RABLS Transferred from WRD in June 1992.

³ DAM Work transferred to NHDC in 2000

Appendix 3.7
(Reference paragraph 3.7.7 (iii) Page 98)
Project wise details of turnkey contracts in NVDA

Project Name	Construction		Consultancy		Survey		Total	
	No. of works	PAC in lakh	No. of works	PAC in lakh	No. of works	PAC in lakh	No. of works	PAC in lakh
Ataria		0.00			1	3.40	1	3.40
BDP	7	1647.12	4	17.56		0.00	11	1664.68
ISP	5	1518.27	3	14.82	1	8.56	9	1541.64
Lower Goi	1	332.55	1	3.70		0.00	2	336.25
MMR		0.00		0.00	2	72.72	2	72.72
OSP	4	1372.43	3	9.10		0.00	7	1381.53
Punasa LIS	1	418.50		0.00		0.00	1	418.50
SMS		0.00		0.00	1	5.96	1	5.96
Upper Beda (Canal)	1	45.46	1	0.50		0.00	2	45.96
Upper Burner		0.00		0.00	1	2.20	1	2.20
Total	19	5334.32	12	45.67	6	92.84	37	5472.84

Appendix 3.8
(Reference paragraph 3.7.7 (iii) Page 98)
Statement showing details of delay in ongoing turnkey contracts

Sl No	Name of division	Project	Description of work	Name of firm	Agreement No	Date of start of work	Due date of completion	Probable Amount of Contract in lakh	Total Payment	Time period in months	Time taken in months	Reasons	Year of start	Delay in months
1	RBC1 Katni	BDP	Construction of RBC canal RD 129 to 154 km including tunnel and lining	M/s JTEGC APRCL joint venture	02/2007-08	31-03-2008	31-12-2012	13876	9080	30	50		2007-2008	20
2	ND 19 Bhikangoan	Upper Beda Canal	Construction of main canal and distributary of upper Beda RD km 0.00 to km 30.427	M/s Biyani pvt Ltd	01/2008-09	29-02-2008	28-08-2010	4545.54	3559.41	30	50	Slow progress by the contractor	2007-2008	20
3	ND 32 Barwaha	OSP	Construction of LBC Main canal Distributary RD km 9.75 to km 68.92 and distributary system.	M/s Som Datta and K.D.S JV	16/2007-08	27-03-2008	26.02.2010	19300	9830.32	30	49	Insufficient resources deployed by the contractor	2007-2008	19
4	RBC1 Katni	BDP	Consultancy work of RBC Sleemabad carrier canal RD km 129 to km 154 including tunnel cut and cover	M/s Gherji Eastern	01/2008-09	09-09-2008	31-03-2011	243	157	30	45		2008-2009	15
5	ND 25 Narmada Nagar	MMR	Survey work of medium and minor from Omkareshwar Dam to Gujarat Border for 160000 ha irrigation	EGIS and RMSE JV	05/2009-10	28-10-2009	27.04.2011	4060.8	2236	18	32	Short allotment, delay in payment for satellite image.	2009-2010	14
6	ND 30 Manawar	OSP	Construction of RBC Main canal Distributary RD 68.92 to 162.95 and distributary system of OSP.	M/s Sudbhav Engineering	14/2007-08	28-02-2008	27.02.2011	31020	19970.7	36	50	Stay from H'Court	2007-2008	14
7	Canal Khargone	ISP	Construction of ISP main Canal RD 130.935 to 155 including distribution system	Gayatri-BC Biyani JV	07/2007-08	27-03-2008	26-03-2011	24255	17727.96	36	49	Slow progress by the Contractor	2007-2008	13
8	ND 25 Narmada Nagar	MMR	Survey work of medium and minor from Handia to Omkareshwar Dam for 130000 ha irrigation	M/s Secun pvt Ltd	04/2009-10	28-10-2009	27.04.2011	3211.25	2411	18	30	Short allotment, delay in payment for satellite image.	2009-2010	12

Appendix 3.9
(Reference paragraph 3.8 Page 99)
Details of medium and minor irrigation project of Water Resources Department

(a) Medium Projects

Sl no	Name of project	Name of river or tributary	Reporting officer	Live Storage Capacity in MCM
1.	Jalgaon tank	Banjar	EE Banjar River Dn Baihar	2.17
2.	Banjar Project (Bahera tank)	Banjar	EE WRD Kawardha	13.71
3.	Bichhiya tank	Kolarnalla and Banjar	EE WRD Mandla	7.23
4.	Dhundhar tank	Dhuadhar	EE WRD Mandla	5.11
5.	Mehgaon tola	Bidrinalla/ Gaur	EE WRD Hiran Jabalpur	10.51
6.	Barnoo tank	Barnoo nalla	EE WRD Hiran Jabalpur	8.96
7.	Madai tank	Madainalla	EE WRD Hiran Jabalpur	8.39
8.	Bahoriband tank	Bhutanalla/ Hiran	EE WRD Katni	34.47
9.	Pariyat tank	Pariyatnalla	Manicipal corporation	18.47
10.	Dukrikheda Project	Ghogranalla/ Sukri	EE WR Hoshangabad	11.5
11.	Sampna tank	Sampna river	EE WR Betul	14.32
12.	Chandrashekhhar tank		EE WR Dn Dewas	30.06
13.	Paras Tank	Paras river	EE WR Dn Dewas	6.1
14.	Choral Nakheri	Choral	EE WR Dn Indore	21.46
15.	Dejla Dewda Tank	Kunta	EE WR Dn Khargone	50.29
16.	Kunda tank	Butti Nalla	EE WR Dn l Dhar	8.1
17.	Satak tank	Satak	EE WR Dn Mandleshwar	18.37
18.	Segwal tank	Sozar Nalla	EE WR Dn Barwani	8.62
19.	Sakalda tank	Chiri/Khuh Nalla	EE WR Dn l Manawar	12.69
Total	19 Projects			22078.34

(b) Minor project

Sl No	Cardinal site	Name of divisions	No. of schemes	CCA in ha
1	Bargi	WR Dn Chhukhadan	4	768
2	Bargi	WR Dn Kawardha	15	1618
3	Bargi	WR Dn Anuppur	5	1598
4	Bargi	WR Banjar river project dn Baihar	39	15202
5	Bargi	WR Dn 1 Seoni	18	4219
6	Bargi	WR Dn Dindori	56	10233
7	Bargi	WR Dn Niwas	34	6813
8	Bargi	WR Dn Mandla	22	5110
9	Burmanghat	WR Dn Hiran Jabalpur	37	9394
10	Burmanghat	WR Dn Katni	29	8445
11	Burmanghat	WR Dn Narsinghpur	17	4832
12	Hoshangabad	WR Dn Damoh	3	2359
13	Hoshangabad	WR Dn Chhindwara	11	6189
14	Hoshangabad	WR Dn Hoshangabad	15	2689
15	Hoshangabad	WR Dn Raisen	5	4670
16	Hoshangabad	WR Dn Betul	41	15945
17	Indra Sagar Project	WR Dn Sehore	16	4119
18	Mandleshwar	WR Dn Indore	14	3098
19	Mandleshwar	WR Dn Dewas	12	3029
20	Mandleshwar	WR Dn Khandwa	44	5863
21	Mandleshwar	WR Dn Mandleshwar	0	0
22	Mandleshwar	WR Dn Khargone	107	31052
23	Sardar Sarovar	WR Dn Mandleshwar (Part)	0	2457

Sl No	Cardinal site	Name of divisions	No. of schemes	CCA in ha
24	Sardar Sarovar	W/R Dn Khargone (part)	51	9516
25	Sardar Sarovar	W/R Dn Barwani	82	11922
26	Sardar Sarovar	W/R Dn Dhar	65	6675
27	Sardar Sarovar	W/R Dn Manawar	135	15673
28	Sardar Sarovar	W/R Dn Alirajpur	99	9364
	Total		976	

Appendix 3.10
(Reference paragraph 3.9.2 Page 102)
Details of the re-appropriation of water

Sl no	Name of Project	Live storage capacity of Dam	Area in lakh ha	Projected use of water in MCM	Water use in MCM as per NWDT award	Increase in utilisation of water in MCM	Decrease in utilisation of water in MCM	Maximum water use in MCM/ year
1	Tawa	2050	2.469	2386.72	2219.98	166.74	0	1753/2007-08
2	Barna	455.82	0.548	559.82	596.36	0	-36.54	412.81/2010-11
3	Kolar	265	0.451	435.9	295.09	140.81	0	279.74/2006-07
4	Sukta	78	0.166	170.57	123.47	47.1	0	70.38/2009-10
5	Matiyari	51.12	0.101	88.38	80.26	8.12	0	76.3/ 2008-09
6	RABLS	3180	1.57	1681	2142.19	0	-461.19	528.97/2007-08
7	BDP		2.45	2510.6	2016.26	494.34	0	
8	ISP	9750	1.23	1625.26	1685.36	0	-60.1	207.79/2010-11
9	Omkareshwar		1.47	1300	1450.77	0	-150.77	
10	Man Project	127.87	0.15	140.1	148.16	0	-8.06	142.23/2007-08
11	Jobat Project	70.04	0.098	112.145	125.94	0	-13.795	64.52/2010-11
12	Upper beda		0.099	101.09	127.17	0	-26.08	
13	Punasa LIS		0.35	130.2	0	130.2	0	
14	Lower Goi		0.137	136.65	160.51	0	-23.86	
15	Upper Narmda		0.185	178.93	143.22	35.71	0	
16	Halon		0.130	134.000	87.66	46.34	0	
17	Ataria		0.020	20.83	112.360	0	-91.53	
	Total			11712.195	11514.76	1069.36	-871.925	
	Total in MAF			9.495	9.335	0.867	- 0.707	

Appendix 3.11
(Reference paragraph 3.10 Page 104)
Statement showing details of requirement of funds up to year 2020-21

Name of scheme	Approximate cost including	Expenditure up to March-12	Balance cost as on 1-4-12	Amount of escalation	Total amount required	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
ISP Canals	3182.77	2092.84	1090	109.00	1199	255.00	350.00	350.00	244.00	0.00	0.00	0.00	0.00	0.00
ISP Dam and Power house	4356.00	4356.00	0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OSP Canals	2504.80	1381.57	1123	112.00	1235	224.00	350.00	350.00	312.00	0.00	0.00	0.00	0.00	0.00
OSP Dam	2224.73	2224.73	0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Punasa LIS	488.06	436.70	51	5.00	56	20.00	36.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Beda	224.41	214.97	9	1.00	10	14.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Man	246.03	217.08	29	0.00	29	6.73	22.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jobat	230.61	215.88	15	0.00	15	12.18	2.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lower Goi	360.37	223.10	137	14.00	151	56.74	58.00	36.26	0.00	0.00	0.00	0.00	0.00	0.00
Bargi LBC	2260.40	1566.50	694	0.00	694	77.30	300.00	200.00	117.00	0.00	0.00	0.00	0.00	0.00
BDP	5127.22	1572.58	3555	355.00	3910	196.00	720.00	1100.00	1025.00	869.00	0.00	0.00	0.00	0.00
Upper Narmada	683.93	40.17	644	64.00	708	100.00	225.00	200.00	183.00	0.00	0.00	0.00	0.00	0.00
Halon	414.21	50.09	364	36.00	400	50.00	150.00	125.00	75.00	0.00	0.00	0.00	0.00	0.00
Raghopur	440.00	0.53	439	154.00	593	0.10	1.00	100.00	150.00	150.00	125.00	67.00	0.00	0.00
Rosra	716.00	0.59	715	250.00	965	0.10	1.00	200.00	225.00	200.00	190.00	150.00	0.00	0.00
Basania	463.00	0.58	462	162.00	624	0.10	1.00	100.00	150.00	150.00	125.00	98.00	0.00	0.00
Upper Burner	549.00	1.59	547	219.00	766	0.10	1.00	150.00	180.00	150.00	150.00	135.00	0.00	0.00
Chinki	1415.00	1.76	1413	565.00	1978	1.00	1.00	300.00	500.00	500.00	300.00	250.00	100.00	27.00
Morand Gunjal	1434.00	5.22	1429	572.00	2001	0.50	20.00	300.00	450.00	450.00	350.00	250.00	170.00	10.00

Name of scheme	Approximate cost including	Expenditure up to March-12	Balance cost as on 1-4-12	Amount of escalation	Total amount required	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Sher, Sakkar, Machrewa	1685.00	4.59	1680	672.00	2352	5.00	59.00	350.00	450.00	450.00	400.00	250.00	320.00	91.00
Dudhi	506.00	1.00	505	202.00	707	1.00	1.00	100.00	150.00	200.00	150.00	60.00	40.00	5.00
Ataria	209.00	2.64	206	83.00	289	1.00	1.00	1.00	50.00	70.00	70.00	59.00	30.00	7.00
Total	29720.54	14610.71	15110	3575	18685	1021	2300	3962	4261	3189	1860	1319	660	140
Medium and Minor	10500.00	0.00	10500	1575	12075	10.00	410.00	1500	2000	1700	1700	1700	1700	1355
Grand Total	40220.54	14610.71	25610	5150	30760	1031	2710	5462	6261	4889	3560	3019	2360	1495

Details of escalation included projected funds requirement

Name of Projects	Time projected for completion	Escalation ⁴ percentage taken in account
Punasa, Upperbeda,	2013-14	10
Lower Goi	2014-15	10
ISP Canal, OSP, Upper Narmada, Halon	2015-16	10
BDP	2016-17	10
Raghopur, Rostra Basania,	2018-19	35
Upper Burner	2018-19	40
Chinki, Morand Gunjal, SMS, Dudhi and Ataria	2020-21	40

⁴ Escalation was not included in Man, Jobat and RABLS projects

Appendix 3.12
(Reference paragraph 3.10 Page 105)
Details of budget provisions and expenditure of NVDA

(₹ in crore)

Year	Budget provision	Actual expenditure	Savings	Percentage of savings
Upto 1989-90		659.28		
1990-91	181.20	76.03	105.17	58.04%
1991-92	354.64	172.56	182.08	51.34%
1992-93				
1993-94	438.16	243.22	194.94	44.49%
1994-95	404.86	286.72	118.14	29.18%
1995-96	331.14	247.63	83.51	25.22%
1996-97	314.35	249.20	65.15	20.73%
1997-98	410.47	278.31	132.16	32.20%
1998-99	426.74	303.50	123.24	28.88%
99-2000	427.81	321.02	106.79	24.96%
2000-01	554.50	394.14	160.36	28.92%
2001-02	578.50	397.19	181.31	31.34%
2002-03	1032.16	853.82	178.34	17.28%
2003-04	1087.64	803.08	284.56	26.16%
2004-05	3247.72	2927.79	319.93	9.85%
2005-06	1723.48	1204.33	519.15	30.12%
2006-07	1778.89	728.33	1050.56	59.06%
2007-08	965.43	835.44	129.99	13.46%
2008-09	981.34	946.46	34.88	3.55%
2009-10	1427.79	1003.35	424.44	29.73%
2010-11	1526.83	1384.57	142.26	9.32%
2011-12	1413.49	1302.58	110.91	7.85%

Appendix 4.1

(Reference paragraph 4.1.1 Page 114)

Statement showing loss of interest due to delay in realisation of Cess

Due Year	Amount deposited vide		Cess deposited Rs.	Delay period	Annual Rate of interest (SBI)	Loss of interest ₹.
	Cheque No.	Challan No.				
2007-08	<u>817495</u> 11.03.11	<u>J14394739</u> 12.03.11	9,41,91,284	35 months	9.5%	2,60,98,835
2008-09	<u>14394739</u> 12.03.11	<u>J14394739</u> 12.03.11	7,35,42,580	23 months	8.10%	1,14,17,486
2009-10	<u>897270</u> 22.03.11	<u>J-1678288</u> 26.03.11	7,00,00,000	11 months	5.25%	33,68,750
	<u>21136</u> 20.3.12	<u>J-021779858</u> 22.03.12	68,62,171	23 months	8.25%	10,85,081
2010-11	<u>220526</u> 26.3.12	<u>J-3323091</u> 3.04.12	10,51,51,999	11 months	7.75%	74,70,173
Total			34,97,48,034			4,94,40,325

Appendix 4.2

(Reference paragraph 4.1.2 Page 114)

Loss of revenue due to sale below upset price

(Amount in ₹)					
No. of Lots	Quantity in No.	Upset Price	Sale Price	Loss	Percentage of sale below upset price
33	11336	2517503	1135400	13,82,103	55 (35 to 78 for various lots)

Appendix 4.3

(Reference paragraph 4.1.3 Page 115)

Statement showing construction in forest area for eco-tourism development

Sl. No	Scheme	Place	Particulars	Amount (₹ in lakh)
1	Orchha ecotourism spot development Orchha, Tikamgarh Orchha		Cafeteria in Toungaranya- ₹ 1.50 Lakh Tourist cycling ₹ 1 lakh Trekking- ₹ 2 lakh Information Materials ₹ 1 lakh Camping site and other expenditure ₹ 2.40 lakh	7.90
			Construction of Land Scaping, sprinkler and platform for camping	3.00
2	Ralamondol ecotourism development	Ralamondol Indore	Survey and construction of ropeways between Ralamondol and Deoguradiya- 1 lakh Maintenance of shikargah road- 5 lakh Platform and toilet for camp- ₹ 2.50 lakh Water supply- 2 lakh	10.50
3	Cycling activity in Ralamondol	Ralamondol, Indore	To start cycling activity in Ralamondal forest	1.00
4	Construction of Prakriti Vyakhya Kendra in Rala mondol	Ralamondol, Indore	For Construction of Prakriti Vyakhya Kendra in Rala mondol -	20.00
5	Upgradation of Delawadi approach road	Delawadi, Obeidullahganj	Construction of tea Huts- 0.20 lakh Construction of Pagoda Set house-0.40 lakh	0.60
6	Construction of Poll and Railing in Delawad approach road	Delawadi Obedullahganj	Construction Of Delawadi sunset point poll and railing -0.81 lakh Construction Of Poll and railing in Ghoda chock view point -0.34 lakh	1.15
7	Eco-turism development in Tinha fall	Tinha fall Indore	Construction Of pagoda railing WBM road	17.93
8	Eco tourism Development in Aavilia Khandwa	Aavalia Khandwa	Construction of platform for camp in Aavilia village	1.50
9	Repairing and nature trail at Gangulpura		Road construction For nature walk in Gangulpura	1.25
10	Rest house at Kiti Forest rest house	Kiti Dewas	Construction At kiti Dewas	20.00
11.	Purchase of cycle Telesxcope etc.	Delawadi Obedullahganj	Forest view point sainage 1.00 Forest Activity package in Delawadi 1.00	2.00
			Cycling activity in chidikhow 0.35 Prakrati Vyakhyan khow 16.17	16.52
12.	Tree hut in horticulture centre	Gopikrishna Sagar Guna	Horticulture Development	2.00
			Tree hut at Gopi Krishna Sagar	5.00
13.	Devp of Approach road at Rukhad Eco	South Seoni, Rukhad	Construction of Tree hut Furnishing of tree hut, purchase of	5.00

Sl. No	Scheme	Place	Particulars	Amount (₹ in lakh)
	tourism		Kitchen material etc	4.00
			Supply of pedal boat for boating at rukhad	0.88
14	Construction of tree hut at Banjari	Banjari North Seoni	Construction of tree hut	5.00
15.	Bherughat Indore	Bherughat Indore	Construction of tree hut	5.00
16.	Devp. Of approach road at Jhangar eco tourism	Nepa Nagar, Burhanpur	Construction of Tree hut at Jhangar	5.00
			Purchase of Cutlary, crockarym for tree hut jhangar	0.50
			Nokayan Facility	4.20
			Construction of Platform for Tent	1.50
17.	Devp of Eco tourism Mada Singroli	Singroli	For Nature trail and Sit out	5.00
18	Devp of Approach road at Samdha tourism	Samardha Bhopal	Café, tree house,sit out,nature trail,pathway,etc.	26.76
			Costruction of stop dam at Samardha Jhaman	10.00
			Costuction of water management structure	0.86
			Tree fabricated structure	1.58
19.	Construction of ghat and stop dam at tilak sindur	Hoshangabad	Construction at stop dam tilak sindur	16.13
			Construction of Stop dam at tilak sindur (Constt. Of Ghat)	4.80
20.	Builder nes café	North Seoni	Construction of two room at paili Forest Rest house	5.00
21.	Devp of approach road Eco tourism Wainganga	Wainganga Balaghat	Repairing work of Café terria, Tree house Nature trail, Herbal garden	5.00
				216.56

Appendix 4.4

(Reference paragraph 4.1.6 Page 119)

Statement showing reduction of Value of Turn Key contract on substitution of the deleted work of open trough

Item	Total Value (In ₹)	Length (in meter)	Unit rate (₹ per meter)
Main Canal	100,73,10,150	22115	45,549
Satak aqueduct	62,86,89,600	960	6,54,885
Open trough	48,31,59,600	990	488,040

Value of Open trough (A) ₹ 4, 88, 040 x 990 meter = ₹ 48, 31,59,600

Increased cost of main canal (B) ₹ 45,549 x 717 meter = ₹ 3,26,58,633

Increased cost of Satak aqueduct (C) ₹ 6, 54, 885 x 273 meter = ₹ 17, 87, 83, 605

Net reduction = A (B+C)

= ₹ 48,31,59,600 - (₹ 3, 26, 58, 633 + ₹ 17, 87, 83, 605)

= ₹ 27, 17, 17, 362

Appendix 4.5
(Reference paragraph 4.1.7 Page 120)
Statement showing non-accountal & short recovery of hard rock.

SL No	Name of Unit	Name of work	Name of contractor	Excavated qty. of hard rock	Qty. of rock to be recorded (Excavated quantity x 1.3)	Quantity utilised by contractor (in cu m)	Amount recovered (Quantity utilised X Rate)	Actually recovered	Short recovery of hard rock
1	EE ND-24, Khargone	Construction of 9 nos. Head Regulator	M/s Goodwill Advance constt.	342504.06 cu m	445255.28 cu m	191777.17	78,62,863 (191777.17 * 41)	0	78,62,863
2	EE ND 21 Sanawad	Construction of balance work of lining dowels RD 41.250 to 51.508	M/s Ratan Civil Associates	3738.35 cu m	4859.86 cu m	1575	42540(1575 * 27)	0	42,540
3	EE ND 21 Sanawad	Excavation/earth work, CC lining of Jhirbar distributory	M/s Karan developers	47498.10 cu m	61747.4 cu m	61747.4	18,64,771 (61747.4 * 30.20)	4,36,929	14,27,842
4	EE ND 21 Sanawad	Excavation & Earth work of main canal of ISP RD 41.25 to km 58.865	Sh B.C. Biyani	119664.59 cu m	155564 cu m	43818.81	1183108 (43818.81 * 27)	0	11,83,108
		Total		513405 cu m	667427 cu m	298918.38	10953282	4,36,929	1,05,16,353

Appendix 4.6
(Reference paragraph 4.2.1 Page 122)
Statement showing skewed progress of work

Agreement No:- 07/2008-09, PLIS

Work :- Execution of Punassa Lift Irrigation Scheme

Contractor :- IVRCL Hyderabad

RA Bill No. & Voucher No./Date	Particular of works executed		Remark MB No./Page No.
	Procurement (in ₹)	Construction work (in ₹)	
First Six monthly period (September 2008 to February 2009)			
RA Bill 3/V.R.52/28.2.09	16,25,17,036	0	1387/P-3
Sub total	₹ 16,25,17,036=00	0	
Second Six monthly period (March 2009 to August 2009)			
RA Bill No4/V.R.22 dt. 22.3.09	250030351	0	1387/P 6-8
RA Bill No.6/V.R.38/ 6.3.09	172001556	0	1387/P-14-16
RA Bill 7/V.R.40/31.3.09	390934949	0	1387/P-18-20
RA Bill 10./V.R 34/23.05.09	105378687	0	1387/P-26-28
RA Bill 11./ V.R.3/6.7.09	94269279	0	1387/P-30-32
RA Bill 12./ V.R 05/1.8.09	90108900	0	1387/P-34-36
RA Bill 13./ V.R 16/21.8.09	30060478	0	1387/P-38-41
Sub total	₹ 1,132,78,42,00 =00	0	
Third Six monthly period (September 2009 to February 2010)			
RA Bill 14/29/20.10.09.	8735832	0	1387/P-42-44
RA Bill 15. 30/20.10.09	146651612	0	1387/P-46-48
RA Bill 1634/31.12.09.	124106921	0	1387/P-50-52
RA Bill 17/35/31.12.09.	115499274	0	1387/P-54-56
RA Bill 18./50/23.02.10	107823344	147739257	1388/3 to 13
RA Bill 19./51/23.02.10	186379463	35303881	1388/13 to 21
RA Bill 20./61/26.02.10	152964336	28678625	1388/21 to 29
Sub total	₹ 84,21,60,782=00	₹ 211721763=00	
Grant Total (September 2008 to February 2010)	₹ 213,74,62,018=00	₹ 211721763=00	

Appendix 4.7
(Reference paragraph 4.3.1 Page 126)
Statement showing short/ non-deduction of Additional Security Deposit (ASD)

(₹ Amount in)										
Sl. No	Division Name	Name of contract ors and tender per cent	Particular of item	Estimated Rate (per cu m)	Rate Payable (per cu m) Estimated + tender percentage	Rate paid (Per cu m)	Executed quantity	Amount of ASD	Deducted	Short deduction of ASD
1	2	3	6	7	8	9	10	11= 10*(9-8)	12	13
1	EE ND. 24 Khargone	M/s Goodwill construction 41.01 above	Excavation for all types of soil	28.62	40.35	45	517712	24,07,360.8		
			Excavation for the canals all type of DR	173	243.94	297	342504.06	1,81,73,265.42		
			Providing and placing in position M10 CC concrete	1849.67	2608.21	2800	3188.75	6,11,570.36		
			Supply and fixing steel reinforcement bars	37455.85	52816.49	65000	169.23	20,61,815.39		
			Providing & placing in position CNS material	87.83	123.85	140	8396.5	1,35,603.475		
								2,33,89,615.46	1,85,47,223.00	(A)48,42,392.00
2.	EE ND. 19 Bhikangaon	Shri B.C Biyani constt. company. 1.61 above	Dry and wet excavation	26.97	27.2397	45	728491.48	1,29,38,227.23		
			Earth work	46.02	46.4802	60	826508.45	1,11,74,228.94		
			Providing and placing PCC 1:3:6	1839.7	1858.097	2200	4828.76	16,50,967.53		
			Providing and placing CC 1:2:4	2281.01	2303.8201	2700	20644.5	81,78,935.946		
			Providing and casting in CC M-10	1884.13	1902.9713	2200	2096.83	622818.689		
								34565178.00	3841552.00	(B)3,07,23,626
								G. Total	(A+B)	3,55,66,018.00

Appendix 4.8

(Reference paragraph 4.4.1 Page 129)

Statement showing undue financial aid to contractor

(₹ in lakh)

Sl. No.	Name of division	Agreement No.	Recoverable amount	Recovered amount	Short/ non-recovery of Additional SD	Remark
1	Ganjbasoda	11/2008-09 12/2009-10 21/2008-09 25/2006-07	34.64 665.40 29.07 67.07	----- 1.80 1.10 18.61	34.64 663.60 27.97 48.46	Work rescinded
1	Narsinghgarh	1/10-11 1/2007-08	121.06 9.26	31.22 -----	89.84 09.26	Work rescinded
2	Raisen	329/2009-10	31.50	12.97	18.53	
Total		7	958.00	65.70	892.30	

Appendix 4.9

(Reference paragraph 4.4.2 Page 129)

Statement showing Non/short recovery of liquidated damages

(₹ in lakh)

¹ Name of Division	Agreement No.	Recoverable LD	Recovered LD	Short recovery of LD
Sehore	91/2009-10	4.13	-----	4.13
Rajgarh	58/10-11	10.39	-----	10.39
Narsinghgarh	6/2010-11	11.06	8.30	2.76
Raisen	222,223,226,230/2009-10	220.42	69.50	150.92
Total		246.00	77.80	168.20

Appendix 4.10

(Reference paragraph 4.4.3 Page 130)

Statement showing excess Payment of price adjustment

Excess payment on account of price adjustment on erection and commissioning part of the work

(Amount in ₹)						
Name of item	Quantity (in nos)	Full Rate	Reduce Rate (85%)	Amount on which escalation Paid		Amount on which price adjustment is payable
Hydraulic cylinder	14	27,10,000.00	23,03,500.00	3,79,40,000.00		3,22,49,000.00
Power Pack Assembly	7	17,10,000.00	14,53,500.00	1,19,70,000.00		1,01,74,500.00
Amount on which price adjustment Paid	Multiplying factor	Escalation Paid	Amount on which escalation Payable	Multiplying factor	Escalation Payable	Excess
4,99,10,000.00	0.8898 ¹	4,44,09,918.00	4,24,23,500.00	0.8898	37748430.00	66,61,487.00 (A)

(Amount in ₹)							
R-bill	Month	Quantity	Paid Rate	Payable Rate	Paid Amount	Payable Amount	Excess
4 th	3/07	49562.80 kg	30.10 (47.20 - 17.10)	14.40 (31.5 - 17.10)	15,54,974.00	7,13,693.00	8,41,282.00
5 th	3/08	37688.13 kg	34.40 (52.20 - 17.10)	17.40 (34.50-17.40)	13,24,250.00	6,65,774.00	6,68,476.00
(B)							15,09,758.00

Grand total (A+B) = ₹ 81.71 lakh

¹ Formula for multiplying factor = I_p / I_o Where I_p is Whole Sale Price Index on supply date (339.80) and I_o is Whole Sale Price Index on date of inviting of tender by MPLUN (179.80).

Appendix 4.11

(Reference paragraph 4.4.6 Page 132)

Statement showing extra cost due to inadequate survey

Name of contractor	Name of Division/Ag.No	Item	Estimated quantity (Cu m)	Executed quantity (Cu m)	Excess quantity (Cu m)	Percentage increase
M/s Durga Associates	Rajgarh Ag No. 52-2009-10	Excavation of all type of soil	39010.78	42892.45	3881.67	9.95
		All type of rock other than hard rock	67926.13	74714.30	6788.17	9.99
		Excavation in hard rock				
		Blasting prohibited	308.62	-	-	-
		Blasting permitted	3338.40	3553.05 ² plus 31000.00 ³	31214.65	935.01
Total			110583.93	152159.80	41884.49	37.88
M/s SK Jain	Sehore Ag No 172/2007-08	Excavation of all type of soil	34269.81	37672.24	3402.43	9.92
		All type of rock other than hard rock	38581.10	42410.83	3829.73	9.92
		Excavation in hard rock	1804.68	2185.21 ⁴ 10608.00 ⁵	10988.53	608.89
Total			74655.59	92876.28	18220.69	24.41

- ² Quantity executed through the contractor
³ Quantity executed by HEM Division, Bhopal
⁴ Quantity executed by the original contractor
⁵ By M/s CBS construction Co.(Ag No. 103/2009-10)

Glossary of terms

Sl. NO.	Terms	Definition
1.	Anicut	An obstruction or bund constructed across the stream for rising and diverting water is called anicut.
2.	Branch Canal	A channel receiving its supply from the main canal and acting as feeder for the distributaries.
3.	Cast in situ lining	Lining of canals by preparing concrete mix at site
4.	CNS	They are soils possessing the property of cohesion of varying degree and having non-expanding type clay minerals such as illite and kaolinite and their combination with low plasticity with liquid limit not exceeding 50.
5.	Command area	Total area to irrigated by an irrigation scheme
6.	Compressible foundations	Foundations in soil
7.	Cross drainage	The alignment of the canals crosses the natural drainage valleys and provision has to be made to take the drains safely across the canal without damaging it.
8.	Cultivable Command Area	The area which can be irrigated from a scheme and is fit for cultivation.
9.	Distributary	A channel taking from a main canal or branch canal with head discharge more than one cumecs.
10.	DR and SR	Disintegrated rock and soft rock
11.	Field Channel	A channel taking off from the Government outlet and leading to the farm gate.
12.	Main Canal	The principal canal of a canal system taking off from a river or reservoir.
13.	Minor	A channel taking off from the main canal, branch canal or a distributary with head discharge of less than one cumecs.
14.	Nalla diversion	A permanent structure constructed across the stream for diverting of water for irrigation.
15.	Pre cast lining	Lining of canals by constructing blocks for lining of canals and jointing after ward
16.	RD	Reduced Distance
17.	Spill channel	A spill channel is a structure used to provide the controlled release of flows from a dam or levee into

		a downstream area
18.	Sub-Minor	A channel taking off from a minor which delivers water to more than one water course.
19.	Unyielding foundations	Foundations in rock
20.	Water Course	A channel taking off from a branch canal, distributary, minor and sub-minor which conveys water to the turn out.

