

CHAPTER-III

PERFORMANCE AUDIT

This chapter presents performance audit of ‘Construction and maintenance of State Highways and District Roads’.

3.1 Performance Audit of ‘Construction and maintenance of State Highways and District Roads’

Highlights

**PUBLIC WORKS
DEPARTMENT
(BUILDINGS AND
ROADS BRANCH)**

Performance Audit of ‘Construction and maintenance of State Highways and District Roads’ disclosed cases of defective planning and poor budgeting. There were cases of technical sanctions and execution in disregard to MORT&H specifications and departmental instructions leading to avoidable extra expenditure. Non-evaluation of overlays resulted in premature damage of road. Cash securities were released without observing defect liability period.

- *CE diverted Rs 2.21 crore released by Finance Department for Non-Plan works to Plan works being executed under NABARD-XII.*

(Paragraph 3.1.7)

- *Expenditure of Rs 23.01 crore incurred in excess of budget provisions and Rs 38.98 crore without technical sanction of competent authority.*

(Paragraph 3.1.8 & 3.1.11)

- *Roads already identified under World Bank assisted Punjab State Road Sector Project for rehabilitation were repaired by laying premix carpet at a cost of Rs 86.95 lakh.*

(Paragraph 3.1.13)

- *Contractors were favoured by allowing premature release of cash securities (Rs 41.51 lakh) and non-deduction of securities (Rs 36.48 lakh).*

(Paragraph 3.1.15 & 3.1.16)

- *Non-adoption of specification (Rs 1.24 crore) and execution of works with excess quantity (Rs 4.13 crore) without justification resulted in avoidable excess expenditure of Rs 5.37 crore.*

(Paragraphs 3.1.17, 3.1.18 & 3.1.19)

- *Road strengthened at a cost of Rs 1.35 crore was damaged prematurely before its designed life as the requirement of overlays was not evaluated.*

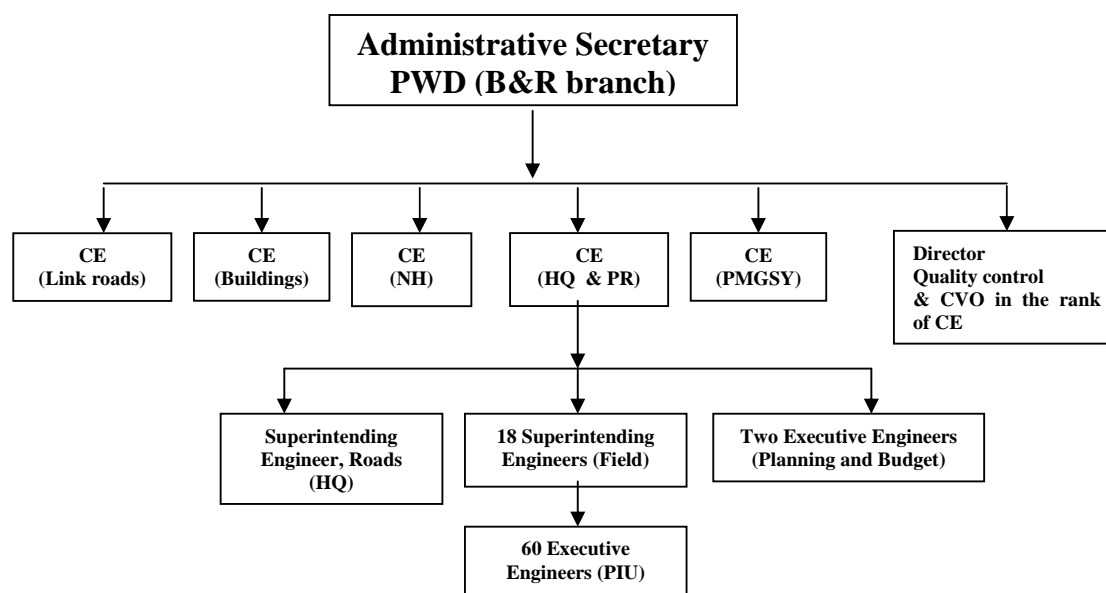
(Paragraph 3.1.20)

Introduction

3.1.1 Public Works Department (Buildings and Roads, Punjab) (PWD B&R) is responsible for construction and maintenance of roads in the State. State Highways (SHs) and District Roads {Major District Roads (MDRs) and Other District Roads (ODRs)} play an important role in providing better and improved connectivity. Punjab has 7374 kms of State Highways and District Roads which is 12.12 per cent of total road network of 60825 kms. SHs (1485 kms) are arterial routes which link district headquarters and important cities within the State and connecting them with National Highways or highways of the neighbouring States, MDRs (1808 kms) are important routes within a district serving areas of production and market connectivity with each other or with the main highways. ODRs (4081 kms) are roads serving rural areas of production and provide them with outlet to market centres and tehsil headquarters, block development headquarters or other main roads.

Organisational set-up

3.1.2 The organisational setup was as under: -



Audit objectives

3.1.3 The objectives of audit were to assess whether: -

- budget estimates were prepared realistically and provisions made in the approved five years/annual plans adhered to;
- fund management was efficient and was as per rules and regulations; cost control mechanism was put in place to avoid extra expenditure and to effect economy without compromising on the quality of work;
- sanctions to the works were accorded timely;
- administrative and technical orders/guidelines issued by the Ministry of Road Transport & Highways (MORT&H)/Indian Road Congress (IRC), were adhered to;

- works being executed by the Department were planned properly and rules, instructions, standardisation and specifications relevant to the works, were observed and
- there was an effective system of quality control and monitoring in place.

Audit criteria

3.1.4 Provisions laid down in Punjab Public Works Department Code, Punjab Financial Rules (PFR), Departmental Financial Rules (DFR), specifications issued by IRC/MORT&H, guidelines/instructions/rules of Government and of National Bank for Agriculture and Rural Development (NABARD) were used as audit criteria.

Scope of audit

3.1.5 The records of Administrative Secretary, one CE (Plan Roads) and 16 EEs¹ out of 60 covering the expenditure of Rs 481.87 crore out of Rs 2081.54 crore for the period 2003-08, were test checked during October 2007 to April 2008.

An entry conference was first conducted with the CE in October 2007 and then with the Administrative Secretary in February 2008 in which the broad audit objectives and criteria were explained. The exit conference was held on 6 August 2008.

Financial management

3.1.6 State Government is responsible for construction and maintenance of roads in the State. Funds for these activities are provided through annual budget provision. While the expenditure on maintenance of roads is met by the State Government out of its own resources, construction activities such as widening, strengthening and raising of existing roads are partly financed by NABARD and World Bank loans. During the period 2003-04 to 2007-08, the State Government raised loan aggregating to Rs 431.69² crore under Rural Infrastructure Development Fund VIII to XIII under 'NABARD assisted project for road construction works'. In addition, State Government also obtained Rs 350 crore as loan from World Bank during 2007-08, which has been routed through budget provision.

¹ (i) Construction Division II, Amritsar (ii) Central Works Division, Bathinda (iii) Construction Division II, Bathinda (iv) Construction Division III, Ferozepur (v) Provincial Division, Ferozepur (vi) Construction Division, Gurdaspur (vii) Construction Division I, Ludhiana (viii) Construction Division, Malerkotla, (ix) Provincial Division, Mansa (x) Construction Division I, Mohali (xi) Construction Division, Mukerian (xii) Provincial Division I, Patiala (xiii) Provincial Division II, Patiala (xiv) Construction Division, Pathankot (xv) Construction Division, Ropar and (xvi) Provincial Division, Sangrur.

² 2003-04: Rs 48.22 crore; 2004-05: Rs 64.02 crore; 2005-06: Rs 78.04 crore; 2006-07: Rs 125.78 crore and 2007-08: Rs 115.63 crore.

(a) Budget provisions and expenditure incurred under Plan & Non-Plan head was as under:

(i) **Works under 5054 (Plan)-Capital Outlay**

(Rupees in crore)

Year	Original Budget provision	Revised Budget Provision	Expenditure	Excess (+) Saving (-)	Percentage
2003-04	157.01	12.01	125.65	(+) 113.64	946
2004-05	307.00	173.65	117.60	(-) 56.05	32
2005-06	277.11	296.78	308.56	(+) 11.78	4
2006-07	304.75	268.43	335.83	(+) 67.40	25
2007-08	535.10	600.00 ³	539.84	(-) 60.16	10

☞ Source: Detailed estimates of expenditure on Plan schemes of Punjab Government

(ii) **Maintenance works under 3054 (Non Plan)**

(Rupees in crore)

Year	Original Budget provision	Revised Budget provision	Expenditure	Excess (+) Saving (-)	Percentage
2003-04	17.01	7.31	37.81	(+) 30.50	417
2004-05	1.52	8.22	124.96	(+) 116.74	1420
2005-06	103.22	113.62	91.41	(-) 22.21	20
2006-07	224.84	230.24	304.83	(+) 74.59	32
2007-08	238.62	234.65	95.05	(-) 139.60	60

☞ Source: Demand for grants and Finance Accounts of Punjab Government

From the above, it was noticed:

- (i) Excess expenditure over the budget provisions in respect of original works (5054-Plan) was 946 per cent and 25 per cent during 2003-04 and 2006-07 and in respect of maintenance works (3054-Non-plan), it ranged between 32 per cent and 1420 per cent during 2003-04 to 2006-07.
- (ii) There was short utilisation of funds to the extent of 32 per cent during 2004-05 under '5054 Plan' and 60 per cent under '3054 Non-plan' during 2007-08.

In reply, CE stated (August 2008) that the saving was due to non-release of funds.

(b) As per Para 3.1 and 3.2 of Punjab Budget Manual, the preparation of budget for the next year should be based on the figures of actuals for the previous year and original as well as revised estimates for the current year. Further as per para 18.5 ibid revised estimates should be framed in the light of actuals so far recorded in the current year, actuals for the same period of last and previous year, orders already issued or contemplated of appropriation or re-appropriation or sanction to expenditure and any other relevant facts but there were wide fluctuations/variations noticed as follows:

³ Includes budget provision of Rs 350.00 crore under World Bank scheme for Roads Infrastructure.

- (i) Original budget provisions under 5054-Plan were revised from Rs 157.01 crore and Rs 304.75 crore to Rs 12.01 crore and Rs 268.43 crore for the years 2003-04 and 2006-07 respectively which was unrealistic as the expenditure during these years was Rs 125.65 crore and Rs 335.83 crore respectively. It revealed that revised budget provisions for these years were not prepared on realistic proposals;
- (ii) Original budget provisions of Rs 17.01 crore under 3054-Non-Plan were revised to Rs 7.31 crore during the year 2003-04. The change was unrealistic and undesirable as the expenditure during this year was Rs 37.81 crore. The reduction was to the extent of Rs 9.70 crore (57 per cent) and
- (iii) Original budget provision of Rs 103.22 crore during the year 2005-06 was revised to Rs 113.62 crore. The revision was not desirable as the expenditure during the said year was Rs 91.41 crore, even less than the original budget provision.

As such, the budgets were not prepared as required under Punjab Budget Manual.

In reply (August 2008), CE did not furnish the reasons for the revision of the original budget provisions but stated that the budget provisions were revised by the Finance Department.

Diversion of funds

**CE diverted
Rs 2.21 crore**

3.1.7 Scrutiny of records (October 2007) of CE (PR) disclosed that CE diverted Rs 2.21 crore⁴, earmarked for the purpose of SHs and Non-plan works, for execution of works under NABARD-XII (Rs 2.00 crore), purchase of nine old staff cars (Rs 10.85 lakh) and for preparation and telecast of 30 minutes programme to highlight the achievements of the Department (Rs 10.00 lakh) between July 2006 and January 2007. Such diversion was irregular as the funds were diverted for purposes other than for which these were sanctioned, without approval of the Finance Department.

**EE's incurred
expenditure of
Rs 23.01 crore in
excess of budget
provisions**

3.1.8 Rule 17.15 of PFR provides that no expenditure should be incurred in excess of budget provision.

Scrutiny of records (January-April 2008) disclosed that eight EEs incurred expenditure of Rs 23.01 crore in excess of budget provisions on works under NABARD X and XII as detailed in the following table:-

⁴ Rs 200 lakh were released in September 2006 to Central Works Division, Bathinda for NABARD-XII works, Rs 10.85 lakh were released between August 2006-January 2007 to Mechanical Division, Patiala for purchase of vehicles and Rs 10.00 lakh were released in July 2006 to a private agency for telecasting.

(Rupees in crore)

Sr. No.	Name of Division	Year	Funds received	Expenditure incurred	Excess expenditure
1.	Construction Division No. 2, Amritsar	2006-07	6.34	9.53	3.19
2.	Central Works Division, Bathinda	2006-07	6.27	7.42	1.15
3.	Provincial Division, Ferozepur	2005-06	1.64	1.92	0.28
		2006-07	1.59	1.63	0.04
		2007-08	0.99	2.24	1.25
4.	Construction Division, Gurdaspur	2003-04	5.90	7.71	1.81
		2004-05	11.82	15.81	3.99
		2006-07	22.08	24.97	2.89
5.	Construction Division, Mukerian	2006-07	2.74	3.28	0.54
6.	Construction Division, Pathankot	2004-05	6.42	6.91	0.49
		2006-07	18.35	21.30	2.95
7.	Construction Division, Patiala	2003-04	2.18	4.57	2.39
8.	Provincial Division, Sangrur	2006-07	9.33	10.88	1.55
		2007-08	11.43	11.92	0.49
TOTAL					23.01

On being asked the source from which excess expenditure was met, one EE stated that it was due to inclusion of cash security. Other EEs have given no specific reply.

loan of Rs 6.93 crore raised from NABARD for State Highways

3.1.9 NABARD under Rural Infrastructure Development Fund (RIDF) provides interest bearing loan assistance for developing infrastructure in rural areas and not for State Highways. The loan was to be repaid as per re-payment schedule in equal instalments within seven years from the date of drawl, including a grace period of two years.

State Government raised (March 2003) loan of Rs 7.26 crore⁵ at interest rate of 8.5 per cent from NABARD under Rural Infrastructure Development Fund (RIDF) VIII for two SHs and Rs 6.93 crore were released during 2003-07 to the EE, Construction Division, Patiala. As the NABARD provided interest bearing loan assistance only for developing infrastructure in rural areas and not for construction of SHs, the funds were required to be arranged with State budgetary support. Failure to arrange funds with State budgetary support had put the state exchequer under avoidable interest liability which worked out to Rs 1.18 crore for two years alone.

CE and EE, Construction Division, Patiala were asked (March–August 2008) to furnish the project proposals sent for obtaining loan assistance from NABARD along with the reasons for not arranging funds through State budgetary support for the SHs. But neither the reply nor the project proposals were furnished for verification.

Non-recovery of road cut charges from Nagar Council

Road cut charges amounting to Rs 26.05 lakh not recovered from Nagar Council

3.1.10 CE accorded (September 2007) technical sanction to an estimate of Rs 1.02 crore for raising and strengthening of ODR 11 (Km 0.00 to 1.21) (Approach road to Mansa bus stand). The estimate included provision of

⁵ Rs 4.38 crore for Patiala-Pehowa Road and Rs 2.88 crore for Patiala-Patran Road.

repair of road cut which Nagar Council left un-attended due to paucity of funds (April 2007) after laying sewer, though Nagar Council made (January 2007) a commitment for its repair at the time of taking over the road from PWD for sewer work. An expenditure of Rs 81.93 lakh (May 2008) had been incurred by the EE, Provincial Division, Mansa on the work but road cut charges amounting to Rs 26.05 lakh were not recovered from the Nagar Council.

Though the EE assured (April 2008) to look into the matter but no communication regarding recovery has been received so far (July 2008).

Expenditure of Rs 38.98 crore incurred without technical sanction of works

Expenditure against unsanctioned estimates and excess over sanctioned estimates

3.1.11 As per Para 2.7 and 2.89 of Public Works Department Code, no work should commence without technical sanction to the estimate. Further, if the expenditure on any work exceeds five *per cent* of the original estimate, revised technical sanction of the competent authority is required to be obtained.

(a) Scrutiny (January-April 2008) of records disclosed that two EEs incurred an expenditure of Rs 38.98 crore during 2006-08 on four works without technical sanctions of the competent authority as follows:

<i>(Rupees in crore)</i>				
Sr. No.	Name of division	Name of work	Year	Expenditure incurred
1.	Construction Division, Gurdaspur	Improvement of Batala-Mehta Beas Road	Up to December 07	2.38
		Harchowal-Bet Pattan upto Kiri Afghana Road	Up to December 07	2.49
2.	Construction Division III, Ferozepur	Rehabilitation of Dharmkot-Zira Road	Up to June 08	16.79
		Rehabilitation of Zira-Ferozepur Road	Up to June 08	17.32
TOTAL				38.98

On being pointed out, the EE accepted the audit observation that the technical sanctions were yet to be obtained from the Competent Authority. No further progress has been intimated so far (July 2008).

(b) EE Construction Division II, Amritsar, executed two works technically sanctioned for Rs 4.19 crore by incurring an expenditure of Rs 5.33 crore upto December 2007, thereby exceeding the amount of technical sanctions by Rs 1.14 crore without getting the revised estimates technically sanctioned from the Competent Authority. The excess expenditure ranged between 26 and 30 *per cent* as detailed in the following table:

(Rupees in crore)

Sr. No.	Name of work	Date and amount of technical sanction	Date of completion	Expenditure incurred	Excess expenditure	Percentage of excess expenditure
1.	Strengthening of Fatehgarh Churian-Ramdass road	11.4.05 1.54	31.3.07	1.99	0.45	30
2.	Widening of Harsha-Chhina-Fatehgarh Churian road	30.4.05 2.65	31.3.07	3.34	0.69	26
TOTAL		4.19		5.33	1.14	

In reply, EE while accepting (January 2008) the audit observation stated that revised estimates have been submitted for technical sanctions. No further reply has been received so far (July 2008).

Planning

3.1.12 For the successful implementation of road works, a detailed schedule for implementation of construction activities is essential. But the State neither has a State Road Policy nor a detailed plan to work out priorities for roads to be constructed/widened/strengthened/improved in a systematic manner in the entire State.

Avoidable expenditure due to ill planning

3.1.13 Punjab Roads and Bridges Development Board (PRBDB) identified Landran Chunni Road (SH-12A) in October 2004 for rehabilitation⁶ under World Bank loan assisted Punjab State Road Sector Project (PSRSP). Interim feasibility study report towards rehabilitation of the road was submitted by the consultant to PRBDB in February 2006. Even then, the CE accorded (March 2006) a technical sanction of Rs 1.10 crore for crack sealing and laying 20 mm thick open graded premix carpet (PC). This work was completed with State funds in July 2006 at a cost of Rs 94.24 lakh. Just after completion of the work of crack sealing (Rs 7.29 lakh) and PC (Rs 86.95 lakh), the road was transferred to another Division in July 2006 itself for the work of rehabilitation.

Rs 86.95 lakh were incurred on maintenance of road already identified for rehabilitation under PSRSP

Tenders for the work of rehabilitation under PSRSP were invited by PRBDB in October 2006, agreement entered in April 2007 and an expenditure of Rs 15.28 crore had been incurred upto June 2008. This revealed that the expenditure of Rs 86.95 lakh incurred by EE, Construction Division-I, Mohali with State funds on the work of PC which normally lasts for five years was rendered wasteful within one year as the road surface was overlaid with rich bituminous overlays of 60 mm Dense Bituminous Macadam (DBM) and 40 mm Bituminous Concrete (BC) under the work of rehabilitation.

⁶ **Rehabilitation of road involves strengthening, widening, overlaying, profile corrective course and cross drainage works along the road alignment.**

On being pointed out, the EE stated (December 2007) that PC was laid to keep the road traffic worthy so as to sustain it for the period till the start of the work under PSRSP. Reply was not tenable as crack sealing with bituminous filling under routine maintenance was sufficient to keep the road traffic worthy because cracks were less than 25 *per cent*⁷ of the total area covered under PC and road was in good riding condition in all its length as per interim feasibility report. Thus, according technical sanction and release of funds for PC led to avoidable expenditure of Rs 86.95 lakh.

Contract management

Scrutiny revealed poor management of contracts resulting in extra expenditure, non-recovery of dues and release of cash security without observing defect liability period as follows:

Irregular execution by splitting-up work

Irregular execution of work valuing Rs 28.29 lakh by splitting of work in 34 work orders

3.1.14 As per instructions issued by CE (January 1998) when total cost of the work is more than Rs one lakh, no work order should be drawn. Besides, prior sanction of next higher authority should be obtained to draw work order after giving full justification.

It was, however, noticed (April 2008) that SE, Construction Circle, Hoshiarpur accorded technical sanction (May 2006) of Rs 28.48 lakh for patch work on MDR-69 “Mukerian-Talwara-Mubarikpur Road”. The EE, Construction Division, Mukerian got the work executed between May and June 2006 without drawing work order. The EE, belatedly issued (21 June 2006) 34 work orders by keeping each work order below Rs one lakh in favour of single contractor and also made payment of Rs 28.29 lakh on the same day. Prior sanction of higher authority to draw work orders was also not obtained. Thus, action of EE in violation of departmental instructions rendered expenditure of Rs 28.29 lakh as irregular.

On being pointed out, the EE furnished no specific reply.

Pre-mature release/non-deduction of cash security

Premature release of cash security amounting to Rs 41.51 lakh

3.1.15 According to the terms and conditions laid down in the sanction issued by NABARD in June 2006, the defect liability period for NABARD-XII works will not be less than two years from the date of completion.

Scrutiny of records (March-April 2008) of two EEs revealed that cash security of Rs 41.51 lakh deducted at the rate of five *per cent* from the bills of the contractors in respect of three works pertaining to NABARD-XII, was released 15 to 18 months in advance without observing defect liability period of two years as detailed in **Appendix 3.1**.

In reply, EEs admitted the lapse.

⁷ MORT&H Manual for maintenance of roads.

Cash security of
Rs 36.48 lakh not
deducted

3.1.16 Clause I of the agreement provides that cash security at five *per cent* of the amount of contract, inclusive of earnest money initially deposited with the bid, to cover the cost that may be involved in the removal of defects, to be progressively deducted at the rate of five *per cent* in all payments.

Scrutiny of records (January–March 2008) revealed that four EEs⁸ authorised and paid an amount of Rs 7.29 crore against 12 final bills during the period February 2006 and February 2008 but did not deduct cash security of Rs 36.48 lakh from the final bills. Thus, non-observance of the clause of the agreement extended undue favour to the contractors.

On being pointed out, EEs admitted audit contention.

Project management

In the execution of works, several lapses viz. loss due to non-adherence to decisions/instructions of higher authorities, use of costly material, unjustified adoption of higher quantities and non-adherence to IRC/MORT&H specifications, were noticed as detailed below:-

Extra cost due to adoption of costlier specification

3.1.17 As per the decision (March 2005) taken by the technical committee of the CEs and SEs, Punjab PWD (B&R), prime coat of bitumen emulsion at the rate of 7.5 kg. per 10 sqm area was to be applied over Wet Mix Macadam (WMM) in road construction. The decision was intimated (March 2005) to all field formations for its strict compliance.

Scrutiny of records (January and April 2008) disclosed that two EEs⁹ executed three works¹⁰ between August 2006 and August 2007 with one coat surface dressing using 80/100-grade bitumen at the rate of 10 kg. per 10 sqm area over WMM instead of primer coat of bitumen emulsion at the rate of 7.5 kg per 10 sqm area in departure from the above decision. This resulted in excess expenditure of Rs 81.16 lakh*.

Extra expenditure of
Rs 1.24 crore due to
adoption of costlier
specification of
bitumen

(ii) Similarly, as per the decision (March 2005), the tack coat with bitumen emulsion at the rate of 2.75 kg. per 10 sqm was to be applied over layer of WMM. But above works were executed with tack coat using 80/100 grade bitumen at the rate of five kg per 10 sqm. Non-compliance of decision resulted in extra expenditure of Rs 42.84 lakh**.

⁸ Provincial Division 1 Patiala (4 works):Rs 5.32 lakh, Provincial Division II, Patiala (3 works) :Rs 6.38 lakh, Construction Division, Ropar (1 work) :Rs 0.85 lakh and Provincial Division, Sangrur (4 works):Rs 23.93 lakh = Rs 36.48 lakh

⁹ EE, Construction Division, Mukerian and EE, Provincial Division Sangrur.

¹⁰ (i) Sunam-Lehra-Jakhal Road Km 0.45 to 38.06 (Rs 50.67 lakh* and 30.31 lakh**) (Rsg. &Stg), (ii) Mukerian-Talwara-Mubarikpur road Km 5-8 and 33.50 to 45.70 (Rs 15.60 lakh* and 6.10 lakh**) (Stg & Rsg.) and (iii) Mukerian-Talwara road Km 0-5 and 8 to 33.50, 34.45 to 34.63, , 36.12 to 36.375, 37.375 to 37.64, 38.42 to 37.485, 38.49 to 38.67 and 43.48 to 43.975 (Rs 14.89 lakh* and 6.43 lakh**)

EEs stated that the works were executed as per sanctioned estimates. Reply was not tenable because the estimates proposed by the EEs for technical sanctions and approved by the CE were not as per the decision taken by the technical committee of CEs and SEs of the department. There was no justification on record for using and providing a surface dressing/tack coat of higher specification.

Unjustified adoption of thickness of SDBC

3.1.18 Public Works Department standardised (December 2001) the specification of 25 mm thick Semi Dense Bituminous Concrete (SDBC) for widening/new construction and strengthening of MDRs & ODRs where CBR¹¹ value was not less than five *per cent*.

Unjustified expenditure of Rs 3.29 crore due to adoption of extra thickness of SDBC

Scrutiny of records disclosed that seven EEs executed 17 works of providing and laying of SDBC with thickness of 30 mm on widening/new construction and strengthening of MDRs & ODRs without ascertaining the pre-requisite CBR value. As such, the expenditure of Rs 3.29 crore incurred on providing and laying of extra five mm thick SDBC was unjustified as detailed in *Appendix 3.2*.

In reply, EE Construction Division I, Ludhiana stated (March 2008) that SDBC could be provided in the range between 25 and 100 mm thickness as per MORT&H specification and other EEs stated (January-April 2008) that works were executed as per technical sanctions. Reply was not acceptable because the department has failed to give any justification for the departure from the standardized specification of providing 25 mm thick SDBC.

Excess quantity of stone metal

3.1.19 As per MORT&H standard data book for analysis of rates published by Indian Road Congress with regard to specification No. 404, the quantity of loose stone metal is worked out as 1.21 cum with 18 *per cent* screening for execution of one cum Water Bound Macadam (WBM) Grade-II and Grade III compacted to 75 mm.

Extra expenditure of Rs 84.37 lakh incurred due to adoption of excess quantity of stone metal

Scrutiny of records (January to April 2008) disclosed that eight EEs executed nine works during 2005-08 and laid 82770.15 cum of compacted stone metal for execution of WBM by taking quantity of loose stone metal as 1.33 cum with 18 *per cent* screening for execution of one cum WBM compacted to 75 mm.

On being pointed out, EEs stated that works were executed as per technically sanctioned estimates. The sanctions and execution in departure from the MORT&H specification by adopting excess quantity of loose stone metal without any justification on record led to avoidable extra expenditure of Rs 84.37 lakh as detailed in *Appendix 3.3*.

¹¹ **California Bearing Ratio is the ratio expressed in percentage of force per unit area required to penetrate a soil mass.**

Pre-mature damage of road

3.1.20 IRC-81-1997 guidelines and MOST Research Study (R-6) for strengthening of road specifies that strengthening of existing weak flexible pavement should be done after the evaluation of structural capacity of the existing flexible pavement and estimation & design of overlays by adopting Benkelman Beam Deflection Study. It further specifies that design life for strengthening of major roads should be at least 10 years. Less important roads may, however, be designed for a shorter design period but not less than five years in any case.

Pre-mature damage of crust executed at a cost of Rs 1.35 crore due to non-ensuring Benkelman Beam Deflection Study of the existing pavement

Scrutiny of records (April 2008) of EE, Construction Division, Malerkotla disclosed that Government accorded (January 2003) administrative approval of Rs 1.39 crore for strengthening MDR 33 “Malerkotla-Jarg-Khanna (Section Malerkotla-Jaure Pul road) in Km 0 to 3 and 6 to 18.20”. The CE, without ensuring requisite Benkelman Beam Deflection Study, accorded (February 2003) technical sanction of Rs 1.39 crore to the work of strengthening which was completed (July 2003) at a cost of Rs 1.35 crore. But the road was damaged prematurely due to weak pavement, which necessitated re-strengthening of the same stretches after three years of its strengthening. Accordingly, CE accorded (September 2006) technical sanction of Rs 8.54 crore to the estimate for strengthening¹² and raising¹³. The work was completed (December 2006) at a cost of Rs 8.46 crore.

Thus, failure of the department to evaluate the crust thickness for strengthening with the Benkelman Beam Deflection Study led to its premature damage which had to be rectified after three years.

On being pointed out, the EE stated that reply would follow. But no reply has been received (July 2008).

Avoidable expenditure of Rs 70.35 lakh for providing tack-coat

3.1.21 As per clause 503.4.3 (application of tack coat) and 504.4 (protection of the Bituminous Macadam layer) of MORT&H specifications for Road and Bridge works, where the overlay is to be provided on a freshly laid bituminous layer, that has not been subjected to traffic, or contaminated by dust, a tack coat is not mandatory. If the overlay is completed within two days.

EEs failed to plan the works and incurred avoidable expenditure of Rs 70.35 lakh for providing tack-coat

Scrutiny of records (January and April 2008) revealed that four EEs executed (between 2006-08) seven works of laying of Bituminous Macadam followed by laying of SDBC. The EEs failed to plan the execution of work as per above specifications and incurred avoidable expenditure of Rs 70.35 lakh on application of tack coat as detailed in **Appendix 3.4**.

In reply, EEs stated that works were got executed as per technical sanctions. Replies were not tenable because EEs were required to plan the work in such a way so that SDBC could be laid within forty eight hours from laying

¹² Strengthening - km 0.40 to 3.18, 3.72 to 4.86, 5.36 to 15.00 and 15.45 to 18.20= 16.31 kms.
¹³ Raising - Km 0 to 0.40, 3.18 to 3.72, 4.86 to 5.36 and 15.00 to 15.45=1.89 kms.

Bituminous Macadam as per procedure prescribed in MORT&H specifications.

Execution of earth work on berms against departmental instructions

Earth work on berms executed at a cost of Rs.49.05 lakh in departure from departmental instructions

3.1.22 All CEs, PWD (B&R), Punjab decided (June 2006) that in road works executed under the head 3054-Roads & Bridges (Non-plan), earth work on berms should not be executed. SE, PWD, Construction circle, Ludhiana emphasized (July 2006) that even on the works for which estimates have already been sanctioned and tenders approved, earth work on berms should not be executed.

Scrutiny of records (March 2008) of EE, Construction Division No. 1, Ludhiana, disclosed that against clear departmental instructions an expenditure of Rs.49.05 lakh was incurred (between November 2006 and April 2007) on earth work on berms in road work “Strengthening of Southern Bye pass (Km. 21.80 to 27.00)”.

In reply, EE stated that earth work was executed as per estimate technically sanctioned by CE (December, 2006) Reply was not acceptable because even for the works for which estimates have been sanctioned and tenders approved earth work on berms was not required to be executed. There were no reasons on record for the departure from the decision taken in the CE’s conference in June 2006.

Non-deployment of quality control consultant

Undue favour to contractor by reducing tendered cost from Rs 2.18 crore to Rs 1.89 crore

3.1.23 As per clause 31 (b) of the agreement, for all works exceeding Rs two crore, the contractor is required to engage a competent and independent quality control consultant approved by SE/CE in charge of work to exercise effective control over the construction operation in the field so as to produce quality works, failing which Engineer-in-charge can carry out the quality control checks through departmental staff and deduction at the rate of 1.5 *per cent* of the total cost of the work shall be recovered from the bill of the contractor.

Scrutiny of records (October 2007) of Construction Division, Sirhind revealed that work of providing and laying SDBC on SH-12A “Sirhind-Chunni road” was awarded on 18 October 2005 for Rs 2.18 crore to a contractor. Subsequently, amendment letter was issued on 28 October 2005 thereby reducing tendered cost of Rs 2.18 crore to Rs 1.89 crore without assigning any reason. After that, scope of work was again enhanced (June 2006) to Rs 2.05 crore. Accordingly, the agreement amount was also enhanced to Rs 2.05 crore and the work was finally completed at a cost of Rs 2.05 crore.

From the above, it is evident that reduction in agreement amount in the first instance and again enhancement thereof after allotment resulted in undue favour to the extent of Rs 3.07 lakh (1.5 *per cent* of Rs 2.05 crore) to the contractor by facilitating him escape the deployment of quality control consultant as provided in the agreement.

On being pointed out, no specific reply was furnished.

Other points

Allotment of work ignoring qualifying criteria

3.1.24 The work “Construction/Strengthening of Bathinda-Muktsar Road” was awarded (August 2006) to a contractor at a tendered cost of Rs 8.05 crore.

Scrutiny of records of Central works Division, Bathinda revealed that the contractor to whom the work valuing Rs 8.05 crore was allotted, was enlisted for execution of road works upto Rs 5.00 crore. Thus, awarding of a work beyond the competence of the contractor was irregular.

On being pointed out (March 2008), no reply was furnished.

Non-submission of completion reports

3.1.25 Para 2.122 of PWD code provides that completion report must be prepared on the completion of works and submitted to the higher authority.

In nine Divisions, PCRs in respect of 37 works, as detailed in **Appendix 3.5**, completed at a cost of Rs 140.52 crore between June 2004 and February 2008 were neither prepared nor submitted to the higher authority.

On being pointed out (between January 2008 and April 2008), EEs stated that needful would be done in due course. Final reply is awaited (July 2008).

Irregular provision of contingent charges

3.1.26 According to Finance Department instructions (January 2000), no provision of contingencies shall be made in the estimates of works under minor or major works covered both under Plan and Non-Plan except in cases where these are permitted by the Finance Department.

In six¹⁴ Divisions, it was noticed that provisions of contingent expenditure amounting to Rs 1.77 crore was made in 25 estimates as detailed in the **Appendix 3.6** of works during the years 2003-08.

On being pointed out (between January and April 2008), it was stated that estimates had been sanctioned by the competent authority. Reply was not tenable as the provision of contingency was made in contravention of instructions of Finance Department.

Monitoring

3.1.27 Government in PWD, B&R branch laid down (May 2005) the norms reiterated in November 2006, for the Engineering Officers (CE, SE, EE) at various levels to undertake inspection of works at regular intervals in an effective manner so as to achieve the objective of quality assurance in execution and completion of works to the laid down specifications. The status

¹⁴ Construction Division II, Amritsar, Gurdaspur, Construction Division I, Mohali, Construction Division, Patiala, Provincial Division, Sangrur and construction Division, Ropar.

reports of works inspected were to be submitted by the Engineering Officers to their respective higher authorities in the Department and to the Government as well, for monitoring and record.

During test check in 16 B&R Divisions and in the office of CE (PR), the relevant records were not made available. This indicated that either the periodical inspections, as required to monitor the works and ensure quality work, were not conducted by the Engineering Officers or the status reports of the works inspected were not submitted to the respective higher authorities. This showed not only non-compliance of Government instructions but also revealed that monitoring and control for evaluation of the works was not effective.

Conclusion

3.1.28 Budget estimates were un-realistic as reductions effected could not justify the revised budget estimates. The fund management was deficient as funds were diverted and interest liability was created. MORT&H/PWD specifications were disregarded while according technical sanctions resulting in extra cost. Cash securities were released in advance without a watch on defect liability period. Non-observance of standardisation and adoption of excess quantity had the effect of avoidable extra expenditure which was indicative of lack of cost control mechanism. Monitoring was not only ineffective but almost lacking.

Recommendations

- Budget estimates should be realistically prepared and sound funds management system be evolved to curb diversion of funds and avoid cost escalation;
- Effective planning at macro and micro level should be made with a view to safe guard the interests of Government and effect economy;
- Estimates should be prepared and sanctioned strictly according to MORT&H/PWD specifications and Government/Department instructions and standardisation;
- The defect liability period should be observed strictly while releasing cash security to the contractors and
- The monitoring should be made effective to ensure quality of works as per the laid down specifications.

Matter was referred to Government/Chief Engineer (July 2008); reply has not been received (July 2008).

