

## Chapter-II

### Review relating to Government company

#### Maharashtra State Road Development Corporation Limited

#### 2 Construction of Mumbai-Pune Expressway

##### *Highlights*

**The Company did not prepare any Detailed Project Report. No sensitivity analysis was carried out at the start of execution of the project to ascertain the project feasibility.**

*(Paragraphs 2.7 and 2.8)*

**The Company incurred extra expenditure of Rs.54.06 crore due to irregular award of construction works (Rs.42.76 crore) and irregular allotment of consultancy contracts (Rs.11.30 crore).**

*(Paragraphs 2.10 and 2.11)*

**Several deficiencies were found in the execution of work and in certification/measurement of work entrusted to private agencies.**

*(Paragraphs 2.14 to 2.30)*

**The method adopted for award of toll collection contract up to the end of August 2004 was inappropriate as it deviated from normal procedure, and was prone to misdeclaration of toll collected. As against the expected revenue of Rs.355 crore the actual remittances by the toll collections agent were Rs.107.01 crore (32 per cent) during 2000-03.**

*(Paragraph 2.33)*

**Even if revenue realisation was to drastically drop to only 60 per cent of the projected toll revenue the reserve price for toll collection cum maintenance contract of Mumbai-Pune Expressway and National Highway-4 works out to Rs.2,236 crore. However, a low reserve price of Rs.900 crore was fixed and the same was communicated to the bidders in violation of normal practice.**

<http://www.cag.gov.in>

(Paragraphs 2.35-2.36)

**The provisions of toll collection cum maintenance contract were not consistent with the basic principle that terms of a contract must be precise and definite and there must be no room therein for ambiguity or misconstruction. There were several deficiencies in the agreement which were highly detrimental to the financial interests of the Company.**

(Paragraph 2.40)

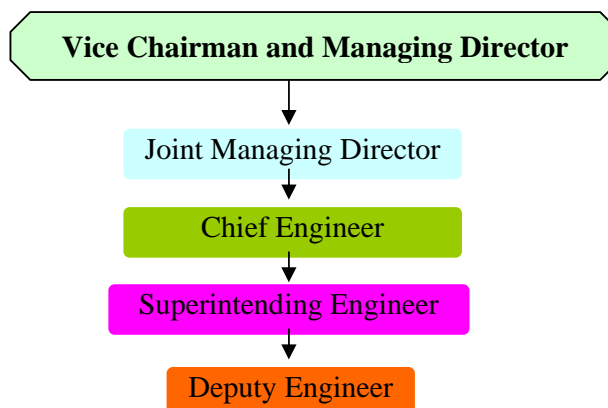
**Measurement of work was a highly critical area as a misdeclaration in the quantities of work executed by a mere 10 per cent had the high risk of additional payment to the extent of Rs.96.42 crore. However, the Company did not have a proper mechanism of cross check by the Company's own officials the quantities certified by the consultants.**

(Paragraph 2.42)

## Introduction

**2.1** Due to growing traffic between Mumbai and Pune it was decided by the Government of Maharashtra (GOM) to build a new and independent six lane access control expressway of 86 km between Kon and Dehu Road. The GOM entrusted (March 1997) the work of construction of Mumbai-Pune Expressway (MPEW) to the Maharashtra State Road Development Corporation Limited (Company) on build, operate and transfer (BOT) basis with concession period of 30 years. The construction of MPEW was completed in May 2002. The capitalised value of the project as on 31 March 2004 was Rs.2,084 crore.

The Vice Chairman and Managing Director is the Chief Executive of the Company. The construction activity of MPEW was looked after by a Chief Engineer who was assisted by a Superintending Engineer. The supervision of work was outsourced to private consultants. The Organisation chart of the Company relating to Mumbai-Pune expressway is as follows:



## Scope of Audit

**2.2** The review was conducted during November 2004-April 2005. It covers the performance of the Company pertaining to project financing, award of construction works and consultancy works, execution of construction in all the six packages of MPEW works, and contracts relating to toll collections. This is the first review of this project and hence, while the coverage is broadly for the period 2000-05, the transactions relating to construction prior to 2000 (from March 1997) have also been included for the purpose of continuity.

## Audit objectives

**2.3** The audit objective of the review was to ascertain whether:

- The management took up work of implementation of the project after detailed planning, due diligence, surveys and sensitivity analysis.
- Critical components of project management and implementation like land acquisition and cash flow were initiated and carried out before incurring contractual liabilities.
- Contract conditions were so framed as to avoid misinterpretation, safeguarding financial and other interests.
- Management's oversight in relation to high risk outsourced functions of design, contract management, supervision, measurements, payment certificates was effective to safeguard against possible erroneous payments and also the quality of output.
- Internal control system within the Company was sensitive to large variation between the estimated and actual quantities of work and whether the management had put in place a dependable mechanism to safeguard its interest with regard to this aberration.
- The management had devised and put in place robust and transparent system of preparation of contract documents, call of bids, bid evaluation and award of work of prequalified and capable agencies.

## Audit criteria

**2.4** The following audit criteria were adopted to assess/evaluate:

- preparation of project report with regard to critical components like feasibility analysis, sensitivity analysis and preparation of cash flow plans *etc;*

- award of consultancy and construction works with regard to principles of economy, efficiency, effectiveness and transparency;
- work done by the consultants and construction agencies and management's oversight in relation to high risk outsourced functions of design, contract management, supervision, measurements, certification of payments to safeguard against possible erroneous payments and also the quality of output;
- procedure followed for award of toll collection contracts with reference to principles of economy, efficiency, effectiveness and transparency and the extent to which the contract provisions safeguarded the Company's financial interest.

### **Audit methodology**

**2.5** Audit followed the following methodologies:

- scrutiny of Company's decisions, agreements relating to award of consultancy and construction works, toll collection contracts *etc.*;
- scrutiny of Company's Running Account Bills/Final Bills of construction works and related correspondence;
- analysis of data collected by audit; and
- meetings with the officials of the Company.

### **Audit findings**

**2.6** The audit findings were reported to the Government/management in May 2005 and discussed in the meeting of Audit Review Committee for State Public Sector Enterprises (ARCPSE) held on 15 July 2005 which was attended by the Secretary (PWD), Government of Maharashtra, Vice Chairman and Managing Director of the Company and the Chief Engineer of the project. The view points of Government and management were taken into account before finalising the review.

The audit findings are discussed in the succeeding paragraphs:

### **Planning**

**2.7** A project feasibility report was prepared by RITES in 1994-95. No Detailed Project Report giving a comprehensive analysis of various aspects of the project was prepared.

### ***Project feasibility***

**2.8** Sensitivity analysis is a tool used in Project Management to evaluate to what extent profitability will be adversely affected if the actual revenues differ from the projected revenues. The period of concession was 30 years. The table below gives the effect of reduction in toll revenue on internal rate of return.

**Sensitivity analysis was not carried out to ascertain project feasibility.**

<b>Particulars</b>	<b><i>In percentage</i></b>			
Toll revenue	100	90	80	60
Internal rate of return	16	15	14	12
Upper limit for cost of fund	16	15	14	12

The Company failed to undertake such an elementary exercise at the time of start of the project.

The Company stated (July 2005) that GOM had analysed (1995) the project feasibility in detail through RITES (a Government of India Undertaking) in association with Scott Wilson and Kirkpatrick UK. It was further stated that the project analysis had revealed economic internal rate of return (EIRR) of 17.8 *per cent* and sensitivity analysis indicated that increase in capital cost by 10 *per cent* and decrease in toll income by 10 *per cent* reduces EIRR to 11.6 *per cent* and 12.85 *per cent* respectively. The reply is not acceptable as this analysis was got done in 1995. The Company did not carry out sensitivity analysis to ascertain feasibility at the time of start of execution of project (March 1997).

### ***Cash flow planning***

**2.9** Cash flow is the lifeblood of any business entity. If cash flows are not correctly planned the problems could threaten the very existence of the entity. The concession period of the project was 30 years. The repayment of loans taken for project implementation was to be effected from the toll revenues spread over a 30 years period. While the detailed annual cash inflows by way of toll collections for the 30 years period were estimated, there was no firm plan for repayment of loans raised to finance the project. The time schedule for repayment of loans raised did not match with the cash flow pattern of the project. Audit analysis revealed that for the years 2006 to 2010 the Company is faced with massive payment obligations totaling Rs.1,349.73 crore without matching revenues. The synchronisation of the cash inflows and outflows by proper tie up with the lending institutions would have obviated the need for going in for fresh financing to pay the loan installments.

## Implementation of the Project

### Irregular award of consultancy works

**2.10** The Company appointed six<sup>§</sup> Project Management Consultants (PMCs) for the preparation of tender documents, detailed engineering design, estimates and supervision of works.

It was noticed in audit that in four cases the Company did not award the consultancy work to the L-1 bidders, which resulted in extra expenditure of Rs.11.30 crore as detailed below:

There was an extra expenditure of Rs.11.30 crore due to irregular award of consultancy contracts.

*(Rupees in crore)*

Section of the project	Quoted value of L-1	Awarded value	Actual value on completion	Proportionate value of L-1 <sup>#</sup>	Extra expenditure due to not accepting L-1 offer
1	2	3	4	5	6 (4-5)
A	1.96	4.05	4.31	2.09	2.22
B	1.88	4.00	6.14	2.89	3.25
C	1.96	3.91	5.35	2.68	2.67
D	1.96	3.91	6.33	3.17	3.16
<b>Total</b>					<b>11.30</b>

The Company stated (July 2005) that the value quoted by L-1 was very low and unreasonable. The reply is not tenable. The party quoting the lowest value was one of the prequalified consultants for similar projects undertaken by other Government agencies viz., National Highway Authority of India (NHAI), Ministry of Surface Transport (MOST), GOI and PWD (GOM). The party was also technically qualified by the Company itself and disqualifying it after opening of price bids violated the sanctity of the tendering process.

### Irregular award of construction works

**2.11** The MPEW was divided into six sections A, B, C, D, Panvel Bypass (PBP) and Ghat Section. Audit scrutiny revealed deficiencies in the award of construction works as detailed below in A, B, D and PBP (Package-II)

<sup>§</sup>Hyder Consultants with STUP Consultants Limited-Section 'A'; Intercontinental Consultant and Technocrats Private Limited-Section 'B'; Frisutman Praptll TA (India) Private Limited-Section 'C'; Sir Queen William Investments Limited-Section 'D'; Technogem Consultant Private Limited-Panvel Bypass package-I and II and Consulting Engineering Services (India) Limited-Ghat Section-I and II.

<sup>#</sup>The proportionate value of L-1 has been worked out considering the payment that would have been made to L-1 for the actual quantities of work executed had the work been awarded to L-1.

sections which resulted in extra expenditure of Rs.42.76 crore:

(Rupees in crore)

Section	Name of the contractor	Quoted value of L-1	Awarded value	Actual value on completion	Proportionate value of L-1*	Extra expenditure	Remarks
Section A	IJM- Satyam Limited, Mumbai	130.96	136.82	151.70	145.20	6.50	Extra expenditure was incurred on the work due to non acceptance of the lowest offer.
Section B	Hindustan Construction Company Limited, Mumbai	189.83	194.00	197.97	193.63	4.34	Though awarded to L-1, after opening of tenders, the rates for different items were allowed to be raised by 2.2 per cent. Thus, the sanctity of tenders was violated and extra benefit was passed on to the contractor.
Section D	Jog Engineering Limited, Pune	112.50	133.47	195.37	164.68	30.69	By not accepting the lowest offer, extra expenditure was incurred on the work.
Panvel By pass package-II	M.V. Rao, Hyderabad	48.91	50.00	56.94	55.71	1.23	The extra expenditure was due to not awarding the work to L-1.
<b>Total</b>		<b>482.20</b>	<b>514.29</b>	<b>601.98</b>	<b>559.22</b>	<b>42.76</b>	

**There was extra expenditure of Rs.42.76 crore due to irregular award of construction works.**

The Company stated (July 2005) that the L-1 party for Section A was awarded another package and hence was not given the work as per bid stipulation and contract was awarded to the lowest eligible bidders. The reply is not tenable in view of the following:

- Limiting award to only one package deprived the Company of the best price through competitive bids.
- As firms execute several projects at a time at various places the restrictive clause lacked justification.
- Even when L-1 was not awarded a particular section due to its being awarded work in another section, the L-2 should have been awarded the work subject to matching L-1 price. This principle was not followed.

In respect of Section B the Company stated (July 2005) that the work was awarded to the lowest bidder and the loss calculated by Audit was actually a tender variation in execution. The reply is not tenable as the total value of work for rates quoted for different items worked out to Rs.189.83 crore and the Company should have awarded the work for Rs.189.83 crore.

\*The proportionate value of L-1 has been worked out considering the payment that would have been made to L-1 for the actual quantities of work executed had the work been awarded to L-1.

In respect of Section D the Company stated (July 2005) that the price quoted by the lowest tenderer was unworkable and hence was not accepted. The reply is not tenable. The party was technically qualified and disqualifying it after opening of price bids was irregular.

The Company's reply was silent on the award of contract in respect of Panvel Bypass Package-II.

### Execution of work

**2.12** The deficiencies noticed in the execution of work are discussed in succeeding paragraphs 2.14 to 2.22.

#### *Land acquisition*

**2.13** For timely execution of any project the standard practice is to draw a PERT\*/CPM# chart for various activities. Land acquisition is a time consuming process. The time required cannot be estimated with any degree of certainty. In the absence of control over acquisition date the completion of the project also becomes uncertain. Starting a project without prior acquisition of land may lead to escalation payments to the contractors due to extended period of execution and blockage of funds due to delay in completion of the project.

Audit scrutiny revealed the following:

- The Company awarded construction works without prior acquisition of land. Delay in acquisition of land resulted in delayed handing over of complete site to construction contractors which in turn led to payment of Rs.16.46 crore towards escalation in four sections (A-Rs.6.03 crore, B-Rs.4.88 crore, C-Rs.2.28 crore and D-Rs.3.27 crore).
- Land measuring 5.41 hectares was acquired through private negotiations instead of through Special Land Acquisition Officer. This resulted in extra expenditure of Rs.3.82 crore towards conveyance deed (Rs.1.06 crore), solatium@ (Rs.2.12 crore) and others (Rs.0.64 crore).

**Starting of project without prior acquisition of land led to extra expenditure of Rs.20.28 crore.**

The Company stated (July 2005) that if the project was started only after prior acquisition of land the project would have been delayed. The reply is not tenable as starting of a project without taking prior possession of land is beset with the problems stated above.

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\*Programme Evaluation and Review Technique.

#Critical Path Method.

@ A sum received as compensation of land.



Audit further noticed segment wise deficiencies as follows:

***Section-B of MPEW***

***Extra expenditure due to not restricting payment to executed quantities***

**A benefit of Rs.4.06 crore was passed on to the contractor due to not restricting payment to executed quantities.**

**2.14** In Part-VI of the contract agreement an alternative design for superstructure was prescribed. By using alternative design the executed quantity was less than the bill of quantity (BOQ). The Company did not restrict the payment on the basis of the executed quantity of work done, resulting in extra payment of Rs.4.06 crore.

The Company stated (July 2005) that there was change in design and the quantities were no longer relevant. The reply is not tenable. It was not a lumpsum contract but an item rate contract. The payments should have been regulated as per the quantities executed.

***Incorrect fixation of rate***

**2.15** The quantity of work (item 6.18 of BOQ) relating to Metal Crash Barrier exceeded the BOQ quantity by 125 *per cent*. The rate fixed for the additional quantity was Rs.3,000 per metre in Section B as against Rs.2,500 per metre fixed for the additional quantities beyond 125 *per cent* in Sections-C and D. This resulted in extra benefit of Rs.37.53 lakh to the contractor (HCC Limited, Mumbai).

The Company stated (July 2005) that the rates were decided on a mutual basis. The reply is not acceptable. There should have been uniformity in fixation of rates for quantities beyond 125 *per cent* in all sections of the project.

***Incorrect application of rates for payment***

**2.16** As per the BOQ, 1,674 cum of Plain Cement Concrete (PCC) of M-10 grade at the rate of Rs.1,600 per cum was to be provided and laid for foundations of main structure under item 6.4. It was, instead, decided (December 2000) to lay PCC of M-15, M-30 and M-40 grade. The rates decided were as follows:

Quantity	Rate applicable
0-1,674 cum	Rs.1,600 per cum
Above 1,674 cum:	
M-15	Rs.2,044 per cum
M-30	Rs.2,299.50 per cum
M-40	Rs.2,452.80 per cum

It was noticed during audit that the payment for 0-1,674 cum was made at rates higher than the stipulated rate of Rs.1,600 per cum. This resulted in extra expenditure of Rs.14.27 lakh.

The Company stated (July 2005) that all the payments were properly regulated. The reply is factually incorrect as the rate applicable for the initial quantity of 1,674 cum was not correctly applied while making payment.

#### ***Section D of MPEW***

##### ***Payment towards inadmissible claim***

**The Company made payment of Rs.12.57 crore towards an inadmissible claim.**

**2.17** The contractor claimed Rs.12.57<sup>#</sup> crore as an extra item towards utilisation of 13.23 lakh cum of earth material from borrow area. As per clause 3 of special conditions of contract/supplementary information, useful material available from cuttings was to be used in the construction works. Hence the Company should not have accepted the claim as sufficient excavated material (15.12 lakh cum) was available. This resulted in giving of an undue benefit of Rs.12.57 crore to the contractor and was irregular.

The Company stated (July 2005) that material available from cutting could not be fully used for embankment. It was further stated that due to blasting, huge pieces of rock had come out which could not have been used for embankment and additional efforts to break them to smaller size would have been required. The reply is not tenable. Out of the excavated material of 15.12 lakh cum, only 1.89 lakh cum (12.5 per cent) was stated to have been used. Given the huge price difference of Rs.40 per cum for utilisation of available material and Rs.135 per cum for utilisation of material from borrow area and in the absence of a system of verification by the Engineers of the Company, the veracity of the claim of contractor was doubtful, especially, in the context of very low utilisation of excavated material.

##### ***Incorrect regulation of payment***

**2.18** Scrutiny of final bill (July 2002) under Section-2 (earth work) revealed that the Company paid for item 2.8 at the rate of Rs.174 per cum treating the work under two separate items, "removal" (Rs.100 per cum) and "replacement" (Rs.74 per cum) as against the rate of Rs.150 per cum for item No.2.8 relating to "removal and replacement of unsuitable material"(3,41,370 cum). By incorrectly splitting the item of work for which a composite rate of Rs.150 per cum was already available, extra benefit of Rs.81.93 lakh was passed on to the contractor.

The Company stated (July 2005) that the item 2.8 was provided for a different purpose and the payment was made as per its steering committee's advice. The reply is not tenable because a composite rate was available.

##### ***Incorrect regulation of payment for cut formation***

**2.19** Earthwork includes item 2.10-Preparing cut formation in rocky portion including correcting surface irregularities by filling the interstices with PCC M-10 grade to receive the dry lean concrete (DLC) course. The surface area on

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<sup>#</sup>Borrow areas rate Rs.135 per cum – utilisation of own material rate Rs.40 per cum for utilisation of 13.23 lakh cum earth material from borrow area.

which cut formation is to be prepared depends upon the length and width of the rocky area excavated which is estimated based on the specified levels/dimensions on the drawings. As per MOST Specifications, any excess width/depth excavated beyond the specified levels/dimensions on the drawings shall be made good at the cost of the contractor. Thus, there cannot be any extra payment of the variation arising out of increase in width beyond that stipulated in the drawings. Audit scrutiny revealed that the quantity reckoned for payment under item 2.10 was incorrectly increased from 1,73,900 sqm to 2,10,687 sqm (21 per cent). Thus, the Company made extra payment of Rs.73.57 lakh\* to the contractor towards excess cut formation.

The Company stated (July 2005) that the geology in the area was complex and hence over-cutting during excavation took place. The reply is not tenable. The contractors were to inspect the sites to familiarise themselves with the site conditions before quoting the rates for various items of work. The contractor was paid a higher rate (Rs.200 per cum) for controlled blasting as compared to the normal blasting rate of Rs.125 per cum. The large scale overcuts were due to the lack of control on blasting by the contractor and extra payment was not justified.

### ***Ghat section - package-II***

#### ***Payment in violation of defect liability clause***

**The Company made payment of Rs.1.98 crore to the contractor in violation of the defect liability clause.**

**2.20** For Ghat section package-II the Company paid (February 2003) Rs.1.98 crore to Larson and Tubro Limited (L&T Limited) towards ACC Marg treatment provided to the damaged concrete wearing surface on structures in Khandala-Lonawala By Pass. It was observed during audit that the original work to which damages had occurred was still under the defect liability period, and any rectifications should, therefore, have been got done without any extra cost. Thus, the payment of Rs.1.98 crore was irregular.

The Company stated (July 2005) that payment was made as the rectification was done using a treatment different from that originally done. The reply is not tenable as the original work was defective and the rectification was done during the defect liability period. A new method of treatment would only have helped the contractor for not having to undertake further repair work. Further, no deduction was made towards the cost that would have been incurred if the rectification was as per original treatment plan.

#### ***Irregular payment towards transportation of earth material***

**Extra payment towards transportation of earth material was irregular.**

**2.21** The rate obtained (September 1999) for item 2.6-embankment with material from borrow area was Rs.124 per cum. The contractor (L&T Limited) sought (June 2002) extra payment of Rs.9.60 per cum towards extra lead and cost of earth material on the ground that the shorter route could not be used due to non completion of rail over bridge (ROB). The Company made extra payment of Rs.53.10 lakh for 5,53,086 cum. The ROB did not exist at the

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\*2,10,687 sqm - 1,73,900 sqm = 36,787 sqm x Rs.200 per sqm = Rs.73.57 lakh.

time of start of work and hence any extra payment was not justified. The extra payment needs to be recovered from the contractor.

The Company stated (July 2005) that the ROB was expected to be completed before execution of work and hence payment was made. The reply is not tenable. The NIT did not specify any time frame for construction of ROB. Thus at the time of receipt of quotations, the time frame for completion of ROB was not fixed. Hence any claim towards delay in completion of ROB should not have been entertained.

***Common deficiencies in more than one section of MPEW***

**2.22** The following deficiencies were also noticed during audit:

- As per the contractual terms monthly payments were to be made by the Company to the contractors, but the Company made payments on a fortnightly basis after December 1998. The amount involved was Rs.653.68 crore and the payment was in violation of the contract resulting in a loss of interest of Rs.4.30\* crore to the Company as also violating the principle of equity.

The Company stated (July 2005) that payments were made on fortnightly basis to motivate the contractors to achieve greater speed of work. The reply is not tenable because the contractor was bound for timely completion of the work as per the agreement. Hence this undue benefit to the contractor was not warranted.

- In respect of five items in sections A, C, D and PBP-II of MPEW project, the Company paid Rs.78.30 crore towards quantities stated to have been executed in excess of 125 *per cent* for which rates were revised. The quantities certified as executed were as high as 72,290 *per cent* of the estimated quantity. In one such case of section 'D', the rate for controlled blasting was Rs.200 per cum which is higher than the rate for normal blasting (Rs.125 per cum). As against the estimated quantity of 9.35 lakh cum through normal blasting, the recorded quantity was 5.23 lakh cum. It was further noticed that the recorded quantity of material excavated through controlled blasting was 3.57 lakh cum as against estimated quantity of 7,732 cum.
- As per the tender conditions, rates for the items beyond 125 *per cent* of BOQ were to be revised. For quantities beyond 125 *per cent* the Company should have had a predetermined formula/methodology for various items of work so that the rates could be determined in a transparent manner. Failure to do so resulted in the rates being arrived at in a non transparent manner. The additional payment due to the rates being in excess of the rates quoted in BOQ was Rs.6.14 crore in respect of five items.

**The rates for items beyond 125 *per cent* of the estimated quantities and items not originally envisaged were fixed arbitrarily in a non transparent manner.**

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\*Calculated at the rate of 16 *per cent* as per bid document (Rs.653.68 crore x 16 *per cent* ÷ 365 x 15 days).

- Items not originally envisaged in BOQ are referred to as extra items. The Company paid Rs.106.13 crore towards 291 extra items. There was no predetermined formula prescribed in the tender documents to fix the rates for such extra items. The contracts should have provided for determination of rates based on District Schedule of Rates (DSR).

The Company stated (July 2005) that the rates were fixed after due scrutiny by a steering committee and in respect of fixation of rates for extra items use of regular DSR was beyond the scope and no such provision was possible to be incorporated in the tender. The reply is not tenable as the reply by the Company not only highlights the shortcomings of the bid documents and estimates but also reflects deficient project planning resulting in large variations.

- The Company paid Rs.11.19 crore to the contractors of Sections A, B and D towards customs duty (CD) for import of new machinery. As machinery imported for construction of roads are exempt from payment of CD, the claim for CD should not have been admitted.

The Company stated (July 2005) that the exemption was not available for State Government undertakings prior to 1 April 2000. The reply is not tenable. The work was being executed on behalf of the Government of Maharashtra and hence payment of CD was exempted. In fact L&T Limited, the contractor for Section-C had utilised this exemption and did not claim reimbursement of CD. Further, the Company should have obtained the original papers for payment of CD to eliminate possibility of double claim from any other Government Department or reimbursement from the Customs Department. Original papers relating to import of the machines and CD payment were not made available to Audit.

- The Company decided to provide standard items of furniture of particular make to consultants and included this item (Part 7) in the scope of construction work of different packages. After the tenders were opened the rates were found to be varying widely. In respect of one item of furniture the difference was as high as rupees four lakh despite the item remaining the same. As compared to the lowest rates the extra expenditure involved was Rs.67.94 lakh.

The Company stated (July 2005) that the rates quoted for furniture items were part of the tenders and hence the rates were different. The reply is not tenable. The items should have been excluded from the scope of work and procured separately so as to get the benefit of lowest prices as well as bulk purchase from manufacturers.

### **Project Management by Consultants (PMCs)**

**2.23** The Company entrusted (June 1997) the PMCs with the task of preparation of the tender documents, detailed engineering design, estimates

and supervision of work. The total expenditure on PMCs (May 2002) was Rs.34.49 crore. The following deficiencies were noticed during audit:

***Failure to incorporate standard clause in the contract document***

**2.24** A standard clause that is normally incorporated in execution of road projects stipulates that the contractor shall ascertain himself the potential of the earth and stone quarries and shall arrange for the balance material from his own source if the leased out quarries do not yield sufficient materials to complete the job. In case of Sections A and D, the clause relating to “own arrangements by the contractors” was not included in the Tender Document resulting in payment of Rs.3.47 crore on this item of work. There was a failure on the part of PMCs to incorporate such a standard clause.

The Company stated (July 2005) that the Company had expected sufficient quantity of material from nearby acquired quarries, borrow areas *etc.* and therefore took a decision not to include such a clause in the tender documents for Sections A and D. The reply is not tenable as the documents relating to the decision were not made available.

***Segment wise bonus clause***

**2.25** For timely completion of projects the practice followed is to incorporate a bonus clause. The underlying principle is that once an asset is constructed in time or before the scheduled date the organisation can put the asset to use earlier and derive benefit from such early completion. If a work is, however, split into segments and a completed segment cannot be put to use till all the segments are completed then there should be no segment wise completion bonus clause.

A flyover is one such work where there can be no segment wise completion bonus clause, as the segment of a flyover cannot be put to use till the flyover is completed. In violation of this basic principle the Company included segment wise bonus clause in the contract relating to construction of a flyover at Panvel Bypass (Package-II) and paid Rs.8.36 crore towards the completion of different milestones.

The Company stated (July 2005) that the clause was incorporated to speed up completion. The reply is not tenable as inclusion of a segment wise bonus clause was not justified, and resulted in payment of bonus though the project was delayed by eight months.

***Omission to include detailed description of items***

**2.26** Soil investigation reports revealed that black cotton soil would be up to two metres depth in certain chainage<sup>@</sup>. Contractors were also aware of the soil conditions. Item 2.8 did not explicitly mention the depth of two metres. Failure to do so resulted in non applicability of the rate up to two metres for

**Though segments of a flyover can't be put to use till the full flyover is completed, the Company incorporated segment wise bonus clause in the agreement.**

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<sup>@</sup> The location of land alongwith road side from start point (in metres) of the road.

item 2.8 leading to fixing the rates under two separate items (2.1 and 2.6). This resulted in extra payment of Rs.31.02 lakh.

The Company did not deny (July 2005) the fact of this omission but maintained that if detailed description was given the rates quoted would have been different. The reply is not acceptable. As the minimum depth was 500 mm an upper limit should have been specified. Non indication of such an upper limit would have meant that there was no upper limit and hence the argument with regard to a different rate being quoted is hypothetical as fixation of an upper limit could have only got a lower rate. There was a clear failure on the part of PMC to prepare the tender documents properly.

***Undue benefit to contractors by certifying payments for work not done***

**2.27** The quantities executed/measured and certified by the PMCs were paid through RABs. Some of the quantities were, however, reduced in subsequent RABs/FBs and payment to that extent was adjusted from the amount due. The total benefit extended was as under:

<b>Amount originally certified (Rupees in crore)</b>	<b>Period taken to rectify the certified amounts</b>	<b>Loss of interest (Rupees in crore)</b>
8.08	1 to 69 months	1.27

**There was undue benefit of Rs.1.27 crore to the contractors due to incorrect certification by PMCs.**

Since the payments to the contractors were made on fortnightly basis, taking such long periods to rectify the certified measurements was not justified. The loss of interest to the Company was Rs.1.27 crore due to funds being blocked with the contractors. The items of work executed included earth work excavation *etc.* It is not clear how such items were remeasured after lapse of such long periods.

The Company in its reply (July 2005) did not dispute the audit observations.

***Incorrect regulation of escalation bills***

**2.28** While certifying the escalation bills for Section B, the PMC did not consider the current price indices for steel and used base indices for payment. The current indices were lower than the base indices. The adjustments of such excess payments were carried out only after nine months. Similarly, in Section A the wholesale price indices of material for certain months were taken on the higher side initially and adjustments were done at a belated stage with delay ranging from 28 to 30 months. The belated adjustments resulted in a loss of interest of Rs.21.89 lakh (Section-A: Rs.12.83 lakh and Section-B: Rs.9.06 lakh).

The Company stated (July 2005) that the indices were not available immediately. The reply is not correct because indices were available but not applied while making initial payments.

**Certification of bills without correct measurements**

**2.29** It was observed from RABs of Section-D that in the following cases the consultant certified quantities higher than those claimed by the contractor by inflating the quantities and not adjusting the minus quantities under item 2.4(b) "Embankment with excavated rock."

Running account bill number and date	Quantity (In cum)		
	Claimed by the contractor	Certified by PMC	Excess certified by PMC
31M, 28 June 1999	Nil	(+) 6,698.967	6,698.967
34M, 13 July 1999	(+) 585.359	(+) 1,505.939	920.580
37M, 11 October 1999	Nil	(+) 199.205	199.205
40M, 11 January 2000	(+) 5,794.000	(+) 9,211.000	3,417.000
43M, 12 March 2000	(-) 23,165	(+) 12,603.150	35,768.150
44M, 14 May 2000	(-) 35,767	Nil	35,767.000
45M, 12 June 2000	(-) 34,619.680	(+) 1,147.320	35,767.000
46M, 12 July 2000	(-) 57,179.190	(+) 1,449.810	58,629.000

Subsequently, the contractor, while submitting the RAB (48M) dated 13 September 2000 to PMC, recorded a minus quantity of 59,100 cum (Rs.29.55 lakh at the rate of Rs.50 per cum) to adjust the excess payment made to him through the above bills. The Company, however, made full payment to the contractor without the required adjustments. This amount of Rs.29.55 lakh remained to be recovered (July 2005) .

The Company stated (July 2005) that sometimes the contractor submitted a bill wherein the quantities of some of the items were admitted provisionally by the PMC due to non verification of the actual quantities and such provisional quantities are subsequently measured and adjusted accordingly. The reply is not acceptable as it does not explain specifically the variations pointed out by Audit. The Company also failed to detect that the consultant had certified incorrect measurements.

**Incorrect regulation of payment**

**2.30** The Construction work of road in Section 'D' was awarded (February 1998) to V.M. Jog Engineering Limited (renamed as Jog Engineering Limited) for Rs.138.05 crore. The original total quoted price of Rs.144.94 crore was reduced to Rs.138.05 crore by applying a rebate of 9.1 per cent on Part-IV of BOQ. This was further reduced to Rs.133.47 crore during negotiations by allowing uniform rebate at the rate of 3.32 per cent on each section of BOQ.

Audit scrutiny revealed that the payments made by the Company failed to take into account the rebate of 3.32 per cent. The excess payment works out to Rs.5.21 crore (final cost of Rs.157.01 crore).



## Provision of amenities

### *Non transparent award of emergency medical service contract*

**There was lack of transparency in the award of emergency medical service contract.**

**2.31** The Company awarded (January 2000) the contract for providing emergency medical services (EMS) to Sterling Hospital from 1 April 2000. The Company provided three ambulances procured at a cost of Rs.85.68 lakh to the Hospital. The contract also provided for payment of Rs.9.79 lakh per month to the contractor towards operating cost. The Company incurred an expenditure of Rs.2.07 crore during April 2000-June 2002. There was lack of transparency in the contract as no bids were called.

When enquiries were made (March 2002) from other parties for operating the contract, they offered to provide the services without any operating cost to be borne by the Company. On this basis the Company issued (May 2002) termination notice to Sterling Hospital, which in turn expressed its willingness to continue the services beyond June 2002 without any financial burden of operating cost to the Company. The hospital had been providing services without any operating cost since July 2002. Due to lack of transparency in the initial award of the contract in January 2000, the Company incurred an avoidable expenditure of Rs.2.07 crore.

## Toll collection

**2.32** During May 2000 to 8 August 2004 the toll collection was awarded on the basis of minimum cost of collection. Subsequently, the toll collection contract from 9 August 2004 was awarded for a period of 15 years on the basis of upfront payment for the full 15 year period.

## Toll collection till August 2004

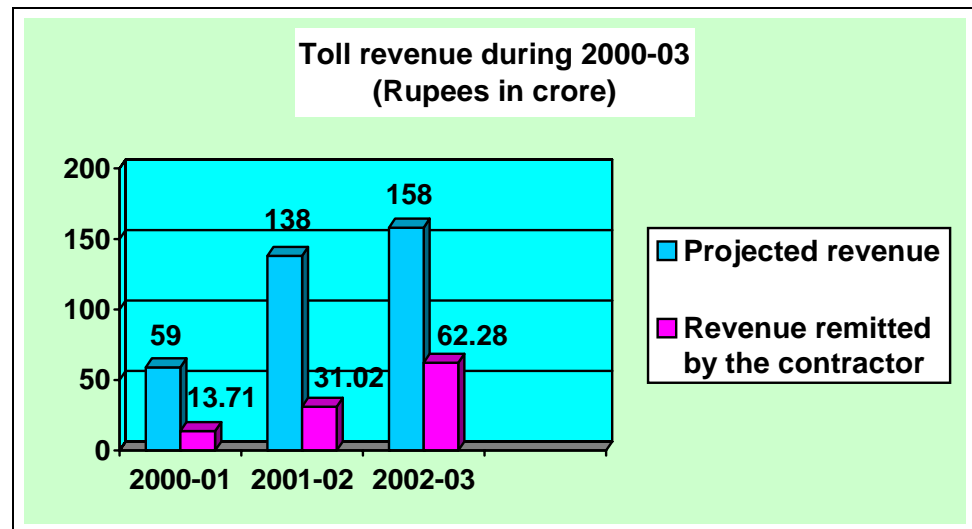
**The method adopted for the award of toll collection contract was inappropriate and was prone to misdeclaration of toll collection.**

**2.33** Toll collection on MPEW started from May 2000. The work of toll collection was awarded (12 May 2000) to Ideal Road Builders (IRB). The scope of work as envisaged was that the toll collections would be remitted to the Company and IRB would be paid expenses towards the collection.

Selection of the party on the basis of minimum quoted collection charges was in deviation from the normal procedure adopted by the Company for toll collection contracts, where the party is selected on the basis of maximum revenue the party agrees to remit. The procedure adopted in the instant case had the inherent deficiency that it could not ensure that the toll collected was remitted in full to the Company. It was prone to misdeclaration of revenue collected. As per the estimates, revenue expected to be collected was Rs.355 crore for three years (Rs.59 crore for 2000-01, Rs.138 crore for 2001-02 and Rs.158 crore for 2002-03). Against this, the actual toll remitted

As against the expected revenue of Rs.355 crore the remittance by the toll collection agent was Rs.107.01 crore.

by the party was Rs.107.01 crore (32 per cent) during 2000-03 as indicated in the Bar chart below:



The first year (2000-01) remittances by the contractor were far below the projected revenue. For subsequent years bids should have been called for by changing the method for selection of party. But instead the party was given extensions from time to time on the same defective terms up to August 2004.

The Company stated (July 2005) that there was no pilferage as the Company had installed automatic traffic count and toll monitoring system and an independent agency was appointed to monitor the traffic count. The reply is not acceptable as there was no way to ensure that the private agency fully protected the Company's interest given the huge amounts involved. The reply was silent as to why no tenders were called but extensions given twice.

#### **Award of toll collection cum maintenance contract after August 2004**

**2.34** The Company awarded (August 2004) contract for an upfront payment of Rs.918 crore to IRB towards collection of toll and maintenance of NH-4 and MPEW for a period of 15 years with effect from 9 August 2004.

Audit scrutiny revealed the following:

#### ***Fixation of reserve price***

**2.35** The Net Present Value (NPV)<sup>§</sup> of revenues from toll collection and expenditure on maintenance of MPEW was Rs.4,104 crore as per projections made in the agreement between Government of Maharashtra and the

<sup>§</sup> Revenue and expenditure streams discounted at the rate of 8.5 per cent over a 15 year period.

Company. If NH-4 revenue and expenditure are also taken into account the NPV would be higher by Rs.281 crore *i.e.* Rs.4,385 crore.

The upfront payment by the eventual awardee assumed a discounting factor of 8.5 *per cent*. The reserve price that should have been fixed for a discounting factor of 8.5 *per cent* for various revenue streams is as follows:

Even if only 60 *per cent* of the projected toll revenue were to be considered the reserve price would have worked out to Rs.2,236 crore.

Particulars	Reserve price at different levels of the projected revenue (Rupees in crore)			
	100 <i>per cent</i>	80 <i>per cent</i>	70 <i>per cent</i>	60 <i>per cent</i>
NPV	4,385	3,435	2,960	2,484
10 <i>per cent</i> profit to the bidder	439	344	296	248
Reserve price (Upfront payment)	3,946	3,091	2,664	2,236

Even if the revenues were to drastically drop to only 60 *per cent* of the projected values, and the bidder was to obtain a clear profit of 11 *per cent*, the reserve price works out to Rs.2,236 crore.

With an upfront payment of Rs.2,236 crore, the profitability of the bidder for different revenue streams would be as below:

(Amount : Rupees in crore)

Profitability with an upfront payment of Rs.2,236 crore				
Particulars	100 <i>per cent</i> Revenue	80 <i>per cent</i> Revenue	70 <i>per cent</i> Revenue	60 <i>per cent</i> Revenue
NPV	4,385	3,435	2,960	2,484
Upfront payment	2,236	2,236	2,236	2,236
Total gain to the bidder	2,149	1,199	724	248
Profit Margin on upfront payment to the bidder (in percentage)	96	54	32	11

The reserve price was fixed at Rs.900 crore.

As against this, the reserve price was fixed at Rs.900 crore.

The Company stated (July 2005) that the reserve price was based on the actual traffic count near the tender date. It further stated that the figure worked out by Audit was incorrect as it was based on old cash flows of the project and took into account income from real estate (to provide for 40 *per cent* subsidy) and did not take into account the various expenses to be incurred.

The reply is not correct in view of the following:

- The reserve price of Rs.900 crore was based on the remittances made by the contractor and this was unreliable as it was prone to misdeclaration as already explained.
- The reserve price computed by Audit did not include revenue from real estate and included various costs to be incurred.

- As per the traffic projections given in the bids submitted by the parties the NPV was more than Rs.4,000 crore.

***Declaration of reserve price to the bidders***

**Apart from fixing the reserve price very low the same was communicated to the bidders in violation of normal practice.**

**2.36** The reserve price is kept confidential. In deviation from this procedure the reserve price was disclosed to the bidders prior to submitting their offers.

The Company stated (July 2005) that if the Company did not disclose the upfront payment, the tenderers would have quoted very low or very high amounts. The reply is not tenable as this was the case of an upfront payment for a period of 15 years and no party would quote an amount which does not give it profit from the contract. Due to disclosure of the reserve price which was itself set very low, the parties bid very low and very close to the reserve price. The highest price of Rs.918 crore was only marginally higher (two per cent) than the reserve price of Rs.900 crore.

***Restrictive eligibility criteria for the bidders***

**2.37** Scrutiny revealed the following deficiencies in the eligibility criteria set for the bidders:

Clause	Remarks
The bidder should have experience of collecting toll for a minimum period of one year.	Since the arrangement did not envisage periodical payments by the bidders but upfront payment, <i>this specification relating to prior experience in toll collection was restrictive in nature.</i>
The bidder or the lead member of the consortium should have completed at least one work of BOT road project costing not less than Rs.100 crore in the last three years.	Since upfront payment was involved the specification should have sought experience in construction of road project. <i>The specification with regard to experience in BOT project was again restrictive in nature.</i>

Due to these restrictive clauses the final response was poor resulting in only three bids.

The Company stated (July 2005) that the experience relating to BOT was prescribed to ensure that the contractor did not face problems like assessment of traffic risks, raising finance *etc.* due to inexperience in such BOT works. The reply is not tenable in view of the remarks made above. It is construction/maintenance which is technical in nature and since there was no periodic payment of toll collection, the Company was not affected and the party would have taken its own measures to deploy proper staff. Experience in road construction/maintenance would have been sufficient.

Clause relating to upfront payment in lumpsum for toll collection for a 15 year period was highly restrictive in nature.

### ***Restrictive clause relating to upfront payment***

**2.38** The normal procedure in toll collection contracts is that the party is asked to quote the amount that it would remit on a weekly basis. In a major departure from this practice, the bidders were asked to make upfront payment in lumpsum for toll collection for 15 years period. Weekly payments would have attracted more participants as the requirement with regard to financial capabilities of the parties would have been lower. The upfront payment for 15 years period is too huge a sum. Such a provision acted as a serious deterrent to ensuring wide participation. As a result, the full benefit of competitive bids was not available.

The Company stated (July 2005) that this clause was meant to improve the immediate financial status of the Company and cover all likely risks involved in likely toll collection for the next 15 years. The reply is not tenable. The clause limited participation. The amount realised was far below the revenue that could have been obtained to discharge the loan liability fully.

### ***Clubbing of major expenditure work and toll collection***

**2.39** The contract provided for four laning of NH-4 with operation, maintenance and toll collection of NH-4 and MPEW.

The four laning of NH-4 was a major item of the work. The values quoted by the three bidders for work on NH-4 were:

<b>Name of the firm</b>	<b>Value quoted (Rupees in crore)</b>
IRB	286.50
Gammon India	262.85
SMSL	263.56

While a toll collection contract is awarded to the highest bidder (H-1), an expenditure contract is awarded to the lowest bidder (L-1). When the two items are clubbed the H-1 contractor may not be executing the work at the lowest cost. Hence to get the full benefit, the expenditure contract and the toll collection contract should have been separated for obtaining the bids.

### ***Defective contract clauses***

**2.40** One of the basic principles relating to contracts is that the terms of contract must be precise and definite, and there must not be any ambiguity or misconstruction. A scrutiny of the agreement signed between the Company

and IRB revealed several deficiencies:

Clause Number	Contract Clause	Remarks
7.1 Performance Security.	The contractor shall submit performance security of Rs.30 crore.	<p>The NPV of expenditure to be incurred by the party on NH-4 and MPEW was Rs.642 crore.</p> <p>The upfront payment (Rs.918 crore) is after deducting the expenditure towards construction and maintenance (Rs.642.04 crore). In effect this is like giving an advance for the construction work to be undertaken in distant future. For any advance, Bank Guarantee should be taken. If the expenditure is below the stipulated cost, there has to be some mechanism to recover the difference. To ensure that the full work envisaged was executed security deposit by way of Bank Guarantee of Rs.642 crore should have been collected. Instead only a meagre amount of Rs.30 crore was prescribed. Otherwise full amount Rs.1,560.04 crore (Rs.918 crore + Rs.642.04 crore) should have been collected and the amount towards construction should have been released based on progress of work.</p>

The Company stated (July 2005) that the cost of value addition works was Rs.33 crore and the performance security of Rs.30 crore was adequate. The reply is not tenable. The value reckoned by the contractor for construction and maintenance was Rs.642 crore and as this amount was deductible from the upfront payment the same is effectively an advance payment towards the work necessitating security deposits. Otherwise the full amount (Rs.1,560.04 crore) should have been collected and the amount towards construction should have been released based on progress of work.

46.2 Force Majeure Event	(ix) Any public agitation.	One of the 'Force Majeure Conditions' (FMC) identified is 'any public agitation'. Prior to award of this work the traffic on NH-4 was toll free. Clearly having identified the possibility of a public agitation, the contract should have provided for a definite formula such as what would be the compensation in the event of no toll levied on NH-4 due to public agitation. This had not been done.
46.3(b) Compensation for loss of revenue.	There shall not be any compensation on account of force majeure affecting fee collection unless the fee collection is affected for a continuous period of more than 15 days.	Since the contract is for 15 years, a formula for compensation payable if toll collection is affected for a period of more than 15 days should have been fixed to avoid inflated claims from the contractor. This had not been done.
46.4 Termination	<ul style="list-style-type: none"> <li>In the event of 'Force Majeure Condition' prevailing for a period beyond 120 days, the contract provided for termination subject to mutually agreed revised terms.</li> </ul>	To avoid inflated claims from the party and/or legal complications, the formula for compensation in the event of termination should have been fixed.

**There were several deficiencies in the agreement which were highly detrimental to the financial interests of MSRDC.**

<p>46.5 Termination payment for Force Majeure Event</p>	<ul style="list-style-type: none"> <li>• Upon termination of contract pursuant to clause here in above, termination payment to the contractor shall be made in accordance with the following: "The contractor shall be entitled to receive from the Company by way of termination payment such amounts out of upfront payment made to the Company considering the costs incurred by the contractor on construction, operation, maintenance of project facility and the fee/toll collected by the contractor till the date of termination".</li> </ul>	<p>Since neither the expenditure incurred by the party is monitored by the Company nor is the toll collection monitored, reasons for including such a clause are not clear.</p> <p>One of the main principles of any contract is that the terms and conditions should not be ambiguous but precise. But the above conditions were violative of this elementary principle.</p>
<p>47.4.1 Termination for contractor event of default.</p>	<p>(3) The Company shall carry out the balance work at the risk and cost of the contractor by appointing another contractor subject to terms and conditions of the Substitution Agreement. The Company shall refund the contractor such amount out of lumpsum upfront payment attributable to balance period of contract for which new contractor is appointed after adjusting losses if any in construction, toll collection, operation, maintenance and payments due to the tenders if any:</p>	<p>This clause will come into operation when the contractor fails to fulfill his obligations under the agreement. With such a clause, the contractor may do the construction work only partially on NH-4 and still get enormous compensation payments. The provision of such a clause was conducive to defaults on the part of the contractor.</p>

During the ARCPSE meeting the Company stated (July 2005) that the cash flow submitted by the bidder would be the basis for determining compensation payable. The reply is not acceptable. The NPV of cash flows (Rs.4,266 crore) submitted with the bid is much higher than the upfront payment made (Rs.918 crore).

<p>47.4.2 Termination for the MSRDC Events of Default</p>	<p><b>Financing by the bidder:</b> The following terms have been defined in the agreement. "Debt Due", "Financing Documents", "Financial Package", and "Senior Lenders". Clause 47.4.2 relating to Termination provides - "Upon termination of these conditions of contract by the contractor due to a MSRDC Event of Default, the contractor shall be entitled to receive from MSRDC, by way of termination payment a sum equal to: (i) the total debt due, <i>plus</i> (ii) 150 <i>per cent</i> of the equity subscribed in cash and actually spent on the project-----".</p>	<p>These clauses had the effect of guaranteeing the contractor for the finances raised by him. The Company is no way connected with the financing arrangements between the Contractor and the Lenders.</p> <p>The above definitions and the related clauses should not have been included in the agreement.</p>
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The Company stated (July 2005) that this clause (47.4.2) was provided, as, if the employer undertakes no such guarantee, no financial institution will come forward to lend money. The reply is not tenable as compensation should not have been linked to the debt due and the equity of the bidder. If the bidder defaults in payment to the financial institution, it is not clear why the

Company should compensate the financial institution.

The deficiencies in the contract as described above were detrimental to the financial interest of the Company.

### Revenue from advertisement segment

**2.41** The projected revenue during the concession period of 30 years from advertisements was Rs.303.58 crore which, by discounting future cash flows, works out to Rs.65.94 crore. The total revenue earned from advertisements during 2002-05 was a meager amount of Rs.4.48 lakh against the projected revenue of Rs.10.19 crore. It was observed during audit that private parties had erected advertisement hoardings just outside but adjacent to 'Right-of-Way'. A photograph showing advertising hoardings by the private parties is shown below:



This indicates the enormous potential revenue from advertisements.

The Company stated (July 2005) that the first few years should be fairly treated as 'learning period' and the Company was framing a policy on leasing of advertisement hoardings/structures within its premises. Audit is of the view that there is a need for the Company to fully exploit this avenue for revenue generation.

### Internal controls

**2.42** The construction work of six segments of MPEW was awarded for a total value of Rs.964.24 crore. A misdeclaration in the quantities of work



executed by a mere 10 *per cent* had implications of additional payment to the extent of Rs.96.42 crore. The measurement of work was thus a highly critical area requiring close monitoring by the Company's own staff. It is useful to make a comparison of the Company's internal controls with those present in State Public Works Departments and BOT projects executed by the National Highways Authority of India - a Government of India organisation.

**Measurement of work was a highly critical area but this was not monitored by the Company's own staff.**

In the PWD set up measurement book is given much importance. This forms the basis for payments. The measurements are checked by the Executive Engineer (EE), Superintending Engineer (SE) and Chief Engineer (CE) on a percentage basis. In respect of works executed by NHAI, the Chief Technical Examiner (CTE) of the Central Vigilance Commission an agency external to NHAI carries out periodical inspections which act as a deterrent against any faulty execution/excess payment. NHAI also carries out inspection by its own officers. In respect of works executed by the Company there was no agency external to the Company corresponding to the CTE in Government of India. There was therefore a need to have internal controls as prevailing in the PWD set up to see that its interests were fully safeguarded. The consequences of absence of such a mechanism have already been discussed in paragraphs 2.14 to 2.30.

The Company stated (July 2005) that the work was always inspected, monitored and controlled by the senior officers of the Company. The reply is not tenable as no measurements were test checked by the officers of the Company as confirmed by the Management during ARCPSE meeting.

### **Conclusion**

**The work of Mumbai-Pune Expressway was undertaken and executed without adequate planning and the required control mechanisms. Contract management was deficient at all levels. No Detailed Project Report was prepared. Sensitivity Analysis, an exercise essential to ascertain project feasibility, was not carried out at the start of execution of project. The procedure adopted for award of construction works by restricting one package to one party deprived the Company of the benefit of the best price through competitive bids. There was lack of transparency in the award of consultancy contracts. Though the L-1 parties were technically qualified their price bids were ignored.**

**Although measurement is a critical area, the Company failed to get this item of work checked by its own staff. Several deficiencies were found in the execution of works and in certification/measurement work entrusted to private agencies.**

**There was no firm plan for repayment of loans raised to finance the project. The reserve price fixed for award of toll collection cum maintenance contract was very low. Apart from fixing the reserve price very low, the same was communicated to the bidders in violation of normal practice.**

**There were several deficiencies in the toll collection cum maintenance contract which were highly detrimental to the financial interests of the Company.**

**Recommendations:**

**The Company had been entrusted with the work of undertaking several high value infrastructure projects, and the following must be ensured:**

- **Before undertaking a project, a Detailed Project Report should be prepared along with sensitivity analysis for ascertaining feasibility.**
- **A firm cash flow plan should be drawn up.**
- **The practice of restricting one package to one bidder should be dispensed with.**
- **The Company should devise and put in place a reliable mechanism to ensure correct recording of measurements of work done by the contractors.**
- **Special care needs to be taken in drawing up agreements for toll collection contracts for infrastructure projects to fully safeguard the Company's interests.**

The matter was report to the Government (May 2005); the reply had not been received (December 2005).