



SUPREME AUDIT INSTITUTION OF INDIA  
लोकहितार्थ सत्यनिष्ठा  
Dedicated to Truth in Public Interest

**Report of the  
Comptroller and Auditor General of India  
for the period ended March 2023**



**Government of Maharashtra  
Report No. 8 of 2025  
(Compliance and Performance Audit – Civil)**



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## Preface

This report of the Comptroller and Auditor General of India for the year ended 31 March 2023 has been prepared for submission to the Governor of the State of Maharashtra under Article 151 of the Constitution of India for it to be laid before the Legislature of the State.

This report contains significant audit findings of the performance and compliance audit of the State Government Departments and Autonomous Bodies conducted under the provisions of the Comptroller and Auditor General's (Duties, Powers and Conditions of Service) Act, 1971 and Regulations on Audit and Accounts, 2020 issued thereunder by the Comptroller and Auditor General of India.

The instances mentioned in this report are those, which came to notice in the course of test audit for the year 2022-23 as well as those which came to notice in earlier years, however, could not be reported in the previous audit reports; instances relating to the period subsequent to 2022-23 have also been included, wherever necessary.

The audit has been conducted in conformity with the Auditing Standards (March 2017) issued by the Comptroller and Auditor General of India.



## EXECUTIVE SUMMARY

This Report of the Comptroller and Auditor General of India (C&AG) relates to matters arising from compliance and performance audit of government departments and autonomous bodies of the Government of Maharashtra falling under the jurisdiction of Accountant General (Audit-II), Maharashtra, Nagpur.

The primary purpose of this Report is to bring important results of audit to the notice of the State Legislature. The findings of audit are expected to enable the executive to take corrective actions and also, to frame policies and directives that will lead to improved operational efficiency and financial management of the organisation, thus contributing to better governance.

This Report consists of one Performance Audit on ‘Improvement of Roads in Maharashtra through Hybrid Annuity Model’, one Subject Specific Compliance Audit on Role of Maharashtra Pollution Control Board in issuance of consent and monitoring of compliance of consent conditions for prevention, control and abatement of water pollution in Maharashtra and two draft paragraphs.

### **Performance Audit on ‘Improvement of Roads in Maharashtra through Hybrid Annuity Model’**

Prior to Execution of Hybrid Annuity Model (HAM), Government of Maharashtra (GoM) was taking up road development through contractors for which entire payment was to be made from government funds. It was decided (November 2017) to cover the road length of 10,576 km out of 90,608 km road length under HAM with an estimated investment of around ₹ 30,000 crore (average ₹ three crore per km) in which government equity share was to be ₹ 18,000 crore (60 *per cent*) and private equity share was ₹ 12,000 crore (40 *per cent*).

The concessionaire was supposed to be repaid in 10 years, after the completion of the construction work in the form of annuity along with interest @ three *per cent* over and above the bank rate. The concessionaire was responsible for the maintenance of the project till the end of the annuity period for which Operation and Maintenance (O&M) cost was payable. As on February 2025, 80 *per cent* packages were completed (Road length 7188.21 km) and 20 *per cent* were ongoing (Road length 1823.09 km).

The Performance Audit was taken up on ‘Improvement of Roads in Maharashtra through Hybrid Annuity Model’ during July 2023 to February 2024 covering the period from 2018-19 to 2022-23 to assess i) whether Terms and conditions of the agreements were designed to safeguard the interest of the Department and selection of individual packages under the model was appropriate, ii) Individual packages were executed as per norms, guidelines and concession agreements, iii) Terms and conditions for payment to the concessionaire outlined in the concession agreement were strictly followed and iv) The mechanism for monitoring and evaluation of the road quality was adequate and effective.

Some of the significant audit findings are mentioned below:

Audit observed that at the time of preparing DPR, the consultant did not prepare component-wise estimates for utility shifting and only lumpsum provision was made. Inclusion of incorrect clause in the RFP for appointment of DPR consultants with respect to payment for the land acquisition component, which

was not actually done by the consultants has resulted in unwarranted expenditure. 78 DPRs were prepared covering 195 works at a cost of ₹ 217.40 crore. In these 78 DPRs, provision of ₹ 5.55 crore was made on the land acquisition activities which were not required at all.

In three out of 42 packages, it was observed that a major part of the road stretch which was to be widened from single lane (3.5 meter to 3.75 meter) to double lane (7 meter) was passing through the forest area, which required forest clearance for execution of works. However, execution of these packages was started without obtaining forest clearance due to which the work was later de-scoped or could not be executed.

Unrealistic loading of insurance charges and patrolling expenses was noticed in the O&M cost of the packages. Audit observed that insurance charges were included as 0.15 *per cent* of the Estimated Project Cost (EPC) in the estimates instead of actual premium payable. The concessionaire obtained insurance policies at a cost ranging from ₹ 0.50 lakh to ₹ 9.07 lakh per year against the inclusion of insurance charges ranging from ₹ 10.34 lakh to ₹ 46.13 lakh in the Estimated Project cost. This has resulted in inclusion of excess insurance charges in O&M cost to the tune of ₹ 34.56 crore in respect of 17 out of selected 42 packages. A lumpsum provision of ₹ 10 lakh per year was provided for each package for patrolling expenses irrespective of the road length required to be covered.

Higher specification for crust thickness of flexible pavement was provided than required as per the projected MSA in DPRs resulting in unwarranted cost of ₹ 297.97 crore in 18 packages. Audit observed in PW Region, Chhatrapati Sambhajinagar that while awarding multiple packages to single bidder the departmental authorities did not consider the earlier awarded works while evaluating the bidder's financial capacity. The work of three out of 42 sampled packages was completed, however these roads were not fully utilized due to non-coverage of narrow minor bridges, reconstruction of weak bridges and incomplete bridge in between. Audit had conducted joint physical inspection of created assets to assess the execution and maintenance of roads and noticed instances of poor/non-maintenance during the O&M period.

Audit observed in three out of 42 selected HAM packages, that the implementing PW divisions failed to make payment for milestone and annuity to the respective concessionaires within the prescribed time limit due to short/delay in release of funds by GoM. As a result, the interest of ₹ 4.65 crore for delayed payment was claimed by the concessionaires and paid by the PW divisions. In three out of 42 selected packages, consideration of incorrect completion cost, short adjustment of payment made during construction and application of incorrect rate of interest resulted in excess payment to the concessionaires. Delays in submission of performance security, execution of escrow agreement and achievement of physical progress of work within the prescribed time were noticed.

Audit observed significant shortfall in inspection by Vigilance and Quality Control Circles as against prescribed by Department. Targets for inspection of HAM packages were not fixed at CE/SE/EE levels. There were significant delays in appointment of Independent Engineers (in 20 out of 42 sampled packages) and Safety consultants (in 29 out of 42 sampled packages). Further,

the department did not appoint any IE for monitoring of projects during the O&M periods of HAM works.

### Good Practices

*Ashta-vinayak darshan is pilgrimage to the eight temples of Lord Ganesha in Maharashtra situated at Morgaon, Sidhhatek, Ranjangaon, Ozar, Lenyadri, Theur, Pali and Mahad covering a total distance of 606 km which usually took almost 2-3 days to complete. After execution of the HAM packages (PN 31, 32, 33, 34 and 35), the travel time for Ashta-vinayak darshan is reduced to 13 hours and 30 minutes.*

### Based on audit observation audit recommends that:

- *Detailed Project Reports should be prepared thoroughly, with realistic assessments of site-specific constraints to avoid unwarranted costs and ensure accurate scope of work.*
- *Operation and Maintenance (O&M) costs should be estimated based on actual and justifiable parameters such as realistic insurance charges, need-based patrolling requirements.*
- *Timely financial allocations may be ensured to avoid interest payments to concessionaire due to delayed payment.*
- *The payment to the concessionaires may be made after ensuring correct calculation of payments due, including balance completion costs, price escalation etc.*
- *O&M costs should be paid only after ensuring that the maintenance of roads is carried out by the concessionaire as per the provisions of the CA through efficient monitoring.*

### Subject Specific Compliance Audit on Role of MPCB in issuance of consent and monitoring of compliance of consent conditions for prevention, control and abatement of water pollution in Maharashtra

Maharashtra Pollution Control Board (MPCB) plays regulatory role over industries and Local Bodies through a structured consent mechanism, ensuring environmental compliance and prevention of water pollution. MPCB issues consent to establish, operate and renewal to the industries and Local Bodies which are likely to discharge sewage or trade effluent. MPCB monitors compliance of consent conditions prescribed and is empowered to issue notices, forfeit bank guarantee and even issue of closure directions.

Subject Specific Compliance Audit on Role of MPCB in issuance of consent and monitoring of compliance of consent conditions for prevention, control and abatement of water pollution in Maharashtra was conducted during June to November 2022 covering period 2017-18 to 2021-22.

Audit scrutiny was conducted at the office of the Principal Secretary, DECC, Maharashtra (PS, DECC) and head office of MPCB including six out of 12 regional offices as well as joint physical verification of 158 industries.

The audit observed that despite the existence of statutory provisions requiring industries to obtain consent to establish and operate, a significant number of industries were functioning without obtaining the necessary consents thereby weakening the compliance to environmental regulations.

The effectiveness of MPCB's monitoring efforts was constrained by a shortage of manpower, which led to fewer inspections and insufficient oversight of compliance with consent conditions. During joint physical verifications, several instances of non-compliance with prescribed consent conditions were noticed. These included the discharge of polluted effluents and untreated sewage into water bodies, non-functional effluent treatment plants (ETPs), and failure to install online continuous emission monitoring systems (OCEMS). These lapses highlight weaknesses in enforcement and monitoring mechanisms.

Further, there were irregularities in the assessment and collection of consent fees, as these were not consistently based on the industries Balance Sheets and Ready Reckoner (RR) rates, leading to short charging of consent fee. Additionally, in cases of non-compliance, MPCB did not obtain or verify bank guarantees and did not initiate forfeiture where warranted, reducing the deterrent effect of financial penalties.

Audit observed that there was a shortfall in the range of 53.50 *per cent* to 68.35 *per cent* in the number of visits actually carried out to the industries with respect to the scheduled visits during the period 2017-18 to 2022-23. Similarly, there was substantial shortfall in visits to highly polluting industries such as Sugar, Paper and Pharmaceutical industries in the range of 58 to 84 *per cent*.

Cases of non-compliance to consent conditions and non-observance of specific standards of parameters in respect of Sugar/Distillery industries, Paper industries and Pharmaceutical industries were observed.

During joint physical verification of seven sugar industries, samples of treated effluents were collected at the outlet of ETP and tested to check compliance with the consent conditions which revealed that effluent exceeded the permissible limit as prescribed for various parameters.

Audit observed that in five CETPs, the parameters actually checked during the period 2021-22 were in the range of 6 to 23 as against prescribed range of 12 to 53.

The six sampled ROs (15 CETPs) analyzed by audit revealed that during 2017-18 to 2021-22 out of 12319 samples, 5033 samples were non-complying against the prescribed standard fixed for CETPs.

Test results of 14 industries connected to CETPs discharged effluent beyond prescribed standards of parameters in the range of 5 to 37 months. However, ROs did not initiate any action against these 14 defaulting industries.

**Based on audit observation audit recommends that:**

- *MPCB should proactively coordinate with other government departments to ensure that all operational industries are brought under the consent regime.*
- *The Government must review the existing manpower structure and take timely action to fill up all sanctioned posts at various levels to strengthen MPCB's field presence.*
- *MPCB must ensure strict enforcement of consent conditions through regular and effective monitoring, particularly focusing on industries identified as high polluters.*

**Other Compliance Audit Observations**

**Public Works Department**

- Non-completion of bridgework due to non-availability of the required land resulted in expenditure of ₹ 9.64 crore as idle.

**Water Supply and Sanitation Department**

- Unfruitful expenditure of ₹ 17.80 crore on construction of underground sewerage scheme for Beed city under Atal Mission for Rejuvenation and Urban Transformation.



# **CHAPTER – I**

## **INTRODUCTION**



# CHAPTER I

## INTRODUCTION

### 1.1 About this report

This Report of the Comptroller and Auditor General of India (C&AG) relates to matters arising from compliance and performance audit of expenditure of government departments and autonomous bodies of the Government of Maharashtra (GoM) falling under the jurisdiction of Accountant General (Audit-II), Maharashtra, Nagpur.

Under the directions of the C&AG, the offices of the Principal Accountant General (Audit-I), Maharashtra, Mumbai and the Accountant General (Audit-II), Maharashtra, Nagpur conduct the audit of various Government departments and offices, autonomous bodies and public sector undertakings (audited entities) falling under their audit jurisdiction. The audit jurisdiction of the office of Principal Accountant General (Audit-I), Maharashtra, Mumbai and office of Accountant General (Audit-II), Maharashtra, Nagpur have eight clusters each as shown in **Table 1.1** below:

**Table 1.1: Cluster-wise distribution of audit jurisdictions**

Sr. No.	Clusters falling under the jurisdiction of Principal Accountant General (Audit-I), Maharashtra, Mumbai	Clusters falling under the jurisdiction of Accountant General (Audit-II), Maharashtra, Nagpur
1	Health and Welfare	Energy and Power
2	Education, Skill Development and Employment	Industry and Commerce
3	Rural Development	Transport
4	Agriculture, Food & Allied Industries	Environment, Science & Technology
5	Water Resources	Public Works
6	Urban Development	Finance
7	Culture and Tourism	IT and Communication
8	General Administration	Law and Order

The cluster-wise list of departments, autonomous bodies and public sector undertakings audited by this office are shown in **Table 1.2** below and the details are given in **Appendix 1.1**.

**Table 1.2: Cluster-wise list of departments, autonomous bodies and public sector undertakings in the audit jurisdiction**

Name of the cluster	Number of departments	Number of autonomous bodies	Number of public sector undertakings
Energy and Power	1	2	30
Industry and Commerce	2	1	29
Transport	2	1	6
Environment, Science & Technology	2	3	4
Public Works	2	1	12
Finance	2*	-	3
IT and Communication	1	-	1
Law and Order	2	2	1
<b>Total</b>	<b>14</b>	<b>10</b>	<b>86</b>

\* Finance cluster not included in this report

This report deals with the audit observations arising out of audit of expenditure of selected units from 12 departments and ten autonomous bodies falling under seven clusters under the audit jurisdiction of Accountant General (Audit-II),

Maharashtra, Nagpur. The audit observations on the audit of Finance cluster falling under revenue sector and audit of PSUs falling under commercial sector are being reported separately through separate reports.

The primary purpose of this report is to bring the important results of audit to the notice of the State Legislature. Auditing standards require that the materiality level for reporting should be commensurate with the nature, volume and magnitude of transactions. The findings of audit are expected to enable the executive to take corrective actions as also to frame policies and directives that will lead to improved operational efficiency and financial management of the organisations thus, contributing to better governance.

## 1.2 Audited entity profile

The departments in the State at the Secretariat level are headed by Additional Chief Secretaries/Principal Secretaries/Secretaries and assisted by Directors/Commissioners and sub-ordinate officers. A summary of the state government's fiscal transactions during 2022-23 *vis-a-vis* the previous year is given in **Table 1.3** below:

**Table 1.3: Summary of Fiscal operations in 2021-22 compared to 2022-23**

(₹ in crore)					
Receipts	2021-22	2022-23	Disbursements	2021-22	2022-23
<b>Section-A: Revenue Account</b>					
Revenue receipts	333312*	405678*	Revenue expenditure	349686*	407614#
Own Tax Revenue	220927#	277486#	General Services	121745#	130591*
Non-Tax Revenue	19307*	16776#	Social Services	142523#	163329#
Share of Union Taxes/Duties	54318#	60001*	Economic Services	59455*	80820*
Grants-in-aid from Government of India	38760*	51414#	Grants-in-aid and Contributions	25963*	32874#
<b>Section-B: Capital Account and others</b>					
Miscellaneous Capital Receipts	0	0	Capital Outlay	46670#	61644*
Recoveries of Loans and Advances	1179*	643*	Loans and Advances disbursed	2436#	4664#
Public Debt Receipts	90488##	87573*@	Repayment of Public Debt	35935*+	37666*@
Appropriation from Contingency Fund	0	200	Appropriation from Contingency Fund	0	200
Contingency Fund	0	200	Contingency Fund	0	200
Public Account Receipts	119377*	143467*	Public Account Disbursements	100533#	121974*
Opening Cash Balance			Closing Cash Balance		
a) Sinking Fund	45738#	54374#	a) Sinking Fund	54374#	60004#
b) Cash Balance	22859	23318#	b) Cash Balance	23318#	21487*
<b>Total</b>	<b>612953*</b>	<b>715453</b>	<b>Total</b>	<b>612952</b>	<b>715453</b>

+ Excluding transactions under Special Drawing facility on 91 days (Receipt and Disbursement of ₹ 98.43 crore)

@ Excluding transactions under Special Drawing facility on 91 days (Receipt and Disbursement of ₹ 7129.25 crore)

\* Higher rounding

# Lower rounding

(Source: Finance Accounts of respective years)

### **1.3 Authority for audit**

The authority for audit by the C&AG is derived from Articles 149 and 151 of the Constitution of India and the Comptroller and Auditor General's (Duties, Powers and Conditions of Service) Act, 1971. The C&AG conducts audit of expenditure and revenue of the departments, autonomous bodies and public sector undertakings of GoM under the provisions of the DPC Act and Regulations on Audit and Accounts, 2020 issued by the C&AG.

### **1.4 Planning and conduct of audit**

The audit process starts with the preparation of the Annual Audit Plan on the basis of the assessment of risk faced by audited entities based on expenditure incurred and revenue generated, criticality, complexity of activities, the levels of delegated financial powers, audit perception, assessment of overall internal controls and concerns of stakeholders and past trends of the audit observations. The unit offices under various departments are categorised into high, medium and low risk units according to the above parameters. The frequency and extent of audit are decided, based on this risk assessment.

After completion of audit of each unit, Inspection Reports (IRs) containing audit findings are issued to the Heads of the offices inspected. The Heads of the offices inspected are requested to furnish replies to the audit findings within one month of receipt of the IRs. Whenever replies are received, audit findings are either settled or further action for compliance is advised. The important audit observations arising out of these IRs are processed for inclusion in the audit reports which are submitted to the Governor under Article 151 (2) of the Constitution of India.

### **1.5 Responsiveness of Government to Audit**

#### **1.5.1 Inspection reports outstanding**

Periodical audit inspections of government departments, autonomous bodies and Public Sector Undertakings are conducted to test-check their transactions and verify the maintenance of important accounting and other records as per prescribed rules and procedures. These inspections are followed up with IRs which are issued to the heads of the offices inspected, with copies to the next higher authorities. Half-yearly detailed statements of pending IRs are sent to the secretaries of the departments concerned to facilitate monitoring of action taken on the audit observations included in the IRs.

As of June 2023, 2408 IRs (10340 paragraphs) were outstanding for settlement. Year-wise details of IRs and paragraphs are shown in *Appendix 1.2*.

#### **1.5.2 Departmental Audit committee**

The Finance Department, GoM instructed (December 1985) all the administrative departments to constitute Audit Committees to review outstanding IRs and paragraphs and to take prompt action for their settlement. Each committee so established shall comprise of a representative of administrative department, Audit and a nominee from the Finance Department besides, the head of the department of the auditable entity. A representative from the audit office not below the rank of Deputy Accountant General is the

member of the Audit Committee. The Audit Committee Meetings (ACMs) are required to be held at least once in every quarter.

Out of 12 administrative departments under the audit jurisdiction of the Accountant General (Audit-II), Maharashtra, Nagpur, covered in this report, ACMs were conducted by only three administrative departments during 2022-23 as indicated in **Table 1.4**.

**Table 1.4: ACMs conducted during 2022-23**

Sr. No.	Name of the Administrative Department	No. of ACMs held	No. of IRs settled	No. of paras settled
1.	Home, Law & Judiciary	1	2	31
2	Industry	1	35	118
3	Forest	2	5	155
<b>Total</b>		<b>4</b>	<b>42</b>	<b>304</b>

As seen from the **Table 1.4**, only four ACMs were convened by the departments, despite the pendency of large number of inspection report paragraphs.

### **1.5.3 Response of departments to draft paragraphs and compliance audits**

Two draft paragraphs, one Performance Audit and one Subject specific compliance audit, appearing in this report were forwarded demi-officially to the Principal Secretaries/Secretaries of the departments concerned during the period between April 2023 and February 2025 and with a request to send responses within six weeks. Replies to the Performance audit, Subject specific compliance audit and one draft paragraph has been received and suitably incorporated in the Report.

### **1.5.4 Follow-up on audit report**

According to instructions issued by the Finance Department, GoM in January 2001, administrative departments were required to furnish Explanatory Memoranda (EMs) duly verified by Audit to the Maharashtra Legislature Secretariat in respect of paragraphs included in the Audit Reports of the C&AG of India, within three months of presenting the audit reports to the state legislature. The administrative departments, however, did not comply with these instructions. The status of outstanding EMs from 2015-16 to 2019-21 is indicated in **Table 1.5**. The Cluster-wise details are shown in **Appendix 1.3**.

**Table 1.5: Status of outstanding EMs for Audit Reports of year from 2015-16 to 2019-21**

Audit Report	Date of tabling of Report	Number of paragraphs and Reviews	Number of EMs received	Balance
2015-16	11 August 2017 (RS-Transport, IT, Home)	7	5	2
	7 April 2017 (PSUs)	7	7	0
2016-17	28 March 2018 (ES)	2	2	0
	20 July 2018 (RS-Transport, IT, Home)	4	4	0
	20 July 2018 (PSUs)	8	8	0

Audit Report	Date of tabling of Report	Number of paragraphs and Reviews	Number of EMs received	Balance
2017-18	2 July 2019 (ES)	4	2	2
	4 March 2020 (RS-Transport, IT, Home)	4	3	1
	4 March 2020 (PSUs)	7	7	0
2018-19	08 September 2020 (ES)	4	4	0
	08 September 2020 (RS-Transport, IT, Home)	0	0	0
	08 September 2020 (PSUs)	2	2	0
2019-21	04 August 2023 (Compliance Audit)	7	2	5
<b>Total</b>		<b>56</b>	<b>46</b>	<b>10</b>

*ES-Economic Sector Report; RS-Revenue Sector; PSU-Public Sector Undertaking*

As seen from the **Table 1.5** out of 46 paragraphs and reviews included in Audit Reports, 10 EMs were outstanding during the period from 2015-16 to 2019-21.

The Public Accounts Committee (PAC) and the Committee on Public Undertakings (COPU) lay down in each case, the period within which Action Taken Notes (ATNs) on its recommendations should be sent by the departments with a view to ensure accountability of the Executive in respect of all the issues dealt with in the Audit Reports.

During the period from 2015-16 to 2022-23 the PAC and COPU discussed 144 paragraphs pertaining to audit reports 2010-11 to 2015-16. The position of PAC and COPU recommendations on which ATNs were awaited (June 2023) is indicated in Table 1.6.

**Table 1.6: Position of outstanding ATNs on PAC/COPU recommendations**

Year	Audit Report	PAC/COPU/ Report Number	Year of PAC/ COPU	Number of PAC/ COPU recommendations	Number of ATNs awaited
2010-11	PSUs	01	2020-21	06	06
		06,11,07	2015-16	05	05
2011-12	PSUs	05	2015-16	01	01
		18	2017-18	03	03
		06	2015-16	02	02
	RS (Transport)	33	2017-18	03	03
		34	2017-18	64	19
2012-13	ES	45,60	2017-18	26	18
	PSUs	06	2015-16	01	01
	RS (Transport)	37	2017-18	06	06
2013-14	PSUs	07	2015-16	01	01
	RS (Transport)	19	2015-16	09	08
2014-15	ES	43	2017-18	20	18
	GSS	61	2017-18	13	12
	PSUs	02	2020-21	05	05
		18	2017-18	03	03
	RS	66	2017-18	05	05
2015-16	ES	39	2017-18	13	01
<b>Total</b>				<b>186</b>	<b>117</b>

As seen from above Table, 117 ATNs are awaited from 12 departments. The cluster-wise position of PAC and COPU recommendations on which ATNs were awaited (June 2023) is indicated in ***Appendix 1.4***.

## **1.6 Results of audit**

### **Position of local audit conducted during the year**

Test check of the records of 238 units of Energy, Industry, Transport, Forest, PWD, Environment and Climate Change, Water supply and Sanitation, Information Technology, Home and Law and Legal Affairs conducted during the year 2022-23 revealed under assessment/Short levy/loss of revenue aggregating to ₹ 891.29 crore in 2119 observations. During the course of the year, the concerned Departments accepted under assessment and other deficiencies of ₹ 188.45 crore involved in 89 observations which were pointed out in audit during 2022-23. The departments collected ₹ 25.58 crore during 2022-23, pertaining to audit findings of 2022-23 and of previous years are shown in ***Appendix 1.5***.

### **Coverage of this Report**

This Report contains results of a performance audit, a Subject Specific Compliance Audit and two compliance audit paragraphs selected from the audit detection made during the local audit discussed in succeeding Chapters II and III.

## **CHAPTER – II**

### **PERFORMANCE AUDIT**



## CHAPTER II: PERFORMANCE AUDIT

### PUBLIC WORKS DEPARTMENT

#### Performance Audit on 'Improvement of Roads in Maharashtra through Hybrid Annuity Model'

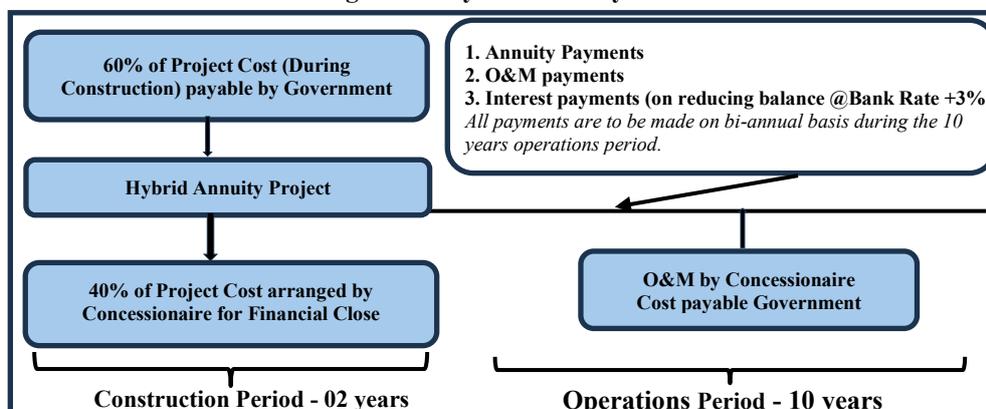
##### 2.1 Introduction

Road networks play a vital role in transport which contributes towards the holistic development of nation. It contributes to the better transportation of agricultural products, growth of industries and supports socio-economic development. In Maharashtra, the Public Works Department (Department) develops road infrastructure to provide the end user with a transportation system that caters to their needs.

The road development works in the State were being executed through Engineering, Procurement, Construction Model in which full payment was to be made to the contractor during the period of construction. However, sometimes, due to lack of funds, it was not possible for the Government to take up new work as well as repairing work. Keeping in view this constraint, Government of Maharashtra (GoM) announced (November 2016) execution of Hybrid Annuity Model (HAM) projects for the development of roads in the State on the lines of HAM projects being implemented by Government of India (GoI).

Under HAM, the GoM has to pay 60 *per cent* of the cost of the project as its equity to the concessionaire during the period of construction, which was linked to achievement of prescribed milestones by the concessionaire. The concessionaire would arrange for the remaining 40 *per cent* amount that would be repaid in 10 years after the completion of the construction work in the form of annuity along with interest @ three *per cent* over and above the bank rate. The entire project cost including Operation and Maintenance (O&M) cost has been linked to the Price Index<sup>1</sup>. The construction work was to be completed within two years and the concessionaire was responsible for the maintenance of the project for 10 years, for which O&M cost was payable as shown in block-diagram below.

Diagram 1: Hybrid Annuity Model

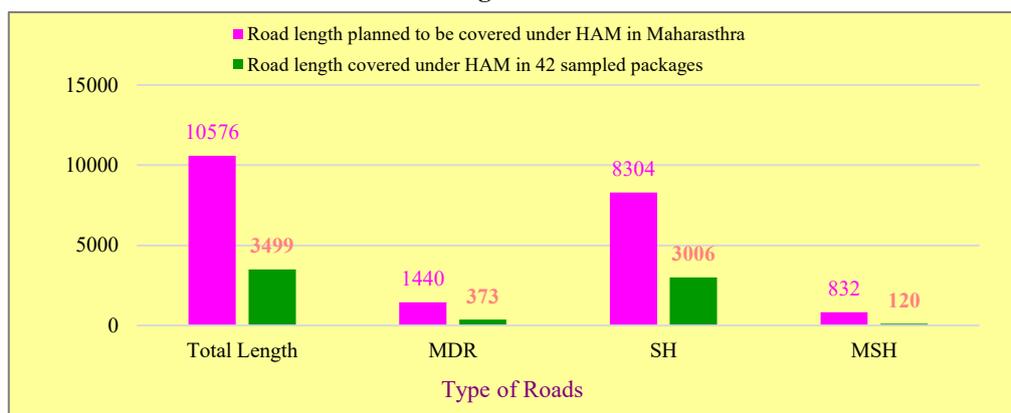


<sup>1</sup> Price Index shall comprise of 70 *per cent* of Wholesale Price Index (WPI) for all commodities as published by the Ministry of Industry, GoI and 30 *per cent* of Consumer Price Index (CPI) for Industrial Workers as published by the Labour Bureau, GoI.

The total length of surface roads<sup>2</sup> in the State as of November 2016 was 3 lakh km out of which 90,608 km were Major State Highways (MSH<sup>3</sup>, 6163 km), State Highways (SH<sup>4</sup>, 33860 km) and Major District Roads (MDR<sup>5</sup>, 50585 km). It was decided (November 2017) to cover the road length of 10,576 km out of 90,608 km road length under HAM with an estimated investment of around ₹ 30,000 crore (average ₹ three crore per km) in which government equity share was to be ₹ 18,000 crore (60 per cent) and private equity share was ₹ 12,000 crore (40 per cent).

Details of the road length planned to be covered under HAM vis-a-vis road length in 42 sampled packages in this performance audit is depicted in **Chart-1** below.

**Chart 1: Road length covered under HAM**



(Source: Departmental Records)

The coverage of 10,576 km of road length was envisaged under HAM. However, as on February 2025 the road length of 9,011.31 km (excluding the road length declared as National Highway) was covered through 140 packages with road length of around 50 km in each package. The total Bid Project Cost (BPC) awarded of these 140 packages was ₹ 28,593.28 crore. Out of these 140 packages, 112 were completed (Road length 7,188.21 km) and 28 were ongoing (Road length 1,823.09 km) as on February 2025 as depicted in **Chart 2** below:

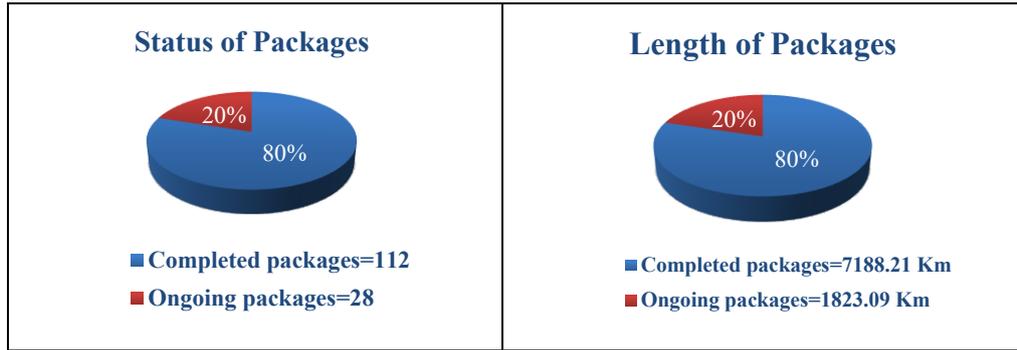
<sup>2</sup> As per Economic Survey of Maharashtra 2017-18.

<sup>3</sup> MSHs are state highways to connects east-west and north-south part of the state and to increase the intra state trade and transport (Length of 6163 km).

<sup>4</sup> SHs link district headquarters, important cities and towns within the State and connect NH roads (Length 33860 km).

<sup>5</sup> MDRs connect taluka place to the district place (Length 50585 km).

**Chart 2: Status of completion of packages / length of packages**



Details of actual expenditure incurred as on date on these 140 packages is awaited. Of the completed 112 packages, 63 packages were completed with delays ranging from 21 to 979 days. 28 ongoing packages are with delays ranging from 24 to 1353 days.

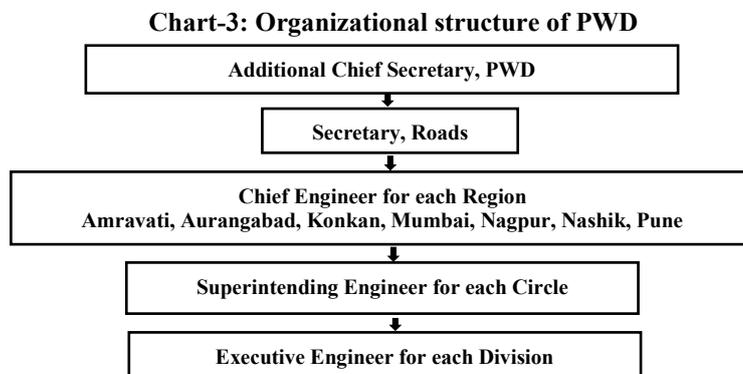
Audit selected 42 packages for detailed scrutiny, listed in *Appendix 2.1.1*. Status of completion and details of awarded cost and expenditure of the selected 42 packages as on February 2025 is given in the **Table 1**.

**Table 1: Status of selected packages as on February 2025**

Number of packages	Completed	Ongoing
	42	37
Awarded cost (₹ in crore)	₹ 9918.98 crore	₹ 1577.20 crore
Cost incurred (₹ in crore)	₹ 11674.71 crore	₹ 1217.81 crore
Delay in days	Ranging from 27 to 979 days	Ranging from 561 to 1237 days

## 2.2 Organizational Structure

The department at the Apex level is headed by the Additional Chief Secretary (ACS). The Secretary (Roads) looks after road works. There are seven Public Works (PW) regions in the State (Amravati, Aurangabad<sup>6</sup>, Konkan, Nagpur, Nanded, Nashik and Pune), under the technical control of Chief Engineer (CE). The CE is assisted by the Superintending Engineer (SE) in charge of the PW Circle, who is responsible for supervision of execution of works within the PW Circle. The Executive Engineer (EE) working under the SE, is in charge of the PW division and is responsible for execution of road works in the division. The organizational structure is depicted in **Chart-3** below:



Source: Departmental Records

<sup>6</sup> Now changed as Ch. Sambhajinagar

### **2.3 Audit Objectives**

The Audit Objectives of the Performance Audit were to ascertain whether:

1. Terms and conditions of the agreements were designed to safeguard the interest of the Department and selection of individual packages under the model was appropriate.
2. Individual packages were executed as per norms, guidelines and concession agreements.
3. Terms and conditions for payment to the concessionaire outlined in the concession agreement were strictly followed.
4. The mechanism for monitoring and evaluation of the road quality was adequate and effective.

### **2.4 Audit Criteria**

Audit criteria for the Performance Audit were derived from

1. Maharashtra Public Works Manual;
2. Maharashtra Public Works Account Code;
3. Budget book and Budget Manual;
4. Provisions of Indian Road Congress codes applicable for construction of roads and Ministry of Road Transport and Highways specifications.
5. Government resolutions, instructions and orders for execution of roads and bridges under HAM issued by GoM and GoI;
6. Maharashtra Road Development Plan 2001-21
7. Requests for Proposal (RFP) for DPR consultant, Concessionaire and Independent Engineer (IE);
8. Detailed Project Reports (DPRs) of the projects, Terms of Reference for DPR consultant and Independent Engineer (IE) and Schedule of Rates;
9. Concession Agreements (CAs) made with the Concessionaire for different packages.

### **2.5 Audit Scope, Sampling and Methodology**

The Performance Audit was conducted during July 2023 to February 2024 covering the period from 2018-19 to 2022-23.

Out of total 133 packages (as on May 2023), 131 packages were considered for sampling as two packages<sup>7</sup> were at the tendering stage at the time of sampling. The 131 packages were stratified into four strata. Four packages above ₹ 800 crore were selected on 100 *per cent* basis. Out of the remaining 127 projects in three strata, 38 packages were selected by using simple random sampling method. The details of selection of packages is as shown in **Table 2**.

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<sup>7</sup> HAM AU-123 and HAM AU-117

Table 2: Details of selection of packages

Sr. No.	Classification of Strata	Number of packages	Number of packages selected
1	Packages Cost less than ₹100 crore	10	03
2	Packages Cost ₹100 crore to ₹ 200 crore	73	22
3	Packages Cost More than ₹200 crore to ₹800 crore	44	13
4	Packages Cost More than ₹800 crore	04	04
<b>Total</b>		<b>131</b>	<b>42</b>

(Source – Departmental records)

Total 42 packages including 24 completed and 18 ongoing packages (status as on May 2023) were selected which constituted 32 *per cent* of total number of packages as detailed in *Appendix 2.1.1*.

An Entry Conference was held on 23 June 2023 with the ACS, PW Department, GoM wherein the scope & coverage of audit, audit objectives and criteria *etc.*, were explained.

The scrutiny of records, collection of data and information as well as data analysis was carried out at the offices of ACS, PWD and Secretary, Roads at Mantralaya, Mumbai, CEs of PW Regions (PWRs), SEs of Vigilance and Quality Control Circles (VQCC) formed at PWRs and EEs of selected PW divisions. Physical inspection of selected project sites was conducted along with departmental officials.

The reply of the GoM received on 12 December 2024. The exit Conference was held on 03 March 2025 with the ACS, PW Department, GoM. The replies received during the exit conference have been suitably incorporated in the draft.

## 2.6 Acknowledgement

Audit acknowledges the cooperation extended by Public Works Department at various stages of conducting the Performance Audit.

## Audit Findings

## 2.7 Planning

The first objective of this Performance Audit was to assess whether terms and conditions were designed to safeguard the interests of the Department and selection of individual packages under the model was appropriate.

The Department constituted a committee in October 2015 under the Chairmanship of the CE, PWR, Pune to prepare guidelines and standard agreement for implementing the annuity projects. The committee in its report (December 2015) identified 21025 km of road length (264 roads) of MSH and SH in the entire State under Road Improvement and Strengthening Programme (RISP, 2016) based on certain parameters<sup>8</sup> to be taken up in a phased manner. The committee suggested that road works under annuity model should be taken

<sup>8</sup> High traffic density corridor, state highways connecting major industrial centers-important pilgrimages-important tourist places connecting national highways, roads passing through backward areas, road connecting new airport and SEZs, road connecting smart cities, district to district connectivity, district place to taluka head quarter or roads connecting Delhi Mumbai Industrial Corridor/ Dedicated Freight Corridor between Delhi and Mumbai.

up in four phases with levy of toll for heavy vehicles. It was also suggested by the committee that a State Road Development Fund (SRDF) should be created with an initial allotment of ₹ 2,000 crore and proceeds of toll collection may be credited to the fund.

The Department prepared (November 2016) the proposal of improvement of road works through HAM and in the meeting held on 03 November 2016, decided to cover road length of 10,576 km (195 roads) comprising of MSH, SH and MDR, selected by applying five<sup>9</sup> indicators. The proposed cost to cover this road length under HAM was ₹ 30,000 crore (average ₹ three crore *per km*) in which it was planned to have government equity share 40 *per cent* costing ₹ 12,000 crore and private equity share of 60 *per cent*, costing ₹ 18,000 crore. The construction work was to be completed within two years with an annuity period of 15 years.

The proposal was sent to the Finance Department (FD) and Planning Department (PD) for opinions and recommendations. The FD and PD (28 November 2016) suggested that tackling of 10,000 km road length would put huge burden on the State exchequer and recommended to implement the project on pilot basis in phase-wise manner. Further, it was suggested to explore the possibility of raising funds through alternative arrangements, such as selling additional land owned by the department or collection of revenue through tolls. It was also suggested that efforts should be made to reduce the upfront payment of 40 *per cent* during the initial period.

However, the Department announced (29 November 2016) execution of HAM projects of road length 10,576 km in a single phase and decided (December 2016) that the individual package should be of minimum 100 km and cost should be above ₹ 250 crore. Accordingly, 78 packages covering 195 works were considered and tenders were called. However, due to no response, the government to private party share was revised (November 2017) from 40:60 to 60:40, annuity period was reduced from 15 years to 10 years and package length was reduced to 50 km from 100 km. Accordingly, the number of packages were revised from 78 to 140.

Audit scrutinized the records for process of selection of road works, preparation of DPRs for works and tendering documents. The audit findings pertaining to these issues are discussed in succeeding paragraphs.

### **2.7.1 Preparation of Request for Proposal (RFP) for feasibility study and DPRs**

CE, PW Region, Pune was entrusted (December 2016) with the work of inviting a consolidated tender for appointment of consultants for preparation of DPRs. In accordance with the order, uniform terms and conditions of Request for Proposal for appointment of consultants were finalized (December 2016) by CE, PW Region, Pune for the entire State.

Audit observed the following irregularities during the scrutiny of records:

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<sup>9</sup> *Viz.* 1. Taluka to Taluka connectivity; 2. Industrial connectivity; 3. Agro products marketing connectivity; 4. Tourist and religious places connectivity; and 5. Heavy traffic count and covering more population

### 2.7.1.1 Detailed estimates of utility shifting in DPRs

As per para 3.6 of ToR of RFP, the consultant will require to liaison with all concerned Government agencies including Electricity Department, Irrigation Department, Municipalities, Development Authority *etc.*, and secure all clearances. Further, the consultant shall collect details of all important physical features along the alignment. The survey would cover the entire Right of Way of the road on the adequate allowances for possible shifting and will incorporate the estimates for shifting of utilities of all types involved from concerned local authorities in the DPR.

Audit observed that at the time of preparing DPR, the consultant did not prepare detailed plan and estimates for utility shifting and only lumpsum provision was made without component-wise estimate. It was further observed in two (AM-1 and AM-2) out of 24 completed sampled packages that the estimated lumpsum cost of utility shifting provided in the DPR was ₹ 29.19 crore. However, at the time of execution, the actual cost of utility shifting came to ₹ 225.85 crore.

Had the consultant prepared the detailed estimates of utility shifting, as provisioned in RFP, the estimated cost of the packages could have been projected accurately.

Government replied (December 2024) that as technical sanction and preparing draft tender paper is a time bound process, technical sanction for utility shifting was accorded considering utility shifting based on visualization and oral communication with line departments. It further replied (March 2025) that revised administrative approval is granted.

### 2.7.1.2 Incorporation of an incorrect clause resulted in unwarranted payment

As per Para 10.2.14 of the Maharashtra Public Works Accounts Code 1984, full rates as per agreement should be allowed only if the quantity of work done is up to the stipulated specification. Para 12 of schedule-1 of the RFP provides component-wise payment of DPR consultancy charges to the consultants for 11 components in different percentages of contract value for completing the work of DPR, which also includes components for submission of final Land Acquisition Report (10 *per cent*) and submission of Land Acquisition proposal (10 *per cent*).

The RFP provided that “after completion of services, the final contract amount shall be worked out on the basis of inputs and services actually carried out and the payment shall be adjusted accordingly”. However, in contrast, note 7 of Annexure 6 of payment schedule (RFP) stated that, in case, any stage is not applicable for any project, payment for such stage shall become due on completion of its previous stage.

The work orders for DPR consultancy work were awarded during the period April-July 2017. However, in May 2017, the department decided that the road work would be executed on the existing Right of Way<sup>10</sup>, to avoid additional cost and delay in land acquisition process. Hence, the requirement of submission of

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<sup>10</sup> Right of way is the total land width required for the Project Highway, to accommodate the roadway (carriageway and shoulders), side drain, service road, tree plantation, utilities *etc.*

land acquisition report or land acquisition proposal consisting of 20 *per cent* of the consultancy payment was not required to be done by the consultants.

However, inclusion of an incorrect clause (Note 7 of Annexure 6 of payment schedule) in the RFP for payment for the components which were not actually done by the consultants has resulted in unwarranted expenditure. In the State, 78 DPRs had been prepared covering 195 works at a cost of ₹ 217.40 crore. In these 78 DPRs, provision of ₹ 43.40<sup>11</sup> crore was made on the land acquisition activities which were not required at all. In 13 out of 42 sampled packages, the consultants were paid ₹ 5.55 crore<sup>12</sup> for the land acquisition component even when the land acquisition was not required in terms of decision taken in May 2017. Payment details of 29 packages are awaited.

GoM in its earlier reply (December 2024) stated that though the inclusion of land acquisition items in the payment schedule turned out to be erroneous, this has not led to any financial burden on the department. The reply is not acceptable as the payment of 20 *per cent* for land acquisition was provisioned for in all the 78 DPRs though the work of land acquisition was not required. Moreover, the consultants in 13 out of 42 sampled packages, were paid ₹ 5.55 crore for land acquisition component though land acquisition was not required in term of decision taken in May 2017.

Government instructed (March 2025) the department officials to take a note of this in future projects.

### **2.7.2 Selection of road projects under HAM without obtaining forest clearance**

As per para 10.10 of Term of Reference (ToR) of Request for Proposal (RFP) for appointment of consultant for feasibility study of DPRs, forest clearances required for the project should be obtained by the consultants at the time of finalisation of DPR. The final approvals should be submitted to the department so that implementation of the project can straight away proceed without any hindrance.

During scrutiny of records, it was noticed in three out of 42 packages that a major part of the road stretch which was to be widened from single lane (3.5 meter to 3.75 meter) to double lane (7 meter) was passing through the forest area, which required forest clearance for execution of works. However, audit observed that the execution of packages was started without obtaining forest clearance due to which the work was later de-scoped or could not be executed as detailed below:

- The HAM package MU-170<sup>13</sup> connects Murud village to Kolad village (km 0/00 to 48/00) in district Raigad. Out of a road length of 48 km, part road of 9 km having a carriageway of 3.75 meter (single lane) was passing through

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<sup>11</sup> Total 20 *per cent* of ₹ 217.04 crore (10 *per cent* Final Land Acquisition, 10 *per cent* Submission of Land acquisition proposal)

<sup>12</sup> PN 28,32,33,34 - ₹ 206.24 lakh , AU 180- ₹ 12.47 lakh, PN 153- ₹ 16.56 lakh, NSK 62- ₹ 36.08 lakh, NAG-139 & NAG-141- ₹ 74.46 lakh, NAG-136 & 137- ₹ 71.00 lakh, MU-2 & MU-3- ₹ 68.79 lakh, AU-106 - ₹ 69.33 lakh

<sup>13</sup> Improvement to Murud – Roha – Kolad – Pune Road MSH-05 (km 0/000 to km 48/000)” in Murud Taluka to two lane with paved shoulders.

Fansad Wildlife Sanctuary, for which forest clearance was not obtained and the length of 9 km (2/200 to 11/200 km) which was in the forest stretch was de-scoped. Thus, road with two-lane paved shoulder discontinued in the forest stretch and the very objective of connecting Murud with Kolad through two lane paved shoulder road remain unfulfilled.

- In package NAG-132<sup>14</sup>, the improvement work in stretches of 11.230 km and 1.700 km was not executed as no permission of the forest department was obtained. Hence, the work was de-scoped for the said stretch and the existing single lane carriageway of 3.5 meter to 3.75 meter could not be widened.
- In Package AM-94<sup>15</sup> (Part of Package AM-2), out of the entire road length of 52.52 km, 34.49 km stretch of road was passing through forest and 18.03 km through village area. Forest Department did not give permission for widening of road and instead permitted for overlaying on the existing width of single lane in 34.49 km stretch of forest area. As such the objective of HAM of improving the road into two lanes was not met.

GoM, in reply (December 2024) stated that efforts were made for getting permission from the forest department and works were started in anticipation that forest clearance can be obtained. Government further replied (March 2025) that the matter will be taken care of in future.

The fact remains that the permission of the forest department has not been obtained at DPR stage by the consultants as envisaged resulting in incomplete execution of road works to that extent.

### 2.7.3 Unrealistic loading of insurance and patrolling expenses for operation and maintenance

Clause 17 of the Concession Agreement provides that the concessionaire shall ensure that at all times the project conforms to the maintenance requirements set forth in the agreement. Operation and maintenance includes regular and special maintenance, provision for insurance, patrolling and other office expenses.

As per HAM guidelines, the construction period of the project should be two years and thereafter, the O&M period will be 10 years, which is the responsibility of the concessionaire. For estimating the O&M cost, the Department referred to the base rate assumptions made in the NHAI *vide* circular dated 29 April 2011 for four-lane roads.

The provision made for Insurance and Patrolling expense in the O&M cost of the packages was as shown in **Table-3**.

<sup>14</sup> Construction of two-laning with paved shoulders for package HAM-NAG-132, A-1 Jamb-Andhalgaon-Palandur to join SH 358 (SH-361) (From Km 0+00 to Km 67+200), A-2 Jamb-Andhalgaon Mohadi-Palandur to join SH 358 (link road) (SH361) (From Km 0+00 to 67+200)

<sup>15</sup> Widening of two lane with paved shoulder for the improvement to roads for Chikaldhara hill Station in Amravati district. (Paratpara Chikhaldara Ghantag Road) (Length 52.525 km)

**Table 3: Provision made in the estimate for O&M cost**

Item	Unit	Parameter/Quantity
Length of Road	Km	Project-specific
Bid Project Cost	₹	Project-specific
Insurance (0.15 per cent of Bid Project Cost / year)	Per Year	Including GST @12per cent
Patrolling Expenses	Per Year	10,00,000.00

(Source – Estimate of O&M cost provided by department)

Audit observed that insurance charges were included as 0.15 per cent of the Estimated Project Cost (EPC) in the estimates instead of actual premium payable. The concessionaire obtained insurance policies at a cost ranging from ₹ 0.50 lakh to ₹ 9.07 lakh per year against the inclusion of insurance charges ranging from ₹ 10.34 lakh to ₹ 46.13 lakh in the Estimated Project cost. This has resulted in inclusion of excess insurance charges in O&M cost to the tune of ₹ 34.56 crore in respect of 16 out of selected 42 packages as detailed in **Appendix 2.1.2**. In respect of the remaining 26 packages, records were not furnished by the concerned divisions.

Further, Patrolling expenses of ₹ 10 lakh per year were worked out by the department on the basis of rent of the vehicle, driver’s salary, diesel cost and maintenance cost. However, it was not linked with the length of the road to be covered under the package. A lumpsum provision of ₹ 10 lakh per year was provided for each package for patrolling expenses irrespective of the road length covered. In the sampled 42 packages it was observed that the road length covered in the package varied from 18 km (AM-82A) to 89 km (AU-107). As such provision of lumpsum patrolling charges equally in all packages is not justified.

GoM in its reply (December 2024) stated that the insurance cost and patrolling expenditure are considered as per the assumptions stated in the NHAI (April 2011).

However, the suggested assumption in the NHAI circular (April 2011) provided per km rates for patrolling. Audit is of the view that lumpsum provision of patrolling irrespective of the length of roads covered in packages is not justified. Further, cost of insurance should have been paid on actual basis.

Government replied (March 2025) that instructions will be issued to the field offices to verify whether the patrolling were carried out as per Concession Agreement and accepted the facts (March 2025) that insurance cost should be included as per actual.

#### **2.7.4 Changes of clauses of Model Concession Agreement**

The Department had approved the Model Concession Agreement (MCA) for HAM projects and circulated to all the CE. During the scrutiny of selected 42 packages audit observed that there was variation in clause for price variation from the approved RFP in one region and non-provision of clause for reduction in O&M charges for change in scope of work in the approved MCA as detailed below:

- CE, PWR, Konkan issued an addendum to MCA that price index multiple as mentioned in clause 23.2 shall be applicable for all material except

steel, cement and bitumen for which separate price variation shall be paid. This is in deviation from the Model Concession Agreement. This has been discussed in detail in **Paragraph 2.9.2.3**.

Government accepted the facts and replied (March 2025) that instruction would be issued to all CEs so that no modification to MCA be done without approval of government.

➤ As per clause 16.7 of CA, if the Change of Scope (COS) leads to a reduction or increase in the length of the project highway, the O&M payments as provided in clause 23.7 shall be reduced or increased in proportion to the reduction or increase in the length of the project highway. In this clause though the COS for reduction or increase in the length is given but in case of revision in width of road (either single lane or intermediate lane) then there is no provision for proportionate reduction in O&M payments as provided in clause 23.7. In case of Package AM-94 in Amravati district, as mentioned in **Paragraph 2.7.2**, the road length was passing through forest area which was not allowed for widening and only overlaying work on existing road was done. However, the O&M cost was not reduced in absence of clarity in clause 16.7.

Government accepted the fact and replied (March 2025) that necessary instructions shall be issued to the field officers.

## **2.8 Execution of the packages**

The second objective of this performance audit was to assess whether individual packages were executed as per norms, guidelines and CA.

Audit scrutinized the DPR, tender document, concession agreement, execution of work as per schedule of CA, physical inspection of created assets and records related to O&M. The audit findings are discussed in succeeding paragraphs:

### **2.8.1 Adoption of higher specification for crust thickness resulted in unwarranted cost to the packages**

Department *vide* circular of May 2017 instructed to follow specifications mentioned in IRC SP-73 (2015) for execution of two-lane with pave shoulder work while giving technical sanction to HAM works. As per IRC SP-73 (2015), flexible pavement should be designed for a design period of 15 years and subject to the condition that design traffic should not be less than 20 Million Standard Axles (MSA<sup>16</sup>). It was further instructed that if in any case, specification of IRC SP-73 (2015) could not be followed, the reasons thereof may be point-wise noted. IRC SP-73 (2015) also specified that the thickness of the pavement layers for widening and strengthening of existing pavement to two lanes shall be as per IRC: 37-2012. It also provides the specifications to be used for different designed MSA.

Audit observed from the respective DPRs of 18 packages out of 42 selected packages that the MSA was estimated based on projected traffic load for the design period of 15 years on the proposed roads ranging between 0.01 MSA and

<sup>16</sup> MSA is a unit of measurement for the traffic-carrying capacity of a road which depends on various factors, including the number of commercial vehicles, annual growth, design period, lane factor, and vehicle damage factor. MSA is used to determine the thickness of pavement layers in road construction.

8 MSA for which the required crust thickness of flexible pavement was to be considered as specified in IRC: 37-2012. However, higher specification for crust thickness of flexible pavement was provided than required as per the projected MSA in DPRs as detailed in **Appendix 2.1.3**. This has resulted in unwarranted cost of ₹ 297.97 crore in 18 packages.

Government replied (December 2024) that in one case (MU-3) traffic from National Highway got diverted to the project road and in other cases, because of road under HAM, the traffic got induced and even the traffic in the vicinity started flowing on HAM road.

The reply is not acceptable as MSA was calculated considering the increase in traffic per year for fifteen years. Despite that, the crust provided for the roads were much higher than projected in DPR. The documentary evidence in support of achievement of current traffic count was neither produced at the time of audit nor with reply.

**2.8.2 Acceptance of tender without fulfilment of financial capacity by the bidder on account of deficiency in Bid evaluation**

The tender notice for each HAM package was invited for the specified Estimated Project Cost (EPC) for which the instructions for bidders with the terms and conditions of bidding were mentioned under Request for Proposal (RFP).

As per clause 2.2.2 of RFP, the eligibility and qualification criteria prescribed that the bidder shall have a minimum net worth (Financial Capacity) of 25 *per cent* of the EPC at the close of the preceding Financial Year. It implies that the total financial capacity against combined EPC of all the works got by an agency in the State is to be verified against the eligibility criteria of financial capacity. Further, condition 2.2.2 (B) of RFP stipulates that each member of the consortium shall have a minimum Net worth of 12.5 *per cent* of EPC in the immediately preceding Financial Year.

Audit observed in PW Region, Chhatrapati Sambhajinagar, that five HAM packages having total EPC of ₹ 1157.09 crore were awarded (April 2018) to M/s ABC Ltd for which the minimum net worth of ₹ 289.28 crore (25 *per cent* of total EPC of five packages) was required in preceding year as per clause 2.2.2 of RFP as shown in **Table 4** (first five cases). Further, two more packages (AU-L1 and AU-L2) having total EPC of ₹ 1982.13 crore with minimum net worth requirement of ₹ 495.53 crore were awarded (October/November 2018) to the same bidder as detailed in **Table 4**.

Table 4: Details of packages with EPC and net worth

(₹ in crore)

Package No.	EPC	Required Net worth	Date of Award
AU-100A*	180.91	45.23	16/04/2018
AU-100B	207.88	51.97	18/04/2018
AU-102*	213.11	53.28	18/04/2018
AU-99*	255.74	63.94	16/04/2018
AU-98*	299.45	74.86	18/04/2018
AU-L1 <sup>17</sup>	550.77	137.69	30/10/2018
AU-L2	1431.36	357.84	05/11/2018
<b>Total</b>	<b>3,139.22</b>	<b>784.81</b>	

(Source – Information furnished by PW divisions)

\* AU-100A, AU-102, AU-99 & AU-98 are not sample packages but considered for evaluation of financial capacity of concessionaire.

The department accepted the bids initially for five packages where the net worth requirement was of ₹ 289.28 crore against the total net worth of the bidder in preceding year (2017-18) of ₹ 427.44 crore. However, while accepting tenders for two packages (AU-L1 and AU-L2), the departmental authorities did not to consider the earlier awarded works while evaluating the bidders' financial capacity. Audit is of the view that the works already awarded should have been considered to assess the collective financial standing of the bidder. The required net worth of ₹ 784.81 crore by combining five earlier packages and subsequent two packages was much more than the bidder's total net worth in preceding year (2017-18) of ₹ 427.44 crore. Thus, the award of works in October/ November 2018 to the same bidder is a violation of the norms specified in the RFP.

Further, the bid of the ABC joint venture<sup>18</sup> with XYZ for the AU-L1 package was accepted, even though the financial capacity of the consortium partner, M/s XYZ, was not submitted.

Government replied (March 2025) that a circular was issued (June 2019) wherein it was stated that for evaluating financial bid, net available net worth should be considered by deducting net worth of other projects for which bidding made by single bidder.

### 2.8.3 Construction and maintenance of road works.

As per clause 17.1.1 of the CA, during the operation period, the concessionaire shall operate and maintain the project in accordance with this agreement and further as per clause 17.2 of CA, the concessionaire shall procure that at all times during the operation period; the project conforms to the maintenance requirements set forth in as per schedule-K of CA.

To assess the execution and maintenance of road by the concessionaire in accordance with CA during construction, operation and maintenance period, audit conducted joint physical verification with the official of the divisions of selected 42 packages. Audit noticed three instances of under-utilization of roads, two instances of not ensuring safety features, eight instances of lack of

<sup>17</sup> M/s ABC (JV) M/s XYZ

<sup>18</sup> The package was awarded to ABC JV M/s XYZ. Net worth of ABC Ltd was ₹ 427.44 crore whereas the net worth of M/s XYZ was not submitted.

connectivity and seven cases where several stretches of roads were found damaged during physical verification as discussed in succeeding paragraphs.

### **2.8.3.1 Under-utilisation of roads due to existence of weak, narrow and incomplete bridges**

Audit observed that roads under the three out of 24 selected completed packages were not fully utilised due to existence of weak and narrow bridges in between the roads as discussed below:

#### **1. Package AU-L1 (AU-124)**

Two minor bridges falling between the stretches of road constructed under HAM were not reconstructed. These bridges were weak and in damaged condition as the reinforced steel are exposed which is not safe for commuters as depicted in **Photographs** below.



Government replied (March 2025) that instruction would be issued to complete the construction of minor bridges.

#### **2. Package NSK-55B**

Non-widening of narrow bridge of 5.5 metre on irrigation canal at chainage 8/100 on the road constructed under HAM, created bottlenecks hampering the smooth plying of traffic.

Government replied (March 2025) that instruction would be issued to complete the construction of minor bridges.

The fact remains that due to non-widening of narrow bridge and non-construction of weak bridges, the objective of uninterrupted traffic was not achieved.

#### **3. Package NSK-65**

The work of improvement of roads in Package NSK-65 was divided into two different road stretches: NSK-65A<sup>19</sup> from Chopda to Jalgaon and NSK-65B<sup>20</sup> from Jalgaon to Yawal. Both the proposed roads pass through the Tapi river where bridges on both the sides were to be constructed for ensuring direct connectivity. Even being aware of the fact that Right of Way for construction of road was not in existence for the length of 1.575 km in Package NSK-65A and 2.40 km in Package NSK-65B as the stretches were lying in submerged areas of Tapi river, the roads were undertaken for execution (April 2019) under

<sup>19</sup> Improvement of Chopda to Jalgaon Road SH 40 total length, length 42.80 km

<sup>20</sup> Improvement of Yawal to Jalgaon length of 20 km

HAM. For bridge to be constructed (HAM package NSK-65A), work order was issued to Public Works Department in July 2022 with the stipulated period of completion of 24 months and on HAM package NSK-65B work order was issued to Irrigation Department in July 2021 with the stipulated period of 12 months extension was granted up to June 2023. Though, both the HAM packages were completed and commercial operations on these roads were started since October, 2021, direct connectivity between Chopda to Jalgaon and Yawal to Jalgaon could not be established due to non-completion of bridges as shown in **Photograph 3** below.



**Photograph-3-Incomplete bridgework over Tapi river in Bhokar village**

(Source: 'BEAMS' website)

Date of picture: 17 November 2023

Thus, taking up of these roads under HAM before construction of bridge works did not serve the intended benefit of direct connectivity between Jalgaon to Chopda/Yawal despite incurring an expenditure of ₹ 7.20 crore on O&M<sup>21</sup> on the road work executed by the department.

Government accepted the fact (March 2025) and stated that the construction work of bridges would be completed by June and December 2025.

### 2.8.3.2 Crash barriers, retaining wall, protection for safety of commuters

For the safety of commuters, crash barriers or retaining walls should be provided as per Schedule C of CA. Audit observed during joint physical verification that in two out of 42 selected packages, there was non-execution of crash barriers or retaining wall for safety of commuters.

#### 1. Package NSK-62 A

Audit observed that the concessionaire did not execute the work of Retaining wall/Parapet wall<sup>22</sup> and Protection wall<sup>23</sup> on both sides with metal crash barrier<sup>24</sup> as prescribed in typical cross section (TCS) under schedule of CA. The photograph of site visit showing the road passing through hilly terrain with one side of road having deep valley was shown below.

<sup>21</sup> From October 2021 to April 2023

<sup>22</sup> Chainage 12/500 to 21/450

<sup>23</sup> Chainage km 8/400 to 10/100

<sup>24</sup> Chainage 5/400 to 8/400 & 10/100 to 12/500



## **2. Package PN-32**

At chainage from km 101/800 to 102/200 and km 103/700 to 104/000, crash barriers or protection wall were not provided.

Government confirmed the fact (December 2024/March 2025) that due to site conditions, local and ROW issues, provision of crash barriers could not be executed.

The fact remains that non-construction of crash barriers/protection wall poses risk to the commuters.

### **2.8.3.3 Non-construction of stretches of road noticed in physical verification**

Audit observed that in eight out of 42 selected packages, the portion of road was not constructed due to non-availability of Right of Way, forest clearance, protest by villagers and railway land due to which construction could not be started and the length was later descoped as detailed below.

#### **1. Package PN-43**

Burungwadi-Bhilwadi road, km 42/400 to 43/100 was not constructed due to incomplete Rail over Bridge (ROB).

GoM, in reply (December 2024/ March 2025), confirmed the fact and stated that the length has been descoped.

The facts remained that the connectivity will not be established without completion of ROB.

#### **2. Package PN-32**

Pargaon-Daund road, km 78/640 to 79/180 was not constructed due to non-availability of Right of Way, opposition from villagers *etc.*

GoM, in reply (December 2024/ March 2025), confirmed the fact and stated the length has been descoped.

The facts remained that the continuous two-lane road connectivity will not be established without completion of said stretch of road.

#### **3. Package NSK-55A**

The road work of SH-27 was held up and the project is being delayed due to non-completion of approaches of the ROB for want of land acquisition as depicted in **photograph** below:



Photograph- 6 NSK-55A

GoM, in reply (December 2024/ March 2025), stated that the ROB work cannot be done now as new bridge is being constructed by PWD through another scheme, hence, the work was descope.

The facts remained that the connectivity will not be established without the completion of bridge.

#### 4. Package NSK-55B

The road length of 80 metre was not executed due to proposed construction of ROB on same length.

GoM, in reply (December 2024/ March 2025), stated this length comes under railway-crossing, hence, descope.

The facts remained that the connectivity will not be established without completion of ROB.

#### 5. Package AU-107, AU-108 and AU-114

The stretch of 3.310 km (AU-107), stretch of 5.20 km (AU-108) and stretch of 3.10 km (AU-114) was not constructed for want of forest clearance.

#### 6. Package AU-105

The stretch of 8.50 km part of New Greenfield Alignment MSH-16 was not constructed for want of land acquisition.

#### 2.8.3.4 Non-maintenance of roads noticed during physical verification

Audit observed that in seven out of 42 selected packages, several stretches of road were found damaged during joint physical verification as detailed below:

##### 1. Package NSK-55B

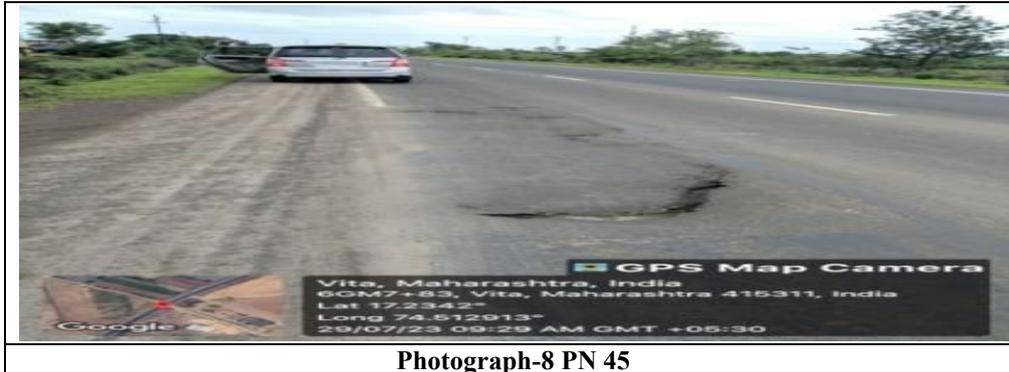
In chainage from 0/000 to 0/700 cracks were noticed in cement concrete road while from 29/000 to 34/000, damages in carriageway were found as depicted in **photograph** below:



Photograph-7 NSK-55B

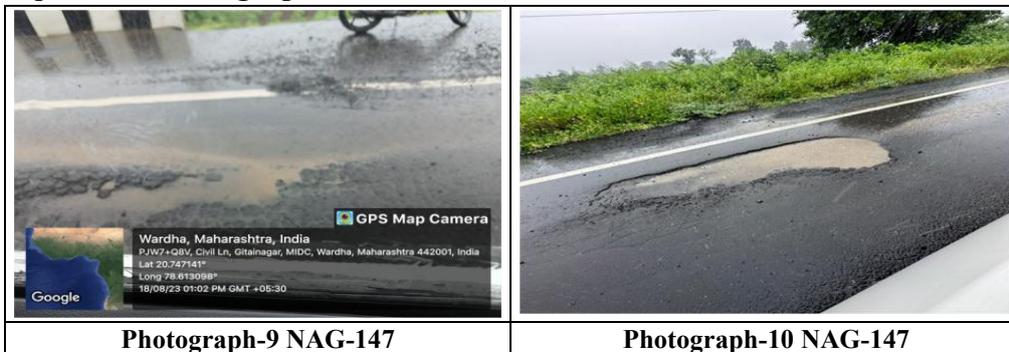
## 2. Package PN 45

Damages in carriage way were found and the uneven patch-work was noticed as depicted in **Photograph** below.



## 3. Package NAG-147

The rutting and slippage have been found on wheel path at some chainages as depicted in **Photograph** below:



## 4. Package NSK-55A

Damages were noticed in the widening part of the road as depicted in **Photographs** below:



## 5. Package AM-77

The depressions on the carriageway and patches of resurfacing were found indicating substandard work as depicted in **Photograph** below:



## 6. Package NAG-141

Depression of surfaces, potholes and minor cracks were found on various location of carriageway indicating inappropriate work between chainage Km. 0/800 to Km. 24/500 as depicted in **Photograph** below:



Photograph-14 NAG-141

## 7. Package NSK-56

The alligator or map cracking and slippage have been found in 21.41 km on wheel path as depicted in **Photograph** below:



Photograph-15 NSK-56

Government replied (March 2025) that the rectifications were carried out.

The fact remains that the concessionaire has not maintained the road in accordance with CA during the O&M period.

### Good Practice

Ashta-vinayak darshan is pilgrimage to the eight temples of Lord Ganesha in Maharashtra situated at Morgaon, Sidhhatek, Ranjangaon, Ozar, Lenyadri, Theur, Pali and Mahad. The total distance required to visit Ashtavinayak temples is 606 km which usually took almost 2-3 days to complete the Ashta-vinayak darshan.

HAM packages viz. PN 31, 32, 33, 34 and 35 were taken up for connecting these Ashta-vinayak Temples. After completion of the packages, the travel time is reduced to 13 hours and 30 minutes for Ashta-vinayak darshan.

### 2.9 Financial Management

The third audit objective was to assess the terms and conditions for payment mechanism to the concessionaire outlined in the concession agreement were strictly followed.

The audit findings are discussed in succeeding paragraphs:

**2.9.1 Avoidable expenditure on interest of ₹ 4.65 crore for delayed payment to concessionaires**

Clause 23 of the CA stipulates the method and quantum of milestone and annuity payments during construction and maintenance period respectively. Further, Article 41.4 stipulates that in the event of delay beyond specified period, the defaulting party shall pay interest for the period of delay calculated at a rate equal to four *per cent* above the daily average bank rate, and the recovery shall be without prejudice to the rights of the parties under the agreement including termination thereof.

Audit observed in three<sup>25</sup> out of 42 selected HAM packages, that the implementing PW divisions failed to make payment for milestone and annuity to the respective concessionaires within the prescribed time limit due to short/delay in release of funds by GoM. As a result, the interest for delayed payment was claimed by the concessionaires and paid by the PW divisions as detailed in **Table-5**.

**Table 5: Interest paid for delayed payments**

Package	Implementing PW Division	Construction period interest		Annuity payment interest	
		Range of delay in days	Amount of interest paid (₹ in lakh)	Range of delay in days	Amount of interest paid (₹ in lakh)
AM-77	Washim	28 to 363	132.48	7 to 79	18.27
AM-78 A	Washim	4 to 74	11.86	-	-
NSK-65	Jalgaon	10 to 347	302.86	-	-
<b>Total</b>			<b>447.2(A)</b>		<b>18.27 (B)</b>
<b>Grand Total (A+B)</b>			<b>465.47</b>		

(Source: Information furnished by PW divisions)

Government accepted the fact and stated (March 2025) that due care would be taken in future to avoid interest payment.

**2.9.2 Excess payment to the concessionaires**

Clause 23 of MCA envisaged various provisions regarding payments to the concessionaire, including milestone payments during construction period, computation of completion cost, and the calculation of the balance completion costs to be paid in annuities. It also covers the payment of annuities, the application of interest thereon, payment of operation and maintenance costs and the composition of the Price Index Multiple (PIM).

Audit observed instances of excess payments in test-checked packages, as discussed in the following paragraph:

<sup>25</sup> AM-77 (2019-20, Demand-54.14 crore, Release-49.06) (2020-21, Demand-25.10, Release-6.11) (2021-22, Demand-76.66, Release-53.58) (2022-23, Demand-19.41, Release-12.29) AM-78A (2019-20, Demand-21.60, Release-21.26), NSK-65 (2019-20, Demand-61.50, Release-61.26) (2020-21, Demand-22.29, Release-22.29) (2021-22, Demand-66.37, Release-66.37)

### 2.9.2.1 Excess payments on account of Annuity and Interest

Clause 23.6.2 defined balance completion cost as completion cost, worked out as per method prescribed in Clause 23.6.1 of the concession agreement, minus amount paid during construction period which shall be due and payable in biannual instalments (Annuity Payments) at the rate of prescribed percentage over a period of 10 years commencing from commercial operation date (COD).

Further as per clause 23.6.4 of the CA, each of the biannual installments payable hereunder shall be paid along with interest due and payable on the reducing balance of completion cost at an interest rate equal to the applicable bank rate plus three *per cent*.

Audit observed that in three<sup>26</sup> out of 24 completed selected packages, excess payment of annuity of ₹ 2.47 crore and excess payment of interest of ₹ 19.80 crore was made due to consideration of incorrect completion cost, short adjustment of payment made during construction and application of incorrect rate of interest while calculating interest payable on annuity as shown in *Appendix 2.1.4*.

Government replied (December 2024) in two cases that the excess payment was inadvertently made to the concessionaire and letter for recovery has been sent to the concessionaire. In the Exit Meeting Government stated (March 2025) that recovery details will be submitted shortly. In respect of AU 106 package, the Division further replied (June 2025) that the amount will be recovered from the next annuity payment.

### 2.9.2.2 Excess payment of ₹ 1.02 crore towards price variation due to wrong composition of price index

As per clause 23.2 of MCA, the BPC specified shall be revised from time to time to reflect the variation in Price Index. The Authority shall compute the variation in Price Index occurring between the Reference Index Date preceding the Bid Date and the Reference Index Date preceding the date of Invoice and shall express the latter as a multiple of the former the “Price Index Multiple” (PIM). All Invoices to be submitted by the Concessionaire to the Authority during construction period shall be the product of the relevant proportion of the BPC and the PIM applicable on the date of Invoice. Further, clause 42.1 provides Price index comprise of 70 *per cent* of WPI<sup>27</sup> and 30 *per cent* of CPI<sup>28</sup> (IW). Further, as per clause 23.3.1, 60 *per cent* of the Bid Project Cost, adjusted for the Price Index Multiple, shall be due and payable to the concessionaire in five equal installments of 12 *per cent* each during the construction period in accordance with the provisions of clause 23.4.

Audit observed in respect of one (NAG-136) out of 42 selected packages that, the division paid ₹ 14.87 crore on account of price escalation to the concessionaire by adopting 60 *per cent* of WPI and 40 *per cent* of CPI in the

<sup>26</sup> MU-02, MU-03 and AU-106

<sup>27</sup> WPI<sub>2</sub>: Wholesale Price Index for reference index preceding the invoice date  
WPI<sub>1</sub>: Wholesale Price Index for reference index preceding the bid date

<sup>28</sup> CPI<sub>2</sub>: Consumer Price Index (Industrial Worker) for reference index preceding invoice date  
CPI<sub>1</sub>: Consumer Price Index (Industrial Worker) for reference index preceding the bid date

concession agreement, which was in deviation from the composition of price index prescribed in MCA. The price escalation payable as per MCA works out to ₹ 13.85 crore as detailed in **Table-6**.

**Table-6: Excess payment of price variation due to wrong composition of price index April 2019 to May 2023**

(₹ in crore)					
MS	BPC	WPI2/ WPI1	CPI2/ CPI1	ABPC <sup>29</sup>	PE=12% (ABPC-BPC)
1	2	3	4	5 = (2*70%*3)+ (2*30%*4)	6
PM-01	133.95	1.03	1.20	144.80	1.30
PM-02	133.95	1.04	1.20	145.74	1.41
PM-03	133.95	1.31	1.44	180.70	5.61
PM-04	133.95	1.29	1.47	180.03	5.53
				<b>PE =A</b>	<b>13.85</b>
				<b>PE paid=B</b>	<b>14.87</b>
				<b>Excess PE=B-A</b>	<b>1.02</b>

(Source: Information furnished by PW divisions)

Thus, due to the wrong composition of price index considered in the CA, the concessionaire was paid an extra amount of ₹ 1.02 crore (₹ 14.87 - ₹ 13.85 crore) on account of price variation till fourth milestone.

During the Exit meeting, Government accepted (March 2025) that wrong composition of price index was adopted in one case erroneously.

### **2.9.2.3 Addendum to contract condition for adjusted BPC resulted in excess payment to the concessionaire**

As per clause 23.2 of CA, the BPC specified shall be revised from time to time to reflect the variation in price index. The Authority shall compute the variation in price index as per specified formula and shall express it as Price Index Multiple (PIM). All invoices to be submitted by the concessionaire to the Authority for and in respect of the construction period shall be the product of the relevant proportion of the BPC and the applicable PIM.

Audit observed that PW Region, Konkan had issued an addendum in reference to the clause 23.2 of CA, specifying a separate formula for payment of price escalation for materials- Bitumen, Cement and Steel, in violation of MCA. Adoption of a separate formula by the region has resulted into excess payment to the concessionaire as discussed below:

#### **a) Excess payment of ₹ 22.49 crore on price escalation**

Audit observed that in four out of six selected packages of PW Region, Konkan, due to changes in CA through addendum, the amount of price escalation had increased by ₹ 22.49 crore as shown in the **Table 7**.

<sup>29</sup> Adjusted Bid Price cost is calculated BPC \* {(70% of WPI price index i.e. WPI2/WPI1)+ (30% of CPI price index i.e. CPI2/CPI1)}

Table 7: Excess payment of price escalation

Package No.	Name of division	PE payable as per MCA	(₹ in crore)	
			Total PE paid by the division till latest milestone including PE for Bitumen, Cement and Steel	Excess payment
MU-06	EE, PWD-2, Thane	6.40	9.42	3.02
MU-04	EE, PWD-2, Thane	7.30	10.82	3.52
MU-170	EE, PWD, Alibag	10.66	20.68	10.02
MU-174	EE, PWD, Mahad	11.35	17.28	5.93
<b>Total</b>		<b>35.71</b>	<b>58.20</b>	<b>22.49</b>

(Source – Information furnished by PW divisions)

The concessionaires were paid ₹ 58.20 crore for price escalation against payable of ₹ 35.71 crore as per CA. The approval of the Government for issue of an addendum to the concession agreement was not found on record.

#### b) Excess determination of balance cost

As per clause 23.6.1 and 23.6.2 of CA, the balance completion cost defined as completion cost minus amount paid during construction period shall be due and payable in biannual instalments (Annuity Payments) at the rate of prescribed percentage over a period of 10 years commencing from COD.

Audit observed in package MU-04 and MU-06 that the completion cost was worked out to ₹ 131.03 crore and ₹ 112.86 crore respectively. The balance cost for annuity was ₹ 54.37 crore and ₹ 46.74 crore. However, while calculating the balance completion cost payable to concessionaire as Annuity Payments, the division did not adjust the price escalation component paid on account of Bitumen, Cement & Steel of ₹ 4.32 crore in MU-04 and ₹ 3.67 crore in MU-06 which resulted in excess determination of balance completion cost for annuity payments.

Government stated (December 2024) that considering the fact that rate of these materials changes abnormally, decision was taken and addendum was issued by the CE office. Reply is not acceptable as this was in deviation from the MCA.

The Government further stated (March 2025) that instruction would be issued to all CEs so that no modification to MCA be done without approval of government.

### 2.9.3 Delayed Submission of Performance Security

As per clause 9.1.1 of the CA, concessionaire must provide performance security (PS) in the form of irrevocable and unconditional bank guarantee at the rate of five *per cent* of BPC within 90 days<sup>30</sup> of signing of the CA. In case, the concessionaire fails to provide required PS within 90 days, then it shall pay damages of an amount calculated at the rate of 0.3 *per cent* of the PS for each day of delay limited to the amount of bid security.

Audit observed that in eight out of 42 selected packages, the PS was submitted with a delay ranging between nine days to 282 days from the stipulated date as shown in **Table-8**.

<sup>30</sup> Increased to 90 days from 30 days *vide* department's letter dated 31 October 2018.

Table-8: Delayed submission of Performance Security

Name of HAM Package	Estimated project cost (EPC)	Actual Date of submission of Performance Security	Amount of Performance Security	Date of signing of CA	Due date for Performance Security i.e. within 90 days from signing of CA	Delay in submission of Performance Security (Days)	Damages to be levied	Bid Security i.e. 1 per cent of EPC	Damages to be recovered restricted to Bid Security
1	2 (₹ in crore)	3	4 (₹ in crore)	5	6	7	8 = (4*7*0.3 per cent) (₹ in crore)	9 = (one per cent of 2) (₹ in crore)	10 (₹ in crore)
NSK-56	139.00	30.01.2019	7.63	18.08.2018	16.11.2018	75	1.72	1.39	1.39
PN-38	162.18	21.02.2019	8.75	14.08.2018	12.11.2018	101	2.65	1.62	1.62
NSK-68	108.82	01.12.2018	5.63	24.08.2018	22.11.2018	09	0.15	1.09	0.15
NAG-137	158.30	05.08.2020	7.60	08.03.2019	06.06.2019	282*	6.43	1.58	1.58
NAG-139	200.22	12.06.2019	11.00 <sup>31</sup>	15.10.2018	13.01.2019	150	4.95	2.00	2.00
AU-100B	207.88	05.03.2019	9.27	13.08.2018	11.11.2018	114	3.17	2.08	2.08
NAG-141	94.91	29.12.2018	5.31	21.09.2018	20.12.2018	09	0.14	0.95	0.14
PN-163	209.40	21.05.2020	10.99	26.11.2019	24.02.2020	19*	0.63	2.09	0.63
<b>Total</b>							<b>19.84</b>		<b>9.59</b>

Source: Information furnished by PW divisions

\*Covid period days excluded

However, the required damages amounting to ₹ 9.59 crore on account of delay in submission of PS was not recovered from the concessionaires.

Government accepted (March 2025) and replied that the matter would be verified and intimated to audit.

#### 2.9.4 Delayed execution of escrow agreement and non/short infusion of equity in escrow account by the concessionaire

Article 4.1.3 of the CA, the conditions precedent required to be satisfied by the concessionaire within a period of 150 days from the date of this agreement. The execution and procurement of 'Escrow Agreement' is one of the conditions precedents, which required to be fulfilled, else damages under Article 4.3 are payable by the concessionaire at the rate of 0.3 per cent of the performance security for each day of delay, subject to maximum of bid security. Further as per the CA, the concessionaire and the Government should deposit all the funds pertaining to the package in an escrow account maintained with the bank. All expenses on the construction of the project were to be incurred from the escrow account. However, Audit observed cases of direct investment by the concessionaire without routing it through the escrow account in two<sup>32</sup> packages and delay in infusion of equity in escrow account in 13 selected packages<sup>33</sup>.

Audit further observed that in four out of 42 selected packages, the escrow agreement was executed with a delay ranging from 52 days to 428 days. However, the damages amounting to ₹ 7.32 crore on account of delayed

<sup>31</sup> 1. 03541LG001619, 2. 03541LG001819 and 3. 62951LG000619/dated; 12.06.2019 for ₹ 5.00 crore, ₹ 5.00 crore and ₹ 1.00 crore respectively.

<sup>32</sup> NAG-147 and NSK-65

<sup>33</sup> PN-28, PN32, PN-33, PN-34, PN-163, PN-43, PN-45, AU L-1, AU L-2, NSK-56, PN-36, PN-38 and NSK-68

execution of escrow agreement was not recovered from the concessionaire by the PW division as detailed in **Table-9**.

**Table-9: Delayed execution of Escrow agreement**

Package No.	EPC	Due date of Escrow Agreement (150 days from CA)	Date of Escrow Agreement	Delay (in days)	Amount of Performance Security	Damages to be levied (0.3% of performance security/day)	Bid Security i.e. 1 per cent of EPC	Damages to be recovered restricted to Bid security
(1)	(2) (₹ in crore)	(3)	(4)	(5)=(4)-(3)	(6) (₹ in crore)	(7)=(0.3% of (6) *5) (₹ in crore)	(8)=1 % of (2) (₹ in crore)	(9) (₹ in crore)
MU-02	218.00	26-01-2019	25-09-2020	428*	10.88	13.97	2.18	2.18
MU-03	180.00	26-01-2019	08-05-2019	102	9.05	2.77	1.8	1.80
AU-106	181.96	11-05-2019	02-07-2019	52	11.25	1.76	1.82	1.76
NAG-137	158.30	05-08-2019	07-08-2020	222*	7.60	5.06	1.58	1.58
<b>Total</b>								<b>7.32</b>

(Source: Information furnished by PW divisions)

\*Covid period days excluded

In respect of MU-02 and MU-03 Government replied (December 2024) that it seems that inadvertently different dates have been considered by Audit. Escrow agreement in both these cases were signed on 30 October 2018.

Though the concessionaire had opened the escrow account in Bank of Maharashtra in October 2018 for both the packages, however, copy of the tripartite escrow agreements were not furnished to Audit. The actual escrow agreements were executed with the Catholic Syrian Bank in May 2019 for MU-03 package and September 2020 for MU-02 package.

Government further replied (March 2025) that recovery is made in package (AU-106) and recovery, if required, will be made in remaining cases.

### **2.9.5 Irregularities noticed in payment and recovery of Mobilization Advance**

As per article 23.8 of the CA, an advance payment of 10 *per cent* of the BPC in two installments of five *per cent* each may be made to the concessionaire as mobilization advance (MA). However, the second instalment may be paid at any time after 60 days from the Appointed Date. The rate of interest on the MA shall be equal to the bank rate, compounded annually. The MA shall be recovered in four equal instalments and the interest thereon shall be recovered as fifth and final instalment upon expiry of 120 days from the date of recovery of the fourth installment.

Audit observed instances of short recovery of interest on MA to the tune of ₹ 2.25 crore in seven out of 42 selected packages due to application of incorrect rate of interest, non-compounding of interest annually and interest not charged for the entire period till recovery of MA with interest. The details are given in **Table-10**.

Table-10: Details of short recovery of interest on Mobilization Advance

(₹ in lakh)		
Name of the Package	Short recovery of Interest	Remarks
NAG-132	9.96	Incorrect bank rate was applied for interest calculation on MA and interest was not charged for 30 days <i>i.e.</i> interest was charged up to 27.02.2020 instead of 26.03.2020.
NAG-141	31.13	Interest was not charged for the period till recovery of MA and interest. Further the interest was also not calculated at annual compounding basis.
PN-48	57.01	Incorrect Bank Rate was applied for interest calculation on MA. Interest was not charged between the period 4 <sup>th</sup> MS and 5 <sup>th</sup> MS and not compounded annually.
AU-L1	75.63	The division had recovered fourth installment of mobilization advance from the fourth milestone payment bill on 31.03.2023. However, no interest recovered after 27.07.2022.
AM-1 (A to E)	25.59	The interest was not calculated at annual compounding basis.
MU-170	11.86	Incorrect bank rate was applied for interest calculation on MA.
MU-174	13.61	Incorrect Bank Rate was applied for interest calculate on MA, interest was not charged between the period of 4 <sup>th</sup> MS and 5 <sup>th</sup> MS and not compounded annually.
<b>Total</b>	<b>224.79</b>	

Government replied (December 2024/March 2025) that recovery has been made in packages NAG-132, NAG-141, AU-L1, MU-170 and MU-174. In two packages (PN-48 and AM-1), it has been replied that the amount would be recovered from next annuity payment.

### 2.9.6 Non-recovery of damages from the concessionaire

As per clause 12.3.2 of CA, the concessionaire shall construct in four project milestones as set forth in Schedule-G and if the concessionaire fails to achieve any project milestone within a period of 90 days from the date set forth in Schedule-G, unless such failure has occurred due to *Force Majeure* or for reasons attributable to the Authority, it shall pay damages in a sum calculated at the rate of 0.1 *per cent* of the amount of performance security for each day of delay until such project milestone is achieved. Further, as per clause 15.2 of the CA, if Commercial Operation Date (COD) does not occur prior to the 91<sup>st</sup> day of the scheduled completion date, damages at the rate of 0.2 *per cent* of the amount of PS for each day of delay as specified in the CA is leviable.

As per schedule G, the project milestones are based on certain percentage of physical progress to be achieved by the concessionaire within the prescribed period from the date of commencement of project as elaborated in **Table 11**.

Table 11: Period prescribed for achievement of project milestone

Project Milestone	Physical progress (%)	Period (days)
I	20	180
II	35	400
III	75	600
Schedule Completion	100	730

Audit observed that in five out of 42 selected packages, the respective concessionaires achieved different project milestones with delays ranging from 36 to 906 days. However, damages of ₹ 56.88 crore as shown in **Appendix 2.1.5** for the delay were not recovered. In two cases (PN-26 and PN-36) proposal for termination of contract was submitted to Government which is pending (December 2024).

Government replied (March 2025) that the recovery is done in some of the cases and in some cases approval for extension of milestone dates of packages is underway.

### 2.9.7 Shortcomings noticed in payment of GST by Concessionaires

Audit observed instances of excess payment of GST to concessionaires in seven out of 42 selected packages as discussed in succeeding paragraphs:

#### 2.9.7.1 Irregular payment of GST

Audit observed that in five out of 42 packages under two regions, the estimated project cost (EPC) put to tender was inclusive of GST. The CE of Konkan Region had also clarified in the pre-bid meeting with the bidders in case of two packages (MU-02 and MU-03) that EPC is inclusive of GST. However, the division has paid GST of ₹ 81.20 crore on adjusted BPC in five packages without taking the cognizance of the said clarification given by the CEs.

This has resulted in inadmissible payment of GST to the concessionaire of ₹ 81.20 crore as detailed in **Table 12**.

**Table 12: Excess payment of GST**

Package No. (Name of the PW division)	GST paid as per the last bill
MU-02 (Jawhar)	26.34
MU-03 (Jawhar)	21.70
MU-04* (Thane)	11.19
MU-06* (Thane)	9.64
AM-82A (Buldhana)	12.33
<b>Total</b>	<b>81.20</b>

\*GST was paid only on 60 per cent of value of work done and annuity.  
(Source – Information furnished by PW Divisions)

Government replied (March 2025) that recovery would be affected.

#### 2.9.7.2 Excess payment of GST of ₹ 1.12 crore

Audit observed that in package AU-106<sup>34</sup>, an amount of ₹ 32.76 crore was paid on account of GST to the concessionaire on work done of ₹ 272.97 crore considering the BPC of ₹ 225.00 crore up to fifth payment milestones. However, the GST payable works out to ₹ 31.64 crore on work done cost of ₹ 263.63 crore considering the revised BPC of ₹ 217.31 crore after descoping the unexecuted work. Hence, non-consideration of the revised BPC of ₹ 217.31 crore for calculation of GST payment, resulted in an excess payment of GST of ₹ 1.12 crore to the concessionaire.

<sup>34</sup> The construction of two laning road with paved shoulders under HAM Mudkhed Umari Ramkhadk Babulgaon Dharmabad Chincholi km 0/00 to 67/559 (length- 67.559 km).

Government accepted the facts (March 2025) and replied that recovery would be affected.

### **2.9.8 Irregular payment of royalty of ₹ 1.40 crore to the concessionaire**

As per clause 23.4 read with clause 23.1 of MCA, the BPC prescribed all the costs<sup>35</sup> except additional cost arising on account of price variation in Price Index, Change in Law, *Force Majeure*. For avoidance of doubt, the BPC represents the amount due and payable to the concessionaire.

Audit observed in fifth milestone payment of package MU-170, separate amount of ₹ 1.40 crore on account of royalty was made in addition to regular payment. As no separate payment was to be made on account of royalty in terms of CA, the separate payment of ₹ 1.40 crore to the concessionaire was irregular.

Government replied (March 2025) that the royalty amount of ₹ 20.46 lakh and ₹ 25.63 lakh has already been deducted from 11<sup>th</sup> and 19<sup>th</sup> RA Bill respectively. The remaining royalty amount of ₹ 94.03 lakh will be deducted from forthcoming annuity payment.

### **2.10 Monitoring and Evaluation/Quality Control**

The fourth objective of this performance audit was to assess whether mechanism for monitoring and evaluation of the road quality was adequate and effective.

Audit scrutinized the records relating to the monitoring of HAM projects at different levels considering existing monitoring and quality control mechanism and in terms of the provisions of the CA of HAM.

The audit findings are discussed in succeeding paragraphs:

#### **2.10.1 Inspection of project execution at various levels of Department**

Paragraph 23 to 45 of Maharashtra Public Works Manual 1984 defines that the CE shall provide prompt technical guidance and tighter and closer inspection and supervision ensuring both quality and progress of work. SE has to inspect the various works within his circle and EE at the division level is responsible for the execution and management of all works. In addition, the SEs of Vigilance and Quality Control Circles (VQCC) are also entrusted with the inspection of works and testing of materials to assess the quality of work.

Audit observed that no specific target for inspection of HAM packages was fixed at CE/SE/EE levels. The information of inspection obtained in case of 22 out of 42 selected packages revealed that the number of inspections carried out in the HAM packages were not uniform and varies ranged from one to 68 inspections at EE level, from one to 14 inspections at SE level and from one to four inspections at CE level. Moreover, out of 22 packages, no visits by CE in nine packages, by SE in six packages and by EE in three packages as shown in **Appendix 2.1.6 (a)**.

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<sup>35</sup> Inclusive of cost of construction Interest during construction, working capital, physical contingencies and all other costs, expenses and charges for and in respect of construction of the project

In case of 20 HAM packages<sup>36</sup>, the Department did not furnish the information on inspection carried out.

Further, the Department directed (October 2018) that, 20 *per cent* of 138 prescribed periodical inspection (28 inspections) has to be carried out annually for HAM works by the VQCC. The observations of VQCC have to be complied with promptly by the respective PW divisions.

Analysis of information obtained from all six<sup>37</sup> VQCCs revealed that, during last five years (2018-19 to 2022-23) there was significant shortfall in inspection and increase in pendency of compliance to the observations of VQCCs.

No inspection was carried out in 2018-19 and from 2019-20 to 2022-23, there was short fall in inspections ranging from 54 *per cent* to 100 *per cent* in all six regions as shown in *Appendix 2.1.6 (b)*. The pendency of compliance to observations of VQCC was ranged from 16 *per cent* to 100 *per cent* in all six regions as shown in *Appendix 2.1.6 (c)*.

Thus, VQCCs did not conduct inspection of HAM projects as prescribed. Further, respective PW divisions failed to comply VQCC's observations.

Government replied (March 2025) that there are in-built provisions for quality monitoring of HAM projects in the Concession Agreement by Independent Engineer (IE) and in addition, VQCC wing was directed to inspect/ quality check all the HAM projects.

The reply is not acceptable as there was shortfall in inspection by the VQCC during 2018-19 to 2022-23. Thus, the opportunity of ensuring quality check at departmental level remained unchecked.

### 2.10.2 Independent Engineer

Model Concessionaire Agreement (MCA) of HAM provides a monitoring system through appointment of Independent Engineer (IE) in every three years from development period to maintenance period of the project work. Article 21.1 of MCA provides that, an IE shall be appointed by the Authority within 60 days of entering into CA.

IEs have to appoint five key personnel and four sub-professional staff (for 74-man months in the two-year period of construction), the list of which is to be provided to the Department. In addition, IEs had to make provision for survey equipment, office expenses, other support staff, contingencies *etc.* The payment of the IEs on this account must not exceed three *per cent* of the Bid Project Cost (BPC) which were to be borne by the concessionaire and the department equally.

#### 2.10.2.1 Delay in appointment of IEs for construction period

Audit noticed that there were delays in appointment of IEs ranging from 22 days to 464 days in case of 33 packages. Furthermore, in case of 20 packages, the

<sup>36</sup> NSK-56, MU-174, NAG-132, MU-02, MU-03, MU-04, MU-06, AU-106, AM-02, AM-83B, AU-L1, MU-170, AU-180, AU-L2, NSK-165, PN-25, PN-26, PN-36, PN-38, AU-100B

<sup>37</sup> VQCC at newly formed Nanded Region is not created and Aurangabad VQCC looking after the work of Nanded Region

appointment of IEs was done after the scheduled appointment date ranging from 2 to 249 days from the appointed date. The details are given in **Appendix 2.1.7**.

Government replied (December 2024/March 2025) that even though the appointment of IE got delayed, barring few cases all the appointments were done before the appointed date of the concessionaire.

Reply is not acceptable as delay in appointment of IE from appointed date was noticed in 20 sampled packages. Thus, various specialized works such as review of drawings, detailed design, and construction methodology, quality assurance procedures *etc.* remained to be ensured till the appointment of IEs.

### **2.10.2.2 Non-appointment of IE for O&M period**

As per terms of reference given in Schedule-N of CA, the role of IE shall include operation period responsibilities<sup>38</sup>.

Audit observed that department neither appointed any IE for O&M periods of HAM works nor issued orders for executing the work of IE by concerned sub-divisions having jurisdiction over the corresponding HAM package. In absence of IEs in O&M period, it could not be ensured that the roads were maintained properly. As mentioned in **Paragraph 2.8.3.4** during physical visits it was observed in seven out of 24 completed packages the maintenance of road was poor.

Government replied (March 2025) that circular would be issued regarding monitoring by the department in O&M period.

The fact remains that during the O&M period, in absence of IE and lack of proper instructions for monitoring through departmental engineer resulted in poor maintenance of the road.

### **2.10.3 Video recording and development of project-specific website**

As per clause 13.6 of CA, during the construction period the concessionaire shall provide to the Authority for every calendar quarter, a video recording, covering the status and progress of construction works in that quarter within seven days of the appointed date and thereafter, no later than 15 days after the close of each quarter. The concessionaire shall also develop a project-specific website which shall be accessible to the public and upload the time stamp picture of the development of project highway each week.

In case of 42 sampled packages, the package-wise information regarding conducting video recording and status of development of project specific website was called for, as at the time of audit it was not available.

Government, in reply (December 2024), stated that video recordings of the progress of the projects were taken and few of the video recordings were uploaded to the website and rest can be made available by concerned division. Government further stated (March 2025) that project specific website and data would be updated.

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<sup>38</sup> Comments on safety report received from safety consultant, Review the Annual Maintenance Program and Review of monthly status report furnished by the concessionaire, inspect the project once in every month and verify whether any test is required to be carried out and the project is in conformity with good industry practice

The fact remains that, in the absence of updated website, the status and progress of construction works were not accessible to the public, which contravened the conditions of the CA.

#### **2.10.4 Delay in appointment of Safety Consultants**

Article 18 of the CA provides that the Authority will appoint the Safety Consultant, for carrying out safety audit of the Project in accordance with the Safety Requirements. According to schedule L, the Department shall appoint a Safety consultant within 90 days of signing CA. The Safety Consultant has to carry out safety audit at the design<sup>39</sup> stage of the project and provide his recommendations. The Authority has to carry out safety audit<sup>40</sup> prior to Commercial Operation Date (COD) of the completed construction works.

Audit observed that there were delays in appointment of Safety Consultant (SC) ranging from 39 to 1290 days in 29 selected packages. Further, in case of 27 packages, the appointment of SCs was done after passing of the period ranging from 2 to 1352 days from the appointed date (*i.e.*, commencement of construction). The details are given in *Appendix 2.1.8*.

Government replied (March 2025) that appropriate instructions would be issued to follow safety norms.

#### **2.11 Conclusion**

GoM has taken up road development through HAM so that more roads can be covered through private equity which can be repaid through annuity payment for 10 years after the completion of the construction work. The roads were also to be maintained by the concessionaire till the end of the annuity period for which separate O&M cost was payable.

As on February 2025, 80 *per cent* (112 out of 140) packages were completed (Road length 7188.21 km) and 20 *per cent* (28 packages) were ongoing (Road length 1823.09 km).

The DPR preparation was not done comprehensively and the incorrect clause included in RFP had resulted in unwarranted payment for DPR preparation. The objective of uninterrupted traffic through road connectivity was not achieved in cases where works were taken up without forest clearance. Unrealistic loading of insurance charges and patrolling for O&M in the estimate were noticed.

Higher specification for crust thickness was provided in DPR than required as per the projected traffic growth resulted in unwarranted cost. While awarding multiple packages to single bidder the departmental authorities did not consider the earlier awarded works while evaluating the bidders' financial capacity. The roads were not fully utilized due to non-coverage of narrow minor bridges, reconstruction of weak bridges and incomplete bridges in between the roads. Road stretches were not constructed due to various reasons, resulting in lack of

<sup>39</sup> By analyzing data on all fatal crashes and other road accidents, which occurred on the project in the preceding two years and check with the relevant drawings containing design details that have a bearing on safety of Users provided by concessionaire.

<sup>40</sup> To inspect the project to assess the adequacy of safety measures for reducing accident hazards on the project with the guidelines of IRC and notify the same to the division.

connectivity. Completed works were not maintained in accordance with the terms of CA during O&M period.

Delayed milestone payments resulted in avoidable payment of interest. Instances of excess payment due to incorrect calculation/clause of price escalation/ determination of balance cost was noticed. Delays were observed in submitting performance security, execution of escrow agreement and achievement of physical progress of work within the prescribed time. GST was paid separately, even though it was already included in the project cost.

No specific target for inspection of HAM packages was fixed at CE/SE/EE levels and there was significant shortfall in inspection by VQCCs. There were significant delays in appointment of IEs as well as Safety Consultants during construction of Roads. Neither IEs were appointed for monitoring in O&M period nor orders were issued for monitoring by concerned sub-divisions.

Though the construction of Roads in majority works was completed, the department may look into the deficiencies for rectification as the payments would be continued to be made to the concessionaire for annuity till the end of the annuity period.

#### **Recommendations**

- 1. Detailed Project Reports should be prepared thoroughly, with realistic assessments of site-specific constraints to avoid unwarranted costs and ensure accurate scope of work.***
- 2. O & M costs should be estimated based on actual and justifiable parameters such as realistic insurance charges, need-based patrolling requirements.***
- 3. Timely financial allocations may be ensured to avoid interest payments to concessionaire due to delayed payment.***
- 4. The payment to the concessionaires may be made after ensuring correct calculation of payments due, including balance completion costs, price escalation etc.***
- 5. O & M costs should be paid only after ensuring that the maintenance of roads is carried out by the concessionaire as per the provisions of the CA through efficient monitoring.***

## **CHAPTER – III**

### **AUDIT OF TRANSACTIONS: GOVERNMENT DEPARTMENT**



## CHAPTER III

### AUDIT OF TRANSACTIONS: GOVERNMENT DEPARTMENT

Audit of transactions of the government departments brought out instances of lapses in management of resources and failures in the observance of the norms of regularity, propriety and economy as detailed below:

#### ENVIRONMENT AND CLIMATE CHANGE DEPARTMENT

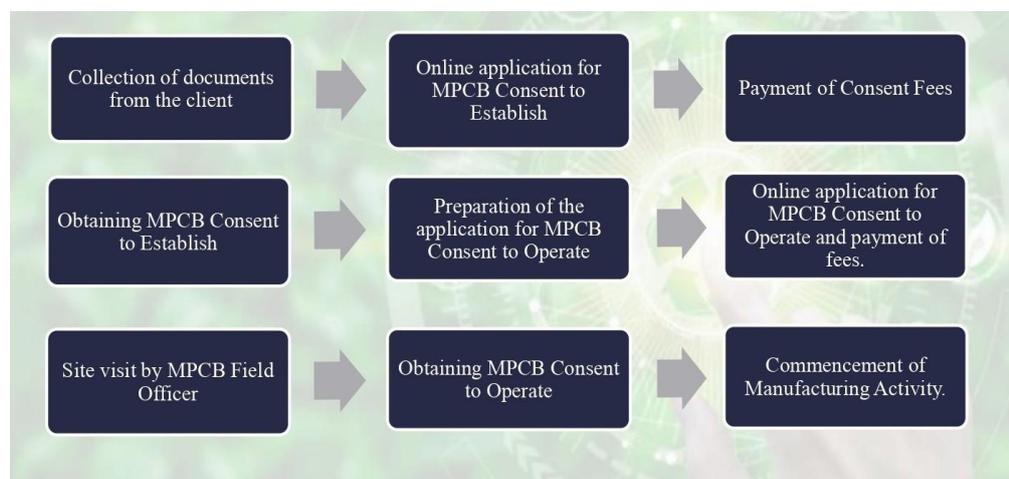
### 3.1 Subject Specific Compliance Audit of Role of MPCB in issuance of consent and monitoring of compliance of consent conditions for prevention, control and abatement of water pollution in Maharashtra

#### 3.1.1 Introduction

Maharashtra Pollution Control Board (MPCB) implements various environmental legislations in the State of Maharashtra including Water (Prevention and Control of Pollution) Act, 1974 (Water Act). To ensure prevention, control or abatement of pollution, MPCB regulates industrial operations through a structured consent mechanism, ensuring environmental compliance and prevention of water pollution.

As per Section 25 of the Water Act, all industries are required to obtain consent to establish and consent to operate before starting any industry and consent to expansion before extension or addition to the existing industry which is likely to discharge sewage or trade effluent into any stream or on ground. The industries are required to comply with the consent conditions prescribed in the consent document. MPCB is empowered to issue notices, forfeit bank guarantee and even issue closure directions to the industries in case the industries do not comply with the consent conditions. Further, consent to renewal is to be obtained by the industry before expiry of the existing consent to operate. Thus, MPCB is responsible for monitoring and taking preventive action regarding pollution. The process of consent management is depicted in **Chart 1** below:

**Chart 1: Flow Chart for Consent Management**



As of March 2023, there were 1,19,930 industries in Maharashtra. The industrial effluent generated by the large industries was treated through their own Effluent Treatment Plants (ETPs) and by smaller industries producing lesser quantity of

effluents through Common Effluent Treatment Plants (CETPs). MPCB plays an important role as a regulator through consent management to ensure that industries, Local Bodies operate within acceptable environmental standards in minimizing pollution. By mandating industries to obtain consents at various stages of their operation, MPCB ensures that environmental safeguards are in place right from the inception of industrial projects till their operations are continued.

Audit examined the role of MPCB in issuance of consent and monitoring the compliance of consent conditions for prevention, control and abatement of water pollution.

### **3.1.2 Organizational structure**

MPCB is an Autonomous Body which assists the Environment and Climate Change Department (DECC), Government of Maharashtra. MPCB executes the decisions taken through 12 Regional offices, each headed by a Regional Officer (RO) and 43 Sub-Regional Offices (SROs) having 147 Field Officers to carry out the field visits. MPCB has a Central Laboratory and seven regional laboratories, in which samples are sent by the field offices of MPCB for water testing.

### **3.1.3 Role of MPCB**

MPCB is assigned with various duties of monitoring of pollution control activities *viz.*

- Issue of consent to establish/operate, renewal of consent to industries by including the directions issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC), Central Pollution Control Board (CPCB), MPCB and National Green Tribunal (NGT),
- Ensuring compliance of conditions of the consent, guidelines/ instructions *etc.*
- Collection and testing of samples of surface water, ground water, industrial effluent,
- Issue of warning notices, directions for forfeiture of bank guarantee, levy of environmental compensation, closure notice to the defaulting industries failing to comply with environmental norms,
- Acting as an advisory body to State Government on pollution related issues,
- Collecting information on various types of pollutants.

### **3.1.4 Audit objectives**

The Subject Specific Compliance Audit was conducted to assess whether an effective mechanism was in place to ensure monitoring of compliance of consent condition.

### **3.1.5 Audit criteria**

The audit findings were benchmarked against the following criteria.

- (i) The Water (Prevention and Control of Pollution) Act, 1974

- (ii) Instructions/circulars/order/resolutions/notifications/guidelines issued by NGT, Central/State Government, CPCB/MPCB and other agencies from time to time
- (iii) Enforcement Policy (February 2016) issued by MPCB.

### **3.1.6 Audit scope, methodology and sampling**

The SSCA was conducted from June to November 2022 covering the period from 2017 to 2022. The information was updated till March 2023 based on the replies of the Department.

An Entry Conference was held with the Principal Secretary, DECC, Maharashtra (PS, DECC) in June 2022 wherein, the audit objectives, scope, criteria and samples selected were discussed. The audit methodology involved scrutiny of records, interaction with the personnel of auditee units, joint site visits to the selected sites along with the MPCB officials.

Audit scrutiny was conducted at the office of the PS, DECC and head office of MPCB. Further, six<sup>1</sup> out of 12 ROs were selected by random sampling through IDEA software and all the 24 SROs under these six ROs were covered. For detailed scrutiny, 158 industries from different types of polluting industries<sup>2</sup> were selected for site visit (July to November 2022) to evaluate compliance of consent condition through joint physical verification. Water samples were also collected by the MPCB officials during joint physical verification in 10 out of 158 sampled industries.

An Exit Conference was held in May 2023, wherein audit observations were discussed with the PS, DECC and the replies of the Government (August 2023 and February 2025) have been appropriately incorporated in the audit report.

### **3.1.7 Audit Findings**

#### **3.1.7.1 Delay in issue of consent**

Under the Water Act, a statutory period for grant of consent was 120 days from the date of application. As per the policy of ease of doing business, new industries have to register in Maharashtra Industry, Trade and Investment Facilitation Cell (MAITRI) for obtaining consent from MPCB. MPCB had joined the scheme of “Single Window” system at MAITRI (Investment Facilitation Cell) for considering grant of consents. MPCB vide its Enforcement Policy (February 2016) reduced the period for grant of consent 60 days from 120 days which was in vogue before this.

Audit observed that 8273 (50 *per cent*) out of 16,424 consents were issued by MPCB during 2017 to 2022 after the statutory period of 60 days from the date of application was over.

The Government stated (February 2025) that the delay happened due to constraint of manpower, workload, incomplete applications *etc.* It was further stated that the consent applications were kept pending for want of documents and to avoid duplication in remittance of consent fees by the industries.

<sup>1</sup> Amravati, Aurangabad, Kalyan, Nashik, Navi Mumbai and Pune.

<sup>2</sup> Sugar, paper, chemical, infrastructure projects, slaughterhouses, battery recycle industries, ready-mix concrete plant, hospitals, railway stations, hotels *etc.*

The reply is not acceptable as issue of consent within the prescribed period was required to facilitate the industry to start its operation in time after obtaining consent in the interest of ease of doing business.

### 3.1.7.2 Industries operating without consent

As per Section 25 of the Water Act, all industries are required to obtain consent to establish and consent to operate while Section 44 prescribes penalty for contravention with imprisonment for a term which shall not be less than one year and six months which may be extended to six years and with fine.

Audit collected information from various departments including Tourism Department, Local Bodies *etc*; and compared these with the data of MPCB to check whether these industries were covered under the consent regime. Audit observed that 1,367 hotels<sup>3</sup> falling under the jurisdiction of the six test checked ROs were found operating without obtaining consent from MPCB. Further, additional 40 industries were operating without consent as noticed during Joint Physical Verification as given in *Appendix 3.1.1*.

Government stated (February 2025) that 21 industries have complied with by obtaining consent or by applying for it, action against 15 non-complying industries was in progress and 4 industries were closed.

MPCB needs to develop a mechanism to get the information of various industries operating under their jurisdiction to ensure coverage of all industries as required under the Water Act.

### 3.1.8 Mechanism to ensure compliance of consent conditions

MPCB is required to ensure compliance of the consent conditions through regular field visits and online monitoring through Online Continuous Effluent Monitoring System (OCEMS). As per circular issued (September 2011) by MPCB, the Field Officers of MPCB were required to visit the industries to ensure compliance of the consent conditions issued to them. Also, as per GR dated 29 August 2017, the highly polluting industries and CETPs were required to be visited monthly and other industries were to be visited quarterly, half yearly and yearly based on their pollution potential to check the compliance of consent conditions by MPCB officials. Similarly, as per MPCB circular dated April 2016, all highly polluting industries and CETPs were required to install OCEMS and connect the same to the MPCB server for online monitoring of the industries. Sample of industrial effluents were also required to be collected by the MPCB officials and checked at its laboratories to verify whether they meet the prescribed standards of the parameters as per conditions of the consent/guidelines of the CPCB.

#### 3.1.8.1 Monitoring of industries

As per Government resolution dated August 2017, the frequency of visits to the industries was prescribed as detailed below:

Duration	Industry type
Monthly	Highly polluting industries, Common Effluent treatment plant (CETP) <i>etc</i> .

<sup>3</sup> RO-wise hotels: Amravati (88), Aurangabad (324), Kalyan (43), Nashik (801), Navi Mumbai (2) and Pune (109)

Duration	Industry type
Three monthly	Red (Medium Scale Industries), Orange (Large Scale Industries)
Half yearly	Red (Small Scale Industries), Orange (Medium Scale Industries)
Yearly	Orange (Small Scale Industries), Hotels

Government introduced (June 2015) the Risk Based Inspection tool, where resources were focused on those enterprises which carry a higher risk to the public. The Risk Based Inspection tool was to form the basis for prioritization and determination of the frequency of visit of each industry and ensure that repetition of the same Industry / site could not occur in the same month. The Government instructions stipulated assignment of 20 Industries to each Field Officer (FO) per month, assignment of Industries to FO's on alternate working days and prioritise the industries as per the criteria.

Further, as per MPCB's Random Risk Based Inspection and Sampling Procedure (RRBIS) (June 2015), 75 per cent of the visits were to be carried out by the officers in their own jurisdiction and remaining 25 per cent were to be carried out by the officers from other regions.

Audit observed from the data of field visit scheduled and completed during 2017-23 that there was a shortfall in the range of 53.50 per cent to 68.35 per cent in the number of visits actually carried out with respect to the scheduled visits as shown in **Table-1**.

**Table 1: System for monitoring of Industries**

Year	Actually scheduled	Actually Visited	Shortfall in actual visits with respect to visits scheduled	Percentage of Shortfall in visits with respect to scheduled visits
2017-18	29845	11624	18221	61.05
2018-19	31449	14624	16825	53.50
2019-20	32620	14919	17701	54.26
2020-21	15291	4839	10452	68.35
2021-22	38509	13082	25427	66.03
2022-23	40619	15069	25550	62.90
<b>Total</b>	<b>188336</b>	<b>74163</b>	<b>114176</b>	<b>61.02</b>

Source: Information furnished by MPCB

Similarly, it was observed that there was substantial shortfall in visits to highly polluting industries such as Sugar, Paper and Pharmaceutical industries in the range of 58 to 84 per cent as discussed in paragraph number 3.1.9.1 to 3.1.9.3.

The RO wise analysis of the field visits revealed that except for Aurangabad, none of the ROs could visit even 50 per cent of the scheduled visits. Particularly, RO, Mumbai, which had eight FOs and could carry out only 29.36 per cent of the scheduled visits, which was the lowest among all ROs and Chandrapur with only one FO achieved 37 per cent visits.

Audit further observed that no visits were carried out by the officers from other regions thus, the RRBIS was not followed.

The Government stated (August 2023) that shortfall in monitoring of industries was due to the engagement of the board officials in other works like NGT matters, legal action, complaints, investigations etc., and very less time was left for monitoring of industries.

The reply indicated inadequate monitoring over industries thereby impacting the compliance of consent conditions, which is one of the crucial function of MPCB.

### **3.1.8.2 Inadequate manpower resulting in poor monitoring**

The Field Officers (FO) were responsible to ensure compliance of consent conditions, collect joint vigilance samples and monitor the industries under the jurisdiction. The year wise break up of vacancies in the post of FOs is detailed below in **Table-2**:

**Table 2: Status of Men-in-Position**

<b>Year</b>	<b>Sanctioned Strength</b>	<b>Men in Position</b>	<b>Vacancies</b>
2017-18	204	168	36
2018-19	204	161	43
2019-20	204	161	43
2020-21	204	160	44
2021-22	204	151	53
2022-23	204	147	57

It can be seen from the above table that vacancies of FOs were increased from 36 in 2017-18 to 57 in 2022-23 whereas Men in Position was decreased from 168 in 2017-18 to 147 in 2022-23.

The number of industries increased from 89,738 in 2017-18 to 1,19,930 in 2022-23, however, the number of Field Officers (FOs) decreased from 168 in 2017-18 to 147 in 2022-23. As such, the monitoring of industries through field visits by FOs also got significantly affected. Based on prescribed sampling norms<sup>4</sup> of existing industries and frequency of inspections by MPCB, the minimum requirement of FOs was 329 in year 2022. However, sanctioned strength of FOs was 204 and person-in-position was 147 only as of March 2023. The monitoring of compliance conditions can be ensured through field visits in which there was shortfall resulting in non-compliances noticed during joint physical verification as discussed in paragraphs 3.1.9.1 to 3.1.9.6.

MPCB had forwarded (January 2019) proposal for revision of staff strength to DECC, GoM, but it was not sanctioned (January 2025). Apart from the post of FOs, there were vacancies in the post of Regional Officer, Sub Regional Officer and Field Inspectors during 2017-23.

Further, important posts *viz.* Senior Law Officer, Assistant Law Officer, Senior Administrative Officer, Deputy Engineer were vacant throughout the period of five years covered in the audit. Thus, shortage of staff had adverse impact on monitoring the work of pollution control.

The Government stated (February 2025) that the process of recruitment of staff was in progress.

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<sup>4</sup> As per GR issued August 2017 by the Industry, Energy and Labour department of Maharashtra, frequency of visit of the industry is prescribed on the basis of categorization of the industry.

### 3.1.9 Compliance of Consent conditions/MOEF/CPCB guidelines by industries

Audit physically verified 158 selected industries along with the MPCB officials to check the status of the compliance of consent conditions and MoEF/CPCB guidelines/instructions. It was observed that MPCB could not ensure compliance of conditions by industries as discussed in the succeeding paragraphs.

#### 3.1.9.1 Sugar/distillery industries

Sugar/distillery industries fall under the category of highly polluting industries. The MoEF&CC had issued guidelines (January 2016) prescribing various pollution control activities such as stabilizing ETP one month prior to the start of the crushing season, installation of flow meter on ETPs *etc.* which were included as conditions of the consent issued by MPCB. Further, consent condition/CPCB guidelines directed industries to comply with other pollution control activities such as discharge of effluent after treatment following prescribed standards<sup>5</sup> of parameters and installation of OCEMS *etc.*

Audit conducted physical verification of 21 out of 184 sugar industries to examine compliance to the consent conditions/guidelines and observed non-compliances to those conditions as given in **Table 3 below**:

**Table 3: Non-compliance of consent conditions**

Consent conditions/CPCB guidelines	Non compliance	No. of Non-complying Industries
The industry shall recycle reuse the treated effluent. In no case treated or untreated effluent shall find its way outside the factory premises directly or indirectly.	Discharge of untreated effluents either on ground or directly into water bodies leading to contamination of surface/groundwater	12
CPCB prescribes for the installation of OCEMS	OCEMS were not installed	15
	OCEMS sensor was not installed at the outlet from where effluent was discharged	8
Industries to provide Effluent Treatment Plant (ETP) of designed capacity consisting of Primary, Secondary, Tertiary for treatment of industrial effluent	ETP was either non-functional or the tertiary treatment unit was not provided	13

Direct discharge of effluent by sugar industries can be seen in **Photographs** below:

<sup>5</sup> pH-5.5 to 8.5; Total Suspended Solids-100 mg/l for disposal on land, 30 mg/l for disposal on surface water; BOD-30 mg/l; Oil and Greece-10 mg/l, Total Dissolved Solids-2100 mg/l



**Photograph 1: Effluent discharge into the water body by M/s Jarandeshwar Sugar Mills Pvt. Ltd, Chimangaon, Satara (18.11.2022)**

**Photograph 2: Untreated effluent ponds at M/s Sharayu Agro Ind. Ltd. Kapshi, Phaltan, Satara (12.11.2022)**

**Photographs 3 and 4: Leachate flowing from Bagasse at M/s Mukteshwar Sugar Mills Limited, Aurangabad (22.11.2022) and M/s Agasti Sahakari Satkar Karkhana Limited, Agastinagar, Akole, Ahmednagar (18.11.2022)**

Further, samples of treated effluents were also collected at the outlet of ETP through MPCB officials in joint physical verification of seven sugar industries and tested to check compliance with the Consent conditions which prescribed that industrial effluents should meet specific standard of the parameters e.g. Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Total Dissolved Solids (TDS), Suspended Solid (SS). Test results revealed that effluent exceeded the permissible limit as prescribed for various parameters as shown in **Table 4:**

**Table 4: Parameter beyond the permissible limit**

Parameter	Permissible Value as prescribed by CPCB	Observed Range
BOD	100 mg/l	105 mg/l to 22,000 mg/l
COD	250 mg/l	260 mg/l to 66,669 mg/l
TDS	2,100 mg/l	2,324 mg/l to 17,060 mg/l
SS	100 mg/l	106 mg/l to 2,700 mg/l

Source: Test result of sample obtained from MPCB Laboratory

Thus, non-compliance with various conditions as discussed above and the test results showing parameter beyond permissible limit, indicated that these industries were not ensuring compliance with the consent conditions.

Audit also observed that only 42 *per cent* of the field visits (4699 against 11040 visits) as against the required visits to 184 sugar industries were carried out by MPCB during 2017 to 2022.

The Government stated (February 2025) that 13 out of 21 industries had complied with the audit observations, two industries were closed and legal action was in progress against the remaining six non-compliant cases.

### **3.1.9.2 Paper industry**

Paper industry discharges large volumes of effluents, adversely impacting surface water. Industries were required to ensure compliance of conditions

mentioned in the consent issued by the MPCB such as recycle of effluent after proper treatment so as to achieve Zero Liquid Discharged (ZLD), installation of OCEMS *etc.*

Audit conducted Joint physical verification of three paper industries along with the MPCB officials which revealed various non-compliances to those conditions as given in **Table 5**:

**Table 5: Non-compliance of consent conditions**

Consent conditions	Non-compliance	No of non-complying Industries
Installation of ETP to treat, recycle and reuse of the effluent for various purpose such as cooling, process, scrubbing and metering system so to achieve Zero Liquid Discharged (ZLD) and no discharge of effluent on land and outside factory premises	Non achievement of ZLD and discharging contaminated effluent directly into the drain	3
Installation of OCEMS and ensure its proper function so as to display data on CPCB/MPCB server	Non-installation of OCEMS	3
Treatment of effluent to the permissible limit of standard such as BoD 100 mg/l	Exceeding BoD against permissible limit	3
No discharge of sludge on land and factory premises	Sludge found scattered all around the Dissolved Air Floating Machine/ETP	3

Further, M/s Nath Paper and Pulp Industries Ltd, Wahegaon and M/s Laxmi Paper Industry, Bhiwandi were discharging contaminated effluent directly into the drain as shown in the **Photographs** below.



**Photograph 5: M/s Nath Pulp & Paper Industry (06.09.2022)**



**Photograph 6: M/s Laxmi Paper Industry (14.09.2022)**

Audit also observed that only 16 *per cent* of the field visits (598 against 3660 visits) against the required visits to 61 paper industries were carried out by MPCB during 2017 to 2022.

The Government stated (February 2025) that two out of three industries pointed out by audit have complied with the audit observations and Bank Guarantee of ₹ 20 lakh has been forfeited from one non-complying industry.

### 3.1.9.3 Pharmaceutical industry

Pharmaceutical industry is one of the 17 highly polluting industries as the drug manufactures release toxic effluents<sup>6</sup>. These industries were required to comply

<sup>6</sup> Effluent such as Benzene, Xylene, Methylene Chloride, Chlorobenzene, Phosphates, Sulphides, Phenolic Compounds, Zinc, Copper, Total Chromium *etc.*

with the consent condition issued by MPCB such as installation of ETP to treat trade effluents and recycling/re-using the same ensuring ZLD, proper disposal of hazardous waste and installation of OCEMS *etc.*

Audit conducted physical verification in 10 out of 167 pharmaceutical industries in the six test-checked ROs and observed various non-compliances to those conditions as given in **Table 6**:

**Table 6: Non-compliance of consent conditions**

Consent conditions	Non-compliance	No of non-complying Industries
Creation of green belt in minimum 33% of the available open land	Green belt was not created	5
Treatment/recycle/reprocess/reuse of Hazardous waste as per the provisions contained in the Hazardous and Other wastes Rules, 2016	Hazardous Waste lying unscientifically	5
Installation of ETP to treat trade effluent and recycle the entire treated effluents into the process for various purposes such as for cooling, process <i>etc.</i> so as to achieve Zero Liquid Discharge	ETP was not provided/functioning	4
Installation of separate water/electric meter showing the consumption of energy for operation of domestic and industrial treatment plants	Flow/Energy meter was not installed	5

Samples of treated effluents were collected at the outlet of ETP through MPCB officials in joint physical verification of three Pharmaceutical industries and tested to check compliance of consent conditions for various parameters of treated effluent such as BOD, COD, TDS, SS *etc.* Test results revealed that effluent exceeded the permissible limit as prescribed for various parameters as shown in **Table 7**:

**Table 7: Parameter beyond the permissible limit**

Parameter	Permissible Value as prescribed by CPCB	Observed Range
BOD	100 mg/l	138 mg/l to 220 mg/l
COD	250 mg/l	284 mg/l to 612 mg/l
TDS	2,100 mg/l	2,650 mg/l to 8,910 mg/l
SS	100 mg/l	124 mg/l to 268 mg/l

*Source: Test result of sample obtained from MPCB Laboratory*

Thus, non-compliance of various conditions as discussed above and the test results showing parameter beyond permissible limit, indicated that these industries were not ensuring compliance with the consent conditions.

Audit also observed that only 20 *per cent* of the field visits (2058 against 10020 visits) against the required visits to 167 pharmaceutical industries were carried out by MPCB during 2017 to 2022.

The Government stated (February 2025) that nine out of 10 industries have complied with and legal action was being initiated against one industry.

### 3.1.9.4 Battery Recycler Industries

The toxic effluents like lead generated by Battery Recycler Industries have wide ranging toxic effects and cause serious health hazards. MoEF&CC had issued a notification (May 2001) on management and handling of batteries. Also, as per MoEF notification dated May 2010, all manufacturers, importers, assemblers and re-conditioners were required to file a half-yearly return of their sales and buy-back to MPCB and ensure that used batteries were collected and sent only to the registered recyclers and the same was incorporated in the consent of the battery recycler industries. Industries have to strictly follow conditions of the consent such as scientific disposal of Hazardous waste, non-discharging acid on land and outside the factory premises *etc.*

Physical verification of 10 out of 66 battery recycler industries in the six sampled ROs along with the MPCB officials revealed following non-compliances to those conditions as given in **Table 8**:

**Table 8: Non-compliance of consent conditions**

Consent Conditions	Non Compliance	No. of non-complying Industries
Acid shall not be discharged on land and outside the factory premises	Acid spilled on the ground	4
Hazardous waste shall be disposed of strictly in accordance with Hazardous and other wastes (Management and Transboundary Movement) Rules 2016	Hazardous lead slag lying unscientifically	9
It is duty of the authorized persons to take permission of the MPCB to closed down the facility	Battery units were found closed without knowledge of MPCB officials with dismantled batteries/hazardous waste scattered in the factory.	3

Further, audit observed that 56 to 74 *per cent* of the units were not submitting periodical returns and 86 to 56 *per cent* of units did not recycle batteries during 2018-19 to 2021-22 indicating lack of monitoring by MPCB.

The Government stated (August 2023) that notices were issued to the stakeholders, who had not submitted the annual returns of the batteries.

### 3.1.9.5 Infrastructure projects

As per the MoEF notification (September 2006), all construction projects having area of 20,000 square meters or more and town ship projects having area more than/equal to 50 hectare and/or built-up area more than/equal to 1,50,000 square meters were required to obtain environment clearance (EC) from DECC. Similarly, these projects were required consents from MPCB. Under the conditions of consent/EC, Project proponent were required to install STP, Organic Waste Convertor (OWC) and maintain separate funds for Environmental Management Plan (EMP) *etc.*

Audit noticed that MPCB granted consent to establish, operate and renewal to 2,898 infrastructure projects during 2017-22. Audit observed non-compliances

to those consent conditions in nine out of 12 test-checked infrastructure projects as given in **Table 9**:

**Table 9: Non-compliance of consent conditions**

<b>Condition of Consent/ Environmental clearance</b>	<b>Non-compliance</b>	<b>No. of non- complying Projects</b>
Installation of Sewage Treatment Plant with adequate capacity to treat domestic effluents	Installation of STP with less capacity/ non-operation of STP	6
Creation of green belt considering CPCB guidelines with adequate species of plant in consultation with the local Forest/Agriculture	Non-creation of Green Belt	9
Installation of organic waste digester along with composting facility/bio-digester (biogas) for the treatment of wet garbage	Non-installation/operation of OWC/ Inadequate solid waste management	5
Creation of separate funds for the environmental protection measures as per condition of the Environmental clearance.	Non-maintenance of separate fund for EMP	8

The Government stated (February 2025) that 11 out of 12 projects have complied with the audit observations and legal action was being processed against one non-complying project.

#### **3.1.9.6 Other industries**

Audit verified 102 various other industries such as chemicals, oils, food processing, hospital, hotels *etc.* which were also required to treat their effluent after maintaining standard of parameters and other conditions as prescribed in the consent/guidelines of MoEF&CC/CPCB/MPCB.

Audit observed cases of non-compliances during joint physical verification along with MPCB officials such as non-operational STPs/ETPs, discharge of untreated effluent and lying of hazardous waste un-scientifically *etc.* as detailed given in **Appendix-3.1.2**.

The Government replied (August 2023) that show-cause notices were issued against the defaulting industries for non-compliance.

Thus, it is clear that due to non-compliances of consent conditions such as non-operational/functional ETP, discharge of effluent directly into drain *etc.* as discussed in Paragraphs No. 3.1.9.1 to 3.1.9.6. MPCB could not ensure prevention, control and abatement of water pollution.

Also, there was lack of monitoring due to shortfall in the number of field visits indicating ineffective monitoring on the part of MPCB.

#### **3.1.10 Common Effluent Treatment Plants**

CPCB adopted (October 2005) the concept of Common Effluent Treatment Plant (CETP) stating that it was difficult for each Small-scale industrial unit to provide and operate individual waste-water treatment plant due to the scale of operations or lack of space or technical manpower. MPCB was required to ensure compliance of the consent conditions issued to CETP.

As of March 2022, there were 26 CETPs in Maharashtra catering to 7,856 industrial units. Audit observations in respect of CETPs are discussed in succeeding paragraphs:

#### **3.1.10.1 Checking of parameters of effluent discharged by CETP**

CPCB has prescribed specific parameters with certain standards for each industry which are required to be incorporated as condition to the consent issued to such industry. This needed to be complied with the industry concerned while discharging effluent after treatment. As per MPCB Circular (December 2012), the samples of effluent after treatment from the outlets of the CETPs are being collected and checked *i.e.* all parameters are being checked on first and third Monday and six parameters are on second and fourth of the month.

Audit observed in five CETPs that as per CPCB guidelines, parameters prescribed for treated effluent for various types of industries connected to those CETPs were in the range of 12 to 53. All these parameters were required to be checked by MPCB. Audit analysed the test results of 70 samples of treated effluents furnished by MPCB for those CETPs for the period 2021-22 which revealed that as against aforesaid parameters, maximum number of parameters checked were in the range of 6 to 23, as detailed in *Appendix 3.1.3*. Thus, MPCB did not ensure checking of all parameters as per CPCB guidelines.

Further, audit analyzed data of samples of effluent tested by MPCB for 15 CETPs under six sampled ROs during 2017-18 to 2021-22 which revealed that out of 12319 samples, 5033 samples were non-complying against the prescribed standard fixed for CETPs.

The Government stated (August 2023) that the samples were being collected and checked on the basis of board Circular.

Reply is not acceptable as test results for the period 2021-22 did not display checking of all required parameters, as mentioned above.

As per CPCB guidelines for CETP (October 2001), penal charges were required to be imposed on the industries discharging effluent into the CETP with parameters beyond the prescribed norms. Audit observed the test results of 14 industries connected to CETPs and noticed that the industries discharged effluent beyond prescribed standards of parameters in the range of 5 to 37 months. However, ROs did not initiate any action against these defaulting industries.

#### **3.1.10.2 Establishment/Expansion of new industries in under-performing CETP**

NGT ordered (July 2015) not to permit for expansion/establishment of the industrial units in the areas, where the associated CETPs were not complying with the norms prescribed for treatment of effluent by CETPs. Audit analysed test report of samples of effluent of CETP, Taloja, Navi Mumbai and observed that CETP were consistently non-complying to the standards of BOD and COD prescribed for treatment for more than eight years. However, RO, Navi Mumbai issued consents to establish to one industry and consent to expansion to one more industry during 2016-20 as detailed below:

- (i) As per consent issued to establish Panchmahal District Co-operative Milk Producers Union (New Industry), the treated effluent from the industry was to be discharged at the outlet of the existing CETP through dedicated effluent disposal pipeline so that it could not rout through the CETP for treatment and avoid extra burden on the already non-performing CETP. However, audit observed during field visit (July 2022) that the effluent from the industry was being discharged into the inlet of CETP for treatment thus, violating the consent condition.
- (ii) Similarly, as per the consent for expansion issued to M/s I.G. Petrochemicals Limited, the industry was required to treat the effluent to the maximum extent by recycling it and the remaining treated effluent was to be disposed into CETP which was against the NGT orders.

Since, the CETP, Taloja was non-complying for more than eight years, the NGT orders were violated by allowing industries to establish or expansion.

The Government stated (August 2023) that the consent to establish was issued to the industry with the condition to discharge treated effluent at the outlet of the CETP through dedicated pipeline.

Reply is not tenable as the industry was required to set up its own ETP and discharge the treated effluent at the outlet of CETP whereas during field visit the industry was found discharging the effluent into the CETP indicating lapse in monitoring. Government was silent about the issue of consent to expansion to the other industry.

### **3.1.11 Recovery of environmental compensation**

The Polluter Pays principle as evolved through various SC Judgements<sup>7</sup> envisages that polluter is responsible for the environmental and social costs resulting from their pollution and should bear the costs of cleaning up and mitigating its impacts.

On the recommendation of NGT, CPCB issued (March 2019) instructions for levying of EC on industrial units on “*polluter pays principle*” for various reasons such as violation of consent conditions, non-installation of Online Continuous Effluent Monitoring System (OCEMS), non-adherence to action plan, accidental/intentional discharges resulting in damage to the environment *etc.* As per Section 43 and 44 read with Section 24, 25 and 26 of the Water Act, 1974, imprisonment and fine is the penalty for causing pollution.

Accordingly, MPCB identified 339 defaulting industries on the basis of field visits and issued directions levying compensation amounting to ₹ 183.25 crore during 2019-20. However, no compensation was recovered from the defaulting industries even after lapse of two and half years of issue of notices. The notices issued to the defaulting industries were withdrawn by MPCB without any reason and the industries were let off without recovering the EC despite polluting the environment.

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<sup>7</sup> Indian Council for Enviro-Legal Action v. UOI (1996), Vellore Citizen's Welfare Forum v. UOI (1996)

The Government stated (August 2023) that notices were issued to the industries for environmental compensation; however, the notices were withdrawn considering representations received from the industries.

Audit is of the view that timely action needs to be taken by MPCB to recover the environmental compensation and withdrawal of notices should be supported with justified reasons.

### 3.1.12 Consent fee

MPCB issued (January 2016), guidelines for calculation of consent fee regarding consent to establish, consent to operate, renewal of the consent to operate in respect of industries on the basis of gross block of fixed assets plus capital work in progress disclosed in their Balance Sheet. In case, Balance Sheet is not finalized, Chartered Accountant's (CA) certificate, project report and undertaking or self-declaration shall be considered while applying for consent to establish and consent to operate. Once the Balance Sheet is finalized after consent to operate, the capital investment shown in the Balance Sheet shall be taken into consideration and accordingly consent fees are to be charged. Audit observed that Consent fee was charged in majority of cases on the basis of capital investment shown in the CA certificate instead of Balance sheet during 2017-22 as discussed in the succeeding paragraphs:

#### 3.1.12.1 Charging consent fee on the basis of CA certificate in respect of Industries

Audit observed (July 2022) that out of 6,627 applications of industries received for grant of consent to renewal during 2020-22, in 98.23 *per cent* cases, consent fee was charged on the basis of the CA certificate/Undertaking and in only 1.77 *per cent* cases, consent fee was charged on the basis of Balance Sheet.

Audit worked out consent fee of ₹ 373.82 lakh for grant of four consents issued to three industries on the basis of capital investment shown in Balance Sheets, where MPCB provided Balance Sheets of industries. Further, audit compared consent fee calculated with consent fee of ₹ 343.68 lakh which was charged by MPCB on the basis of capital investment shown in CA certificates submitted in such cases. There was short recovery of ₹ 30.14 lakh, as detailed in *Appendix 3.1.4*.

Hence, MPCB did not implement the provisions for the calculation of consent fee using Balance Sheet which resulted in short recovery.

The Government stated (February 2023) that in one case, it was charged on the basis of the CA certificate, however, no reply was furnished in the remaining cases. Further, it was stated that MPCB had started charging consent fee on the basis of Balance Sheet.

#### 3.1.12.2 Charging consent fee on the basis of CA certificate in Infrastructure Projects

MPCB issued guidelines for calculation of consent fees (January 2016) prescribed that while issuing consent to establish infrastructure projects, capital investment should be calculated based on Ready Reckoner (RR)<sup>8</sup>

<sup>8</sup> Ready Reckoner rate is the minimum rate of land at particular location based on which the government charges registration fee and stamp duty for any property related transaction.

rates as issued by the revenue authorities. At the time of giving consent to operate, the actual cost of the project ascertained on the basis of RR and duly certified by CA should be considered for calculation of consent fees. Audit observed that MPCB was not considering RR rates for the purpose of calculation of capital investment, instead consent fee was calculated on the basis of CA certificates.

Audit calculated consent fee of ₹ 11.26 crore on the basis of RR rates in 13 infrastructure projects and compared it with the consent fee of ₹ 3.70 crore charged by MPCB on the basis of capital investment shown in the CA certificates submitted in such cases. There was short recovery of consent fee of ₹ 7.56 crore during 2018-22 as detailed in *Appendix 3.1.5*.

The Government stated (August 2023) that instructions have been issued for calculation of consent fee for the infrastructure projects on the basis of capital cost mentioned in environmental clearance.

### **3.1.13 Bank Guarantee**

#### **3.1.13.1 Inadequate monitoring over Bank Guarantee**

As per the Enforcement Policy issued in February 2016, in order to secure compliance by the Industries, it was prescribed to obtain Bank Guarantee (BG) on the basis of “*polluter pays principle*”. If compliance is not secured within the stipulated time provided to the concerned industry, the Board shall initiate action for forfeiture of Bank Guarantee. Further, as per consent conditions/directions issued by the MPCB, the industries were required to upload the BG on the MPCB portal and submit the original BG within 15 days. The BGs so obtained from industries could be forfeited in case of non-compliance. Audit noticed several instances where non-compliances of Enforcement Policy/consent conditions in respect of management of BGs were observed as discussed below:

(i) It was observed (September 2022) that as of March 2022, out of 16,722 BGs submitted by industries to MPCB, 2,678 BGs amounting to ₹ 272.47 crore were not received in physical form and hence could not be verified by MPCB till then. Further, in case of 50 BGs, expiry dates were shown before the date of issue of BGs.

The Government Stated (August 2023) that BG was monitored through online module and action regarding verification/extension/forfeiture was done at the level of RO.

(ii) MPCB had directed to forfeit BGs amounting to ₹ 9.04 crore in 372 cases, on the ground of non-compliance by the industries. However, it was observed that in these cases, MPCB could not forfeit BGs as it was not obtained from the Industries while issuing consent. As such, there was no system to ensure whether the BG was furnished, as prescribed, by the industries at the time of grant of consents by MPCB. MPCB was aware about non-receipt of BG at a later period, when further follow up action was required due to non-compliance.

This indicated that there was lack of monitoring over BG resulting in non-realization of money on forfeiture of BG in case of non-compliance which could be utilized for environmental remediation measures.

The Government stated (February 2025) that 174 industries had submitted the BG and the remaining industries are yet to submit the BG. Also, the BG of 12 industries out of 174 had been forfeited by MPCB and action against remaining industries was in progress.

(iii) As per Enforcement Policy (2016), the amount of BG forfeited shall be deposited in a separate account in the name of “Environment Improvement and Environment Compliance Fund”. This fund shall be utilized to take remedial measures, intensive monitoring of the said area *etc.* in respect of incidence of pollution caused in those areas.

Audit observed that during the period 2017-22, MPCB had forfeited BGs to the extent of ₹ 17.98 crore from various industries. It was observed that instead of maintaining separate account for depositing the forfeited BG, MPCB was crediting the amount in the regular account. Since, there was no separate account for forfeited bank guarantee it was not possible to ascertain whether forfeited amount was utilized for its intended purpose.

The Government stated (February 2025) that a separate bank account for depositing forfeited BG has been opened.

The reply is silent about utilization of the forfeited BG which is to be utilized for the remediation measures in the affected area.

#### **3.1.14 Conclusion**

MPCB plays an important role as a regulator through consent management to ensure that industries, Local Bodies operate within acceptable environmental standards in minimizing pollution.

Even though there are statutory provisions for obtaining consent to establish, operate and renewal, many industries were operating without obtaining consent.

MPCB was working with significant shortage of manpower and shortfall in visits to industries to check compliance with prescribed consent conditions resulted in inadequate monitoring.

Instances of non-compliance with prescribed consent conditions such as discharge of polluted effluent, untreated sewage into water bodies, non-functional ETPs, Non-installation of OWC, OCEMS were noticed in joint physical verification of some of the highly polluting industries.

There was short charging of consent fee as it was not charged on basis of Balance Sheet and RR rates as required. There were instances of not obtaining and non-verification of Bank guarantees as well as non-forfeiture of Bank guarantees in cases of non-compliance.

Hence, MPCB could play limited role in prevention, control and abatement of water pollution through issuance of consent and monitoring of compliance of consent conditions. MPCB needs to strengthen its monitoring mechanism with respect to the role assigned for effective prevention, control and abatement of water pollution.

**Recommendations**

- 1. MPCB should proactively coordinate with other government departments to ensure that all operational industries are brought under the consent regime.*
- 2. The Government may review the existing manpower structure and take timely action to fill up all sanctioned posts at various levels to strengthen MPCB's field presence.*
- 3. MPCB must ensure strict enforcement of consent conditions through regular and effective monitoring, particularly focusing on industries identified as high polluters.*

**Idle/Unfruitful expenditure due to taking up works without ensuring availability of land**

Para 251 of the Maharashtra Public Works Manual stipulates that no work should be commenced on land which has not been duly made over by the responsible civil officer. When tenders for works are accepted but the land required for the purpose is still to be acquired, the time that should be allowed for the acquisition of the land should be ascertained from the District Collector concerned before orders to commence the works are issued.

Audit observed that in same works undertaken by the Public Works Department and Water Supply and Sanitation Department, Work Orders were issued without ensuring availability of land, the details of which given below:

**PUBLIC WORKS DEPARTMENT**

**3.2 Non-completion of bridge work due to non-availability of the required land resulted in expenditure of ₹ 9.64 crore as idle**

Section 4 of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013, *w.e.f.* 01.01.2014, provides that whenever the Government intends to acquire land for a public purpose, it shall consult the concerned Panchayat, Municipality or Municipal Corporation, as the case may be, at village level or ward level, in the affected area and carry out a Social Impact Assessment (SIA) Study in consultation with them. The Government shall ensure the completion of SIA study within a period of six months from the date of its commencement.

The Government of Maharashtra (GoM), Public Works Department, accorded (January 2016) Administrative Approval for ₹ 17.04 crore for Construction of a Major Bridge at Rajaram Bandhara ODR-68 on Panchganga River. The Chief Engineer, Public Works Region (PWR), Pune accorded (November 2016) Technical Sanction for ₹ 14.88 crore. The GoM accorded (March 2017) another Administrative Approval of ₹ 1.50 crore for acquiring land required for construction of approaches to this bridge. The Executive Engineer, Public Works Division, Kolhapur (EE) awarded<sup>9</sup> (January 2017) the work to a contractor<sup>10</sup> at a lump sum cost of ₹ 14.87 crore (estimated cost put to tender was ₹ 14.88 crore). The stipulated period of completion of this work was up to 09.01.2019.

The EE paid<sup>11</sup> ₹ 9.64 crore to the contractor in March 2021 on the running bill submitted by the contractor. However, the work has come to a standstill since then due to the unavailability of the required land for further execution. The land required for the construction of approaches to the bridge was 0.905 hectare<sup>12</sup>. The Sub-divisional Officer Karvir conducted (March 2021) a final assessment for land acquired through private negotiations. The landowners on Wadange side accepted the rate fixed through private negotiation and accordingly, ₹ 45.96 lakh was paid to them. However, the landowner on Kasba Bawada side did not agree with the rate fixed through private negotiation and

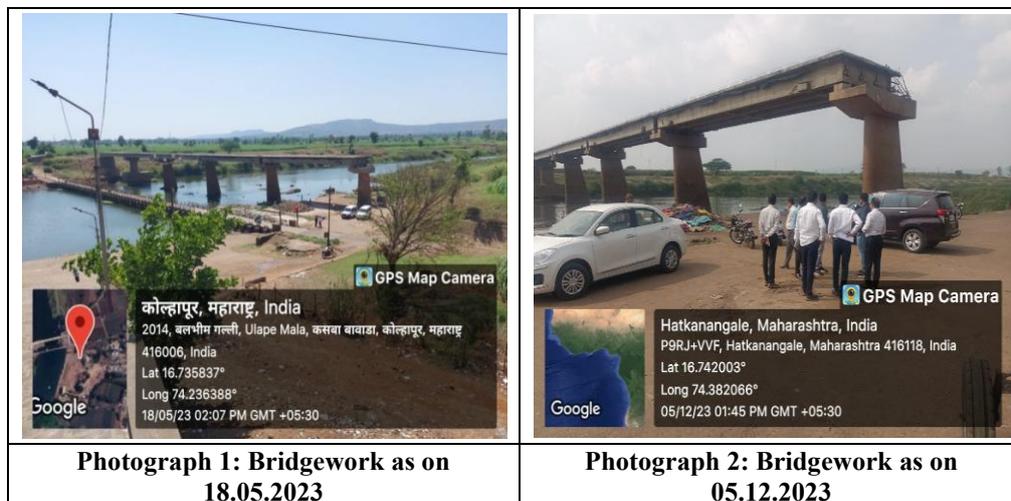
<sup>9</sup> Agreement No. CE/C/4/2016-17

<sup>10</sup> Shri Vijay Sudam Patel, Shirpur

<sup>11</sup> Eleventh Running Account Bill

<sup>12</sup> On the Wadange side 0.4550 hectare and on Kasba Bawda side 0.450 hectare

demanded higher rate of compensation. In the meantime, the Department granted (December 2021) third time extension to the contractor upto 31 March 2022. The following photographs illustrate the status of completion of bridge as of December 2023.



Awarding of work without ensuring clear availability of an encumbrance free land required for the project was in violation of the provisions *ibid* which resulted in non-completion of the bridgework even after incurring an expenditure of ₹ 9.64 crore.

The Chief Engineer, Public Works Region, Pune stated (July 2023) that initially the Department had the consents of the landowners, however, during execution they did not co-operate, and the compulsory land acquisition process was initiated and now SIA is in progress. The project would be finalized through the same contractor after the acquisition of the required land. Audit noticed that the SIA has been taken up in April 2023 i.e. more than four years after the stipulated completion date of the work (January 2019) which indicates ineffective planning.

The Government stated (August 2024) that bridge will be used for the transportation of public transport as well as transporting the agriculture goods of the farmers to the market. According to the requirement of land acquisition for the approaches on both side of the bridge, land acquisition process has been completed in the area of Wadange village on the left side of the bridge and sale deed process on this said land has also been completed. They further stated that the required land on Kasba Bawada side is not acquired till date. The same is under process through compulsory land acquisition. Initially Sub-divisional officer, Karvir division, Kolhapur demanded (December 2024) ₹ 35 lakh, which was received (February 2025) by them. However, additional demand of ₹ 25 lakh was made (February 2025) considering new rate, payment for which has been made (May 2025).

The reply is not acceptable as the Public Works Manual stipulates that work should not commence on land, which has not been duly made over. Thus, non-adherence to the provisions, *ibid* resulted in blocking of Government money amounting to ₹ 9.64 crore.

## WATER SUPPLY AND SANITATION DEPARTMENT

### 3.3 Unfruitful expenditure of ₹ 17.80 crore on construction of underground sewerage scheme for Beed city under Atal Mission for Rejuvenation and Urban Transformation

The Central Government Sponsored Amrut (Atal Mission for Rejuvenation and Urban Transformation) Abhiyan is being implemented in the State from the year 2015-16. Under this campaign, the creation of infrastructure facilities such as water supply, sewage disposal, rainwater drainage, urban transport and green area development *etc.*, will be done in the campaign cities. Accordingly, under this campaign, the Central Government had approved the State's plan worth ₹ 3280 crores in the financial year 2017-18 and the sewage project of Beed city had been included in the said plan.

As per the guidelines 2015 of the scheme, no projects should be included which do not have land available and no work order for the project should be issued if all clearances from all the departments have not been received by that time.

The Chief Officer (CO), Municipal Council (MC), Beed submitted (28 December 2017) a proposal for a project of 'Underground sewerage scheme' for Beed City for its inclusion in AMRUT scheme. The project included the work of 'Construction of collection system, trunk main, wet wells, approach bridge, approach bunds, rising mains, Sewerage Treatment Plant (STP) and nullah interception *etc.*'

The project was to be funded by the Government of India (GoI), Government of Maharashtra (GoM) and the MC Beed in the ratio of 50:25:25 respectively.

Chief Engineer (CE), Maharashtra Jeevan Pradhikaran (MJP), Chhatrapati Sambhajinagar (Aurangabad) accorded (01 January 2018) technical sanction (TS) for ₹ 165.80 crore. Based on the proposal of the CO, MC Beed and TS of the CE, MJP, administrative approval (AA) of ₹ 165.80 crore was accorded (15 January 2018) by Urban Development Department (UDD), GoM for the work of 'Underground sewerage scheme' for Beed City under AMRUT. As per the AA, MJP was designated as implementing agency (IA) for the project. For implementation of the project, an agreement was executed (November 2018) between the CO, MC Beed and the Executive Engineer (EE), MJP, Beed. As per this agreement, the land required for the project was to be made available by the MC, Beed.

The work under the project was awarded (July 2018) by the EE, MJP Beed to M/s Indrayani Construction-KIPL (JV), Aurangabad (contractor) at a tender cost of ₹ 149.47 crore, which was 3.53 *per cent* below the estimated cost of ₹ 154.94 crore put to tender and the work started on 7 February 2019. The stipulated period of completion was 24 months (upto July 2020). However, MC Beed could not make available the requisite land to the Contractor due to which the work was stalled. On this ground, the Contractor requested (August 2021) the Department to either allow time extension for the completion of work or make final payment for the work executed till that date. Accordingly, the Department extended the timeline upto 18 July 2022. EE, MJP, Beed made (September 2022) a payment of ₹ 17.80 crore to the contractor for works executed upto 13<sup>th</sup> running account (RA) bill.

Audit observed (June 2023) that:

- As per the scope of work, the contractor had to execute 13 components such as collection system zone-1, trunk main, wet well, Approach Bridge, Approach Bund, Sewage Treatment Plant (STP), Nalla Interception, Trial Run *etc.* Out of these components of works, only two components (collection system zone-I and trunk main) were partially executed by the contractor at a cost of ₹ 17.80 crore against the tendered cost of ₹ 149.47 crore which is 11.91 *per cent* upto 13<sup>th</sup> RA bill as the required land was not made available by the MC, Beed.
- As the works remained incomplete for want of required land, CE, MJP informed (July 2022) in a meeting with the Member Secretary (MS), MJP, Maharashtra State, that the execution of works under the scheme was stopped and chances of availability of land was also very remote. The MS, MJP, directed the CE to submit a proposal for closure of the project on 'as is' basis to the State Level Technical Committee (SLTC).
- CE, MJP, therefore, proposed (August 2022) for termination of the contract and foreclosure of work on 'as is' basis. It was stated by the CE that even if the MC, Beed provides alternate land, the new alignment and the existing cost would require the MJP to obtain fresh sanction and float a separate proposal for completing the work.

Accordingly, as per instruction of the Principal Secretary, UDD, GoM (September 2023), the E.E., MJP Beed prepared 14<sup>th</sup> and final bill (October 2023) and the CE submitted (December 2023) a proposal for the foreclosure of the work to the Central Planning, Design and Monitoring Cell (CPDM). However, the final decision is yet to be made by CPDM.

Thus, issue of work order and commencement of work without having the required land in possession by the EE, MJP, Beed resulted in non-execution of major components *viz.* STP, wet well, rising main *etc.*, of the project and stoppage of works at incomplete stage. The execution of partial works did not serve any purpose and the entire expenditure of ₹ 17.80 crore incurred thereon proved to be unfruitful.

On this being pointed out, the CE, MJP, Chhatrapati Sambhajnagar (Aurangabad) accepted the facts and stated (June 2024) that;

- Work order was issued after having confirmed that the required land at village Jirewadi was in possession of MC, Beed, which was revenue land (*Gairan*) showing 'other rights' of MC Beed as per records of the Revenue Department and was being used as waste dumping ground.
- The MC, Beed had cleared the garbage from the dumping ground to make it available for the STP, but the locals made encroachments on the dumping ground. Also, MC, Beed could not obtain 'No Objection Certificate' (NOC) from the Revenue Department therefore they were not able to remove encroachment made by the local villagers.
- The collection system was designed for the ultimate population of Beed till the year 2050 and the structural life of the system is at least 50 years. Therefore, the work of collection system done under this scheme can be utilized by executing the remaining works.

Reply of the CE is not acceptable as the work was taken up in clear violation of AMRUT guidelines 2015 and provision of para 251 of MPW Manual, since the

work order for the project was issued without clearances from all the concerned departments and without obtaining the possession of required land for execution of work from the MC, Beed. Work Order was issued (July 2018) even before signing the agreement with MC Beed (November 2018) according to which the land required for the project was to be made available by MC, Beed. Further, the land required for the STP at village Jirewadi was 2.53 hectare and the land in possession with the MC, Beed was only 1.61 hectare which was not sufficient.

Non-availability of the land led to non-execution of major components of work and ultimately stoppage thereof and resulted in incomplete execution of the work by incurring an expenditure of ₹ 17.80 crore. Moreover, non-completion of the project of ₹ 165.80 crore not only resulted in delays in the delivery of intended amenities to the citizens of Beed city but also led to unfruitful expenditure of ₹ 17.80 crore as the work has been foreclosed without any plan for utilization of the executed work.

Matter has been referred to the Government (February 2025), their reply is awaited.



**(DATTAPRASAD SHIRSAT)**  
Accountant General (Audit-II),  
Maharashtra

Nagpur  
The 23 December 2025

Countersigned



**(K. SANJAY MURTHY)**  
Comptroller and Auditor General of India

New Delhi  
The 30 December 2025



# **APPENDICES**



## Appendix 1.1

(Reference: Paragraph 1.1; page: 1)

Statement showing the cluster-wise list of departments, Autonomous Bodies and Public Sector Undertakings under the jurisdiction of the Accountant General (Audit-II), Maharashtra, Nagpur

Name of the Cluster	Name of department	Name of autonomous bodies	Name of public sector undertakings
Energy and Power	Energy	1) Maharashtra State Electricity Regulatory commission 2) Maharashtra Energy Development Agency (MEDA)	1) Aurangabad Power Company Limited (Subsidiary) 2) Dhopave Costal Power Limited (Subsidiary) 3) Mahagenco Ash Management Services Limited (Subsidiary) 4) MSEB Holding Company Limited 5) Maharashtra Power Development Corporation Limited 6) Maharashtra State Electricity Distribution Company Limited 7) Maharashtra State Power Generation Company Limited 8) Maharashtra State Electricity Transmission Company Limited 9) MSEB Solar Agro Power Limited 10) MSKVY First Solar SPV Limited. 11) MSKVY Second Solar SPV Limited 12) MSKVY Third Solar SPV Limited 13) MSKVY Fourth Solar SPV Limited 14) MSKVY Fifth Solar SPV Limited 15) MSKVY Sixth Solar SPV Limited 16) MSKVY Saptam Solar SPV Limited 17) MSKVY Eighth Solar SPV Limited 18) MSKVY Ninth Solar SPV Limited 19) MSKVY Tenth Solar SPV Limited 20) MSKVY Eleventh Solar SPV Limited 21) MSKVY Twelfth Solar SPV Limited 22) MSKVY Thirteenth Solar SPV Limited 23) MSKVY Chaturdash Solar SPV Limited 24) MSKVY Fifteenth Solar SPV Limited 25) MSKVY Sixteenth Solar SPV Limited 26) MSKVY Seventeenth Solar SPV Limited 27) MSKVY Eighteenth Solar SPV Limited 28) MSKVY Nineteenth Solar SPV Limited 29) MSKVY Twentieth Solar SPV Limited 30) MSKVY Twenty First Solar SPV Limited

Name of the Cluster	Name of department	Name of autonomous bodies	Name of public sector undertakings
Industry and Commerce	Industries	3) Maharashtra State Khadi and Village Industries Board	31) Maharashtra State Mining Corporation Limited 32) Mahaguj Collieries Limited (Subsidiary) 33) Maha Tamil Collieries Limited 34) MSMC Adkoli Natural Resources (Subsidiary) 35) MSMC Warora Collieries Limited (Subsidiary) 36) Development Corporation of Konkan Limited 37) Western Maharashtra Development Corporation Limited 38) Maharashtra Petrochemicals Corporation Limited 39) Krupanidhi Limited (Subsidiary) 40) Dairy Development Corporation of Marathwada Limited (Subsidiary) 41) Ellora Milk Products Limited (Subsidiary) 42) Parbhani Krishi Go-samvardhan Limited (Subsidiary) 43) Development Corporation of Vidarbha Limited 44) Marathwada Development Corporation Limited 45) Godavari Garments Limited (Subsidiary) 46) Kinwat Roofing Tiles Limited (Subsidiary) 47) Maharashtra Electronics Corporation Limited 48) Marathwada Ceramic Complex Limited (Subsidiary) 49) Leather Industries Corporation of Marathwada Limited (Subsidiary) 50) Maharashtra Small Scale Industries Development Corporation. 51) Aurangabad Industrial Township Limited 52) Maharashtra State Financial Corporation 53) Maharashtra Industrial Development Corporation 54) AITL Auric Skill Foundation Limited 55) Maharashtra Vikrikar Rokhe Pradhikaran Limited.
	Textile	--	56) Maharashtra State Power looms Corporation Limited 57) Maharashtra State Textile Corporation Limited 58) The Pratap Spinning, Weaving and Manufacturing Company Limited (Subsidiary) 59) Maharashtra State Handlooms Corporation Limited

Name of the Cluster	Name of department	Name of autonomous bodies	Name of public sector undertakings
Transport	General Administration Department (Civil Aviation)	--	60) Maharashtra Airport Development Company Mumbai 61) MIHAN India Limited, Nagpur 62) Pune (Purandar) International Airport Limited, Mumbai 63) Nagpur Flying Club Nagpur 64) Nagpur Mass Transport Company Mumbai
	Home (Ports & Transport)	4) Maharashtra Maritime Board	65) Maharashtra State Road Transport Corporation Mumbai
Environment, Science and Technology	Environment	5) Maharashtra Pollution Control Board 6) Maharashtra State Biodiversity Board	66) Forest Development Corporation of Maharashtra (FDCM) Limited
	Forest	7) Compensatory Afforestation Fund Management and Planning Authority	67) FDCM Gorewada Zoo Limited 68) Maharashtra Bamboo Promotion Foundation 69) Maharashtra State Farming Corporation Limited
Public works	Water Supply & Sanitation Department	8) Maharashtra Jeevan Pradhikaran	
Public works	Road & Bridges	--	70) Maharashtra State Road Development Corporation Limited 71) MSRDC infrastructure Projects Limited 72) Thane Creek Bridge Infrastructure Limited 73) Nagpur-Mumbai Super communication Express way Limited 74) Versova-Bandra Sea Link Limited 75) Mumbai-Pune Expressway Limited 76) MSRDC Tunnels Limited 77) MSRDC Sea Link Limited 78) Mahasamruddhi Renewal Energy Limited. 79) MSRDC Pune Ring Road Limited 80) MSRDC Multimodel Corridor Limited 81) MSRDC Jalna Nanded Expressway Limited
Finance	Finance	--	82) Maharashtra Agro and Fruit Processing Corporation Limited (MAFCO) 83) MAHA ARC Limited
	Planning	--	84) Chhatrapati Shahu Maharaj Research Training and Human Development Institute, Pune (SAARTHI)
IT and Communication	Information Technology	--	85) Maharashtra Information Technology Corporation Limited
Law and Order	Home	9) Maharashtra State Human Rights Commission	86) Maharashtra State Police Housing and Welfare Corporation Limited.
Law and Order	Law & Judiciary department	10) Maharashtra State Legal Services Authority	--

Appendix 1.2

(Reference: Paragraph 1.5.1; page: 3)

Department-wise outstanding Inspection Report (IR)/Paras issued up to 31 December 2022 but remained outstanding as on 30 June 2023

Sr. No.	Name of Cluster/ Department	Name of Department/ Corporation/ Autonomous Bodies	Up to 2017-18		2018-19		2019-20		2020-21		2021-22		2022-23		Total	
			IR	Paras	IR	Paras	IR	Paras	IR	Paras	IR	Paras	IR	Paras	IR	Paras
1.	Cluster-9 Transport (Home)	Western Maharashtra, Khandesh & Mumbai	98	257	11	56	12	88	--	--	04	33	10	146	135	580
2.		Marathwada	23	46	09	35	02	08	01	04	02	27	06	87	43	207
3.		Vidarbha	35	63	04	11	06	16	05	33	08	82	--	--	58	205
4.		Maharashtra Maritime Board	10	22	02	08	--	--	--	--	03	21	--	--	15	51
5.		Maharashtra State Road Transport Corporation	32	153	05	43	02	15	05	42	01	16	03	13	48	282
<b>Total (i)</b>			<b>198</b>	<b>541</b>	<b>31</b>	<b>153</b>	<b>22</b>	<b>127</b>	<b>11</b>	<b>79</b>	<b>18</b>	<b>179</b>	<b>19</b>	<b>246</b>	<b>299</b>	<b>1325</b>
1.	Cluster-9 Transport (General Administration Department)	Director of Aviation	04	07	--	--	01	15	--	--	--	--	--	--	05	22
2.		Nagpur Flying Club	01	02	--	--	--	--	--	--	01	03	--	--	02	05
3.		Maharashtra Airport Development Company	06	42	01	17	--	--	--	--	01	20	--	--	08	79
4.		Mihan India Ltd.	02	07	01	01	--	--	--	--	01	13	--	--	04	21
5.		Nagpur Mass Transport Company Ltd.	--	--	--	--	--	--	--	--	01	03	--	--	01	03
6.		Pune Purandar Transport Company	--	--	--	--	--	--	--	--	01	06	--	--	01	06
<b>Total (ii)</b>			<b>13</b>	<b>58</b>	<b>02</b>	<b>18</b>	<b>01</b>	<b>15</b>	<b>--</b>	<b>--</b>	<b>05</b>	<b>45</b>	<b>--</b>	<b>--</b>	<b>21</b>	<b>136</b>

Sr. No.	Name of Cluster/ Department	Name of Department/ Corporation/ Autonomous Bodies	Up to 2017-18		2018-19		2019-20		2020-21		2021-22		2022-23		Total	
			IR	Paras	IR	Paras	IR	Paras	IR	Paras	IR	Paras	IR	Paras	IR	Paras
1	Cluster-10 Environment, Science & Technology (Environment & Forest)	Forest, Environment Science & Technology	268	756	25	114	34	164	14	86	18	116	29	235	388	1471
2	Cluster-11 Public Works (Water Supply & Sanitation Department, Road & Bridges)	Public Works, Public Health Engineering, Road & Bridges	511	1426	94	451	95	584	16	166	44	660	29	317	789	3604
<b>Total (iii)</b>			<b>779</b>	<b>2182</b>	<b>119</b>	<b>565</b>	<b>129</b>	<b>748</b>	<b>30</b>	<b>252</b>	<b>62</b>	<b>776</b>	<b>58</b>	<b>552</b>	<b>1177</b>	<b>5075</b>
<b>Total (i+ii+iii) (A)</b>			<b>990</b>	<b>2781</b>	<b>152</b>	<b>736</b>	<b>152</b>	<b>890</b>	<b>41</b>	<b>331</b>	<b>85</b>	<b>1000</b>	<b>77</b>	<b>798</b>	<b>1497</b>	<b>6536</b>
1.	Cluster-7 Energy and Power (Energy)	Energy	110	296	34	132	49	235	28	129	28	235	17	115	266	1142
2.	Cluster-8 Industry and Commerce (Industries, Textile)	Industry	133	602	20	114	13	71	08	57	03	11	07	63	184	918
<b>Grant total (B)</b>			<b>243</b>	<b>898</b>	<b>54</b>	<b>246</b>	<b>62</b>	<b>306</b>	<b>36</b>	<b>186</b>	<b>31</b>	<b>246</b>	<b>24</b>	<b>178</b>	<b>450</b>	<b>2060</b>
1	Cluster-13 IT and Communication (Information Technology)	Information Technology and Communication	04	15	--	--	01	12	--	--	01	15	01	12	07	54
2	Cluster-15 Law and Order (Home, Law & Judiciary)	Home, Law & Legal Affairs	234	490	43	191	40	228	04	04	75	376	58	401	454	1690
<b>Total (C)</b>			<b>238</b>	<b>505</b>	<b>43</b>	<b>191</b>	<b>41</b>	<b>240</b>	<b>04</b>	<b>04</b>	<b>76</b>	<b>391</b>	<b>59</b>	<b>413</b>	<b>461</b>	<b>1744</b>
<b>Grand total (A+B+C)</b>			<b>1471</b>	<b>4184</b>	<b>249</b>	<b>1173</b>	<b>255</b>	<b>1436</b>	<b>81</b>	<b>521</b>	<b>192</b>	<b>1637</b>	<b>160</b>	<b>1389</b>	<b>2408</b>	<b>10340</b>

**Appendix 1.3**  
**(Reference: Paragraph: 1.5.4; page: 4)**

**Position of outstanding Explanatory Memorandums/Un-official References**

Year of Audit Report	Transport		Environment, Science & Technology		Public Works Department		Energy & Power		Industry & Commerce		Information Technology & Communication		Home (Law & Judiciary)		Total	
	No. of paras	No. of outstanding paras	No. of paras	No. of outstanding paras	No. of paras	No. of outstanding paras	No. of paras	No. of outstanding paras	No. of paras	No. of outstanding paras	No. of paras	No. of outstanding paras	No. of paras	No. of outstanding paras	No. of paras	No. of outstanding paras
2015-16	2	0	0	0	0	0	5	0	2	0	2	2	3	0	14	2
2016-17	3	0	0	0	2	0	7	0	1	0	0	0	1	0	14	0
2017-18	2	0	2	2	2	0	2	0	5	0	1	1	1	0	15	3
2018-19	0	0	0	0	4	0	2	0	0	0	0	0	0	0	6	0
2019-21	2	0	1	1	3	3	1	1	0	0	0	0	0	0	7	5
<b>Total</b>	<b>9</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>11</b>	<b>3</b>	<b>17</b>	<b>1</b>	<b>8</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>5</b>	<b>0</b>	<b>56</b>	<b>10</b>

### Appendix 1.4

(Reference: Paragraph 1.5.4; page: 6)

#### Cluster-wise position of Public Accounts Committee /Committee on Public Undertakings recommendations on which Action Taken Notes were awaited

Cluster	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Law & Order	--	--	--	--	--	--	--	--	--	--
Transport	00	22	06	08	10	--	--	--	--	46
Environment, Science and Technology	--	--	--	--	12	--	--	--	--	12
Public Works	06	--	18	--	18	01	--	--	--	43
Energy & Power	01	02	01	--	01	--	--	--	--	05
Industry & Commerce	04	04	00	01	02	--	--	--	--	11
<b>Total</b>	<b>11</b>	<b>28</b>	<b>25</b>	<b>09</b>	<b>43</b>	<b>01</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>117</b>

**Appendix 1.5**

*(Reference: Paragraph 1.6; page: 6)*

**Statement showing results of audit during 2022-23**

Name of Department	No. of unit audited during 2022-23	No. of objections/ paragraphs	Money value involved in respect of paragraphs objected (₹ in Crore)	No. of paragraphs accepted by the department and money value involved during 2022-23		Amount recovered against the No. of cases during 2022-23	
				No. of Paras	Money value involved (₹ in Crore)	Amount recovered (₹ in Crore)	No. of cases involved
Energy	28	133	87.67	25	17.38	4.53	02
Industry		90	655.46	09	22.91	2.57	01
Transport	23	294	148.16	55	148.16	18.36	78749
Forest, Public Works Department, Environment & Climate Change Water Supply & Sanitation	102	940	--	--	--	0.12	02
Information Technology, Home, Law & Legal affairs	85	662	--	--	--	--	--
<b>Total</b>	<b>238</b>	<b>2119</b>	<b>891.29</b>	<b>89</b>	<b>188.45</b>	<b>25.58</b>	<b>78754</b>

## Appendix 2.1.1

(Reference: Paragraph: 2.1 &amp; 2.5; page: 9 &amp; 11)

## Packages selected for Performance audit

Sr. No.	Classification of Strata	No of package	No of package to be selected (30%)	Number	Selected Package No.	Name of Division	Date of LOA
1	Total project cost less than ₹ 100 crore	10	03	01	AM 78A	PWD Washim	06-11-2018
				02	NSK 55B	PWD Nasik	10-09-2018
				03	AM 82A	PWD Buldhana	06-11-2018
<b>Total</b>				<b>03</b>			
2	Project Cost ₹ 100 crore to 200 crore	73	22	01	MU 04	PWD Thane 2	21-05-2018
				02	NSK 68	EGS (Works) Dn Ahmednagar	19-04-2018
				03	PN 32	PW Project Dn Pune	08-06-2018
				04	AU 180	PWD Beed	21-11-2022
				05	NSK 56A & B	PWD East Nasik	19-04-2018
				06	NSK 55A	PWD Nasik	10-09-2018
				07	MU 170	PWD Alibag	09-09-2019
				08	NAG 141	Chandrapur No 2	24-05-2018
				09	MUR 174	PWD Mahad	18-09-2019
				10	PN 25	PWD (South) Pune	16-04-2018
				11	AM 83B	WBPD Akola	06-11-2018
				12	PN 43	PWD (West) Sangli	15-09-2018
				13	MU 06	PWD Thane 2	21-05-2018
				14	NAG 132	PWD Bhandara	19-04-2018
				15	NSK 65	PWD No 2 Jalgaon	19-10-2018
				16	PN153	PWD Solapur	25-10-2021
				17	AU 100B	WBPD Aurangabad	18-04-2018
				18	MU03	PWD Jawahar	20-04-2018
				19	AM 77	PWD Washim	21-05-2018
				20	PN 33	PW Project Dn Pune	08-06-2018
				21	PN 26	PWD (South) Pune	08-06-2018
				22	PN 38	PWD (West) Satara	16-04-2018
<b>Total</b>				<b>22</b>			
03	Project Cost More than ₹ 200 crore	44	13	01	AU 106	PWD Bhokar	19-04-2018
				02	NAG 136 & 137	PWD Allapalli	08-06-2018 & 19-09-2018
				03	PN 34	PW Project Dn Pune	08-06-2018
				04	NAG 139	Chandrapur No 2	19-04-2018
				05	PN 36	PWD (West) Satara	19-04-2018
				06	MU 02	PWD Jawahar	20-04-2018
				07	PN 48	PWD (South) Kolhapur	21-05-2018
				08	PN 28	PW Project Dn Pune	08-06-2018
				09	PN 163	PW Project Dn Pune	27-08-2019
				10	PN 45	PWD (West) Sangli	20-08-2018
				11	NSK 165	PWD (North) Dhule	12-09-2019
				12	NAG 147 & 148	PWD Wardha	19-04-2018
				13	NSK 62	PWD Sahada	08-06-2018
<b>Total</b>				<b>13</b>			
04	Projects costing ₹ 800 crore and above	04	04 (100 per cent selected)	01	AM 01(A to E)	PWD Pusad	20.08.2018
				02	AM 02	SPD Amravati	06-11-2018
				03	AU L2	PWD Nanded	05-11-2018
				04	AU L1	PWD Osmanabad	30-10-2018
<b>Total</b>				<b>04</b>			
<b>Total 42 Projects are selected</b>							

Appendix 2.1.2

(Reference: Paragraph 2.7.3; page: 16)

Unrealistic loading of insurance and patrolling expenses for operation and maintenance

(₹ in lakh)

Sr. No.	Project Name	Insurance cost per year considered in O&M estimate	insurance policy period taken by the concessionaire	Total premium paid	Total cost of insurance per year	Difference of insurance per year	Total excess loading cost of insurance for 10 years
A	B	C	D	E	F(E/D)	G(C-F)	H(G*10)
1	NSK-62	18.91	6 years	15.16	2.53	16.38	163.80
2	NSK-55A	21.12	3 years 3 months	8.01	2.46	18.66	186.60
3	NSK-68	15.12	6 years	2.99	<b>0.50</b>	14.62	146.20
4	NSK-65	25.07	7 years	16.47	2.35	22.72	227.20
5	NSK-56	21.89	3 years 8 months	14.51	3.96	17.93	179.30
6	PN-28	27.00	7 years	19.93	2.85	24.15	241.50
7	PN-32	31.27	11 years 6 months	37.72 (31.25+6.47)	3.28	27.99	279.90
8	PN-33	20.43	2 years	17.09	8.54	11.89	118.90
9	PN-34	31.28	4 years	36.30	<b>9.07</b>	22.21	222.10
10	PN-153	<b>10.34</b>	4 years	5.06	1.26	9.08	90.80
11	AM-82A	14.17	6 years	10.24	1.71	12.46	124.60
12	PN-36	<b>46.13</b>	6 years	11.04	1.84	44.29	442.90
13	PN-38	25.36	5 years	33.07	6.61	18.75	187.50
14	NAG-147	28.71	7 years	16.35	2.34	26.37	263.70
	NAG-148	18.29	2 years 10 months	10.17	3.59	14.70	147.00
15	AM-83B	20.75	2 years	11.65	5.82	14.93	149.30
16	PN-48	31.49	7 years	21.16	3.02	28.47	284.70
	<b>Total</b>	<b>407.33</b>		<b>293.22</b>	<b>61.73</b>	<b>345.60</b>	<b>3456.00</b>

(Source – Information furnished by concerned Divisions)

## Appendix 2.1.3

(Reference: Paragraph 2.8.1; page: 18)

## Adoption of higher specification for crust thickness resulted in unwarranted cost

(₹ in crore)

Sl. No.	Package No.	MSA Calculated in DPR	Required MSA as per IRC Norms	MSA Adopted for Construction	Excess Cost (₹ in crore)
1	NAG-136	0.11	2	10	20.08
	NAG-137	0.01	2	10	23.01
2	MU-3	0.93	2	5	7.23
3	PN-48	4.56 Part-1,	5	10	5.64
4	NSK-68	4.12	5	10	3.32
5	NAG-139	3.15-139-B, & 0.43-139C	5	10	25.77
6	NSK-65	1.30 (A), 0.249 (B)	2	10	17.03
7	NAG-132	1.4	2	5	6.04
8	AU-L2, AU-110	3.21	5	10	28.72
9	AU-111	1.15	2	10	30.30
10	NSK-165A	4 & 2- (A)	5	10	13.10
11	AU-100B	<5	5	10	13.75
12	AM-83B	0.4 (Section-I)	2	10	4.56
		4.3 (Section-2)	5	10	6.10
13	PN-34	3	5	20	27.69
14	AU-L1 (AU 124)	3.32	5	10	8.86
	AU-L1 (AU 125)	3.61	5	10	11.08
15	NSK-55A	0.81	2	10	8.46
16	NSK-62A&B	0.44&1.01	2	10&10	6.76
17	PN-43	8	10	20	7.95
18	AM-2 (92)	2.35	5	20	14.32
	AM-2 (91B)	1.31	2	20	4.80
	AM-2 (87A)	2.36	5	10	3.40
	<b>Total</b>				<b>297.97</b>

Appendix 2.1.4

(Reference: Paragraph 2.9.2.1; page: 27)

Excess payments on account of Annuity and Interest

(₹ in crore)

Annuity	Date of payment	Annuity					Interest on Annuity			
		Balance Cost taken by Div	Annuity paid	Balance cost as per CE	Annuity due 3% as per CE	Excess payment of annuity	Interest paid by Dn	Interest as per audit	Excess payment of interest	
1	2	3	4	5	6	7=4-6	8	9	10=8-9	
<b>MU-02</b>										
1 <sup>st</sup>	26-10-2021	94.45	2.83	83.72	2.51	0.32	5.55	2.99	2.56	
2 <sup>nd</sup>	02-03-2022	94.45	2.83	83.72	2.51	0.32	5.38	2.90	2.48	
3 <sup>rd</sup>	20-09-2022	94.45	2.83	83.72	2.51	0.32	5.22	2.95	2.27	
4 <sup>th</sup>	20-02-2023	94.45	2.83	83.72	2.51	0.32	5.05	3.42	1.63	
5 <sup>th</sup>	03-10-2023	94.45	2.83	83.72	2.51	0.32	4.88	3.40	1.48	
<b>Total (A)</b>						<b>1.60</b>	<b>26.08</b>	<b>15.66</b>	<b>10.42</b>	
<b>MU-03</b>										
1 <sup>st</sup>	26-10-2021	77.54	2.33	75.13	2.25	0.08	4.56	2.69	1.87	
2 <sup>nd</sup>	26-10-2021	77.54	2.33	75.13	2.25	0.08	4.42	2.61	1.81	
3 <sup>rd</sup>	02-03-2022	77.54	2.33	75.13	2.25	0.08	4.28	2.52	1.76	
4 <sup>th</sup>	20-09-2022	77.54	2.33	75.13	2.25	0.08	4.15	2.61	1.54	
5 <sup>th</sup>	20-02-2023	77.54	2.33	75.13	2.25	0.08	4.01	2.99	1.02	
6 <sup>th</sup>	12-10-2023	77.54	2.33	75.13	2.25	0.08	3.87	3.07	0.80	
<b>Total (B)</b>						<b>0.48</b>	<b>25.29</b>	<b>16.49</b>	<b>8.80</b>	
<b>AU-106<sup>1</sup></b>										
1 <sup>st</sup>	05-09-2022	105.45	3.16	101.00	3.03	0.13	3.94	3.77	0.17	
2 <sup>nd</sup>	29-03-2023	105.45	3.16	101.00	3.03	0.13	4.57	4.37	0.20	
3 <sup>rd</sup>	05-10-2023	105.45	3.16	101.00	3.03	0.13	4.76	4.55	0.21	
<b>Total (C)</b>						<b>0.39</b>	<b>13.27</b>	<b>12.69</b>	<b>0.58</b>	
<b>Grand Total (A)+(B)+(C)</b>						<b>2.47</b>			<b>19.80</b>	

<sup>1</sup> Balance completion cost calculated by the audit.

## Appendix 2.1.5

(Reference: Paragraph 2.9.6; page: 33)

## Non-recovery of damages from the concessionaire

Sr. No.	Name of HAM package	Project Mile stone as per Schedule-G	Schedule date of achievement of milestone	Revised schedule date considering additional period of 90 days	Date of actual achievement of MS	Delay in days	Performance security	Total damages to be levied 0.1%/0.2% of performance security per day (in ₹)	Status up to March, 2025
1	NSK-165	III	23-08-2022	21-11-2022	28-06-2023	219	100000000	21900000	COD not achieved. Recovery effected.
		COD	31-12-2022	31-03-2023	24-08-2023*	146	100000000	29200000	
2	PN-36	COD	12-08-2021	10-11-2021	14-09-2023*	673	154800000	208360800	Proposal for cancellation sent to Govt.
3	AU-L1	III	23-09-2022	22-12-2022	10-08-2023*	231	361000000	83391000	As per reply, Recovery of ₹ 6.86 crore effected.
4	PN-26	II	25-10-2019	23-01-2020	28-02-2020	36	98000000	3528000	Proposal for cancellation sent to Govt.
		III	12-05-2020	12-02-2021	21-09-2021	221	98000000	21658000	
		COD	24-03-2021	22-06-2021	15-12-2023*	906	98000000	177576000	
5	PN-25	COD	24-03-2021	22-06-2021	01-11-2021	132	87800000	23179200	Recovery not done.
<b>Total</b>								<b>568793000</b>	
*till the date of audit									

(Source: Departmental records)

**Appendix 2.1.6 (a)**

*(Reference: Paragraph 2.10.1; page: 34)*

**Details of inspection conducted by CE, SE and EE**

Sr. No.	Name of package	Period of Visit	Inspection carried out by		
			EE	SE	CE
1.	AM-82A	2019 to 2021	59	6	1
2.	PN-28	2020 & 2023	3	2	0
3.	PN-32	2019, 2020 & 2023	4	1	1
4.	PN-33	2019, 2020 & 2022	6	0	0
5.	PN-34	2019 to 2022	9	1	1
6.	PN-163	2017, 2018, 2020 & 2022	4	3	3
7.	PN-43	2019 to 2023	35	3	1
8.	PN-45	2018 to 2023	23	0	0
9.	NSK-55A	2019	1	1	1
10.	NSK-55 B	2019	0	1	1
11.	PN-153	2022 to 2023	10	0	0
12.	NSK-62A & B	2020 to 2022	7	0	0
13.	AM-1(A to E)	2021 to 2023	4	6	4
14.	NSK-56	2020 to 2021	-	1	1
15.	NAG-147	2019	0	1	0
	NAG-148	2019-2020	3	2	0
16.	AM-77	2018 to 2023	68	0	1
17.	AM-78A	2019 to 2022	37	0	1
18.	NSK-68	2019 to 2021	12	2	1
19.	NAG-136	2019, 2020, 2022 & 2023	24	7	3
	NAG-137	2021 to 2023	18	2	0
20.	NAG-139	2021 & 2023	4	1	1
21.	NAG-141	2019 to 2021	5	2	1
22.	PN-48	2019 to 2023	22	14	0

*(Source – Information furnished by department)*

## Appendix 2.1.6 (b)

(Reference: Paragraph 2.10.1; page: 35)

## Details of short fall in conduct of inspection by VQCC

Year	Particulars	VQC Circles					
		Amaravati	Konkan	Aurangabad	Pune	Nagpur	Nashik
	Annual Target of periodic inspection	28	28	28	28	28	28
2018-19	Inspection conducted	0	0	0	0	0	0
	Shortfall	28	28	28	28	28	28
	Shortfall percentage	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
2019-20	Inspection conducted	9	5	11	5	7	5
	Shortfall	19	23	17	23	21	23
	Shortfall percentage	<b>67.86</b>	<b>82.14</b>	<b>60.71</b>	<b>82.14</b>	<b>75.00</b>	<b>82.14</b>
2020-21	Inspection conducted	0	7	8	3	13	4
	Shortfall	28	21	20	25	15	24
	Shortfall percentage	<b>100.00</b>	<b>75.00</b>	<b>71.43</b>	<b>89.29</b>	<b>53.57</b>	<b>85.71</b>
2021-22	Inspection conducted	1	0	5	1	1	0
	Shortfall	27	28	23	27	27	28
	Shortfall percentage	<b>96.43</b>	<b>100.00</b>	<b>82.14</b>	<b>96.43</b>	<b>96.43</b>	<b>100</b>
2022-23	Inspection conducted	0	0	6	4	1	0
	Shortfall	28	28	22	24	27	28
	Shortfall percentage	<b>100.00</b>	<b>100.00</b>	<b>78.57</b>	<b>85.71</b>	<b>96.43</b>	<b>100</b>

(Source – Information furnished by concerned VQC Circles)

Appendix 2.1.6 (c)

(Reference: Paragraph 2.10.1; page: 35)

Pendency of compliance to observations raised by VQCC

Years	Particulars	VQC Circles					
		Amaravati	Konkan	Aurangabad	Pune	Nashik	Nagpur
2019-20	Observations issued	221	135	333	76	59	201
	Pending	124	0	125	14	49	173
	Percentage	<b>56.10</b>	<b>0</b>	<b>37.54</b>	<b>18.42</b>	<b>83.05</b>	<b>86.07</b>
2020-21	Observations issued	0	241	363	77	205	370
	Pending	0	163	209	22	177	341
	Percentage	<b>0</b>	<b>67.63</b>	<b>57.58</b>	<b>28.57</b>	<b>86.34</b>	<b>92.16</b>
2021-22	Observations issued	32	0	142	29	57	71
	Pending	5	0	78	0	57	71
	Percentage	<b>15.62</b>	<b>0</b>	<b>54.93</b>	<b>0</b>	<b>100</b>	<b>100</b>
2022-23	Observations issued	0	30	155	83	64	37
	Pending	0	30	86	61	33	37
	Percentage	<b>0</b>	<b>100</b>	<b>55.48</b>	<b>73.49</b>	<b>51.57</b>	<b>100</b>

(Source – Information furnished by concerned VQC Circles)

## Appendix 2.1.7

(Reference: Paragraph 2.10.2.1; page: 36)

## Delay in appointment of Independent Engineers for construction period

Sr. No.	Name of Package	Date of CA	Appointed Date	Last due date of appointment of IE	Date of appointment of IE	Delay in days from due date	Delay in days from appointed date
A	B	C	D	E (C+60 day)	F	G (F-E)	H (F-D)
1.	AM-77	15-09-2018	26-11-2018	14-11-2018	26-04-2019	163	151
2.	NSK-68	24-08-2018	01-01-2019	23-10-2018	01-03-2019	129	59
3.	NAG-132	14-09-2018	05-01-2019	13-11-2018	08-03-2019	115	62
4.	NAG-136	15-10-2018	01-02-2019	14-12-2018	20-02-2019	68	19
	NAG-137	08-03-2019	28-10-2020	07-05-2019	10-06-2019	34	-
5.	NAG-139	15-10-2018	20-11-2019	14-12-2018	25-11-2019	346	5
6.	NAG-141	21-09-2018	29-01-2019	20-11-2018	29-01-2019	70	0
7.	PN-48	23-07-2018	26-12-2018	21-09-2018	07-12-2018	77	-
8.	MU-174	28-01-2020	29-10-2020	28-03-2020	05-07-2021	464	249
9.	MU-02	29-08-2018	23-10-2018	28-10-2018	31-12-2018	64	69
10.	MU-03	29-08-2018	23-10-2018	28-10-2018	31-12-2018	64	69
11.	AU-106	12-12-2018	05-08-2019	10-02-2019	08-03-2019	26	-
12.	AM-82A	06-03-2019	30-07-2019	05-05-2019	27-05-2019	22	-
13.	PN-28	02-08-2018	07-03-2019	01-10-2018	13-12-2018	73	-
14.	PN-33	02-08-2018	07-03-2019	01-10-2018	13-12-2018	73	-
15.	PN-34	02-08-2018	03-06-2019	01-10-2018	13-12-2018	73	-
16.	PN-43	22-02-2019	20-07-2019	23-04-2019	03-07-2019	71	-
17.	PN-45	18-12-2018	28-03-2019	16-02-2019	27-05-2019	100	60
18.	AU-L 1 AU-118	14-03-2019	18-09-2019	13-05-2019	05-11-2019	176	48
	AU-121	14-03-2019	18-09-2019	13-05-2019	18-09-2019	128	0
	AU-122	14-03-2019	18-09-2019	13-05-2019	01-11-2019	172	44
	AU-124	14-03-2019	18-09-2019	13-05-2019	18-09-2019	128	0
	AU-125	14-03-2019	18-09-2019	13-05-2019	18-09-2019	128	0
19.	PN-153	15-12-2021	20-05-2022	13-02-2022	15-06-2022	122	26
20.	NSK-62A & B	21-08-2018	30-03-2019	20-10-2018	20-12-2018	61	-
21.	MU-170	27-01-2020	20-11-2020	27-03-2020	24-12-2020	272	34
22.	AU-L2 & AU-105	28-02-2019	07-03-2019	29-04-2019	07-06-2019	39	92
	AU-107	28-02-2019	07-03-2019	29-04-2019	07-06-2019	39	92
	AU-108	28-02-2019	07-03-2019	29-04-2019	17-06-2019	49	102
	AU-110	28-02-2019	07-03-2019	29-04-2019	07-06-2019	39	92
	AU-111	28-02-2019	07-03-2019	29-04-2019	07-06-2019	39	92
	AU-112	28-02-2019	07-03-2019	29-04-2019	07-06-2019	39	92
	AU-113	28-02-2019	07-03-2019	29-04-2019	10-06-2019	42	95
	AU-114	28-02-2019	07-03-2019	29-04-2019	06-07-2019	68	121
23.	NSK-56	18-08-2018	05-02-2019	17-10-2018	26-12-2018	70	-
24.	NAG-147	10-05-2019	06-07-2019	09-07-2019	04-11-2019	118	121
	NAG-148	03-09-2018	11-12-2018	02-11-2018	04-05-2019	183	144
25.	NSK-165	17-03-2020	02-07-2020	16-05-2020	31-07-2020	76	29
26.	PN-36	18-07-2018	14-01-2019	16-09-2018	22-11-2018	67	-
27.	PN-38	14-08-2018	05-03-2019	13-10-2018	07-01-2019	86	-
28.	AM-83B	21-01-2019	27-06-2019	22-03-2019	08-07-2019	108	11
29.	PN-25	20-07-2018	20-09-2018	18-09-2018	04-12-2018	77	75
30.	PN-26	23-08-2018	20-09-2018	22-10-2018	26-12-2018	65	97
31.	MU-04	06-09-2018	17-01-2019	05-11-2018	12-02-2019	99	26
32.	MU-06	08-08-2018	10-01-2019	07-10-2018	12-01-2019	97	2
33.	AU-100B	13-08-2018	05-03-2019	12-10-2018	28-01-2019	108	-

**Appendix 2.1.8**

*(Reference: Paragraph 2.10.4; page: 37)*

**Delay in appointment of Safety Consultants**

Sr. No.	Name of Package	Date of CA	Appointed Date	Last due date of appointment of SC	Date of actual appointment of SC	Delay in appointment from due date	Delay in appointment of SC from appointed
A	B	C	D	E	F	G	H
1.	AM-77	15-09-2018	26-11-2018	14-12-2018	25-04-2019	132	150
2.	NSK-65	14-03-2019	15-04-2019	12-06-2019	16-04-2020	309	367
3.	NSK-68	24-08-2018	01-01-2019	22-11-2018	16-03-2019	114	74
4.	NAG-132	14-09-2018	05-01-2019	13-12-2018	22-05-2019	160	137
5.	NAG-136	15-10-2018	01-02-2019	13-01-2019	06-12-2019	327	308
	NAG-137	08-03-2019	28-10-2020	06-06-2019	06-12-2019	183	-327
6.	NAG-139	15-10-2018	20-11-2019	13-01-2019	24-08-2020	589	278
7.	NAG-141	21-09-2018	29-01-2019	20-12-2018	12-04-2019	113	73
8.	PN-48	23-07-2018	26-12-2018	21-10-2018	20-02-2019	122	56
9.	MU-174	28-01-2020	29-10-2020	27-04-2020	09-06-2021	408	223
10.	AU-L2 AU-105	28-02-2019	07-03-2019	29-05-2019	25-10-2019	149	232
	AU-107	28-02-2019	07-03-2019	29-05-2019	25-10-2019	149	232
	AU-108	28-02-2019	07-03-2019	29-05-2019	25-10-2019	149	232
	AU-110	28-02-2019	07-03-2019	29-05-2019	25-10-2019	149	232
	AU-111	28-02-2019	07-03-2019	29-05-2019	10-10-2019	149	232
	AU-112	28-02-2019	07-03-2019	29-05-2019	10-10-2019	134	217
	AU-113	28-02-2019	07-03-2019	29-05-2019	10-10-2019	134	217
AU-114	28-02-2019	07-03-2019	29-05-2019	25-10-2019	134	217	
11.	AM-1 A	04-01-2019	26-03-2019	04-04-2019	13-05-2019	39	48
	AM-1B	04-01-2019	26-03-2019	04-04-2019	13-05-2019	39	48
	AM-1C	04-01-2019	26-03-2019	04-04-2019	13-05-2019	39	48
	AM-1D	04-01-2019	26-03-2019	04-04-2019	13-05-2019	39	48
	AM-1E	04-01-2019	26-03-2019	04-04-2019	13-05-2019	39	48
12.	NSK-56	18-08-2018	05-02-2019	16-11-2018	07-02-2019	83	2
13.	NAG-147	10-05-2019	06-07-2019	08-08-2019	06-12-2019	120	153
	NAG-148	03-09-2018	11-12-2018	02-12-2018	12-04-2019	131	122
14.	PN-36	18-07-2018	14-01-2019	16-10-2018	05-03-2019	140	50
15.	PN-38	14-08-2018	05-03-2019	12-11-2018	05-03-2019	113	0
16.	AM-83B	21-01-2019	27-06-2019	21-04-2019	16-03-2020	330	263
17.	PN-25	20-07-2018	20-09-2018	18-10-2018	11-10-2021	1089	1117
18.	PN-26	23-08-2018	20-09-2018	21-11-2018	03-06-2022	1290	1352
19.	MU-04	06-09-2018	17-01-2019	05-12-2018	29-05-2019	175	132
20.	MU-06	08-08-2018	10-01-2019	06-11-2018	29-05-2019	204	139
21.	AU-100B	13-08-2018	05-03-2019	11-11-2018	10-05-2019	180	66
22.	AM-82A	06-03-2019	30-07-2019	04-06-2019	06-08-2019	63	7
23.	PN-28	02-08-2018	07-03-2019	31-10-2018	18-02-2019	110	-
24.	PN-32	11-09-2019	01-01-2020	10-12-2019	04-03-2020	85	63
25.	PN-33	02-08-2018	07-03-2019	31-10-2018	27-03-2019	147	20
26.	PN-34	02-08-2018	03-06-2019	31-10-2018	07-09-2019	311	96
27.	PN-163	26-11-2019	26-05-2020	24-02-2020	10-07-2020	137	45
28.	PN-43	22-02-2019	20-07-2019	23-05-2019	17-10-2019	147	89
29.	NSK-62A& B	21-08-2018	30-03-2019	19-11-2018	28-05-2020	556	425

### Appendix 3.1.1

(Reference: Paragraph 3.1.7.2; Page 42)

#### Industries operating without consent

Sr. No.	RO Name	Name of Industry
1	Navi Mumbai	Hotel Sunrise Residency, Navi Mumbai
2	Navi Mumbai	New Metal Refinery, Arvid brother, Arvind Compound, Ganpati Pada, Dighe, Navi Mumbai
3	Navi Mumbai	Chandan Banquets, Navi Mumbai
4	Navi Mumbai	MGM Hospital & Research Centre, Belapur, Navi Mumbai
5	Navi Mumbai	Imperial Banquet hall, Navi Mumbai
6	Navi Mumbai	Hotel Yogi Executive (TR Bhari and sons)
7	Nashik	Shreeji developers (vistacore ventures) Survey No. 52 A Anandwali, Plot no. 1 to 12, 21 to 37 and 40 to 42A, Nashik
8	Nashik	Restro with Banquet & Lawn <sup>2</sup> -The Five Elements
9	Nashik	Manohar Garden Lawn & Banquet
10	Nashik	Janhit Hospital, Govind Nagar, Nashik
11	Nashik	Sarita Plastic, Plot No.B-28/29 Kopargaon Cooperative Industrial Estate, MIDC, Ahmeadnagar
12	Nashik	Civil Hospital, Ahmednagar
13	Nashik	Hotel Seven Sky, Nashik
14	Nashik	Hotel City Pride, Nashik
15	Nashik	Hotel Silver Palace, Jalgaon
16	Aurangabad	GNI Infrastructure Aurangabad
17	Aurangabad	Government Cancer Hospital, Aurangabad
18	Aurangabad	President (Hotel, Banquet & Lawn), Aurangabad
19	Aurangabad	Hotel Grand ecotel, Aurangabad
20	Aurangabad	Hotel Panchavati, Aurangabad
21	Aurangabad	Mohan Udyog, MIDC-Krushnoor, Naigaon, Nanded;
22	Aurangabad	Government medical College and Hospital, Vishanupuri, Nanded
23	Aurangabad	Nanded Rural Dental College & Research Center, Nanded
24	Aurangabad	Hotel VITS Bharat with Banquet Hall, Nanded
25	Aurangabad	Hotel City Pride, Nanded
26	Aurangabad	Hotel Visawa Palace, Nanded
27	Aurangabad	Hotel Embassy International, Ambejogai Road, Latur
28	Aurangabad	Gangamai Kalyan ACR Pvt. Ltd, G. No- 240, Mahalangra, Chakur, Latur
29	Aurangabad	Thormote Patil Lawns, (Marriage hall) Mahadev Nagar, AUSA Road, Latur
30	Aurangabad	Kasturai Mangal Karyalaya, (Marriage hall) Katpur Road, Latur
31	Aurangabad	The Fern Residency, Parbhani
32	Aurangabad	District General Hospital, Parbhani
33	Aurangabad	Hotel PG sons hotel and Resort
34	Kalyan	Sun Industries
35	Amravati	Taj Frozen Foods
36	Amravati	GMC, Akola
37	Pune	Jaywant Sugar Limited (brick mfg unit)
38	Pune	Mayfair Eleganza Phase II
39	Pune	Hotel Madhav International
40	Pune	Hotel Aishwarya

### Appendix 3.1.2

(Reference: Paragraph: 3.1.9.6; Page 50)

#### Non-compliance of consent conditions

Omission	No. of Industries
Non creation of green belt	32
Industries operating with non-functional STP/ETP	20
Hazardous waste lying unscientifically	27
Wood fuel used instead of other fuel	12
Acid/Oil spilled on the ground	03
Industries operating without STP/ETP	06
Ground water extraction without permission of Central Ground Water Authority	08
Non installation of Flow Meter and Separate Energy Meter	27
HW stored beyond prescribed limit of 90 days	09
ZLD not Achieved	08
Effluent discharged on ground/directly into drain	19
OCEMS not provided / connected	04
Sludge drying bed without cover	04
Coal and fly ash lying in open unscientifically	02

## Appendix 3.1.3

(Reference: Paragraph: 3.1.10.1; Page 51)

## Checking of all parameters of trade effluent by the CETP

Sr. No.	Name of chemicals	Impact on environment
1	Ammonical Nitrogen	When Ammonia is present in water at high level, it is difficult for aquatic organisms to sufficiently excrete the toxicant, leading to toxic build up in internal tissues & potential death.
2	Chlorobenzene	Harmful to Aquatic life even in very low concentration
3	Phosphate	Harmful to biological condition even in very low concentration
4	Mercury	Bioaccumulation can cause high levels of mercury in top predator fishes and have detrimental effect on humans and fish eating wildlife.
5	Hexavalent Chromium	Chromium is toxic to marine animals and can cause damage to many of their organs, including the liver

*Source: CPCB guidelines*

Sr. No.	Name of CETP	No. of industries connected	Type of industries connected	No of parameters required to be checked	Parameters checked out of required to be checked	No of due parameter not checked
1	Chikhloli Morivali ETP Ambarnath	69	Inorganic Chemicals, Pharmaceuticals, Rubber, Dye & Dye intermediate	30	18	12 (Arsenic, Benzene, Bio-assay test, cadmium, Chlorobenzene, colourhazen unit, manganese, methylene chlorides, phosphate, SAR, sulphide, xylene, Temperature)
2	ACMA CETP Co Society Ltd	36	Chemical, Dye & dye intermediate, Textile, food, Pharmaceuticals	31	18	13- Arsenic, Benzene, Cadmium, Chlorobenzene, Colour hazen unit, Colour PCU, Manganese, Methlene chlorides, Phosphate, SAR, Sulphide, TDS, emperature, Xylene, Dissolved solid
3	Badlapur CETP Association	127	Chemicals, pharmaceuticals, electroplating, dye & dye intermediate, food, textile	38	23	15 (Arsenic, Benzene, Bio-assay test, cadmium, Chlorobenzene, Colour hazen unit, Colour PCU, Manganese, Methylene chloride, Phosphate, temperature, SAR, Total metal, Trichloroethane, trichloroethylene, xylene)
4	Kurkumbh Environment Protection Co-operative Daund Pune	27	Chemicals, electroplating, pharmaceuticals, pesticide	53	17	36 (2,4 D, Antimony, Arsenic, Benzene, Benzene hexachlorides, bio assay test, carbonyl, chlorobenzene, copper oxychloride, copper sulphate, DDT, Dimethoate, Endosulfan, Fenitrothion, Iron, Malathion, Mnaganese, Methyl parathion, Methylene chlorides, Nitrate, paraquat, Phenthoate, Phorate, Phosphate, propronil, Pyrethrumus, SAR, Sulphide, sulphur, temperature, Total metal, Total residual chlorine, Trichloroethane, trichloroethylene, xylene, zince, zirum)
5	Additional Amravati Industrial area	5	Textile	12	6	6 Ammonical Nitrogen, Chromium total, colour PCU, Penolic compound, SAR, Sulhides

*(Source: Information furnished by MPCB)*

Appendix 3.1.4

(Reference: Paragraph: 3.1.12.1; Page 53)

Charging consent fee on the basis of CA certificate in respect of Industries  
(Short payment of consent fee)

Sr. No.	Type of consent	Date of issue of consent	Validity period	Capital investment shown in the consent as per CA certificate (₹ in lakh)	Consent fee paid (₹ in lakh)	Capital investment shown in the Balance Sheet (₹ in lakh)	Consent fee as per Balance Sheet (0.02% of the capital investment shown in the balance sheet X validity period) (in ₹)	Short payment of consent fee (₹ in lakh)	Remarks
<b>Rattan India Power Ltd. Amravati</b>									
1	Renewal to Consent to Operate	09.09.2020	01.09.2020 to 31.08.2021	758705	165.836	833790	166.758	0.92	
2	Renewal to Consent to Operate	22.12.2021	01.09.2021 to 31.08.2022	758705	151.741	833545	166.709	14.97	
<b>Raymond Luxury Cottons Ltd, Nandgaon Peth, Amravati</b>									
3	Renewal to Consent to Operate	29.07.2020	01.02.2020 to 31.01.2023	24604	24.60	55869.70	33.52	8.92	
<b>M/s Alkyl Amine Chemical Limited, Kurkumbh, Pune</b>									
4	1 <sup>st</sup> Consent to Operate (Expansion with amalgamation of existing Consent to Operate)	02.02.2022	Up to 28.02.2023 (proposed for 2 years but actually granted for 01 year)	26766	1.5	34162	6.83	5.33	
<b>Grand Total</b>								<b>30.14</b>	

## Appendix 3.1.5

(Reference: Paragraph 3.1.12.2; Page 54)

## Charging consent fee on the basis of CA certificate in Infrastructure Projects (Short receipt of consent fee)

Sr. No.	Name of Industry	Total Project Cost (in ₹)	Total Consent Fee (calculated by Audit) (in ₹) 0.02% of B	Consent fee paid by Industry (in ₹)	Short payment of Consent fee (in ₹)
A	B	C	D	E	F=D-E
1	M/s Knowledge City Education Pvt. Ltd. & Oxford Golf & Resorts Pvt. Ltd. Mulshi, Pune	142937673100	28587535	7800000	20787535
2	M/s Riverview City Construction Ltd., Gut No. 1160/2, A/P Haveli, Pune-23	155362230800	31072446	2623220	28449226
3	Nanded City Development and construction Co. Ltd. naded village, Havelli, Pune	77072929720	15414586	2118000	13296586
4	M/s Pegasus Property Pvt. Ltd. (Megapolis) at Rajiv Gandhi Infotech Park-III, Village Maan & Bhoirwadi Taluka Mulsi Dist-Pune	12762653200	2552531	1401500	1151031
5	M/s Kaleidoscope Developers Pvt. Ltd. S.No. 125/5-201, 207, 208 Village-Bhugaon, Tal. Mulshi, Pune	31239036600	6247807	5132000	1115807
6	M/s Flagship Infrastructure (P) Ltd. Hinjewadi, Tal-Mulshi, Pune	20644535290	4128907	1529587	2599320
7	M/s Magarpatta Township Development & Construction Co. Ltd.	59239017000	11847803	5720840	6126963
8	M/s Runwal Residency, Integrated Township, Village Usarghar- S N. 4, 5, 6, 7 etc. Gharivali and Sagon	12366130976	2473226	1938000	535226
9	M/s Runwal Residency, Integrated Township, Village Usarghar- S N. 4, 5, 6, 7 etc. Gharivali and Sagon	24488694088	4897739	4836840	60899
10	M/s Regency Nirman Ltd. "Regency Anantam" village Davdi, Dombivali	12333213000	2466643	1440000	1026643
11	M/s Horizon Projects Pvt. Ltd., Usarghar S.N. 17/1, 2,3/A, 17/4 etc SandapAtManpadaUsarghar-Sandapm Tlq, Kalyand, Thane	3655205192	731041	640560	90481
12	M/s Horizon Projects Pvt Ltd., Usarghar S.N. etc. Sandap at Manpada Usarghar-Sandapm Tlq, Kalyand, Thane	5380041900	1076008	818380	257628
13	M/s Raunak Corporation "Raunak City", Village Wadeghar, S N. 50/3/2, 3 etc. Tal. Kalyan (W), Dist. Thane.	5582509667	1116502	1000000	116502
	<b>Total</b>		<b>112612774</b>	<b>36998927</b>	<b>75613847</b>

Note: Where exact survey number of land was not found, minimum land rate as per ready reckoner rate available for the nearby area was considered.



<b>Glossary of Abbreviations</b>	
<b>Abbreviations</b>	<b>Full Form</b>
AA	Administrative Approval
ABPC	Adjusted Bid Project Cost
ACS	Additional Chief Secretary
BG	Bank Guarantee
BOD	Biological Oxygen Demand
BPC	Bid Project Cost
CA	Concession Agreement
CA	Chartered Accountant
CAR Policy	Contractor's All Risk Policy
CEs	Chief Engineers
CETP	Common Effluent Treatment Plants
COD	Commercial Operation Date
COD	Chemical Oxygen Demand
COS	Change of Scope
CPCB	Central Pollution Control Board
CPI (IW)	Consumer Price Index (Industrial Worker)
DECC	Environment and Climate Change Department
Department	Public Works Department
DLP	Defect Liability Period
DPR	Detailed Project Report
DTP	Draft Tender Paper
EC	Environment Clearance
EE	Executive Engineer
EMP	Environmental Management Plan
EPC	Estimated Project Cost
ETP	Effluent Treatment Plants
FD	Finance Department
FO	Field Officer
GoI	Government of India
GoM	Government of Maharashtra
GST	Goods and Service Tax
HAM	Hybrid Annuity Model
HW	Hazardous Waste
IE	Independent Engineer
IRC	Indian Road Congress
KTIL	Kalyan Toll Infrastructure Limited
LOA	Letter of Award
MA	Mobilisation Advance
MAITRI	Maharashtra Industry, Trade and Investment Facilitation Cell
MCA	Model Concession Agreement
MDR	Major District Road
MoEF&CC	Ministry of Environment, Forest and Climate Change
MPCB	Maharashtra Pollution Control Board
MPR	Monthly Progress Report

<b>Abbreviations</b>	<b>Full Form</b>
MPW Manual	Maharashtra Public Works Manual
MS	Milestone
MSA	Million Standard Axle
MSH	Major State Highway
NGT	National Green Tribunal
NH	National Highway
NHAI	National Highway Authority of India
O&M	Operation and Maintenance
OCEMS	Online Continuous Effluent Monitoring Systems
OWC	Organic Waste Converter
PD	Planning Department
PIM	Price Index Multiple
PPP	Public Private Partnership
PS	Performance Security
PS	Principal Secretary
PW Circle	Public Works Circle
PW Division	Public Works Division
PWRs	Public Works Regions
RFP	Request for Proposal
RO	Regional Officer
ROB	Road Over Bridge
ROW	Right of Way
RR	Ready Reckoner
RRBIS	Risk Based Inspection and Sampling Procedure
SC	Safety Consultant
SC	Supreme Court
SE	Superintending Engineer
SH	State Highway
SPV	Special Purpose Vehicle
SRDF	State Road Development Fund
SRO	Sub-Regional Offices
SS	Suspended solid
STP	Sewage Treatment Plant
TCS	Typical Cross Section
TDS	Total Dissolved Solid
ToR	Term of Reference
TS	Technical Sanction
VQCC	Vigilance and Quality Control Circle
WPI	Wholesale Price Index
ZLD	Zero Liquid Discharged



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