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## CHAPTER II

### PERFORMANCE AUDIT

#### Home Department

#### 2.1 Implementation of the Scheme for Modernisation of Police Force in Maharashtra

##### Executive Summary

A performance audit of the implementation of Central Scheme for 'Modernisation of Police Force in Maharashtra' for the period 2011-16 revealed scant utilisation of funds (38 *per cent*) during the last five years. The low spending was due to delays in preparation and submission of Annual Action Plans to GoI which had a spiraling effect on approval of state plans and release of funds thus, impacting Scheme implementation and funds utilisation. Besides, the State Government could not get ₹ 265.38 crore from GoI during 2011-16 due to non-utilisation of Central funds released in previous years.

During 2011-16, only eight *per cent* of the planned residential and non-residential buildings, which also included police stations, could be constructed/upgraded. The digital radio trunking system procured at a cost of ₹ 9.56 crore was not commissioned despite delay of 39 months thereby defeating the objective of upgrading the police communication network from the old analog system to the new encrypted digital system. Though there was an acute shortage of medium vehicles and motorcycles in the State yet only 662 vehicles were procured through Scheme funds during 2011-16, leaving a shortfall of 1,564 vehicles (including motorcycles).

There was a shortage of 65,026 modern weapons constituting 45 *per cent* of the total requirement of the State. Supply of 1,834 weapons valuing ₹ 9.60 crore and representing 41 *per cent* of the total ordered quantity was pending from Ordnance Factory Board for a period ranging from six months to 4½ years. Vital police equipment valuing ₹ 28.76 crore such as, bullet-proof jackets, night vision binoculars, bomb disposal suits, portable x-ray machines *etc.* planned for procurement under the Annual Action Plans of 2011-16 (excluding 2014-15) had not been procured as of September 2016.

The functioning of forensic science laboratories was affected by shortage of technical staff, leading to 34,171 samples (18 *per cent*) pending investigation as on 01 January 2017. Monitoring of the Scheme was lax and majority of the police stations were not recording the response time to assess the operational efficiency of the police.

##### 2.1.1 Introduction

'Law and order' is a State subject and it is primarily the responsibility of the State Governments to modernise and adequately equip their police forces for meeting the challenges of law and order. However, due to financial and other

constraints, the efforts made by the State Governments have often not been up to the desired level. In this context, the Ministry of Home Affairs (MHA), Government of India (GoI) had been supplementing the efforts and resources of the States from time to time by implementing the Centrally Sponsored Scheme for Modernisation of State Police Forces (Scheme) since 1969-70. The main objective of the Scheme was to meet deficiencies in various aspects of police administration and to control internal security and law and order situation. The Scheme comprised seven components namely, (i) construction of buildings/housing, (ii) communication systems, (iii) mobility, (iv) weaponry, (v) equipment, (vi) forensic science laboratories/forensic equipment, and (vii) training.

### **2.1.2 Organisational Setup**

The Home Department under Government of Maharashtra (GoM), headed by the Additional Chief Secretary (ACS), is responsible for implementation of the Scheme. A State Level Empowered Committee (SLEC) under the Chairmanship of the Chief Secretary monitors the implementation of the Scheme. The Chairman is assisted by the ACS (Home), ACS (Finance) and Director General of Police (DGP) as members of the Committee. The DGP is further assisted by the Inspector General of Police (Modernisation), the Commissioners of Police (CP), Superintendents of Police (SP) of districts and other unit heads such as, the Director, Forensic Science Laboratories (DFSL); the Managing Director, Maharashtra State Police Housing and Welfare Corporation (MSPHWC)<sup>1</sup>; and the Director General, Home Guards (HG).

### **2.1.3 Audit Objectives**

The audit objectives were to assess whether:

- plans for the Scheme were prepared and submitted timely to GoI;
- financial resources were adequately managed and judiciously used;
- the Scheme was implemented effectively and efficiently; and
- monitoring of the Scheme was effective.

### **2.1.4 Audit Criteria**

The audit criteria have been derived from the following documents:

- Scheme guidelines and instructions issued by GoI and GoM from time to time;
- Five year strategic plan and annual action plans approved by MHA; and
- Fund release orders of GoI and GoM.

### **2.1.5 Audit Scope and Methodology**

The performance audit was conducted during November 2015 and June 2016 covering the period 2011-12 to 2015-16 through test-check of records in the offices of the ACS (Home) in *Mantralaya*; DGP, Mumbai; DFSL, Mumbai<sup>2</sup>;

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<sup>1</sup> MSPHWC is a State Government company established in 1974 under the Companies Act, 1956 to undertake construction of buildings/housing for use and occupation by officers and employees of the State Government in the Police, Jail, Home Guards and Civil Defence Departments

<sup>2</sup> Including three regional forensic science laboratories at Pune, Aurangabad and Nashik under DFSL, Mumbai

MSPHWC, Mumbai; and Director General, HG, Mumbai. Besides, records maintained by the offices of six CP<sup>3</sup>, eight SP<sup>4</sup>, district forensic science laboratories and Commandant, HG in nine<sup>5</sup> of 36 districts of the State were also test-checked. Under the sampled police districts, 10 police stations (PS) each under the jurisdiction of six CP and eight SP (total 140 PS) were also selected randomly for audit scrutiny.

An entry conference was held on 30 June 2016 with the ACS (Home) and Additional DGP, Mumbai in which the audit objectives, criteria, scope and methodology of audit were discussed. The audit findings were discussed with ACS (Appeals, Security and Prisons), Principal Secretary (Special) and the Additional DGP, Mumbai in an exit conference held on 17 November 2016. The draft performance audit report was issued to the State Government in October 2016; their reply was awaited as of January 2017.

## Audit Findings

### 2.1.6 Planning

#### 2.1.6.1 Delay in Submission of Annual Action Plans

As per Scheme guidelines issued (November 2010) by GoI, every State was required to prepare an Annual Action Plan (AAP) based on the five year Strategic Plan (2011-16). The AAP was to provide the description of programme actions or activities necessary to achieve strategic goals and objectives during the year. The AAP duly approved by the SLEC were to be submitted to MHA, GoI by due date.

The Home Department prepared the five year Strategic Plan (2011-16) in June 2011 with a financial outlay of ₹ 1,168.27 crore. However, the AAP for the year 2011-12 to 2015-16 duly approved by SLEC were submitted to MHA after a delay of four to six months, as indicated in **Table 2.1.1**.

**Table 2.1.1: Delay in submission of Annual Action Plans**

AAP	Due date of submission of AAP to MHA as per Scheme guidelines	Date of submission of AAP by DGP to SLEC	Date of approval of AAP by SLEC	Date on which AAP forwarded to MHA by GoM	Delays in months	Date of approval by MHA
2011-12	17.01.2011	Information not available with DGP/Department	15.06.2011	17.06.2011	05	Information not available with DGP/Department
2012-13	15.01.2012	25.04.2012	Information not available with DGP/Department	16.05.2012	04	02.07.2012
2013-14	15.01.2013	17.06.2013	23.7.2013	02.07.2013	06	01.10.2013
2014-15	15.01.2014	21.06.2014	13.7.2014	10.07.2014	06	16.09.2014
2015-16	15.01.2015	29.06.2015	13.7.2015	14.07.2015	06	07.08.2015

Source: GoI guidelines and information furnished by Home Department and DGP, Mumbai

The delay of four to six months in the submission of AAP to GoI during the period 2011-16 led to delay in approval of State Plans by MHA and consequent delay in release of funds, which in turn impacted Scheme implementation and funds utilisation, as discussed in succeeding paragraphs.

<sup>3</sup> Mumbai, Thane, Navi Mumbai, Pune, Aurangabad and Nashik

<sup>4</sup> Aurangabad, Nashik, Nanded, Pune, Satara, Thane, Wardha and Yavatmal

<sup>5</sup> Aurangabad, Mumbai, Nashik, Nanded, Pune, Satara, Thane, Wardha and Yavatmal

During exit conference, the ACS (Appeals, Security and Prisons) stated (November 2016) that the State Government would make efforts to contain the delays and submit the AAP by January from next year onwards.

## 2.1.7 Financial Management

### 2.1.7.1 Fund Flow Mechanism

GoI funds under the Scheme were intended to supplement the resources of the State Governments. During 2011-12, funds were provided by GoI and the State Governments in the ratio of 75:25 which was subsequently revised to 60:40 from 2012-13 onwards.

The GoI releases its share to the State Government for five of seven components of the Scheme, after approval of the AAP. The funds for the remaining two components *i.e.* procurement of weapons and construction of buildings/housing are provided by GoI directly to the Ordnance Factory Board (OFB) and MSPHWC respectively. The State share is released by GoM to OFB, and other implementing agencies namely, the DGP, MSPHWC, DFSL and Home Guards.

The Scheme funds which remain unutilised at the end of the financial year (except for weaponry and construction of buildings/housing) are revalidated by the SLEC and sanctioned by the Finance Department, GoM for utilisation in the succeeding year. The funds released to OFB are recorded as advance and considered as expenditure on receipt of delivery of weapons by the State Government. Funds released to MSPHWC are also treated as advances and considered as expenditure only on receipt of statements of expenditure and/or utilisation certificates (UC) and charged to expenditure based on the settlement of advance.

### 2.1.7.2 Shortfalls in Expenditure *vis-à-vis* Funds Released

The status of component-wise funds released by GoI and GoM and expenditure incurred during 2011-16 (up to September 2016) was as indicated in **Table 2.1.2**.

**Table 2.1.2: Component-wise funds released and expenditure incurred during 2011-16**  
(₹ in crore)

Component	AAP 2011-12		AAP 2012-13		AAP 2013-14		AAP 2014-15		AAP 2015-16		Total	
	Funds	Exp.	Funds	Exp.	Funds	Exp.	Funds	Exp.	Funds	Exp.	Funds	Exp.
Construction of buildings/housing	23.94	10.69	0	0	145.85	67.05	119.67	5.96	0	0	289.46	83.70
Communication systems	14.71	2.27	6.30	2.61	13.51	6.82	0	0	10.14	7.81	44.66	19.51
Mobility	23.26	22.83	10.33	8.77	8.57	1.53	0	0	6.95	0.36	49.11	33.49
Weaponry	9.70	3.24	8.00	0	12.19	11.98	6.30	6.30	6.49	5.88	42.68	27.40
Equipment	17.85	1.32	11.70	0.23	4.60	1.10	0	0	8.76	2.31	42.91	4.96
Forensic equipment	8.01	7.85	1.99	1.99	1.59	1.58	0	0	1.46	0.21	13.05	11.63
Training	0	0	0	0	1.32	1.32	0	0	1.20	0.06	2.52	1.38
Others (Anti-Naxalite Programme)	6.00	5.00	1.57	0	0	0	0	0	0	0	7.57	5.00
<b>Total</b>	<b>103.47</b>	<b>53.20</b>	<b>39.89</b>	<b>13.60</b>	<b>187.63</b>	<b>91.38</b>	<b>125.97</b>	<b>12.26</b>	<b>35.00</b>	<b>16.63</b>	<b>491.96</b>	<b>187.07</b>

Source: Information furnished by the implementing agencies

Note: As revalidation orders were issued by SLEC in October 2016 therefore, no expenditure was incurred between March 2016 and September 2016.

It could be seen from **Table 2.1.2** that against the release of ₹ 491.96 crore during 2011-16, the Home Department could utilise only ₹187.07 crore (38 per cent) till September 2016. Further, the percentage of non-utilisation was highest at 88 per cent under equipment component while it ranged between 71 per cent (construction of buildings/housing) and 11 per cent (forensic equipment) in respect of the remaining six components. Audit analysed the reasons for significant shortfall in spending (62 per cent) under the Scheme which revealed the following:

- (i) As already mentioned, there had been a delay of four to six months in submission of AAP to GoI during 2011-16 which led to delay in approval of AAP by MHA and consequent delay in release of central share by GoI. After approval of AAP by the MHA for a particular year, the GoM accords composite administrative approval to various items included in the approved AAP. However, there were significant delays in granting of administrative approvals by GoM leaving very little or no time for the implementing agencies to utilise the funds during the financial year thereby necessitating revalidation of the unutilised funds for use in the succeeding financial years, in respect of five<sup>6</sup> of seven components (except weaponry and construction of buildings/housing components). Even the revalidation orders were issued by the Home Department after time lapse of five to 10 months of the commencement of financial years thus, severely impairing the ability of implementing agencies to utilise the funds by the end of the revalidated financial years. An overview of under-utilisation of funds during 2011-14 and 2015-16 (up to September 2016) due to delay in issue of composite administrative approvals and revalidation orders in respect of five components is indicated in **Table 2.1.3**.

**Table 2.1.3: Under-utilisation of funds in respect of five components (except weaponry and construction of buildings/housing)**

(₹ in crore)

AAP	Date of approval of AAP by MHA	Total funds released by GoI and GoM	Date of issue of composite administrative approval by GoM	Dates on which revalidation orders were issued by Home Department					Actual expenditure finally incurred up to September 2016 (% utilisation)
				2012-13	2013-14	2014-15	2015-16	2016-17	
2011-12	Information not available	69.83	05.03.2012	12.11.2012	30.08.2013	03.02.2015	26.11.2015	27.10.2016	39.27 (56)
2012-13	02.07.2012	31.89	30.03.2013	--	30.08.2013	03.02.2015	26.11.2015	27.10.2016	13.60 (12)
2013-14	01.10.2013	29.59	17.01.2014	--	--	03.02.2015	26.11.2015	27.10.2016	12.35 (12)
2015-16	07.08.2015	28.51	21.12.2015	--	--	--	--	27.10.2016	10.75 (38)

Source: Information on fund release and actual expenditure has been derived from **Table 2**  
Note: In AAP 2014-15, funds were released for weaponry and buildings/housing components only and therefore, excluded.

- (ii) As regards ‘construction of buildings/housing’ component, of ₹ 289.46 crore released to MSPHC during 2011-16 for construction/upgradation of 117 residential and administrative buildings, only nine buildings could be completed while works of

<sup>6</sup> Communication systems, mobility, equipment, forensic science laboratories/forensic equipment and training

44 buildings were in progress and 64 had not commenced as of September 2016 (total expenditure incurred ₹ 83.70 crore), mainly due to delay in planning and tendering, non-availability of land, encroachment of land *etc.* as discussed in **paragraph 2.1.8.1**. Similarly, for ‘weaponry’ component, against the total demand for 4,420 weapons made by DGP, Mumbai between 2011-12 and 2015-16, only 2,586 weapons were delivered by the OFB leaving a balance of 1,834 weapons (41 *per cent*) which remained undelivered as of September 2016. As a result, only ₹ 27.40 crore could be spent by the Home Department during 2011-16 against total release of ₹ 42.68 crore during the same period. The details are given in **paragraph 2.1.8.4**.

Further, as per GoI instructions issued from time to time, unspent balances of previous years lying with the State Governments were to be deducted from subsequent year’s allocations/releases. Audit observed that GoI released only ₹ 282.12 crore during 2011-16 against its due share of ₹ 547.50 crore<sup>7</sup>. The GoM did not get ₹ 265.38 crore as it represented the unspent balances of the previous years.

During exit conference, the Additional DGP stated that the GoI released its share only by November every year due to which, the State Government had very little time to utilise the available funds during the same financial year. The ACS (Appeals, Security and Prisons) added that unspent funds of the previous years were revalidated by the SLEC and utilised during subsequent years.

The reply is not tenable because, (i) there had been a delay of four to six months in submission of AAP to GoI during 2011-16 which had a cascading effect on approval of State plans and release of funds by the MHA thus, impacting Scheme implementation and funds utilisation, and (ii) there had been an inordinate delay of five to 10 months in issue of revalidation orders by Home Department, leading to meagre utilisation of funds (38 *per cent* to 56 *per cent*) in five of seven components during 2011-16 (**Table 2.1.3**).

### **2.1.7.3 Violation of Scheme Guidelines in Management and Accounting of Funds**

As per Scheme guidelines issued (November 2010) by GoI, all funds received under the Scheme were to be deposited in a separate savings bank account in any nationalised bank or scheduled bank approved by the RBI. The interest received was to be utilised for the same activities as envisaged under the Scheme and no portion of it was to be utilised for other expenses not envisaged in the Scheme. Further, no portion of the Scheme funds was to be kept in fixed deposit for income generation. Audit observed that the implementing agencies violated the Scheme guidelines in management and accounting of funds, as discussed below.

- The MSPHWC kept Scheme funds amounting to ₹ 289.46 crore released during 2011-16 for construction of buildings/housing in its common bank account. As a result, the quantum of interest earned by MSPHWC on the Scheme funds

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<sup>7</sup> On the basis of 75 *per cent* sharing pattern up to 2011-12 and 60 *per cent* from 2012-13 onwards



(₹ 289.46 crore) could not be ascertained by audit. Besides, it was difficult to ascertain whether interest accrued on the Scheme funds was used for the furtherance of the objectives of the Scheme.

During exit conference, the Financial Advisor and Chief Accounts Officer (FA&CAO), MSPHWC accepted that as the Scheme funds were not kept separately, it was difficult to ascertain the interest portion.

- Against the total release of ₹ 491.96 crore during 2011-16, ₹ 289.46 crore was released to MSPHWC for the component ‘construction of buildings/housing’ of which, only ₹ 83.70 crore was expended (**Table 2.1.2**). However, the Home Department furnished UC of ₹ 275.76 crore to GoI by treating the unutilised funds of ₹ 192.06 crore<sup>8</sup> as actual expenditure instead of advances, in violation of Scheme guidelines.
- The MSPHWC had also invested ₹ 168 crore in various banks in short-term fixed deposits as on March 2016, in violation of Scheme guidelines. Incidentally, the fixed deposits of ₹ 168 crore also included ₹ 35.57 crore (₹ 50.24 crore with interest up to March 2016) that was initially earmarked for purchase of various equipment<sup>9</sup> in the AAP of 2006-07 and 2009-10 but, transferred by the DGP, Mumbai to MSPHWC. The action of the DGP to transfer funds earmarked for purchase of equipment to MSPHWC, which was solely responsible for construction of buildings/housing, was not rational.

During exit conference, the ACS (Appeals, Security and Prisons) accepted the facts and stated that the tendering process being time consuming, the funds were parked in short-term fixed deposits. The Principal Secretary (Special) added that many building/housing projects which were stalled due to various reasons had been cleared in the last few months and the process streamlined. This would enable utilisation of funds parked in the fixed deposits along with interest.

The Home Department however, did not explain the rationale for transfer of Scheme funds meant for purchase of equipment by the DGP to MSPHWC.

**Recommendation 1: The State Government may submit the Annual Action Plans to the Government of India by due dates so that delays in approvals and release of funds are arrested and the implementing agencies have sufficient time to utilise the funds effectively and efficiently during plan period itself. The State Government may also ensure that Scheme funds are managed and accounted for as per guidelines.**

<sup>8</sup> ₹ 275.76 crore - ₹ 83.70 crore

<sup>9</sup> Bomb blankets, bullet-proof jackets, bomb suits, bullet-proof helmets, bomb trollies etc.

## 2.1.8 Scheme Implementation

The Scheme aimed to modernise the police forces in terms of (i) construction of buildings/housing, (ii) communication systems, (iii) mobility, (iv) weaponry, (v) equipment, (vi) forensic science laboratories/forensic equipment, and (vii) training. Audit scrutiny of six of seven components (except ‘Training’) for the period 2011-16 revealed significant deficiencies in terms of poor progress of construction works, non-replenishment of the stocks of weapons and equipment, shortfalls in firing practice, shortage of technical manpower and drivers *etc.* which are discussed in the succeeding paragraphs.

### 2.1.8.1 Construction of Buildings/Housing

During 2011-16, of ₹ 289.46 crore released to MSPHWC for execution of 117 works (construction/upgradation of residential and non-residential buildings), MSPHWC expended only ₹ 83.70 crore, leaving an unspent balance of ₹ 205.76 crore (71 *per cent*) at the end of September 2016 (**Table 2.1.2**). The year-wise physical and financial progress of 117 works as of September 2016 is given in **Table 2.1.4**.

**Table 2.1.4: Year-wise physical and financial progress of works**

(₹ in crore)

AAP	No. of works approved in AAP	Physical progress as of September 2016			Financial progress as of September 2016		
		No. of works completed	No. of works in progress	No. of works not yet commenced	Fund released by GoI/GoM	Funds utilised	Unspent balance
2011-12	15	4	2	9	23.94	10.69	13.25
2012-13	0	0	0	0	0	0	0
2013-14	92	5	36	51	145.85	67.05	78.80
2014-15	10	0	6	4	119.67	5.96	113.71
2015-16	0	0	0	0	0	0	0
<b>Total</b>	<b>117</b>	<b>9</b>	<b>44</b>	<b>64</b>	<b>289.46</b>	<b>83.70</b>	<b>205.76</b>

Source: Information furnished by MSPHWC

Note: GoM did not include any construction/upgradation works in AAP 2012-13 and 2015-16 and therefore, no funds were released during these two years.

As could be seen from **Table 2.1.4**, only nine<sup>10</sup> of 117 residential and non-residential buildings (eight *per cent*) could be constructed/upgraded during 2011-16. Of the remaining 108 works<sup>11</sup>, while 44 works<sup>12</sup> were in progress, 64 works<sup>13</sup> had not commenced as of September 2016 due to delay in planning and tendering, non-availability of land, encroachment of land *etc.*

The FA&CAO, MSPHWC accepted the facts and stated (August 2016) that correspondence was in progress with the City and Industrial Development Corporation/Maharashtra Housing and Area Development Authority on land issues and the user Departments for finalisation of scope of works. During exit

<sup>10</sup> Five works were entrusted to the Public Works Department (PWD); Four works were carried out by MSPHWC

<sup>11</sup> 90 works to be executed by PWD and 18 by MSPHWC

<sup>12</sup> 37 by PWD and 07 by MSPHWC

<sup>13</sup> 53 by PWD and 11 by MSPHWC

conference, the ACS (Appeals, Security and Prisons) attributed the shortfalls to shortage of technical staff like engineers and architects.

Given the fact that 108 works comprised 44 police stations, 14 training centres and 50 residential/non-residential buildings, delay in their construction/upgradation, especially the police stations indicated lack of adequate planning and coordination on the part of the implementing agency (MSPHWC).

**Recommendation 2: The State Government may closely monitor the construction/upgradation works being executed by Maharashtra State Police Housing and Welfare Corporation and Public Works Department so that the factors impeding the progress of works are identified and resolved early, facilitating their early completion.**

### 2.1.8.2 Communication Systems

Transmission of intelligence data on crime and criminals and other vital information in the shortest possible time is of paramount importance and therefore, the police forces need to have modern, reliable and efficient communication systems. During 2011-16, the Home Department spent only ₹ 19.51 crore on communication systems against the total release of ₹ 44.66 crore made by GoI and GoM during the same period (**Table 2.1.2**).

Scrutiny of records in the office of DGP, Mumbai revealed that the Mumbai police had 1,380 analog wireless sets and 2,200 analog walkie-talkies. As per AAP 2011-12, the Home Department accorded (March 2012) administrative approval of ₹ 8.64 crore for procurement of 306 digital wireless sets for Mumbai city and 273 digital walkie-talkies<sup>14</sup> for Mumbai city and rest of Maharashtra. The upgraded system (from analog to digital) was expected to improve the quality of communication in terms of less distortion, better security and efficient use of bandwidth.

The DGP, Mumbai placed (April 2013) a purchase order for supply, installation and commissioning of a digital radio trunking system comprising 150 each of encrypted digital wireless sets and walkie-talkies along with control room equipment, repeaters<sup>15</sup>/base station equipment, system test equipment and tools, technical documentation *etc.* at a total cost of ₹ 9.56 crore. As per purchase order, the radio trunking system was to be commissioned by September 2013. However, by January 2017, only trial runs had been conducted on the system and the system was yet to be finally commissioned. The delay in commissioning of the system was mainly due to delay in installation of repeaters in two<sup>16</sup> of three sites identified by the Home Department. Audit observed that the Home Department could not initially obtain the permission of the Bhabha Atomic Research for installation of repeater in Trombay Hill area, and there was delay in finalising the new site in Bombay Stock Exchange building as the earlier site in the same building was found to be technically unsuitable. Considering that the system was to be

<sup>14</sup> Mumbai city: 163; Rest of Maharashtra: 110

<sup>15</sup> In telecommunications, a repeater is an electronic device that receives a signal and retransmits it. Repeaters are used to extend transmissions so that the signal can cover longer distances or be received on the other side of an obstruction.

<sup>16</sup> Trombay Hill and Bombay Stock Exchange

commissioned within five months of placement of purchase order, all technical issues concerning site selection should have been addressed timely by the Home Department. Thus, the objective of upgrading the police communication network from the old analog system to the new encrypted digital system remained unachieved despite a time lapse of 39 months (October 2013 to December 2016). No payment was released to the supplier as of January 2017.

Based on the approved AAP of 2012-14, the Home Department also accorded a composite administrative approval for purchase of 296 encrypted digital wireless sets and 418 walkie-talkies at an estimated cost of ₹ 9.99 crore. However, the DGP, Mumbai placed (April 2016) a purchase order for procurement of only 50 of 418 digital walkie-talkies. The walkie-talkies were supplied in August 2016. No orders were placed for procurement of 296 encrypted digital wireless sets.

Further, for procuring licenses for operation of digital radio trunking system, it was obligatory to pay spectrum charges in advance to the Department of Telecommunications, GoI. Audit observed that the GoM had paid spectrum charges<sup>17</sup> of ₹ 10.20 crore to the GoI during 2012-16 for 4,617 sets. Considering the fact that the digital radio trunking system was not commissioned as of January 2017, the advance spectrum charges of ₹ 10.20 crore paid to GoI during 2012-16 (for four years) lacked rationale.

During exit conference, the Additional DGP stated that the encrypted digital wireless sets and walkie-talkies could not be procured due to paucity of funds. However, it is being purchased yearly in a phased manner under Mega City Policing Scheme. Regarding payment of spectrum charges, Additional DGP added that until and unless the whole of the spectrum charges were paid in advance, licenses would not be issued by GoI.

The reply is not tenable as funds under this component remained unutilised every year commencing from 2011-12 and the cumulative savings at the end of September 2016 was ₹ 25.15 crore (**Table 2.1.2**). Further, grave mismatch between payment of advance spectrum charges and commissioning of the digital radio trunking system clearly indicated inadequacies in planning for procurement of licenses.

### **2.1.8.3 Mobility**

Mobility of police forces is essential for enhancing their operational efficiency, in tackling law and order situations as well as for prevention and detection of crimes and ensuring security and surveillance. Increased mobility also reduces response time and enhances operational efficiency of police forces.

### **Shortage of Vehicles**

Scrutiny of AAP 2016-17 submitted (July 2016) by the GoM to the MHA revealed shortage of 76 heavy vehicles; 1,852 medium vehicles; and 5,797

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<sup>17</sup> At the rate of ₹ 2.55 crore per year

motorcycles in the State *vis-à-vis* the norms fixed by GoM. The details are shown in **Table 2.1.5**

**Table 2.1.5: Shortage of vehicles in the State as on June 2016**

Type of vehicle	Requirement as per GoM norms	Actual holding	Shortages (-)/ excess (+)	Shortages (in %)
Heavy	1349	1273	-76	6
Medium	3778	1926	-1852	49
Light	4874	5151	+277	Nil
Motorcycle	11764	5967	-5797	49

Source: Annual Action Plan 2016-17

In the nine test-checked districts, there was a shortage of 1,113 vehicles (heavy, medium and light) and 635 motorcycles as of March 2016. The shortage of vehicles (heavy, medium and light) and motorcycles was highest at 47 *per cent* under SP, Nashik and 67 *per cent* under CP, Nashik respectively.

### Shortfall in Procurement of Vehicles

During 2011-16, the GoM accorded composite administrative approval for procurement of 2,226 vehicles<sup>18</sup> at an estimated cost of ₹ 109.38 crore. The Home Department received ₹ 49.11 crore from GoI and GoM during 2011-16 under mobility component and spent ₹ 33.49 crore on procurement of 662 vehicles as of September 2016 (**Table 2.1.2**), leaving a shortfall of 1,564 vehicles (70 *per cent*).

### Shortage of Drivers

For effective deployment of vehicles for police duties, availability of adequate number of drivers is of utmost importance. In nine test-checked districts, against the availability of 5,955 vehicles as of September 2016, only 5,174 drivers were available *vis-à-vis* the requirement of 8,933 drivers<sup>19</sup>. Further, 14 units<sup>20</sup> in nine test-checked districts confirmed to audit that of 5,174 personnel used for driving duties during 2015-16, 2,931 personnel<sup>21</sup> (57 *per cent*) were diverted from active policing to driving duties.

During exit conference, the Additional DGP stated that a proposal for recruitment of 6,600 drivers in the State had been forwarded by the Home Department to the Finance Department, GoM.

**Recommendation 3: The State Government may expedite procurement of vehicles to mitigate shortages and recruit adequate number of drivers to strengthen the operational efficiency of police force.**

### 2.1.8.4 Weaponry

The Home Department received ₹ 42.68 crore under the Scheme for Weaponry component during 2011-16 against which, an expenditure of ₹ 27.40 crore was incurred (**Table 2.1.2**).

<sup>18</sup> Jeeps, light vans, prison vans, motorcycles, multi-purpose vehicles *etc.*

<sup>19</sup> 5,955 vehicles × 1.5 drivers per vehicle (As per State Government norms)

<sup>20</sup> Units mean offices of the CP and SP

<sup>21</sup> Hawaldars/Naiks

## Shortage of Modern Weapons

Scrutiny of AAP 2014-15<sup>22</sup> revealed that only 81,482 modern weapons<sup>23</sup> were available with the State police forces as of March 2015 against the total requirement of 1,46,508 weapons as per GoM norms. Thus, there was a shortage of 65,026 modern weapons constituting 45 *per cent* of the total requirement of the State. In nine test-checked districts, only 31,160 modern weapons were available as of September 2016 against the requirement of 70,471 weapons as per the GoM norms. Thus, there was a shortage of 39,311 weapons constituting 56 *per cent* of the total requirement of these districts.

## Pendency in Supply of Weapons by OFB

Against the order of 4,420 modern weapons placed by the DGP, Mumbai in the four State annual plans (2011-12 and 2013-16), only 2,586 weapons were supplied by the OFB, leaving a balance of 1,834 weapons (41 *per cent*) valuing ₹ 9.60 crore which were not supplied for six months to 4½ years as of September 2016. The details are shown in **Table 2.1.6**.

**Table 2.1.6: Statement showing pending supplies of weapons as of September 2016**

(₹ in crore)			
AAP	No. of weapons demanded	No. of weapons pending receipt (%)	Money value of weapons not received
2011-12	1006	400 (40)	1.28
2013-14	1099	323 (29)	1.55
2014-15	1164	551 (47)	3.22
2015-16	1151	560 (49)	3.55
<b>Total</b>	<b>4420</b>	<b>1834 (41)</b>	<b>9.60</b>
Source: Information furnished by DGP, Mumbai			
Note: The details of weapons demanded under AAP 2012-13 and pending from OFB were not available with the DGP, Mumbai.			

During exit conference, the Additional DGP stated that meetings were held with the OFB and the matter was also pursued through correspondence but, the Board accorded priority to the Army and the sensitive areas for supply of modern weapons due to which, there were delays in supply of weapons to the State.

Audit is of the view that the delays in supply of weapons could have been contained to some extent if the AAP had been submitted to MHA as per the prescribed schedule shown in **Table 2.1.1** to facilitate timely release of funds for early supply of weapons by OFB.

## Weaponry at District Armouries and Central Pool

Audit observed that while there was shortage of weapons *vis-à-vis* the requirements on one side, significant stocks of modern weapons were held

<sup>22</sup> The AAP of 2015-16 prepared by the Home Department did not show the current holding of weapons *vis-à-vis* the requirement and therefore, the quantum of shortage of weapons in the State as of March 2016 could not be ascertained by audit

<sup>23</sup> 7.62 mm self-loaded rifles, pistol auto 9 mm, 5.56 INSAS rifles, 40 mm under barrel grenade launcher, tear gas guns, 9 mm carbine, AK-47 rifles *etc.*

(September 2016) at the district armouries of nine test-checked districts and central pool, Pune as shown in **Table 2.1.7**.

**Table 2.1.7: Weapons held at the district armouries and central pool, Pune**

Sr. No.	Type of Weapon	Shortfall of weapons in nine test-checked districts	Stocks held at the armouries of nine test-checked districts	Stocks at Central Pool, Pune
1	7.62 self-loading rifle	11900	10173	1988
2	Pistol auto 9 mm	6319	2476	2409
3	9 mm carbine	3364	2395	2231
4	.38 revolver	1800	1415	60
5	12 bore shotgun	5069	2150	1628
6	5.56 INSAS rifle	9972	1174	302
7	AK-47 rifle	887	457	05
<b>Total</b>		<b>39311</b>	<b>20240</b>	<b>8623</b>
Source: Information furnished by CP and SP of nine test-checked districts and SRPF (Group I), Pune				

During exit conference, the Home Department did not furnish any specific reason(s) for holding significant stocks of modern weapons without its distribution to the field units.

#### Shortfall in Firing Practice

As per State Government's weaponry policy of April 2010 and August 2014, it was mandatory for all police personnel across ranks to undergo at least one annual firing practice. Information furnished to audit by CP and SP of nine test-checked districts revealed a shortfall of 60 to 71 *per cent* in armed firing practice during 2011-16 as shown in **Table 2.1.8**.

**Table 2.1.8: Shortfalls in firing practice in nine test-checked districts during 2011-16**

Year	No. of police personnel drafted for training by CP/SP	Actual number of participants	Shortfall	% shortfall
2011-12	83858	24040	59818	71
2012-13	84194	30930	53264	63
2013-14	84299	29305	54994	65
2014-15	88556	27879	60677	69
2015-16	87324	34597	52727	60
Source: Information furnished by CP and SP of nine test-checked districts				

The SP, Pune attributed (May 2016) the shortfall to non-availability of ammunition while CP, Mumbai attributed (November 2016) the shortfall to non-availability of firing range. During exit conference, the Principal Secretary (Special) admitted that shortage of ammunition had affected firing practice.

The consistent shortfall in firing practice during 2011-16 underscores the fact that the Home Department did not identify and address the impediments in providing mandatory firing practice to police personnel.

**Recommendation 4: The State Government may make concerted efforts to address the issue of pending supplies with the Ordnance Factory Board so that backlog in supply of weapons is cleared at the earliest. The stocks of modern weapons lying at the district armouries and central pool may be effectively utilised to fulfill the operational needs of the field units. The State Government may also ensure that mandatory firing practice is imparted to the police personnel to sharpen their skills.**

### 2.1.8.5 Equipment

In order to tackle any law and order situation arising from terror/Naxalite attacks, communal flare-up and other agitational activities, the police need to be well equipped. During 2011-16, the Home Department received ₹ 42.91 crore under the Scheme for procurement of equipment against which, an expenditure of only ₹ 4.96 crore was incurred, leaving an unspent balance of ₹ 37.95 crore at the end of September 2016 (**Table 2.1.2**).

Low spending on police equipment during 2011-16 (12 per cent) was largely due to delay in submission of AAP to GoI which in turn delayed the approval of State plans and release of funds, grant of composite administrative approvals by the GoM and issue of revalidation orders, leaving little or no time for the implementing agency (DGP, Mumbai) to procure the equipment. Audit analysis of the unspent balance of ₹ 37.95 crore revealed that vital police equipment valuing ₹ 28.76 crore (76 per cent) included in the AAP of 2011-16 (excluding AAP 2014-15) had not been procured as of September 2016. The details are shown in **Table 2.1.9**.

**Table 2.1.9: Vital police equipment pending procurement since AAP 2011-12**

(₹ in crore)

Item	AAP 2011-12		AAP 2012-13		AAP 2013-14		AAP 2015-16		AAP 2011-16	
	Qty	Total value	Qty	Total value	Qty	Total value	Qty	Total value	Qty	Total value
Bomb disposal suit	0	0	29	5.16	0	0	0	0	29	5.16
Bullet-proof jacket	500	3.50	0	0	90	0.90	9	0.09	599	4.49
Total containment vehicle <sup>24</sup>	1	4.00	0	0	0	0	0	0	1	4.00
Portable x-ray machine 3D	0	0	0	0	0	0	10	3.00	10	3.00
Fixed x-ray baggage scanner machine	0	0	1	0.15	0	0	1	0.40	2	0.55
Night vision binocular	28	0.40	118	1.67	0	0	20	0.61	166	2.67
Robot	2	2.50	0	0	0	0	0	0	2	2.50
Very small aperture terminal (VSAT)	1	2.00	0	0	0	0	0	0	1	2.00
Bomb inhibitor <sup>25</sup>	0	0	46	1.81	0	0	2	0.02	48	1.83
Bomb suit	8	1.12	1	0.14	0	0	1	0.01	10	1.27
Bullet-proof helmets	0	0	0	0	100	0.30	50	0.10	150	0.40
Magazine operation pouch	0	0	0	0	0	0	115	0.35	115	0.35
Deep search metal detector	0	0	0	0	0	0	17	0.29	17	0.29
Hidden camera and recorder	0	0	25	0.25	0	0	0	0	25	0.25
<b>Total</b>										<b>28.76</b>

Source: Revalidation order issued by SLEC on 27 October 2016

Note: No funds were released by GoI and GoM for purchase of equipment under AAP 2014-15 (**Table 2.1.2**).

<sup>24</sup> It allows the technician to safely contain, transport and dispose of explosive devices. The vehicle can be remotely opened and closed providing safer stand-off for the technician

<sup>25</sup> Bomb inhibitors are installed in airports, Government buildings, public places, mail sorting offices and any other areas where there is a threat from explosive devices



Audit analysis further revealed that of the 14 items of police equipment pending procurement valuing ₹ 28.76 crore (Table 2.1.9), seven items of equipment valuing ₹ 13.42 crore (47 per cent) such as, bullet-proof jackets (total 599), total containment vehicle (one), bomb inhibitors (two), bomb suits (10), bullet-proof helmets (150), magazine operation pouches (115) and fixed x-ray baggage scanner machine (one) planned for procurement for Mumbai city had not been procured as of September 2016.

Inordinate delay in procurement of vital police equipment may create critical gaps in preparedness of police forces to deal with any unforeseen security situation.

**Recommendation 5: In order to plug any gaps in the preparedness of the police forces to deal with unexpected security situation, the State Government may speed up the procurement of police equipment initially planned for.**

### 2.1.8.6 Forensic Science Laboratories/Forensic Equipment

The DFSL, Mumbai and seven regional forensic science laboratories at Nagpur, Pune, Aurangabad, Nashik, Amravati, Nanded and Kolhapur were set up to provide valuable aid to investigation through analysis of forensic evidence. During 2011-16, the GoI and GoM released ₹ 13.05 crore of which, DFSL spent ₹ 11.63 crore (Table 2.1.2) as of September 2016 on purchase of various forensic equipment<sup>26</sup>.

#### Pendency in Analysis of Samples

Scrutiny of case registers at DFSL, Mumbai for the calendar year 2011 to 2016 revealed 34,171 samples pending investigation as of 01 January 2017. These are detailed below in Table 2.1.10.

Table 2.1.10: Details of samples pending investigation

Calendar year	Opening balance	Samples received during the year	Total samples received	Samples examined during the year	Closing balance	Pending samples (in %)
2011	30989	103679	134668	79557	55111	41
2012	55111	112502	167613	92464	75149	45
2013	75149	136109	211258	174207	37051	18
2014	37051	146194	183245	164046	19199	10
2015	19199	146695	165894	133517	32377*	20
2016	32382*	157791	190173	156002	34171	18

Source: Information furnished by DFSL, Mumbai

\*The difference in closing balance (2015) and opening balance (2016) was not reconciled by DFSL

Though the pendency in analysis of samples declined from 41 per cent in 2011 to 18 per cent in 2016, it was still significant considering the fact that forensic reports form crucial evidence for scientific investigations and court decisions. The main reason for pendency in analysis of samples was shortage of technical staff (29 per cent)<sup>27</sup> in the forensic science laboratories.

During exit conference, DFSL, Mumbai accepted the facts.

<sup>26</sup> Image documentation system, scanning electron microscope, microscope spectrophotometer 800, DNA sequencer, ocean system etc.

<sup>27</sup> Sanctioned strength: 492; Men-in-position: 349 (position as on June 2016)

### **Unfruitful Expenditure on Purchase of Forensic Equipment**

Under the Scheme, GoM accorded (December 2010) administrative approval for purchase of one evidence investigator system (equipment) for detection of drugs in human body by analysing samples of blood, urine, oral fluid, hair *etc.* As the equipment was proprietary item of a company based in the United Kingdom, permission was granted by GoM to import the same through its authorised dealer in Mumbai. The DFSL, Mumbai placed a purchase order (March 2011) for procurement of this equipment at a total cost of ₹ 98.91 lakh. The equipment was installed in August 2011.

Scrutiny of records in DFSL, Mumbai revealed that between August 2011 and February 2014 (30 months), 33 samples were analysed using the equipment but, all the test results were found to be erroneous. The use of equipment was discontinued from March 2014. Though the equipment was modified by the authorised dealer free of cost, blood and urine analysis conducted (July 2016) on the equipment by the representatives of the authorised dealer on experimental basis showed erratic results and the equipment was eventually not found suitable for narcotic drugs and psychotropic substances analysis.

Thus, forensic equipment procured at a cost of ₹ 98.91 lakh remained dysfunctional since its installation in August 2011.

**Recommendation 6: The State Government may fill up the technical posts in the forensic science laboratories in a phased manner in order to reduce the pendency of samples and minimise the consequential delays in investigation process.**

#### **2.1.9 Monitoring**

##### **2.1.9.1 Shortfall in Meetings of SLEC**

As per GoI letter dated 25 April 2001 and Scheme guidelines, the SLEC, headed by Chief Secretary of the State, should meet once every month to monitor the preparation of AAP and their implementation. Audit however, observed that the SLEC held only six meetings during 2011-16 against the stipulated 60 meetings. Significant shortfall of 90 *per cent* in holding the prescribed number of meetings resulted in poor monitoring by SLEC to ensure timely preparation and submission of AAP to GoI, as well as addressing the critical issues relating to mobility, weaponry, construction/upgradation of residential and non-residential buildings *etc.* as pointed out in the preceding paragraphs.

##### **2.1.9.2 Poor Asset Management**

As per Scheme guidelines issued (November 2010) by GoI, all items of fixed assets should be serially numbered in accordance with the group/nomenclature of the item and entered in the registers of fixed assets indicating (a) name and description of item, (b) date of receipt, (c) supplier's name, (d) cost of item, (e) guarantee period, if any, and its details, (f) asset identification number, (g) location of the item, and (h) remarks with regard to disposal/write-off *etc.* The Scheme guidelines further provides for annual verification of assets to be carried out by a team of designated officers of the Police Directorate.

Audit observed that DGP, Mumbai neither maintained any register of fixed assets nor conducted annual verification of assets created out of Scheme funds during 2011-16.

During exit conference, the Additional DGP stated that software was being developed for creation of a centralised database of assets.

### 2.1.9.3 Inadequate Follow-up on Audit Reports of MHA

As per Scheme guidelines issued (November 2010) by GoI, the MHA was to conduct concurrent audit of the Scheme on quarterly basis. The State Governments were required to furnish action taken reports to MHA within one month of submission of audit reports.

Audit observed that during 2011-16, though MHA conducted concurrent audits of the Scheme up to March 2016 yet the Home Department did not submit any action taken report to MHA. Considering that the observations raised by MHA were vital and pertained to slow pace of implementation of projects under buildings/housing component, improper maintenance of stock registers for items purchased under the Scheme, issues of disputed land sites *etc.*, non-submission of action taken reports clearly indicated poor monitoring by SLEC. It also shows the apathy of the Home Department to address the shortcomings pointed out by MHA in the audit reports.

**Recommendation 7: The State Government may strengthen the system of monitoring so that all the critical issues that has a direct bearing on the implementation of the Scheme are addressed timely.**

### 2.1.10 Impact Assessment

#### 2.1.10.1 Increase in Crime Cases

The State police are charged with the responsibility of detection and prevention of crime in the State. As part of this function, it supervises the investigation of all cases. Audit reviewed the status of crime cases and revealed increasing trend of crimes and slow pace of investigation during calendar years 2011 to 2015, as indicated in **Table 2.1.11**.

**Table 2.1.11: Increase in crime cases in the State during 2011-15**

Calendar year	Opening balance of pending cases	Cases reported during the year	Cases refused <sup>28</sup>	Total No. of cases due for investigation	Total no of cases investigated	Closing balance of pending cases	Pending cases (in %)
2011	158536	335124	554	493106	329856	163250	33
2012	163250	333680	364	496566	331453	165113	33
2013	165113	358509	72	523550	336053	187497	36
2014	187497	384815	255	572057	366515	205542	36
2015	205542	423180	249	628473	387895	240578	38

Source: Reports on 'Crime in Maharashtra' prepared by State Criminal Investigation Department (CID)

<sup>28</sup> Cases refused means after primary investigations, the charges were found to be false

**Table 2.1.11** shows that the number of crime cases reported during 2011-15 had increased by 26 *per cent* from 3,35,124 in 2011 to 4,23,180 in 2015. The number of cases pending investigation also increased from 33 *per cent* to 38 *per cent* during 2011-16. As per reports on ‘Crime in Maharashtra’ prepared by CID, Maharashtra, the percentage of crimes cases registered under four categories namely, rape, kidnapping and abduction, robbery, assault on women had increased by 186 *per cent* during 2015 over 2011. In view of rising crime cases, the need to equip the State police forces with modern weapons, communication systems, better mobility, adequate training to increase their striking capability and operational efficiency as well as improving the efficiency of forensic science laboratories by providing adequate technical manpower cannot be overemphasised.

#### **2.1.10.2 Non-recording of Response Time**

The effectiveness of police is determined by the total time taken to reach the crime site from the time of receiving message about the crime (response time). Crime registers in the prescribed format are being maintained in the police stations which have columns to record the response time.

Audit observed that the Home Department did not prescribe the maximum response time for police to reach the crime sites. Further scrutiny of crime registers for the month of December 2011 and December 2015 in 140 selected police stations revealed that while 10 police stations in Mumbai (out of 140) did not have specific columns for recording the response time, the remaining 130 police stations did not record the response time in the crime registers. This shows deficiency in maintaining crime registers, an effective tool to assess police efficiency as well as impact of the Scheme as a whole.

During exit conference, the Additional DGP stated that the response time was being recorded in modern control rooms in Mumbai city, Thane, New Mumbai *etc.* However, the Additional DGP did not explain how the response time was being recorded in respect of those crimes which were not routed through the police control rooms.

#### **2.1.11 Conclusion**

The implementation of the Central Scheme for ‘Modernisation of Police Force in Maharashtra’ was far from satisfactory as during the last five years (2011-16), the GoM could spend only 38 *per cent* of the total funds released under the Scheme. The low spending during the last five years was mainly due to delays in preparation and submission of Annual Action Plans to GoI, causing consequent delays in approval of plans and release of funds. The problem was compounded by further delay in granting of composite administrative approvals by the GoM to various items included in the approved annual plans, leaving very little or no time for the implementing agencies to utilise the funds during the financial year thereby necessitating revalidation of the unutilised funds for use in the succeeding financial years. Even the revalidation orders were issued by the GoM much after the commencement of the financial year thus, severely impairing the ability of implementing agencies to utilise the funds within the revalidated financial year.

Audit scrutiny of the Scheme components aimed at modernising the police forces revealed a number of deficiencies. During 2011-16, only eight *per cent* of the planned residential and non-residential buildings, which also included police stations, could be constructed/upgraded. The digital radio trunking system procured at a cost of ₹ 9.56 crore was not commissioned despite delay of 39 months thereby defeating the objective of upgrading the police communication network from the old analog system to the new encrypted digital system. Though there was an acute shortage of medium vehicles and motorcycles in the State yet only 662 vehicles were procured through Scheme funds during 2011-16, leaving a shortfall of 1,564 vehicles (including motorcycles).

There was a shortage of 65,026 modern weapons constituting 45 *per cent* of the total requirement of the State. Supply of 1,834 weapons valuing ₹ 9.60 crore and representing 41 *per cent* of the total ordered quantity was pending from Ordnance Factory Board for a period ranging from six months to 4½ years. Vital police equipment valuing ₹ 28.76 crore such as, bullet-proof jackets, night vision binoculars, bomb disposal suits, portable x-ray machines *etc.* planned for procurement under the Annual Action Plans of 2011-16 (excluding 2014-15) had not been procured as of September 2016.

The functioning of forensic science laboratories was affected by shortage of technical staff, leading to 34,171 samples (18 *per cent*) pending investigation as on 01 January 2017. Monitoring of the Scheme was lax; management of assets created under the Scheme was poor; follow-up on the audit reports submitted by the Ministry of Home Affairs, GoI was inadequate; and majority of the police stations were not recording the response time to assess the operational efficiency of the police.

## General Administration Department (Information Technology)

### 2.2 Information Technology Audit of e-Tendering System in Government Departments

#### Executive Summary

The Government of Maharashtra adopted the e-Tendering system in August 2010 with a view to enhancing transparency in Government procurement of goods, services and works, reduce cycle time and cost of procurement. Two e-Tendering application systems were in use in the State namely, (i) Sify-NexTenders system developed by a private agency, and (ii) National Informatics Centre (NIC) system.

An IT Audit of both the systems conducted for the period 2010-16 revealed that implementation of dual systems breached the Central Vigilance Commission guidelines for use of a common unified platform for achieving economies of scale and reducing threat to security of data. While the NIC system was free of charge to users, the Sify-NexTenders system involved user charges. There were serious system deficiencies in Sify-NexTenders system which undermined the effectiveness of the e-Tendering process. The State Government also did not ensure development and implementation of all the essential features in both the systems to ensure transparency in e-Procurement process.

There were no validation checks to ensure minimum time to be allowed to the bidders for bid submission, leading to participation of a few bidders in the e-Tendering process. Comprehensive audit of Sify-NexTenders system was not done by Standardisation Testing and Quality Certification Directorate, GoI and the State Government also failed in its role to ensure this. The monitoring of the systems was poor due to insufficiency of MIS reports. Inadequate IT security, non-documentation of IT security policy, business continuity and disaster recovery plans, and deficiencies in audit trail made the systems further vulnerable to errors and manipulations.

#### 2.2.1 Introduction

Electronic tendering (e-Tendering) is the use of Information and Communication Technology (web based) by Government in conducting their tendering processes with suppliers for the acquisition of goods, works and services. Government of Maharashtra adopted e-Tendering for tendering process in August 2010 with the following objectives:

- to provide single window system for all Government services;
- to establish a one stop-shop providing all services related to Government procurement;
- to bring about procurement reform across the Government Departments through process standardization;
- to reduce cycle time and cost of procurement; and
- to enhance transparency in Government procurement.

As per the Government Resolution (GR) of General Administration Department issued in August 2010, all the State Government Departments were mandated to use e-Tendering system from 01 October 2010 for all tenders having an estimated value of ₹ two crore and above for procurement of goods, services and works. The estimated value of tender to be procured through e-Tendering system was reduced to ₹ 50 lakh and above from 01 December 2010, ₹ 10 lakh and above from 01 October 2012 and ₹ three lakh and above from 26 November 2014.

Two e-Tendering application systems are in use in the State namely, (i) Sify-NexTenders system of Sify Technologies Limited: The application had web based architecture and its database was maintained in MS SQL Server<sup>1</sup>. The application was hosted at State Data Centre in Mumbai and was available on <https://maharashtra.etenders.in>.

(ii) National Informatics Centre (NIC) system: The application had web based architecture and its database was maintained in PostgreSQL Server<sup>2</sup>. The application was hosted at NIC Data Centre in New Delhi and was available on <https://mahatenders.gov.in>.

The NIC system was being used mainly by Water Resources Department, Public Health Department, Agriculture Department, Industries Energy and Labour Department, School Education and Sports Department. Whereas, Sify-NexTenders system was being used by Public Works Department, Medical Education and Drugs Department, Tribal Development Department, Home Department, Women and Child Development Department.

### 2.2.2 Organisational Setup

The Principal Secretary, (Information Technology) in General Administration Department (GAD), Government of Maharashtra (GoM) and the Directorate of Information Technology, GoM (DIT) in coordination with Sify Technologies Limited and NIC is implementing the e-Tendering system in the State of Maharashtra. All Government Departments/undertakings/ autonomous organisations in Maharashtra were the users of the e-Tendering system.

### 2.2.3 Audit Objectives

The audit objectives were to assess whether:

- the e-Tendering system was effective;
- the input, processing and output controls of the e-Tendering system were adequate to ensure integrity of the system and that it complied with the rules and procedures;
- reliable controls were in place to ensure data security and that necessary tamper-proof audit trails have been incorporated in the system; and
- the system met the requirements of internal audit.

<sup>1</sup> It is a relational database management system developed by Microsoft

<sup>2</sup> It is an open source object-relational database management system

#### **2.2.4 Audit Criteria**

The planning and implementation of the e-Tendering system, data management and monitoring were examined with the provisions contained in the following documents:

- Maharashtra State e-Governance Policy 2011;
- Manual of Office Procedure for Purchase of Stores by the Government Departments issued by Industries, Energy and Labour Department in October 2015;
- GRs and circulars issued by GAD and DIT and Request for Proposal (RfP) issued in December 2009 by DIT to select system integrator for the e-Tendering project;
- Guidelines for operational model for implementation of Mission Mode Projects by the line Ministries/State Departments under the National e-Governance Plan issued by Ministry of Communications and Information Technology, GoI in May 2006;
- Guidelines for compliance to quality requirements of e-Procurement Systems issued in August 2011 by Standardisation Testing and Quality Certification Directorate, Ministry of Communications and Information Technology, GoI; and
- Guidelines of Chief Vigilance Commissioner on e-Tendering solutions issued in September 2009.

#### **2.2.5 Audit Scope and Methodology**

Audit test-checked the records in the offices of Principal Secretary (IT), GAD, DIT and 17 units under 13 Government Departments (**Appendix 2.2.1**) implementing the e-Tendering system. The selection of Departments and the units within the Departments was done based on maximum number of tenders released during 2010-16. Data in the e-Tendering system for the period 2010-16 was analysed with the help of Computer Aided Audit Techniques in addition to manual records related to e-Procurement maintained in these units. The audit objectives, audit criteria and scope of audit were discussed with the Principal Secretary (IT), GAD in an entry conference held on 15 June 2016. The Information Technology Department, GoM (Department) was requested to have an exit conference to discuss the audit findings however, no response was received from the Department. The draft IT report was issued to the State Government in October 2016; their reply was awaited as of January 2017.

#### **2.2.6 Audit Findings**

##### **2.2.6.1 Implementation of Dual System of e-Tendering System**

The Department entered (March 2010) into an agreement with Sify Technologies Limited for development and implementation of an application software for e-Tendering, procurement of server side hardware infrastructure and its maintenance *etc.* on Public Private Partnership basis under built, own, operate and transfer model. The e-Tendering application (Sify-NexTenders) was to be



transferred to DIT free of cost at the end of five years from the Go-Live of the application or on termination of contract whichever was earlier. The e-Tendering application went live from August 2010. A service fee of ₹ 882 plus service tax was payable by the bidders per bid to Sify Technologies Limited. Scrutiny of records of DIT revealed the following:

- The Department entered (March 2010) into an agreement with Sify Technologies Limited for development and implementation of application software for a period of five years up to August 2015<sup>3</sup>, despite being aware of the fact that GoI under the National e-Governance plan (NeGP) had declared (May 2006) e-Procurement as a Mission Mode project to create a national initiative for implementing procurement reforms. Though the Department adopted e-Tendering application developed by NIC<sup>4</sup> in July 2012 under the NeGP but, in the absence of an exit clause, the Department could not foreclose the contract with Sify Technologies Limited and switch over to the single system of NIC from July 2012.
- Implementation of two systems simultaneously also breached the Central Vigilance Commission guidelines of September 2009 stipulating the use of common unified platform by all Departments across a State for achieving economies of scale and reducing threat to security of data.
- While the bidders had to pay a service fee ₹ 882 per bid plus service tax for using Sify-NexTenders system, the NIC system could be used free of cost by the bidders. Further, application of uniform service fee of ₹ 882 across all tenders irrespective of their money value was another drawback in the Sify-NexTenders system.
- As mentioned in **paragraph 2.2.1**, the State Government progressively brought down the value of tenders which increased the volumes and the revenue of Sify Technologies Limited. However, the benefit of volumes was not passed on to the bidders in the form of reduction in the service fee being recovered by Sify Technologies Limited.

**Recommendation 1: Considering the benefits of the use of common unified platform, the State Government may consider implementation of NIC system, which is tried and tested and also free of cost, in all the Departments across the State.**

#### 2.2.6.2 Undue Benefit to Sify Technologies Limited

Though the agreement with Sify Technologies Limited expired in August 2015 yet 216 units under Public Works Department, Medical Education and Drugs Department, Tribal Development Department *etc.* continued to use Sify-NexTenders system while 2,307 units under Rural Development Department, Agriculture Department, Housing Department *etc.* continued to use NIC system in the State as of March 2016.

In March 2016, DIT extended the post Go-Live support of Sify-NexTenders system till August 2016 and also reduced the service fee payable by the bidders from

<sup>3</sup> Five years from Go-Live which was achieved in August 2010

<sup>4</sup> No fee was payable by the users for using the application software developed by NIC

₹ 882 per bid to ₹ 300 per bid from 01 April 2016, on the ground that the e-Tendering system was functional for five years. However, DIT failed to enforce its order of March 2016 as Sify Technologies Limited continued to charge a service fee of ₹ 882 per bid plus taxes, resulting in undue benefit to the service provider.

### **2.2.6.3 Non-execution of Service Level Agreements with Sify Technologies Limited**

As per Section 6.2 of RfP issued by DIT in December 2009, the successful bidder was required to comply with seven<sup>5</sup> Service Level Agreement (SLA) for ensuring adherence to project timelines, quality and availability of services. However, the Department did not execute any SLA with Sify Technologies Limited till March 2016. In the absence of SLA, the methodology and periodicity to ensure correctness of the software application free from errors/bugs, methodology of logging complaints/query of the implementing units and their resolution *etc.* could not be defined and addressed. It also pointed to deficient monitoring of various services by DIT.

### **2.2.7 Inadequate Documentation**

Documentation of an IT system such as (i) System Requirement Specifications (SRS) addressing functional and non-functional requirements including standards and policies, (ii) System Design Documentation (SDD) including software architecture design, logical, physical database design and data dictionary, programming logic, and workflows, and (iii) user manuals relating to systems administration, installation, operation and maintenance *etc.* are necessary for a quality system and future maintenance.

Audit observed that though the agreement with Sify Technologies Limited required the technical documentation and the software source code with detailed documentation to be delivered by the service provider, the same was not delivered to DIT. Similarly, for the NIC system, except for the data dictionary, vital documents such as, SRS, SDD and manuals relating to system administration, installation, operation and maintenance were not available with DIT.

Due to absence of proper technical documentation for various stages of the system development, the extent to which the user requirements were incorporated in the system could not be ascertained. Absence of technical documentation for an important e-Governance project such as this, which has maximum public use, would not only increase the dependence on outside agency such as Sify Technologies Limited but also pose a major risk for future maintenance of the system and its up-gradation.

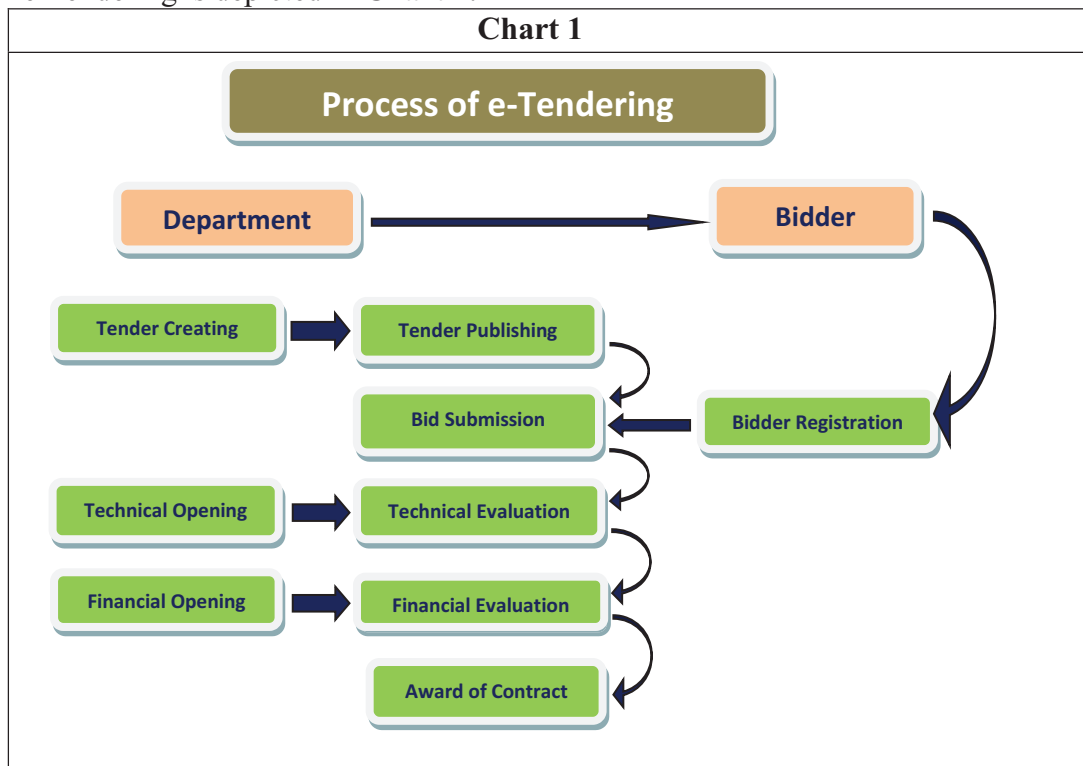
### **2.2.8 System Deficiencies**

Functions in the e-Tendering system include online registration of bidders, tender creation and publishing, payment of tender fees and earnest money deposit (EMD), encryption of bids, bid submission, tender opening, automatic evaluation of

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<sup>5</sup> (i) Timely delivery, (ii) Correctness of delivery, (iii) Resolution time, (iv) Installation of hardware equipment, (v) Application response time, (vi) Application availability and (vii) Security and incident management

financial bids and award of contracts. A flow chart showing the process of e-Tendering is depicted in **Chart 1**.



The system deficiencies noticed in Sify-NexTenders and NIC systems are discussed below.

#### 2.2.8.1 Multiple Registration of Vendors

Both the e-Procurement systems provided for one-time centralised online registration of vendors before their participation in tender process. The systems captured details of vendor such as, address, nature of business, financial information, PAN *etc.* During registration, each vendor was given a unique user identity number (Id).

Audit observed that Sify-NexTenders system lacked adequate validation checks resulting in allotment of more than one user Id to a single vendor. Though, in the NIC system user Ids were validated based on e-Mail Ids, the vendors created multiple user Ids using different e-mail Ids. Both the systems did not check the registration with unique identity of the vendor like PAN to prevent multiple registrations by a single vendor. Few cases of multiple registration of a single vendor noticed in test-checked units are discussed below.

- In Directorate of Vocational Education and Training, Mumbai, 10 individual vendors were allotted more than one user Id.
- In Directorate of Government Printing and Stationery, Mumbai, seven individual vendors were allotted more than one user Id.

Thus, the information on vendors available in Sify-NexTenders system was not fully reliable as the system did not have adequate validation. In the NIC system, validation was based on e-mail Id which was not foolproof.

### **2.2.8.2 Inadequate Controls to Ensure Sufficient Time for Bid Submission**

As per Manual of Office Procedure for Purchase of Stores by the Government Departments issued (October 2015) by Industries, Energy and Labour Department, a minimum period of one week should be allowed for submission of bids from the date of issue of tender notice in respect of procurement of goods.

However, due to non-stipulation of the minimum period for bid submission in both the Systems, the time given for submission of bids was insufficient, as discussed below.

- In the office of the Executive Engineer, Electrical Division (South), Mumbai using Sify-NexTenders system, 17 works<sup>6</sup> for which tender notices were issued during 2015-16, the bid submission duration was only 15 to 34 minutes (against the minimum period of one week) and the start time for submission of bid was after 10 pm. Though three to eight bidders had purchased the tenders, only one to three bidders finally submitted the bids within the stipulated time.

The Executive Engineer, PWD (E) stated (July 2016) that sufficient time was given for all stages of tendering and that there were no irregularities. The reply is not tenable as only 15 to 34 minutes was given for bid submission stage as revealed from the data captured in the system and the time given was insufficient with reference to Manual provisions.

- In Directorate of Vocational Education and Training, the bid submission duration was three hours in 34 tenders<sup>7</sup> issued during 2013-14 (Sify-NexTenders system).
- In District Superintendent Agriculture Officer, Ahmednagar, the bid submission duration was one day in seven tenders<sup>8</sup> of which, in six tenders only one bidder submitted the bid while in one tender only two bidders participated (NIC system).

The District Superintendent Agriculture Officer, Ahmednagar stated (July 2016) that due to some problem in the digital signature token system sufficient time could not be given to the bidders for submission of bids.

- In Directorate of Health Services, Mumbai, the bid submission duration was three hours in one tender<sup>9</sup> issued in September 2013 for purchase of iron and folic acid tablets (Sify-NexTenders system).

Inadequate time and odd hours specified for bid submission indicated absence of fair play and transparency in the e-Procurement process thus, defeating the objective of competitive bidding.

**Recommendation 2: The State Government may ensure proper validation checks in both the systems so that sufficient time is available to the bidders for critical stages and the tendering process is not vitiated.**

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<sup>6</sup> Total value of tenders: ₹ 2.84 crore

<sup>7</sup> Total value of tenders: ₹ 14.48 crore

<sup>8</sup> Total value of tenders: ₹ 0.71 crore

<sup>9</sup> Total value of tenders: ₹ 7.24 crore

### 2.2.8.3 Technical Evaluation of Bidders not Uploaded in Sify-NexTenders System

Uploading of comparative statements of technical evaluations enhances transparency in the procurement process and enable all the stakeholders *i.e.* bidders, citizens, auditors *etc.* to access the information easily. Audit observed that Sify-NexTenders system did not have the facility for uploading the comparative statements of technical evaluations done manually by user Departments, though it was available in NIC system.

### 2.2.8.4 Absence of Facility for Displaying Data on Award of Contracts

As per RfP issued by DIT in December 2009, the e-Tendering system should have had a facility for issue of tender acceptance notice/letter of intent online to the successful bidder. Facility should also have been available for successful suppliers/contractors to respond to the tender acceptance notice/letter of intent using the digital signature.

Audit observed that these facilities were not available in Sify-NexTenders system nor was it ensured by DIT. Therefore, the details of vendors to whom contracts were awarded were not available in the system. In 14 of 17 test-checked units implementing Sify-NexTenders, the status of 6,743 of 7,020 tenders (96 *per cent*) released during 2010-16 was not available in the system. The remaining 277 tenders were cancelled.

In NIC system, though the facility for uploading the details of award of contract was available, the status of tenders released during 2013-16 was not updated in respect of 404 of 758 tenders (53 *per cent*) in five test-checked units<sup>10</sup>. The system did not have facility for raising alerts to enable the head of the unit to monitor the contracts where status of the tenders was not updated.

Scrutiny of records further revealed that in 24 tenders valuing ₹ 34.63 crore released during 2011-15 by four units<sup>11</sup>, the works were awarded to bidders other than the lowest (L<sub>1</sub>) while in two units<sup>12</sup> during 2013-16, though three tenders were released, the works were finally awarded to contractors who did not participate in the e-Tendering process.

Complete details of successful bidders in the systems would have facilitated comparison of system-generated first lowest bidder (L<sub>1</sub>) with the bidder to whom the work was actually awarded and reporting through periodical management information system (MIS) to the competent authorities.

<sup>10</sup> (i) District Superintendent of Agriculture Officer, Ahmednagar, (ii) Directorate of Health Services, Mumbai, (iii) Joint Director of Industries, Pune, (iv) Directorate of Sports and Youth Services, Pune, and (v) Collector, Yavatmal

<sup>11</sup> (i) Commissioner, Women and Child Development Department, Pune: ₹ 24.90 crore (one tender); (ii) Directorate of Vocational Education and Training, Mumbai: ₹ 7.35 crore (two tenders); (iii) District Superintendent Agriculture Officer, Ahmednagar: ₹ 2.14 crore (20 tenders); and (iv) Joint Director of Industries, Pune : ₹ 24 lakh (one tender)

<sup>12</sup> Directorate of Medical Education and Research, Mumbai: ₹ 2.02 crore (one tender) and Directorate of Government Printing and Stationery, Mumbai: ₹ 16.40 lakh (one tender)

**Recommendation 3: The State Government may ensure development and implementation of all the essential features in both the systems to ensure transparency in e-Procurement process.**

#### **2.2.8.5 Purchases made Outside e-Tendering not Mapped to the Systems**

Paragraph 4.1 of the Manual of Office Procedure for Purchase of Stores by the Government Departments issued (October 2015) by Industries, Energy and Labour Department stipulated that information regarding all public goods procured by the Government Departments outside e-Tendering should be available in the e-Tendering portal.

Audit observed that DIT did not map the procedure prescribed in the Manual to the systems. Consequently, details of all purchases made by the user Departments outside e-Tendering were not available in e-Tendering portal of DIT. Test-check of tender files in two of 17 units revealed that four purchase/work orders amounting to ₹ 3.53 crore<sup>13</sup> were placed between November 2015 and March 2016 without resorting to e-Tendering but, these were not recorded in the e-Tendering portal. Further, even though the State Government had formulated a policy for procurement of public goods made outside e-Tendering, it was yet to come out with a policy on recording information on tenders finalised for procurement of public works and services made outside e-Tendering.

#### **2.2.8.6 Absence of Facility for Blacklisting of Suppliers in Sify-NexTenders System**

The RfP issued by DIT in December 2009 stipulated that the system intended to be procured should allow the user Departments to cancel the registration of any particular contractor or to blacklist any contractor or supplier so as to ensure that such supplier/contractor does not conduct further business with GoM. The same was also emphasised in the Manual of Office Procedure for Purchase of Stores by the Government Departments issued (October 2015) by Industries, Energy and Labour Department.

Audit observed that neither the facility for blacklisting of contractors/suppliers was available in the Sify-NexTenders system nor did DIT direct Sify Technologies Limited to provide the same. Absence of such facility may lead to the risk of participation of blacklisted/banned contractors in the tendering process.

#### **2.2.8.7 Inadequate Management Information System**

The e-Tendering system was expected to provide various MIS reports to serve as a tool for eliciting crucial information for decision-making and monitoring. Audit observed that in the absence of SRS in both the systems, the requirement of MIS was not documented by the service providers (Sify Technologies Limited and NIC).

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<sup>13</sup> District Superintendent Agriculture Officer, Ahmednagar ₹ 3.24 crore, and Project Officer, (Integrated Tribal Development Project), Dahanu: ₹ 0.29 crore

Though both the systems contained modules for generation of MIS regarding tenders published, tenders opened, tenders cancelled *etc.*, the following vital MIS reports were not available in the systems:

- MIS on the tenders invited but not finalised for significantly long period (Sify-NexTenders system).
- MIS on tender fees and EMD collected through online system to facilitate its reconciliation with the amount remitted to Government account (Sify-NexTenders system).
- MIS on works awarded other than L<sub>1</sub> (Sify-NexTenders and NIC systems).
- MIS on EMD not refunded to unsuccessful bidders (Sify-NexTenders and NIC systems).
- MIS reports for audit trail to track the users responsible for transactions and the history of transactions were not available (NIC system).

In the absence of these vital MIS, effective functioning of the e-Tendering system could not be ensured.

**Recommendation 4: The State Government may ensure that all the business rules related to procurement is incorporated in both the systems and also identify MIS reports for various user groups for effective decision-making and monitoring of procurement.**

## **2.2.9 Deficiencies in Implementation of Systems**

### **2.2.9.1 Uploading of Financial Bids in Portable Document Format**

The facility to upload financial bids in template format or portable document format (PDF) was available in Sify-NexTenders and NIC systems. The financial bids submitted only in template format could be evaluated automatically by the systems and comparative statements generated.

Audit observed that financial bids were allowed to be uploaded in PDF (instead of template format) by the user Departments in 223 tenders issued during 2013-16 in two<sup>14</sup> of 17 units. As a result, the systems could not evaluate and generate the comparative statements automatically. The comparative statements therefore, had to be prepared manually thus, defeating the objective of automatic evaluation of financial bids.

The Executive Engineer, Mechanical Stores Division, Dapodi, Pune accepted (June 2016) the fact and stated that training for template preparation was not received by the Departmental staff from service providers.

### **2.2.9.2 Stipulation of Physical Submission of Bid Documents**

Under the e-Tendering system, tenders with all supporting documents were required to be uploaded online by the bidders. Such a system ensured secrecy of tenders till the bids were opened.

<sup>14</sup> Mechanical Stores Division, Dapodi, Pune and Project Officer, Integrated Tribal Development Project, Dahanu

Audit observed that in 80 tenders released during 2013-16 by Joint Director of Industries, Pune, tenders along with supporting documents were allowed to be submitted both in electronic and physical forms thus, failing to protect the secrecy of the tenders before opening of bids. The Joint Director of Industries, Pune stated (June 2016) that proper care would be taken in future.

## **2.2.10 Post-implementation Inadequacies**

### **2.2.10.1 Comprehensive Audit of Sify-NexTenders System not Conducted**

According to guidelines for operational model for implementation of Mission Mode Projects by the line Ministries/State Departments under the NeGP issued (May 2006) and guidelines for compliance to quality requirements of e-Procurement systems issued (August 2011) by Ministry of Communications and Information Technology, GoI, the e-Tendering applications should be comprehensively tested/audited and approved by Standardisation Testing and Quality Certification Directorate, GoI (STQC) or any other Government organisations providing quality certifications. The comprehensive audit *inter alia* entailed coverage of (i) testing of application software to validate that the application met the functional requirements, and (ii) application security testing to unearth various applications security vulnerabilities, weaknesses and concerns related to the system.

Audit observed that the NIC system was audited and certified (February 2015) by STQC which was valid up to 17 February 2016<sup>15</sup>. However, the Sify-NexTenders system was audited (October 2013) by STQC only for application security and not for functional requirements. Consequently the Sify-NexTenders system remained incomplete as discussed in **paragraph 2.2.8.4**.

### **2.2.10.2 Capacity Building and Training**

As per paragraph 13 of Maharashtra State e-Governance Policy 2011, the State Government would endeavour to build capacities within the system for e-Governance, program and change management by training the manpower and deploying appropriate infrastructure and machinery. The implementation guidelines issued (July 2011) by Ministry of Communications and Information Technology, GoI for e-Procurement rollout in States under NeGP further stipulated initial and continuous training and handholding support to identified Departmental staff at a defined minimum level through Facility Management Personnel (FMP). Accordingly, 30 personnel were hired by DIT in July 2012 through a private agency for various posts such as, Project Manager, Operations Manager and Operations Assistant to assist, train and support the Departmental staff using NIC system. This arrangement was however, discontinued after January 2016.

Three test-checked units<sup>16</sup> using NIC system confirmed to audit between April and June 2016 that sufficient training had not been provided by FMP. Further, the

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<sup>15</sup> Re-certification is required only if major changes in the e-procurement application software are effected

<sup>16</sup> Directorate of Sports and Youth Services, Pune; Joint Director of Industries, Pune and Collector Office, Yavatmal



District Superintendent Agriculture Officer, Ahmednagar hired a consultant for operating the NIC system during 2014-15 and incurred an expenditure of ₹ 9.45 lakh, due to non-availability of trained manpower. These clearly indicated that DIT and user Departments did not make adequate efforts for capacity building in order to ensure seamless implementation of e-Tendering system.

**Recommendation 5: The State Government may take necessary steps to build capacities within the Departments to facilitate smooth implementation of e-Tendering system in the State.**

## **2.2.11 Information System Security**

### **2.2.11.1 Absence of Information Technology Security Policy**

An effective IT security policy is important for protection of information assets created and maintained by IT and IT enabled activities. By enunciating an IT security policy, the organisation demonstrates its ability to reasonably protect all business critical information and related information processing assets from loss, damage or abuse and also creates enhanced trust and confidence between organisations, trading partners and external agencies as well as within the organisation. Audit however, observed that the Department did not frame IT security policy nor did it issue any security guidelines and access control policies for e-Tendering system.

### **2.2.11.2 Non-conduct of Third Party Security Audit**

As per Central Vigilance Commission guidelines of September 2009, the IT application should be audited for complete security of the system and transaction data by a competent authority at least once in a year.

Audit observed that the security audit of Sify-NexTenders system was conducted only up to October 2013 as per 'OWASP<sup>17</sup>-Top 10 web application vulnerabilities for 2010' while for NIC System, the application security certificate indicated that the security audit was conducted only up to February 2014 as per 'OWASP-Top 10 web application vulnerabilities for 2007'. Now that 'OWASP-Top 10 web application vulnerabilities for 2013' had been released and in use, the additional vulnerabilities such as, sensitive data exposure, missing function level access control, using known vulnerable component not initially covered in 'OWASP-Top 10 web application vulnerabilities for 2007 and 2010' remained undetected for corrective action.

### **2.2.11.3 Inadequate Logical Access Controls**

In the computerised system, access to data need to be restricted to authorised individual users only. Audit observed that logical access controls available in both the applications were inadequate due to following reasons:

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17 OWASP or Open Web Application Security Project aims to educate developers, designers, architects, managers and organisations on the consequences of the most important web application security weaknesses. As per guidelines issued in August 2011 by STQC Directorate, Ministry of Communications and Information Technology, GoI, OWASP guidelines were to be used for security testing

- In PWD Electrical Division (South), Mumbai using Sify-NexTenders system, 64 tenders valuing ₹ 26.64 crore which were beyond the financial bid opening powers of the Executive Engineer were opened (2015-16) using the user ID of Executive Engineer. This indicated that access controls for various levels of users of the system were not mapped as per the business rule.
- In PWD Electrical Division (South), Mumbai, an unknown user Id ‘*myshankpale\_am*’ was created in the system and details incorporated in 25 tenders<sup>18</sup> were tampered with by using this unknown user Id due to which, these tenders had to be cancelled subsequently and fresh tenders had to be invited<sup>19</sup>. The serious security breach was not communicated to DIT by the user Department and Sify Technologies Limited for further investigation and remedial action. The PWD Electrical Division (South), Mumbai confirmed (July 2016) that user Id ‘*myshankpale\_am*’ was not an authorised user.
- While accessing the application, a notification that ‘the user is using Government Information System and its usage may be monitored’ was not displayed on the website in both the systems. The date and time of the last login and the number of unsuccessful attempts since the last login was not notified in both the systems as required under eSAFE-GD220 guidelines issued (January 2010) by Ministry of Communications and Information Technology, GoI for assessment of effectiveness of security controls.
- ‘CAPTCHA’, a computer programme to determine whether or not the user is human, was not in use in both the systems as required under eSAFE-GD220 guidelines.
- As per the eSAFE-GD210 guidelines issued (January 2010) by Ministry of Communications and Information Technology, GoI for implementation of security controls, a computerised system should enforce change in password after a specified period (typically 30 days). This was not enforced in both the systems. In Directorate of Medical Education and Research (DMER), Mumbai, digital signatures of two officials, already transferred from the office in January 2016, continued to be used (July 2016) for opening of financial bids.
- In DMER, Mumbai using Sify-NexTenders system, user Ids were created for generic users such as ‘*DIR\_DMER\_OP*’ and ‘*DIR\_DMER\_AU*’ due to which, the name of officials actually using the system could not be ascertained.

Thus, the logical access controls were weak in both the systems and DIT as well as the user Departments did not sensitise the information security risks to the users of the system.

#### **2.2.11.4 Digital Signature not Validated**

Under the Information Technology Act, 2000, holder of a digital signature, whose digital signature certificate (DSC) has been issued by a licensed

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<sup>18</sup> Tender Notice No. 9 of 2015-16

<sup>19</sup> Tender Notice No. 12 of 2015-16

certifying authority (CA), was responsible for protecting the corresponding private key. Unless the validity of DSC had expired or the certificate had been revoked by the issuing CA, the digital signature would be legally valid and would be attributed to the person listed in the DSC.

Audit observed that in Sify-NexTenders System, there was no provision for online verification of validity of DSC while in the NIC system, this provision was available.

#### **2.2.11.5 Lack of Business Continuity and Disaster Recovery Plan**

An organisation should have a business continuity and disaster recovery plan with associated controls in order to ensure that it accomplishes its mission and not lose the capability to process, retrieve and protect information in case of eventualities due to interruption or disaster leading to temporary or permanent loss of computer facilities and data.

Audit observed that though e-Tendering was a critical system and used throughout the State, business continuity and disaster recovery plans were not documented. Further, Sify-NexTenders system did not have disaster recovery setup and backup was taken on external storage devices, which were stored in same location as data servers. As for NIC system, the application was hosted at New Delhi and had a disaster recovery centre at Pune.

#### **2.2.11.6 Change Management of Application not Documented**

The changes to information system including its components, upgrades and modifications to the information system should be authorised, documented and controlled through the defined change management process.

Audit observed that a documented procedure for change management was not available in Sify-NexTenders system. Also, the version of the application in use was not displayed in Sify-NexTenders system for ensuring version control, as displayed on the NIC system.

**Recommendation 6: The State Government may ensure documentation and implementation of IT security policy, business continuity and disaster recovery plan to protect the applications and information assets against improper or unauthorised access which could compromise confidentiality, integrity and availability of data and IT resources.**

#### **2.2.12 Inadequate Audit Trail**

Audit trail captures the flow of transactions in a system in order to track the history of transactions, system failures, erroneous transactions, changes/modifications in data *etc.*

Audit observed that in Sify-NexTenders system, published tenders were selectively deleted from the live database and moved to archived database by Sify Technologies Limited for which, no audit trail existed. In the NIC system, data of previous years has been retained in the production system.

### **2.2.13 Absence of Audit Module**

The audited entities are required to ensure that all requirements for the purpose of facilitation of audit are incorporated in the IT system and that audit has the right to access the IT systems, irrespective of the fact that the systems are owned, maintained and operated by the audited entities or by any other agency on behalf of the audited entities. Further, internal audit system both in manual and computerised environment ensures that the controls are in place.

Audit observed that there was no audit module in both the systems to generate customised reports for facilitating conduct of internal audit. Though the Sify-NexTenders system was being implemented since 2010-11, the internal audit wing did not verify the transactions through the system.

### **2.2.14 Conclusion**

An Information Technology audit of e-Tendering system revealed that the State Government was implementing dual systems simultaneously – one through a private agency (Sify-NexTenders) and the other through NIC, in contravention of Central Vigilance Commission guidelines for use of a common unified platform. While the NIC system was free of charge to users, the Sify-NexTenders system involved user charges. There were serious system deficiencies in Sify-NexTenders system which undermined the effectiveness of the e-Tendering process. The State Government also did not ensure development and implementation of all the essential features in both the systems to ensure transparency in e-Procurement process.

There were no validation checks to ensure minimum time to be allowed to the bidders for bid submission, leading to participation of a few bidders in the e-Tendering process. Comprehensive audit of Sify-NexTenders system was not done by Standardisation Testing and Quality Certification Directorate, GoI and the State Government also failed in its role to ensure this. The monitoring of the systems was poor due to insufficiency of MIS reports. Inadequate IT security, non-documentation of IT security policy, business continuity and disaster recovery plans, and deficiencies in audit trail made the systems further vulnerable to errors and manipulations.