CHAPTER-II
PERFORMANCE AUDIT

Department of Health and Family Welfare

2.1 Procurement, Maintenance and Use of Medical Equipment in Government Hospitals

The Department of Health and Family Welfare (DH&FW), GNCTD caters to the health needs of nearly 1.68 crore population of Delhi. A performance audit on 'Procurement, Maintenance and Use of Medical Equipment in Government Hospitals' was conducted from May to September 2015. Main audit findings are given below:

Highlights

- ***A comprehensive plan for procurement of medical equipment had not been prepared either centrally in the department or at the level of individual hospitals.***

  (Paragraph 2.1.3.1)

- ***There was delay ranging upto 2 years in procurement and delivery of medical equipment though this activity was outsourced to an agency with the specific objective of eliminating such delays. An amount of ₹ 60.65 lakh was paid to the agency as consultancy fee.***

  (Paragraph 2.1.3.2)

- ***Hospitals failed to impose penalty of ₹95.84 lakh on defaulting suppliers for delayed supply of essential medical equipment.***

  (Paragraph 2.1.3.4)

- ***Advances of ₹73.62 crore given to suppliers remained unadjusted from the year 2005 till date in hospitals test-checked.***

  (Paragraph 2.1.3.7)

- ***Hospitals procured items and consumables of ₹3.16 crore in excess of their actual requirement, which were lying unused in stock for prolonged periods.***

  (Paragraph 2.1.4.1)

- ***Sixty six equipment valuing ₹18.22 crore received during 2009-10 to 2014-15 were installed after delays ranging from 1 month to over two years.***

  (Paragraph 2.1.4.2)

- ***Twenty one equipment costing ₹83.17 lakh remained unutilized due to non-availability of accessories, regents and consumables for periods ranging between 15 days to over three years.***

  (Paragraph 2.1.4.4)

- ***Hospitals incurred an expenditure of ₹ 94.78 lakh on repair of equipment that were under warranty. The hospitals neither invoked the warranty nor initiated action against the firms.***

  (Paragraph 2.1.5.2)

- ***2,930 items of equipment worth ₹ 24.32 crore, and 883 equipment where cost was not available, were declared condemned during 2010-15 by various departments of the selected hospitals, but had not been disposed off.***

(Paragraph 2.1.5.4)

2.1.1 Introduction

Timely procurement and maintenance of medical equipment is a vital pre-requisite for provision of health care and medical services to the population. Medical devices require timely calibration, maintenance, repair and user training.

2.1.1.1 Organisational structure for procurement activities

DH&FW is headed by the Principal Secretary who controls all government hospitals and medical colleges and coordinates with the Ministry of Health and Family Welfare, GoI.

Upto September 2013, the Equipment Procurement Cell (EPC) of DH&FW used to procure medical equipment valuing more than ₹ 5 lakh on behalf of government hospitals and equipment costing less than ₹ 5 lakh were procured by the hospitals themselves. With the approval of the GNCTD Cabinet, the DH&FW engaged (August 2013) M/s HLL Life Care Ltd. (HLL) as a procurement consultant for procurement of medical equipment, as EPC and hospitals had their limitations for want of specialized staff. Subsequent to the engagement of HLL, the DH&FW circulated the following instructions in October 2013:

(i) Hospitals may undertake procurement themselves by inviting NIT and do the entire bid management for vendor selection. However, they may take the assistance of HLL, which will perform all tasks as per the agreement signed with the HLL.

(ii) For all procurements costing more than ₹ 10 lakh, the hospitals will have to get mandatory clearance of the Technical Advisory Committee (consisting of external experts and subject experts drawn from GNCTD hospitals, GoI hospitals and private hospitals) for need assessment and approval of technical specifications. However, even in such cases, hospitals will have an option either to procure themselves or through HLL.

EPC was renamed as Procurement Coordination Cell (PCC) in October 2013, for providing policy and technical support to the hospitals, compile and club indents, if received from hospitals, convene the meetings of The Technical Advisory Committee (TAC), and co-ordination with HLL.

In January 2014, the DH&FW permitted six hospitals[1] to procure medical equipment directly through HLL and they were not required to send their indent to the PCC. They were also not required to obtain the prior approval of TAC.

2.1.1.2 Audit objectives

Main objectives of performance audit were to assess whether:

- procurement of equipment was need based, both in terms of quantity and quality, and in consonance with procurement policies;
- medical equipment were optimally utilized after procurement;
- maintenance, repairs and replacement of purchased equipment were done in an economical and effective manner; and
- internal control mechanism was in place and effective.

2.1.1.3 Audit scope and methodology

The performance audit, covering the period 2010-15, was conducted from May to September 2015 and commenced with an entry conference with Special Secretary (Project), DH&FW on 4 June 2015. Audit test checked records of 11[2] out of 39 government hospitals, selected on the basis of maximum expenditure incurred under plan head 'Machinery and Equipment' during the last five years. Selected sample was further categorized into three slabs - (i) equipment costing more than ₹ one crore (100 *per cent*), (ii) equipment costing between ₹ 20 lakh and one crore (60 *per cent*), and (iii) equipment costing less than ₹ 20 lakh (40 *per cent*). Records of equipment purchased in previous years for which Letter of Credit accounts (LC) remained unadjusted/outstanding, were also scrutinized. In addition, records of HLL and EPC (now PCC) were also test checked.

A draft report was issued to the Government on 22 January 2016 and an exit conference was also held on 9 February 2016 with Secretary (Health) to seek their views on audit findings. However, Government reply is awaited (February 2016).

2.1.1.4 Audit criteria

The criteria used to benchmark the performance of DH&FW, PCC and hospitals in procurement of medical equipment and their maintenance was derived from the following sources:

[1] Maulana Azad Medical College (MAMC), Lok Nayak Hospital (LNH), G.B. Pant Hospital (GBPH), Guru Nanak Eye Centre (GNEC), Guru Teg Bahadur (GTBH) and Baba Saheb Ambedkar Hospital (BSAH).

[2] Baba Saheb Ambedkar Hospital (BSAH), Deen Dayal Upadhayay Hospital (DDUH), G.B. Pant Hospital (GBPH), Guru Gobind Singh (GGSH), Guru Nanak Eye Centre (GNEC), Guru Teg Bahadur (GTBH), Lal Bahadur Shashtri (LBSH), Lok Nayak Hospital (LNH), Maharishi Valmiki (MVH), Rao Tula Ram Hospital (RTRH) and Sanjay Gandhi Memorial Hospital (SGMH).

- Government policies, directions, orders and guidelines;
- Rules and regulations of the Government; and
- The General Financial Rules and the Receipt and Payment Rules.

2.1.1.5 Earlier audit

A performance audit covering the period 2003-08, on procurement of drugs, surgical items, equipment and their testing was included in the Audit Report of the C&AG (Volume-I) for the year ended March 2008 in respect of GNCTD. However, the Action Taken Note on that performance audit Report was awaited from Secretary (DH&FW) and it had not been discussed in PAC as of March 2015.

Audit findings

2.1.2 Budget allocation and utilisation

The budget allocation and actual expenditure of 11 selected hospitals for the period 2010-15 is shown in **Table 2.1.1**:

Table 2.1.1: Budget allocation and actual expenditure (2010-15)

(₹ in crore)

Year	Total Plan		Machinery & Equipment			
	Allocation	Expenditure	Allocation	Expenditure	Unspent Funds	Unspent Funds (%)
2010-11	408.95	392.25	101.61	93.08	8.53	8.39
2011-12	490.29	465.10	115.84	103.11	12.73	10.99
2012-13	445.67	396.91	58.93	43.58	15.35	26.05
2013-14	478.40	441.73	55.25	45.16	10.09	18.26
2014-15	499.17	403.57	109.65	57.90	51.75	47.20
Total			**441.28**	**342.83**	**98.45**	**22.31%**

As evident from the above table, selected hospitals could not fully utilise the allocated funds under Plan head -'Machinery and Equipment' (M&E) fully during 2010-15. Annual unspent funds under the head ranged between 8 and 47 *per cent*. Rao Tula Ram Hospital reflected highest saving of 39.47 *per cent* against allocation of ₹ 20.70 crore. Other hospitals that had large unspent balances were Baba Saheb Ambedkar Hospital (34.78 *per cent*), Guru Nanak Eye Center (32.41 *per cent*), Govind Ballabh Pant Hospital (32 *per cent*), Maharishi Valmiki Hospital (29.58 *per cent*) and Lok Nayak Hospital (21.14 *per cent*). Audit also observed that among the 11 selected hospitals, Guru Teg Bahadur Hospital received the highest allocation of ₹ 116.70 crore under M&E head in the last five years and reflected savings of 26.28 *per cent*.

Baba Saheb Ambedkar Hospital attributed (September 2015) the reasons for unspent funds/savings to various factors, like delay in tender evaluation process and time lag between submission of bills and supply of items leading to further delay in processing. Similarly, Guru Nanak Eye Center and Maharishi Valmiki Hospital stated (September 2015) that low utilisation of

budget was due to delay in tender finalisation by EPC. Replies are not tenable as funds had been allocated for timely utilisation and unspent balances could have been re-appropriated to other heads of expenditure while preparing revised estimates for utilization by the hospitals.

2.1.2.1 Rush of expenditure

Rule 56(3) of the General Financial Rules stipulates that rush of expenditure in the closing months of the financial year shall be regarded as a breach of financial propriety and should be avoided. As per the circular issued by the Ministry of Finance in September 2007, expenditure in the month of March should be restricted to 15 *per cent* of the budget estimate (BE). Audit, however, observed that the selected hospitals did not follow these instructions and incurred expenditure in excess of 15 *per cent* of BE in the month of March as depicted in **Table 2.1.2:**

Table 2.1.2: Rush of expenditure in the month March

Year	Number of hospitals incurring more than 15% of BE	Number of hospitals where expenditure in March under M&E head was			
		15-30%	31-40%	41-50%	Above 50%
2010-2011	9	4	1	3	1
2011-2012	4	4	-	-	-
2012-2013	6	4	1	-	1
2013-2014	8	3	1	1	3
2014-2015	7	3	-	2	2

All the selected hospitals incurred heavy expenditure under the Plan head- 'Machinery and Equipment' in the month of March (2010-15), which ranged from 16.85 to 89.97 *per cent* of the budget allocation.

GNEC stated that the rush of expenditure in March 2014 (89.97 *per cent* of budget allocation under ME head) was mainly due to 100 *per cent* payment made to HLL for procurement of medical equipment while Maharishi Valmiki Hospital stated (September 2015) that as procurement through e-tender was a new method, heavy expenditure was booked in the last quarter upto 2012-13, after which the expenditure was evenly distributed. Reply is not tenable as expenditure to the extent of 18.18 *per cent* and 17.39 *per cent* was incurred in March 2014 and 2015 respectively.

2.1.3 Procurement of medical equipment

2.1.3.1 Need assessment for acquisition of medical equipment

As per the DGHS Manual (Hospitals), each hospital should prepare a prospective master plan, broken into phases, which should include physical structure, building, machinery and equipment, manpower and consumables needed. Annual plans prepared by the hospital should be based on the master plan. Adhoc planning for spot purchases should be avoided.

Audit noticed that a comprehensive plan for procurement of equipment was not prepared either centrally in the department or at the level of individual hospitals in selected hospitals. Hospitals had no institutionalised system in place for assessing the need to acquire afresh or replace old medical equipment by analysing the demand and usage information from log books of medical equipment, increase in patient load and status of obsolete, condemned and defective equipment.

Instead, each hospital merely projected the requirement of funds annually in an adhoc manner on the basis of the requisitions indented by its departments and procured equipment through EPC and HLL, as discussed later in the Report. Audit also observed that no record of cost involved in its operation (including consumables), maintenance (including repairs), training etc. over the life time of equipment was maintained by the hospitals. Absence of time bound planning resulted in various deficiencies in procurement, maintenance and usage of medical equipment as discussed in the succeeding paragraphs.

2.1.3.2 Procurement of equipment through HLL

In order to spare the medical specialists and experts from the task of procurement exercise, DH&FW engaged HLL in August 2013 for timely procurement of medical equipment. As per the Memorandum of Understanding (MOU), HLL will float e-tenders, open them and forward the techno comparative statement to the indenting hospitals. After receiving their recommendations, HLL will open price bids, prepare comparative statement and forward the same to indenting hospitals, seeking their recommendations again. In this regard, audit scrutiny showed the following:

- During 2013-15, HLL received indents from 24 government hospitals/institutes for procurement of 300 medical equipment of estimated value of ₹ 183.87 crore. It placed procurement orders for 80 equipment valuing ₹ 44.37 crore, but only 42 equipment costing ₹ 35.09 crore were delivered to the hospitals as of August 2015 and remaining equipments were under various stages of the procurement process. The reasons for slow pace of procurement were attributed to multiple approvals required from the hospitals at various stages of tender process. Thus, the very purpose of engaging a specialized procurement agency for timely procurement of medical equipment was defeated, though ₹ 60.65 lakh (2013-14- ₹ 6.03 lakh, 2014-15- ₹ 19.81 lakh, and ₹ 34.81 lakh upto August 2015) had been paid as consultancy fee to the agency as of August 2015 and hospitals remained unequipped of the medical infrastructure to the extent of upto two years.
- DH&FW did not review the periodic performance of HLL during 2013-15, though it was required to be reviewed at the end of every six month as per MOU. No reasons were given by DH&FW for not reviewing the performance of HLL.

- As per MOU, indenting hospitals released 100 *per cent* payment for procurement of equipment in advance to HLL, which kept the amount in its current account meant for procurement of medical equipment. As on August 2015, an amount of ₹ 45.84 crore was lying in this account. Audit observed that due to parking of funds in the current account, hospitals could not avail benefit of earning interest, though Special Secretary (H&FW) had proposed (December 2012) that interest accruing on deposits would be ploughed back for the procurement.

Audit noticed that in one case alone, there was a loss of interest of ₹ 7.36 lakh due to keeping of money in current account, where four hospitals GBPH**,** DDUH, LBSH and LNH placed an order for 60 ICU ventilators between August 2013 and January 2014 and payment of ₹ 6.14 crore was made in April 2014 to HLL. Out of this, HLL released 80 *per cent* in July 2014 and 20 *per cent* in September and December 2014 to the supplier firm. As a result, funds remained blocked with HLL for eight months and hospitals suffered loss of interest and patients were denied timely availability of diagnostic facilities.

2.1.3.3 Delay in processing and award of contract

Tendered document stipulates that EPC/hospitals were required to complete the purchase process within a period of five months from the date of invitation of bids. However, Audit observed that though the four hospitals mentioned in **Table 2.1.3** forwarded proposals complete in all respects *viz.* justification, essentiality for immediate requirement and availability of funds for procurement of equipment to EPC between April 2010 and August 2013, EPC delayed the processing and award of contracts in 14 out of 75 cases (19 *per cent*) involving ₹ 8.55 crore.

Table 2.1.3: Delay in processing and award of contracts (2010-13)

Hospital	Cases of delay	Range of delay		
		0 to 6 months	7 to 12 months	13 to 19 months
DDUH	1	-	-	1
GBPH	6	-	5	1
LBSH	1	1	-	-
LNH	6	3	2	1
Total	**14**	**4**	**7**	**3**

Audit observed that the main reason for delay in finalisation of award of contracts was the time consumed in evaluating technical and financial bids. Delayed processing for procurement of medical equipments not only led to unspent balances of the allocated funds but also deprived facilities to the patients during the period of delay.

2.1.3.4 Non-levy of penalty for delay in supply of equipment

According to the terms and conditions specified in supply orders, suppliers were liable to be penalized (one *per cent* per week subject to maximum of five *per cent* of the Acceptance of Tender (A/T) value) in case equipment were not

supplied within the prescribed time frame. Audit scrutiny showed that in 10 hospitals, 51 equipment were supplied with delay ranging between 23 and 754 days from the stipulated timeframe. However, hospitals did not impose any penalty on suppliers. Such cases are depicted in **Table 2.1.4**:

Table 2.1.4: Cases where penalty was not imposed for delayed supplies

(₹ in lakh)

Sl. No.	Hospital	Number of equipment	Range of delay (days)	Penalty leviable
1.	**BSAH**	2	235 to 339	4.66
2.	**DDUH**	5	159 to 370	8.94
3.	**GBPH**	16	23 to 396	36.83
4.	**GGSH**	1	42	0.34
5.	**GNEC**	2	24 to 40	4.06
6.	**GTBH**	13	33 to 754	25.78
7.	**LNH**	4	74 to 406	8.86
8.	**LBSH**	3	97 to 106	2.97
9.	**RTRH**	1	243	1.01
10.	**SGMH**	4	69	2.39
	Total	**51**	-	**95.84**

Thus, hospital authorities failed not only in imposing penalty of ₹ 95.84 lakh on defaulting suppliers for delayed supply of essential medical equipment. Failure to impose penalties envisaged in the supply order without any justification also constitute undue benefit for the vendors and undermines the ability of the hospitals to ensure timely delivery of necessary medical supplies.

2.1.3.5 Extra expenditure due to delay in installation of equipment

As per EPC's tender document for purchase of imported items, the hospitals are required to open Letter of Credit (LC) account within one month from the date of accepting the tenders. It also envisages that 80 *per cent* cost of the equipment should be paid against shipping document and the balance 20 *per cent* within 30 days after successful installation of the equipment.

However, Audit observed that in 10 cases, GBPH, GNEC and LNH failed to open the LC account within one month from the date of acceptance of tender due to reasons like non-availability of funds. Further, due to delay in the installation of equipment after their receipt in the hospitals, the balance 20 *per cent* payments to agencies/suppliers was released after considerable delay of 2 to 39 months, thereby resulting in an extra expenditure of ₹ 1.13 crore due to fluctuation in foreign exchange rates during the period from receiving the equipment in hospital to their installation**.**

In its reply, GNEC stated (September 2015) that fluctuation of foreign currency was beyond their control. Reply is not tenable as non-adherence to tender clauses and stipulated time frame resulted in the extra expenditure of ₹ 1.13 crore.

2.1.3.6 Submission of performance guarantee for shorter duration

Clause 13 of contract agreement stipulates that before release of balance payment of 20 *per cent* of the cost of the equipment, suppliers should submit a performance guarantee (PG) of 10 *per cent* of procurement cost with validity of 60 months from the date of installation of equipment. To ensure satisfactory performance of the equipment, hospitals are required to ensure that the PG remained live and valid, so that it could be invoked in case of any default in the maintenance of equipment by the supplier.

Audit observed that four hospitals (GTBH, GBPH, GGSH and LNH) purchased medical equipment costing ₹ 8.26 crore during 2010-12. However, suppliers submitted PGs with validity of shorter periods ranging from 10 days to 57 months as against the prescribed limit in respect of 17 equipment. In four out of the 17 cases, the validity of security deposits (Bank Guarantee) expired before installation of the equipment, which was not renewed and equipment were without security during the warranty period. In one case, PG was not furnished by the supplier for the entire warranty period of the equipment.

Hence, in the absence of timely renewal of PGs, an assurance of satisfactory performance of equipment costing ₹ 8.26 crore was not available to the hospitals.

2.1.3.7 Non-adjustment of advances

Audit observed that advances of ₹ 73.62 crore given to suppliers for services rendered and supplies made, remained unadjusted as on 31 March 2015 as shown in **Table 2.1.5**:

Table 2.1.5: Outstanding advances as on 31 March 2015

(₹ in crore)

Sl. No.	Period since outstanding	Number of cases	Amount outstanding
1.	Upto two years	24	35.62
2.	3-4 years	14	3.59
3.	5-8 years	93	32.99
4.	Above 8 years	3	1.42
	Total	**134**	**73.62**

The issue of non adjustment of advances had also been pointed out in the Audit Report of C &AG (Volume-I) for the year ended March 2008 relating to GNCTD, but no steps were taken by the department to settle the advances.

The reasons for the advances of ₹ 73.62 crore lying unadjusted were attributed to non- reconciliation of advances with the banks and wanting of final bills for adjustment from the suppliers.

BSAH stated that sanction had been issued for adjustment of ₹ 1.91 crore and efforts were underway to adjust the rest of the amount. GNEC also stated

(September 2015) that efforts were being made for adjustment of outstanding advances of ₹ 4.14 crore.

2.1.4 Utilisation of equipment

2.1.4.1 Non-utilisation of procured items

Rule 137 of General Financial Rules (GFRs) envisages that care should be taken to avoid purchasing quantities in excess of requirement to avoid inventory carrying cost. Audit scrutiny of stock registers of six hospitals (BSAH, GBPH, GGSH**,** GNEC, GTBH and LNH) showed that hospitals procured 110 items costing ₹ 1.91 crore, much in excess of their actual requirement, as was established by the fact that items were lying unused in stock for long periods ranging from 5 months to 14 years as on 31 March 2015. A few specific cases are detailed below:

- In GTBH, four items (Post Operative Multi-parameter Monitors, Emergency Recovery Trolleys, Cardiac Monitors and Clamp IV Pole) purchased at a cost of ₹ 62.79 lakh remained unutilised for periods ranging upto five years. For instance, though the hospital had five Post Operative Multi-parameter Monitors in stock in February 2010, it purchased two more monitors at a cost of ₹ 10.06 lakh in May 2011 and all seven monitors were lying unused in stock as of August 2015.
- LNH purchased 14 items valuing ₹ 60.40 lakh (including Mayos/Metzbaum scissors costing ₹ 18.97 lakh) between January and March 2001. However, 5,349 Mayos/Metzbaum scissors were lying idle in the store after 15 years of their purchase for want of indent from any department of the hospital.

It points to the unwarranted purchases that were made without assessing the actual requirement, resulting in unfruitful expenditure of ₹ 1.91 crore.

Similarly in GBPH, Audit observed that Cardiology Department procured 87 consumable items of ₹ 1.25 crore between March 2013 and April 2014, which were not used as of August 2015. Out of 87 items, 73 items worth ₹ 1.06 crore were purchased in bulk in July 2013 and March 2014, but never issued as of August 2015.

This showed that procurement of items and consumables was made without assessing the actual requirement and unjustified and resulted in blocking of ₹ 3.16 crore.

2.1.4.2 Inordinate delay in installation of equipment

According to standing instructions of DH&FW, equipment and machinery received in hospitals should be installed and commissioned as per the time schedule prescribed in the purchase contract. However, there was no time schedule prescribed in the purchase contract for installation of equipment in

GNCTD governed hospitals. Audit scrutiny of records in eight selected hospitals showed that 66 equipment purchased and received during 2009-15 at a cost of ₹ 18.22 crore were installed with time ranging from one month to over 2 years. Audit has calculated the delay by taking the installation date as one month from receipt of the equipment (as HLL had prescribed a period of 15 days for installation in the Purchase orders issued by them). Some instances of delay are given below:

(i) BSAH purchased Extra Corporeal Shockwave Lithotripsy Machine costing ₹ 1.85 crore in April 2011. It was installed in March 2012 after a delay of 10 months.

(ii) In DDUH, seven equipment including Ventilator, Operating Laproscopy set and TMT Machine purchased at a cost of ₹ 1.23 crore between February 2010 to September 2011 were installed between May 2010 to February 2012 with delays upto seven months.

(iii) GBPH purchased a Mobile C-Arm Image Intensifier valuing ₹ 2.13 crore in October 2011 and installed it in February 2012 with a delay of three months.

(iv) LNH purchased 17 equipment during September 2009 to October 2014 at a cost of ₹ 4.52 crore and installed these during May 2010 to March 2015 with delays upto 25 months.

Though the issue was also pointed out in Paragraph 3.1.7.13 (c) of the Audit Report of the C&AG (Volume-I) for the year ended March 2008 in respect of GNCTD, the problem persisted and hospitals are still unable to get the equipment installed promptly, depriving patients of timely medical facilities. Non-availability of sites and late delivery of accessories and consumables contributed to delayed installation of equipment.

2.1.4.3 Unplanned purchases of equipment

Audit observed that hospitals purchased equipment without ascertaining in advance the availability of the space for their installation.

LNH awarded (February 2014) a contract for supply, installation and commissioning of 'High Dose Rate Brachy Therapy Remote Controlled Machine' in Radiotherapy Department to a contractor on turnkey basis at a cost of ₹ 3.77 crore. The Letter of Credit (LC) for the supply was opened on 28 March 2014. As per the terms and conditions of the contract- (i) the contractor was to complete the site preparation within five months of opening of LC account, (ii) complete supply and installation within three months of preparation of site, and (iii) hospital was to release 80 *per cent* of cost against shipping documents of equipment. Audit scrutiny showed that while the equipment was supplied and 80 *per cent* payment (₹ 2.88 crore) made to the supplier in May 2014, the hospital handed over the site to the firm only on 25 June 2014 i.e. almost three months after opening of the LC account. Even in

this situation, equipment should have been installed by November 2014 as per the terms of the contract. However, even after a delay of fourteen months, it could not be installed as of January 2016 due to non-completion of civil and electrical works at the site. Thus, procurement of equipment without ensuring availability of basic infrastructure for its installation coupled with delay in providing the site by the hospital reflected deficiency in planning by the hospital management resulting in idle investment of ₹ 2.88 crore.

2.1.4.4 Idling of Equipment

(i) Idling due to lack of accessories and regents

Audit scrutiny of records in four hospitals (BSAH, DDUH, GGSH and GTBH) showed that 21 equipment costing ₹ 83.17 lakh remained unutilized for periods ranging between 15 days and over 3 years due to non-availability of accessories, regents, and consumables required for the functioning of these equipment **(Annexure 2.1).** Idling of equipment due to non-availability of accessories, regents or consumables indicated absence of proper planning and coordination between serving departments and purchase wings of hospitals.

DDU hospital stated (March 2016) that there was no hampering of casualty services as the sufficient alternative arrangements were available in the emergency ward of the hospital and demands for the accessories had been sent to the purchase department which were under process. Reply is not tenable as the procured equipment could not be utilised even for one year from the date of installation in the emergency ward due to lack of initiative on the part of the hospital authorities. No reply has been furnished by the remaining hospitals.

(ii) Idling of equipment under Annual Maintenance Contract (AMC): Clause 16(b) of contract agreement stipulates that after the initial five year period of comprehensive warranty/guarantee, the tenderer shall further commit to provide annual maintenance service for the next five years wherein the indenter shall bear the cost of spares. Audit scrutiny of records in selected hospitals showed that 166 equipment valuing ₹ 26.20 crore under annual maintenance contract, remained out of order for periods ranging upto 80 months. However, the hospitals took no action to get the defective equipment repaired by the contracted firm by invoking the contractual provisions relating to annual maintenance.

(iii) Idling of equipment beyond warranty conditions: Apart from the above, 58 equipment valuing ₹ 3.72 crore in BSAH, DDUH, GBPH, GTBH and LNH which were beyond both warranty period as well as annual maintenance services, were lying idle for periods ranging from 3 months to 108 months **(Annexure 2.2)** which had neither been put to use nor declared obsolete/unserviceable. Audit observed that keeping the equipment non-functional without repair deprived the patients of their benefits as well as

resulted in blocking of space that could be fruitfully utilised for other purposes.

2.1.4.5 Under-utilization of diagnostic equipment

Audit observed cases where hospitals purchased medical equipment which subsequently remained under-utilized. Some cases are discussed below:

(i) DDUH procured 'Automated system for Rapid Cultures from Blood/Body Fluids' at a cost of ₹ 13.61 lakh in July 2008. The machine with capacity of conducting 700-750 tests per month was installed in September 2008. However, scrutiny of records showed that the machine remained dysfunctional for the periods tabulated as below:

Table 2.1.6: Details of machine (ASRC) remaining dysfunctional

Sl. No.	Period when equipment remained faulty	Number of months	Loss of tests @ 700 test per month
1.	July 2010 to July 2011	13	9,100
2.	Sept 2013 to Nov 2013	3	2,100
3.	July 2014 to May 2015	11	7,700
	Total	**27**	**18,900**

Thus, 18,900 tests could not be conducted due to error in machine and non-supply of consumables by the suppliers. Further, the engineer of the suppliers requested the hospital in October 2009 and June 2012 to provide a new separate temperature controlled environment and dust free space for smooth functioning of the machine, though no such condition was incorporated in the Contract Agreement of the equipment while procuring the same. Hospital made no efforts in this regard.

(ii) BSAH purchased Arthroscopy System Diagnostics and Powered Shaver System at a cost of ₹ 77.04 lakh in October 2008 for its Orthopaedic Department. The equipment was installed in July 2009 after a delay of nine months. Audit noticed that due to non-availability of technical staff/ specialized doctor, the equipment could not be put to use after October 2014, thereby depriving patients of valuable diagnostic facility.

2.1.5 Repair and maintenance of equipment

As per Medical Equipment Maintenance Manual, issued by DH&FW (October 2010), maintenance of healthcare equipment is an integral part of managing the whole life cycle of equipment. Maintenance can be either corrective or preventive. While preventive maintenance is done in a planned manner before repair is required, corrective maintenance or repair is done in the event of a breakdown of the equipment. Audit observed that the concept of preventive maintenance was missing in all eleven selected hospitals and their main focus was only on repair of non-functional equipments. Some of the issues noticed regarding repair and maintenance of equipment are discussed below:

2.1.5.1 Non-recovery of penalty due to down time of equipment

Down time of an equipment refers to the time when in any given period it fails to perform its specified functions. As per the standard terms of contract for supply of medical equipment stipulated by DH&FW, the supplier has to guarantee an uptime of 95 *per cent* in contracts costing more than ₹ 5 lakh and the breakdown period should not be more than 18 days in a year. Standard terms also stipulate repair of equipment within 48 hours, failing which a penalty of one *per cent* of value of the contract would be deductible from the performance guarantee. Audit scrutiny of records of eight hospitals showed that 57 equipment under the warranty period, suffered down time period in excess of stipulated norms during 2010-15, for which penalty amounting to ₹ 21.29 lakh should have been deducted from the performance guarantee of suppliers**.** However, no penalty was deducted by the hospital authorities.

2.1.5.2 Non-availing of warranty for repairs

Clause 16 of Contract Agreement stipulates that the seller guarantees the quality and satisfactory functioning of the supplied good for a period of 60 months from the date of installation/commissioning of the store, failing which losses/compensation/damages, as assessed by the purchaser, shall be recovered from the tenderer and the firms/tenderer shall be blacklisted for breach of warranty. Scrutiny of records of 10 hospitals[3] showed that 90 equipment valuing ₹ 22.77 crore remained out of order for durations ranging upto 46 months during the warranty period. Moreover, hospitals incurred an expenditure of ₹ 94.78 lakh on repair and maintenance of these equipment, while under warranty. The hospitals neither availed the warranty for repairs nor did they initiate any action for blacklisting of the concerned suppliers, thereby defeating the very purpose of the warranty clauses. Some examples are as below:

(a) GBP Hospital's Endoscopy Department got installed an Adult Video Colonoscopy costing ₹ 13.91 lakh in December 2008. The machine was lying defective since July 2011 with no action being taken to get it repaired by the supplier though it is still within warranty period.

(b) GTB Hospital's Microbiology Department purchased a Fully Automated Bacterial Identification (ID) and Antimicrobial Susceptibility System (AST) for ₹ 25 lakh and got it installed in September 2010 with warranty upto September 2015. However, the equipment went out of order in March 2014, but the hospital initiated no action to get it repaired to make it functional.

[3] Baba Saheb Ambedkar Hospital (BSAH), Deen Dayal Upadhayay Hospital (DDUH), G.B. Pant Hospital (GBPH), Guru Gobind Singh (GGSH), Guru Teg Bahadur (GTBH), Lal Bahadur Shashtri (LBSH), Lok Nayak Hospital (LNH), Maharishi Valmiki (MVH), Rao Tula Ram Hospital (RTRH) and Sanjay Gandhi Memorial Hospital (SGMH)

(c) DDUH procured Anaesthesia Work Station costing ₹ 13.30 lakh in 2009. Though the equipment was under warranty, it became non-functional in February 2014 and was lying in the same condition since then (575 days). Similarly, in Paediatrics Department, two Ventilators costing ₹ 11.24 lakh each and installed in November 2011 remained out of order for 276 days at different occasions, though under warranty upto October 2016. In Radiology Department, one digital 1000 mA X-Ray machine costing ₹ 1.12 crore and installed in October 2009 was lying non-functional since March 2012.

(d) BSAH got installed a Mobile C-Arm Image Intensifier costing ₹ 36.46 lakh in its Orthopaedic Department in February 2010. However, though the equipment was under warranty period, it developed defects in December 2012 and was lying in the defective state since then. In the Physiotherapy Unit, a Magnetic Traction Unit Analyser costing ₹ 13.75 lakh was installed in August 2008, but it remained non-functional for aggregate 346 days under warranty period.

2.1.5.3 Irregular expenditure on maintenance: MV Hospital procured a Fully Automatic Blood Gas Analyser in May 2009. As per the terms and conditions of supply order, the supplier was to provide annual maintenance services from July 2014 to July 2019 after expiry of the warranty period of five years from the date of installation. Audit observed that the hospital entered into a separate contract for maintenance @ ₹ 24,370 *plus* taxes for the period 27 March 2015 to 26 March 2016 with the firm and paid ₹ 12,185 in October 2015. Similarly, for 100 MA X-Ray Machine installed in March 2006, the hospital paid ₹ 2.14 lakh to the firm towards annual maintenance charges for the period March 2011 to March 2015, though the equipment was under annual maintenance contract upto March 2016. The hospital stated (March 2016) that letter for recovery had been issued in both cases to the firm.

2.1.5.4 Non-disposal of condemned equipment

As per clause 11.19 of the DGHS Hospital Manual, a condemnation board should be constituted for timely condemnation of unserviceable items in the hospitals. Further, the Medical Equipment Maintenance Manual (H&FW 2010) prescribes that equipment disposal should be done as quickly as possible, but not later than six months after the decision for disposal by the condemnation board.

Audit observed that 2,930 equipment, purchased at ₹ 24.32 crore and 883 equipment where cost was not available, were declared condemned by the various departments of the selected hospitals during 2010-15. Out of these, many were condemned 25 years back i.e. in April 1990. Status is detailed in **Table 2.1.7**:

Table 2.1.7: Status of condemned equipment

(₹ in crore)

Hospital	BSA	DDU	GBP	GGS	GNEC	GTB	LBS	LNH	MVH	RTR	SGM	Total
Number of equipment	62	428	33	97	1494	128	78	244	30	218	118	**2,930**
Amount	0.55	6.82	2.30	0.66	1.34	6.64	0.77	4.50	0.24	0.35	0.15	**24.32**

Prolonged delay in disposal of condemned equipment results in further deterioration in their condition and realizable value as well as their occupying space that could be fruitfully utilized for other purpose. BSAH stated (September 2015) that it had registered with Metal Scrap Trade Corporation Limited under the Ministry of Steel (MSTC) in July 2015 for auction and disposal of condemned items, and assured that process of auction/disposal would be completed within 2-3 months. Replies from the remaining hospitals were awaited.

2.1.5.5 Training

As per Medical Equipment Maintenance Manual issued by the DH&FW in October 2010, there is a need for at least one Bio-Medical Engineer and two Bio-Medical Technicians in every 100 bedded hospital, as detailed in **Table 2.1.8**:

Table 2.1.8: Technical personnel requirement in hospitals

	100 bedded hospital	**16-50 bedded hospital**	**15 or fewer Bedded hospital**
Biomedical Engineer who is specialized in management, maintenance, supervision of external service provider, needs assessment, planning, and user training (as per WHO).	1	0	0
Biomedical Technician who primarily focuses on specialized medical equipment repair and maintenance (as per WHO).	2	1	0
Assistant Technician/Artisan who provides maintenance that cannot be performed in-house. They are product-oriented and specialized in a certain field.	3	2	1

Audit observed that none of the selected hospitals had any such sanctioned posts nor did they recruit any Bio-Medical Engineer and Bio-Medical Technician for ensuring proper maintenance and up-keep of medical equipment. Further, training of technical staff is critical for the safety of patients and users, for using kits and how to deal with routine repairs and maintenance and calibrations of equipment. Accordingly, training was to be given by manufacturers and suppliers. Although procurement, maintenance and utilization of medical equipment is of specialized nature, only demonstration was arranged by the suppliers at the time of installation to the staff, who are not technically qualified to perform specialized activities related with maintenance. Due to non-availability of these technicians, special care of these equipment could not be taken which is evident from the huge number of non-functional equipment lying in hospitals.

2.1.6 Internal Control Mechanism

Internal controls are safeguards that are put in place by the management of an organisation to provide assurance that its operations are proceeding as planned. These are also designed to provide reasonable assurance that the entity's general objectives are being achieved. Reasonable assurance provided by such internal controls strengthens accountability of public authorities.

Various deficiencies and shortcomings in the system of procurement, maintenance and utilisation of medical equipment by government hospitals, as pointed out in the preceding paragraphs indicate absence of an effective internal control mechanism. Further, the weakness in the internal controls in selected hospitals is evident from the illustrations given below:

2.1.6.1 Weak Management Information System (MIS)

MIS is a computerized database which focuses on the management of information systems to provide efficiency and effectiveness of strategic decision making. The Government directed (August 2014) all Heads of Departments of hospitals to prepare master data of all equipment (functional and non-functional both) as part of inventory of hospitals and to complete the task by September 2014. Any change in the status of equipment was to be incorporated in the system before the 5th of every month and new equipment were to be entered in the system before making final payment. However, Audit observed that test checked hospitals did not adhere to these orders, as data was not uploaded and updated (department wise) completely.

GNEC admitted that due to lack of manpower, uploading of data was not done effectively and Id for MIS was also provided quite late (September 2015) by DH&FW.

2.1.6.2 Non-compliance of Manual provisions

As per clause 11.13 of DGHS Hospitals Manual, a periodic review of status of functioning of all equipment in the hospitals should be done by the highest authority and prompt action should be taken to keep the optimum functional status of equipment. However, Audit observed that test checked hospitals neither conducted equipment audit, nor applied any administrative checks to ascertain the health of installed equipment.

Audit also observed that though the internal audit of these selected hospitals was being carried out by the Internal Audit Wing of GNCTD, no such issue was raised by GNCTD in their internal audit reports.

2.1.6.3 Non-compliance of executive orders

The DH&FW directed (November 2010) all Medical Superintendents to submit quarterly returns about the working condition of equipment installed alongwith working hours functional per month by each equipment. Audit observed that none of the hospitals furnished any such return during 2010-15.

Weak MIS, lack of equipment audit by Internal Audit Wing of GNCTD and absence of quarterly review of working condition of installed equipment are indicative of inadequate monitoring mechanism in the test checked hospitals.

The MVH stated (September 2015) that as it took care of all equipment and their maintenance, need of sending quarterly report was not felt. Reply is not tenable as submission of the quarterly report was mandatory.

2.1.7 Conclusion

A comprehensive plan for procurement of medical equipment was not prepared either by the department or by any hospital. There was no documented system in place for assessing the need to acquire afresh or replace old medical equipment and the procurement process was characterized by ad-hocism. Though, a consultant firm was engaged, there were delays in procurement of equipment. No system was in place for monitoring the timely installation of equipment after their receipt in the hospitals. Cases of non-utilisation, under-utilisation and idling of equipment were observed across all the selected hospitals. Similarly, consumable/non-consumable items were purchased in excess of actual requirements. The ability of the hospitals to ensure contract performance by suppliers was compromised by obtaining performance guarantee of shorter than prescribed duration and non-levy of penalties on delayed supplies. Though, a management information system for tracking demand and supply of medical equipment was set up, information was not uploaded and updated completely.

2.1.8 Recommendations

The Department of Health and Family Welfare may:

(i) Prepare a consolidated plan for procurement of medical equipment and related items, based on needs of hospitals to avail the advantage of economies of scale and timely delivery;

(ii) Standardise and rationalise its policy for procurement of commonly used medical equipment;

(iii) Develop a medical equipment maintenance policy for prolonging the life of equipment and minimise the downtime, including inspection, preventive maintenance and corrective maintenance, and

(iv) Ensure invoking of contractual provisions relating to delay and default on the part of suppliers in supply of equipment and provision of services to ensure timely performance of contractual obligations, and

(v) Strengthen its MIS for effective internal control and monitoring of procurement, installation and usage of equipment in hospitals.

The matter was referred to the Government in January 2016; their reply was awaited (March 2016).

Department of Home

2.2 Working of Delhi Fire Services (DFS)

In National Capital Territory (NCT) of Delhi, the Delhi Fire Services is responsible for protecting and safeguarding the lives and property in the event of an outbreak of fire and general emergencies. Main audit findings are given below:

Highlights

- ***Delhi Fire Services (DFS) did not maintain a comprehensive database of area, distribution of population and hazardous areas.***

(Paragraph 2.2.3.1)

- ***DFS failed to create the planned number of fire stations for maintaining operational efficiency. There were only 58 fire stations as against a plan target of 70.***

(Paragraph 2.2.4.1)

- ***Considering the population of Delhi as per the Census of 2011, DFS did not have adequate number of pumping units. It had only 160 pumping units against the requirement of 205. Thirty one (20 per cent) of these were not functional.***

(Paragraph 2.2.4.2(a))

- ***The response time of DFS was not at par with prescribed norms. In more than 60 per cent of test-checked cases, the response time exceeded the stipulated 3 minutes in high hazard zones and closely built up areas and 5 minutes in other areas.***

(Paragraph 2.2.5)

- ***DFS had no details of number of high rise buildings in Delhi and the status of issue and renewal of Fire Safety Certificates in respect of such buildings.***

(Paragraph 2.2.7.1)

- ***Test check of fire system in buildings revealed non-compliance with stipulated fire safety standards.***

(Paragraph 2.2.7.4)

2.2.1 Introduction

Delhi Fire Services (DFS), established in 1942, is responsible for protecting and safeguarding the lives and property of the people of Delhi in the event of an outbreak of fire and general emergencies. The administrative control of DFS was transferred from the Municipal Corporation of Delhi to the Home Department, GNCTD with effect from 10 November 1994.

2.2.1.1 Organizational set-up

The Director is the head of the DFS which functions under the overall administrative control of the Principal Secretary (Home), GNCTD. The DFS is divided into six divisions[4], each headed by a Divisional Officer who is assisted by an Assistant Divisional Officer (ADO). There are 58 fire stations in Delhi, each headed by a Station Officer or a Sub-Officer. Besides, DFS has an Auto Workshop, a Wireless Workshop, a General Workshop and a Fire Safety Management Academy (FSMA).

2.2.1.2 Audit objectives

The objectives of the performance audit were to assess whether:

- plans were prepared with the objective of providing timely, adequate and effective firefighting service, and to create mass awareness on fire safety issues;
- adequate resources were available and utilised efficiently, effectively and optimally in prevention of fire incidents;
- enforcement of fire safety norms for prevention and control of fire incidents was effective; and
- internal controls and monitoring mechanism was effective.

2.2.1.3 Audit criteria

The criteria against which the audit findings were benchmarked were derived from the following sources:

- The Delhi Fire Service Act, 2007 and the Delhi Fire Service Rules, 2010;
- Compendium of Recommendations of the Standing Fire Advisory Council (SFAC) issued by MHA, GoI in March 1998; and
- The General Financial Rules, 2005 and other Government orders.

2.2.1.4 Audit scope and methodology

The functioning of the DFS, covering the period 2010-15, was reviewed in the DFS headquarters and in three divisions[5] selected on the basis of number of fire calls received. In addition, records in nine fire stations, Fire Safety Management Academy, Auto Workshop, General Workshop and Wireless Workshop were also examined.

An entry conference was held with the Director, DFS on 15 May 2015. The draft report was issued to the Government on 17 December 2015 to solicit their views on the audit findings and an exit conference was also held on 10 February 2016. The views of DFS as furnished and expressed in the exit

[4]East, Central, West, North-West, South and South-West.
[5]North-West, South and East Division.

conference, have been suitably incorporated in the Report. However, Government reply was awaited (February 2016).

Audit findings

Last performance audit of DFS was included in the Audit Report of the CAG for the year ended 31 March 2009, which has not been discussed by the Public Accounts Committee of the Delhi Legislative Assembly as of February 2016. Current audit findings are given in the following paragraphs.

2.2.2 Financial outlay

Budget allocation and actual expenditure of DFS for the period 2010-15 is given in **Table 2.2.1:**

Table: 2.2.1: Financial outlay and actual expenditure (2010-15)

(₹ in crore)

Financial Year	Budget allocation		Actual expenditure		Saving (Percentage)	
	Plan	Non Plan	Plan	Non-Plan	Plan	Non-Plan
2010-11	33.45	65.13	21.67	62.13	11.78 (35.21)	3.00 (4.61)
2011-12	24.56	66.13	20.10	64.98	4.46 (18.18)	1.15 (1.74)
2012-13	39.80	73.19	36.42	70.53	3.38 (8.48)	2.66 (3.63)
2013-14	43.38	80.74	37.43	77.39	5.95 (13.72)	3.35 (4.15)
2014-15	43.29	89.92	36.86	79.76	6.43 (14.85)	10.16 (11.30)

As seen from above, the budget of DFS ranged between ₹ 91 crore and ₹ 133 crore (both Plan and Non-plan) during 2010-15. There was saving ranging between 8 and 35 *per cent* under Plan head during this period.

In its reply (August 2015) DFS stated that there was saving under various heads due to less requirement of maintenance work, late receipt of funds, non-approval of proposals by the Government, delayed supply of items and non-receipt of bids.

2.2.3 Planning and preparedness

2.2.3.1 Non-preparation of comprehensive data

As per the Compendium of Recommendations of the Standing Fire Advisory Council (SFAC), issued by Ministry of Home Affairs, Government of India in March 1998, fire service setup is mainly based on population, response time and risk hazard. Comprehensive data of these factors is essential for planning for risk hazards, type of vehicles required for fire-fighting and strength of fire personnel. However, DFS did not maintain any such data. Absence of such vital data indicates lack of precision in planning and preparedness of DFS for fire prevention.

DFS stated (September 2015) that it was in consultation with the Geo Spatial Delhi Limited (GSDL) for preparation of such data. DFS added (February

2016) that comprehensive data would be available after the computerization is implemented.

2.2.4 Availability of resources and their utilisation

2.2.4.1 Shortfall in establishing fire stations

The DFS had 31 operational fire stations before 2007. With an objective of having one fire station in each Assembly Constituency, DFS proposed to increase the total number of fire stations to 70 during the 11th Five Year Plan 2007-12. The number of fire stations, however, increased to only 54 at the end of the Plan period. For the 12th Five Year plan 2012-17, DFS kept the target of 70 fire stations to be achieved. The addition of new fire stations was considered necessary to provide fire protection at reasonably good response time and cope up with increasing number of fire incidents. However, only four new fire stations[6] became operational as of November 2015 at a total cost of ₹ 8.12 crore against the estimated cost of ₹ 6.98 crore. With these, DFS had a total of 58 fire stations (including five fire posts)[7], which was still 12 short of the target of 70 fire stations.

The DFS attributed (February 2016) the reasons for shortfall in construction of fire stations to long procedure involving allotment of land, its handing over to PWD, preparation of plans by PWD and their approval by civic bodies and finally construction. DFS added that three more fire stations were under construction[8] and process had started for another five.

Audit observed that it was incumbent upon DFS to strengthen its internal processes and improve coordination with other agencies concerned to expedite the setting up of the fire stations particularly since funds were stated to be available.

As per paragraph 2.1.4.1 of the last Performance Audit (for the year ended March 2009), 50 fire stations were operational. Thus, only eight fire stations came up between April 2009 and August 2015.

2.2.4.2 Shortage of vehicles and equipment

(a) As per SFAC norms, each fire station should be equipped with one pumping unit. The number of pumping units is to be increased at the rate of one unit for every 50,000 persons and six for three lakh population. For population of three lakh and upwards, there should be one additional pumping unit per lakh of population or fraction thereof, with a reserve of 20 *per cent* of total pumping units. Fire station serving a population greater than three lakh, should have one rescue van (RV) and an additional RV for every 10 lakh persons. As per the census of 2011, the total population of NCT of Delhi was

[6] Dallupura, CBD Shahadra, Kalyan Vas and Khera Dabur
[7] where only fire fighting vehicles are placed
[8] Vasant Kunj, Sanjay Gandhi Transport Nagar, Udyog Nagar

167.88 lakh. For this population, number of pumping units required is 205 (171 *plus* 34 in reserve).

Audit observed that as on 31 March 2015, there were only 160 pumping units available. Out of these, 31 were out of order as on 31 March 2015. Thus, only 129 pumping units were actually available with a shortage of 20 *per cent*. Further, DFS had only six RVs against 18 RVs required as per prescribed norms.

(b) DFS has a total of six Bronto Skylifts to be used in the incident of fire at different heights (maximum height 70 meters or 220 feet), six Turntable Ladders (TTLs), two Simon Super Snorkels and three Hazzmat Vans on its inventory. Out of these, three Brontos, all six of TTLs, two Simon Super Snorkels were out of operation as of December 2015.

(c) Out of the above six Bronto Skylifts, DFS had procured a 70 metre Aerial Ladder Platform (Bronto Skylift) in the year 2014-15 for fighting fire incidents at a height of approximately 220 feet. However, NCT of Delhi also has buildings with height more than 220 feet, e.g. Civic Centre (335 feet), Grand Inter Continental (Hotel The Lalit) (328 feet) and Palika Kendra (299 feet). Thus, DFS did not have any firefighting equipment to tackle the incidents of fire occurring at a height of more than 220 feet, as it has a Bronto Skylift which can reach to a maximum height of 220 feet only.

Thus, DFS was not adequately equipped with fire fighting vehicles and other equipment, thereby, undermining its firefighting ability. DFS accepted the observation (February 2016) and intimated that more such appliances and equipment would be added.

2.2.4.3 Delay in registration of vehicles

As per its Citizen's Charter, the primary function of DFS is to provide immediate response to every fire and emergency call. Audit observed that DFS procures chassis of vehicles and get them fabricated into Water tenders, Bousers, Foam dispensers, etc. For effective firefighting, DFS needs to quickly get the vehicles fabricated and registered, so that these could be put to operational service. Audit scrutiny showed that out of 46 vehicles procured during the period, 38 vehicles were registered with a delay ranging upto nine months, after allowing a period of six months for procurement, fabrication, etc. The delay was unreasonably long when compared with the cases of two Small Water Tenders (SWT) which were registered within three months of procurement.

DFS accepted the observation (February 2016) and assured that no delay in registration of vehicles would take place in future.

2.2.4.4 Shortage of VHF Mobile Radio equipment

As per SFAC recommendations, each mobile appliance including each command car and motorcycle should have one 25 watt VHF Mobile Radio telephone. Audit observed that there were altogether 301 fire vehicles in DFS as of December 2015, where the 25 watt VHF Mobile Radio telephones were required. However, DFS had 205 mobile radio sets (shortage of 31 *per cent*). The last procurement of Wireless, Mobile and Repeater sets was made in March 2007.

DFS intimated (February 2016) that there was no shortage of equipment considering the total area of 1,483 sq kms. Reply is not tenable as there was a shortage of mobile radio sets as against SFAC recommendations.

2.2.4.5 Shortage of staff

SFAC norms provide that one station/sub-officer, two leading firemen, two drivers/operators and 10 firemen will be required at a fire station with 50 *per cent* reserve of station officer and sub-officers. In respect of remaining staff, DFS has to keep a reserve of 10 to 25 *per cent*. These norms further provide that Home Guards could be deployed as Auxiliary Firemen in emergency. The position of sanctioned strength and men-in-position of staff in DFS, is given in **Table 2.2.2:**

Table 2.2.2: Position of staff as on 31 March 2015

Sl. No.	Category of staff	Sanctioned	In position	Vacant	Shortage (*per cent*)
1	Senior Officers	44	39	5	11.36
2	Operational staff	3,375	1,911	1,464	43.37
3	Workshop staff (auto, wireless and general)	85	43	42	49.41
4	Administration/Accounts staff	115	84	31	26.95
	Total	**3,619**	**2,077**	**1,542**	**42.61**

The table above shows a shortage of 43.37 *per cent* in operational staff and 49 *per cent* in auto staff. Overall, there was a staff shortage of 42.61 *per cent* in DFS.

Availability of adequate field staff is imperative for the operational efficiency of the DFS. Despite recommendations of SFAC for deployment of Home Guards or creation of Voluntary Firemen, DFS had not deployed Home Guards as Auxiliary Firemen or Volunteer Firemen.

DFS agreed to the observation (February 2016) and intimated that efforts were being made with Delhi Subordinate Service Selection Board (DSSSB).

2.2.4.6 Functioning of the Fire Safety Management Academy (FSMA)

(a) Courses conducted: As per SFAC norms, a Training Bureau should be established in each State Fire Service. Further, six months courses for Firemen, Assistant Station Officer and Driver recruits, three months courses

for Leading Firemen, and two weeks course in breathing apparatus are recommended by SFAC. Audit observed that Fire Safety Management Academy, established in January 2001, did not prepare any annual plan, which showed that DFS was not attributing adequate importance to the training of its staff. During 2010-15, FSMA conducted the following courses and activities:

(i) DFS conducted nine courses for External Sub-officers from National Fire Service College (NFSC) Nagpur, four courses for DFS Fire Operators; and two courses for Station Officer and Instructor's from Nagpur during 2010-15.

(ii) Besides the regular courses, DFS also conducted 48 courses and practical attachments, and 20 lectures and demonstrations for various outside agencies. However, FSMA did not conduct any refresher course or specialized training for existing officers/staff. As intimated by FSMA (August 2015), no training for electrical or chemical fires was imparted to the existing staff.

(b) Equipment and facilities: Audit observed lack of training equipment and facilities at FSMA, namely - Breathing Apparatus Gallery, Smoke Chamber, Fire Chamber, Arson Laboratory, Fire Simulator, Drill Tower and Hose Patching Machine. Further, in Hazzmat Van, used for training, only 38 out of 85 equipment and tools were in working condition.

The previous Performance Audit (Audit Report for the year ended March 2009) had highlighted issues of lack of training for existing personnel and specialized training. In ATN, DFS intimated that efforts were being made to establish a full-fledged training center at Nangloi. However, no new training center was operationalized as of February 2016.

DFS, while accepting the observation (February 2016), attributed the reasons to lack of space at FSMA and stated that it had procured a piece of land for construction of new training centre at Budhan Mazra.

(c) Non-conducting of Physical Assessment Test

SFAC norms recommend physical assessment tests for fire personnel, to be held every six months to ensure that they remain fit for their duties. As per norms, among other tests, a firefighting person should be:

- able to run 100 meters in 30 seconds,
- able to lay four lengths of hoses, each of 50 ft, from the appliances within three minutes, and
- able to climb on extension ladder of 35 ft, from the appliance, within two minutes.

Audit observed that DFS did not conduct physical assessment tests during the period under audit.

DFS intimated (February 2016) that there was no provision for physical assessment test in DFS Act/Rules. However, the Chief Fire Officer assured that efforts were being made to decide the type of physical assessment to be conducted.

2.2.5 Poor response time

(a) As per SFAC norms, the response time[9] of a maximum of three minutes should be achieved in all high hazard zones and closely built up areas, and it should not exceed five minutes for other areas. DFS did not maintain manual data of actual response time, but uploaded fire reports on its website with details of response time.

Data analysis of 1,011 fire calls in six fire stations[10] for the months of June 2012, 2013 and 2014, showed that response time was within five minutes only in 400 calls (40 *per cent)* and in the remaining 611 cases (60 *per cent*), it was six minutes or more. **Table 2.2.3** given below, provides further break-up:

Table 2.2.3: Analysis of response time

Response Time (in minutes)	Number of calls		
	June 2012	June 2013	June 2014
1-5	168	101	131
6-10	173	156	108
11-15	35	23	44
16-20	15	6	9
21-30	8	4	21
31 and above	4	2	3

In six cases, Audit observed that the response time of one minute for two kms, three minutes for four kms, four minutes for seven/eight kms, nine minutes for 10 kms and 19 minutes for 18 kms was recorded in fire reports. This was unrealistic considering the traffic conditions in Delhi.

DFS cited (September 2015) the absence of dedicated lane on roads as the reason for delayed response time. However, Audit found cases where fire incident happened in an adjacent building or in the same area of a concerned fire station and fire vehicle still took four to six minutes to reach the spot. Also in 37 cases within distance of one to two kilometers, fire vehicles took eight to 39 minutes to reach the scene of fire.

As per the Performance Audit (Audit Report for the year ended March 2009), response time was within five minutes in only 23 *per cent* of test-checked cases. Over five years, despite increase in number of fire cases from 16,452 in the year 2008-09 to 23,242 in 2014-15, DFS improved its response time and managed to reach scenes of fire within five minutes in 40 *per cent* of cases.

[9] the time in which the fire vehicle actually arrives at the fire scene after receiving the call
[10] Nehru Place, Najafgarh, Laxmi Nagar, Narela, Wazirpur, Naraina

(b) A critical component of any successful rescue operation is time. Knowing the precise location of landmarks, streets, buildings, emergency service resources and disaster relief sites reduces that time and saves lives. The Global Positioning System (GPS) serves as a facilitating technology in addressing these needs. In the Action Taken Note to last Performance Audit (Audit Report for the year ended March 2009), DFS assured (July 2010) that it was putting all efforts to improve the response time, including induction of GIS/GPS. However, Audit observed that Geographic Information System (GIS/GPS) was yet to be installed in any of the fire vehicles. DFS again intimated (February 2016) that the proposal was still under process in the Law Department of GNCTD.

2.2.6 Irregularities in the payment of water charges

According to Section 45 of the Act, no charge shall be made by any local authority for water consumed in fire-fighting operations by the Fire Service. Audit, however, observed that DFS was paying bills for water consumed for domestic, official and firefighting purposes. During 2010-15, an amount of ₹ 9.80 crore was paid to DJB and NrDMC at commercial rates. Since category wise details of water consumed was not available, Audit could not segregate the water charges towards fire operation which could have been avoided. Besides, it was also noted that the water charges of domestic consumption by the occupants of the 557 staff quarters which was being irregularly paid by DFS at commercial rates, should have been recovered from the staff at least to the extent of domestic rates. However, no such step had been taken.

DFS stated (February 2016) that water charges were paid to DJB and NrDMC for consolidated consumption of water used for fire stations and staff quarters. The reply is not tenable as excess payment to the extent of water charges could have been avoided by installation of separate water meters for domestic consumption.

2.2.7 Enforcement of fire safety norms

2.2.7.1 Non-maintenance of data on high rise buildings

Fire Safety Certificate (FSC) is issued under DFS Rule 35 to the owner or occupier of the building/premises with such conditions[11] as may be specified in the FSC for compliance of fire prevention and safety measures. The application for grant of FSC shall be accompanied with a certificate from the architect and owner or occupier that all the fire prevention and fire safety measures as required under Rule 33 have been incorporated in the building. The FSC, unless cancelled shall be valid for a period of 5 years for residential

[11]Rule 27 of DFS Rules: Residential>15 mtrs, Hotels>12 mtrs, Educational>9 mtrs, Institutional>9 mtrs, Business>15 mtrs, Industrial buildings having covered area of>250 sqm, etc.

buildings and 3 years for on-residential buildings. Fire Prevention Wing in DFS issues these FSCs for buildings/premises in Delhi. As such, it should also have a data base of high rise buildings and their owners who are required to obtain FSCs in respect of their buildings.

Audit noticed that DFS maintained no such data regarding issue and renewal of FSCs, in the absence of which DFS was not in a position to keep a watch on issue and renewal of FSCs to the all high rise buildings, revealing a major gap and systemic deficiency. This shows that fire safety measures were to be put in place and fire safety norms were not enforced.

DFS confirmed (August 2015) non-maintaining of such database, but intimated (September 2015) that owners/occupants were informed regarding requirement of obtaining and renewal of FSC through print media. It also stated that software was installed to maintain the database, but it stopped working recently due to some fault. DFS added (February 2016) that the proposal for modernization of DFS was submitted to GNCTD in January 2016. Once the computerization process is complete, the data base would be available.

2.2.7.2 Non-submission of annual maintenance declaration by occupiers

DFS Rule 38 (2) requires the occupier or the fire safety officer of the building or premises[12] to declare every year in Form-K that fire prevention and fire safety measure provided in the building or premises, are in good repair. Audit scrutiny of records in Fire Prevention Wing (FPW) of DFS showed that it maintained no records of submission of Form-K by the owners of buildings. In the absence of such records, Audit could not draw any assurance whether fire safety measures prescribed under DFS Rules were being followed in Delhi.

DFS intimated (September 2015) that some owners submit Form K and their data was being maintained in Excel Sheet randomly. The matter had been taken up (September 2015) with GNCTD and IT department for modernization and assured that data entry system for systematic record keeping would be developed soon. DFS added (February 2016) that once the computerization process is complete, the data base would be available.

2.2.7.3 Non-maintenance of data on appointment of Fire Safety Officer

As per Section 29 of the Act, every owner/occupant or an association of such owners and occupants of prescribed class of buildings or premises[13] shall appoint a Fire Safety Officer (FSO), who shall ensure the compliance of all fire prevention and fire safety measures and effective operation thereof.

[12]Section 29 of DFS Act: Cinema Houses with seating capacity of >1000 persons, Hotels with >100 rooms, Multi storeyed non-residential buildings with height>50 meters etc.

[13] Section 29 of DFS Act: Cinema Houses with seating capacity of >1000 persons, Hotels with >100 rooms, Multi-storeyed non-residential buildings with height>50 meters etc.

Section 31 further provides that if any owner or occupier or an association of such owners and occupiers of a building or premises, fail to appoint FSO within 30 days of receipt of notice given by DFS, such sum, not less than ₹ 10 per square meter and not exceeding ₹ 50 per square meter, may be recovered from him by way of penalty for each month of default or part thereof. Audit observed that no data base or details were available with Fire Prevention Wing (FPW) to establish that DFS had undertaken any exercise or campaign for enforcing the provisions of the DFS Act regarding appointment of Fire Safety Officers in prescribed buildings.

DFS confirmed (June 2015) the audit observation and stated that neither notices in this regard were issued nor any penalty imposed during the preceding five years. DFS further intimated (September 2015) that a public notice was issued in all leading newspapers for appointment of FSOs, and that once the computerization process is complete, the data base would be available.

2.2.7.4 Test check of fire systems at buildings

DFS inspects buildings in accordance with a standard 12 point proforma to see whether fire safety measures have been put in place. The proforma includes 12 requirements, as - **(i)** a six meter approach road, **(ii)** water storage tank,**(iii)** automatic sprinkler system**, (iv)** hose reels, **(v)** portable appliances, **(vi)** public address system, **(vii)** automatic fire detection/manual alarm, **(viii)** exit signs, **(ix)** wet riser/down comer/dry riser, **(x)** compartmentation[14], **(xi)** emergency power supply, and **(xii)** fireman switch. After satisfying itself on these 12 points of the check list, DFS issues Fire Safety Certificate (FSC). Audit along with the DFS officers and officials of PWD/CPWD, physically visited randomly selected eight buildings sites, for test-checking the compliance of 12 point basic check list of DFS.

The Performance Audit (Audit Report for the year ended March 2009) had pointed out shortcomings in issue of NOC and adherence to fire safety norms in respect of schools, cinema halls and high rise buildings. However, similar situation prevails even after five years indicating failure of DFS in implementation of fire safety norms. A few illustrative instances noticed during physical verification are enumerated below:

- In Antriksh Bhawan, a 6-meter approach road was obstructed and in Vikram Towers, it was available only on the front side.
- In Vikram Towers and RML Hospital, compartmentation was not in accordance with set standards.
- Public Address system was not working in DDU Hospital.
- Exit signs were not available at Palika Kendra Bhawan.

[14]Use of specified doors to prevent the spread of fire or smoke in any area.

- Emergency Power supply was not working in Vikram Towers, DDU Hospital and GTB Hospital.
- Water for the purpose of firefighting was not available at DDU Hospital.
- Emergency exit gates were locked in DDU Hospital, RML Hospital and were narrow at Antriksh Bhawan.
- Last NOC was issued to Antriksh Bhawan in 1995 and Vikram Towers in 2004.
- FSCs were issued during the last three years in four[15] out of eight buildings/sites visited by Audit. This only confirms that NOCs/FSCs are renewed only when owners approach DFS.
- All the fire systems of PGI block in RML hospital were not in working condition. Also, no fire staff was appointed.

DFS accepted the observation (February 2016) and intimated that re-inspection of buildings pointed out by Audit was being taken up and action would be taken.

2.2.8 Internal Control Mechanism

Internal controls are safeguards that are put in place by the management of an organisation to provide assurance that its operations are proceeding as planned. These are also designed to provide reasonable assurance that the entity's general objectives are being achieved. Reasonable assurance provided by such internal controls strengthens accountability of public authorities.

Audit scrutiny revealed weaknesses in the internal control mechanism of DFS as reflected from the audit observations included in preceding paragraphs of this Report, such as non-achieving of targets for creation of fire stations, non-maintenance of a comprehensive database of areas, population under respective fire stations and geographical mapping, number of high rise buildings, non-maintaining details of issue and renewals of Fire safety Certificates for buildings in Delhi, etc.

2.2.9 Conclusion

Planning and preparedness for fire prevention undertaken and achieved by DFS was not commensurate with the size and complexity of a megacity like Delhi. It neither maintained a comprehensive database of areas, population under respective fire stations and geographical mapping nor was it aware of the number of high rise buildings in Delhi and the status of NOCs/FSCs issued to such buildings. DFS was suffering from shortages of resources too, particularly of operational staff and fire tenders/bousers. Available

[15] RML February 2015, Civic Centre May 2015, Palika Kendra February 2014 and B L Kapoor Hospital February 2013.

Communication equipment were inadequate and outdated, hampering the performance of DFS.

The Fire Safety Management Academy conducted no training or refresher course for existing staff, or any training on Electrical or Chemical fires.

2.2.10 Recommendations

DFS may:

(i) Prepare a comprehensive database of area, population and risk-hazards;

(ii) Monitor issue and renewal of Fire Safety certificates;

(iii) Expedite establishment of new fire stations and acquisition and upgradation of the required fire vehicles and equipment including communication facilities commensurate with the needs of Delhi;

(iv) Conduct regular appraisals to ensure compliance with fire safety standards in buildings; and

(v) Take steps to improve response time to bring it within the norms as recommended by the Standing Fire Advisory Council.

The matter was referred to the Government in December 2015; their reply was awaited (March 2016).

Department of Urban Development

2.3 Implementation of Projects in Delhi Jal Board

In Delhi, the Delhi Jal Board is responsible for production and distribution of drinking water and for collection, treatment and disposal of sewage. A performance audit was conducted on 'Implementation of Projects in Delhi Jal Board' covering the period 2010-15. Main audit findings are as under:

Highlights

- ***The capacity utilisation of Sewage Treatment Plants (STPs) was only 66 per cent due to lack of adequate conveyance systems to bring sewage from command areas to the STPs.***

(Paragraph 2.3.2.1(i))

- ***Water Treatment Plants and allied infrastructure for 150 Million of Gallons Per Day (MGD) were developed at Dwarka, Bawana and Okhla without ensuring availability of raw water.***

(Paragraph 2.3.2.2(ii))

- ***Penalty withheld for delay in execution of 12 works by contractors was short by ₹ 104.20 crore.***

(Paragraphs 2.3.3.1)

- ***A contractor was allowed to change the technology from confined trench to micro-tunnelling method for laying sewer line that resulted in avoidable expenditure of ₹ 15.33 crore.***

(Paragraph 2.3.3.2)

- ***There were delays in execution of work in 44 out of 53 works ranging from 5 to 85 months.***

(Paragraph 2.3.5.1)

2.3.1 Introduction

The Delhi Jal Board (DJB) was constituted under the Delhi Jal Board Act, 1998, passed by the Delhi Legislative Assembly. The Department of Urban Development, GNCTD is the administrative department for DJB which is responsible for production and distribution of drinking water as also for collection, treatment and disposal of waste water/sewage across Delhi. For discharging its responsibilities, DJB undertakes projects like construction of Water Treatment Plants, Sewage Treatment Plants, Underground Reservoirs, Pumping Stations and laying of water pipelines and sewer lines.

2.3.1.1 Organizational set up

The DJB is headed by a Chairperson who is assisted by the Vice Chairperson, one Chief Executive Officer, one non-official member, one executive official member, four members (Administration, Finance, Water Supply and

Drainage), five Directors, 10 Chief Engineers, Superintending Engineers and Executive Engineers.

2.3.1.2 Audit objectives

The broad objectives of performance audit were to appraise implementation of projects in DJB and to assess whether

- conceptualization and planning of projects were need based and according to priorities set in long term/master plan,
- tendering, awarding and execution of projects were in accordance with extant rules,
- financial management was efficient,
- completed projects served the intended purpose, and
- effective internal control and monitoring mechanism existed.

2.3.1.3 Scope of audit and methodology

The performance audit on implementation of projects in DJB covering the period April 2010 to March 2015, was conducted at the DJB Headquarters and its Divisions. Audit selected all 34 projects costing more than ₹ 50 crore, which were initiated, ongoing or completed during 2010-15 for audit examination. There were 53 works under these 34 projects (**Annexure 2.3**).

Out of the 34 projects selected for audit, six projects[16] were under investigation by Vigilance Branch of DJB/Central Bureau of Investigations/Fact Finding Committee and most of the original records were with them. Audit findings in respect of these projects are based on copies of records made available to Audit by the Divisions concerned. An entry conference was held with the Chief Executive Officer of DJB on 19 May 2015 to discuss the scope, objectives and methodology of the audit. The draft report was referred to the Government in 28 December 2015 and discussed in an exit conference held on 11 February 2016. The views expressed by the DJB officials in the exit conference and replies subsequently received from Government (March 2016) have been incorporated in the report.

2.3.1.4 Audit criteria

The audit criteria against which the audit findings were benchmark are as follows:

- Sewerage Master Plan for Delhi, 2031 and long term plan of water,
- Central Public Works Department's Work Manual, 2012,

[16](i)Construction of Raw Water Pump House and laying Raw Water Mains, Dwarka, (ii) Improving efficiency of water distribution in Malviya Nagar, (iii) Improvement in service level for water supply in Mehrauli and Vasant Vihar, (iv) Implementation of Water Tanker Supply Services, (v) Improving and Revamping of Water Supply System in the command area of Nangloi Water Treatment Plant and (vi) Supply and Installation of Water Meters.

- General Financial Rules, 2005,
- General Conditions of Agreement, and
- Instructions and orders issued by the concerned agencies.

Audit findings

Audit examined various stages of implementation of the projects including conceptualization, planning, awarding of contract and execution. The audit findings are discussed in the succeeding paragraphs.

2.3.2 Conceptualization and planning

For optimum utilisation of resources, conceptualisation of projects requires to be need based and as per priority set in accordance with the objectives of the organisation. This would prevent idling of machinery and infrastructure created. Similarly, assessment of availability of raw material for any project, for instance, raw water (for Water Treatment Plants), drinking water requirement (for distribution), sewage generation (for pumping and processing), should precede planning of projects under an organisation like the DJB. Audit examined the selected projects under sewerage and water supply and observed deficiencies in conceptualisation and planning of these projects as illustrated in the succeeding paragraphs:

2.3.2.1 Sewerage Projects

The projects of sewerage system were being undertaken in accordance with the Sewerage Master Plan for Delhi 2031 (SMPD) which was finalised in June 2014.

(i) Underutilisation of capacity of STPs[17]: The SMPD divides Delhi into 12 drainage zones and projected the expected sewage generation for 2011, 2021 and 2031 along with required capacities of STPs for each drainage zone. Details of capacities of STPs at various zones and actual sewage treated at these are given in **Table 2.3.1**.

Table 2.3.1: Details of capacity of STPs and quantity of sewage actually treated

(Quantity of sewage in MGD)

Sl. No.	Drainage zone	Total plant capacity	Capacity of STPs closed or not commissioned	Actual capacity available	Projected sewage generation in 2011**	Quantity of sewage treated at present	Percentage of capacity utilization
(1)	*(2)*	*(3)*	*(4)*	*(5) = (3) - (4)*	*(6)*	*(7)*	*(8)*
1	Shahdara	144	30	114	110	70	61
2	Okhla	170	30	140	137	112	80
3	South Delhi	15	5*	10	23	10	100
4	Outer South Delhi	--	--	--	10	--	--
5	Narela	10	-	10	26	1.5	15

[17]Sewage Treatment Plants

6	Coronation	40	10	30	55	20	67
7	Najafgarh	5	-	5	43	4.5	90
8	Nilothi	60		60	45	40	67
9	Kanjhawla	--	--	--	35.5	--	--
10	Rohini-Rithala	95	--	95	95	70	74
11	Dwarka	40		40	38.4	34	85
12	Keshopur	72	-	72	62	69	96
	Total	**651**	**75**	**576**	**679.9**	**431**	**75**

***STP not commissioned due to non-availability of sewage.*
***Source: Sewerage Master Plan for Delhi – 2031 and information furnished by DJB*

The report of the Comptroller and Auditor General of India (No.2 of 2013 relating to the Government of NCT of Delhi) had highlighted that capacity utilization of STPs was only 67.57 *per cent* and the under-utilization was attributable to absence of conveyance systems to convey the sewage to the plants. After two years since then, the capacity utilization increased by only 7 *per cent* excluding capacity of 75 MGD of STPs closed or not commissioned.

Audit noted that the total established plant capacity of 651 MGD was almost 96 *per cent* of the projected sewage generation of 679.9 MGD in 2011. Optimal utilization of established capacity would thus have greatly ameliorated the problem of untreated sewage flowing into the Yamuna River in Delhi. However, with actual capacity utilization of just 75 *per cent* (66 *per cent* if capacity of plants closed or not commissioned is taken into account), only 431 MGD of sewage was being treated during 2015 as against the projected sewage generation of 679.9 MGD of 2011 viz. 63 *per cent*. With the projected increase in the sewage generation of 863.4 MGD by 2021 and 1,061.6 MGD by 2031, the quantum of untreated sewage being released into the Yamuna River was likely to only increase in the absence of any concerted plan to improve capacity utilization of existing STPs and commission new plants commensurate with the trend of generation of sewage.

The department stated (March 2016) that the gap between the installed capacity and sewage being treated is mainly attributable to lack of conveyance system between the source and the STPs and most of these would achieve optimum utilisation after completion of Interceptor Sewer in December 2016. Under utilisation in Narela and Rohini Zones was attributed to low rate of occupancy in areas developed by DDA.

(ii) Absence of database on sewage generation and sub-drains: The objective of Interceptor Sewer (IS) Project, approved in January 2008, was to trap sewage (dry weather flows) into main drains via sub-drains. Determination of flows in sub-drains was essential to evaluate the size of sewers, interception chambers, pumping stations and ancillary structures. During the technical appraisal (August 2009) of the DPR of IS Project, the Ministry of Urban Development, GoI, observed that water flowing from a particular sewerage zone into the sub-drains was not measured and depicted in

the DPR and directed DJB to correct per capita sewage/sullage flow before implementing the project. Contracts for execution of the project were awarded to three agencies in July 2011. Audit, observed that new/additional sub-drains were reported by the consultant during July 2013, August 2014 and March 2015 necessitating changes in scope of work. This indicates that DJB did not have comprehensive data on the sub-drains emptying into main drains. Moreover, the project which was to be completed by December 2011, was already delayed by more than four years as of March 2016 and is now expected to be commissioned only by December 2016.

The Department stated (March 2016) that Interceptor Sewers were designed with sufficient provision to accommodate future flows as projected upto 2036. Frequent changes in scope of work was not only indicative of lack of rigour in designing of the works based on proper assessment of sewage/sullage norms, but, would also delay completion of project and entail cost-overrun.

(iii) Non-adherence to directions of Delhi Pollution Control Committee: In view of the high level of pollution in River Yamuna, the Delhi Pollution Control Committee (DPCC) directed (January 2001) the DJB to achieve BOD[18] standard of 10 mg/l and TSS[19] of 15 mg/l for effluents in its future STPs. Audit scrutiny, however, showed that work orders for construction of three STPs at Kondli, Keshopur and Okhla were issued between December 2007 and May 2008, with BOD and TSS standards of 20 mg/l and 30 mg/l, which were not in line with the directions of the DPCC. As a result, the pollution in Yamuna remained unabated to that extent.

The Department, in its reply (March 2016), stated that it had been following the norms prescribed by Central Pollution Control Board which had been revised only in October 2015, whereas these STPs were constructed before this revision. It further added that old plants were being rehabilitated for meeting the revised norms. The reply is not tenable as DJB should have followed the norms of DPCC as it has been delegated the powers and functions of the State Board by the CPCB.

(iv) Non-inclusion of component for power generation from bio-gas produced at the STPs: The design of STPs usually include gas holders to collect bio-gas produced during sewage processing, which can be utilised to produce electricity. The STPs at Okhla (completed in June 2012) and Kondli (completed in August 2013) had such provision and were generating electricity. Audit scrutiny of records relating to the project 'Demolition and re-construction of 12 MGD[20] STP and Rehabilitation of two existing STPs of 20 and 40 MGD capacity at Keshopur'(completed in January 2014) showed that it did not include installation of power plant for generation of electricity

[18]Bio Oxygen Demand
[19]Total Suspended Solids
[20]Million Gallons per day

from the bio-gas produced and collected in gas holders. As such, DJB ignored the opportunity to utilise the available bio-gas profitably.

In its reply (March 2016), the Department stated that it had entered into MoU with two firms in November 2011 for utilisation of bio-gas generated at various STPs, but not much progress could be achieved. However, DJB was pursuing the revival of proposal.

Thus, lack of conveyance system for the sewage flow to STPs to optimise installed capacity utilisation, incomplete Interceptor Sewer Project, construction of STPs without following the standards prescribed by DPCC for effluents, designing of STPs without provision for tapping bio-gas generated at STPs for power generation showed shortcomings in conceptualisation and planning of sewer projects by DJB.

2.3.2.2 Water Supply Projects

(i) Non-maintenance of data for assessment of requirement of water: As per the Handbook on Service Level Benchmarking issued by the M/o Urban Development, GoI, the data relating to the per capita quantum of water supplied and household level coverage of direct water supply connections serve as performance indicators of water supply services in the city. Thus, for projecting realistic water requirement of a locality, DJB should have locality-wise data on population, availability of water and its per capita consumption.

For supplying water in five zones under the Project - 'Water Tanker Supply Service' (WTSS), DJB awarded five contracts (between August and September 2012) for 10 years. As per the agreements, contractors were to provide 130 tankers of 3,000 litre capacity and 255 tankers of 9,000 litre capacity. The requirement for water tankers was initially assessed at the time of awarding of contract. The DJB, however, did not have locality-wise data on actual quantum of water required and supplied to the consumers to project a realistic requirement and regulate allocation of water through tankers.

The Department stated (March 2016) that the contracts were awarded after a study conducted through physical survey and collecting information from the public and resident welfare associations. The reply is not acceptable as it does not address the need for maintenance of locality-wise data for projecting realistic requirement and regulating allocation of water through tankers.

(ii) Non-ascertaining of availability of water before execution of projects: While proposing the project of WTP[21] at Dwarka (September 2005), DJB projected a requirement of 83.15 MGD of water for Dwarka area and planned to construct a 50 MGD WTP and laying of twin raw water pipelines each of 55 MGD capacity from Bawana. The WTP started functioning from March 2015, supplying about 40 MGD of treated water in

[21]Water Treatment Plant.

the area as of December 2015. Moreover, the twin raw water pipelines, on which an expenditure of ₹ 383.71 crore had been incurred (only one line could be made functional), were of 110 MGD. As against this, the capacity of WTP and Pump House at Bawana (from where raw water was to be drawn) was only 50 MGD. This indicated inconsistent planning, besides not ensuring availability of raw water for meeting the drinking water requirement of the area.

Similarly, the DJB approved (March 1999) a block estimate of ₹ 137 crore for construction of 40 MGD WTP at Okhla, whose capacity was reduced to 20 MGD in September 2008 due to non-availability of raw water. Raw water for this plant was to be provided out of savings of water after construction of Munak Canal (CLC)[22]. However, regular source of raw water for providing 20 MGD at the WTP was not available (as of January 2015), defeating the very purpose of constructing the WTP.

The Department stated (March 2016) that Dwarka WTP was one of the three plants which were planned expecting availability of additional raw water of 95 MGD on completion of the Munak canal (CLC) as agreed (February 1993) between Haryana Irrigation Department and Delhi Jal Board. It further added that considering future demand, pipelines with capacity of 110 MGD between raw water pump house at Iradat Nagar and WTP, Dwarka, were laid in one go because the land/alignment available today may not be available later. Reply is not acceptable as raw water expected from CLC was only 95 MGD, whereas, infrastructure being created by DJB would require 150 MGD.

Thus, DJB did not have a long term plan for providing piped water connection to deficit areas. Also, DJB did not have locality wise data on requirement of potable water for regulating supply through water tankers. Further, failure to ensure raw water availability prior to taking up projects resulted in idling of infrastructure created.

2.3.3 Financial management

The projects selected for audit consisted of 22 projects relating to Sewerage system with total awarded cost of ₹ 2,683.02 crore and 12 projects relating to Water Supply with awarded cost of ₹ 3,548.07 crore. Deficiencies in Financial Management observed in these projects are discussed in the succeeding paragraphs.

2.3.3.1 Penalty withheld less than due - ₹ 104.20 crore

As per clause 10.3.1 of the DJB General Conditions of Contract, compensation for delay of works shall be at the rate of 1.5 *per cent* of the contract price, for each month of delay to be computed on per day basis, subject to a maximum of 10 *per cent* of the contract price. Audit scrutiny,

[22]Carrier Lined Channel

showed that the DJB Divisions were withholding payment at 10 *per cent* of amount paid after the scheduled date of completion, instead of 1.5 *per cent* of the contract price per month of delay. This resulted in short withholding of penalty of ₹ 104.20 crore in 12 works (three water supply and nine sewerage works) where the delay in execution already exceeded seven months warranting a penalty of 10 *per cent*.

The Department stated (March 2016) that penalty withheld was as per the practice followed. Reply is not tenable as the practice is not in consonance with the provisions of General Conditions of Contract.

2.3.3.2 Avoidable expenditure of ₹ 15.33 crore

The work - 'Providing and laying of Wazirabad Road Sewer by Micro-tunnelling Method (MTM) and Confined Trench Method (CTM) under Yamuna Action Plan-II' was awarded (December 2007) to a contractor at a total cost of ₹ 79 crore to be completed by December 2009. The work was to be executed by micro-tunnelling for a length of 5.6 km along Wazirabad road and by CTM for 8.6 km on branch sewers. In the pre-bid meeting held on 15 March 2007, DJB had agreed to the offer made by the firm to use micro tunnelling method at the rates of CTM, in the length of work where CTM was to be deployed. The work to be executed through CTM was held-up in a length of 1.8 km due to site constraints. Audit observed that DJB allowed the contractor to complete this portion of work through Micro tunnelling at the rates of MTM instead of CTM, resulting in an additional cost of ₹ 15.33 crore, which was supposed to be borne by the contractor. It was further observed that the work was actually completed on 30 September 2012 at a cost of ₹ 112.23 crore i.e. with a delay of almost three years that was partly due to laxity of the contractor to carry out prior survey and inspection of site and his inability to execute work with agreed technology. Though most of the delay was attributable to the contractor, DJB paid escalation charges of ₹ 17.20 crore to the contractor and did not levy penalty for the delay of ₹ 5.10 crore as required under the agreement.

The Department stated (March 2016) that due to heavy sub-soil conditions at site and a strong apprehension of the public, the matter was placed before the Board which decided to get the project executed through micro tunnelling. It further stated that permissions were received late and in piecemeal and the delay was not attributable to the contractor. Hence, penalty was not imposed on the contractor and payment for cost escalation was made. Reply is not acceptable as neither DJB nor the contractor carried out pre-requisite surveys and site inspections to ensure hindrance free site and decide appropriate technology for work.

2.3.3.3 Irregularities in payment of mobilisation advance

In terms of Section 31.5 of the CPWD Manual, mobilization advance (MA) to the extent of 10 *per cent* of the total contractual cost at 10 *per cent* interest per annum, can be granted to contractors for specialized and capital intensive works with estimated cost of more than ₹ 2 crore.

In the project of demolition and re-construction of 12 MGD STP and rehabilitation of two existing STPs at Keshopur, the agreement contained a clause for reconstruction of 18 Sludge Digesters and two Gas Holders, if necessary, during execution of the project. The cost of these items was ₹ 20.50 crore. It was seen that DJB paid interest free MA of 10 *per cent* of the whole contracted amount, i.e. inclusive of cost of contingent work of reconstruction of Sludge Digesters and Gas Holders, though its requirement was not certain at the time of granting MA. Eventually, reconstruction was not considered necessary and not executed. Inclusion of cost of items not required to be executed for MA, resulted in unjustified payment of additional MA of ₹ 2.05 crore[23].

The Department stated (March 2016) that MA was paid as per condition of the NIT on the basis of total cost of the project indicated in the work order. Reply is not acceptable as payment of MA on items of work which were contingent in nature, was irregular.

2.3.3.4 Irregular payment of advance to contractors

DJB entered into a contract with M/s Engineers India Limited (EIL) for the project of laying of Interceptor Sewerage System along three drains. The agreement did not envisage payment of any advance by DJB to EIL. However, DJB paid advance of ₹ 65.36 crore to EIL (December 2013 to February 2014) for advancing to contractors as additional financial support for timely completion of the project. Despite grant of advance, the project scheduled to be completed by December 2011, was awaiting commissioning as of March 2016.

The Department stated (March 2016) that the advance was being recovered along with interest from bills of the contractors. However, the fact remains that there was no provision in the agreement between DJB and EIL for grant of advance by DJB.

2.3.4 Contract management

The first stage in awarding a contract is obtaining Administrative Approval and Expenditure Sanction from the competent authority. After that, a detailed project report is prepared with details of various components of the project with specifications for each component and estimated cost of the same. After preparation of DPR, tenders are invited for award of the work. After opening

[23] 10 *per cent* of ₹ 20.50 crore.

of bids, justification rates statement is prepared to assess the reasonability of rates offered by the bidder. Work is awarded to the lowest bidder subject to the reasonability of rates quoted and fulfilment of other eligibility criteria.

2.3.4.1 Irregularities in working out justification rate

In terms of clause 20.4.3.2 of CPWD Manual, reasonability of rates should be assessed before acceptance of the tenders. Variation up to five *per cent* over the justified rates may be ignored, whereas, up to 10 *per* cent may be allowed in special circumstances.Tenders above this limit should not be accepted.

(i) Irregular award of project: For the work of '20 MGD WTP at Okhla and Raw Water Pumping Station at Wazirabad including ancillary work', DJB did not prepare DPR though instructed (September 2004) by the Department of Urban Development. In its absence, DJB was not in a position to work out detailed engineering design and project realistic cost estimates. Audit observed that the justification rates prepared by DJB were based on rough cost worked out on the basis of similar works. The work was awarded in October 2008 at a cost of ₹ 107 crore, which was 13 *per cent* above the justification rate of ₹ 94.68 crore. Awarding of work was thus in violation of the provisions of CPWD Manual.

The Department stated (March 2016) that after taking into consideration the financial implication of the components not accounted for earlier, the departmental justification rate was revised to ₹ 102.12 crore. It added that as the variation was 4.78 *per cent*, it was within CPWD norms. The reply is not acceptable as the revised departmental justification rate was placed neither before the technical committee nor the Board while awarding the work.

(ii) Incorrect preparation of justification rate statement: Agreements for the project of 'construction of 55 MGD Raw Water Pumping Station and allied works and 'laying of MS raw water twin mains to 50 MGD WTP at Dwarka' contained a price variation clause covering material, POL[24] and labour. However, while preparing (September 2008) justification rate (JR), DJB loaded an average five *per cent* of increase on base rate of steel and provided for escalation amounting to ₹ 5.35 crore (₹ 2.79 crore in Package-1A and ₹ 2.56 crore in Package-1B) on account of price variation in base rate of steel, which was irregular, as price variation clause existed in the agreement. In addition, arithmetical errors in calculation of JR for Package-1B had the effect of increasing the same by ₹ 6.64 crore. These errors and omissions inflated the JC by ₹ 11.99 crore. Thus, actual JR for Package-1A worked out to ₹ 234.30 crore and for Package-1B ₹ 142.40 crore whereas the works were awarded at ₹ 248.50 crore (6.06 *per cent* above JR) and ₹ 156 crore (9.55 *per cent* above JR) respectively.

[24]Petrol, Oil and Lubricants

The Department stated (March 2016) that loading of average five *per cent* increase on base rate of steel was adopted, as benefit of escalation (within 10 *per cent* of basic rate) was not available to the contractor and the same would have been factored in by the contractor in his quoted cost. While accepting the arithmetic error of ₹ 6.64 crore, DJB stated that the variation between the awarded costs under both the packages was well within 10 *per cent* permissible limit as per CPWD manual. Reply is not acceptable as loading of average five per cent increase on base rate was not as per the provisions of CPWD Manual which provides for adopting price indices issued by the Director General, CPWD for steel reinforcement and structural steel. Moreover, reasons for allowing variation over five *per cent* of the justified rates were not on record.

(iii) Unjustified inclusion of service tax in justification rate: In six projects[25] (five water and one sewerage projects), service tax was also included in justification rate, which was irregular as service tax is applicable for services rendered and not for civil works and supply of equipment. Inclusion of service tax increased the justification rates by ₹ 1.95 crore to ₹ 8.10 crore in these projects. As a result of inclusion of service tax component in the justification rate, four of these works were awarded at more than five *per cent* above the justification rate.

The Department stated (March 2016) that service tax was payable on some components of the work, such as labour charges, charges for planning, designing, etc. and, therefore, the same was included in the justification rate. The reply is not acceptable as service tax, where payable, should be on actual basis against remittance of the same by contractor and should have been excluded from the justification rate.

2.3.4.2 Discrepancy in funding ratio due to provision of grant above the approved rate

With a view to reducing the Non-Revenue Water[26] (NRW) (estimated at 79 *per cent*) and considering that the enormous investment requirements are not likely to be met from the public sector alone, DJB decided (October 2012) to attract private capital through PPP model for rehabilitation and development of command area of Nangloi WTP with a funding ratio of 70:30 for DJB and the Operator, provided the aggregate grant does not exceed ₹ 338.81 crore. The work was awarded in January 2013 at a capital cost of ₹ 652.32 crore, including road restoration cost of ₹ 193.78 crore, which was to be borne by DJB during the development period. Audit observed that DJB entered into an

[25](i) Installation of SCADA system at Bhagirathi WTP (ii) Construction of 50 MGD WTP at Dwarka, (iii) Laying of clear water mains for Dwarka WTP, (iv) Construction of Raw water pumping station for Dwarka (Package IA), (v) Laying of raw water twin mains for Dwarka WTP (Package IB) and (vi) Construction of 53.5 MGD Sewage Pumping Station at Preet Vihar

[26]NRW is the extent of water produced which does not earn the utility any revenue.

agreement for an excess liability of ₹ 17.83[27] crore as its share over and above the decided ratio. Thus, the basic objective of PPP model was defeated to the extent that enormous investment was borne by DJB due to discrepancy in fixing the share ratio.

The Department stated (March 2016) that its liability as per the concession agreement was in the ratio of 70:30. The total project cost was revised from ₹ 687.92 crore to ₹ 652.32 crore comprising of project cost for ₹ 458.54 crore and road restoration charges for ₹ 193.78 crore and that the share of DJB was revised and reduced vide corrigendum (August 2012) to ₹ 320.98 crore. Audit however, observed that the concession agreement signed with the Operator incorrectly provided for grant upto ₹ 338.31 crore instead of ₹ 320.98 crore, thereby, providing scope of undue benefit to the operator.

2.3.4.3 Delay in awarding of work

Analysis of time taken by the DJB in issuing Notice Inviting Tenders (NIT) after administrative approval showed that in 14 works, DJB took more than one year for issuing NIT after administrative approval. The time taken was more than two years in eight cases. Though the rules do not prescribe any time frame for issuing NIT, taking more than a year for issuing NIT cannot be considered reasonable. Further, the maximum validity period for tenders was 180 days indicating that the work should be awarded within this period. However, Audit observed that the DJB took more than six months to award work after issuing NIT in 19 works. In two cases, the time taken was 28 months. Though the contractors agreed to carry out the work on the rates tendered by them, such delay in awarding of work entails increase in cost and deprives the public of intended facilities.

The Department stated (March 2016) that preparation of detailed scope of work, DPR, cost estimates, bid documents containing precise scope of work and terms and conditions take time. However, it was assured that efforts would be made to reduce the time for such processing.

(i) Laxity in processing of tenders: For the project 'Supply of AMR and Non-AMR domestic water meters' financial bids were opened on 26 December 2012, though the tenders were received on 25 April 2012 and technical bids evaluated on 22 May 2012. It was observed that as per NIT, the financial bids were to be opened on completion of evaluation of technical bids, whereas clause 15.7.1.2 of CPWD Works Manual stipulates that the financial bids should be opened within 30 days of receipt of tenders. Deviation from the provisions of CPWD Manual resulted in delay in awarding of work. The letter of intent was issued on 11 April 2013, i.e. almost a year after receipt of tenders.

[27] Seventy *per cent* of ₹652.32 crore (less ₹ 193.78 crore road restoration charges) works out to ₹ 320.98 crore, whereas in the Concession Agreement, the support has been raised upto ₹ 338.81 crore, thus additional assurance for ₹ 17.83 crore.

The Department stated (March 2016) that delay in award of work was due to delay in receipt of the test reports of the sample meters from the Government laboratory. Reply is not tenable as DJB should have fixed the stipulated time period for opening of financial bids after factoring ground realities for timely processing of tender.

(ii) Non-adherence to the schedule of bidding process: As per the schedule of bidding process for the project "Improvement and revamping of existing water supply, transmission and distribution network under command area of Nangloi WTP", Letter of Award (LOA) was to be issued within 60 days of opening of financial bids and agreement signed within 60 days of award of LOA. However, though the financial bids were opened on 11 October 2012 and LOA was issued on 18 January 2013. Further, the concession agreement was signed on 28 March 2013, after the expiry of the validity of bid.

The Department attributed (March 2016) the delay to processes involved in verification of and translation of documents and stated that the Letter of Intent (LOI) was issued on 26 October 2012 after approval of the Board i.e. well within the validity of the offer. Reply is not acceptable as DJB should have expedited verification process for timely processing of tender. Moreover, neither the LOA was issued nor the concession agreement signed within the validity period of bid (180 days) i.e. 13 September 2012.

2.3.4.4 Non-finalization of Project Implementation Schedule

DJB awarded (January 2013) work of 'Improvement of existing water supply and distribution network of Nangloi WTP' to two Operators at a capital cost of ₹ 652.32 crore. As per the Concession Agreement, the project was to be implemented in two phases with specified timelines to be achieved between March 2015 and September 2017. Audit observed that the Operator proposed changes in the Implementation Plan (March 2015), suggesting change in the rehabilitation of distribution network and pump configurations, from those stipulated in the DPR prepared by the Consultant. Operator suggested that the distribution network rehabilitation as given in the DPR would cause incomplete rehabilitation and will leave no network areas between improved and rehabilitated area. It also proposed merger of timelines of Phase I and II, keeping a single deadline of September 2017. DJB had yet to decide the issue as of March 2016, leaving ambiguity in the scope of work and scheduling of activities.

The Department stated (March 2016) that the Project Monitoring Committee (PMC) was being informed about the change in scenario and the revised implementation schedule was being finalized in consultation with PMC. Reply is not acceptable as the PMC did not agree (September 2015) to the changes proposed by the Operator and had reservations regarding merging timelines of Phase I and II. Moreover, non-finalisation of the implementation

plan had already rendered assessment of Key Performance Indicators as per the contract agreement, untenable.

2.3.4.5 Awarding and managing consultancy work

The Central Vigilance Commission directed (November 2002) that the role of the consultants should only be advisory and recommendatory and final authority and responsibility should be with the departmental officers. For major projects, DJB appointed consultants for preparation of DPR and NIT, examination of bids and monitoring project implementation.

Dependency on consultants: Examination of proposal for the project 'Improvement and revamping of existing water supply, transmission and distribution network of Nangloi WTP' submitted to the Board (October 2012) showed that the Consultant had prepared an estimate of ₹ 652.32 crore and sent it along with rate analysis to the Planning Wing (DJB) for scrutiny. However, the Planning Wing expressed lack of expertise to offer any comment on such PPP project, and the Board approved (January 2013) the project. This shows that the proposal was finally approved without being analyzed at any stage, reflecting complete dependency of DJB on the consultant.

The Department stated (March 2016) that since its Planning Cell was not in a position to examine or advise on such complex financial model, a Consultant (Transaction Advisor) was associated to do the financial, technical and legal work for the project and to carry out a feasibility study. Reply is not convincing as the project under PPP concept was attempted considering enormous investment requirements which were not likely to be met from the public sector alone and that in the absence of technical knowledge on such projects, DJB may not be able to prudently decide on the competitiveness of the rates quoted by the bidder.

Similarly, in the project of Water Tanker Distribution Management System, the bid offered by M/s DIMTS was ₹ 63.35 crore against the justification rate of ₹ 58.65 crore prepared (June 2010) by the consultant on behalf of DJB. It was, however, observed that DJB was not in a position to analyse the competitiveness of the rates offered by M/s DIMTS and totally dependent on the consultant as the justification rate was tentative and not based on CPWD pattern. The project was only partially implemented by integrating 42 out of 700 tankers required under the project. Moreover, there were deficiencies such as non-functioning of water level sensor, non-optimisation of routes and alerts on water leakages in the system for integrating tankers.

The Department stated (March 2016) that it was taking up this kind of IT based project for the first time and accepted the project cost worked out on market rates by the consultant as they had adequate experience and exposure in this field. Reply is not acceptable as reasonability of market rates should

have been analysed by the DJB to ensure competitiveness of the rates. Moreover, works of transmission and distribution of water supply are of regular nature for which DJB should have standardized its norms for analyzing rates.

2.3.5 Project implementation

Out of 53 works under 34 projects, 18 (7 of Water and 11 of Sewerage) were initiated during the period of audit (2010-15), 10 works (5 each of Water and Sewerage) were ongoing and 19 (11 of Water and 8 of Sewerage) were completed. Four works were completed before April 2010 whereas two were yet to be taken up. Various issues observed on project implementation are discussed in the succeeding paragraphs.

2.3.5.1 Delay in execution of works

Audit observed delay in execution of work in 44 works (23 water supply and 21 sewerage works) out of 53 examined in audit. In 15 works, which were completed, the delay in completion from the date stipulated in the contract ranged from 5 to 53 months. Out of the remaining, 18 works were in progress even after their stipulated dates of completion with delays ranging up to 85 months. In most of the cases, delay was due to non-availability or delay in getting permission from road owning agencies (PWD, MCD and DDA), traffic police, Forest Department, IFCD, Railways etc. This indicates lack of coordination with other departments for execution of works. It was also observed that the DJB placed the onus of obtaining permissions from various Government agencies on the contractor by including a clause to this effect in the agreement thereby absolving itself of any responsibility in this regard though it may have been in a better position to pursue permissions with the concerned government departments.

Delay, particularly in projects of laying of sewer lines and construction of SPSs, resulted in failure to convey the sewage to STPs, which were functioning below capacity. Similarly, delay in construction of UGRs resulted in non-rationalization of water supply to that extent.

The Department stated (March 2016) that delay in setting up of plants/pumping stations were mostly due to unforeseen underground services hindering the work which sometimes necessitates change in design and drawings for the project. As regards projects for laying of water and sewer pipelines, it was stated that DJB was dependent entirely on land owning or road owning agencies for permission for work and inspite of persuasion at all levels, permissions were delayed causing overall delay in execution of work. Reply strengthens audit observation that better coordination was required between various Government departments to ensure timely completion of projects.

2.3.5.2 Changes in the scope of work after award of contract

For the project 'Improvement in service level of water supply in Mehrauli and Vasant Vihar', the DPR and Bill of Quantities (BoQ) in the NIT were prepared for intermittent water supply. The work was awarded (September 2012) at a cost of ₹ 201 crore. Though the stipulated date of completion of the project was 26 September 2014, the progress of work as of June 2015 was only 29 *per cent*. Audit observed that the DJB was in the process of changing the water supply parameter from intermittent to 24x7 which entails large scale changes in the scope of work especially in terms of specifications of equipment. Though the stipulated completion was already over, the DJB was still in the process of finalising the revised specifications and cost to be paid to the contractor for the same. Thus, change in scope after award of work, resulted in delay in execution of the work, intended to improve water supply in Mehrauli and Vasant Vihar Area.

The Department stated (March 2016) that specifications and other details were being re-worked and approval of the competent authority would be taken shortly. However, reply was silent on reasons for change in the scope after awarding the work.

2.3.5.3 Provisional Extension of Time not granted and Defect Liability not enforced

CPWD Manual stipulates that based on the Hindrance Register, the Engineer-in-Charge can grant extension of time (EoT), even in the absence of application from the contractor. The EoT is granted without prejudice to the right of government to recover liquidated damages. The work - 'Design-Build-Operate 20 MGD WTP at Okhla and raw water pumping station at Wazirabad including ancillary work' was awarded to a contractor in October 2008 at ₹ 107 crore to be completed by August 2010. As the trial run of the WTP was held up due to non-availability of raw water, EOT up to 31 December 2012 was granted to the firm without levy of penalty on 14 September 2012. Audit observed that trial run for only 79 out of 90 days (four days on full load) was held during the monsoon period of 2012 and DJB allowed the contractor to perform the balance period of trial run for 12 days from 1 July 2013 to 12 July 2013 without further grant of extension of time. Thereafter, load was reduced to 10 MGD due to shortage of water and pumping constraint at Okhla Water Works. Despite expiry of three years, neither provisional nor final EoT was granted by the DJB (as of July 2015). Further, operation and maintenance of the plant was started from 13 July 2013 after commissioning without Defect Liability Period of one year in between as required under the agreement.

The Department stated (March 2016) that in its effort to test the facility on full load, it used 79 days' period when water was available in the river and during the next year for the balance period, wherein the plant functioned efficiently

and met all the requirement of the contract. The case of extension of time up to July 2013 was under process. As regard the defect liability period, DJB stated that the plant was functional on full load for more than one year and no deficiency was noticed. Reply is not tenable as according to the contract, work was to be certified as complete only after successful completion of trial run at full load for a continuous period of one month. However, in this case, trial on full load was carried out for only four days. Moreover, DJB did not provide any documentary evidence in support of plant being run at full load.

2.3.5.4 Procurement of equipment in advance of requirement

The projects undertaken by DJB usually have two components - civil and Electrical & Mechanical (E&M) works. Payment terms in agreements require 70-80 *per cent* of the E&M cost to be paid on receipt of items and the rest on installation and commissioning. For installation of E&M equipment, civil work needs to be completed in advance. Audit observed in five cases that E&M equipment were procured by contractors immediately after the commencement of work and remained un-installed for long periods. In 12 completed projects, equipment costing ₹ 143.82 crore remained idle for 17 to 68 months. The remaining two were yet to be complete as of June 2015, but equipment costing ₹ 92.60 crore procured 13 to 24 months ago were yet to be utilised**.** Idling of equipment indicated procurement of equipment much in advance of actual requirement.

The Department agreed (March 2016) to the audit observation and stated that scope of work would be amended to address the issue in future projects.

2.3.5.5 Evaluation of completed projects

Audit examination of completed projects showed delay in commissioning and other deficiencies which resulted in non/under-achievement of intended objectives as discussed in the succeeding paragraphs.

(i) Delay in commissioning of completed projects: With a view to rationalising water distribution in West, North West and South West Delhi, DJB approved (July 2004) a scheme - 'Construction of 14 UGRs[28] with Booster Pumping Stations (BPS)', out of which 11 had been commissioned as of July 2015. Commissioning of five of these completed projects was delayed by 25 to 62 months.

Similarly, the project of 'Providing twin raw water mains from Haiderpur to Wazirabad' was completed in February 2012, but trial run and commissioning of the project were held up due of non-availability of raw water.

The Department attributed (March 2016) the delay in commissioning of the constructed water supply infrastructure to non-availability of raw water from

[28]Sultanpur Dabas, Qutab Garh, Awantika, Pitampura, Janakpuri, Daulatpur, Narela, MBR at Palla, Kirti Nagar, Shakur Basti, Rohini Sec-7, Bawana, Nangloi and Karala

Munak Canal and stated further that the dispute over supply of water with Haryana was resolved last year after intervention of Hon'ble Delhi High Court. However, an assurance regarding successful trial run and commissioning of project could not be derived as DJB did not furnish reports relating to successful commissioning.

(ii) Holding of trial run at lower discharge capacity: Audit scrutiny showed that during the trial run of project of 'Providing raw water twin mains at Dwarka' held during March and April 2015, in one of the operational line, actual discharge ranged between 3.68 and 28.09 MGD against stipulated discharge capacity of 55 MGD. The line, to be commissioned in July 2010, was awaiting successful commissioning as of August 2015.

The Department attributed (March 2016) the delay in commissioning the constructed water supply infrastructure to non-availability of raw water from Munak Canal. It further stated that the pipe lines were hydraulically tested successfully for the full capacity and Dwarka plant had been in operation since March, 2015. Reply is not acceptable as the records made available to Audit showed that the plant was running below optimum capacity during March and April 2015. Moreover, DJB did not furnish reports of successful trial run and commissioning in support of its reply.

(iii) Implementation of WTDMS project: To eliminate misuse and theft of water and ensure route optimization and bring down the number of water tankers from 1000 to 800, a project for developing and operationalisation of software for effective monitoring of the water tankers through GPS was approved by GNCTD in December 2010. For the purpose of design, development, implementation and operation of Water Tanker Distribution Management System (WTDMS), M/s DIMTS was appointed (June 2011) as Implementation Agency, at a cost of ₹ 61.45 crore, for seven years from the date of Go-live. The WTDMS was to Go-live within two months from award of the contract, i.e. by August 2011, by integrating a minimum of 700 tankers into the WTDMS. However, Go-Live could be achieved for only 42 new tankers as of May 2015. As of May 2015, ₹ 132.14 crore had been paid to the work contractors in addition to payment of ₹ 0.56 crore to M/s DIMTS. Thus, even after more than five years of awarding the contract, the WTDMS could not be operationalised.

The Department stated (March 2016) that the movement of entire fleet of 407 tankers was effectively monitored at the control room apart from direct monitoring by individual divisions as the system was web based. Reply is not acceptable as the requisite number of tankers were not integrated with WTDMS.

2.3.6 Internal control and monitoring

Internal control system is a management tool used to provide assurance that the objectives are being achieved as planned. It was, however, noticed that internal control in DJB was weak as evident from deficiencies pointed out in preceding paragraphs included in this Report, on shortcomings in awarding and management of consultancy work, deficiencies in withholding of penalty and irregularities in obtaining performance guarantee. Other deficiencies/ shortcomings are mentioned in the following paragraphs.

2.3.6.1 Absence of mechanism for inspection of projects

Audit scrutiny showed that there was no prescribed mechanism in DJB for inspection of projects by higher officers, like Superintending Engineers and Chief Engineers so as to identify and mitigate bottlenecks in execution of projects. Inspection registers maintained at project sites for recording the comments of officers visiting the sites showed that inspections by higher officers were few and far in between, though, most projects were running behind schedule.

The Department stated (March 2016) that order had been issued in this regard.

2.3.6.2 Lack of monitoring of progress of works

In DJB, concerned divisions send monthly physical and financial progress reports to Headquarters which contain progress percentage of works. Audit observed that no efforts were made at Headquarters to examine and analyse these reports to take appropriate action for ensuring progress of works as planned. In the absence of any scrutiny at Headquarters, the very purpose of these progress reports was defeated.

In reply, the Department stated (March 2016) that progress of projects was monitored by Member (Technical), DJB on monthly basis and discussed in the meetings of the Chief Executive Officer. It assured to take action in view of the audit observation.

2.3.6.3 Improper method of measurement of work

In projects assigned on Design, Build and Operate basis, payments are made on the basis of completed work and as per cost given in the price break-up submitted by the contractor and duly approved by DJB. Examination of measurement books and records relating to payments showed that DJB did not record actual quantity of work completed but only recorded completion percentage of works. In the absence of actual measurements of works Audit could not ensure that payments were made only for work actually completed.

The Department agreed (March 2016) to the audit observation and stated that orders in this regard would be issued shortly.

2.3.7 Conclusion

The conceptualization and planning for projects was marred with deficiencies in collection of data, frequent changes in scope of work, award of works without availability of encumbrance free sites, etc. There was mismatch between the capacities of STPs and quantity of sewage processed and three STPs were not designed to meet the specifications prescribed by the Delhi Pollution Control Committee. Deficiencies like irregularities in payment of mobilization advance and penalty withheld less than due pointed to poor financial management. Works were awarded above justification rates. There were delays at every stage of implementation of projects. Coordination between various government departments was lacking in obtaining permissions from road owning agencies, traffic police, Forest Department, IFCD and Railways. Internal Control and monitoring of projects was inadequate.

2.3.8 Recommendations

DJB may:

(i) *Ensure synchronisation of construction of WTPs and STPs with availability of raw water and laying of sewage lines respectively to avoid under utilisation of plant capacity;*

(ii) *Improve coordination with various departments like PWD, Forest Department, Traffic Police etc. to expedite permissions for taking up works to avoid delay in execution of projects; and*

(iii) *Strengthen monitoring of projects at Headquarters so as to identify and mitigate bottlenecks in implementation of projects.*

Department of Urban Development

2.4 Parking Facilities in Area of Municipal Corporations

In Delhi, three Municipal Corporations are mainly responsible for developing and managing parking facilities. The Performance Audit on 'Parking Facilities in Area of Municipal Corporations', was conducted during April 2015 to July 2015. Main audit findings are given below:

Highlights

- ***Out of 17 Under Ground Automated Parkings (UGAPs) on PPP model approved in January 2007, only one was created as of July 2015. Part implementation of conventional Multi Level Under Ground Parkings (MLUGPs) resulted in wasteful expenditure of ₹ 3.93 crore on consultancy.***

(Paragraphs 2.4.3.2 and 2.4.3.3)

- ***Awarding of contracts and contract management were marred with irregularities, like accepting conditional bid, non recovery of dues from contractor and not inviting fresh tenders though scope of work was changed entirely.***

(Paragraphs 2.4.4.1, 2.4.4.2 and 2.4.4.3)

- ***Failure of the Remunerative Project Cells (RP Cell) to ensure compliance of terms and conditions of agreements by the licensees led to mis-management of parking sites.***

(Paragraph 2.4.5.1)

2.4.1 Introduction

Inadequate parking facilities in a city force people to park their vehicles on roads considerably reducing the available width of carriage way causing vehicular congestion and avoidable fuel consumption, as well as contributing to vehicular air pollution. Well designed, economically viable, efficiently managed, and easily accessible parking facilities contribute significantly both to lowering vehicular congestion and enhancing road discipline. In Delhi, except for a fractional area[29], the whole of the city is under the jurisdiction of three Municipal Corporations[30] (MCsD) for the purpose of providing civic facilities to the residents and thus, these three corporations are mainly responsible for developing and managing parking facilities in the city.

[29]Only a fractional area of Delhi is with New Delhi Municipal Council and Delhi Cantonment Board.

[30] North Delhi Municipal Corporation (NrDMC), South Delhi Municipal Corporation (SDMC), East Delhi Municipal Corporation (EDMC).

2.4.1.1 Organizational setup

Prior to May 2012, the MCD functioned as a unified organisation, but was trifurcated into SDMC, NrDMC and EDMC in May 2012. Each of the three MCsD is headed by a Commissioner. The NrDMC is further divided into six zones, SDMC into four zones and EDMC has two zones. Planning and execution of new parking projects is carried out by the respective Engineering Department of MCsD, which is headed by an Engineer-in-Chief (E-in-C) assisted by Chief Engineers, Superintending Engineers and Executive Engineers. Commercial utilization and management of existing parking sites come under the jurisdiction of the Remunerative Projects Cell (RP Cell) of the respective MCD, headed by an Additional Commissioner (Revenue), assisted by Deputy Commissioner.

2.4.1.2 Audit objectives

Main objectives of the performance audit were to assess whether:

- adequate parking facilities are available in the city;
- there exists an effective planning for construction of new parking sites;
- existing parking facilities were maintained and functioning as per prescribed norms; and
- commercial utilization of parking sites was for optimal revenue generation.

2.4.1.3 Audit scope and methodology

Performance Audit on 'Parking Facilities in MCsD Area', covering the period April 2010 to March 2015, was conducted to examine the adequacy of parking facilities, planning and construction of new parking facilities, functioning of existing Surface Level Parkings (SLPs) and Multi Level Under Ground Parkings (MLUGPs) and commercial utilization of parking sites. An entry conference was held on 29 May 2015, wherein audit objectives and methodology were discussed with authorities of MCsD. Records relating to planning and execution of parking projects, their commercial utilization and management were examined in RP Cell and seven Works Divisions which are involved in setting up parking facilities. Audit physically visited all the five MLUGPs to have an on the spot view of their physical condition, workability and commercial utilization. Thirty five SLPs (25 *per cent* of functional SLPs) selected on random basis, were also visited to ascertain the extent of compliance of terms and conditions of agreements by licensees. Audit findings were communicated to the Government in November 2015, and subsequently discussed in an exit conference held on 03 March 2016 with the authorities of Urban Development Department and MCsD. The Government endorsed the reply of SDMC (March 2016); reply in respect of NrDMC and EDMC was awaited (March 2016).

2.4.1.4 Audit criteria

The criteria, against which audit findings were benchmarked, were drawn from the following sources:

- Master Plan of Delhi, 2021,
- General Financial Rules,
- CPWD Works Manual, and
- Instructions and orders issued by GNCTD and MCsD time to time.

Audit findings

2.4.2 Inadequacy of parking facilities

In the year 2009-10, the three Multi Level Under Ground Parkings (MLUGPs)[31] located in and around the walled city had a total capacity of only 2,700 ECSs[32]. The MCsD subsequently constructed four additional MLUGPs[33]and one Under Ground Automated Parking (UGAP)[34] with total capacity of 3,148 ECSs in 2014-15, making total ECSs available in the city to 5,848. Lack of adequate ECSs accentuated the acute shortage of organized parking sites in the capital city.

2.4.3 Planning and construction of new parking sites

2.4.3.1 Lack of initiatives in developing parking facilities

A survey was conducted (2009-10) by Delhi Integrated Multi-Modal Transit System (DIMTS) and a private consultant on behalf of the then MCD to assess the parking demand on commercial roads and mixed land use roads in all the 12 MCD zones. The Executive Engineer (Pr.III/RZ) forwarded (December 2010 and January 2013) the survey report of 2009-10 to the Deputy Commissioners of all 12 zones of MCsD as well as to Chief Engineers for further action at zonal level. However, no action was initiated on these reports by any of the zonal offices. Subsequently, the Commissioner, NrDMC also directed (October 2013) all Zonal Deputy Commissioners and Chief Engineers to check feasibility of creating parking facilities on the sites identified in the survey report and to submit feasibility reports. The Chief Engineer (Rohini Zone) was nominated as co-ordinator for this activity. However, none of the Zones or Chief Engineers submitted any feasibility report. The Executive Engineer (Pr.III/RZ) took no follow up action either. This indicated a lack of seriousness and commitment on the part of MCsD authorities, which further worsened the parking problem because of rapid

[31]Church Mission Road, Gandhi Maidan and Asaf Ali Road.
[32] ECS denotes the area required to accommodate one car.
[33]Model Town, Parade Ground, Munirka and Hauz Khas
[34]Kamla Nagar

increase in the number of vehicles in city and minimal growth in parking space as elaborated in Paragraphs 2.4.3.2 and 2.4.3.3.

2.4.3.2 Improper site selection

With a view to cope with the parking problem, RP Cell of MCD identified 19 locations in 2005 to develop Multi Level Underground Parking sites.

In January 2007, MCD approved a plan for setting up Underground Automated Parking Facilities (UGAP) at 17 of these 19 locations on Build, Operate and Transfer (BOT) basis, under Public Private Partnership (PPP) mode. MCD entered into four agreements with three firms between July 2008 and April 2012 for setting up UGAPs at four locations. However, as of 31 July 2015, only one UGAP at Kamla Nagar was created. Work for the remaining 16 UGAPs including three for which agreements were entered into, could not be progressed due to various reasons as given in **Table 2.4.1**:

Table 2.4.1: Status of approved but not executed UGAPs

Sl. No.	Location of UGAP	Activity initiated	Reasons for non-execution of UGAP works	Status*
1.	Shastri Park	Tenders invited four times (April 2007 to October 2011), but not finalised.	No bidder qualified; no response to NITs.	Further progress not on record.
2.	South Extension	Formal agreement signed (March 2011), but not executed.	DMRC took over the identified site (April 2012).	Proposal was finally closed.
3.	Greater Kailash-I	Formal agreement signed (August 2011), but not executed.	SDMC failed to remove hindrances from the site.	Proposal is still alive, hindrances not removed.
4.	Mehrauli	ASI did not permit construction.	Site was within the ambit of archeological monument.	Proposal was finally closed.
5.	Rajouri Garden and Green Park (2 UGAPs)	Project not initiated.	A dispensary, school, diabetic centre, etc. were functioning at sites.	Proposal was finally closed.
6.	Lajpat Nagar	Tenders were processed (April 2009), but not finalized.	DMRC took over the identified site (January 2014).	Proposal was finally closed.
7.	Sant Nagar	Project not initiated.	Instead, a new proposal for conventional MLUG considered.	Original proposal for UGAP dropped.
8.	Hamilton Road	Proposal dropped (November 2008).	Tees Hazari Bar Association showed reluctance, as a SLP was already operational at the indentified site.	Proposal was finally closed.
9.	Defence Colony	Agreement was signed (April 2012) but was closed subsequently (February 2014).	SDMC did not own the land. L&DO claimed ownership (February 2013).	Agreement was closed.
10.	Idgah and Qutub	Project not initiated.	Land ownership was	Proposal was

	Road (2 UGAPs)		under dispute with DDA and Railways.	finally closed.
11.	Greater Kailash-II	Project not initiated.	Site was not found feasible because of rocky strata.	Proposal was finally closed
12.	Vasant Vihar, Anupam PVR and Geeta Colony (3 UGAPs)	Proposals not processed.	No initiatives were taken by the MCsD to set up the UGAP at these locations. Records related to these sites were not made available to Audit.	Status could not be ascertained as records were not made available.

**Closure of project confirmed by the Department/MCsD in Exit Conference on 03 March 2016.*

It was evident from above that due diligence had not been carried out in identification and selection of sites that resulted in projects being proposed on land that belonged to other land owing agencies or fell within the ambit of archeological monuments or were already occupied.

2.4.3.3 Part implementation of conventional MLUGP facilities, resulting in wasteful expenditure of ₹ 3.93 crore

Clause 12.13.4 of MPD-2021 permits creation of parking facilities in open space without disturbing green areas on the surface and surrounding environment. Audit observed that the then MCD identified 24 parks/open areas in eight Zones (year 2008) for constructing MLUGPs**,** with a view to adding 8,904 additional ECSs. For managing these works, 24 Executive Engineers were also nominated (February 2008), one for each site. The MCD approved (June 2008) the plan at an estimated cost of ₹ 549.53 crore, to be completed within 21 months i.e. by March 2010. Subsequently, as proposed by GNCTD, the Government of India approved (December 2009) funding of 16[35] out of these 24 parking projects under Jawahar Lal Nehru National Urban Renewal Mission (JNNURM) with a committed Additional Central Assistance (ACA) of ₹ 164.43 crore, of which only ₹ 41.11 crore was released to MCD as of March 2015. Four MLUGPs (Model Town-II, Hauz Khas, Parade Ground and Munirka) were completed at a cost of ₹ 116.76 crore[36] while work at five sites viz. Rajouri Garden, Subhash Nagar, Kalka Ji, Jangpura and New Friends Colony was in progress as of June 2015. Process for setting up remaining 15 MLUGPs was either not taken up or stopped midway due to lack of follow up action on part of MCD authorities despite expenditure of ₹ 3.88 crore on consultancy fees as described below:

[35](i) AL Block Shalimar Bagh (ii) Shiva Market Pitampura (iii) QU Block Pitampura (iv) Central Market Ashok Vihar (v) Mohammadpur Village (vi) Malviya Nagar Market (vii) PVR Vasant Lok (viii) PVR Saket (ix) Rajauri Garden (x) Subhash Nagar (xi) Janakpuri (xii) Ajmal Khan Park (xiii) Krishna Market Kalkaji (xiv) Hauz Rani,(xv) New Friends colony (xvi) Jungpura.

[36]Expenditure upto 09.02.2016 (Model Town-II – ₹ 17.02 crore, Hauz Khas – ₹ 26.63 crore, Munirka – ₹ 19.00 crore and Parade Ground – ₹ 54.11 crore)

- Tendering for MLUGP at Central Park Krishna Nagar was initiated in December 2009. The contractor negotiated for six items. The Additional Commissioner (Engg.) directed to recheck the justification prepared by the consultant and a committee was formed under the chairmanship of Chief Engineer in September 2010. The committee held five meetings between October 2010 and March 2011 to evaluate the justification, but could not finalize the matter. Finally, contractor refused (April 2011) to extend validity of his tender and the Commissioner approved re-tendering (December 2011), but no action was taken thereafter. However, the consultant for the project was paid ₹ 55.29 lakh for the works he had done. The payment made to the consultant remained unfruitful as no initiative on the project was being taken by MCsD.

- Tendering process for Ashok Vihar site was started in November 2009. Negotiations were held with lowest bidder on 20 April 2010 and the case was forwarded to Finance Department of MCD for concurrence. More than a year was taken to attend to the observations of Finance Department. Case was resubmitted on 28 April 2011 to Additional Commissioner. Meanwhile Environment Pollution Control Authority (EPCA) in its meeting held on 23 April 2011 instructed not to take up any parking project under parks till completion of earlier parking projects as per the guidelines issued by it. Additional Commissioner (Engg.) vide order dated 19 August 2011 desired E-in-C to re-examine the project. The case was again put up for approval on 01 September 2011 wherein the Additional commissioner (Engg.) again referred the file to the Finance Department for concurrence on 02 September 2011. The Finance Department concurred the proposal on 31 January 2002 subject to certain observations. As tenders' validity expired on 31 March 2012, NrDMC invited tenders afresh in December 2012, which also could not be finalized for the reason of observations and procedural delay. Proposal was finally closed in August 2014. An expenditure of ₹ 22.22 lakh was incurred on consultancy.

- The work of MLUGP at Hauz Rani was awarded in March 2010, but ASI objected (August 2010) to the work, as the site was within the ambit of a historical monument. On the request of the contractor, the Commissioner SDMC approved (November 2011) closing of the agreement and re-tendering for the work. On SDMC's request, ASI gave its assent (August 2012) for the work at site. However, further action could not be initiated in view of Lieutenant Governor's order (September 2012) for not converting or using green areas for parking. However, the project consultant was paid ₹ 24.12 lakh for pre-construction planning work.

- Tenders for the Mohammad Pur site were received in November 2008, but work could not be awarded for want of ASI's permission, as the site was within the vicinity of a historical monument. The then MCD changed the site (March 2009) and invited fresh tenders (March 2010). However, tenders were not finalized as the planning department/Horticulture Department approved the justification of the cost only in January 2011. Meanwhile, the validity of the tenders expired in February 2011. However, an amount of ₹ 24.64 lakh was paid to the consultant for pre-construction planning work.

- The common tenders for MLUGPs at PVR Saket, Malviya Nagar and Vasant Lok[37] were received in November 2008 and again in March 2010, but on both occasions, cost quoted by L-I was higher than the justified cost. Recalling of tenders was again approved in August 2011, but no further progress was made thereafter. The Commissioner, SDMC approved (December 2012) closing of sites as the Lieutenant Governor of Delhi ordered on September 2012 not to take up any parking project in green area. The consultant was however paid ₹ 81 lakh.

- Award of work against the tenders received in June 2009 for MLUP at Janakpuri[38]could not be finalized as in March 2010, the EPCA objected to the construction at the site. A payment of ₹ 22 lakh was, however, made to the consultant for planning of pre-construction work.

- The excavation work at Gandhi Nagar was started in May 2009, but had to be closed (December 2010) when it came to notice that a DJB's water mains were crossing the construction site. However, ₹ 75.10 lakh had already been incurred on the work and ₹ 61 lakh was paid to the consultant, which was unfruitful.

- The work at Shiva Market and QU Block of Pitampura was awarded in November 2009. During excavation at Shiva Market site, adjacent school building collapsed (June 2012) because of damage caused by the DJB water mains crossing the site. After the incident, contractor did not resume work. Tenders were re-invited in December 2012, but could not be finalized because of the indecision by the MCD authorities. Finally, on 25 August 2014, the Additional Commissioner approved closure of the proposal on the ground that adequate budget provision under Non-Plan head of accounts of NrDMC did not exist in that financial year, but the consultant for the project was paid ₹ 87.33 lakh.

- Selection of the site for MLUGP at AL Park, Shalimar Bagh could not be finalised due to resistance from residents of the area. A payment of ₹ 10.74 lakh was made for consultancy work for this site also.

[37]The original site was at Madangir
[38]The original site was at Inderlok

- Work for three MLUGPs (Arbindo Marg, Ajmal Khan Park and Kailash Colony) was not taken up due to objection by INTACH, resistance by local residents or unsuitable site.

In addition to the above 24 sites, the then MCD approved (October 2009) construction of an MLUGP (capacity 281 ECSs) at Chirag Delhi at an estimated cost of ₹ 28.24 crore and sought permission (March 2011) from EPCA for the work, which was turned down (June 2011). Inspite of this, a consultant was appointed in January 2012 and ₹ 4.98 lakh was paid to him for preparation of inception report. Finally, the work was closed (February 2013) in view of LG's orders of September 2012, directing not to convert and use green area for parking.

Thus, failure of MCD to identify hindrance free and technically suitable sites for setting up of MLUGPs coupled with inaction and indecision not only deprived citizens of parking facilities, but also resulted in wasteful expenditure of ₹ 3.93 crore on consultancy on partly implemented works, which never saw completion. Out of 16 sites approved under JNNURM, only four (AL Block Shalimar Bagh, Shiva market Pitampura, QU Block Pitampura and Ashok Vihar) were taken up, but abandoned midway. Projects at remaining 12 sites were dropped.

2.4.4 Irregularities in setting up UGAP/MLUGP

2.4.4.1 Award of concession incorporating terms and conditions not included or envisaged in project pre-bid document - UGAP at Kamla Nagar

MCD invited bids on pre-qualification basis in August 2006 for construction of UGAP at Kamla Nagar on Design, Finance, Build, Operate and Transfer basis. As per terms and conditions of Notice Inviting Tenders (NIT), MCD was to provide a plot of 3,200 sqm for UGAP for 1,200 ECSs and the concessionaire was to design and build the UGAP with his own finances and run it on commercial basis for a concession period to be quoted in the bid. Audit scrutiny showed that two firms submitted bids (December 2006). The Technical Evaluation Committee rejected (January 2007) one bid for not securing the required threshold score. However, marks awarded by each member of the committee were not available on record.

Audit scrutiny further showed that the bid of other bidder, submitted on 12 December 2006, included a condition to utilize 125.78 FAR or 44.33 *per cent* of built-up area, whichever is higher, for commercial purpose, whereas NIT stipulated 100 FAR or 30 *per cent* of built-up area, whichever is lower. MCD requested (January 2007) the bidder to revise the bid according to NIT, which it did by offering 100 FAR or 30 *per cent* of built up area, whichever is higher. Though the revised offer was still not in conformity with NIT, MCD accepted it and opened the financial bid (February 2007).

The bidder in its financial bid demanded 55 years of concession period, which was reduced to 50 years after negotiation by Evaluation Committee (February 2007 and March 2007). When the matter was forwarded to the Finance Department of the then MCD (March 2007), it suggested to constitute a committee comprising officers from various departments including Vigilance, EIL and NBCC[39], and to place its recommendations before the Corporation for final decision. The Finance Department also advised (April 2007) to consider different models of running UGAP including an option for revenue sharing during the concession period. However, MCD neither constituted any committee nor considered the option of revenue sharing. Matter was again forwarded to the Finance Department for concurrence on 30 April 2007. This time, the Finance Department made 16 observations (June 2007) and observed that the marks awarded by each member of the Technical Committee while evaluating the technical bids, were not made available to it. It was also advised to engage a financial expert from any of the premier financial institutes for examining the viability of the project.

The Engineering Department, attended to these observations and forwarded the case (June 2007) to the Housing and Urban Development Corporation Limited (HUDCO). HUDCO stated that normally the payback period was the length of time required to recover the initial cash outlay on the project. This project has a payback period of 15 years which is long compared to other infrastructure projects financed by HUDCO, which generally have a payback period of six to eight years.

The Finance Department finally found the proposal tilted in favour of the concessionaire and concluded (August 2007) that its observations along-with replies thereto, should be placed before the competent authority for appropriate decision in the matter. The Standing Committee approved the proposal on 17 October 2007. The Executive Engineer (Project) issued letter of intent to the Concessionaire (October 2007) and signed a formal agreement with it (23 July 2008) and provided a plot of 34,668 sp.ft. to the firm. The construction of UGAP was started in 2008 and completed in May 2014.

Audit also noted that:

- Neither NIT nor the concession agreement stipulated period for completion of the project, giving a free hand to the concessionaire in this regard. Concessionaire did not submit completion plan, in the absence of which, Audit could not ascertain the built-up area created for commercial use. Retrieval period of vehicles was also not fixed and mentioned in the agreement.
- MCD did not ascertain the quantum of the funds actually employed by the concessionaire in this project, though the concession period of 50

[39] National Building Construction Corporation

years was worked out on the basis of the projected expenditure by the concessionaire in the bid documents.

- The Concessionaire had imposed a condition (January 2007) to allow him to utilize excess FAR, if approved by DDA in future. MCD accepted it and imposed no condition for sharing profit to be earned from the excess FAR.
- Against 1,200 ECSs as per NIT, a UGAP with only 828 ECSs was created.

Hence, the financial interests of MCD were not adequately safeguarded in accepting a single and conditional bid that too on terms that were not originally envisaged, despite reservations expressed by Finance Department.

2.4.4.2 MLUGPs at Shiva Market and AU Block

The work of construction of MLUGPs at Shiva Market and AU Block was awarded (November 2009) at a cost of ₹ 43 crore to be completed within 15 months. The work was actually started in June 2010 and the contractor was paid ₹ 4.36 crore up to March 2012. Audit observed the following:

(i) Irregular release of mobilization advance: The Executive Engineer (Pr.III)/RZ) released (December 2009) ₹ 2.15 crore to the firm as first installment of mobilization advance. Though work was not started, contractor submitted (March 2010) details of expenditure of ₹ 2.75 crore on plant and machinery without any supporting documents. The Executive Engineer released a second installment of ₹ 2.15 crore in the same month without seeking the details to verify the utilization of the mobilization advance already released.

(ii) Failure to recover dues from contractor: A departmental enquiry constituted on 09 June 2012 by the Commissioner held the contractor responsible for the incident of building collapse during the execution of MLUGPs at Shiva Market and AU block. The Commissioner approved (September 2012) recovery of the amount paid to the contractor against the work done and the cost of damage to the building. The NrDMC worked out the total amount to be recovered from him to be ₹ 12.95 crore.

Audit observed that after the building collapsed, the contractor stopped the work and took away all his material from the site. By allowing the contractor to take away the material, plant and machinery, NrDMC lost the opportunity of recovering the advance of ₹ 2.88 crore (₹ 2.15 crore as Tool & Plant advance and ₹ 0.73 crore as interest on mobilization advance). However, no action was taken by Executive Engineer to recover the dues or to secure the equipment and material on site. Only after being pointed out by Audit, a recovery suit was filed (25 June 2015) in the Hon'ble High Court of Kolkata.

2.4.4.3 MLUGP at Parade Ground

The Executive Engineer, City Zone invited tenders (April 2009) for setting up a MLUGP at Shaheed Park, BSZ Marg. The L-1 quotation of ₹ 53.21 crore was negotiated (August 2009) to ₹ 52.83 crore. The Executive Engineer with the approval of Commissioner dated 20 April 2009 shifted (November 2009) the location of proposed parking site from BSZ Marg to Parade Ground in the walled city of Delhi without assigning any reasons. As work awarded earlier for MLUGP at Shaheed Park, BSZ Marg was location specific, the scope of work was changed entirely with the shifting of location. However, fresh tenders were not invited for new site and work was awarded (January 2010) to the firm on the same quotation. Hence, the reasonability of the cost of setting up the MLUGP at the new site could not be assessed.

2.4.5 Functioning of existing parking facilities

2.4.5.1 Deficient functioning of RP Cell of MCsD

The RP Cells of all three MCsD are responsible for commercial utilization of parking sites falling under their respective jurisdiction. MCsD had 176 Surface Level Parking (SLP) sites as of May 2015. The RP Cells allot these sites to licensees on the basis of Monthly License Fee (MLF) through tendering or public auction. Scrutiny of records in RP Cell of respective MCsD showed that license agreements had conditions requiring licensees to provide certain essential information/certificates to RP Cell before starting SLPs to ensure safe and lawful functioning of SLPs as well as safety and security of commuters and vehicles. However, RP Cells did not ensure receipt of these information/certificates from licensees in respect of parking sites allotted during April 2012 to May 2015. Some cases are discussed below:

- MCsD were to supply maps of sites together with demarcation of exact area for parking of Bus/Tempo/Car/Motor Cycle. The licensee was required to mark the area by epoxy yellow thermoplastic coats and submit a certificate to this effect with photograph of the parking site to RP Cells. Though RP Cells supplied maps to the licensee of each SLP, these were without markings of space for specific kind of vehicles. Licensees also did not submit requisite certificates and photographs. The lapse on the part of RP Cells provided scope to licensees to utilise parking space more than actually allotted.
- Licensees were to arrange for verification of character antecedents of their employees from the Police under intimation to MCsD and submit certificates to this effect within a week of taking over sites. However, RP Cells did not obtain such reports of Police from any of the licensee compromising the security of site and its users.

- As per the agreements, a licensee was required to submit a certificate to the RP Cell within a week after taking over the parking site to the effect that receipt for parking fee would be issued to the commuters only through hand held devices. However, no such certificates were submitted by any of the licensee. Hence, there was no assurance that the commuters would be charged the prescribed parking fee.
- Licensee was required to get parking site insured against theft, damage or loss to vehicles, pay the insurance premium regularly and submit photocopy of the receipt to concerned RP Cell. But, no licensee submitted copies of insurance policies and evidence of payment of premium. In case parking sites are not insured, the licensee may deny the compensation to the commuters in case of theft, damage or loss of the vehicles.
- Licensee was to maintain a complaint register in the format prescribed by MCsD. However, RP Cells neither prescribed any format nor had a system in place for reviewing complaint registers and ensuring corrective action by licensees.
- As per agreements, employees of licensees should be in uniform and display/wear identification badges as prescribed. However, RP Cells did not prescribe the design of badges and uniforms, allowing licensees an excuse for not observing the specific instructions. In the absence of badges and uniform, there was no way for the commuters to distinguish between authorized and unauthorized persons present in the parking.
- NITs for allotting parking sites invariably mentioned Minimum Reserve Price (MRP) with a condition that bids quoting MLF less than MRP would not be accepted. However, RP Cells were fixing MRP arbitrarily as there was no mechanism to assess the capacity of SLPs (in ECS terms) and determine the potential revenue from each parking site.

2.4.5.2 Absence of a mechanism for contract management

As of July 2015, the MCsD had 176 SLPs and four MLUGPs which were allotted to licensees with the right of commercial use subject to agreed terms and conditions. With a view to ascertaining the extent of compliance of terms and conditions by the licensees, Audit visited 35 randomly selected SLPs[40] **(Annexure 2.4)** and all the four MLUGPs. During visit, Audit found that three SLPs were non-functional (Aurobindo Place Market, C-Block Vasant Vihar and Under Flyover, Munirka) due to resistance from Market Associations and excavation by DMRC.

Audit evaluated functioning of SLPs and MLUGPs based on terms and conditions of agreements. Main audit findings are given below:

[40] NrDMC-11, SDMC-18, and EDMC-6

- Computer was to be maintained at each site to keep the records of number of vehicles parked and fee collected. However, except at Dangal Maidan site, computers were not maintained.
- Illuminated glowing sign boards were to be provided in parking area showing details of licensee, parking sites, etc. However, properly maintained glowing sign boards were found in existence only at five SLPs and one MLUGP at Parade Ground.
- Arrangements for fire-fighting and PA system were to be made in parking sites, but no such arrangements were found in place in any of the sites except Parade Ground.
- Proper arrangements for illumination at entry and exit points of the parking sites were to be made, but no such arrangements were found in any of the sites except Parade Ground.
- CCTVs camera was to be made available in parking area, but these were not provided in any of the sites except Parade Ground.
- Workers of parking site were to be in uniform and should be carrying badges. However, workers did not wear uniform except at three SLPs *viz.* Uphar Cinema, opposite SDM Office Seelampur and Cross River Mall, Karkardooma where workers were found in uniform. Workers did not wear badge in any of the sites.
- Complaint register was to be maintained at each site by the licencee, but this was maintained at only three SLPs *viz.* Dangal Maidan, Radhamohan Club and Ajmeri Gate 2, Humdard Chowk.
- The slips mentioning the time of entry, time of exit, amount of parking fee charged and registration of number of vehicles parked, etc. were to be issued compulsorily to the commuters only through Hand Held Device. But only SLP at Qutub Road, near *taanga* stand had the prescribed system.
- Vehicles were found parked on ramps and on drive ways;
- Functional toilets and arrangements of drinking water were not available except at Parade Ground, where NrDMC arranged these facilities;
- MLUGPs were not insured against loss, theft, damage;
- Professionally trained Traffic Marshalls to regulate traffic were not available in any of the MLUGPs;
- In the building of MLUGP at Asaf Ali Road, there is a huge hall built initially for automobile workshop. Though, it was not allotted to the licensee for parking purpose, the hall was being used by him for parking for earning additional revenue.

From the above, it is evident that licensees were not following the terms and conditions of license agreement. While they were found utilizing more space than allotted to them under agreements, they did not maintain data of vehicles and fee collected. As per direction of the National Green Tribunal (NGT), no parking was allowed on metalled road. However, Audit found that in case of four SLPs, vehicles were parked on the main pavement of roads. Once allotment letters were issued to licensees, MCsD apparently had no control on these SLPs. Thus, there existed no institutional mechanism to ensure compliance of agreed terms and conditions by licensees for lawful running of SLPs.

In its reply, SDMC stated (March 2016) that a circular had been issued on 3 March 2016 to all existing contractors for compliance of terms and conditions of parking agreements.

2.4.5.3 Poor maintenance of MLUGPs

The Chairman, Standing Committee, NrDMC inspected (May 2013) MLUGPs at Church Mission Road, Gandhi Maidan and Asaf Ali Road, along with the Commissioner, NrDMC and conveyed his serious concerns on poor physical conditions and level of compliance of various provisions of agreements by licensees. The Chairman directed the Deputy Commissioner in-charge of parkings to get things in order and take action against defaulting licensees. With a view to evaluating the effects of the initiatives taken by the Chairman, Audit visited (June 2015) these parking sites alongwith the officers of NrDMC and observed that no remedial action was taken in compliance of orders. MLUGPs were still in dilapidated condition. Floors were ridden with pot holes and tiles were broken. Steel reinforcement was exposed in ceilings. The mechanical ventilation system and complete fire-fighting system including sprinklers, fire pumps and water reservoir had become scrap in the absence of proper maintenance. Garbage was littered everywhere making the area very unhygienic. Except in MLUGP at Asaf Ali Road, arrangements for illumination were poor. Stair cases were in deteriorated condition and converted into garbage bins. As a result, people were forced to use the ramp meant for vehicles for accessing the parking sites.

As MLUGP at Asaf Ali Road is a three level parking, a provision was made for four lifts for passengers and one for goods/vehicles, but no lift was provided. All the three MLUGPs had problem of water logging in the basement halls. Other shortcomings are discussed below:

(a) Non-disposal of vehicles lying unclaimed: The Chairman, Standing Committee had observed that large number of unclaimed vehicles were lying in MLUGPs since long, occupying a large space and ordered to auction them within the legal frame work. However, NrDMC took no initiative in this regard. These unclaimed vehicles are a cause of loss of revenue to NrDMC as

licensees would have quoted Monthly License Fee keeping in view the productive space actually available for parking.

(b) MLUGP at Model Town lying idle due to deficient design

An MLUGP with all modern features was built in Model Town-II in the year 2014 at a cost of ₹ 17.02 crore. The RP Cell (NrDMC) allotted (September 2014) this MLUGP to a licensee at an Monthly License Fee of ₹ 2.33 lakh. As the RP Cell unilaterally revised MLF to four times with effect from November 2014, licensee surrendered the parking. The NrDMC terminated the contract on 28 November 2014 and declared the parking free for public till further orders. Thereafter, the RP Cell made seven attempts (November 2014 to August 2015) to allot the parking through tendering or public auction, every time with reduced MRP, but no response was received. With a view to assess the reasons for non-response by bidders, Audit visited (July 2015) the site with Assistant Engineer, City Zone, NrDMC and found not a single vehicle parked in the MLUGP, though it was free for public. Audit observed that ramps at the MLUGP are too steep to drive vehicles on them. Besides, they are also narrow for vehicles to take turns for reaching the higher level from the lower. Former contractor of the MLUG also brought these defects to the notice of NrDMC (May 2015). However, no remedial action was taken to make the MLUGP usable. The defective design of the site not only deprived the public of an ultra-modern parking facility, but also rendered the whole expenditure of ₹ 17.02 crore unfruitful.

(c) Non-allotment of MLUGP at Hauz Khas and Munirka: MLUGP at Hauz Khas and Munirka, completed in May 2015, had not been allotted, causing not only loss of revenue, but also depriving citizens of parking facilities.

2.4.5.4 Unauthorised allotment of SLP at Batra cinema

The NrDMC invited (March 2015) tenders for allotment of 53 SLPs and finalized 18 of them, which did not include SLP at Batra Cinema commercial complex. It was, however, noticed that RP Cell unauthorisedly allotted SLP at Batra Cinema to a contractor at an Monthly License Fee (MLF) of ₹ 0.75 lakh.

2.4.6 Commercial utilization of parking sites

The parking sites serve both as facility for general public and a source of revenue for the MCsD. Details of Monthly License Fee collected during April

2012 to March 2015 are shown in **Table 2.4.2** given below:

Table 2.4.2: MLF collected during 2012-15

(₹ in crore)

YEAR	NrDMC	SDMC	EDMC
2012-13	1.41	48.15	1.41
2013-14	13.85	76.18	2.91
2014-15	15.04	53.41	3.01

Audit scrutiny of records, however, showed that functioning of RP Cells did not provide an assurance of optimum generation of revenue from parking sites.

2.4.6.1 Outstanding MLF of ₹ 6.95 crore not recovered by NrDMC

The MLUGPs/SLPs are allotted to licensees with a condition of advance payment of MLF. Audit observed that the NrDMC cancelled 70 licenses/contracts (11 August to 18 December 2014) on account of non-payment of MLF by licensees. As of 10 February 2015, MLF of ₹ 8.99 crore was pending realization from 70 licensees. The NrDMC adjusted security and bank guarantee of ₹ 2.04 crore against outstanding dues in 49 cases, but in the remaining cases, no security or bank guarantee was deposited by the licensees. Thus, allowing licensees to continue running the parking sites for prolonged period without regular payment of MLF and without deposit of security resulted in loss of revenue of ₹ 6.95 crore.

2.4.6.2 Undue benefit to a licensee

The RP Cell, NrDMC allotted (December 2014) MLUGP at Church Mission Road through public auction at an MLF of ₹ 24.02 lakh. On the request of licensee (December 2014), RP Cell reduced the MLF from ₹ 24.02 lakh to ₹ 18.02 lakh, as some space was unusable due to vehicles dumped on the parking site. Reducing license fee after allotment was irregular and lacked transparency, as licensee took over the full and vacant possession of site on 16 December 2014. This resulted in loss of revenue of ₹ 18 lakh and undue benefit to the licensee.

2.4.6.3 Undue benefit of ₹ 2.57 crore to the licensee

Prior to April 2013, the Parade Ground with a surface area of 17,408 sqm was being used as SLP. The NrDMC constructed (April 2013) a MLUGP in 6,365 sqm of the ground, leaving 11,043 sqm as open area. However, the level of terrace of MLUGP was kept at the level of the open area. NrDMC allotted (April 2013) only the terrace of MLUGP to a licensee at an MLF of ₹ 4 lakh, leaving the open area un-allotted. An Audit team along with Assistant Engineer, City Zone, NrDMC visited the site (July 2015) to find that licensee was using the open area also as SLP as the NrDMC made no arrangements to restrict entry of vehicles to the open area. This resulted in undue benefit to the

licensee for utilising the open area as SLP for the period from April 2013 to June 2015, which worked out to ₹ 2.57 crore.

2.4.6.4 Loss of ₹ 55.35 lakh due to unauthorized occupation of sites

As per clause 22 (E) of agreements signed with licensees during 2013-14, in case SDMC revises the prescribed rates for parking charges/fee in the mid-course of the contract, the current licensee should continue to operate the parking site till such time as the revised rates are finalised or contract is over, whichever is earlier. He would be liable to pay MLF equal to the H-I rates with effect from the date of notification of revised rates. Further, instruction D(5) of NIT provides that if licensee continues to operate the site after expiry of period, he should be liable to pay misuse/damage charges at double the rate of MLF for the period of unauthorized occupation.

Audit scrutiny showed that the SDMC allotted the SLP at SDA Market, Rose Garden to a firm at an MLF of ₹ 1.30 lakh upto 02 January 2013 (extended upto 30 April 2013). Later on, SLP was allotted to another firm on 20 March 2013 at MLF of ₹ 2.57 lakh, but the site remained in possession of former licensee upto March 2015. The SDMC did not levy damage charges on the former licensee for unauthorised occupation of parking site. Reasons for not handing over the site to second firm were not on record. Thus, failure of the SDMC to get the site vacated and hand it over to new licensee, resulted in loss of revenue of ₹ 55.35[41] lakh.

In its reply, SDMC stated (March 2016) that the second firm did not come forward to take over the possession of the site and the first firm continued to operate at the old MLF of ₹ 1.30 lakh. Reply is not acceptable as SDMC did not make efforts to get the site vacated from the possession of the previous licensee and hand it over to the new licensee.

2.4.7 Conclusion

There was an acute shortage of parking facilities in Delhi. Due to lack of initiative on the part of MCsD, new parking facilities were not created commensurate with increasing number of vehicles in the city during the subsequent five years. There was negligible progress in setting up Underground Automated Parking Facilities under PPP mode as only a single UGAP could be constructed. Part implementation of conventional MLUGPs resulted in wasteful expenditure on consultancy fee. Awarding of contracts and contract management were marred with irregularities, like accepting conditional bid, non recovery of dues from contractor and not inviting fresh tenders though scope of work was changed. Inadmissible mobilization advances were released in violation of prescribed norms.

[41] (₹1,30,002 X,105%) X 8 months + (₹1,36,502 X 105 %) X 10 months + (₹1,43,327 X 6) X 2 months + (₹1,43,327 X 3) X 3 months = ₹55,35,153.

Failure of the Remunerative Project Cells of MCsD to ensure compliance of terms and conditions of agreements by the licensees, led to mismanagement of parking sites. A completed MLUGP was not put to use while another was idle due to its defective design. The parking sites lacked civic facilities, *viz.* arrangements for drinking water, functional toilets, CCTV cameras, public address system, fire-fighting system and proper illumination.

2.4.8 Recommendations

The MCsD may:

(i) Develop a comprehensive parking policy with timelines for implementation keeping in view the growth of vehicles in the city, and identify suitable sites/land for setting up new parking facilities;

(ii) Ensure better synchronisation between engagement of consultant and payment of consultancy fees with actual approval and progress of projects;

(iii) Ensure compliance with terms of licenses granted to concessionaire; and

(iv) Prepare a manual to be followed by RP cell as well as licensees for the management of existing parking sites.

The matter was referred to the Government in November 2015. The Government endorsed the replies of SDMC (March 2016); reply in respect of NrDMC and EDMC was awaited (March 2016).