

## **CHAPTER II**

### **Performance Audit (Power Sector)**



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#### West Bengal State Electricity Distribution Company Limited

### 2 Material Management

#### 2.1 Introduction

West Bengal State Electricity Distribution Company Limited (WBSEDCL) is the largest state-owned power distribution company<sup>33</sup> in West Bengal. It purchases electricity directly from State/ Central PSUs and private companies for supply to more than 1.78 crore consumers as well as four<sup>34</sup> other distribution licensees within the State. WBSEDCL also generates small quantities of hydro-electricity for sale to consumers. WBSEDCL was functional from April 2007 with the unbundling of the erstwhile West Bengal State Electricity Board (WBSEB).

Material Management (MM) is a scientific technique, concerned with planning, organising and controlling the flow of materials, from their initial purchase to consumption. During 2013-14 to 2017-18, WBSEDCL procured materials worth ₹ 3,380.89 crore for its operations. Therefore, procurement of materials of the requisite quality and quantity, at the precise time and place, for the right cost, their proper storage, transport and utilisation is imperative to control material costs and to maintain optimal performance of WBSEDCL.

For ensuring standardisation of information technology applications, compatibility with other software, better inventory control and procurement decisions, WBSEDCL migrated (April 2015) its entire Procurement and Inventory Management system to SAP (System Application Product)– based ERP (Enterprise Resource Planning) system<sup>35</sup> from a legacy application system.

#### 2.2 Organisational structure

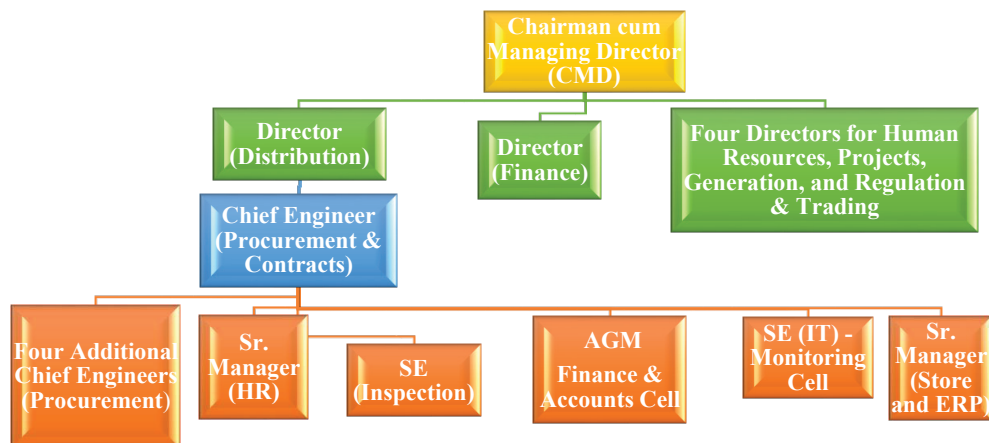
The management of WBSEDCL is vested in its Board of Directors (BOD) comprising eleven Directors, all appointed by the Government of West Bengal (GoWB). The Chairman and Managing Director (CMD) of WBSEDCL is the Chief Executive. CMD is assisted by six Directors as given at **Chart 2.1**.

<sup>33</sup> Incorporated on 16 February 2007 (CIN U40109WB2007SGC113473) under the West Bengal Power Sector Reforms Transfer Scheme, 2007.

<sup>34</sup> CESC Limited, The Durgapur Projects Limited, India Power Corporation Limited (IPC Limited) and Damodar Valley Corporation.

<sup>35</sup> Operating systems : Windows/ Linux/ AIX (proprietary UNIX operating system)/ ESX (Elastic Sky X); Networks/ communication : CISCO IOS/ MPLS Cloud; DBMS/ RDBMS : DB2/ Oracle/ My SQL *etc.*

**Chart 2.1: Organogram for WBSEDCL's procurement and contracts**



Director (Distribution) and Director (Finance) are responsible for procurement of materials. The Procurement and Contracts Department (PCD) is headed by a Chief Engineer {reporting to the Director (Distribution)} and assisted by 20 Engineers/ Managers. Further, WBSEDCL had one central store {under the Chief Engineer (P&C)}, five zonal stores (one each under the five Zonal Managers) and 71 divisional stores (in each Division) throughout the State as on 31 March 2018.

### 2.3 Audit Objectives

The Performance Audit was conducted to ascertain that –

- Planning for procurement was efficient and the requirements were determined realistically;
- Procurement was made in a transparent, competitive and fair manner to secure best value for money;
- A sound mechanism of post contract management was in place in the context of inspection of materials, monitoring of rejected items and their replacement, adjustment of outstanding advances, *etc*; and
- Inventory control was effective and there were no cases of overstocking/ shortages of stores.

### 2.4 Scope and Methodology of Audit

The Performance Audit included WBSEDCL's processes of assessment of material requirement, purchase of material, its proper utilisation and stores management by WBSEDCL during the period from 2013-14 to 2017-18.

Audit methodology involved study of records at the Head office and available reports/ returns from zonal/ regional/ divisional offices. Inspection of zonal stores and divisional stores was also conducted. WBSEDCL had put restrictions on access, document-level view not provided, not provided complete access to master tables/ SE 16 T code<sup>36</sup> of the material management and financial control modules of the SAP-ERP system. Owing to limited access, tenders and its associated documents had to be verified manually from files/ information furnished by WBSEDCL rather than SAP-ERP (MM Module) as also for inventory movement data (including materials in transit) which could not be

<sup>36</sup> SE 16 T-code is required to view content of different fields in data tables.

validated in MM Module (Para 2.8). No reasons were furnished except to state (August 2018) that WBSEDCL was not using Audit Information System designed by SAP.

An Entry Conference was held on 31 January 2018 to discuss the objectives, scope and methodology of the Performance Audit with the Additional Chief Secretary to the Government of West Bengal, Department of Power & Non-conventional Energy Sources; and Chairman and Managing Director along senior Officers/ Management of the Department and WBSEDCL. During Entry conference, the management had assured full cooperation in providing access to the SAP module for MM (Material Management). However, as stated above, the access provided to the SAP-ERP was restricted.

The audit findings were discussed at an Exit Conference held on 12 March 2019. It was attended by the Additional Chief Secretary to the Government of West Bengal, Department of Power & Non-conventional Energy Sources; and Chairman and Managing Director along senior Officers/ Management of the Department and WBSEDCL. The responses have been suitably incorporated in this Report.

## **2.5 Audit sampling**

Audit sampling was done at two levels, *i.e.*, selection of zonal/ divisional stores and selection of tenders. While all five zonal stores (100 *per cent*) were selected, 20 (30 *per cent*) out of 71 divisional stores were selected by stratified sampling based on numbers of consumers as on 31 March 2017. Similarly, Audit selected 66 (34 *per cent*) out of 196 tenders finalised between April 2013 and March 2018 through stratification according to their estimated value (high value selected). The total value of tenders finalised was ₹ 2,673.36 crore and corresponding value of tenders selected for audit aggregated to ₹ 2,048.49 crore *i.e.* 76.63 *per cent*.

## **2.6 Audit Criteria**

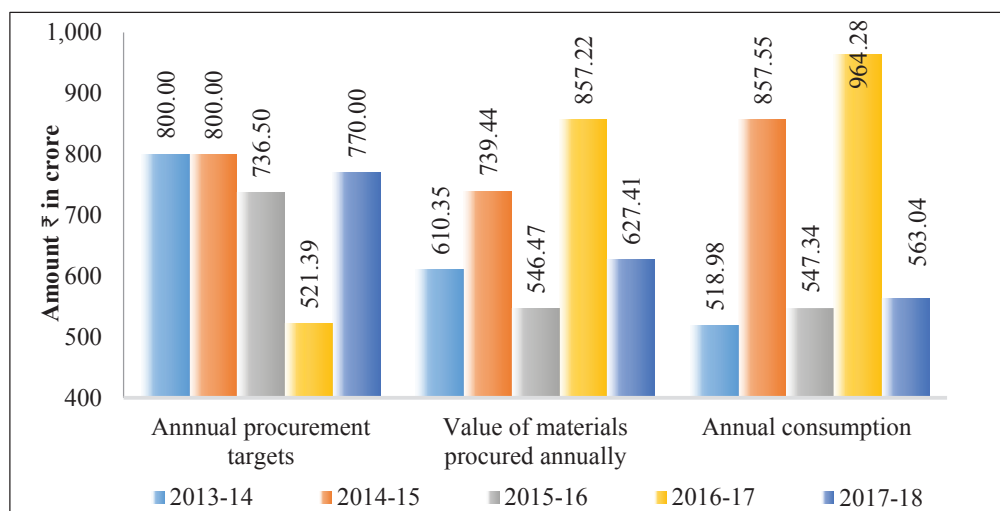
Following were the Audit criteria:

- WBSEDCL's annual corporate plans and Board minutes and agenda;
- Purchase policy of WBSEDCL and amendments thereof including guidelines/ circulars of WBSEDCL and Central Vigilance Commission (CVC);
- Procurement contracts and repairing contracts of vendors;
- Guidelines, instructions and directions of the State Government and West Bengal Electricity Regulatory Commission (WBERC).

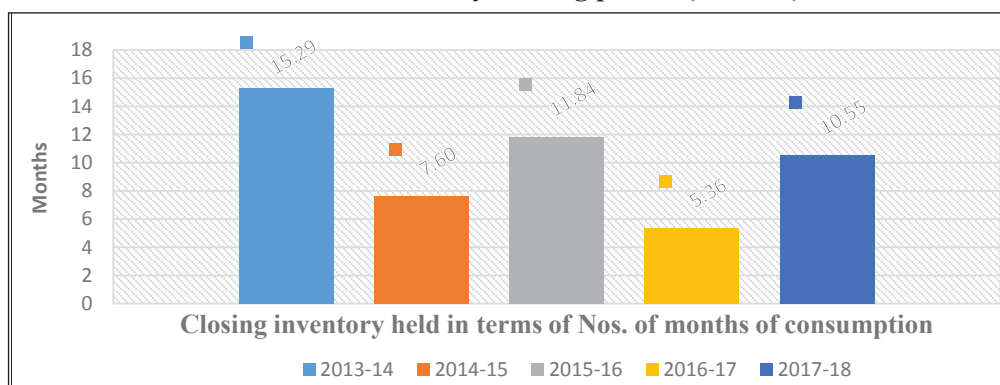
## **2.7 Procurement and consumption of materials**

The details of targets and actual procurement of materials, annual consumption and closing stock of inventory for the five years ended March 2018 is given at **Charts 2.2 and 2.3**:

**Chart 2.2 : Targets/ actual procurement of materials and annual consumption (2013-18)**



**Chart 2.3 : Inventory holding period (2013-18)**



It can be seen from the Charts above that there was no consistent trend with regard to important parameters relating to procurement. Annual procurement, value of materials consumed annually and inventory holding period rise and fall in alternate years. This shows lack of planning to forecast requirements in tandem with implementation schedules and accordingly procure materials.

Moreover, determination of inventory carrying costs, ordering costs as well as comparing of lowest bids with last ordered rates through SAP-ERP was not done as mentioned in **Paragraphs 2.8.1.1** read with **2.8.1.4**. This had repercussions on inventory holding cost which added to the interest burden (₹ 234.48 crore)<sup>37</sup> of WBSEDCL. Some of the reasons for the inconsistency was inability to reduce procurement as envisaged, holding of idle/ slow-moving/ obsolete stocks and failure to dispose them of as detailed in **Paragraph 2.8.4.4**.

Government stated (January 2019) that the SAP ERP system needs fine tuning to derive further benefits and the feasibility of proposed features explored.

At the Exit Conference, the Government agreed to specify the inventory holding/ requirement for different materials as early as possible. The fact, however, is that the system had been functional since 2015 and even after three years fine tuning was still to be done.

<sup>37</sup> Average of opening and closing inventory in each year X excess holding period- beyond four months X rate of cash credit interest.

## 2.8 Audit findings

### 2.8.1 Procurement planning

Procurement planning ensures that coordinated and integrated action is taken by the organisation to fulfil its requirements for goods, services or works in a timely manner and at a reasonable cost. Audit noted the following:

#### *2.8.1.1 Lack of documented processes for planning and absence of policy documents/ processes*

WBSEDCL had not prepared a material management manual prescribing the guidelines and procedure for purchase and control of inventory. Moreover, they also do not have any other manual which could guide the process of material management. WBSEDCL had, however, adopted a purchase policy in 2008, revised in 2012, which laid down the process that should guide purchases and mainly covered the tender process. But, this policy was not comprehensive as it did not contain important components of the purchase processes like assessment of requirement, re-order levels, post contract management, schedules for inspection, tests of material supplied *etc.* These elements should have been part of procurement manual/ guidelines, laying down the material management process in its entirety.

It was observed that for finalisation of procurement of materials, only the purchase policy and general conditions of contract issued with Notice Inviting Tenders were used. For other elements of material management, no documented guidelines/ standard operating procedures (SOPs) existed.

Government accepted the observation and stated (December 2018) that WBSEDCL would prepare a material management policy. Further, in the Exit Conference held in March 2019 the CMD stated that procurement manual was under preparation. The fact, however, was that despite being in existence WBSEB and WBSEDCL for over 63 years and 11 years respectively, the Government in 2018 was admitting that WBSEDCL was yet to prepare a material management policy.

Distribution companies<sup>38</sup> of other State Governments had laid down SOPs for material management. These, *inter alia*, provided for preparation of procurement budget, test/ inspection of materials before issuing delivery instructions, liquidated damages on belated replacement of defective materials, time schedule for inspection of materials at consignee's store *etc.*

At the Exit Conference, Government stated that WBSEDCL was in the process of drawing up a materials management manual using inputs from manuals of other distribution companies.

#### *2.8.1.2 Delayed implementation of Material Management module in SAP-ERP*

WBSEDCL approved (April 2010<sup>39</sup>) implementation, over 18 to 24 months, of an Enterprise Resource Planning (ERP) package covering different modules.<sup>40</sup> This was supposed to improve performance by mitigating the problem of

<sup>38</sup> Dakshin Haryana Bijli Vitran Nigam Limited (DHBVNL) and Madhya Pradesh Paschim Kshetriya Vidyut Vitaran Company Limited (MPPKVVCL).

<sup>39</sup> Board Meeting No. 20 dated 23 April 2010.

<sup>40</sup> Finance and Accounts, Human Resources Management, Maintenance Management, Material management and Project Management.

legacy and standalone application system. WBSEDCL, however, belatedly implemented the material management (MM) module from April 2015 *i.e.*, after delay of three years.

In the first three years after implementation (April 2015) of **SAP-based ERP**, WBSEDCL had not achieved the expected benefits<sup>41</sup> with respect to reduction in annual purchases, idle and slow moving obsolete stock as given in **Table 2.1**.

**Table 2.1: Expected benefits and actual benefits derived from SAP-ERP**

Sl. No	Expected benefit from MM module	Benefit derived
1	Reduce annual purchases by 15 <i>per cent</i> in first three years and thereafter, further 20 <i>per cent</i> in subsequent two years.	During 2015-16 to 2017-18, an annual reduction of only 8.44 <i>per cent</i> over 2014-15 took place.
2	Idle stock was to be reduced by 70 <i>per cent</i> in three years and by further 15 <i>per cent</i> in subsequent two years.	As of March 2018, value of idle/ slow-moving stocks increased to ₹ 44.79 crore as compared to ₹ 30 crore in March 2009, when SAP-based ERP was considered.

Government stated (January-2019) that there were teething problems for which corrective measures were already taken. They stated that significant benefits were achieved and other benefits will also be achieved in a short time. No details of the significant/other benefits achieved, however, have been provided.

#### **2.8.1.3 Absence of materials budget**

It was, further, noted from agenda and minutes of the BOD meetings between April 2013 and March 2018 that WBSEDCL had no system of preparing annual material budgets based on its planned work programme for the financial year. The material budget was required to collate requirements, take into account available stocks and then determine the requirement. This would enable timely procurement of materials. Yet, it was found that WBSEDCL's Corporate Plans had fixed physical and financial targets for tenders and purchase orders by the Procurement and Contracts department (PCD), without any indication of actual requirement or need. In absence of material budget, WBSEDCL had to face irregular flow of materials, as detailed at **Paragraph Nos. 2.8.1.6 and 2.8.1.7**.

Government replied (December 2018) that usually WBSEDCL prepared annual capital budget for both material and execution cost. They added that WBSEDCL would resort to material budget from 2018-19 to minimise irregular flow of material and probability of emergency purchases.

#### **2.8.1.4 Lack of documented procedures for assessing requirement**

Procurement for goods and services begins with identification of operational and maintenance requirements and planning for their procurement. Planning includes assessment of aggregate annual requirement prior to commencement of every year, followed by the prescribed procedures for their procurement.

Moreover, it was observed that WBSEDCL failed to set the re-order level, buffer/ safety stock, economic order quantity *etc.* of inventory, to automatically

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<sup>41</sup> Proposal for ERP implementation approved at the 20<sup>th</sup>BoD Meeting on 23 April 2010.



generate material requirement reports, despite the availability of the feature in the MM module of SAP-ERP. As a result, user departments of WBSEDCL had continued to place indents on PCD for their material requirements.

Besides, the 'as-is-to-be' document<sup>42</sup> for material coding showed that WBSEDCL had envisaged only numeric material codes for inventories in the material master. Yet, the material master contained 12,041 alphanumeric/ alphabetic codes (77 *per cent*) out of an aggregate of 15,547 material codes. Also, these material codes included 283 material descriptions against which two or more material codes (between two and 14) were allotted. This was due to non-existent input controls and validation checks in the system. These deficiencies may have led to incorrect determination of pipeline stock leading to excess procurement.

Government accepted (January 2019) the audit observation. They added that the impact of alphanumeric code was not clear, length of the field keeping description of the material had limitations and identification of pipeline quantity was dependent on unique material code.

The lack of documented procedures and not optimally using the features in the MM module for assessing requirement led to the following deficiencies:

#### **2.8.1.5 Procurement of high value materials in excess of requirement**

Purchase policy stipulates that on receipt of requisition in prescribed format from user departments, Purchase Advice (PA) was to be issued considering, *inter alia*, (i) stock in hand and in pipeline; (ii) average consumption pattern in last 12 months; (iii) source of fund; (iv) actual quantity assessed for phase wise procurement keeping in mind market fluctuation, blocking up of fund and rate of use in consultation with user departments *etc.*

- WBSEDCL had 3,640 km of three<sup>43</sup> types of conductors in stock as of March 2015. It further procured 15,322 km of these conductors (value: ₹ 109.67 crore) between 2015-16 and 2017-18. Further, in the same period, 12,658 km were issued for use to requisitioning divisions. It was noted that a minimum stock of 1,813 km (value: ₹ 14.37 crore) of these conductors was lying in the stores during last three years. This showed that WBSEDCL had procured these conductors, though they were not required. Thus, absence of procedure for assessing requirement had resulted in blocking up of fund of ₹ 14.37 crore during these three years.

Government stated (December 2018) that considering WBSEDCL's volume of business and average consumption, stock of conductors was not high.

The reply is, however, not acceptable as minimum stock of these three conductors represented 10 to 63 months of average consumption during 2015-18.

- As of March 2015, WBSEDCL was unable to complete the works for relocation of existing installations, construction of distribution lines, installation of new distribution transformers (DTRs), *etc.* with shortfall ranging from 26 to 67 *per cent* for 2014-15. This was due to non-availability of stay wire.<sup>44</sup> Five

<sup>42</sup> As-is' being current business process and 'to-be' the future improved business processes as a result of SAP- ERP.

<sup>43</sup> Dog, Wolf and Panther conductors (The animal names are a short-cut way of describing various conductors of different cross-sectional area, as typically used by utilities.)

<sup>44</sup> Galvanised iron wire (4 and 5 mm) and GI stay wire (7/4, 7/2.5 and 7/3.15 mm)

requisitions for 1,317 MT of stay wires<sup>45</sup> were received (June 2015 to June 2017) for use in 2015-18. The stock position (10 June 2015) of stay wires was 227.89 MT and quantity in pipeline was 'zero'. Accordingly, WBSEDCL had procured<sup>46</sup> (August 2015 to January 2018) 1,317 MT at ₹ 7.27 crore.

It was noted that from June 2015 to March 2018, WBSEDCL had used 714 MT (46 per cent) only, with 831 MT<sup>47</sup> still in stock. This had led to blocking up of ₹ 2.95 crore (479 MT)<sup>48</sup> for 24 months, which represented 23 months of average consumption (21 MT<sup>49</sup> per month). This indicated lack of proper assessment of requirement before initiating procurement procedure.

Government stated (December 2018) that consumption pattern was not correctly indicated by ERP data in the early implementation stage. Subsequently, during April to September 2018, WBSEDCL's utilisation of stay wire had increased from 21 to 105 MT per month.

### **2.8.1.6 Procurement without immediate requirement**

WBSEDCL's Distribution Wing required (September 2015) 75 km of XLPE<sup>50</sup> cable (33 KV) to complete works within schedule. Accordingly, it issued an urgent requisition to PCD for procurement of 75 Km cable, as the available stock (August 2015) of 13.489 km was expected to be consumed by September 2015. Instead of preparing purchase advice (PA), WBSEDCL placed (October 2015) two repeat purchase orders (POs) on existing suppliers for supply of 35 km within six weeks, which was delivered. Moreover, in the purchase procedure, WBSEDCL had stated that quantity in pipeline was 'nil'. During the scrutiny of procurement records, it was noted that actually 110 km<sup>51</sup> cable was in pipeline. As such, WBSEDCL had 145 km<sup>52</sup> in stock from October 2015 to March 2016, of which 67 km were issued in the same period.

Meanwhile, three months from the requisition, WBSEDCL published (December 2015) a Notice Inviting Tender (NIT) for procurement of further 60 km of cable at an estimated cost of ₹ 10.92 crore. Based on subsequent indents from Distribution wing, the Standing Tender Committee (STC) decided (April 2016) to procure 75 km. WBSEDCL issued (April 2016) POs to two agencies for supply of 75 km of XLPE cables valuing ₹ 11 crore which were delivered as per schedule in June and July 2016. Audit observed that out of 145 km purchased in 2015-16; as per the ERP data, WBSEDCL could utilise only 129 Km as given in the following table:

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<sup>45</sup> GI Stay wire (7/4 mm)

<sup>46</sup> August 2015 (360 MT), March 2016 (73 MT), December 2016 (746 MT) and January 2018 (138 MT)

<sup>47</sup> 228 MT + 1,317 MT – 714 MT

<sup>48</sup> Minimum year-end closing stock (as on 31 March 2016) during 2015-18

<sup>49</sup> Average monthly consumption = (714 MT/34 months) = 21 MT (June 2015 to March 2018)

<sup>50</sup> Cross-linked polyethylene.

<sup>51</sup> Quantity not delivered till August 2015 against orders placed (January 2015) by WBSEDCL on KEI Industries Limited (77 km) and Sterlite Technologies Limited (33 km)

<sup>52</sup> Repeat orders: 35 km, pipeline quantity: 110 km

**Table 2.2: Statement of consumption against XLPE cables (in km)**

Year	Op. stock	Purchases	Utilisation	Cl. stock
2015-16 (Sept. – March)	13.489	145.00	80.489	78.00
2016-17	78.00	75.00	62.00	91.00
2017-18	91.00	0.00	62.00	29.00

It may be seen from the records that average monthly consumption was five km from October 2015 to March 2017. Thus, entire procurement of 75 Km of cable in 2016-17 was not utilised. Further, in 2017-18, out of 91 Km, 62 km were issued. Hence, the procurement of cable without considering the actual pipeline quantity resulted in blocking up of ₹ 11 crore for two years.

Government stated (December 2018) that a good portion of 75 km supplied in 2016-17 was consumed, however, the reply did not indicate the actual quantity of cable utilised. Moreover, it did not explain why the existing stock was not accounted for while making procurement in 2015-16 and 2016-17.

### **2.8.1.7 Incorrect assessment of requirement**

Chief Engineer (Distribution) requisitioned (January 2015) 2,500 distribution transformers (DTRs) for use from April to September 2015. This was beyond stock in hand of 129 DTRs and pipeline quantity of 1,412 DTRs. WBSEDCL approved the proposal and placed (August 2015) order on the lowest bidder for supply of 1,750 DTRs at a cost of ₹ 26.72 crore. Deliveries were to be staggered over 260 days *i.e.*, by April 2016. DTRs were delivered during December 2015 to December 2016. Subsequent orders were issued in December 2016 with deliveries taking off from February 2017.

It was noted that during January to November 2015, against ordered/ pipeline<sup>53</sup> of 3,291 DTRs, actual utilisation was only 803 DTRs. Hence, between April 2015 and March 2017, even after staggered supplies, a minimum monthly stock of 114 DTRs (cost: ₹ 1.94 crore) remained. Thus, failure to ensure requirement of the actual quantity of materials, resulted in blocking up of ₹ 1.94 crore for 24 months.

Government stated (December 2018) that given WBSEDCL's need to maintain a minimum buffer stock of DTRs for undisrupted supply of electricity to consumers, 114 DTRs of different capacities in stock was not in excess.

The fact was requirement of DTRs was from April to September 2015, whereas they were delivered between December 2015 and December 2016, after the stated requirement. Moreover, the reply was silent about the monthly stock of repaired DTRs, which increased from 90 in April 2015 to 544 in March 2017, *i.e.*, a monthly average of 470 DTRs. These repaired DTRs could have been utilised to ensure undisrupted supply of electricity to consumers.

### **2.8.1.8 Materials required for new/ existing service connections not assessed**

- According to West Bengal Electricity Regulatory Commission's (WBERC) regulations, WBSEDCL had to effect<sup>54</sup> new service connections for L&MV<sup>55</sup> consumers within 90 days from the date of receipt of quotation money for

<sup>53</sup> Stock (January 2015) : 129 DTRs, Pipeline : 1,412 DTRs and ordered : 1,750 DTRs required from April to September 2015

<sup>54</sup> Since May 2010 under Clause No. 4 of WBERC Regulation No 46.

<sup>55</sup> Low and Medium Voltage.

new connections. Not providing new service connections in time attracted penalty of ₹ 500/- for each additional day of delay or part thereof<sup>56</sup>, payable by WBSEDCL to prospective consumers. During 2013-14 to 2017-18, WBSEDCL planned to provide 54 lakh new service connections, but had received money against quotations from 42.25 lakh<sup>57</sup> prospective consumers for new service connections. It provided 37.32 lakh connections, *i.e.*, 88 *per cent*. The reasons as reported in CMD's Progressive Revenue Technique (PRT) Report for shortfall in providing the remaining were mainly shortage of materials like meters, PCC poles and other equipment. It was, however, noted that the materials were not requisitioned as per requirement which led to short procurement till March 2018. This resulted in loss of revenue of ₹ 1.57 crore (considering ₹ 28/- as minimum electricity bill *per month per consumer*). Moreover, WBSEDCL paid penalty of ₹ 2.86 crore to 281 applicants during April 2013 to November 2017 for delays in providing connections.

Further, in order to analyse the reasons given for pendency of connections, the billing data of WBSEDCL was scrutinised and it was observed that out of 68,187 pending connections, 13,673 cases were pending due to requirement of 47,068 PCC poles. As per stock statement, 1,14,578 PCC poles were lying in stores under different divisions of WBSEDCL as of March 2018.

Government explained (December 2018) that the stock of PCC poles was meant for different projects of WBSEDCL and could not be utilised for service connections. Moreover, transport of poles from other divisions may not be financially viable as WBSEDCL was stocking these poles at scattered locations. Thus, WBSEDCL needs to explore the assessment of different components in advance while planning for service connection.

- According to WBERC's regulations, WBSEDCL had to replace<sup>58</sup> faulty meters within 10 or 20 days from receipt of complaint, for urban and rural areas respectively. Moreover, there was a high degree of correlation between defective meters and Aggregate Technical and Commercial (ATC) losses. So, WBSEDCL planned to replace (April 2013 to March 2018) 41 lakh faulty and conventional meters. Further, in the same period, 42.25 lakh meters were required for new connections. But, WBSEDCL had ordered 57.69 lakh meters only against requirement of 83.25 lakh.

An examination of billing data provided by WBSEDCL showed that 47.20 lakh meters had become faulty, of which 32.91 lakh<sup>59</sup> meters had been replaced and 14.29 lakh defective meters were not replaced. Out of these, 14.07 lakh meters remained defective as of March 2018 for one to 2,393 days beyond replacement time. Replacement had not occurred due to short procurement of meters.

Thus, 14.07 lakh consumers with faulty meters had been billed on their estimated consumption (average billing) in violation of regulations due to short procurement of meters. Besides, this had also resulted in higher ATC losses. Despite the need for replacement of the meters being known to WBSEDCL, it did not include their requirement during assessment.

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<sup>56</sup> Clause No. 15 of WBERC Regulation No. 46.

<sup>57</sup> As per CMD's PRT Report.

<sup>58</sup> Since May 2010 under Clause No. 11 of WBERC Regulation No. 46.

<sup>59</sup> Excluding 9.68 lakh conventional meters replaced at consumers' premises (2013-18).

Government's reply (December 2018) was silent about the procurement of meters below requirement. Government stated at the Exit Conference that the requirements for different materials was being determined and documented.

*It is recommended that WBSEDCL may prepare -*

- *An SOP on the lines of other Distribution Companies for material management indicating the processes and procedures to be followed for procurement of materials, their inspection, storage and issue along with accounting requirements. These require to be updated in the SAP-ERP as well.*
- *A timeline for full migration to SAP to derive the maximum possible benefits.*
- *Material budget to assess annual requirement.*

## 2.8.2 Deficiencies in procurement

After assessing requirement and availability of funds, the procurement process is initiated. Audit observed the following deficiencies:

### 2.8.2.1 Delays in procurement

According to WBSEDCL's prescribed procedure (May 2012), tenders should be finalised in all respects within 120 days of issue of tender. During 2013-14 to 2017-18, out of 257 tenders issued, 37 were cancelled (14 *per cent*). Of the remaining 220 tenders, 196 tenders had been finalised and remaining tenders were not finalised till March 2018. Out of 196 finalised tenders, purchase orders for 111 tenders (57 *per cent*) were issued beyond stipulated time frame with delays ranging from one day to 281 days as given in **Table 2.3**.

**Table 2.3: Analysis of delays in finalising of tenders**

	Particulars	No. of tenders	Value of tender (₹ in crore)
1)	Successful tenders	196	2,673.36
2)	Delays in finalisation of tenders	111	1,596.39
	<b>Category of delays</b>	<b>No. of tenders</b>	<b>Range of delays (in days)</b>
3)	Opening of tenders	31	1 to 78
4)	Finalising techno-commercial bids	85	9 to 121
5)	Finalising price bids	74	1 to 109
6)	Range of overall delays	111*	1 to 281

**Source:** Compiled from data furnished by WBSEDCL

\* Some of the tenders were delayed at multiple stages.

Government (December 2018) accepted the audit observation.

Some illustrative cases are detailed below.

Distribution wing requisitioned (January 2015) 5,181 DTRs<sup>60</sup> (Distribution Transformers) on an urgent basis to provide connections for shallow tube wells, public health engineering and under 'Sech-Bandhu'<sup>61</sup> scheme of GoWB. These

<sup>60</sup> Requirement of 16 kva DTRs: 2,000 Nos. and 25 kva DTRs : 3,181 Nos.

<sup>61</sup> The Sech-Bandhu Scheme is a farmer-friendly project offering 46,000 new pump sets with power connectivity to farmers to boost irrigation in the State. Requirement for Sech-Bandhu Scheme: 1,900 DTRs.



DTRs were required to be utilised during April to September 2015 considering monthly average utilisation of 863 DTRs. Purchase Advice was approved (January 2015) for higher procurement of 5,600 DTRs,<sup>62</sup> for reasons not on record. In February 2015, WBSEDCL floated tender and issued (June 2015) POs on two suppliers for supply of 5,600 DTRs at a cost of ₹ 30.47 crore. The suppliers were to deliver of the DTRs, in a staggered manner, between December 2015 and March 2016.

While the earlier requisitioned DTRs were yet to be delivered, the Distribution wing again requisitioned (November 2015) another lot of 7,900 DTRs<sup>63</sup> on an urgent basis to provide connections for shallow tube wells and public health engineering connections. These DTRs were to be used within March 2016, (average monthly requirement from November 2015 to March 2016-1,580 DTRs). Accordingly, WBSEDCL floated (December 2015) tender and issued (March 2016) POs on eight suppliers for supply of DTRs<sup>64</sup> at a cost of ₹ 23.01 crore. As per the POs, deliveries were to be made by suppliers between July and November 2016.

Till March 2017, 10,024 DTRs out of ordered quantity of 10,605 were received. Of these, 2,549 DTRs (value: ₹ 13.91 crore) remained in stock (25 per cent), as of March 2017, although purchased to meet urgent requirements.

Audit noted that against the requisition of January 2015, the DTRs were required between April and September 2015. Hence, the requisition should have been placed by November 2014, *i.e.*, within 120 days and POs issued by March 2015. Delays, however, in issue of requisition (two months) and placing of POs (three months) with delivery periods extending to 140 and 260 days lacked justification.

Again, in the subsequent requisition, DTRs were required for use within March 2016. So, requisition was to be issued by June 2015 with POs issued within October 2015. But delays in issue of requisition (four months) and POs (five months) with delivery periods spread over 110 to 230 days lacked justification.

Moreover, despite the fact that as per the Distribution Wing's requisitions, the requirement of DTRs was urgent in both instances, WBSEDCL had allowed staggered delivery which extended more than one year beyond the requirement period (March 2016). This led to piling up of inventory.

Government stated (December 2018) that WBSEDCL utilised these DTRs on a regular basis within August 2018. The reply, however, did not refer to the audit finding that according to the requisitions of January and November 2015, these DTRs were required within September 2015/ March 2016.

#### **2.8.2.2 Inefficient procurement leading to losses**

##### **● Weak input controls and validation checks for purchase orders**

From 2013-14 to 2017-18, WBSEDCL had issued 5.89 lakh purchase orders (POs), including legacy POs (prior to April 2015) having 17.16 lakh line items. Of these, 1.96 lakh POs were issued prior to April 2017 but not closed<sup>65</sup> as of

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<sup>62</sup> 16 kva DTRs: 2,100 Nos. and 25 kva DTRs : 3,500 Nos.

<sup>63</sup> 16 kva DTRs: 6,300 Nos. and 25 kva DTRs : 1,600 Nos.

<sup>64</sup> 16 kva DTRs: 3,645 Nos., 25 kva DTRs : 1,360 Nos. and total : 5,005 DTRs

<sup>65</sup> A PO is closed when entire supply is completed against it and full payment made there against.

March 2018. The values of materials/ services to be delivered in these 1.96 lakh POs issued was in the magnitude of ₹ 83,210.45 crore while value of materials/ services delivered but not yet invoiced was ₹ 76,898.79 crore. These 1.96 lakh POs were not closed for periods ranging from 479 to 2,687 days. The invoiced amount in Material Management (MM) module was not reflected in the financial module of SAP-ERP with respect to outstanding payables for materials and services. This indicates that data was not updated systematically and regularly in SAP-ERP.

Government stated (January 2019) that POs found in the system include those generated for high value contracts for purchase of power from various power utilities covering more than 10 years. Accordingly, the POs values cannot be connected with the financial statements.

It was, however, noticed in the SAP-ERP data that there were 274 POs<sup>66</sup> (amount: ₹ 76,807.18 crore), other than POs generated for purchase of power from various power utilities, still pending.

Besides, during the same period, for 24,903 out of 25,503 materials<sup>67</sup> related POs *i.e.*, 98 *per cent*, there were no corresponding requisitions. Further, for seven of the balance 600 POs, their requisitions (in respect of 5,098 items) had been generated after time lags of 135 to 428 days. All the tenders selected for detailed audit were, however, supported by requisitions. The absence of requisitions in the SAP-ERP systems for 98 *per cent* of purchase orders indicates not only an ineffective system management but also a non-operational one.

- **Excess expenditure due to delay in cancellation of purchase orders**

WBSEDCL sought (January 2012) bids for supply of 11,300 DTRs.<sup>68</sup> WBSEDCL then issued (April 2012) two<sup>69</sup> POs for supply of 5,756 DTRs<sup>70</sup> at ₹ 73,980 (63 KVA) and ₹ 1, 03,150 (100 KVA) per DTR, amounting to ₹ 49.71 crore. Deliveries of these DTRs were to be completed by March 2013. Both suppliers supplied only 3,220 DTRs<sup>71</sup> till June 2013. Thereafter, they had not supplied any DTRs to WBSEDCL against these POs. Instead, both suppliers repeatedly approached (October/ November 2013 and April 2014) WBSEDCL to either cancel the POs without any financial liability or to extend the delivery period without levy of penalty and with price variation.

However, instead of taking any action on the request of the existing suppliers or cancelling their POs, WBSEDCL issued a new tender in June 2013 to meet urgent requirement. Against this, PO was issued in December 2013 at unit price of ₹ 83,555 (63 KVA) and ₹ 1,10,453 (100 KVA).

WBSEDCL again issued (February 2015) NIT for procurement of 63 and 100 KVA DTRs. On evaluation of bids, WBSEDCL issued (August 2015) a PO for purchase of DTRs at unit price of ₹ 1,05,879 (63 KVA) and ₹ 1,46,070 (100 KVA). It was seen that while issuing the tenders in June 2013 and

<sup>66</sup> Including 152 POs prior to April 2015.

<sup>67</sup> System generated POs of '45' and '52' series.

<sup>68</sup> 63 Kva : 6,500 DTRs, 100 Kva : 4,800 DTRs

<sup>69</sup> Marson Electrical Industries and Western Transformers and Equipment Private Limited at ex-works price of ₹ 0.70 lakh (63 KVA) and ₹ 0.99 lakh (100 KVA) each.

<sup>70</sup> 63 KVA: 3,312 DTRs, 100 KVA: 2,444 DTRs

<sup>71</sup> 63 KVA: 1,802 DTRs, 100 KVA: 1,418 DTRs

February 2015, the pending quantities of the two POs of April 2012 were considered to be in the pipeline while calculating quantities put to tender. Finally, in April 2015, WBSEDCL cancelled both POs of April 2012, without any financial liability.

Audit noticed that despite being aware of the fact of increasing trend of prices of DTRs from their multiple tenders, WBSEDCL did not cancel the POs issued in April 2012 in time and go in for fresh tender.<sup>72</sup> Consequently, it incurred extra expenditure of ₹ 6.83 crore<sup>73</sup> on purchase of 269 DTRs (63 KVA) and 1,750 DTRs (100 KVA) in comparison to rates in December 2013.

Government attributed (December 2018) the delays in cancellation of POs by WBSEDCL to following the extant provisions<sup>74</sup> for cancellation. They also assured that WBSEDCL would always endeavor to minimise the time taken for cancellation of PO in future.

• **Additional expenditure due to capitalisation of losses on procurement of transformers**

Guidelines for specifications of DTRs issued (August 2008) by Central Electricity Authority (CEA), Ministry of Power (MoP), Government of India (GOI), *inter alia*, stated that the bidders shall guarantee individually the no-load loss<sup>75</sup> and load loss.<sup>76</sup> It also stipulated that capitalisation of transformer losses (load loss and no load loss) per unit should be included in the unit landed price of transformers. While computing capitalisation losses, life of the transformer was to be considered as 25 years. Accordingly, WBSEDCL amended<sup>77</sup> (April 2013) the Revised Purchase Policy (RPP)<sup>78</sup> for evaluation of price bids of DTRs.

WBSEDCL had added (February 2015) per unit load loss and no load loss<sup>79</sup> in its NIT for procurement of 2,100 (16 KVA) and 3,500 (25 KVA) DTRs. It issued (June 2015) two POs for 2,100 (16 KVA) and 3,500 (25 KVA) DTRs aggregating to ₹ 30.37 crore.

In this connection it was noted that-

• WBSEDCL had noted in BoD meeting of December 2012, that DTRs were prone to be becoming defective within guarantee period of five years (47 per cent). Further, within span of 15 years, 60 per cent of the DTRs developed defects beyond economic repair. Main reasons for failure were attributed by BoD to overloading and unbalancing of DTRs. WBSEDCL had

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<sup>72</sup> Tendering process would be completed within four months from the date of issue of NIT as per Purchase Policy of WBSEDCL.

<sup>73</sup> (₹ 1,05,879 – ₹ 83,555) x 269 DTRs + (₹ 1,46,070 - ₹ 1,10,453) x 1,750 DTRs.

<sup>74</sup> Under WBSEDCL's Standard terms and conditions for tenders, a PO can be cancelled by WBSEDCL, if the prescribed delivery schedule of materials is not adhered to. WBSEDCL can place order on the next lowest bidder and recover the additional cost from the defaulting supplier.

<sup>75</sup> The loss of energy when the transformer is connected in the system but not operated, also known as iron loss.

<sup>76</sup> The loss of energy during operation of a transformer, also known as copper loss.

<sup>77</sup> Vide Office Order No. 706 dated 6 April 2013.

<sup>78</sup> Clause 11.01.

<sup>79</sup> Capitalised value of iron loss (No load loss) per KW=₹ 5.65 lakh and capitalised value of copper loss (Load loss) per KW=₹ 1.69 lakh.



not considered this analysis when introducing (April 2013) capitalisation of the value of inherent losses in DTRs. Therefore, it had not considered the assessed life of these DTRs (15 years) for capitalisation of losses. Instead, the life of 25 years indicated in the CEA guidelines was adopted. This resulted in procurement cost being ₹ 30.37 crore as determined by WBSEDCL during evaluation in June 2015.

- If POs were placed on evaluation of landed cost only (*i.e.* excluding capitalisation of loss), the total procurement cost would have been limited to ₹ 26 crore.
- Ultimately, WBSEDCL withdrew (June 2016<sup>80</sup>) this clause from revised purchase policy (RPP) and thereafter the DTRs up to 2,500 KVA ratings were purchased on the basis of unit landed cost without capitalisation of losses.

Although WBSEDCL was aware that the actual life of DTR was less than 25 years, yet it introduced evaluating of the cost of procuring DTR by including capitalisation value of their inherent losses for 25 years. Consequently, orders were placed on bidders without considering their actual cost. This led to additional procurement cost of ₹ 4.37 crore (₹ 30.37 crore – ₹ 26 crore).

Government stated (December 2018) that WBSEDCL had considered life expectancy of 25 years for price evaluation through loss capitalisation to minimise the failure of DTRs.

The fact was WBSEDCL was aware from December 2012 that the rate of premature failure of DTRs within 15 years exceeded 60 *per cent*.

### 2.8.3 Post contract management

Efficient post contract management includes immediate inspection at stores, their installation and commissioning, taking action for replacement of rejected stores, monitoring of financial transactions to safeguard the interest of the organisation by ensuring that the securities furnished by the suppliers are kept safely and updated periodically. Audit observed delays in inspection at stores leading to store receipt voucher (SRV) being issued after time gap of issue of material arrival note (MAN) and thereby leading to non-installation/ delayed installation of equipment, instances of Bank Guarantees lapsing *etc.*

#### 2.8.3.1 Delay in inspection of material and issue of store receipt vouchers

WBSEDCL had not framed a time limit for inspection of materials on arrival at consignee<sup>81</sup> stores. WBSEDCL prepared MANs on receipt of materials. After requisite inspection of the materials at Central and Zonal stores, SRVs were issued. If on inspection, the materials were found to be unsatisfactory, they were rejected and returned to suppliers. Under the general conditions of contract, 90 *per cent* of supply price was to be released against original receipted challan. The balance was to be paid after SRVs. Audit noted that the procurement manual of Dakshin Haryana Bijli Vitran Nigam Limited (DHBVNL) prescribed maximum time limit for testing and inspection of materials received at stores, of seven and fifteen days respectively.

Audit examined all the 4,974 MAN and 4,203 SRV data at Central and five

<sup>80</sup> Office Order No. 1079 dated 4 June 2016.

<sup>81</sup> Receiver of goods

Zonal stores from April 2015 to March 2018. It was seen that –

- As per the SAP-ERP system, no materials had been returned to suppliers after inspection. But, Audit had noticed that at Burdwan and Berhampore Zonal stores, between July 2016 and February 2018, materials had been returned on 10 occasions to their suppliers. These included DTRs and conductors valuing ₹ 1.27 crore. This mismatch fails to give assurance regarding the validity of data in the SAP-ERP system.
- Moreover, inspection of the balance 807 MAN issued in this period, had not occurred till March 2018. In respect of 663 MAN, the delays exceeded 15 days by one to 1,070 days up to March 2018.
- Further, 42 out of 4,974 SRV had been directly drawn without MAN preceding them.

Thus, data of the SRV and MAN did not provide an accurate account of actual material received, whether they were received on time and whether the inspection of materials received took place. This could lead to major irregularities in handling and management of inventory.

Government attributed (December 2018) the deficiencies to old data populated into the SAP-ERP system that may not represent the actual scenario. The Government also assured that WBSEDCL was putting sincere effort to minimise the time gap between issuing MAN and SRV. Further, in some cases, SRV were kept pending due to some unavoidable circumstances. The reply, did not, however, specify any circumstances.

#### ***2.8.3.2 Non-replacement of defective meters within Guarantee Period (GP)***

As per POs placed by WBSEDCL for supply of energy meters and pilfer proof meter boxes (PPMB), these would be guaranteed against defects arising out of faulty design, materials, bad workmanship, *etc.*, up to five and half years from the date of supply. Defective meters/ PPMB found within the guarantee period (GP) should be replaced by the suppliers, free of cost, within one month of intimation. If the defective meters/ PPMB were not replaced within the guaranteed period, WBSEDCL would recover twice their cost from the suppliers. Accordingly, security deposit (SD) in form of two bank guarantees (BG)<sup>82</sup> each for 2.50 *per cent* of the ordered value are to be furnished by the vendors within a period of 30 days from the date of issue of the PO. Moreover, all the Zonal Managers/Regional Managers were directed<sup>83</sup> (March 2014) to intimate suppliers within seven days from the date of detection of defective meters within GP.

It was noted that after identifying defective meters, Customer Care Centres (CCCs) had sent them to the divisional stores. After receiving the defective meters (within GP), the division offices had returned the meters to Zonal offices for replacement by their manufacturers. Scrutiny of records of 20 selected

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<sup>82</sup> One BG was to remain valid up to three months from the date of completion of supply and the other remain valid up to 67 months from the date of completion of supply

<sup>83</sup> 'Review of Performance of operational parameters' Meeting of WBSEDCL

division offices<sup>84</sup> and five zonal offices<sup>85</sup> of WBSEDCL showed that during 2013-14 to 2017-18, 2,28,881 meters became defective within GP. Out of these, only 95,745 meters (42 *per cent*) were replaced by the suppliers till date (March 2018). Thus, the balance of 1,32,906 meters was lying in the divisional/zonal stores.

In this connection, Audit observed that:

- Two<sup>86</sup> division offices had written to suppliers for replacing 9,307 defective meters after delays of eight to 723 days from receipt of their details. Poor replacement of defective meters (within GP) by manufacturers had led to blocking of meters without replacement. Consequently, scarcity of meters continued. Moreover, their GP would lapse.
- Out of 22,663 defective meters received (November 2017 – March 2018) at Burdwan Zone, 3,810 defective meters (17 *per cent*) were purchased between February 2010 and May 2011, *i.e.*, their GP period of 66 months was over. Consequently, two<sup>87</sup> suppliers refused (May 2018) to replace 2,425 single phase defective meters as their GP was over.

The current cost of single phase and three phase meters was ₹ 514 and ₹ 3,695 each respectively. WBSEDCL failed to take (a) timely action to intimate the manufacturers of the defective meters, and (b) stringent steps against manufacturers for non-replacement. Non-replacement of these 1,32,906 meters had led to avoidable expenditure on purchase of meters valuing ₹ 7.52 crore by WBSEDCL.

Government accepted (December 2018) the audit observation but stated that system was being developed for capturing the data of defective meters through SAP-ERP system. It will, however, not suffice to capture the data but action needs to be taken and enforced.

### 2.8.3.3 Non-replacement of defective DTRs within Guarantee Period (GP)

According to the purchase orders, if DTRs had developed defects arising from faulty design, materials or workmanship within five years<sup>88</sup> of their date of last dispatch, the suppliers have to guarantee to replace/ repair them to WBSEDCL's satisfaction. If the suppliers fail to do so within one month of intimation, WBSEDCL would, at the cost of the defaulting suppliers, repair or replace the DTRs by any other agency. Similarly, DTR repairing contractors were required to guarantee functionality of repaired DTRs for 10 months from their testing.

Between 2013-14 and 2017-18, there was an average of 2.11 lakh DTRs in WBSEDCL's system. Of these, an aggregate of 0.92 lakh (8.72 *per cent*) had become defective in the past five years. It was noticed in CMD's Monthly PRT report that-

<sup>84</sup> (1) Barasat, (2) Bidhannagar-I, (3) Bongaon, (4) Habra, (5) Bashirhat, (6) Howrah-II, (7) Behala, (8) Dakshin Dinajpur, (9) Contai, (10) Barrackpore, (11) Arambagh, (12) Sreerampore, (13) Burdwan (Urban), (14) Tamluk, (15) Raiganj, (16) South Malda, (17) Jalpaiguri, (18) Rampurhat, (19) Krishnagar and (20) Tehatta

<sup>85</sup> (1) Kolkata, (2) Burdwan, (3) Berhampur, (4) Midnapore and (5) Siliguri

<sup>86</sup> (1) Barasat and (2) Siliguri

<sup>87</sup> L&T: 1761 meters and Genus: 664 meters

<sup>88</sup> Before April 2013 it was within 12 months of commissioning or 18 months from the date of last dispatch of DTRs, whichever was earlier

- Thirty two DTRs had failed within a year of their repair. WBSEDCL had informed the contractors only after delays of 15 to 1,132 days.

Management in reply (December 2018) accepted the audit observation and stated that after failure of earlier Transformer Transaction Management System, WBSEDCL was developing a tracking system for defective DTRs. This would be done by, *inter alia*, tracking their movement particulars during entire life cycle through SAP-ERP.

- As on 31 March 2018, 62 DTRs valuing ₹ 43.61 lakh failed during September 2012 to February 2018 within their GP. These were awaiting repairs either at area stores or with the suppliers. WBSEDCL has not taken any action for replacement/ repair/ return from suppliers. WBSEDCL's failure in initiating timely action for getting the DTRs repaired has resulted in idling of inventory worth ₹ 43.61 lakh besides allowing undue benefit to the suppliers.
- WBSEDCL had not maintained the age-wise details of DTRs. Besides, WBSEDCL had no provision for regular testing of DTRs within their GP. DHBVNL<sup>89</sup> had provided for annual testing of, at least, two *per cent* of the DTRs, which were within their GP. In the absence of age wise details and regular testing, the period of delay could not be worked out in audit. As GP of new DTRs expired after 18/ 60 months from purchase, the possibility that GP had lapsed was a real risk.

Government stated (December 2018) that earlier WBSEDCL introduced Transformer Tracking Management but the system had some limitations. WBSEDCL now proposes to develop a tracking method through ERP system.

#### ***2.8.3.4 Failure of repaired DTRs within repair warranty period***

WBSEDCL had issued (February 2011) guideline of 'Distribution operation and maintenance manual' which, *inter alia*, indicated the operation and maintenance of the DTRs in service. The repair and maintenance of DTRs was done by WBSEDCL through rate contract<sup>90</sup> awarded to the contractors for two years. Further, under Letters of Intent (LOI) issued to repair contractors (a) defective DTRs should be lifted within seven days from the date of issue of LOI and (b) total repairing work should be completed within 45 days from the date of issue of LOI. During 2013-14 to 2017-18, ₹ 37.27 crore was incurred for repairing of 17,160 DTRs failed at selected division offices. It was seen from the files of contractors for repairing DTRs that -

- Contractors lifted 3,439 DTRs (20 *per cent*) of 17,160 DTRs beyond the stipulated period of seven days from date of issue of LOI. These delays ranged from one to 732 days.
- Contractors had failed to return 9,009 repaired DTRs (53 *per cent*) within prescribed period of 45 days. Delays in returning the DTRs were in excess of one to 1,203 days.
- SAP-ERP can calculate liquidated damages (LD) to be imposed on vendors for delays in offering materials for inspection and in delivery of materials.

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<sup>89</sup> Dakshin Haryana Bijli Vitran Nigam Limited – Procurement Regulations (April 2006).

<sup>90</sup> Initial rate contract for damaged/defective DTRs of various capacity from 10 to 750 KVA was valid from October 2012 to September 2015. Subsequent contract was valid from October 2015 to September 2017.

Yet, WBSEDCL continued to calculate LD manually and had not imposed the contractually applicable penalty on the contractors against 9,009 repaired DTRs returned belatedly. This penalty worked out to ₹ 44.67 lakh at 0.5 *per cent* per week limited to a maximum of five *per cent* of the order value. This resulted in undue benefit of contractors.

Thus, post contract management of supplied items was marred by inefficiencies like delays in repairs, lapse of guarantees, failure of repaired items, non-monitoring of defective equipment, *etc.* all of which led to avoidable expenditure on part of WBSEDCL.

Government accepted (December 2018) the observation and assured that henceforth WBSEDCL would be advised to strictly follow the ‘warranty clause’ and ‘completion period’ for preventing similar loss. The reply, however, did not propose fix responsibility or take action for this lapse. It is recommended that WBSEDCL may define clearly the steps and responsibility centres involved in post contract management and ensure that these feed into the procurement process so that MM is more efficient.

## **2.8.4 Inventory controls**

### **2.8.4.1 Measurement and valuation of inventories**

Despite the restricted access given to Audit, following deficiencies were noticed in Material Management module of SAP-ERP–:

- There was no logical validation of measurement data. Moreover, in respect of 46 materials descriptions, there were two different types of units of measurements. These included “SET” and “NOS” for measuring its inventories. The total quantity of inventories was under “NOS” was 8894848.161 and under “SET” was 345639.452. The computation of inventories under these two units of measurements can never be in decimals and should always be in integer, showing lack of logical validation.
- WBSEDCL’s accounting policy provides for valuation of inventories at their weighted average cost. Yet, for 1,030 items there was more than one per unit of cost. This showed that the system had not been customised to generate the weighted average cost of inventory.
- Moreover, as on 31 March 2018, 6,245 items were valued at ‘Nil’ value. Of these, 3,066 items of stock were either damaged or considered used and healthy after being repaired. Thus, their valuation at ‘Nil’ appeared to be reasonable. But, valuing the balance 3,179 items at ‘Nil’ value lacked justification. Instead, they should have been valued at their weighted average cost.

This indicated that there were lacunae in input controls coupled with absence of supervisory control. This may also lead to improper measurement of the closing stock as well as its’ over/ under valuation, affecting the financial statements.

Government accepted (December 2018) the findings and stated that requisite action had already been taken.

### **2.8.4.2 Stocks – in – transit (SIT)**

Stocks – in – transits (SIT) were created for transfers of material from one location to another or from vendor to WBSEDCL. Till the goods receipt



document was not captured in the system, the material transfers remained as 'stocks – in – transit' under inventories.

- SAP-ERP system does not work out value of stocks – in – transit.

As on 31 March 2018, there were 631 items which were categorised as SIT. These include 215 items, in respect of 169 POs ordered prior to April 2017, which were still shown as SIT, but without any value assignment. All these were transferred from one WBSEDCL location to another. The probability that deliveries had still not occurred, was slim. Moreover, WBSEDCL's financial statements for 2016-17 and 2017-18 showed that the value of SIT was ₹ 13.42 crore and ₹ 11.64 crore as on 2017 and 2018 respectively. This may be due to non-updation of SIT-related data with consequent overstatement of SIT.

The above reflects absence of monitoring of the system by the management and leads to presentation of incomplete/ less reliable data to the stakeholders. Moreover, SIT needs to be presented more accurately in the financial statements.

This indicates lack of monitoring and regular review by WBSEDCL. Besides, inventories may not have a fair valuation.

Government accepted (January 2019) the observations and stated that WBSEDCL had constituted (July 2018) a Committee to regularise material lying with a subsidiary company, viz., New Town Electric Supply Company Limited.<sup>91</sup> Further, action was taken to regularise stocks in transit due to non-acceptance of materials at WBSEDCL's receiving locations.

#### **2.8.4.3 Physical inspection of inventory**

Confirmation of inventory by physical verification is a vital internal control procedure for stores. Accordingly, Clause 3 (ii) of the Companies (Auditor's Report) Order 2016 of March 2016 stipulates disclosure of whether physical verification of inventory has been conducted at reasonable intervals. The erstwhile WBSEB had carried out continuous physical verification of stores items to cover all items, at least, once a year. This was followed annually by external verification of stores. At present, WBSEDCL undertakes annual physical verification of stock through a firm of Chartered Accountants.

Further, surplus, non-moving, obsolete and unserviceable stores need to be identified and disposed at regular intervals to avoid accumulation of stocks and blocking up of storage space. Audit noticed the following: -

#### **Gaps in physical verification/safety of stock and stores**

According to the consolidated Internal Audit Manual (Vol-II) of WBSEDCL, one of the control objectives of 'Store Management' related to physical verification of materials at regular intervals. Accordingly, Internal Audit Wing engaged Chartered Accountant (CA) Firms for annual physical verification of store materials with the ERP data, i.e, physical inventory with perpetual inventory.

It was noticed from the physical verification reports from 2015-16 to 2017-18 that at The Central, five Zonal and 20 Divisional stores covered in audit, there were some differences between physical stock and ERP stocks since 2015-16. Besides, at CE (Distribution Testing) in 2015-16 to 2017-18, there were

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<sup>91</sup> New Town Electric Supply Company Limited was amalgamated with 27 December 2018.

variations in physical and ERP quantities in 21 out of 48 items. The aggregate shortfall was ₹ 33 lakh (average value of stocks in three years: ₹ 55.37 lakh). Shortfall was at a single location was 60 *per cent* of average stock held. This indicated that physical verification was not rigorous to identify variations at most locations.

Government stated (December 2018) that WBSEDCL had conducted physical verification of stores at reasonable intervals and material discrepancies noticed properly dealt with in the books of account. Further, WBSEDCL follows a documented process whenever there is any gap in quantities between ledger and physical verification.

Further scrutiny, however, revealed that in six divisional stores (out of 20 divisional stores selected for inspection), there was mismatch between physical stock and ERP balance as on 31 March 2018 amounting to ₹ 23 lakh in addition to ₹ 33 lakh as stated, *ibid*.

### Storage of inventory

The Internal Audit Manual laid down the checklist for stores management. It was observed that at Central (Chord Road), five zonal and 20 divisional stores of WBSEDCL, in contradiction of the checklist, -

- WBSEDCL had not prepared any stores guideline and procedure of storage of materials as provided in the checklist.
- As of March 2018, 2,865 Kilolitres of burnt transformer oil was drained into drums and left out in the open at divisional stores. This was contrary to WBSEDCL's guideline (November 2014) for "Maintenance and Supervision of Mineral Insulating Oil either in service or in used condition". But, requisite clearance from West Bengal Pollution Control Board (WBPCB) to store burnt transformer oil<sup>92</sup> had not been obtained. Moreover, hazardous materials were not clearly 'marked' and stored in covered spaces.

Government accepted (December 2018) the first observation and stated that WBSEDCL had decided to improve inventory management with standard storage systems to be implemented between 2016-17 and 2019-20 at a cost of ₹ 70 crore. Further, WBSEDCL stated (May 2018) that burnt transformer oil for reclamation<sup>93</sup> was normally stored in zonal stores where certificate from WBPCB already existed. Government endorsed (December 2018) the statement.

The fact was that WBSEDCL had stored used (burnt) transformer oil in division for which there were no certificates from WBPCB.

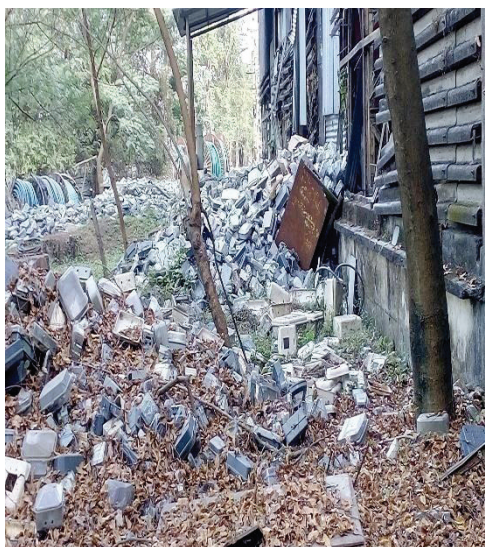
Further, failed transformers and meters were lying in heaps and occupied a substantial area of the stores. The pictures of poor storage practices at different stores are given at **Chart 2.4**.

<sup>92</sup> Being the quantities of used transformer oil collected from burnt transformers.

<sup>93</sup> Where transformer oil can be processed to admissible parameters for reuse.



**Chart 2.4: Poor storage practices at different stores**



**Siliguri Town Divisional Store**



**Contai Divisional Store**



**Sreerampore Divisional Store**



**Sreerampore Divisional Store**



**Dakshin Dinajpur Divisional Stores**



**Jalpaiguri Divisional Store**



It was noted that improper storage of inventory led (2013-2018) to 13 incidents of theft and embezzlement at nine<sup>94</sup> zonal/ divisional stores valued at ₹ 9.24 crore. WBSEDCL insured<sup>95</sup> their store materials lying at stores since June 2016 onwards. Although ₹ 43 lakh of materials was lost during July 2016 to March 2018 at these nine zonal/ divisional stores due to theft, no claims had been lodged with the insurance company.

Neither the Government nor WBSEDCL replied to the audit observations regarding theft and embezzlement.

#### ***2.8.4.4 Delays in inspection/approval of scrap/ slow moving/ non-moving stores and their disposal***

WBSEDCL follows the guideline (June 2004) of the erstwhile WBSEB for identification and disposal of non-moving/ slow moving/ obsolete stock<sup>96</sup> and scrap materials to reduce unserviceable inventory in stores. The guideline provided that a Survey Committee was to be constituted to survey the stores and identify these categories of materials once in every six months. The survey report would be prepared metal group wise and material wise. The reserve price of the scrap was to be determined by survey committee on the basis of present market value of the metals. WBSEDCL disposed scrap through online auctions conducted by MSTC Limited, a Government of India Undertaking.

Scrutiny of records related to scrap at Central Stores (Chord Road) and 20 divisional stores<sup>97</sup> brought out that the Survey Committee had failed to survey the stores and identify the category of materials once in every six months during 2013-14 to 2017-18. Audit noticed in seven divisions that only seven out of 70 surveys were conducted. Of these seven surveys, one was incomplete viz., metal content and weight not mentioned. No action was taken to rectify the survey report. Moreover, identified materials had not been disposed for seven to 48 months. In absence of survey the value of scrap was not known.

Government noted (December 2018) the findings and attributed them to migration from manual system to SAP-ERP. Further, WBSEDCL had reconstituted the Survey Committee in May 2018, as the Committee constituted in December 2016 did not finish the process due to other engagements.

#### ***2.8.4.5 Short retrieval of burnt transformer oil***

WBSEDCL had stipulated<sup>98</sup> (February 2011) that transformer oil in DTRs was to be replaced when oil parameters of a DTR was found beyond those prescribed.

<sup>94</sup> (1) Siliguri Zonal, (2) Burdwan Urban, (3) Sreerampore, (4) North Malda, (5) Raiganj, (6) Tehatta, (7) Belda, (8) Haldia and (9) Raghunathpur

<sup>95</sup> For fire and burglary with effect from 21 June 2016

<sup>96</sup> Slow moving: The inventory not put to use for more than two years.

Non-moving: The inventory not being utilised for more than five years.

Obsolete materials: The inventory identified as not usable due to obsolescence.

<sup>97</sup> Barasat, Bidhannagar-I, Bongaon, Habra, Bashirhat, Howrah-II, Behala, Dakshin Dinajpur, Contai, Barrackpore, Arambagh, Sreerampore, Burdwan (Urban), Tamluk, Raiganj, South Malda, Jalpaiguri, Rampurhat, Krishnangar and Tehatta.

<sup>98</sup> Distribution operation and maintenance manual of WBSEDCL regarding maintenance of 'in service oil of DTR'.

This was followed by WBSEDCL's guideline<sup>99</sup> (November 2014) to maintain transformer oil for DTRs 'in-service'.<sup>100</sup>

To reclaim burnt transformer oil, WBSEDCL had entered into a rate contract (May 2014) with Bristol Petroleum Private Limited (BPPL) for a period of two years for reclamation of 500 Kl per year. Under the contract, cost of reclamation was ₹ 6,750 per Kl with admissible processing loss of 20 *per cent*.

Audit noted that during 2016-17, 504.322 Kl had accumulated<sup>101</sup> at divisional stores. As annual accumulation of burnt transformer oil was around 500 KL, contract for reclamation of 500 Kl per year would not reduce the existing stocks.

Audit noted that in the past five years (2013-18), WBSEDCL had procured 6,850 Kl of transformer oil. As on 31 March 2018, 776 Kl of burnt oil was in stock at 16 of 20 Divisional stores selected. At 80 *per cent* recovery, 621 Kl was recoverable at a cost of ₹ 52.40 lakh. By using this oil, WBSEDCL would have saved<sup>102</sup> expenditure of ₹ 3.19 crore. The following table shows the opening/closing stocks, receipts and issues for 16 divisions from 2015-16 to 2017-18.

**Table 2.4 Statement of stocks of transformer oil for three years (in Kl)**

Year	Op. stock	Receipts	Issues	Cl. stock
2015-16	688.299	329.926	238.875	779.350
2016-17	779.350	411.656	392.278	798.728
2017-18	798.728	1,039.291	1,061.79	776.229

Management in reply (December 2018) stated that two vendors had established their plants in West Bengal for regeneration of burnt transformer oil instead of reclamation. To cope with the situation and to develop new vendors in this field, WBSEDCL had recently placed one trial letter of award, for regeneration of 50 Kl.

Further, defective transformers with no leakage and oil seal intact should contain oil to full capacity. Test check of stores ledgers, SAP-ERP reports and physical verification reports of stores under division offices selected revealed that during 2013-14 to 2017-18, in 18,502 defective transformers, 1,175 Kl of transformer oil was recovered. Against this, 1,931 Kl was recoverable, reflecting a shortage of 756 KL (39 *per cent*). This indicates absence of control over retrieval of transformer oil. Therefore, the possibility of pilferage of oil cannot be ruled out. Due to short receipt of transformer oil of 756 Kl, WBSEDCL failed to reclaim/re-process 605 Kl (with processing loss of 20 *per cent*) valuing ₹ 3.10 crore.<sup>103</sup>

Effective inventory management is essential to ensure that money spent on procurement of materials is safeguarded. Instances of gaps in physical inventory of stores, safety of stocks, poor storage practices, delays in identification and disposal of slow moving and scrap items and non-disposal of hazardous items pointed to weaknesses in inventory control.

<sup>99</sup> Guideline for 'Maintenance and supervision of mineral insulating oil either in service or in used condition' vide memo No. CED/Tech-Circular/1019 dated 11 November 2014.

<sup>100</sup> DTRs 'in-service' means those distribution transformers operating in the system.

<sup>101</sup> Opening stock as on 1 April 2016 – 2,525.155 Kl and closing stock as on 31 March 2017 – 3,029.477 Kl as per stock statement of WBSEDCL.

<sup>102</sup> Cost of 621 Kl of new transformer oil at the rate of ₹ 59,773 per Kl – cost of reclamation of 776 Kl at the rate of ₹ 6,750 per Kl.

<sup>103</sup> (605 Kl x ₹ 59,773 per Kl less 756 Kl x ₹ 6,750 per Kl)

Government stated (December 2018) that WBSEDCL first stored the transformer oil drained from DTRs at the different divisional stores. The used/ burnt transformer oils suited for reclamation/ filtration being transferred to the respective Zonal Store units. The reply did not, however, explain why burnt transformer oil were lying at divisional stores as observed in audit during field inspection of 20 selected divisional stores.

*It is recommended that WBSEDCL may -*

- *define clearly the steps and responsibility centres involved in inventory management and ensure that these are tied in with the procurement process so that MM is more efficient.*
- *ensure proper implementation of all features available in the SAP-MM module and derive maximum benefits thereof by deploying adequately trained personnel at each store.*

