

Chapter IV

Application Controls

4. Application Controls are specific controls unique to each computerised application. When business processes are automated into an IT application, the business rules are also built into the application in the form of application controls. These controls ensure that the input and output data are complete, accurate and authorised so that data is processed, as envisaged, in a time-bound manner by the IT system and there also exists a correct and comprehensive record of the entire process *i.e.* from input to storage and to external output.

Incorrect mapping of Business Rules

4.1 The discrepancies noticed due to incorrect mapping of business rules in both the IT billing systems are discussed in succeeding paragraphs:

Due date for payment of bills by the consumers

4.1.1 Clause 6.1 (g) of Chapter 6 of the Code provides that the Licensee¹ shall dispatch the bills giving at least 15 days' time to the consumer for making payment prior to the due date of payment. In cases, where the bills are served to the consumer through hand held system, the consumer shall deposit the same within seven days.

Audit noticed (on analysis of data of March 2019) that:

(i) In R-APDRP system, out of 51,84,106 consumers (read through SBM), 1,36,575 consumers were allowed due dates which were less than seven days from the billing date in cases where the bills were served through hand-held systems; and

(ii) In non R-APDRP system, out of 1,50,83,088 consumers (read through SBM), 6,38,573 consumers were allowed due dates which were more than seven days from the billing date in cases where the bills were served through hand-held systems.

Thus, due to improper mapping of due date margin in both the IT billing systems:

(i) the consumers of R-APDRP billing system were deprived of due time for making payment of their monthly bills and rebate in case of bill paid within the due time provided by the Code.

(ii) the consumers of non R-APDRP system were unduly benefited by extended due time for making payment of their monthly bill and rebate in case of bill paid beyond the due time provided by the Code.

The Company stated (July 2020) that in a few cases the due date may be less than seven days as the due date is upper ceiled to month end. It further stated that due date is accordingly changed in the cases of bill revision, generation from counter and various other reasons (*e.g.* extreme weather).

The reply is not convincing as the fact remains that the IT systems failed to

¹ 'Licensee' means a distribution licensee who holds a licence to distribute electricity *i.e.* DISCOMs'

allow the prescribed span of due date to the consumers. Further, audit analysis was done excluding the cases of bill revision and bill generated from counter.

Non-recording of Maximum Demand by spot billing machine

4.1.2 Clause 6 of the Rate Schedule provides that the billable demand during a month shall be the actual maximum demand as recorded by the meter or 75 per cent of the contracted load/demand, whichever is higher. In case the Licensee's meter reader does not note the actual maximum demand, the Licensee will raise the bill at 75 per cent of the contracted load.

Audit noticed that due to absence of input control in both the IT billing systems to ensure the entry of Maximum Demand (MD) data in each monthly bill and lack of monitoring of the same at division level, the actual MD was recorded either null or zero by the SBM vendor in 3,07,28,342 instances of monthly billing (R-APDRP: 25,32,558 and non R-APDRP: 2,81,95,784) during April 2018 to March 2019.

(i) In Non R-APDRP billing system due to non-recording of MD by the SBM vendor, the divisions failed to identify the consumers who exceeded their demand from their contracted load and levy the charges accordingly. During 2018-19, in 2,69,386 cases the possibility of exceeding the demand² from the respective contracted load cannot be ruled out. This includes ₹ 5.55 crore towards charges for exceeded demand by these consumers.

(ii) Further, in the absence of MD data in both the IT billing systems, the consumers were billed at 100 per cent of their contracted load instead of 75 per cent in contravention to the provisions of the Code. This resulted in excess charge of fixed charges of ₹ 44.42 crore (R-APDRP: ₹ 16.91 crore and non R-APDRP: ₹ 27.51 crore) from the consumers during 2018-19.

The Company stated (July 2020) that meters of multiple makes have been installed and each meter has multiple MDI reading like instantaneous MD/current MD/previous MD, cumulative MD and due to non-standardisation of MDI reading sequence, the meter readers quite often are not able to identify the correct MD.

The reply confirms the non-recording of MD by the meter readers but the reply is silent on excess charging of fixed charges from consumers. The Company must standardise the meters of multiple makes before installing them.

Non-charging of Electricity Duty

4.1.3 The notification number 276/24-P-32018 dated 05 February 2018 of GoUP provides that industrial units and pioneer units, established before issuance of notification dated 21.01.2010 and after enforcement (February 2004) of Industrial and Service Sectors Policy, 2004, will be allowed benefits of exemption from Electricity Duty (ED) of 10 years and 15 years, respectively, from the date of notification.

Audit noticed on analysis of the billing data of both the IT billing systems that:

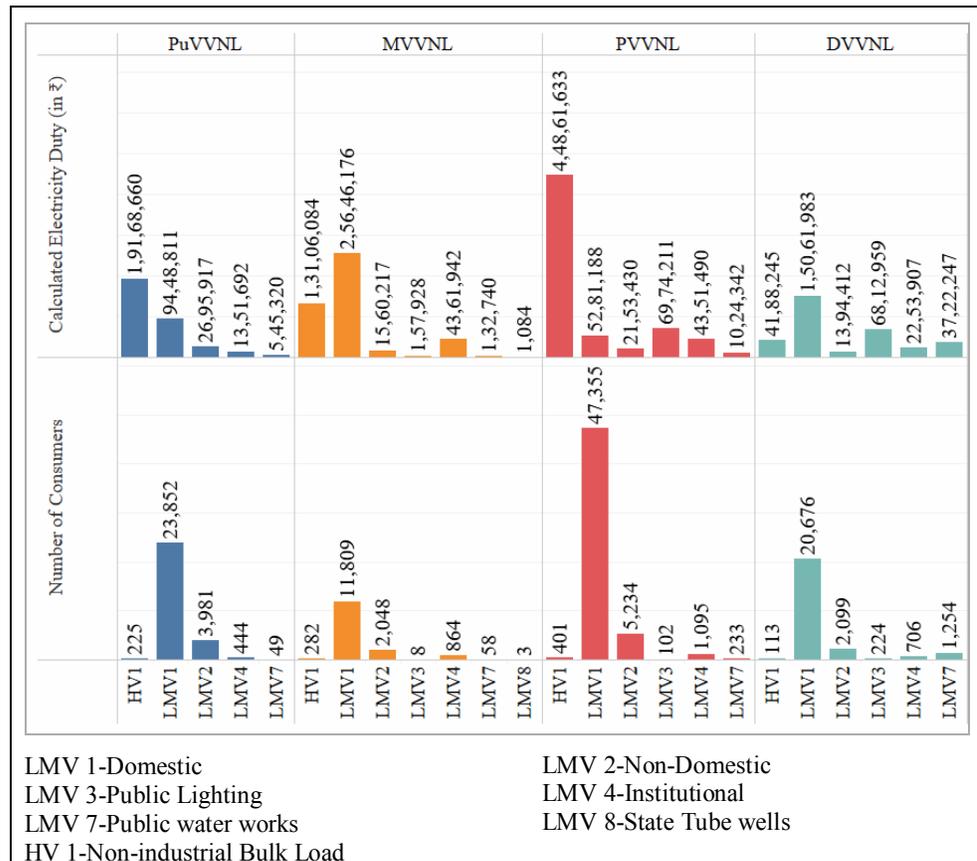
(i) the exemption of ED valuing ₹ 26.21 crore to 255 consumers (R-PAPDRP: ₹ 8.43 crore to 153 consumers and non R-APDRP: ₹ 17.78 crore to

² Considering that 720 units can be consumed by a consumer having contracted load of 1 kW and using electricity during all 30 days of the month and 24 hours in a day.

102 consumers) of industrial category was allowed during the period 2018-19 whose date of connection mentioned in the data was prior to the specified period *i.e.* prior to 2004.

(ii) ED was required to be levied on every consumer except industrial consumers to whom the exemption of ED was allowed as per the applicable Industrial Policy. Audit noticed that the ED of ₹ 17.62 crore was not levied on 1,23,114 billing instances from 22,198 consumers (R-APDRP: ₹ 15.41 crore from 20,519 consumers and non R-APDRP: ₹ 2.21 crore from 1,579 consumers) during the period 2018-19. The category-wise ineligible consumer to whom ED exemption was allowed is depicted in **Chart 4.1**:

Chart 4.1: Electricity Duty exemption to ineligible category of consumers



Source: Based on analysis of data provided by the Company

Further, the IT systems do not have the mandatory field to capture the date of allowance of ED exemption and time period to be allowed (10/15 years) for such exemption. Due to not specifying the date of allowance of exemption and in absence of validation check of the period up to which the exemption was to be allowed resulted in improper control in allowing ED exemption to eligible consumers for the defined period.

In the Exit Conference (March 2021), the Government directed the Company to look into the matter of cases related to irregular exemption of ED to ineligible consumers.

Security deposit

4.1.4 The model documents³ of IT billing systems provide that the system should have provision of managing Security Deposit (SD) like auto-debit of incremental SD in bill(s), *i.e.* in case of load enhancement, refund of SD by adjustment in final bill, interest pay out on SD through auto-debit in bills or lump sum pay out separately and adjustment of SD in prepaid charges for any consumer shifting from post-paid to prepaid regime. Further, Cost Data Book provides the rates of security to be deposited by the consumers getting new electricity connection. Thereafter, Clause 4.20 (e) of the Code provides that the licensee may issue notice to a consumer for deposit of additional security, if the security deposited falls short of covering the estimated power consumption bill equal to two months based on consumer's average monthly consumption in the preceding financial year.

Audit noticed that the rules related to security deposit and requirement of additional security deposit were not mapped in both the IT billing systems. Further, the IT systems were also deficient to check or restrict deposit of inappropriate security amount from the respective consumers. On analysis of consumers billing data as on March 2019 of both the IT billing systems, Audit noticed that:

(i) during 2014-15 to 2018-19, under both the IT billing systems 1,31,97,068 new connections (R-APDRP: 21,09,486 and non R-APDRP: 1,10,87,582) were released. In 7,12,909 cases (R-APDRP: 2,32,965 and non R-APDRP: 4,79,944), the initial security deposit reflected in the IT system was not as per the prevailing rates and thus security was short deposited by ₹ 308.53 crore (R-APDRP: ₹ 210.10 crore and Non R-APDRP: ₹ 98.43 crore). During the field visit of the sampled divisions by audit, cases related to short deposit of security were also noticed.

(ii) in absence of in-built mechanism of inclusion of amount of additional security required, in the energy bills of the consumers after completion of each financial year in both the IT billing systems, additional security required or any excess thereof could not be calculated and included in the energy bills of the consumers, regularly. An analysis of billing data for the year 2018-19 of R-APDRP billing system revealed that additional security deposit from 7,329 large & heavy consumers⁴ (R-APDRP: 5,365 and non R-APDRP: 1,964) valuing ₹ 2,315.03 crore (R-APDRP: ₹ 1,742.12 crore and non R-APDRP: ₹ 572.91 crore) could not be raised.

Thus, due to non-mapping of provisions related to deposit of security and requirement of additional security deposit from the consumers the DISCOMs were deprived of ensuring security of ₹ 2,623.56 crore (₹ 308.53 crore as security deposit from new consumers and ₹ 2,315.03 crore against additional security deposit).

The Company stated (July 2020) that the system has explicit provisions to capture correct security and additional security amount. It further stated that inadequate security in the system cannot be construed as short security and

³ R-APDRP: Clause B21 of Billing Module of SRS and Non R-APDRP Sub-clause B17 under Clause 7.10.3 Billing logic as per the Company's Supply Code and Supply Tariff, Bill Correction of RFP.

⁴ The query was raised only for large and heavy consumers.

additional security notices have been issued automatically by both the IT billing systems.

The reply is not convincing as results extracted from data analysis are based on defined criteria. Further, passing of interest on security deposit to consumers (every year in the month of April/May/June) and raising of additional security (raised in August 2019 for the first time since implementation of IT system) was done on the basis of security deposit reflected in the database. Further, due to inadequate or short security deposit in the database, the amount of interest and requirement of additional security deposit cannot be ascertained correctly.

Additional charges to consumers having HT loads but metering at LT

4.1.5 Clause 5.3 (d) of the Code provides that in case of existing consumers having HT loads upto 250 kW and metering at LT, the HT reading for billing purposes shall be computed by adding two *per cent* to the maximum demand reading and three *per cent* to the kVAh reading recorded on the LT meters, if not given in the Rate Schedule.

Audit noticed that both the IT systems lacked specific controls as they should not allow cases until they qualify all the prescribed provisions of the Code. During 2018-19, 2,003 consumers having load between 50 kW and 250 kW metered at LT, were not charged such additional charges under R-APDRP billing system, which was also verified during visit by audit of sampled divisions. Thus, in absence of such specific controls and setting up flags against these consumers at division level, the applicable additional charges of ₹ 4.72 crore could not be levied. In Non R-APDRP billing system, such consumers could not be identified due to absence of related field in the database.

The Company stated (July 2020) that the functionality is available in the system and LT metering surcharge is levied by adding three *per cent* to billed units and extra two *per cent* to demand charges. The fact remains that due to absence of any specific control and setting such flags at divisional level respective charges could not be levied from the consumer.

Non-processing of request of Web Self-Service

4.1.6 The model document⁵ of Non R-APDRP billing system provides that a user friendly portal was to be developed to make it easy to consumers to communicate with the Company through the web instead of direct phone calls or visits. This in turn was to improve customer satisfaction and reduce work load on the employees.

Audit noticed that during the period 2017-18 to 2018-19, a total of 13,984 service requests were lodged using WSS portal by the consumers for various services like new connection, disconnection, load change, name change, category change, meter shifting and any other complaints under the different divisions. But it was noticed in the field divisions that no request reached the concerned division and these remained unprocessed. Thus, non-disposal of request raised through WSS resulted in defeating the basic objective of providing high quality experience, user friendly portal to communicate with the Company and consumer satisfaction.

⁵ Clause 4.5, integration requirement of RFP of Non R-APDRP billing system.

The Company accepted (July 2020) the fact and stated that due to operational and practical issues this module could not meet the expected objectives.

Non-mapping of Business Rules

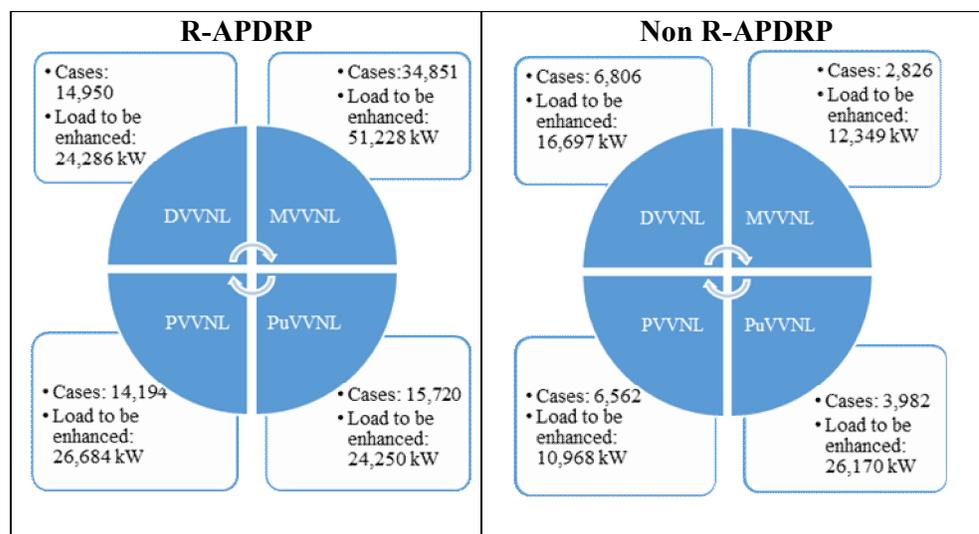
4.2 The discrepancies noticed due to non-mapping of business rules in both the IT billing systems are discussed in succeeding paragraphs:

Non-enhancement of contracted load

4.2.1 Clause 7 (ii) of General provisions of Rate Schedule provides that if the consumer is found to have exceeded his load from contracted load/demand for continuous previous three months, the consumer shall be served a notice of one month advising him to get the contracted load enhanced. The licensee shall merge the excess load with previously sanctioned load, and levy additional charges calculated as per the provisions of the Code along with additional security.

Audit noticed that in 99,891 cases (R-APDRP: 79,715 and non R-APDRP: 20,176) despite exceeding maximum demand against the respective contracted load continuously during the four preceding months from March 2019, the Company failed to enhance the contracted load/demand by 1,92,632 kW (R-APDRP: 1,26,448 kW and non R-APDRP: 66,184 kW), which led to non-recovery of the amount of additional security of ₹ 1.92 crore (R-APDRP: ₹ 1.26 crore and non R-APDRP: ₹ 0.66 crore) and system loading charges of ₹ 0.96 crore (R-APDRP: ₹ 0.63 crore and non R-APDRP: ₹ 0.33 crore) from the consumers. The DISCOM-wise consumers (who consumed excess maximum demand more than their contracted load) along with the load required to be enhanced is depicted in **Chart 4.2**:

Chart 4.2: DISCOM-wise consumers vis-à-vis contracted load required to be enhanced



Source: Based on analysis of data provided by the Company

The Company stated (July 2020) that the load enhancement of consumers depends on site feasibility. Due to this, functionality of auto load enhancement cannot be implemented in the IT billing systems. Further, it also stated that in case of increased load, the system automatically levies demand penalty.

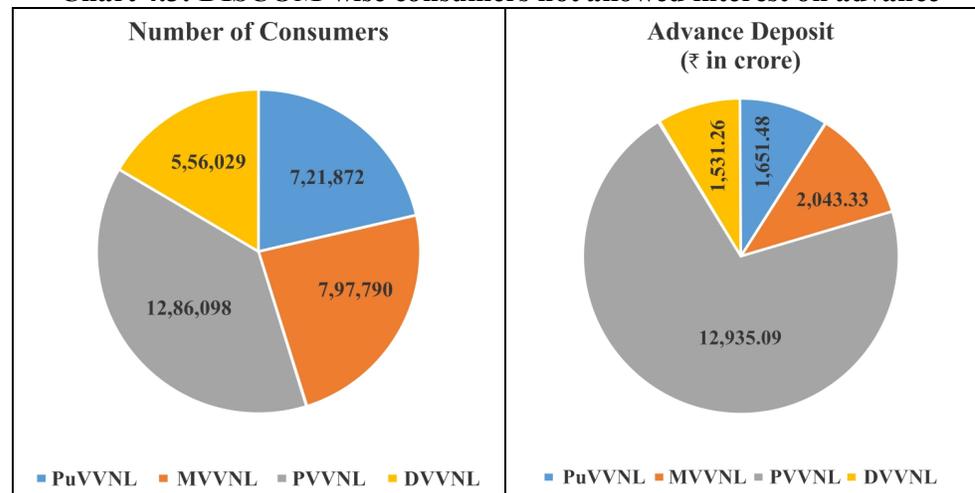
The reply is not convincing as levying mere penalty for increased load is not sufficient and the Company needs to take corrective action as per the provisions of Rate Schedule.

Credit of interest on advance deposit of consumers

4.2.2 Clause 18 of General Provisions of Rate Schedule provides that in case of advance deposit against future monthly energy bills, interest shall be paid by the Licensee for the period during which such advance exists for each month and interest amount so accrued shall be adjusted in the electricity bill. Further, Clause 22 provides that dues arising out of rectification/adjustment/settlement of bill(s), payable by the licensee to the consumer, will also be entitled to get interest for the period during which such pending amounts exist and such interest will be adjusted towards the future monthly bills of consumers. The details of such interest amount and adjustment made during the month was also to be shown separately in the bill.

Audit noticed that in both the IT billing systems, neither the rules regarding allowance of such interest to entitled consumers were mapped nor was any flag marked to identify such consumers for separate reporting to be done as provided. On analysis of consumers billing data of 2018-19, it was noticed that there were 33,61,789 cases (R-APDRP: 4,34,589 and non R-APDRP: 29,27,200) having negative arrear balance of ₹ 18,161.16 crore (R-APDRP: ₹ 16,919.06 crore and non R-APDRP: ₹ 1,242.10 crore) on which applicable interest was not credited. Thus, due to non-mapping of rules regarding credit of interest against advance deposit and unadjusted balances, the consumers were deprived of interest of ₹ 94.59 crore (R-APDRP: ₹ 88.12 crore and non R-APDRP: ₹ 6.47 crore) on advance/unadjusted balance during 2018-19 and this adversely affected consumer satisfaction. The DISCOM-wise consumers to whom interest was not allowed is depicted in **Chart 4.3**:

Chart 4.3: DISCOM-wise consumers not allowed interest on advance



Source: Based on analysis of data provided by the Company

The Company stated (July 2020) that this provision does not exist in the system as on date but it is also a fact that no request of consumers to deposit the advance amount had been reported.

The reply is not convincing as the provision is clear that interest shall be paid by the Licensee for the period during which advance exists either due to revision/adjustment of monthly bills or advance received from the consumers.

Rebate to solar water heating system and rooftop solar plant

4.2.3 Clause 15 of General Provisions of Rate Schedule provides that if a consumer installs and uses solar water heating system of 100 litres or more, a rebate of ₹ 100/- per month or actual bill for that month whichever is lower shall be given. Further, Clause 21 provides that if a consumer of LMV-2 category installs a rooftop solar plant under the provisions of UPERC (Rooftop Solar PV Grid Interactive Systems Gross/Net Metering) Regulations, 2015 with maximum peak capacity of the grid connected rooftop solar PV system not exceeding 100 *per cent* of the sanctioned load/demand of the consumer, such consumer shall be exempted from payment of monthly minimum charges. Such exemption shall be in force till the time the solar plant remains fully operational.

Audit noticed that in both the IT billing systems neither were the rules regarding allowance of such rebate to entitled consumers under the above category mapped nor was any flag was marked to identify such consumers.

The Company accepted (July 2020) that solar water heater rebate had not been implemented in both the IT billing systems and stated that due to various operational constraints in certifying installation of water heater system at consumers' premises, the provision was not provisioned in the IT billing systems.

Protective load

4.2.4 Clause 9 of General Provisions of Rate Schedule provides that consumers getting supply on independent feeder at 11 kV and above voltage, emanating from sub-station, may opt for the facility of protective load and avail supply during the period of schedule rostering imposed by the licensee except emergency rostering. An additional charge at the rate of 100 *per cent* of base demand charges fixed per month shall be levied on the contracted protective load each month. During the period of rostering, the load shall not exceed the sanctioned protective load, otherwise the consumer shall be liable to pay twice the prescribed charges for such excess load as penalty.

In the Performance Audit Report of 2016 at paragraph 2.1.18, Audit pointed out that the provision of protective load charges was not made in the R-APDRP billing system.

During the present audit, it was noticed that in both the IT billing systems neither was the provision to levy the protective load charge mapped nor was any flag to identify such consumers provisioned. During visit to the sampled divisions Audit noticed that 11 consumers (R-APDRP: 06 and non R-APDRP: 05) of six divisions⁶ (R-APDRP: 04 and non R-APDRP: 02) were sanctioned protective load. These six divisions were compelled to raise

⁶ EDD-I, Basti, EDD-II Ballia, EDD-III, Meerut, EUDD-I, Gorakhpur, EDD-I, Mirzapur and EDD-II, Varanasi.

demand of protective load charges manually by revising monthly bills of consumers and thus affected the integrity of data. Further, due to absence of any flag, the divisions failed to identify the defaulting consumers which consequently resulted in non-levy of prescribed charges on occurrence of instances of such violations.

The Company accepted (July 2020) the fact and stated that the provision of protective load cannot be implemented in the system due to various operational constraints. It further stated that they pass it to the consumers by revising the bills as this provision cannot be implemented in the IT system till parameters are fixed and systems are developed to capture the supply events of consumers.

Deduction of Tax at Source against interest on Security Deposit

4.2.5 The model document⁷ of the IT billing system provides that the system should link the consumer to the rate applicable to his category. The rate applicable is calculated on the basis of fixed charges, consumed energy, capacity (power consumption limit) taxes applicable, subsidy or support from the government, etc. Further, Section 194A of the Income Tax Act, 1964, provides that any person (consumer) is liable to pay Income Tax⁸ to whom any income by way of interest of securities deposit is credited or paid (in cash/by cheque/by draft or through any other mode). The tax is required to be deducted when the aggregate amount of interest, credited or paid to any consumer is likely to exceed ₹ 5,000 during the financial year. Under section 203 of the Income Tax Act, Tax Deducted at Source (TDS) certificate is also required to be provided to the consumer in Form 16A. Further, there are penal provisions for levy of interest and penalty on such non-compliance.

Audit noticed that the rule related to TDS on credit of interest on security deposit from the consumers was not mapped in both the IT billing systems. Further, the non R-APDRP billing system did not have the provision to capture the Permanent Account Number (PAN) of the consumers. The details of DISCOM-wise interest allowed to the consumers are depicted in **Table 4.1**:

Table 4.1: Details of interest passed on and TDS to be deducted at source
(₹ in crore)

DISCOM	No. of consumers to whom interest on security passed in excess of ₹ 5,000			Amount of interest on security deposit passed in excess of ₹ 5,000			TDS to be deducted at the rate of 20 per cent
	R-APDRP	Non R-APDRP	Total	R-APDRP	Non R-APDRP	Total	
PuVVNL	712	350	1,062	2.65	1.46	4.11	0.82
MVVNL	656	435	1,091	5.56	1.10	6.66	1.33
PVVNL	4,704	363	5,067	21.72	1.83	23.55	4.71
DVVNL	1,453	1,220	2,673	1.69	3.98	5.67	1.13
Total	7,525	2,368	9,893	31.62	8.37	39.99	7.99

Source: Based on analysis of data provided by the Company

On analysis of the consumers' data of 2018-19, Audit noticed that the DISCOMs credited interest on security deposit of ₹ 39.99 crore (RAPDRP: ₹ 31.62 crore and non R-APDRP: ₹ 8.37 crore) to 9,893 consumers (RAPDRP: 7,525 and non R-APDRP: 2,368), where the consumers were

⁷ R-APDRP: Clause B19 of Billing Module of SRS, Non R-APDRP: sub-clause B15 under Clause 7.10.3 Billing logic as per the Company's Supply Code and Supply Tariff, Bill Correction.

⁸ At the rate of 10 per cent, if PAN number is furnished, otherwise 20 per cent.

getting interest in excess of ₹ 5,000, through the system but due to non-mapping of the above provision the deduction of ₹ 7.99 crore towards TDS and deposit thereof to the tax authorities could not be ensured.

The Company accepted (July 2020) that the TDS had not been deducted using the implemented IT billing systems and stated that it was handled manually by the Divisions. But the Company/DISCOMs failed in providing the consolidated status of TDS deducted by the Divisions and deposited to the tax authorities.

Preparation of estimate

4.2.6 The model document⁹ of both the IT billing systems provide that the system should be able to prepare an estimate for new connection, temporary connection, load extension/reduction, shifting of meter and/or service line with details as per the Company defined criteria which may change from time to time.

Audit noticed that both the IT billing systems lacked mapping of the Company defined provisions of estimate preparation and in absence of the same, estimates were being prepared manually by the divisions. During visit to the sampled divisions by audit, seven cases (R-APDRP: four and non R-APDRP: three) were noticed where applicable charges as per relevant provisions of Cost Data Book were not levied. This resulted in loss of ₹ 1.01 crore (R-APDRP: ₹ 0.55 crore and non R-APDRP: ₹ 0.46 crore) to DISCOMs.

The Company accepted (July 2020) the fact and stated that estimates are being prepared manually and they are in the process of implementing automatic systems for calculating estimates.

Inaccessibility of meter

4.2.7 Clause 6.2 (b) of the Code provides that if the meter is not read as it was not accessible in two consecutive billing cycles, a notice shall be issued to the consumer to keep the meter accessible for reading on the date specified in the notice. Further, clause 3 of General Provision of Rate Schedule provides that a penalty of ₹ 50/kW shall be levied on the consumer, if the meter is not made accessible even on the due date.

Audit noticed that in non R-APDRP billing system, in case of 12,78,203 consumers in 39,06,410 billing instances during 2018-19, the meter readers issued remarks of NA (not accessible)/NR (reading not furnished) continuously on three billing cycles because the meter was not made accessible to them. Due to non-mapping of the rule in the system, the Company failed to levy penalty of ₹ 21.71 crore on the above-mentioned consumers during 2018-19.

Further, the R-APDRP billing system does not contain such provision of mentioning remarks of non-availability of meter for reading, due to which the compliance of said provision could not be commented upon.

The Company stated (July 2020) that provision of penalty has not been implemented as it is very difficult to identify the consumer who has refused reading. It further stated that NR is the case where bills could not be generated

⁹ R-APDRP: NC 14 of 3.0 New Connection Module of SRS, Non R-APDRP: NC 13 of 7.11.1 of New Connection of RFP.

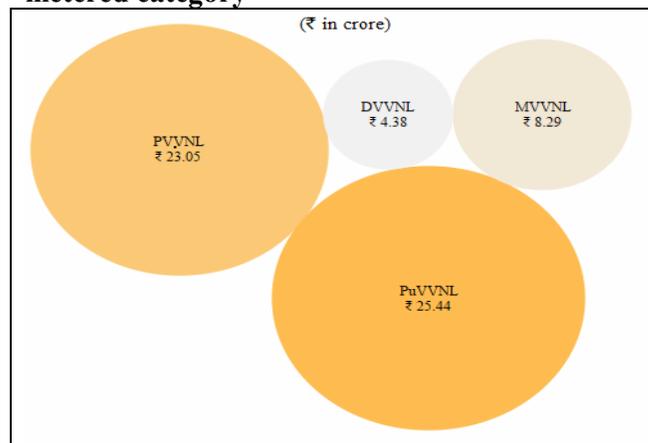
and NA is the term used by meter readers to identify the cases where the premises were locked.

The reply is not convincing as the agreement entered with meter readers provided that NA and NR remarks shall be given in cases of no access/no reading/premises locked. Therefore, in all such cases where the meter was not made accessible, the prescribed penalty should have been levied.

Allowance of rebate to consumers who shifted from unmetered to metered category

4.2.8 Clause 17 of General Provision of Rate Schedule provides that any rural consumer shifted from unmetered to metered category, shall be entitled to a rebate of 10 *per cent* on the rate which shall be applicable from the date of installation of meter till the end of that particular financial year.

Chart 4.4: DISCOM-wise rebate not allowed to consumers who converted from unmetered to metered category



Source: Based on analysis of data provided by the Company

Audit noticed that the non R-APDRP billing system lacked mapping of such rebate to the eligible consumers. On analysis of consumer billing data of 2018-19 of non R-APDRP system, Audit noticed that 12,99,083 rural consumers were converted from unmetered to metered category. During visit

to the sampled divisions, it was noticed that the divisions also did not allow applicable rebate to these consumers. Thus, due to non-mapping of the above, 12,99,083 consumers were deprived of the benefit of ₹ 61.16 crore during 2018-19, as depicted in **Chart 4.4**, and thus were adversely affected which defeated the very objective of consumer satisfaction.

In the Exit Conference (March 2021), the Company stated that the provisions are applicable in case of a consumer who on its own, applies to change the category from unmetered to metered.

The reply is not convincing as the Rate Schedule approved by the Commission clearly provides that the rebate shall be allowed to any consumer who shifted from unmetered to metered category. Further, the Company could not provide any documents to support its views.

The Government during the Exit Conference directed the Company to furnish the correspondence done with UPERC in this regard.

Manual Bill revision

4.2.9 The model documents¹⁰ of both the IT billing systems provide that the system should have provision for bill correction/amendment manually to update/modify the customer billing database, with reasons for the same. Such bill amendments should be limited to specific logins. The system shall employ separate accounting process for bill amendments, which result in reversal of sales (unit and amount) booked (bill raised) in past financial years, *i.e.* prior to start of the current year.

Audit noticed that the divisions revised the bills by calculating various adjustments and feeding the meter readings into both the IT billing systems manually in each case thereby affecting data integrity. During 2018-19, the bills of ₹ 3,86,992.63 crore (R-APDRP: ₹ 3,75,717.29 crore and non R-APDRP: ₹ 11,275.34 crore) of 30,01,997 consumers (R-APDRP: 7,75,929 and non-R-APDRP: 22,26,068) were manually revised to ₹ 46,363.05 crore (R-APDRP: ₹ 35,911.26 crore and non R-APDRP: ₹ 10,451.79 crore) by the DISCOMs. Thus, there was a downward revision of bills by ₹ 3,40,629.58 crore (R-APDRP: ₹ 3,39,806.03 crore and non R-APDRP: ₹ 823.55 crore). Audit further noticed that both the IT billing systems lacked mapping of multi-year Rate Schedule which resulted into erroneous system-based bill revision. Thus, in absence of proper mapping of provisions related to bill revisions in both the IT billing systems, the divisions were compelled to exercise bill revisions manually.

The Company stated (July 2020) that role based authorisation was already in place in both the IT billing systems wherein bill revisions are done online considering the actual reading, consumption and adjustments.

The reply is not convincing as due to lack of mapping of multi-year Rate Schedule, calculations for bill revision were done manually and thereafter, the same were entered in both the IT billing systems for authorisation which defeated the basic purpose of automation of billing system.

Manual preparation of Penal billing

4.2.10 The model documents¹¹ of both the IT billing systems provide that the system should have provision to compute penal billing for unauthorised use of electricity as per Electricity Act and based on parameters defined by State Electricity Regulatory Commission (SERC).

Audit noticed that both the IT billing systems lacked mapping of provisions related to penal billing in case of unauthorised use of electricity. During 2014-15 to 2018-19, there were 37,544 number of cases of unauthorised use of electricity with assessed amount of ₹ 98.06 crore in the sampled divisions. Further, it was noticed that despite prescribed norms for assessment, the assessment was varied in terms of factor, supply hours, days for calculation etc. from division to division. Thus, in absence of applicable provisions related to penal billing in case of unauthorised use of electricity, the use of discretion and manual intervention in the IT billing systems cannot be avoided.

¹⁰ R-APDRP: Clause B14 of Billing Module of SRS, Non R-APDRP: Sub-clause B10 under Clause 7.10.3 Billing logic as per the Company's Supply Code and Supply Tariff, Bill Correction of RFP.

¹¹ R-APDRP: Clause B18 of Billing Module of SRS, Non R-APDRP: Sub-clause B14 under Clause 7.10.3 Billing logic as per the Company's Supply Code and Supply Tariff, Bill Correction of RFP.

The Company stated (July 2020) that earlier theft cases were handled manually as they were non-consumers but since last year all manual receipt work has been stopped and all collections have been provisioned in both the IT billing systems.

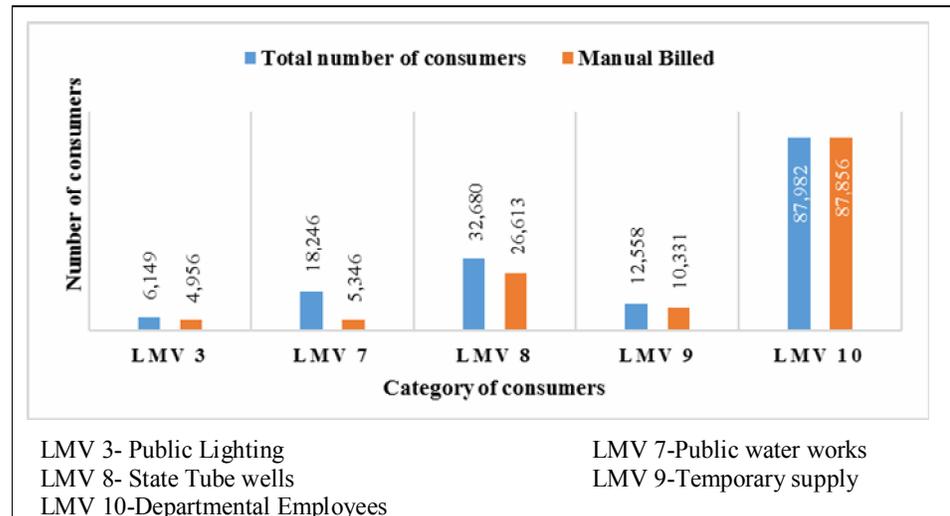
The reply does not address the audit observation as the system should have provision to compute penal billing for unauthorised use of electricity for consumers as well as non-consumers.

Manual Billing of Consumers

4.2.11 The model documents¹² of both the IT billing systems provide that all the consumers were required to be covered under the online billing system.

Audit noticed that as of March 2019, the percentage of manual billing of several categories of consumers viz. LMV- 3, 7, 8, 9 & 10 was 80.60 per cent, 29.30 per cent, 81.44 per cent, 82.27 per cent and 99.86 per cent, respectively and total number of consumers billed manually was 1,35,102, as depicted in **Chart 4.5:**

Chart 4.5: Consumers billed manually



Source: Based on analysis of data provided by the Company

The above table indicates that out of 1,35,102 consumers billed manually, 87,856 consumers (65.03 per cent) belonged to LMV-10 category (*i.e.* Departmental Employees). Further, the manual billing under LMV-10 category constituted 99.86 per cent of total consumers under this category. It is unclear why bills for personnel of UPPCL & DISCOMs continue to be generated manually, when 99.48 per cent of total 2.59 crore consumers are now being billed through the IT billing systems. Due to manual billing, there is a possibility of lack of monitoring of metering status, monthly billing and realisation and issue of duplicate connections to the departmental employees.

Thus, there is incomplete coverage of all consumers in the IT billing system.

The Company stated (July 2020) that the bills have to be raised collectively to the Department or Ministry as a whole and paid through RTGS by the Department or through release from the treasury.

¹² Non R-APDRP: Clause 4.1.1 of RFP.

The reply is not convincing as instead of raising system generated monthly bill against each electricity connection, raising collective bills on manual basis defeated the purpose of billing automation.

Automatic creation of books of accounts

4.2.12 The model document¹³ of both the IT billing systems provide that the system should have provision for automatic creation of books of accounts based on Balance Sheet and Profit & Loss Statement as per General Accepted Accounting Principles (GAAP) and the Companies Act.

Audit noticed that the due to manual billing of consumers not available on the IT system, lack of system generated network analysis and estimate preparation while allowing new connection/change in contracted load and charging offline penalty and other charges in case of unauthorised usage of electricity, the Company failed to prepare system generated books of accounts as was provided. This resulted in defeating the purpose of restricting human intervention in the IT billing system.

The Company stated (July 2020) that the system has the capability of generating MIS reports automatically but difference between online and offline reports are being mitigated through extensive exercise over the last one year.

The reply of the Company was silent on the issue of non-creation of books of accounts using implemented IT system.

Conclusion

Mapping of pertinent and correct business rules to such processes/systems is of utmost importance. If the business rules are not mapped correctly or mapped inadequately, then the output of business processes/application systems will be deficient as well as defective. Such anomaly is there in both the IT billing systems of the Company which adversely affected the interests of the stakeholders such as:

- **the Government, with respect to non-levy of electricity duty and non-deduction of tax at source against interest on security deposit.**
- **the Company, with respect to mapping of due date, calculation of fixed charges in absence of maximum demand, short/non-deposit of security deposit, enhancement of contracted load and penalty for inaccessibility of meter; and**
- **the consumers, with respect to interest on advance deposit of consumers, rebate on solar water heating plant and rebate to rural consumers who shifted from unmetered to metered category.**

Manual intervention in cases of charging for protective load, preparation of estimate, bill revisions, preparation of penal billing, billing of consumers defeated the purpose of automated billing.

¹³ R-APDRP: Clause C13, Finance & Accounting of collection module of SRS and Non R-APDRP: C13 Finance & Accounting of collection module of RFP.

Recommendation		
Recommendation Number	Recommendation	Response of Government
6	The Company should ensure mapping of all business rules in accordance with the Supply Code and rates in accordance with the Rate Schedule and Cost Data Book in the IT billing systems to avoid manual intervention for safeguarding the interests of all the stakeholders (i.e. the Government, the Company and the consumers) and should periodically review and update them.	Accepted