

## Solution Paper Works Accounts -I

Ans1(a) Means should be devised to ensure that every Board employee realizes fully and clearly that he will be held personally responsible for any loss sustained by the Board through fraud or negligence on his part and that he will also be held personally responsible for any loss arising Board employee to the extent to which it may be shown that he contributed to the loss by his own actions or negligence.

The cordial principle governing the assessment of responsibilities in such cases is that every Board employee should exert the same vigilance in respect of public expenditure and public funds generally as a person of ordinary prudence would exercise in respect of expenditure and the custody of his own money.

It is of the greatest importance to avoid in the investigation of any loss due to fraud, negligence, financial irregularity etc.

In any case in which it appears that recourse to judicial proceedings is likely to be involved, competent legal advice should be taken as soon as the possibility emerges. In case of losses involving a reasonable suspicion of fraud or other criminal offence a prosecution should be attempted unless the legal advisers considers that evidence available is not such as will secure conviction.

In cases where loss is due to delinquencies of subordinate officials and where it appears that this has been facilitated by laxity of supervision on the part of a superior officer, the later should also be called strictly to account and his personal liability in the matter carefully assessed.

The question of enforcing pecuniary liability should always be considered as well as the question of other forms of disciplinary action. In deciding the degree of the Board employees pecuniary liability it will be necessary to look not only to the circumstances, since it should be recognized that the penalty should not be such as to impair the Board Employee's future efficiency.

In particular, if the loss occurred through fraud, every endeavor should be made to recover the whole amount lost from the guilty person(s).

It should always be considered whether the value of Board property or equipment lost, damaged, or destroyed by the carelessness of individuals entrusted with their care should not be recovered in full up to the limit of the Board empolyees capacity to pay.



1(b)

Ctrl+Arrow move to the edge of the current date region

ctrl+shift+arrow select cell

ctrl+shift+@ Apply time format

ctrl+shift+F1 Toggle full screen mode

Alt+H+D+S Delete worksheet

ctrl+shift+U Expand or collapse formula bar

Alt+H+F+S Choose font size

Ctrl+Alt+V Open paste special dialogue box

ctrl+shift+G Open workbook statistics dialogue box

Ctrl+Enter Fill selected cell range with current entry



2(a)

- (i) 10.563 Batteries including charging equipment
- (ii) 12.571 Communication equipment-radio and high frequency carrier system
- (iii) 14.621 Service connections-Domestic and Commercial
- (iv) 10.211 Office buildings
- (v) 14.801 Furniture and Fixtures- office
- (vi) 74.161 Special repair /periodical overhauling to generating plant and equipment-  
Material issued from stores
- (vii) 75.825 Terminal benefits contribution pension scheme-Board's Contribution
- (viii) 76.125 Other professional charges
- (ix) 77.730 Loss on sale of fixed assets
- (x) 79.533 Infuctuous capital expenditure written off

2b ) A detailed completion report in form CE-32 or a completion statement in Form DFR(PW) 36 is prepared on completion of works as detailed below:

- (i) For all works chargeable to capital
- (ii) For works chargeable to Revenue Expenditure head if
  - (a) the estimate has been exceeded by more than 5%
  - (b) there has been an excess over a revised estimate

A detailed completion report in Form CE-32 would be necessary on completion of a work the expenditure on which has been recorded by Sub-heads. It should give comparison and explanation of differences between the quantities, rates and cost of various items of work as executed and those as per estimate.

The purpose of the completion reports are:

- (i) to have a comparison of the estimate and expenditure.
- (ii) to see if there has been an unusual wastage or lack of control
- (iii) to utilize the completion report as revised estimate when the excess over the estimate comes to notice at an advanced stage of construction to render the preparation of a revised estimate purposeless.



3(a) An annual estimate for running and maintenance of vehicles should be prepared for all vehicles of same description operated in a sub Division but separate estimate should be prepared for:-

- (i) Vehicles which have completed their normal life (for which depreciation is not to be charged)
- (ii) Vehicle of different descriptions

In other words one estimate for a no. of jeeps-staff cars-tempos of same description is required but unfortunately no sub-division has a no. of vehicles of same description

The estimate should provided for:-

- (A) Direct charges:
  - (i) Pay of Driver/cleaner whether regular, W.C. or on daily wages.
  - (ii) Repair and maintenance of Parts-overhaul-paining and tyres etc.
  - (iii) Maintenance and repairs of shed/garage rent
  - (iv) P.O.L. and Registration charges
- (B) Indirect charges :
  - (v) Depreciation of 90% value by life in years.
  - (vi) Interest@13.5%
  - (vii) Supervision charges @10% on item iv when issued from stock
  - (viii) Department charges @27.5% on item i,ii & iii.

The annual estimate shall cover item no. i to v and per KM rate shall be calculated by dividing total of item i to v by no. of KM likely to be run during the year. Item no.vi to vii are taken into account only for calculating the rate to be charged for private use of the vehicle



(b) Different modes of issue of material to works:

The issue of materials to contractors who have contracted for completed items of work is generally permissible only in the following circumstances:-

- (i) When it is necessary to retain in the hands of the Board the supply of imported materials;
- (ii) When, in the interest of work, or with the object of utilizing existing stock of materials, it is desirable to retain in the hands of the Board, the supply of certain other material as well, and a condition to this effect has been inserted in the contract.

In both cases the contract should specify (1) the material to be supplied by the Board for use on the work, (2) the place or places of delivery and (3) the rate (including the storage rates when the materials are to be issued from stock) to be charged to the contractor for each description of materials

The rate including the storage rates when the materials are to be issued from stock to be debited to the contractor for the materials to be supplied.

Similarly, the rates to be allowed to the contractor for items of work should be definitely stated. But if for any special reason the contract provides for payments for work done to be made at a specified percentage below or above the rates entered in the sanctioned estimate of the work. It should be in clear terms in the contract that the deductions or additions, as the case may be, of the percentage will be calculated on the gross and not the net amounts of the bills for the work done.

No carriage or incidental charges are borne by the Board for moving the materials beyond the place where the contractor has agreed to take delivery thereof.

As a general rule no other material should be supplied to contractor for use on works, but this restriction may be waived by the SDO in respect of petty issues (at full issues rates) of materials from existing stock, not exceeding Rs.50 in any month for any contract.

If at any time subsequent to the execution of a contract on a through rate basis, the contractor desires the issue to him, or use on a work, of materials which exist in the Board stocks but the supply whereof by the Board was not provided for in the contract, the materials should not be issued except with the express authority of the Divisional Officer who should specify in each case the rate to be charged for the materials inclusive of delivery at the place where they are stored. The rate charged should be the market rate, prevailing at the time of supply or the issue rate whichever may be greater



and should include the storage charges. No carriage or incidental charges should borne by the Board in connection with the supply.

Issue of stock materials to contractors for bonafide use on work are exempt from the usual charges of 10% on account of supervision, which are made when stock materials are sold to the public.



Ans.4

**(a)Standard measurement book-large:**

This Measurement Book of buildings is used for measurement of building work which is subject to renewal. This M.B. facilitates the preparation of annual estimates for periodical repairs of buildings.

Standard M.B. forms the basis of payments to :-

- (i) Contractor for work done and
- (ii) Annual repairs

The measurement should be recorded by the Sr.Xen. When this is done by S.D.O. these should be checked by Sr.Xen and approved.

Standard M.B. should be kept upto date by taking into account additions and alterations.

**(b)Lorry maintenance register:**

In order to exercise proper control over the consumption of Petrol, Mobile oil, Grease and other expenses in running the vehicle a detailed daily account is maintained in the Lorry Maintenance Register for each Crane, Tractor-tractor-tempo, jeep, staff car etc. Name of the driver and registration No. of the vehicle and month is recorded on the top of each page. A separate register is maintained for each vehicle.

As and when POL are purchased entry in detail is recorded against the relevant date.

Monthly total of petrol purchased plus balance of unused petrol at the end of previous month minus balance of petrol at the end of this month gives the consumption of petrol or diesel for the month.

Difference in between the reading at the beginning of month and at the end of the month would reveal the mileage run during the month. Total K.M. run during the month is divided by the petrol/diesel consumed to work out the average consumption of the vehicle per liter.

Other expenses on running, maintenance and special repairs as also extra ordinary expenditure on drawl/purchase of types-replacement of battery-purchase of Music system etc. are also recorded in the lorry maintenance register for proper control over excess petrol consumption or wear and tear of tyres / battery for plugging loop holes.



**(c)Stoke verification report:**

Stores /Materials lying in store are checked regularly by the SDO/XEN Incharge, other inspecting officers and Stock Verifiers. Whenever an officer verifies the stores he prepares a Stock Verification Report .The Stock Verification Report shows name of article, material code, actual balance in stores and balance as per stock card. The difference may show the material found short/surplus. On the basis of Stock Verification Report the surplus is recorded as receipt and shortage as issues. The value of material found short or surplus is adjusted in accounts by J.V

**(d)Commissioning of an asset:**

All Capital expenditure shall be accounted for through capital work-in-progress accounts. On commissioning of the assets, expenditure shall be transferred to appropriate fixed assets accounts. Transfer from Capital work-in progress accounts to fixed asset account is referred to in this chapter as 'capitalization off Assets'. The accounting policies for capitalization of assets is prescribed.

**(e)Storage rate of storage charges :**

These expressions denote respectively, the centage rate fixed for, and charges levied on ,all issues of stock for Capital works to cover such actual expenditure as is incurred after the acquisition of the stores, on work charged establishment employed on handling and keeping initial accounts, the custody of stock and the maintenance of the store godown or yards etc.



DOP 11	To convey administrative approval for works expenditure for domestic commercial and industrial service connections	Xen/REs AEs/AEEs(I/C of S/Divns)	Full powers Rs.40000	Provided that:- (i) The works are of productive nature and financially justified or Cost of unjustified portion is recovered in full and in cases where no financial justification is required to be worked out the fixed/variable ,are recovered in advance (ii) Expenditure is met from with in the Budget provision under the Major/Minor head concerned.
DOP 16	To convey administrative approval for work expenditure other than residential buildings. (a) Special repairs  (b) Renewals and Replacement of existing works	C.Es S.Es Xens/R.Es  C.Es S.Es	Rs.5 lac Rs.2 lac Rs.50000  Rs.10 lac Rs.7 lac	
DOP 24	(iii) To convey technical sanction to detailed estimates for augmentation of Sub-station and transmission lines	C.Es S.Es Xens/R.Es AEs/AEEs I/c of S/Divns.	Full Powers Rs.20 lac Rs.8 lac Rs.1 lac	Provided that:- (i) The works are of productive nature, or are necessary for full development of



	including mains and sub mains.			project, but which are not themselves directly remunerative. (ii) Expenditure is met from within the Budget provision under the Major/Minor head concerned
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(b) I.U.T Transactions stands for Inter-Unit-Transfers--An IUT Bill is raised when:-

- (i) cash is transferred from one accounting unit to another.
- (ii) material is issued from stores for use on works of another Accounting Units,
- (iii) recoveries are affected on behalf of another Accounting Units and
- (iv) payment is made by one accounting unit on behalf of another Accounting Unit.

This is in substitution of old system of A.T.Ds/A.T.Cs.



## Question 1

a) **Tariff for News Paper Printing Presses (As per Regulation 17 of ESIM General condition of tariff:-** Accredited news paper printing presses shall be treated as Industrial premises and therefore the supply to these consumers shall be considered as Industrial supply and shall be charged under relevant Industrial tariff. However, the lighting load in the premises of accredited news paper presses shall be metered separately and charged as per rates under Schedule Non-Residential Supply.

b) **Two Part Tariff (TPT) Structure/Fixed Charges:- (As per Regulation 9 of ESIM General condition of tariff)**

All consumers (except AP, AP High-Technology/High Density Farming, EV Charging Stations, Golden Temple and Durgiana mandir) shall be covered under Two Part Tariff structure, as approved by the Commission in the Tariff Order. Further fixed charges under TPT shall be charged as under:

(a) For consumers covered under Contract Demand system as per condition 10 below, the Fixed Charges (unless otherwise specified in Schedules of Tariff) shall be levied on 80% of the sanctioned Contract Demand or Actual demand recorded during the billing cycle/month (restricted to sanctioned Contract Demand), whichever is higher. In case, the consumer exceeds its sanctioned Contract Demand during a billing cycle/month, he shall be liable to pay applicable demand surcharge as provided in Schedule of Tariff for relevant category.

(b) For other consumers (not covered under Contract Demand system as per condition 10 below), the Fixed Charges shall be levied on 80% of the sanctioned load in kW.

c) **On Withdrawal of Application for Temporary Connection. ( As per Reg. 19.3 of supply code 2014 11<sup>th</sup> Amendment)**

In case of withdrawal of application for temporary connection after compliance of demand notice, the following procedure shall be adopted for refund of Security (works):-

19.3.1 If the application is withdrawn before the due date by which supply of electricity is required or time frame fixed as per regulation 8.3.3, whichever is later and no work has been undertaken by the distribution licensee, the entire Security (works) shall be refunded.

19.3.2 If the application is withdrawn before the due date by which supply of electricity is required or the time frame fixed as per Regulation 8.3.3, whichever is later and works have been taken up, the expenditure incurred by the distribution licensee on the erection/dismantlement of works shall be deducted from the Security (works) and the balance amount shall be refunded.

19.3.3 If a distribution licensee fails to release the connection by the due date or time frame fixed as per Regulation 8.3.3, whichever is later and the application is withdrawn thereafter, Security (works) shall be refunded in full.

d) **THE POWERS TO WRITE OFF SURCHARGE:( As per Regulation 94 of ESIM)** The following officers are competent to waive off the recovery of amount of surcharge levied in respect of payment of energy bills provided the same is not due to the fault on the part of the consumer:-

S.No.	To whom delegated :	Extent of Delegation
1.	Sr.XEN/ASE(DS) :	Rs.50/- In each case
2.	SE/Dy.CE(DS) :	Rs.200/- in each case
3.	CE/EIC(DS) :	Rs.1,000/- In each case
4.	Director /Incharge Commercial :	Rs.10,000/- in each case
5.	Director(CommI) in consultation with Director F&A. :	Above Rs.10,000/- In each case



**E) Compounding:- (As per Regulation 37.3 of ESIM)**

**37.3.1** The State Government or any Officer authorized by it (Annexure-11) may accept from any consumer/person who has committed or is reasonably suspected of theft of electricity, a sum of money as compounding fee at the rates notified by the State Government (Annexure-11).

**37.3.2** On receipt of such amount in accordance with Regulation 37.3.1, any person in custody in connection with that offence shall be set at liberty and no proceedings shall be instituted or continued against such consumer or person in any criminal court. The payment of compounding fee shall be in addition to any assessed amount/civil liability accruing under Regulation 37.2.2 or 37.4.

**37.3.3** The compounding of an offence of theft of electricity shall be allowed only once to any consumer/person.



(As per Regulation 21.5.2 of Supply code)

i) Defective (other than inaccurate)/Dead Stop/Burnt/Stolen Meters :-

The accounts of a consumer shall be overhauled/billed for the period meter remained defective/dead stop and in case of burnt/stolen meter for the period of direct supply subject to maximum period of six months as per procedure given below:

- On the basis of energy consumption of corresponding period of previous year.
- In case the consumption of corresponding period of the previous year as referred in para (a) above is not available, the average monthly consumption of previous six (6) months during which the meter was functional, shall be adopted for overhauling of accounts.
- If neither the consumption of corresponding period of previous year (para-a) nor for the last six months (para-b) is available then average of the consumption for the period the meter worked correctly during the last 6 months shall be taken for overhauling the account of the consumer.
- Where the consumption for the previous months/period as referred in para (a) to para (c) is not available, the consumer shall be tentatively billed on the basis of consumption assessed as per para -4 of Annexure-8 and subsequently adjusted on the basis of actual consumption recorded in the corresponding period of the succeeding year.
- The energy consumption determined as per para (a) to (d) above shall be adjusted for the change of load/demand, if any, during the period of overhauling of accounts.

ii) Inaccurate Meters (As per Regulation 21.5.1 of Supply code)

If a consumer meter on testing is found to be beyond the limits of accuracy as prescribed hereunder, the account of the consumer shall be overhauled and the electricity charges for all categories of consumers shall be computed in accordance with the said test results for a period not exceeding six months immediately preceding the:

- date of test in case the meter has been tested at site to the satisfaction of the consumer or replacement of inaccurate meter whichever is later; or
- date the defective meter is removed for testing in the laboratory of the distribution licensee.

Sr.No	Consumer Meter	Accuracy class as per CEA Metering Regulations*	In-Service maximum permissible error as per IS Code **
1	Upto 650 volts	1.0 or better	+ 2.5%
2	Above 650 volts & upto 33 kV	0.5S or better	± 1.0%
3	Above 33 kV	0.2S or better	± 0.5%

\* Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006, as amended from time to time.

\*\* IS 15707: 2006 & IS 14697:1999

Note: Where accuracy of meter is not involved and it is a case of application of wrong multiplication factor, the accounts shall be overhauled for the period this mistake continued.



B) **Energy Consumption Variation register: ( As per Regulation 104.7 of ESIM)**

Careful examination/study of cases of low and appreciable variation in energy consumption shall provide clues for investigating theft of electricity cases. In order to have an effective control/ check over the mal-functioning of the meters/theft of energy by properly maintaining/monitoring energy variations registers for different category of consumers, following guidelines shall be implemented strictly.

**104.7.1 Maintenance of the Registers:** Officials/Officers responsible for maintaining energy variation register shall be as under:-

- |  |   |
|--|---|
| a) For connections having load upto 20 kW                | RA/ARA  |
| b) For connections having load between 20 and 100 kW/kVA | AAE or JE where AAE is not posted                                       |
| c) All HT/EHT connections                                | AE./AEE/XEN Incharge of S.Divn. and AEE./Comml. in case of Special Divn |

**104.7.2 Procedure to be adopted for checking energy variation:** For keeping check on energy variation of various categories, consumption of a particular month shall be compared with consumption of the same month of the preceding year/average consumption of the preceding year/season and if there is variation of  $\pm 10\%$  in case of HT/EHT consumer,  $\pm 20\%$  in case of LT category of consumers, the same shall be recorded in the energy variation register and necessary investigation carried out so as to ascertain reasons for the said variation. Centralised Billing Cell, shall also look into variation ( $\pm 10\%$ ) and send the list alongwith its comments to the respective DS sub-divisions for carrying out further investigation. Similar kind of industries shall be entered in the variation register separately for relative consumption comparison. Officers/officials responsible for maintenance of registers shall put up the same to AE/AEE/XEN Incharge of the sub-division for necessary action to ensure the compliance of instructions.

**Issue of Energy Variation Register:** Three separate registers as mentioned above be maintained in each subdivision. These registers duly numbered and attested by the Divn. Supdt. shall be issued by the DS divisional office and record shall be maintained like SMB"s. Sr.Xen/ASE (DS) Incharge of (DS) Division shall check/append initials on the registers while on tour for ensuring compliance of these instructions.

**Ombudsman, Electricity, Punjab, has in its Order dt. 15/03/2018 issued the following directions:-** "All the ASEs/Sr. XENs to keep a vigil on the variations in the energy consumption recorded and available in SAP in respect of all categories of consumers within their respective jurisdiction, analyse the cases of abnormal decrease in consumption of current vis-a-vis previous month(s) and take immediate corrective action, wherever required, with a view to protect the interests of both the Utility and the Consumers."



**A) HARMONICS ( As per Regulation 24 of ESIM)**

24.1 [The distribution licensee and the designated consumers shall control the harmonics level at the Point of Common Coupling (PCC). The limits of voltage harmonics by the distribution licensee in its electrical network, the limit of injection of current harmonics by the designated consumers, Point of measurement i.e PCC and other related matters shall be as per the IEEE 519-2014 namely 'IEEE Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems', as modified from time to time.

24.2 The measurements undertaken to determine compliance shall be carried out in accordance with the requirements as specified in IEC 61000-4-7 and IEC 61000-4-30. There shall be continuous measurement of harmonics with permanent Power Quality meters complying with the IEC 61000-4-30 Class-A meters. Provided that where CTs/PTs of the existing installation/connection of the designated consumer are of lower accuracy class than mandated by IEC 61000-4-30 Class-A meters, the meters complying with the IEC 61000-4-30 Class-B may be installed as an interim measure.

24.3 The data measured and metered as mentioned in regulation 24.2 with regard to the harmonics, shall be captured by the distribution licensee each month or as may be decided by the Commission from time to time keeping in view the operational constraints. The data shall also be shared with the consumer periodically.

24.4 The designated consumers shall install power quality meters by 1st October, 2021 and share the recorded data thereof with the distribution licensee each month or as may be decided by the Commission.

24.5 The distribution licensee shall install power quality meters within three years starting from 1st October, 2021 in a phased manner covering at least 20% of the total identified locations on 11/33/66 kV feeders as may be approved by the Commission, in the first year and 40% each in subsequent two years.

**24.6 Harmonic limits**

Harmonic management in a power system is a joint responsibility involving both the end users and the distribution licensee, therefore harmonic limits are specified for both voltages and currents. The limits as mentioned below shall apply only at the Point of Common Coupling (PCC).



## 24.6.1 VOLTAGE HARMONICS

- (a) The distribution licensee shall control the line-to-neutral voltage harmonics at the Point of Coupling. The voltage harmonic distortion of the supply voltage shall be assessed in terms of the Total Harmonic Distortion (THD<sub>v</sub>) considering harmonic components up to the 50th order. THD<sub>v</sub> shall be taken as square root of the sum of squares of all voltage harmonics expressed as a percentage of the magnitude of the fundamental measured with following formula

$$THD_v = \sqrt{\sum_{h=2}^N V_h^2}$$

where

$V_h$  represents the percent r.m.s value of the  $h^{th}$  harmonic voltage component, and  $N$  represents the highest harmonic order considered in the calculation.

- (b) Voltage distortion limits

Table 1

Bus Voltage V at PCC	Individual harmonic (%)	Total harmonic distortion (THD) (%)
$V \leq 1.0 \text{ kV}$	5.0	8.0
$1 \text{ kV} < V \leq 69 \text{ kV}$	3.0	5.0
$69 \text{ kV} < V \leq 161 \text{ kV}$	1.5	2.5
$161 \text{ kV} < V$	1.0	1.5 <sup>a</sup>

<sup>a</sup>High-voltage systems can have up to 2.0% THD where the cause is an HVDC terminal whose effects will have attenuated at points in the network where future users may be connected.

For statistical evaluation, voltage harmonics shall be assessed for a period of not less than 7 continuous days. The short time 10 min values are accumulated over periods of one week and the 95th percentile values (i.e., those values that are exceeded for 5% of the measurement period) are calculated for each 7-day period for comparison with the recommended limits. The values are measured at PCC in normal operating condition.

## 24.6.2 CURRENT HARMONICS

The designated consumer shall limit the value of harmonic currents measured at Point of Common Coupling (PCC) measured over 10 minutes period to the values as given in table below:



- (a) Current distortion limits (TDD) for system nominally rated through 120 V to 69 kV

Table 2

Maximum harmonic current distortion in percent of $I_L$						
Individual harmonic order (odd harmonics) <sup>a, b</sup>						
ISC/ $I_L$	$3 \leq h < 11$	$11 \leq h < 17$	$17 \leq h < 23$	$23 \leq h < 35$	$35 \leq h \leq 50$	TDD
<20*	4.0	2.0	1.5	0.6	0.3	5.0
20<50	7.0	3.5	2.5	1.0	0.5	8.0
50<100	10.0	4.5	4.0	1.5	0.7	12.0
100<1000	12.0	5.5	5.0	2.0	1.0	15.0
>1000	15.0	7.0	6.0	2.5	1.4	20.0

Note: \* All power generation equipment is limited to these values of current distortion, regardless of actual ISC/ $I_L$ ;

\*Even harmonics are limited to 25% of the odd harmonic limits above;

<sup>b</sup>Current distortions that result in a dc offset, e.g., half-wave converters, are not allowed;

where

ISC = maximum short-circuit current at PCC;

$I_L$  = maximum demand load current (fundamental frequency component) at the PCC under normal load operating conditions;

- (b) Values of Current distortion limits (TDD) for system rated above 69 kV through 161 kV

Table 3

Maximum harmonic current distortion in percent of $I_L$						
Individual harmonic order (odd harmonics) <sup>a, b</sup>						
ISC/ $I_L$	$3 \leq h < 11$	$11 \leq h < 17$	$17 \leq h < 23$	$23 \leq h < 35$	$35 \leq h \leq 50$	TDD
<20*	2.0	1.0	0.75	0.3	0.15	2.5
20<50	3.5	1.75	1.25	0.5	0.25	4.0
50<100	5.0	2.25	2.0	0.75	0.35	6.0
100<1000	6.0	2.75	2.5	1.0	0.5	7.5
>1000	7.5	3.5	3.0	1.25	0.7	10.0

Note: \* All power generation equipment is limited to these values of current distortion, regardless of actual ISC/ $I_L$ ;

\*Even harmonics are limited to 25% of the odd harmonic limits above;



<sup>b</sup>Current distortions that result in a dc offset, e.g., half-wave converters, are not allowed;

where

$I_{sc}$  = maximum short-circuit current at PCC;

$I_L$  = maximum demand load current (fundamental frequency component) at the PCC under normal load operating conditions;

(c) Values of Current distortion limits (TDD) for system rated above 161 kV

Table 4

Maximum harmonic current distortion in percent of $I_L$						
Individual harmonic order (odd harmonics) a, b						
ISC/ $I_L$	$3 \leq h < 11$	$11 \leq h < 17$	$17 \leq h < 23$	$23 \leq h < 35$	$35 \leq h \leq 50$	TDD
$< 25^*$	1.0	0.5	0.38	0.15	0.1	1.5
$25 < 50$	2.0	1.0	0.75	0.3	0.15	2.5
$> 50$	3.0	1.5	1.15	0.45	0.22	3.75

Note: \* All power generation equipment is limited to these values of current distortion, regardless of actual ISC/ $I_L$ ;

<sup>a</sup>Even harmonics are limited to 25% of the odd harmonic limits above;

<sup>b</sup>Current distortions that result in a dc offset, e.g., half-wave converters, are not allowed;

where

$I_{sc}$  = maximum short-circuit current at PCC;

$I_L$  = maximum demand load current (fundamental frequency component) at the PCC under normal load operating conditions;

For statistical evaluation, current harmonics shall be assessed for the period not less than 7 continuous days. The short time 10 min values are accumulated over periods of one week and the 95<sup>th</sup> & 99<sup>th</sup> percentile values (i.e., those values that are exceeded for 5% and 1% of the measurement period) are calculated for each 7-day period for comparison with the recommended limits. The values of TDD are measured at PCC in normal operating condition.

Provided that:

The weekly 95<sup>th</sup> percentile short time 10 min harmonic current values should be less than the value given in Table (2), (3) and (4) above, as applicable. However, the weekly 99<sup>th</sup> percentile short time 10 min harmonic current values should be less than 1.5 times the value given in Table (2), (3) and (4) above, as applicable.

24.7 In case the designated consumer fails to install power quality meter within the stipulated time, as specified in regulation 24.4 of these regulations or the injection



**B) Seasonal Industries ( As per Regulation 18 of General condition of tariff, tariff order 2023-24)**

**18.1 Seasonal industries mean industries/factories which by virtue of nature of their production, work during part of the year up to a maximum of 6 months during a year as specified below in Condition 1g.2. 18.2**

**Approved seasonal industries are as under:**

- (i) A cotton ginning, pressing and bailing plants**
- (ii) All rice shellers**
- (iii) All rice bran stabilization units (without T.G. Set**
- (iv) Kinnow grading & Waxing Centers**
- (v) Maize Dryer plants**
- (vi) Food (including fruits and vegetables) processing, packaging and storage units.**

Seasonal period for industries at Sr. No. (i), (iii) and (iv) shall be considered from 1<sup>st</sup> September to 31<sup>st</sup> May next year and seasonal period for rice sheller industry at Sr. no. (ii) shall be from 1<sup>st</sup> October to 30<sup>th</sup> June next year. The seasonal industrial consumers at Sr. no. (i) to (iv) shall not be required to serve advance notice before starting or closing the unit.

Seasonal industrial consumers at Sr. No. (v) and (vi) shall be required to intimate the period of their season subject to maximum 6 months by 31<sup>st</sup> May or one month prior to start of season, whichever is earlier.

Seasonal industry consumers shall not be required to give any undertaking not to run his seasonal industry during off season.

**18.3 Rice bran stabilization units having T.G. sets, Rice Huter Mills, rice Factories and Ice Candy plants shall not be treated as seasonal industries.**

**18.4 The seasonal industry consumers shall have the option to be covered under General Industry category and the relevant industrial tariff shall be applicable in such cases. The seasonal industrial consumers shall exercise their option one month prior to the start of the season. In such cases, the billing as general industry shall be done for the whole one year i.e. for a period of 12 months from the date of start of season.**

**18.5 Billing of Seasonal Industries**

Billing for a seasonal industries shall be done on a monthly basis and charged as under:

**18.5.1 For exclusive Seasonal Industries mentioned above, billing shall be as per the tariff (comprising of fixed and energy charges) applicable in the respective schedule of tariff for seasonal industry. However, the Fixed Charges, as applicable in the respective schedule of tariff for seasonal period, shall be levied only for the period of six months from the beginning of the seasonal period, in accordance with condition 9 above. Thereafter, only energy charges, as applicable in the respective schedule of tariff, shall be levied on actual consumption recorded during the month. However, demand surcharge shall be leviable for the excess demand, if any, as per the relevant schedule of tariff.**

**18.5.2 For mixed Industries, comprising of seasonal industry and general industry, billing shall be done monthly as under: a) Energy Charges shall be levied on actual consumption recorded during the month, as applicable in the respective Schedule of Tariff for General Industry, throughout the year. b) Fixed Charges in accordance with condition 9 above, shall be levied on sanctioned contract demand for general load, as applicable in respective Schedule of Tariff for General Industry throughout the year and on sanctioned contract demand for seasonal load for six months at seasonal rates, as applicable in the respective Schedule of Tariff, from the beginning of seasonal period, irrespective of the actual period of running of seasonal load.**



03 - Deposit of Collection into Bank		
RESPONSIBLE	ACTION	TIMING
Official Handling Cash	<p>1. Prepare pay-in-slip (three copies) for the collection to be deposited into Bank the next morning and place the same along with cash, cheques and demand drafts in the Cash Chest.</p> <p>Note: (1) Separate pay-in-slips are to be prepared for :</p> <ul style="list-style-type: none"> <li>(i) Amount to be deposited in cash.</li> <li>(ii) All cheques and demand drafts (D.Ds) drawn on the bank with which the depositing office has the collection account.</li> <li>(iii) All Cheques/D.Ds drawn on all other local banks.</li> </ul> <p>(2) All uncrossed cheques and D.Ds should be crossed at the time of receipt.</p> <p>(3) Detail of individual cheques and D.Ds should be provided on the back of pay-in-slips.</p>	End of Day
Official Handling Cash	<p>2. Take out pay-in-slips prepared the previous evening and corresponding cash amount, cheques and demand drafts from Cash Chest.</p> <p>3. Enter the details of pay-in-slips in the Remittance Register and Monthly Remittances into Bank Statement (MRBS).</p> <p>4. Enter the details of pay-in-slips in the Cash payment column of Cash Book. Enter the pay-in-slips No. in the Vr. reference column.</p> <p>Note : (CPVs are not to be prepared for pay-in-slips)</p>	Every morning



Section 3(1)

RESPONSIBLE	ACTION	TIMING
Officer Incharge	5. Put up Cash Book, Remittance Register and pay-in-slips to officer incharge/RA after getting them checked from UDC/ Supdt.	Immediately
Official Handling Cash	6. Check and attest the entries in C.B. and Remittance Register with the pay-in-slips, and return to official handling Cash.	
Officer Incharge/RA	7. Deposit cash, cheques and demand drafts into collection bank and collect two copies of the receipted pay-in-slips.	Daily
	8. In case the bank refuses to give receipted pay-in-slips, get a provisional receipts for all deposits.	
	9. Get the bank pass book updated. In case the bank follows the practice of providing daily statements, collect these from the Bank.	
Officer Incharge/RA	10. Follow up with Bank to get receipted copies of pay-in-slips if not collected earlier.	
	11. Where time taken by the official handling cash in returning to office or getting the receipted pay-in-slips is unusual, or where there is any suspicion, contact the Bank authorities to ensure that the cash has been deposited with the Bank.	
Notes :		
(1) Vehicle is to be used for carrying cash amounting to Rs. 5000/- or more.		50,000/-
(2) Cash in hand at the end of each month will be kept minimum keeping in view requirement for establishment payments and temporary advances.		
(3) In addition to deposit of collections, at year end, the balance of Cash in		

16

Page 2 of 3



RESPONSIBLE	ACTION	TIMING										
	<p>hand is also to be deposited into bank and reduced to nil. As in the case of collections, a pay-in-slip is to be made for the deposit of balance of Cash on the evening of the penultimate day of the month. The procedure for deposit of balance of Cash in hand into bank would be identical to that for collections. In addition to the above the Drawing and Disbursing Officer is also to give a certificate of nil balance of cash in hand which would be attached to the monthly accounts.</p>											
	<table border="0"> <tr> <td>FORM TITLE</td><td>FORM NO.</td></tr> <tr> <td>Cash Payment Voucher (CPV)</td><td>C &amp; B -3</td></tr> <tr> <td>Cash Book (C.B.)</td><td>C &amp; B-1</td></tr> <tr> <td>Remittance Register</td><td>Existing (BA-1)</td></tr> <tr> <td>Monthly Remittance into Bank Statement (MRIBS)</td><td>Existing (BA-2)</td></tr> </table>	FORM TITLE	FORM NO.	Cash Payment Voucher (CPV)	C & B -3	Cash Book (C.B.)	C & B-1	Remittance Register	Existing (BA-1)	Monthly Remittance into Bank Statement (MRIBS)	Existing (BA-2)	
FORM TITLE	FORM NO.											
Cash Payment Voucher (CPV)	C & B -3											
Cash Book (C.B.)	C & B-1											
Remittance Register	Existing (BA-1)											
Monthly Remittance into Bank Statement (MRIBS)	Existing (BA-2)											

17





**PUNJAB STATE POWER CORPORATION LTD.  
OFFICE OF CE/COMMERCIAL, PATIALA**

To

**All EIC/CE/DS,  
Under PSPCL.**

**Memo. No 268/72IS-4/SWS/17**

**Dated:- 09/01/2023**

**Sub: Changes In Single Window System due to Revision of Schedule of General Charges as per CC No. 01/2023.**

This is with reference to CC No. 01/2023 vide which Schedule of General Charges has been revised and made effective from 21.12.2022.

In this regard, various clarifications have been sought by Dy. CE/PSPCL, PBIP Chandigarh and field offices regarding the applicability of the charges.

The matter has been deliberated and it has been decided as under:-

All the charges payable by consumer on and after 21.12.2022 shall be recoverable as per the revised schedule of General charges. Further Security (Consumption) & Security (Meter) will also be recoverable as per the revised schedule of General charges from consumers who have not made complete compliance of demand notice (including the Test Report) before 21.12.2022. Any difference in charges between old rates (already paid) & new rates recoverable as above be got deposited offline from the consumer.

Illustrations in this regard are given as below:

- a. Cases, where the connection is applied but a Demand notice has not been issued to the Consumer/Applicant as on 21.12.2022.
- b. Cases, where Demand notice has already been issued and compliance is pending at the Consumer/Applicant end as on 21.12.2022.
- c. Cases, where the Demand notice amount has been deposited by the Consumer/Applicant and test report etc. is not submitted as on 21.12.2022.
- d. Cases, where Demand notice compliance (along with Test Report) has been made by the Consumer/Applicant and release of connection is pending as on 21.12.2022.

For Illustration (a) to (c), all the charges (except Processing fees) are recoverable as per the revised schedule of General charges. For Illustration (d), since Demand notice has been fully complied with before 21.12.2022, only old schedule of General charges are applicable.

The above instructions shall supersede the earlier instruction issued vide memo no. 212/40 dated 27.1.2023.



## Question 4

### b) CONNECTED LOAD REGISTER FORM PCL-CLR-DIRECTION FOR USE: ( As per Regulation 33 of ESIM)

33.1 Purpose of Register: In every sub-division and sub-office, connected load register in form PCL-CLR (Annexure-25) shall be maintained for the following purposes:-

33.1.1 Balancing the load on feeders / phases.

33.1.2 Anticipating the necessity for augmenting the capacities of feeders, switches, transformers etc.

33.1.3 Compilation of connection / connected load data.

33.2 Recording Entries: Connected Load Registers will be maintained by J.E. and entries will be made therein in accordance with the following instructions.

33.2.1 The opening entry in the register should be made on 1st April from the connection return for the month of March. If the registers have already been put into force, the totals of the registers up to 31st March shall be verified with the actual load and then carried over to 1st April of the next year.

33.2.2 A separate register should be used for each sub-station. For Sub-stations of smaller capacity only one register may be used by allotting a portion of it for each sub-station. Capacity of the transformer should be written at the top.

33.2.3 For the purposes of controlling the balancing of load on various feeders and different phases in a feeder, the connected load of each 3-phase consumer should be proportioned amongst the three phases in a feeder.

33.3 Recording of Connection/Disconnection: In order to keep the connected load registers up to date, entry of connected load shall be made in this register before any SCO/DCO is signed by AE/AEE/XEN (DS) or R.A. It will be obligatory on the part of RA/AE/AEE/ XEN (DS) to check the cross entry of connected load on the SCO or DCO by indicating the page No. of the connected load register where the details of connected load have been entered before any SCO or DCO is signed for issue.

33.3.1 The exact particulars of each consumer (connected or disconnected) should be entered in relevant columns.

33.3.2 Connections will be entered in blue ink and disconnections in red ink.

33.4 Month-wise Totals: The entries of each register shall be totaled on the last working day of the month and the connection / connected load return prepared from this register. The register shall be initialed by the J.E. daily in token of the correctness of that day's entries and signed monthly by the AE/AEE/XEN (DS) after the totals have been entered.

### c) Load Calculation

Fan : 41	= $41/2 \times 40$	=840
Lamp: 22	= $22/3 \times 60$	=480
Socket: 24	= $24/4 \times 60$	=360
Submersible Pump	=1BHP	=746
AC 1.5 TON	=5	=7500
GYSER Through PP	=1	=1000
TOTAL LOAD		=10.926 KW



Question no. 5

Fixed charged $8500 \times 31/365 \times 12/345$	= 2988740
Energy charges $2641275 \times 6.89$	= 18198385
HT Rebate $2641275 \times .25$	= -660319
Peak charges $436230 \times 2$	= 872460
Demand surcharge $90.50 \times 750$	= 67875
Subsidy $2641275 \times 1.39 (6.89-5.5)$	= -3671372
TOTAL	<u>17727894</u>
ED/IDF $17727894 \times .20$	3545579
	<u>21273472</u>
Demand surcharge $90.50 \times 750$	67875
Meter Rent	2054
	<u>21343402</u>