



Registrar

# National Electric Power Regulatory Authority Islamic Republic of Pakistan

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No. NEPRA/R/ADG(Trf)/TRF-483/HESCO-2019/43975-43977  
December 8, 2020

**Subject: Determination of the Authority in the matter of Petition filed by Hyderabad Electric Supply Company Ltd. (HESCO) for Determination of its Distribution Tariff for the FY 2018-19 [Case # NEPRA/TRF-483/HESCO-2019]**

Dear Sir,

Please find enclosed herewith subject Determination of the Authority (38 Pages) in Case No. NEPRA/TRF-483/HESCO-2019.

2. The Determination is being intimated to the Federal Government for the purpose of notification in the official gazette pursuant to Section 31(7) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997.

Enclosure: As above

( Muhammad Ramzan )

Secretary  
Ministry of Energy (Power Division)  
'A' Block, Pak Secretariat  
Islamabad

CC:

1. Secretary, Cabinet Division, Cabinet Secretariat, Islamabad.
2. Secretary, Ministry of Finance, 'Q' Block, Pak Secretariat, Islamabad.



National Electric Power Regulatory Authority  
(NEPRA)

PETITION NO: NEPRA/TRF-509/HESCO-2019

DETERMINATION OF DISTRIBUTION TARIFF PETITION  
FOR  
HYDERABAD ELECTRIC SUPPLY COMPANY LIMITED (HESCO)  
FOR THE FY 2019-20  
UNDER  
NEPRA TARIFF (STANDARDS AND PROCEDURE) RULES - 1998

Islamabad  
December 08,  
November , 2020

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National Electric Power Regulatory Authority  
(NEPRA)

PETITION NO: NEPRA/TRF-483/HESCO-2019

DETERMINATION OF DISTRIBUTION TARIFF PETITION

FOR

HYDERABAD ELECTRIC SUPPLY COMPANY LIMITED (HESCO)

FOR THE FY 2018-19

UNDER

NEPRA TARIFF (STANDARDS AND PROCEDURE) RULES - 1998

Islamabad

November , 2020

NEPRA

### Abbreviations

CpGenCap	The summation of the capacity cost in respect of all CpGencos for a billing period minus the amount of liquidated damages received during the months
ADB	Asian Development Bank
AMI	Advance Metering Infrastructure
AMR	Automatic Meter Reading
BoD	Board of Director
BTS	Base Transceiver Station
CAPM	Capital Asset Pricing Model
CDP	Common Delivery Point
COSS	Cost of Service Study
CPPA (G)	Central Power Purchasing Agency Guarantee Limited
CWIP	Closing Work in Progress
DIIP	Distribution Company Integrated Investment Plan
DISCO	Distribution Company
DM	Distribution Margin
DOP	Distribution of Power
ELR	Energy Loss Reduction
ERC	Energy Regulatory Commission
ERP	Enterprise resource planning
FCA	Fuel Charges Adjustment
FY	Financial Year
GIS	Geographical Information System
GOP	Government of Pakistan
GWh	Giga Watt Hours
HHU	Hand Held Unit
HT/LT	High Tension/Low Tension
HSD	High Speed Diesel
IGTDP	Integrated Generation Transmission and Distribution Plan
IESCO	Islamabad Electric Supply Company Limited
KIBOR	Karachi Inter Bank Offer Rates
KSE	Karachi Stock Exchange
KV	Kilo Volt
kW	Kilo Watt
kWh	Kilo Watt Hour
LPC	Late Payment Charges
MDI	Maximum Demand Indicator
MMBTU	One million British Thermal Units
MoWP	Ministry of Water and Power
MVA	Mega Volt Amp
MW	Mega Watt



NEPRA	National Electric Power Regulatory Authority
NOC	Network Operation Centre
NTDC	National Transmission & Despatch Company
O&M	Operation and Maintenance
OGRA	Oil and Gas Regulatory Authority
PEPCO	Pakistan Electric Power Company
PESCO	Peshawar Electric Supply Company Limited
PDEIP	Power Distribution Enhancement Investment Program
PDP	Power Distribution Program
PPA	Power Purchase Agreement
PPAA	Power Procurement Agency Agreement
PPP	Power Purchase Price
PYA	Prior Year Adjustment
R&M	Repair and Maintenance
RAB	Regulatory Asset Base
RE	Rural Electrification
RFO	Residual Fuel Oil
RLNG	Re-gasified Liquefied Natural Gas
RoE	Return on Equity
RORB	Return on Rate Base
ROR	Rate of Return
SBP	State Bank of Pakistan
SOT	Schedule of Tariff
STG	Secondary Transmission Grid
SYT	Single Year Tariff
T&D	Transmission and Distribution
TFC	Term Finance Certificate
TOU	Time of Use
TOR	Term of Reference
TPM	Transfer Price Mechanism
USCF	The fixed charge part of the Use of System Charges in Rs./kW/Month
UOSC	Use of System Charges
WACC	Weighted average cost of capital
WAPDA	Water and Power Development Authority
XWDISCO	Ex-WAPDA Distribution Company

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**DETERMINATION OF THE AUTHORITY IN THE MATTER OF PETITION FILED BY  
HYDERABAD ELECTRIC SUPPLY COMPANY LIMITED (HESCO) FOR DETERMINATION OF  
ITS DISTRIBUTION TARIFF FOR THE FY 2018-19**

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CASE NO. NEPRA/TRF-483/HESCO-2019

**PETITIONER**

Hyderabad Electric Supply Company Limited (HESCO), Wapda Offices Complex, Hussainabad  
Hyderabad

**INTERVENER**

M/s CM Pak Limited (ZONG)

**COMMENTATOR**

NIL

**REPRESENTATION**

- i. Chief Executive Officer
- ii. Chief Commercial Officer
- iii. Chief Operating Officer
- iv. Chief Financial Officer



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## 1. Background

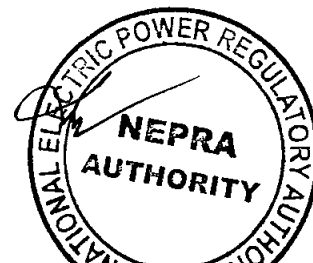
- 1.1. The amendments in the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 was passed by the National Assembly on 15<sup>th</sup> March, 2018, which was published in the official Gazette on 30<sup>th</sup> April 2018 (the "**Amendment Act**"), resulting in restructuring of the energy sector.
- 1.2. As per the amended Act, function of sale of electric power traditionally being performed by the Distribution Licensees has been amended under Section 21(2)(a), whereby 'sale' of electric power has been removed from the scope of 'Distribution Licensee' and transferred to 'Supply Licensee'.
- 1.3. Section 23E of the Act, provides NEPRA with the powers to grant Electric Power Supply License for the supply of electric power. Section 23E(1), however, provides that the holder of a distribution license on the date of coming into effect of the Amendment Act, shall be deemed to hold a license for supply of electric power under this section for a period of five years from such date. Thus, all existing Distribution Licensees have been deemed to have Power Supplier Licenses, to ensure distribution licensees earlier performing both the sale and wire functions, can continue to do so. Section 23E, further states that the eligibility criteria for grant of license to supply electric power to be prescribed by the Federal Government, and shall include, provision with respect to a supplier of the last resort, as the case may be.
- 1.4. In view thereof, Hyderabad Electric Supply Company Limited (HESCO), hereinafter called "the Petitioner", being a Distribution as well as deemed Supplier filed separate tariff petitions for the determination of its Distribution and Supply of Electric Power Tariff for the FY 2018-19 in terms of Rule 3 (1) of Tariff Standards & Procedure Rules-1998 (hereinafter referred as "Rules").
- 1.5. The Petitioner in its petition, inter alia, has requested for a distribution cost of Rs.15,362 million for the FY 2018-19 i.e. Rs.3.58/kWh based on projected sales of 4,290 GWh as detailed below;

Description	Unit	FY 2018-19
Units Purchases	GWh	5,864
Units Lost	GWh	1,574
% of T&D Losses	%	26.84%
Units to be Delivered	GWh	4,290
O&M	Mln Rs.	9,975
Depreciation	Mln Rs.	1,608
Return on Regulatory Asset Base (RoRB)	Mln Rs.	2,424
Other Income	Mln Rs.	(623)
Provision for Bad Debts	Mln Rs.	1,977
<b>Total Revenue Requirement</b>	<b>Mln Rs.</b>	<b>15,362</b>
<b>Distribution Margin</b>	<b>Rs./kWh</b>	<b>3.58</b>
<b>Investment</b>	<b>Mln Rs.</b>	<b>6,212</b>

## 2. Proceedings

- 2.1. In terms of rule 4 of the Tariff standard and Procedure Rules, 1998 (hereinafter referred to as "Rules"), the petition was admitted by the Authority. Since the impact of any such adjustments has to be made part of the consumer end tariff, therefore, the Authority, in order to provide an opportunity of hearing to all the concerned and meet the ends of natural justice, decided to conduct a hearing in the matter.
- 2.2. Hearing in the matter was scheduled on February 12, 2020, for which notice of admission / hearing along-with the title and brief description of the petition was published in newspapers on January 22, 2020 and also uploaded on NEPRA website; Individual notices were also issued to stakeholders/ interested parties.

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### 3. Issues of Hearing

3.1. For the purpose of hearing, and based on the pleadings, following issues were framed to be considered during the hearing and for presenting written as well as oral evidence and arguments;

- i. Whether the Petitioner has complied with the direction of the Authority given in its earlier determination?
- ii. As provided in NEPRA Amendment Act, 2018, HESCO as Distribution Licensee shall be deemed to hold Supply License also for a period of 5-years. In this regard, HESCO is required to explain its organizational restructuring in respect of segregation of responsibilities for Distribution Business and Sale Business?
- iii. As per NEPRA Amendment Act, 2018, obligations of procurement of assets including meters (for satisfying its services) and disconnection / reconnection services (on demand of Supplier) are with Distribution Licensee whereas procedure for metering, billing, collection of approved charges and recovery of arrears are the obligations of Supply Licensee. In this scenario, HESCO is required to state the mode and manner being developed and followed for appropriate coordination between Distribution Licensee and Supply Licensee?
- iv. Whether the requested T&D loss target is reasonable? Whether this target comprises of both Technical and Commercial losses? What are the proposed plans specifically for loss reduction and removal of overloading and system constraints?
- v. Whether the projected demand is reasonable?
- vi. Whether the projected Net Distribution Margin (excluding RoRB) is justified? The petitioner is required to provide Grid wise plan of its proposed O&M.
- vii. Whether the projected Return on Regulatory Asset base (RORB) for the FY 2018-19 is justified?
- viii. Whether the distribution margin should be recovered on Rs./kW or Rs./kWh basis?
- ix. Whether the basis used by the Petitioner for bifurcation of its costs into supply and distribution segments are justified?
- x. As per Amendment Act, 2018, responsibilities of DISCO and Supplier have been bifurcated. HESCO is required to submit overall organogram which broadly describe its role/functions as DISCO and Supplier.
- xi. Whether HESCO is currently facing network congestions? If yes, HESCO is required to submit detailed analysis by identifying the grey areas which caused congestions in its transmission and distribution system. HESCO is also required to submit load shedding policy in high loss areas.
- xii. Whether the requested investment without submission of five Year IGTDP as required is justified? Petitioner must provide the project wise detailed report along with rationale against the requested investment.
- xiii. Whether the ToU meters installed on Residential & General Services connections have the capability to record MDI?
- xiv. Whether the concerns raised by the intervener/ commentator if any are justified?
- xv. Any other issue that may come up during or after the hearing?



4. **Filing Of Objections/ Comments**

- 4.1. Comments/replies and filing of Intervention Request (IR), if any, were desired from the interested person/ party within 7 days of the publication of notice of admission in terms of Rule 6, 7 & 8 of the Rules. In response thereof, IR has been filed by M/s CM Pak Limited (ZONG). A brief of the concerns raised by M/s CM Pak is as under;
- 4.2. The intervener highlighted issues being faced in terms of provision of electricity, coupled with over billing, deteriorating system and non-cooperative mechanism being adopted with respect to discharge of liabilities by the Petitioner. It was also submitted that provision of electricity connections despite paid demand notes ranges from 100-400 days, whereas, as per the rule 4 of NEPRA Performance Standards (Distribution) Rules, 2005, the time period prescribed for new connections is within 30 to 55 days. The Intervener accordingly requested the Authority to issue directions to the Petitioner for provision of electricity connection in accordance with law and decide the pending over billing complaints/issues within a specified time in accordance with law.
- 4.3. The Authority observed that the issues highlighted by the Intervener were primarily complaints in nature, therefore, directed the Petitioner, during the hearing, to ensure provision of pending connections without further delay. The Authority also directed the Petitioner to establish a corporate desk to facilitate its corporate clients in terms of provision of electricity and to address the issues of overbilling, if any, on priority basis. The Authority also discussed the matter of delay in installation of pending connections during the hearing. However, the Petitioner did not submit any details with respect to the pending connections as of June 2019. The Authority while analyzing the DISCOs performance statistics report published by PEPCO noted that total applications pending for new connections in respect of the Petitioner were 6,437, which include 5,451 domestic, 760 commercial, 106 Agriculture, 117 industrial and 3 others applications. The Authority directs the Petitioner to provide electricity connections to all these pending applications without further delay and submit a quarterly progress report in this regard.
- 4.4. During the hearing, the Petitioner was represented by its Chief Executive Officer along-with its technical and financial teams; On the basis of pleadings, evidence/record produced and arguments raised during the hearing, issue-wise findings are given as under;

5. **Whether the Petitioner has complied with the direction of the Authority given in its earlier determination?**

- 5.1. The Authority gave certain directions to the Petitioner in its tariff determination for the FY 2017-18. The Authority understands that periodic monitoring of the directions given by the Authority is absolutely necessary in order to analyze the Petitioner's performance, therefore, the Authority has decided to have a half yearly review of the given directions, instead of discussing the same only during the tariff proceedings. However, the directions which are directly relevant to the tariff determination of the Petitioner are discussed hereunder;
6. **To spend at least 20% of the village electrification funds for improvement / up gradation of the grid and not to undertake any village electrification which would result in overloading of its system. The village electrification would only be undertaken without augmentation of the grid, if it already has spare MVAs.**
- 6.1. The Authority in the Petitioner's determination for the FY 2015-16 observed that the impact of all the investments may get diluted, if the Petitioner carry out village electrification imprudently as imprudent village electrification may result in overloading and increasing the T&D losses.

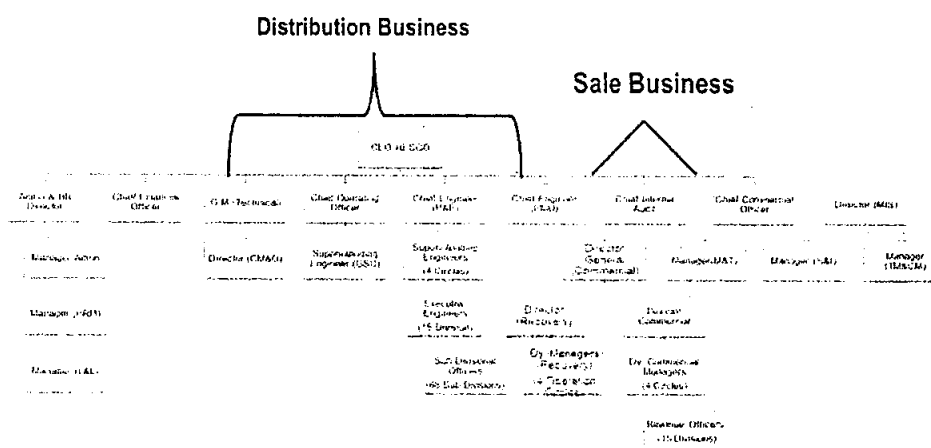
- 6.2. In the past, the village electrification was restricted to poles, lines and distribution transformers only. Its impact on the existing grid or strengthening of the grid due to the additional load in the form of village electrification was totally ignored. In view thereof, the Authority directed the Petitioner to spend at least 20% of the village electrification funds for improvement / up-gradation of the grid. The Petitioner was further directed not to undertake any village electrification which would result in overloading of its system and the village electrification would only be undertaken without augmentation of the grid, if it already has spare MVAs.
- 6.3. PEPCO vide letter dated July 01, 2020, directed all the DISCOs to deduct 20% from the SAP funds. This action caused hue and cry amongst the different stakeholders and a meeting of Cabinet was convened on July 07, 2020, wherein it was decided that the practice of deducting 20% from SAP funds should be discontinued.
- 6.4. The same decision was communicated to NEPRA, which was subsequently discussed with the honorable Federal Minister of Energy with respect to its implications to the Sector. The Federal Minister assured that wherever grid augmentation is involved, the Ministry of Energy (Power Division) will ensure these funds to DISCOs to beef up the grid facilities.
- 6.5. The Authority keeping in view the decision of Cabinet dated July 07, 2020 and subsequent assurance by the Honorable Federal Minister of Energy, hereby directs the Petitioner to stop the existing practice of deducting 20% of SAP funds for grid augmentation and carry out the augmentation of the grid after coordinating with the Ministry of Energy.
7. **To restrain from unlawful utilization of receipts against deposit works and security deposits, and to give clear disclosures in its Financial Statements with respect to the consumer financed spares and stores, work in progress and cash & bank balance.**
- 7.1. The Authority during the tariff determination of the Petitioner for the FY 2015-16 and onward, noted that the Petitioner had insufficient cash balance against its pending liability of receipt against deposit works and consumer security deposits, which indicated that the amount received against the aforementioned heads has been utilized somewhere else and the Petitioner failed to provide details in this regard. The Authority observed that the amount collected as security deposit cannot be utilized for any other reason and any profit earned thereon has to be distributed to the consumers. Also, the amount collected under the head of receipt against deposit works has to be spent for the purpose for which it has been collected. The utilization of the money collected against deposit works and security deposits other than the works for which it has been received is illegal and unlawful. In view thereof, the Petitioner was directed to provide rational / justification for improper utilization of the money because the consumers have to face unnecessary delay for their applied connections.
- 7.2. For the FY 2018-19, the Authority has observed that the Petitioner as per its initialed Accounts has maintained sufficient cash and store & spares balance as on 30<sup>th</sup> June 2019, against its pending liability of receipt against deposit works and consumer security deposits, thus, the Authority has not made any adjustment in its RAB in this regard. The Authority has not adjusted the receipt against deposit works and consumer security deposits based on available total cash and stores & spares, however, the Petitioner is directed to ensure that consumer's security deposits are not utilized for any other purpose. In view thereof, the Authority has decided to take up this matter separately with the Petitioner through M&E/Legal Department, however, at the same again directs it to give clear disclosures in its Financial Statements with respect to the consumer

financed spares and stores, work in progress and cash & bank balance and restrain from unlawful utilization of receipts against deposit works and security deposits.

8. To maintain a proper record of its assets by way of tagging each asset for its proper tracking and to provide explanation on the concerns raised by the Authority in terms of its R&M cost.
- 8.1. The Authority in the previous tariff determinations of the Petitioner pertaining to the FY 2015-16, FY 2016-17 and FY 2017-18, observed that proper tagging of the assets is of utmost importance in order to enable the Petitioner to properly classify its cost in terms of capital or expense and accordingly, directed the Petitioner to maintain a proper record of its assets by way of tagging each asset for its proper tracking. In addition, the Petitioner was also directed to provide an explanation on the concerns raised by the Authority in terms of capitalization of costs which were being expensed out as R&M by the Petitioner. The Petitioner did not provide any update in this regard either during the hearing or afterwards. In view thereof, the Authority has decided to take up this matter separately with the Petitioner through M&E/Legal Department, however, at the same again directs it to ensure proper tagging of its assets so that costs incurred are properly classified as per their nature and also to provide explanation on the concerns raised by the Authority in terms of its R&M costs.
9. To provide details of its trade debts as on June 30, 2014, 2015 and 2016, clearly bifurcated into government and private receivables duly reconciled with its Audited financial statements, by taking into account the impact of provision and write offs if any.
- 9.1. The Authority has noted with grave concern that the Petitioner has not provided the required details as directed by the Authority. In view thereof, the Authority has decided to take up this matter separately with the Petitioner through M&E/Legal Department, however, at the same again directs it to provide the required information.
10. To transfer the already collected provision of postretirement benefits into the fund.
- 10.1. The matter has been discussed in the ensuing paragraphs while deliberating the issue of Distribution Margin requested by the Petitioner.
11. To submit the cost/benefit analysis report for the investments made during the last five years and technical / financial savings achieved thereof and provide project wise detailed report against investments for FY 2015-16, FY 2016-17 and FY 2017-18
- 11.1. The matter has been discussed in the ensuing paragraphs while deliberating the issue of Investments requested by the Petitioner.
12. Whether the basis used by the Petitioner for bifurcation of its costs into supply and distribution segments are justified?
13. As per Amendment Act, 2018, responsibilities of DISCO and Supplier have been bifurcated. HESCO is required to submit overall organogram which broadly describe its role/functions as DISCO and Supplier.
14. As provided in NEPRA Amendment Act, 2018, HESCO as Distribution Licensee shall be deemed to hold Supply License also for a period of 5-years. In this regard, HESCO is required to explain its organizational restructuring in respect of segregation of responsibilities for Distribution Business and Sale Business?
15. As per NEPRA Amendment Act, 2018, obligations of procurement of assets including meters (for satisfying its services) and disconnection / reconnection services (on demand of Supplier) are with Distribution Licensee whereas procedure for metering, billing, collection of approved charges and recovery of arrears are the obligations of Supply Licensee. In this scenario, HESCO is required to

**state the mode and manner being developed and followed for appropriate coordination between Distribution Licensee and Supply Licensee?**

- 15.1. As explained in earlier paragraphs, the function of sale of electric power traditionally being performed by the Distribution Licensees has been amended through NEPRA Act, 2018, whereby 'sale' of electric power has been removed from the scope of Distribution Licenses and transferred to 'Supply Licensee'.
- 15.2. In light of the aforementioned provisions of the Act, the Petitioner was required to bifurcate its costs in terms of Distribution and Supply Function and provide basis thereof.
- 15.3. The Petitioner during the hearing submitted that Bifurcation of costs into Supply and Distribution business was made in accordance with the guidance provided by the Ministry of Energy and NEPRA, however, if the regulator recommends any different criteria than the licensee shall comply with it.
- 15.4. The Petitioner provided the following organogram in this regard;



- 15.5. The Petitioner on the issues submitted that in compliance of the NEPRA Regulation of Generation, Transmission and Distribution of Electric Power Act 1997 amended in 2018, the working for separation of both distribution and supply of power is proposed as under;
  - i. Distribution Business responsibilities will be planning, rehabilitation, procurement, operations, construction, GSC, GSO, disconnection, reconnection and installation of new connections.
  - ii. While the responsibilities of Supply Business will be public service obligations of the licensee including quality of service, billing, transparency of transactions, timely collection and dissemination of payments, effective collection and dissemination of any and all taxes and surcharges as may be imposed by the Federal Government etc. and Information Technology / MIS.
  - iii. The services of Finance, Audit and Admin department of HESCO will be shared between both businesses.
- 15.6. The Authority understands that as per the Amended Act, the Distribution Licensee is responsible to provide distribution service within its territory on a non-discriminatory basis and develop, maintain and publicly make available, with the prior approval of the Authority, an investment program, meaning thereby, that installation/investment, operation, maintenance and controlling

of distribution networks, form part of the Distribution License and activities like metering, billing and collection form part of the Supply License.

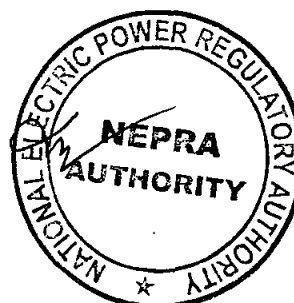
- 15.7. The Authority observed that the Petitioner has bifurcated its costs keeping in view the functions as provided in the Act, i.e. all non-sale elements of the distribution segment (*i.e. installation/investment, operation, maintenance and controlling of distribution networks*) as part of the Distribution License and all sale related activities (*metering, billing and collection*) as part of the Supply License.
- 15.8. The Petitioner has also shared its organizational restructuring program in respect of segregation of responsibilities for Distribution Business and Sale Business, whereby the Chief Commercial officer shall be the head of Supply Business and Chief Engineer (P&E) & Chief Operation Officer shall be responsible for distribution activities.
- 15.9. The Authority believes that after amendments in NEPRA Act, all the Public Sector Distribution companies are required to make organizational restructuring in terms of segregation of responsibilities of the Distribution and Sale functions and in order to ensure appropriate coordination between both functions. Hence, keeping in view the fact that it is operational issue and DISCOs are owned by the Federal Government, it would be more appropriate that a centralized restructuring plan at the level of Federal Government is prepared to be implemented by all the public sector DISCOs in order to have a uniformity and consistency in the structure.

**16. Whether the projected demand is reasonable?**

- 16.1. The Petitioner has requested for the FY 2018-19 i.e. 4,290 GWh. However, during the hearing Petitioner revised its requested figure to 4,026.9 GWh and provided the following comparison of actual of FY 2017-18 & FY 2018-19

<b>2018-19 VS 2017-18</b>							
Units Received				Units Billed			
2018-19	2017-18	Inc / Dec	% Inc / Dec	2018-19	2017-18	Inc / Dec	% Inc / Dec
5,554.9	5,740.3	-185.4	-3.23	4,026.9	3,916.2	-110.7	-2.75

- 16.2. The Petitioner in this regard has stated that as a result of effective Anti-theft campaign/ Chowkidara, around 185 million units i.e. 3.22% were less required from CPPA-G during 2018-19 as compared to 2017-18, which curtailed CPPA-G billing by Rs.2,367 million @ Rs.12.79/kWh for 2018-19.
- 16.3. The Authority observed that the issue of Power Purchase Price being relevant with the Supply Business has been deliberated in detail under Supply Tariff Petition of HESCO for FY 2018-19.
17. **Whether the projected Net Distribution Margin (excluding RoRB) is justified? The petitioner is required to provide Grid wise plan of its proposed O&M.**
- 17.1. The Petitioner in its petition has requested a net Distribution margin exclusive of RoRB of Rs.12,937 million for its distribution function for the FY 2018-19 as detailed hereunder;



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[Rs. In Million]	
Description	FY 2018-19
O&M	9,975
Depreciation	1,608
Provision for bad debts	1,977
Other Income	(623)
<b>Distribution Margin Cost</b>	<b>15,362</b>
Sales Volume (Gwh)	4,290
<b>Average Distribution Margin Rs./Kwh</b>	<b>3.58</b>

- 17.2. The O&M costs includes Employees cost (including Post-Retirement Benefit), Admin Expenses, Repair and Maintenance expenses, Travelling Expenses, Transportation Expenses, Management Fee and Miscellaneous expenses related to its distribution. The Petitioner further submitted that inflation adjustments to HESCO's operating expenses from the latest available actual data as well as last three years average and increasing pattern of actual expenditure has been considered in the major heads. The Petitioner further provided the following breakup of the requested amount under O&M along with comparison with FY 2017-18;

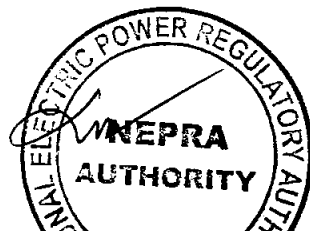
[Rs. In Million]		
Description	FY 2017-18 Expenditure [Provisional]	FY 2018-19 Projected
Salaries & Other Benefits	7,132	8,543
Maintenance Expenses	538	775
T.A Expenses	209	213
Vehicle Expenses	110	231
Other Expenses	152	213
<b>Total</b>	<b>8,141</b>	<b>9,975</b>

- 17.3. During hearing of the instant tariff petition, the Petitioner submitted that its actual O&M expenses for the FY 2018-19, as per the initialed accounts, are Rs.9,819 million pertaining to its distribution function and provided the following break-up along-with comparison with NEPRA's allowed costs for the FY 2017-18, and the amounts requested in the Petition for the FY 2018-19. Here it is pertinent to mention that initially the amount requested in the Petition was Rs.9,975 million as mentioned above, however, during hearing the same was mentioned as Rs.10,057 million.

DESCRIPTION	Rs. In Million		
	NEPRA Allowed 2017-18	Requested FY 2018-19	Actual EXPENSES FY 2018-19
	1	2	3
Salaries & Other Benefits	4,667	4,693	4,550
P.M Assistant Package	759	326	82
Post Retirement Benefits (Actuaries)	1,353	3,524	4,187
Salaries & Other Benefits	6,779	8,543	8,819
Maintenance Exp.	832	775	445
TA Exp.	244	213	194
Vehicle Exp.	121	231	136
Other Exp.	231	296	225
<b>Total:</b>	<b>8,207</b>	<b>10,057</b>	<b>9,819</b>

## 18. Salaries Wages & Other Benefits excluding Postretirement benefits

- 18.1. The Petitioner initially in the tariff petition requested a total amount of Rs.5,019 under the head of Salaries & Other Benefits, comprising of Rs.4,693 million for Salaries & Wages (excluding post-retirement benefits) and Rs.326 million for the Prime Minister (PM) Assistance Package. However, during hearing of the instant Petition, the Petitioner revised its said cost to Rs.4,632 million by reducing its Salaries & wages costs to Rs.4,550 million and Prime Minister (PM)



Assistance Package to Rs.82 million. The Petitioner submitted that Salaries Wages & Other Benefits have been requested in pursuance of the Govt. announcement in the budget regarding 10% increase in salary of employees and other benefit, impact of annual increment and financial impact of new recruitment for FY 2018-19. No further details as to how the requested number has been arrived at has been provided by the Petitioner.

- 18.2. Considering the fact that the period i.e. FY 2018-19, for which the cost is being assessed, has already lapsed, therefore, the Authority has decided to consider the actual cost incurred by the Petitioner in this regard. It is also pertinent to mention that being a public sector company, the Petitioner is required to pay, its employees, the increases in salaries & wages announced by the Federal Government through Budget.
- 18.3. The Authority observed that as per the initialed Accounts for the FY 2018-19, submitted by the Petitioner, its actual total expenditure under Salaries, Wages and other benefits (*excluding postretirement benefits*) is around Rs.4,945 million for both the distribution and supply functions. The initialed Accounts, however, do not provide any bifurcation of the Salaries, Wages and other benefits costs in terms of Distribution and Supply Functions. Therefore, the Authority, has allocated the total cost of Salaries, Wages and other benefits proportionately to the Distribution and Supply Functions, based on the figures of Salaries, Wages and other benefits requested in the Distribution and Supply Petitions. Accordingly, the cost of Salaries, Wages and other benefits (*excluding postretirement benefits*) for the FY 2018-19 pertaining to the distribution function works out as Rs.4,549 million.

**19. Post-Retirement Benefits**

- 19.1. The Authority considering the overall liquidity position in the power sector and in order to ensure that the Petitioner fulfils its legal liability with respect to the post-retirement benefits, directed the Petitioner to create a separate fund in this regard. Subsequently, this deadline was extended by the Authority. The rationale was that the creation of funds would ensure that the Petitioner records its liability more prudently since the funds would be transferred into a separate legal entity. In addition to that these independent funds would generate their own profits, if kept separate from the company's routine operations and in the longer run reducing the Distribution Margin and eventually consumer-end tariff.
- 19.2. Afterwards the Petitioner during proceedings of its tariff petition for the FY 2017-18 submitted that a separate Fund has been opened in December 2016 and Rs.100 million has been deposited in the Fund. The Authority noted that although the Petitioner has complied with the direction of the Authority to the extent of creation of the separate Post Retirement Fund and transferred an amount of Rs.100 million into the fund, however, the Authority had been allowing provision for post-retirement benefits to the Petitioner as a part of its O&M cost till FY 2011-12. It was only from FY 2012-13 that the Authority decided to allow the actual amounts paid on account of pension benefits, due to non-compliance of the Authority's directions. Thus, any post retirement liability pre FY 2012-13 period, is with the Petitioner. In view thereof, the Authority directed the Petitioner in the tariff determination for the FY 2017-18, to also transfer the amount of already collected provision of postretirement benefits into the Fund.
- 19.3. The Petitioner in its instant Petition has not provided any update in the matter, however, requested an amount of Rs.3,524 million, under the head of Provision post-retirement benefits in the Petition. Subsequently the amount was revised to Rs.4,187 million during the hearing for the distribution function.

- 19.4. The Authority, understands that payment of postretirement benefits to the retired employees is a compulsory obligation of the Petitioner which can be best fulfilled through a separate postretirement Fund having sufficient funds. However, failure of the Petitioner to deposit the amount of already collected provision of postretirement benefits into the Fund, would not absolve the Petitioner from its responsibility in this regard.
- 19.5. In view thereof, and considering the fact that FY 2018-19 has already lapsed, the Authority has decided to allow the actual payments made by the Petitioner on account of Post-retirement benefits as per the initialed Accounts provided by the Petitioner. The actual payments reflected in the initialed Accounts of the Petitioner is Rs.2,381 million for both the distribution and supply functions. Accordingly, the same amount is being allowed to the Petitioner for the FY 2018-19 for the postretirement benefits, including the impact of payments for the Ex- WAPDA employees retired before 1998 for both the distribution and supply functions.
- 19.6. Since, the initialed accounts submitted by the Petitioner do not provide any bifurcation of the post retirement cost in terms of Distribution and Supply Functions, therefore, for the purpose of bifurcation of the cost in terms of Distribution and Supply Functions, the same criteria as adopted by the Petitioner itself to bifurcate its costs in Distribution and Supply functions has been adopted. Based on the said criteria, the Petitioner is allowed an amount of Rs.2,191 million, as Post retirement benefits for the FY 2018-19 for Distribution Function. The Petitioner is again directed to transfer the already collected provision of postretirement benefits into the Fund.

**20. Prime Minister Assistance Package:**

- 20.1. The Petitioner initially requested an amount of Rs.326 million as PM assistance package in its Petition, however, afterwards during the hearing revised the said amount to Rs.82 million in line with the actual payments made in this regard during the FY 2018-19. The Authority in the tariff determination of the Petitioner for the FY 2017-18 principally agreed to allow the Prime Minister Assistance Package as announced by the Federal Government for the families of employees who died during service. Accordingly, the Petitioner was allowed an amount of Rs.758 million in the FY 2017-18 as PM assistance package subject to its actualization once the initialed Accounts of the Petitioner for the FY 2017-18 are received by the Authority. As per the initialed Accounts submitted by the Petitioner for the FY 2017-18, it has incurred an expenditure of Rs.758.6 million under the PM assistance package, thus no adjustment is required for the amount allowed for the FY 2017-18 in this regard.
- 20.2. On the same analogy, and keeping in view the fact that as per the initialed Accounts of the Petitioner for the FY 2018-19, it has incurred an expenditure of Rs.82 million under the PM assistance package, the Authority has decided to allow the same for the FY 2018-19. However, the Petitioner is directed to provide Scale wise detail of all such employees along-with the amount paid in its next tariff petition. The amount being allowed is subject to downward actualization only, once the Audited Accounts of the Petitioner for the FY 2018-19 are received by the Authority.

**21. Remaining Operation & Maintenance Costs**

- 21.1. For projections or assessment of OPEX costs, two commonly used approaches are Ex-Ante and the Ex-Post approach. In a regime where the allowed OPEX is determined Ex-Ante, there will inevitably be deviations between the allowed and actual expenses, in the form of efficiency savings or losses. Thus, resulting in two broad options, one that the utility bears all savings or losses, i.e. no action is taken by the Regulator. Secondly, the utility shares the savings or losses



with consumers. The former approach provides the utility with a profit incentive to cut costs, but at the same time places the utility at greater financial risk in the face of losses. The latter somewhat dilutes efficiency incentives, but also limits the losses/gains for the utility and its customers.

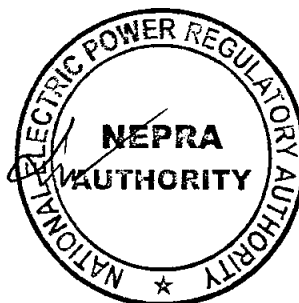
- 21.2. The widely used approach is that no adjustments to allowed Revenues or OPEX allowances are made hence providing an incentive to the utility to improve its operations. However, considering the fact that FY 2018-19 already elapsed, the Authority considers it appropriate to use Ex-Post facto approach while determining O&M costs of the Petitioner for the FY 2018-19.

## 22. Repair & Maintenance Expenses

- 22.1. The Petitioner initially requested an amount of Rs.775 million under Repair & maintenance in its Petition, however, afterwards during the hearing revised the said amount to Rs.445 million for its distribution function only. The Petitioner in its petition while justifying the requested amount of repair & maintenance stated that it is necessary for smooth operations of HESCO due to Replacement of Distribution Transformers, on account of over load, replacement of distribution lines due to rust and old lines, and repair & maintenance of grid stations, offices, building and colonies due to damages occurred during flood & rains.

- 22.2. The Petitioner provided the following break-up of grid wise R&M costs for the FY 2017-18 and FY 2018-19;

Sr.#	Name Of Grid Station	O&M EXPENSES	
		2017-18	2018-19
1	132kV B.S.Karim	3.180	3.098
2	132kV Gulshan-e-Shahbaz	9.541	9.295
3	132kV Ghangramori	19.571	19.066
4	132kV Golarchi	3.180	3.098
5	132kV Old Jamshoro	9.541	9.295
6	132kV Jherruk	1.859	1.811
7	132kV Jhampir	3.180	3.098
8	132kV Khanote	1.590	1.549
9	132kV Kalu Kohar	12.721	12.393
10	132kV Kotri Site	19.571	19.066
11	132kV Kohsar	19.571	19.066
12	132kV Latifabad	19.571	19.066
13	132kV Ladiun	1.541	1.501
14	132kV M.P.Sakro	3.180	3.098
15	132kV N.T.P.S	19.571	19.066
16	132kV Nooriabad	9.541	9.295
17	132kV Phulleli	16.146	15.730
18	132kV Pirpatho	1.859	1.811
19	132kV Qasimabad	28.868	28.123
20	132kV Shah Latif (Rajputana)	19.571	19.066



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Sr.#	Name Of Grid Station	O&M EXPENSES	
		2017-18	2018-19
21	132kV Sujawal	6.361	6.197
22	132kV Sehwan Shareef	16.146	15.730
23	132kV Shalmani	3.180	3.098
24	132kV Tando Jam	12.721	12.393
25	132/66kV T.M.Khan	21.773	21.211
26	132kV Thatta	12.721	12.393
27	132kV T.B Khan	3.180	3.098
28	132/66kV Badin	19.327	18.828
29	132kV Matli	6.361	6.197
30	132kV Tando Ghulam Ali	6.361	6.197
31	132kV Hyderabad By Pass	19.571	19.066
32	66kV Kadhan	1.835	1.787
33	66kV Matli	3.180	3.098
34	132kV T.P.P.L	6.361	6.197
35	132kV Talhar	6.361	6.197
36	66kV Tando Bago	3.180	3.098
37	132kV Mirpurkhas	41.025	42.834
38	132kV Samaro	22.194	23.172
39	132 kV T.A.Yar	26.902	28.088
40	132 kV Sultanabad	4.372	4.564

Sr.#	Name Of Grid Station	O&M EXPENSES	
		2017-18	2018-19
41	132 kV Mirwah	8.743	9.129
42	132 kV Umerkot	17.486	18.257
43	132 kV Chamber	4.372	4.564
44	132 kV Naukot	4.372	4.564
45	132 kV Kandhari	8.743	9.129
46	132 kV Shaikh Bhirkio	4.372	4.564
47	132 kV T.J.Mohammad	8.743	9.129
48	132 kV Digri	8.743	9.129
49	132 kV K.Muhammad Bhurgari	4.372	4.564
50	66 kV Nabisar	2.119	2.212
51	66 kV Khipro	6.490	6.776
52	66 kV Mithi	4.372	4.564
53	66 kV Pithoro	4.372	4.564
54	66 kV Pangrio	1.681	1.755
55	66 kV Diplo	0.841	0.878
56	66 kV Islamkot	4.372	4.564
57	66 kV Chachro	2.119	2.212
58	66 kV Nagarparkar	0.673	0.702
59	66 kV Kaloi	1.681	1.755
60	66 kV Kunri	4.372	4.564

22.3. The Authority in order to assess the request of the Petitioner, analyzed the same in comparison with the amount allowed to the Petitioner for the FY 2017-18 and the amount actually spent by the Petitioner. A comparison of the Petitioner's allowed vs actual R&M expenditure for the FY 2017-18, showed that the Petitioner's actual R&M cost for the FY 2017-18 was lower by around 14%, when compared with the total amount allowed by the Authority for supply and distribution function, as detailed hereunder;

R&M		Rs.in Mln
FY 2017-18	Actual	715
	Allowed	832
	Inc/(Dec)	(14%)

- 22.4. One of the reasons for reduction in cost could be the direction of the Authority given to the Petitioner in its tariff determinations for FY 2017-18, wherein the Petitioner was directed to capitalize expenditures i.e. Replacement of Transformers/ Meters, instead of expensing out the same. The Petitioner probably have started reporting its actual R&M costs and to capitalize costs relating to replacement of Transformers/ Meters in line with the Authority's directions.
- 22.5. Similarly for the FY 2018-19, considering the fact that the period for which assessment is being made has already lapsed, the Authority has analyzed the actual expenditure incurred by the Petitioner for repair & Maintenance during the year. As per the initialed Accounts provided by the Petitioner, its actual expenditure under Repair & Maintenance is Rs.449 million for both its distribution and supply function.
- 22.6. The Authority believes that adherence to the service standards and improvement of customer services is only possible through continuous repair and maintenance of the distribution network, therefore, in view of the above discussion, based on comparison with other XWDISCOs, and the fact that as per the Petitioner's initialed Accounts for the FY 2018-19, its actual cost of Rs.449 million, is substantially lower than the actual / allowed costs for the FY 2017-18, the Authority has decided to allow the same for the FY 2018-19 for both its Distribution and Supply Functions.
- 22.7. The initialed Accounts submitted by the Petitioner do not provide any bifurcation of the repair & maintenance cost in terms of Distribution and Supply Functions, therefore, for the purpose of bifurcation of the cost in terms of Distribution and Supply Functions, the same criteria as adopted by the Petitioner itself to bifurcate its costs in Distribution and Supply functions has been adopted. Based on the said criteria, the Petitioner is allowed an amount of Rs.445 million for repair & maintenance for the FY 2018-19 for its Distribution Function.
- 22.8. The Authority observed that the Petitioner is being directed since FY 2015-16, to maintain a proper record of its assets by way of tagging each asset for its proper tracking. In addition, the Petitioner was also directed to provide an explanation on the concerns raised by the Authority in terms of its R&M cost, however, no such explanation has been received from the Petitioner. The petitioner is therefore once gain directed to maintain a proper record of its assets by way of tagging each asset for its proper tracking and also to provide explanation on the concerns raised by the Authority in terms of its R&M cost in the tariff determination for the FY 2015-16.

### 23. Travelling Expenses

- 23.1. The Petitioner initially requested an amount of Rs.213 million under Travelling Expenses in its Petition, however, afterwards during the hearing revised the said amount to Rs.194 million. The Petitioner regarding Traveling expenses has submitted that it relates to the operational duties on regular basis as per policy such as regular vigilance, maintenance, disconnection of defaulters, attending complains etc. Out of total employees, about 60% technical staff avail T.A on frequent basis and 40% admin/supervisory staff avail T.A on requirement basis.
- 23.2. The Authority, considering the fact that FY 2018-19 has already lapsed, decided to analyze the actual expenditure incurred by the Petitioner under the head "Travelling". As per the initialed Accounts of the Petitioner for the FY 2018-19, its actual expenditure under travelling for the FY 2018-19 is Rs.225 million for both its Distribution and Supply Functions. A comparison of the same with the amount allowed to the Petitioner for the FY 2017-18, showed that its actual Travelling cost for the FY 2018-19 has actually decreased by around 7.71%, as detailed hereunder;

Rs.in Mln		
Travelling	Actual FY 2019	225
	Allowed FY 2018	244
	Inc/(Dec)	(7.71%)

- 23.3. In view of the foregoing discussion, submissions made by the Petitioner, the fact that cost for the FY 2018-19 is lower than the allowed amount for the FY 2017-18, and comparison with other XWDISCOs, the Authority considers the cost incurred for Travelling for the FY 2018-19 i.e. Rs.225 million as reasonable and hence the same is allowed to the Petitioner for the FY 2018-19 for both its Distribution and Supply Functions.
- 23.4. The initialed Accounts submitted by the Petitioner do not provide any bifurcation of the Travelling cost in terms of Distribution and Supply Functions, therefore, for the purpose of bifurcation of the cost in terms of Distribution and Supply Functions, the same criteria as adopted by the Petitioner itself to bifurcate its costs in Distribution and Supply functions has been adopted. Based on the said criteria, the Petitioner is allowed an amount of Rs.193 million as travelling costs for the FY 2018-19 for its Distribution Function.

#### 24. Vehicle Expenses

- 24.1. The Petitioner initially requested an amount of Rs.231 million under Transportation expenses in its Petition for the FY 2018-19, however, afterwards during the hearing revised the said amount to Rs.136 million, which includes vehicle repair costs, fuel & oil and License & Insurance. The Petitioner provided the following breakup of the requested cost in the Petition;

[Rs. In Million]		
Head of Account	FY 2017-18 Expenditure [Provisional]	FY 2018-19 Expenditure Projected
Vehicle Expense - Repairs	16.26	38.85
Vehicle Expenses - Fuel and Oil	94.00	191.70
Vehicle Expenses - License & Ins.	0.13	0.27
Total	110.39	230.81

- 24.2. The Petitioner further submitted that the utility vehicles are very old, having almost utilized their lives and due to old and deteriorated distribution network spread in scattered areas, expenditure in this head is increasing day by day.
- 24.3. The Authority, considering the fact that FY 2018-19 has already lapsed, analyzed the actual expenditure incurred by the Petitioner under the head "Transportation". As per the initialed Accounts of the Petitioner for the FY 2018-19, its actual expenditure under Transportation for the FY 2018-19 is around Rs.136 million for both its Distribution and Supply Functions. A comparison of the same with the amount allowed to the Petitioner for the FY 2017-18, showed that its actual transportation cost for the FY 2018-19 i.e. Rs.136 million, is around 12% higher than the allowed figure of Rs.121 million for the FY 2017-18.
- 24.4. In view of the foregoing discussion, increasing trend of fuel prices, and the fact that the actual cost incurred during the FY 2018-19 primarily includes inflationary impact, the Authority considers the cost for Transportation expenses of Rs.136 million for the FY 2018-19 as reasonable, hence allowed to the Petitioner for the FY 2018-19 for both its Distribution and Supply Functions.
- 24.5. The initialed Accounts submitted by the Petitioner do not provide any bifurcation of the Travelling cost in terms of Distribution and Supply Functions, therefore, for the purpose of bifurcation of cost in terms of Distribution and Supply Functions, the criteria as adopted by the

Petitioner itself to bifurcate its costs in Distribution and Supply functions has been adopted. Since the Petitioner has requested the entire amount of Transportation charges as part of its Distribution Revenue, the Authority has also decided to include the entire amount of Rs.136 million allowed to the Petitioner on account of Transportation charges for the FY 2018-19 in the Distribution Revenue of the Petitioner.

**25. Other Miscellaneous Expenses**

- 25.1. The Petitioner initially requested an amount of Rs.213 million under Other expenses in its Petition for the FY 2018-19, however, afterwards during the hearing revised the said amount to Rs.225 million. The Petitioner submitted that Other Expenses include Postage, telephone, PEPCO Supervisory charges, NEPRA License & Tariff petition Fee, Insurance charges, Professional fees to lawyers, Photostat charges, cleaning material, office stationery, and others miscellaneous charges are included in this head of expenditure.
- 25.2. Considering the fact that FY 2018-19 has already lapsed, the Authority, analyzed the actual expenditure incurred by the Petitioner under the head "Other Expenses". As per the initialed Accounts of the Petitioner for the FY 2018-19, its actual expenditure under this head is around Rs.337 million for both its Distribution and Supply Functions.
- 25.3. The Authority, during analysis, noted that the Petitioner has included an amount of Rs.0.599 million on account of NEPRA fines and penalties and Rs.57.796 million on account of Supervisory Charges to PEPCO.
- 25.4. Regarding PEPCO fees, the Authority observed that each DISCO is an independent entity having its own board of Directors, thus, allowing any cost on the pretext of PEPCO Management fee is not logical. Further, the then Ministry of Water & Power, itself in the Peshawar High Court submitted that PEPCO shall be dissolved after June 2011. In view thereof, the cost of PEPCO fee has not been allowed to the Petitioner.
- 25.5. Regarding, the amount of Rs.0.599 million on account of NEPRA fines and penalties imposed on the Petitioner, the Authority observed that any such costs owing to the Petitioner's own negligence cannot be passed on to the consumers, hence disallowed.
- 25.6. Accordingly, based on the above discussion, and after taking into account the aforementioned disallowed amounts from the actual expenses of the Petitioner for the FY 2018-19, the Petitioner prudent costs of total Other Expenses works out as Rs.280 million for the FY 2018-19 for both its Distribution and Supply Functions.
- 25.7. The initialed Accounts submitted by the Petitioner do not provide any bifurcation of the Other expenses in terms of Distribution and Supply Functions, therefore, for the purpose of bifurcation of the cost in terms of Distribution and Supply Functions, the same criteria as adopted by the Petitioner itself to bifurcate its costs in Distribution and Supply functions has been adopted. Based on the said criteria, the Petitioner is allowed an amount of Rs.186 million as Other Expenses for the FY 2018-19 for its Distribution Function.
- 25.8. The Petitioner is also directed to provide details of PEPCO Management Fees, if any, claimed previously so that same could be adjusted in the subsequent tariff determinations.

**26. Depreciation**

- 26.1. The Petitioner initially requested an amount of Rs.1,608 million under Depreciation Charges, in its Petition for the FY 2018-19, however, afterwards during the hearing revised the said amount to Rs.1,103 million for its Distribution function. The Petitioner regarding depreciation charges



submitted that it has considered value of existing assets; plus provisional/estimated addition in assets as provided the following table;

S. No	Description	Rs. in Million						
		COST			Accumulated Depreciation			Book values as on June 30
		As at July	Addition/deletion	As at June 30	As at July	Charge during the year	As at June 30	
A.	Land	140	0	140	0	0	0	140
B	Building	1,604	281	1,885	554	29	583	1,301
C.	Sub-Transmission	4,802	1,723	6,525	1,653	171	1,823	4,701
D.	Gird Station	2,145	0	2,145	197	68	266	1,880
E.	11 KV Distribution Equip:	27,056	1,553	28,609	12,511	563	13,074	15,535
F	LV Distribution Equip:	6,388	3,074	9,462	2,133	257	2,389	7,073
G	Vehicles	674	1	675	457	7	464	211
H	Detail of General Plant Assets	290	9	299	248	5	253	46
J-	Computer Equipment	11	2	13	7	1	8	5
Grand Total		43,110	6,642	49,752	17,760	1,101	18,861	30,892

- 26.2. Considering the fact that the period i.e. FY 2018-19, for which the cost is being assessed, has already lapsed, the Authority has decided to consider the actual cost incurred by the Petitioner in this regard for the FY 2018-19.
- 26.3. The Authority observed that as per the initialed financial accounts provided by the Petitioner for the FY 2018-19, its actual expenditure under depreciation is around Rs.1,103 million for both its Distribution and Supply Functions, calculated on actual depreciation rates for each category of Assets, as per the Company's policy, based on historical costs of the assets.
- 26.4. The initialed accounts submitted by the Petitioner do not provide any bifurcation of the depreciation in terms of Distribution and Supply Functions, therefore, for the purpose of bifurcation of the cost in terms of Distribution and Supply Functions, the same criteria as adopted by the Petitioner itself to bifurcate its costs in Distribution and Supply functions has been adopted. Based on the said criteria, the Petitioner is allowed an amount of Rs.1,100 million as Depreciation Expenses for the FY 2018-19 for its Distribution Function.
- 26.5. After carefully examining the relevant details and information pertaining to the deferred credit and amortization, the Authority has assessed amortization of deferred credit to the tune of Rs.844 million for the FY 2018-19, thus, consumers would bear net depreciation of Rs.259 million.

## 27. Other Income

- 27.1. The Petitioner has requested Rs.623 million as Other income for the FY 2018-19 for its distribution function. The Petitioner in the petition has stated that the said figure is exclusive of late payment surcharges. Further during the hearing Petitioner provided the following table regarding Other Income, whereby the actual other income has been shown as Rs.1,028 million;

Description	2016-17 [Audited]	2017-18 [Audited]	2018-19 [Requested]	2018-19 [Actual]
<b>Income from financial assets</b>				
Return on bank deposits	93,266,892	143,793,128	133,538,071	343,197,394
<b>Income from non-financial assets</b>				
Rental and service income	1,083,301,781	1,286,470,369	21,269,118	-
Reconnection fee	101,874	133,077	290,115	-
Sale of scrap	26,464,068	-	-	-
Non-utility operations	159,167,453	160,201,966	135,143,591	188,610,690
Stores handling and labour recoveries	408,443,297	436,356,944	332,368,897	496,495,520
	1,677,478,473	1,883,162,356	489,071,721	685,106,210
	1,770,745,365	2,026,955,484	622,609,793	1,028,303,604
<b>Rental and Service Income</b>				
Meter and service rentals	23,140,518	17,913,447	20,051,581	-
Late payment surcharge	1,058,949,307	1,267,352,058	-	-
Public lighting	1,211,956	1,204,864	1,217,537	-
	1,083,301,781	1,286,470,369	21,269,118	-



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- 27.2. The Authority, considering the fact that FY 2018-19 has already lapsed, decided to consider the actual other income of the Petitioner for the FY 2018-19, which as per the initialed accounts of the Petitioner is around Rs.1,904 million, including the amount of amortization of deferred credit but exclusive of the amount of late payment charges. The Authority in consistency with its earlier decision, on the issue, has not included the amount of LPS while assessing the other income for the FY 2018-19. The Petitioner is accordingly allowed other Income of Rs.1,904 million both for the Distribution and Supply Functions for the FY 2018-19, which does not include late payment charges but inclusive of amortization of deferred credit.
- 27.3. The initialed Accounts submitted by the Petitioner do not provide any bifurcation of the Other Income in terms of Distribution and Supply Functions, therefore, for the purpose of bifurcation of the cost in terms of Distribution and Supply Functions, the same criteria as adopted by the Petitioner has been adopted. Based on the said criteria, the Petitioner is allowed an amount of Rs.834 million as Other Income for the FY 2018-19 for its Distribution Function.
28. **Whether the requested investment without submission of five Year IGTDP as required is justified? The Petitioner must provide the project wise detailed report along with rationale against the requested investment**

- 28.1. The Petitioner has requested an investment of Rs.6,212 million for its Distribution Function for the FY 2018-19. The Petitioner has provided the following table in this regard;

Rs. In Mln	
Project	Projected FY 2018-19
DoP	1,053.00
ELR	663.00
7th STG	3,879.00
Other (Village Electrification & Deposit Work)	616.00
<b>Total</b>	<b>6,212.00</b>

- 28.2. The Petitioner plans to fund the aforementioned investments through following sources;

Rs. In Mln	
Project own Resources	Projected FY 2018-19
DoP	1,053.00
ELR	663.00
7th STG	3,879.00
Consumer Contribution	616.00
<b>Total</b>	<b>6,212.00</b>

**DoP Program**

- 28.3. The Petitioner while justifying the DoP Project submitted the following details;

- i. Reliability of the system
- ii. Stability of power supply
- iii. Overloaded system
- iv. Quality and safety of the system

- 28.4. The Petitioner provided the following scope of work;

**11 KV Feeders, LT/HT Lines**

- i. New HT Line
- ii. Reconductoring HT Line

- iii. 11KV Capacitors (450 KVAR)
- iv. 11KV Panels
- v. New LT Line
- vi. Reconductoring of LT Line

28.5. The Petitioner regarding Civil Work Construction submitted the following;

- i. Construction of G.I Parking shed with PCC pavers at XEN Office Kotri
- ii. Construction of Security Guard Room with bathroom and store i/c external water supply sewerage system for regional store at VVIP Rest House Nawabshah.
- iii. Construction of Guard Room with bathroom and store & G.I Parking Shed for HESCO Medical Dispensary at VVIP Rest House S.E Office Nawabshah.
- iv. Construction of water tower (RCC Foundation), 02 Nos Back side with steel ladder, electrification at regional Training Center Jamshoro
- v. Construction of security Guard Room with bathroom and store i/c external water supply sewerage system at 132 KV Grid station Tando Adam
- vi. Construction of 01 No. D-Type Quarter i/c external water supply line and sewerage system at 132 Kv Grid station T.M.Khan.
- vii. Construction of 2 Nos. E-Type Quarter at 132 KV Grid station HESCO Golarchi.
- viii. Construction of 1 No. C-type Bungalow at i/c external water supply line and sewerage system at 132 Grid station Thatta.
- ix. Construction of (04 No Rooms for SDO Construction Office Building at XEN/RO Office Kotri.
- x. Construction of 01 No D-Type Quarter i/c external water supply line and sewerage system at 132 KV Grid station Sehwan.
- xi. Construction of 02 Nos E-type Quarter i/c water supply and Sewerage system at 132 KV Grid station Sehwan
- xii. Construction of Bitumen road 700x12 (1x2x80x12) for residence side i/c earth filling at 132 KV Grid station Sehwan.
- xiii. Construction of conference/meeting hall @ S.E office Society Nawabsah.
- xiv. Construction of 01 No. C-Type Bungalow i/c water supply and sewerage system at HESCO Colony Society Nawabshah.
- xv. Construction of C-Type Bungalow i/c external water supply line and sewerage system at 132 KV Grid station Umerkot.
- xvi. Construction of 02 Nos D-Type Quarter i/c external water supply line and sewerage system at 132 KV Grid station MirpurKhas.
- xvii. Construction of Under Ground tank and vehicle shed for S.E Office at 132 KV Grid station Mirpurkhas.
- xviii. Construction of vehicle Shed for XEN/RO Office Umerkot at 132 KV Grid station Umerkot.
- xix. Providing and Fixing vehicle shade of Regional store HESCO Hyderabad.
- xx. Construction of Bricks Paving from left side New paving to office i/c earth filling and brick work at Regional Store HESCO Hyderabad.

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- xxi. Construction of SDO Operation Office Building Allama Iqbal @ 132 KV Grid station Kohsar Latifabad.
- xxii. Construction of SDO Office Building, Memon S/Division @ HESCO Old Power house Phulleli.
- xxiii. Construction of SDO Office Building, Ilyasabad S/Division @ HESCO Old Power house Phulleli.
- xxiv. Construction of 03 Nos. E-Type Quarter i/c external water supply line and sewerage system at HESCO Old power house Colony T.M.Khan.
- xxv. Construction of underground and overhead tank and boring and external water supply and 15 H.P Pump Set @ 132 KV Grid station Talhar.
- xxvi. Construction of B-type Bungalow i/c external water supply line and sewerage system at 132 KV Grid station Badin.
- xxvii. Construction of 01 D-type, 02 Nos. E-type Quarter i/c external and internal water supply and sewerage system at 132 KV Grid station Nooriabad.
- xxviii. Construction of B-type Bungalow i/c external water supply and sewerage system at 132 KV Grid station Thatta.
- xxix. Construction of B-Type Bungalow i/c external water supply line and sewerage system, at 132 KV Grid station Sehwan.
- xxx. Construction of 70 person masjid at 132 KV Grid station Nooriabad.
- xxxi. Construction of main water supply line from city to Grid station Overhead & Underground tank at 132 KV Grid station Sehwan.
- xxxii. Construction of Rest House Building at 132 KV Grid station Sehwan.
- xxxiii. Construction of Sub Division-I Operation at 132 KV Grid station society Nawabshah-II.
- xxxiv. Construction of 01 No. B-Type Bungalow i/c external water supply line and sewerage system at HESCO Nawabshah Road Sanghar.
- xxxv. Construction of 03 Nos. E-type Quarter i/c external water supply line and sewerage system at HESCO Colony S.E Office Nawabshah.
- xxxvi. Construction of Operation Sub Division Building Mirwah Gorchani at 132 KV Grid station Mirwah.
- xxxvii. Construction of 03 Nos. E-Type at i/c external water supply line and sewerage system 132 KV Grid station Mirpurkhas.
- xxxviii. Construction of ware House Field Store HESCO Mirpurkhas.
- xxxix. Construction of 01 No. D-type & 02 Nos. E-Type Quarter i/c external water supply line and sewerage system at 132 KV Grid station Matli.

**ELR Program**

28.6. The Petitioner justifying the ELR project submitted the following objectives and the scope of work;

**Objectives;**

- i. Energy loss Reduction
- ii. Improvement in Quality of Supply

- iii. Reduce Cost of Operation and Maintenance
- iv. Improve Life of Equipment

**Scope of work:**

- i. Reconductoring HT Line
- ii. 11KV Capacitors (450 KVAR)
- iii. 11KV Panels
- iv. New LT Line
- v. Reconductoring of LT Line

**STG Program**

28.7. The Petitioner submitted that STG program is to give relief to the existing overload system and to meet future expansion in HESCO area and provided the following PSDP (STG) proposed works;

**Grid Station**

- i. 132kV G/S Sakhi Wahab Hussain Near Sabzi Mandi alongwith T/L (New)
- ii. 132kV G/S Jam Nawaz Ali alongwith T/L (New)
- iii. 132kV G/S M.P.Khas-II alongwith T/L (New)
- iv. 132kV G/S Bhit Shah alongwith T/L (New)
- v. 66kV G/S Kunri Alongwith T/L
- vi. 66kV G/S Mithi alongwith T/L Noukot-Mithi
- vii. 66kV G/S Islamkot alongwith T/L Mithi – Islamkot
- viii. 66kV G/S Nabisar alongwith T/L
- ix. 66kV G/S Khipro alongwith T/L
- x. 66kV G/S Chachro alongwith T/L
- xi. 66kV G/S Pithoro alongwith T/L
- xii. 66kV G/S Tando bago alongwith T/L
- xiii. 66kV G/S Pangrio alongwith T/L
- xiv. 66kV G/S Kaloi alongwith T/L
- xv. 132kV G/S Sakrand (Aug)
- xvi. 132kV G/S Sehwan (Aug)
- xvii. 132kV G/S Old Jamshoro (Aug)
- xviii. 132 kV G/S Thatta (Aug)
- xix. 132 kV G/S Thatta (Aug)
- xx. 132 kV G/S Kalu Kohar (Aug)
- xxi. 132 kV G/S Doulatpur (Aug)
- xxii. 132kV G/S Gulistan-e-shahbabz (Aug)
- xxiii. 132kV G/S Matiari (Aug)
- xxiv. 132kV G/S Daur (Aug)
- xxv. 132kV G/S UmarKot (Aug)
- xxvi. 132kV G/S Saeedabad (Aug)
- xxvii. 132kV G/S Hala (Aug)
- xxviii. 132kV G/S Golarchi (Ext)

**Transmission Lines**

- i. 132kV Kotri- Jhampir T/L (Rehb:)

- ii. 132kV Thatta Sujawal T/L (Rehb:)
- iii. 132kV NTPS-T.M.Khan T/L (Rehb:)
- iv. 132kV Sujawal-B.S.Karim (Rehb:)
- v. 132kV B.S.Karim-T.M.Khan (Rehb:)
- vi. Thatta - Pir Patho - Sakro (Rehb:)
- vii. 132kV SDT Sujawal – Golarchi T.Line
- viii. In & Out arrangement at Saeedabad S/S 2xLine Bays at substation
- ix. Near Hyd. By Pass – Qasimabad S/S 2xLine Bays at Near Hyd. By Pass substation
- x. Sakrand – Nawab Shah 2xLine Bays (1 at each substation)
- xi. Construction of 06 Nos. 132 kV Transmission Lines from proposed 220kV New Mirpur Khas Grid Station (of NTDC) to HESCO's Network (2xLine Bays, 1 at MPK and 1 at Kandiyari)
- xii. 132kV MirPurKhas Grid Station (Rehb)
- xiii. 132kV Old Jamshoro Grid Station (Rehb)
- xiv. 132kV Sakrand Grid Station (Rehb)
- xv. In & Out arrangement at Chamber S/S (2nd circuit) 1xLine Bay at substation

28.8. HESCO, however, during the proceedings of the hearing, submitted a revised investment plan amounting to Rs.4,753 million for the FY 2018-19, which comprised of Rs.3,135 million for STG projects, Rs.195 million for DOP, Rs.129 million for ELR and Rs.1,294 million against deposit works. The Petitioner submitted during the hearing that the revised investment plan amounting to Rs.4,753 million will be made as per the attached project-wise investment plan but no such plan was provided. Moreover, no cost/benefit analysis and scope of work, in order to justify the required investment for the FY 2018-19, has been submitted by the Petitioner.

28.9. The Authority observed that the Petitioner was allowed an investment of Rs.4,729 million and Rs.5,500 million for the FY 2016-17 and FY 2017-18 respectively. The investment for the FY 2016-17 was allowed keeping in view the actual cost incurred by the Petitioner as the determination was issued after completion of FY 2016-17. For the FY 2017-18, the Petitioner has been able to utilize around 87% of the allowed investment i.e. Rs.4,804 million against allowed amount of Rs.5,500 million.

28.10. The Petitioner in the tariff determination for FY 2017-18 was also directed to provide:

- ✓ Cost/benefit analysis of investments made during last 05 years & technical/financial savings achieved.
- ✓ Project wise detailed report for the investments allowed for the FY 2016-17 & 2017-18.

28.11. However, no such detail has been provided by the Petitioner either during the hearing or afterwards. The Authority has taken a serious notice of non-compliance of its direction in true letter & spirit by the Petitioner, which is serious violation of licensing terms that may lead to initiation of proceedings against the licensee under the relevant rules, and again directs the Petitioner to provide the required information.

28.12. Notwithstanding the above, the Authority, understands the significance of the investments, in order to cater for the future demands, minimize network constraints / overloading, improve performance standard indices and reduction in T&D losses. The Authority observed that since the period i.e. FY 2018-19, for which the Investment is being requested has already lapsed, therefore it would be more appropriate to consider the actual investments made by the Petitioner during the FY 2018-19. As per the Petitioner's initialed Accounts for the FY 2018-19, it has

carried out an investment of Rs.3,072 million (*including deposit works*) during the FY 2018-19, which is hereby allowed to the Petitioner. The Petitioner is directed to provide project wise report for the investments carried out for the FY 2018-19 and for previous years i.e. FY 2016-17 & FY 2017-18 along-with its cost/benefit analysis and technical/financial savings achieved by December 31, 2020.

**29. Whether the requested T&D loss target is reasonable? Whether this target comprises of both Technical and Commercial losses? What are the proposed plans specifically for loss reduction and removal of overloading and system constraints?**

29.1. The Petitioner, has requested T&D losses target of 26.84% for the FY 2018-19, against the allowed level of 22.59% for the FY 2017-18, with the following break-up.

FY 2018-19		
Technical	Administrative	Total
18.63%	8.21%	26.84%

29.2. The Petitioner also provided the following segregation of its T&D losses in respect of its technical losses as under:

Year	Transmission Loss %	Distribution Loss%	T&D Losses%
2016-17	3.16	23.13	26.29
2017-18	3.33	26.42	29.75
2018-19	3.31	23.53	26.84

29.3. The Petitioner in the petition stated the following major reasons of T&D Losses;

- i. The worst Law & Order situation does not permit frequent movement to HESCO staff in their jurisdiction. Attacks on employees / offices are common.
- ii. Massive theft of electricity & non-payment culture are the main problems of HESCO. Law Enforcing Agencies are not extending cooperation for providing security to staff and lodging FIRs against stealers of electricity. Out of 3386 referred cases of electricity theft only 120 No. FIRs has so far been lodged from July-2012 to June-2016.
- iii. Majority of villages/town/colonies are the defaulters of HESCO, and in case of disconnection of electricity, the defaulters blocks the highways/roads to create hurdles.
- iv. Out of total 3,350.41 KM transmission line 898.62 KM is of 66kV i.e. 27%. The transmission system is old and deteriorated, which causes high loss.
- v. Out of 480 feeders, 268 feeders (56%) supplying electricity to rural areas.
- vi. Due to worst Law & Order situation customers stealing electricity through Kunda / Hooking in negated LT lines.
- vii. Even ABC (Aerial Bundled Conductor) installed in Hyderabad City has been damaged by stealers for direct hooking/Kunda.

29.4. The Petitioner during the hearing submitted that requested 26.84% T&D losses in the tariff petition for the FY 2018-19, on the basis of ground realities, because technical loss calculated by 3<sup>rd</sup> party i.e. M/s Power Planner International is 18.46%, excluding impact of coastal belt. However, GIS technical losses are 19.2% with impact of coastal belt while margin of

administrative losses is 8.3%, because of worst culture of massive electricity theft and non-payment besides non-cooperation of Local Administration (Police).

DESCRIPTION		Losses
Annual Energy Loss in the HT Network including lines and Distribution Transformers	A	9.75%
Average Energy Loss in the LT Network	B	4.45%
Average Energy Loss in Cables	C	0.84%
Average Annual Energy Loss of Distribution Network	D=A+B+C	15.04%
Analytically Evaluated T&T Losses (Report submitted)	E	3.42%
<b>Total Analytically Evaluated Technical T&amp;D Losses</b>	<b>F=D+E</b>	<b>18.46%</b>
Total Recorded T&D Losses of HESCO for 2012-13	G	27.30%
Total Analytically Evaluated Technical T&D for 2012-13	F	18.46%
Administrative / Commercial Losses for 2012-13	H=G-F	8.84%

29.5. The Petitioner further submitted that 2% loss is estimated due to the reason that according to ECC of cabinet decision, AMI system has been installed on GoS connections for automatic meter reading. However, automatic meters could not be installed on street light connections due to non-availability of circuits, but HESCO has reduced actual T&D losses by 0.3% as compared to last corresponding year. Therefore, NEPRA is requested to allow 29.5% T&D loss for FY 2018-19 on the basis of actual recorded losses.

29.6. The Petitioner while justifying its high T&D losses submitted the following;

- i. 687.12 KM Transmission Line is of 66 KV System i.e. 20.2%.
- ii. 15 No. Grid Stations are of 66Kv system i.e. 20%.
- iii. Addition of 64 KM double circuit transmission line of 132 KV system.
- iv. Addition of 118 MVA in 132 KV system.
- v. Addition of 300 MW power of wind power in HESCO system during 2018-19. At present 1232 MW wind power is evacuated through HESCO 132 KV system which increases technical losses.
- vi. Delay in construction of new 220 KV Mirpurkhas Grid Station by NTDC.
- vii. Over loading of feeding circuits of 220 KV grid station Hala road of NTDC.
- viii. Addition of 200 KM distribution line and 48.7 MVA of distribution transformers.
- ix. Chattering in coastal areas due to costal winds/pollution cause losses.
- x. 306 Villages have been Electrified during the year 2018-19.
- xi. Lengthy 11kV feeder lines is upto 60 KM, needs bifurcation, while conductor is also undersized / old.
- xii. Due to aging, pollution and costal climate effect conductor current carrying capacity is reduced.

29.7. Regarding Administrative Losses, the Petitioner submitted the following justification;

- i. HESCO is domestic based company, out of total 1,131,289 consumers 921,262 are of domestic category having 61% sales.
- ii. Massive theft of electricity exists in domestic category, they also using Air-Conditioner as necessity through illegal means. While payment culture of domestic category is also worst.

- iii. The Police is not extending cooperation in lodging the FIRs against electricity theft and even not protect HESCO officials in case of assault by consumers whose electricity is disconnected due to theft or non-payment. Out of 4570 requests only 234 No. FIRs have been registered by Police Department during last 04 years.
- iv. Hottest climate in summer as mercury soars in the Sindh during lengthy summer season (March- October), increase I<sup>2</sup>R losses while stealers use electricity through illegal means for use of Air-conditioners. This also increases load on system.

29.8. The Petitioner submitted the following loss reduction plan;

- i. Campaign against theft of electricity has been started and teams are daily monitoring the connections on various sites / areas to detect theft of electricity
- ii. HESCO started Chowkidara / Night checking through S&I, M&T and Special Task Forces.
- iii. Villages are being converted on one point supply.
- iv. High Capacity Transformers are being replaced with low capacity transformers as per load requirement of the area.
- v. Securing of high loss feeders have been started in each Sub-Division.
- vi. Securing of Plazas/Multi Story Buildings have been started in urban areas of HESCO
- vii. Replacement of LT Bare Conductor with Aerial Bundle Cable (ABC) is being carried out in high loss congested areas.
- viii. Replacement of Defective / sluggish meters are being carried out.
- ix. Up gradation of 03 No. Grid Stations (Mithi, Islamkot & Kunri) 66 KV to 132KV (In Hand) under self-funding and Up gradation of 03 No. Transmission Line (146 KM) to reduce technical loss.
- x. Replacement of ceramics disc insulators with polymer insulators in order to reduce the chattering/corona in coastal belt.
- xi. Rehabilitation of 11 KV system under ELR & DOP heads.
- xii. Matter is being taken with CPPA-G / NTDC regarding shifting of CDPs from 220/ 132 KV Jhampir new grid station to 132 KV grid station T.M Khan.

29.9. The Authority observed that the Petitioner submitted its third party transmission loss study conducted by M/s PPI during the proceedings of the Re-Determination for FY 2015-16 and based on results of the said study, the petitioner requested 3.418% transmission losses. It is also noted that the Third Party Loss study was conducted in FY 2013-14 on the basis of HESCO's transmission assets (132kV, 66kV and 33kV) statistics pertaining to FY 2012-13 which are tabulated as under:

Description	As of 30.06.2013
Grid Stations	75 Nos.
TL length	2914 KMs

29.10. The Authority, while evaluating the Transmission loss study, observed that third party consultant mentioned in the final report that:

*"The data of actual line current flows, bus voltages and power transformer load currents for entire 132kV and 66kV system of HESCO was gathered for the conditions of peak and off-peak hours of each month of 2012-13. Thus data for 24- snapshots of the year 2012-13 was captured and processed to be used as input to the Study. Thus the annual energy loss come out as 3.418%.*

- 29.11. The Authority also observed that in the said study the third party consultant, keeping in view the higher transmission losses of 3.418%, recommended the following:

*"For HESCO, the installation of switched shunt capacitor banks at 11kV levels to bring the power factor of distribution network as high as possible is very important as during peak conditions the low voltage on the network causes heavier loading on the lines in order to meet the load demand, thus causing high losses. In addition, to relieve the heavily loaded transmission lines and power transformers by installing more lines and transformers or re-conducting heavily loaded lines using Rail Conductor to bring the loading reasonably below the limit to operate the system comfortably and with lower losses."*

- 29.12. In view of the above, the Authority understands that the Petitioner faced transmission network congestion / constraints and overloading situation in FY 2012-13 and when PPI conducted the said transmission losses study on the basis of transmission data pertaining to FY 2012-13, the transmission losses of 3.418% were assessed by the third party consultant. The Authority also understands that the higher transmission losses of 3.418% were reflective of the above mentioned critical conditions. Therefore the Authority has no reservations on the results of the transmission losses study conducted by PPI at that time.

- 29.13. For the purpose of instant tariff petition, HESCO requested transmission losses of 3.31% for FY 2018-19. In this regard, the Authority noted that for the FY 2018-19, HESCO claimed lower transmission losses (3.31%) as compared to the results (3.418%) of third party study. Therefore, the Authority accepts the request of the petitioner for claiming lower transmission losses and accordingly allows transmission losses of 3.31% for FY 2018-19.

#### **Distribution Losses**

- 29.14. Regarding Distribution Losses, the Petitioner has requested 15.32% for the FY 2018-19 which include 10.14% losses in 11kV networks and 5.18% LT line losses. The Authority, while considering the above requested distribution losses, observed that distribution losses of 15.32% for FY 2018-19 as claimed in instant tariff petitions are higher than the results (15.04%) of the third party distribution loss study conducted by M/s PPI (which has already been accepted by the Authority during the proceedings of Re-Determination for FY 2015-16).

- 29.15. The Authority further noted that since the requested 11kV distribution losses of 10.14% are on higher side than the assessed 11kV losses (9.75%) by third party consultant, therefore, the Authority decides to maintain the 11kV distribution loss results of the third party study and accordingly allows 9.75% 11kV distribution losses for HESCO for FY 2018-19. For LT losses, it is observed that HESCO requested 5.18% losses for FY 2018-19 on actual basis which are lower than the results (5.29%) of third party losses study. Therefore, the Authority decides to accept the Petitioner's request and accordingly allows 5.18% LT losses for FY 2018-19. The allowed margin of distribution losses of 14.93% include the following segregation:

- i. 11 kV Feeder Losses including Distribution Transformers = 9.75 % (based on 3<sup>rd</sup> party study)
- ii. LT Line Losses including Service Cable = 5.18 % (based on actual losses)



### Margin for Law and Order

- 29.16. Here it is important to mention that the Authority has never considered request of the XWDISCOs for allowing administrative losses, however, a margin for law & order has been allowed to various DISCOs including the Petitioner which was allowed a margin for law & order of 5.50% for the FY 2017-18. Similarly, for the purpose of instant tariff determination, the Authority has decided to maintain its earlier assessment of 2.50% and accordingly allows the same target of 2.50% as margin for law and order for FY 2018-19 to the Petitioner.
- 29.17. For the purpose of instant tariff petition, the Authority observed that the overall law and order situation in the country has now improved including the areas under HESCO's service territory, therefore, such a high margin for losses on account of law and order cannot be justified.
- 29.18. In view thereof, the Authority has decided to revise the law and order margin for HESCO and other DISCOs due to improved law and order situation. Accordingly, the margin for law and order for the Petitioner for the FY 2018-19 has been revised to 2.50%, which should be completely eliminated in the future years.
- 29.19. The Petitioner is also directed to submit a detailed plan for bringing down its technical losses to lower levels in the coming years.

### Allowed Level of T&D Losses

In view of the above, the Petitioner's allowed T&D Losses for the FY 2018-19 works out as under;

Transmission Losses	11 kV Network Losses	LT Line Losses	Margin for Law & Order	Total Allowed T&D Losses
3.31%	9.75%	5.18%	2.50%	20.74%

### Directions with respect to T&D losses

- 29.20. Considering T&D losses being of critical importance, the Authority directs the Petitioner to target high loss feeders to bring the overall losses down. A detailed plan be prepared and submitted to the Authority for monitoring the progress of HESCO in this respect. The Petitioner is also directed to carry out detailed analysis about hard and soft areas relative to its claims in earlier studies.
- 29.21. The Authority considers that the Petitioner can minimize its technical losses through prudent planning and engineering design practices, therefore, is directed to implement such activities and submit its plans in this regard to the Authority.
- 29.22. The Petitioner is also directed to take remedial measures for achievement of performance standards as laid down in NEPRA Performance Standards (Distribution) Rules, 2005, for which a detailed plan be prepared, mentioning steps to be taken by the Petitioner, and submitted to the Authority accordingly.
30. Whether the projected Return on Regulatory Asset base (RORB) for the FY 2018-19 is justified?
- 30.1. The Petitioner has requested an amount of Rs.2,424 million as RoRB for the FY 2018-19, using a Rate of Return of 11.83%, by taking into account the projected investment, as detailed below;





Description	Rs. In Mln
	FY 2018-19 Projected
Gross Fixed Assets in Operation - Opening Balance	41,832
Addition in Fixed Assets	3,997
Gross Fixed Assets in Operation - Closing Balance	45,829
Less: Accumulated Depreciation	19,545
Net Fixed Assets in Operation	26,284
Add: Capital Work In Progress - Closing Balance	16,813
Investment in Fixed Assets	43,097
Less: Deferred Credits	21,601
Regulatory Assets Base	21,497
Average Regulatory Assets Base	20,494
Rate of Return	11.83%
Return on Rate Base	2,424

30.2. However, afterwards during the hearing Petitioner revised its figure and requested RoRB of Rs.2,915 at 11.83% with the following working;

Sr. #	Description	Unit	FY 2017-18	FY 2018-19
			Determined	Actual
A	Gross Fixed Assets in Operation - Opening Bal	[Mln Rs]	39,325	43,109
B	Addition in Fixed Assets	[Mln Rs]	3,739	6,643
C	Gross Fixed Assets in Operation - Closing Bal	[Mln Rs]	43,064	49,752
D	Less: Accumulated Depreciation	[Mln Rs]	17,918	18,859
E	Net Fixed Assets in Operation	[Mln Rs]	25,146	30,893
F	Add: Capital Work In Progress - Closing Bal	[Mln Rs]	15,476	11,800
G	Investment in Fixed Assets	[Mln Rs]	40,622	42,693
H	Less: Deferred Credits	[Mln Rs]	16,912	18,054
I	Regulatory Assets Base	[Mln Rs]	23,710	24,639
J	Average Regulatory Assets Base	[Mln Rs]	21,750	24,640
	Rate of Return	[%age]	11.83%	11.83%
	Return on Rate Base	[Mln Rs]	2,573	2,915

30.3. The Authority noted that Section 31(3) of the amended NEPRA Act prescribes that;

*(b) tariffs should generally be calculated by including a depreciation charge and a rate of return on the capital investment of each licensee commensurate to that earned by other investments of comparable risk;*

*(c) tariffs should allow licensees a rate of return which promotes continued reasonable investment in equipment and facilities for improved and efficient service;*

30.4. The Authority allows Return to DISCOs based on WACC as no separate financial charges are allowed. For calculation of Return of Equity (RoE) component of the WACC, the Authority uses the Capital Asset Pricing Model (CAPM), being the most widely accepted model, applied by Regulatory agencies all over the world to estimate the cost of capital for regulated utilities. Since the Authority uses Plain Vanilla WACC, hence the impact of tax shield is taken as zero, and in case any tax is actually paid by the Petitioner, it is treated as pass through.

30.5. As per the methodology, in case of negative equity the Authority would consider a minimum of 20% equity and any equity in excess of 30% would be considered as debt.

30.6. For assessment of the RoE component for the FY 2018-19, weighted average yield on 05 Years Pakistan Investment Bond (PIB) as of June 13, 2018 has been considered as risk free rate which is 8.4795%. The expected return on any investment is the sum of the risk-free rate and an extra return to compensate for the risk. This extra return or 'risk premium' is the difference between



market rate of return and risk free rate. Generally, the return on stock market index is taken as a measure of market rate of return.

- 30.7. To have an appropriate measure of the market rate of return, analyzed KSE-100 Index return, over a period of 8 years, which remained at around 15%. We have also considered Analysts' consensus/ research houses estimates in this regard. The risk premium used by different leading brokerage houses of the country ranges between 6% – 7%. The rate of return on KSE-100 index remained at around 15%, which also, translates into risk premium of around 6.521% (*with risk free rate of 8.4795%, Weighted Average Yield of 5-Year PIB as of June 13, 2018*). Therefore, keeping in view the aforementioned, Market Risk Premium of 6.521% is considered as reasonable for calculation of cost of equity component.
- 30.8. The Authority, keeping in view the earlier studies in the matter, range of betas used by international Regulators, and request of the Petitioner, has decided to maintain a beta of 1.10 while assessing the RoE component of the Petitioner.
- 30.9. As regard the cost of debt, it is the interest rate on which a company would get borrowing from the debt market / commercial banks i.e. a rate at which banks lend to their customers. In order to have a fair evaluation of the cost of debt, the Authority has analyzed the financial statements of the DISCOs. The Authority noted that majority of loans obtained by XWDISCOs are relent loans, therefore, keeping in view the NEPRA (Benchmarks for Tariff Determination), Guidelines, 2018, and the loans obtained by K-Electric, the Authority considers cost of debt as 3 month's KIBOR + 2.00% spread as reasonable. Consequently, the cost of debt has been worked out as 8.93% i.e. 3 Months KIBOR of 6.93% as of 3<sup>rd</sup> July 2018 plus a spread of 2.00% (*200 basis points*).
- 30.10. Consequent to the aforementioned discussion, the Authority has re-worked the WACC as below;

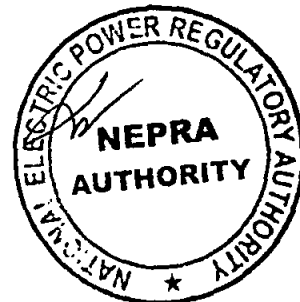
<b>Cost of Equity;</b>
$Ke = R_F + (R_M - R_F) \times \beta$
$= 8.4795\% + (15\% - 8.4795\% \times 1.1) = 15.65\%$
<b>Cost of Debt;</b>
$Kd = 8.93\%$

- 30.11. Accordingly, the WACC has been worked out as under;

<b>WACC;</b>
$WACC = ((Ke \times (E / V)) + (Kd \times (D / V)))$
Where E/V and D/V are equity and debt ratios respectively taken as 30% and 70%;
$WACC = ((15.65\% \times 30\%) + (8.93\% \times 70\%)) = 10.95\%$

- 30.12. Thus, using rate of return of 10.95%, the Authority has assessed Rs.2,564 million as return on rate base as per the following calculations:

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Description	FY 2017-18	FY 2018-19
Fixed Assets O/B	39,325	43,153
Addition	2,416	6,646
Fixed Assets C/B	41,740	49,798
Depreciation	17,935	18,897
Net Fixed Assets	23,805	30,902
Capital WIP C/B	15,155	12,123
Fixed Assets Inc. WIP	38,960	43,024
Less: Deferred Credits	17,081	18,054
<b>Total</b>	<b>21,879</b>	<b>24,970</b>
<b>RAB</b>	<b>23,425</b>	
<b>WACC</b>	<b>10.95%</b>	
<b>RORB</b>	<b>2,564</b>	

- 30.13. The initialed accounts submitted by the Petitioner do not provide any bifurcation of the assets in terms of Distribution and Supply Functions, therefore, for the purpose of bifurcation of RoRB in terms of Distribution and Supply Functions, the same criteria as adopted by the Petitioner itself to bifurcate RoRB in Distribution and Supply functions has been adopted. Based on the said criteria, the Petitioner is allowed Rs.2,547 million as part of its RoRB for Distribution function for the FY 2018-19.
- 30.14. The Authority during the tariff determination of the Petitioner for the FY 2015-16, noted that the Petitioner has insufficient cash balance as on 30<sup>th</sup> June 2015 against its pending liability of receipt against deposit works and consumer security deposits, which indicated that the amount received against the aforementioned heads has been utilized somewhere else and the Petitioner failed to provide details in this regard. The Authority is of the view that the amount collected as security deposit cannot be utilized for any other reason and any profit earned thereon has to be distributed to the consumers. Also, the amount collected under the head of receipt against deposit works has to be spent for the purpose for which it has been collected. The utilization of the money collected against deposit works and security deposits other than the works for which it has been received is illegal and unlawful. In view thereof, the Petitioner in the tariff determination for the FY 2015-16, FY 2016-17 and FY 2017-18 was directed to provide rational / justification for improper utilization of the money because the consumers have to suffer unnecessary delay on this account.
- 30.15. Similarly for the FY 2018-19, the Authority has again observed that the Petitioner has insufficient cash balance as on 30<sup>th</sup> June 2019, against its pending liability of receipt against deposit works and consumer security deposits, however, by including therein the balance of store & spares as on June 30, 2017, the Petitioner is able to meet its pending liability of receipt against deposit works and consumer security deposits.
- 30.16. Accordingly, the Authority has decided, not to include the amount of receipts against deposit works & security deposit as a part of Deferred Credits for the assessment of RAB for FY 2018-19.
- 30.17. Here it is pertinent to mention that the Authority in the tariff determination of the Petitioner for the FY 2015-16 also directed it to give clear disclosures in its Financial Statements with respect to the consumer financed spares and stores, work in progress and cash & bank balance. The Authority however latter the Authority observed that no such disclosure was available in the

Audited Financial Statements of the Petitioner for the FY 2016-17. In view thereof, the Petitioner is again directed to give clear disclosures in its Financial Statements with respect to the consumer financed spares and stores, work in progress and cash & bank balance.

- 30.18. Based on the discussion made in the preceding paragraphs, incorporating all the aforementioned increases, the Authority has assessed Rs.10,595 million on account of Distribution margin i.e. salaries, wages and other benefits including post-retirement benefits, traveling, Vehicle maintenance, other expenses, repair & maintenance, Depreciation, RoRB and other income for the FY 2018-19 as tabulated below;

Description	Unit	FY-19
Pay & Allowances		4,549
Post Retirement Benefits		2,191
Repair & Maintainance		445
Traveling allowance		193
Vehicle maintenance		136
Other expenses		186
P.M Assistance Package		82
<b>O&amp;M Cost</b>	(Min. Rs.)	<b>7,782</b>
Depreciation		1,100
RORB		2,547
O.Income		(834)
<b>Margin</b>	(Min. Rs.)	<b>10,595</b>

31. Whether HESCO is currently facing network congestions? If yes, HESCO is required to submit detailed analysis by identifying the grey areas which caused congestions in its transmission and distribution system. HESCO is also required to submit load shedding policy in high loss areas.

31.1. The Petitioner on the issue submitted that HESCO is not currently facing transmission network congestion by itself. However, HESCO facing system congestion due to following NTDC related constraints due to Delay in construction of 220kV new Grid Station at Mirpur Khas and New Transmission Line feeding for 220kV grid station Hala Road (as a second source) for removing of existing transmission line constraint of 220kV grid station Hala Road. However the Petitioner did not provide any information regarding load shedding policy in high loss areas.

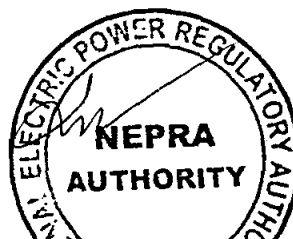
31.2. The Authority on issues is of the view that it require periodic monitoring of the Petitioner's performance, therefore, the Authority has decided to have a half yearly review of the given directions.

32. Whether the distribution margin should be recovered on Rs./kW or Rs./kWh basis?

32.1. For allocation of distribution network costs, different approaches are being used worldwide, however, there is no universally accepted methodology for allocating grid costs, and a variety of criteria have been adopted for this end. The most prominent classification is the distinction between capacity tariffs and volumetric tariffs or Hybrid Models, combining both Capacity and Volumetric tariffs. Capacity tariffs depend on the peak load as grid costs are mainly capacity driven, therefore, consumers with high peak loads pay the highest network costs, as the line or feeder is dimensioned to cope with the maximum power in kW or MW it is expected to carry at a certain point in time, not by the volume (kWh or MWh), it is expected to transmit over a certain time period. On the other hand, volumetric tariffs are charged for each kWh of electricity consumed from the grid and are easier to implement with conventional meters. Volumetric tariffs can be;



- ✓ proportionate: consumers pay per kWh, independent of volume level;
  - ✓ progressive: the tariff per kWh increases with an increasing consumption level;
  - ✓ regressive: the tariff per kWh decreases with an increasing consumption level; and,
  - ✓ time-of-use: different tariffs in line with the available grid capacity (peak /off-peak).
- 32.2. The idea behind following any specific methodology for the cost recovery is that the DISCO, responsible for maintaining, developing and operating the distribution network, must be able to recuperate its prudently incurred costs. It must be reminded that DISCO is a natural monopoly, meaning that it is cheaper to have one company building and operating the distribution network rather to have multiple companies, duplicating the necessary lines and competing for consumers to connect to their network.
- 32.3. In view thereof, the Authority for the sake of simplicity, ease of understanding, and the fact that the majority of the meters installed at consumer end level do not have the capability to record the peak load of consumers and also keeping in view the request of the Petitioner to allow a Rs./kWh rate, has decided to adopt the Rs./kWh approach for recovery of the allowed revenue requirement of the Petitioner from its consumers.
- 32.4. Here it is also pertinent to mention that the Petitioner is allowed a revenue cap target, whereby, it is hedged against any volume risk, as they make allowed revenues independent of the number of users served and energy delivered. Thus, in case on any over/ under recovery of the allowed revenues based on the allowed benchmarks of T&D losses and recovery, would be adjusted in the subsequent tariff settings of the Petitioners.
33. Whether the ToU meters installed on Residential and General Service connections have the capability to record MDI? Whether there should any Fixed Charges on residential and General Services consumers?
- 33.1. The Petitioner during the hearing submitted that although the TOU meters have the capability to record MDI, however, the billing software records KWh only.
- 33.2. The Authority observed that currently no fixed charges are being levied on Domestic consumers and General Service Category, i.e. such consumers only pay variable charge @ Rs./kWh, based on the amount of actual energy consumed during the month.
- 33.3. Considering the increase in capacity charges coupled with demand exiting the system due to net metering etc., the Authority is cognizant that there is a need to levy certain fixed charges for those domestic and general services consumers who have installed net metering facility, however, as the issue requires further deliberation, therefore, the Authority has decided not to levy any fixed charges for such consumers.
34. Wheeling Issues
- 34.1. The Authority approved National Electric Power Regulatory Authority (Wheeling of Electric Power) Regulations, 2016 (the Regulations) vide SRO dated June 13, 2016, in order to facilitate wheeling of power in the country. However, different stakeholders voiced their concerns on the Regulations in terms of treatment of T&D losses during wheeling, imposition of Cross subsidies, treatment of Stranded costs if any, applicability of Use of System charges of NTDC, Hybrid BPCs, and Banked Energy etc.
- 34.2. The Authority accordingly made two additional issues of Cross Subsidy charge and Stranded cost under the instant petition, for which advertisement was published in the leading newspapers on



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September 9<sup>th</sup>, 2020 and hearing in this regard was held on 17<sup>th</sup> September, 2020. Here it is also pertinent to mention that to get an international view on these issues, the Authority has also engaged an international consultant through USAID.

- 34.3. The Authority considering the impact of the above issues on the power sector, considers that the matter requires further deliberations, and has therefore decided to issue a separate additional decision on the aforementioned proceedings.
- 34.4. Thus, the Use of System Charge (UoSC) determined by the Authority in the instant decision, as mentioned under the Order part, may be revised accordingly, if required in light of the decision of the Authority on the wheeling issues, which will be issued separately.

### 35. Order

- 35.1. In view of the discussion made in preceding paragraphs and accounting for the adjustments discussed above, the revenue requirement of the Petitioner, for the FY 2018-19, to the extent of its distribution function is summarized as under;

Description	Unit	FY-19
Pay & Allowances		4,549
Post Retirement Benefits		2,191
Repair & Maintainance		445
Traveling allowance		193
Vehicle maintenance		136
Other expenses		186
P.M Assistance Package		82
<b>O&amp;M Cost</b>	[Mn. Rs.]	<b>7,782</b>
Depreciation		1,100
RORB		2,547
O.Income		(834)
<b>Margin</b>	[Mn. Rs.]	<b>10,595</b>

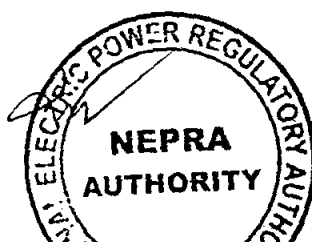
**Avergae Tariff**

[Rs./kWh] **2.46**

- 35.2. Hyderabad Electric Supply Company Limited (HESCO), being a distribution licensee, is allowed to charge its consumers, **in addition to compensation for losses** as discussed above, the following "Use of system charge" (UOSC);

Description	For 132 kV Only	For 11 kV Only	For both 132 & 11 kV
<b>Asset Alocation</b>	22%	57%	69%
<b>Level of Losses</b>	3.31%	10.36%	13.32%
<b>UoSC Rs./kWh</b>	0.47	1.42	1.94

- 35.3. Use of System Charge (UoSC), as mentioned above, may be revised accordingly, if required in light of the decision of the Authority on the wheeling issues, which will be issued separately.
- 35.4. Responsible to provide distribution service within its service territory on a non-discriminatory basis to all the consumers who meet the eligibility criteria laid down by the Authority,
- 35.5. To make its system available for operation by any other licensee, consistent with applicable



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instructions established by the system operator.

- 35.6. To follow the performance standards laid down by the Authority for distribution and transmission of electric power, including safety, health and environmental protection instructions issued by the Authority or any Governmental agency [or Provincial Government;
- 35.7. To develop, maintain and publicly make available, with the prior approval of the Authority, an investment program for satisfying its service obligations and acquiring and selling its assets
- 35.8. To disconnect the provision of electric power to a consumer for default in payment of power charges or to a consumer who is involved in theft of electric power on the request of Licensee.
- 35.9. The Petitioner shall comply with, all the existing or future applicable Rules, Regulations, orders of the Authority and other applicable documents as issued from time to time.

**36. Summary of Direction**

36.1. A summary of all directions passed in this determination by the Authority are reproduced hereunder. The Authority hereby directs the Petitioner to;

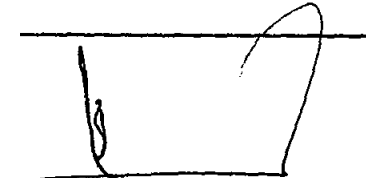
- i. File Multi Year Tariff Petition for a tariff control period of five year to avoid any delay in tariff determinations.
- ii. Transfer the already collected provision of postretirement benefits into the fund by June 30, 2021.
- iii. Maintain a proper record of its assets by way of tagging each asset for its proper tracking and also to provide explanation on the concerns raised by the Authority in terms of its R&M cost in the tariff determination for the FY 2015-16.
- iv. to provide details of PEPCO Management Fees, if any, claimed previously by March 31, 2021, so that same could be adjusted in the subsequent tariff determinations.
- v. Provide Scale wise detail of all such employees along-with the amount paid in respect of PM assistance package in the next tariff petition.
- vi. Target high loss feeders to bring the overall losses down. A detailed plan be prepared and submitted to the Authority for monitoring the progress of HESCO in this respect by March 31, 2021.
- vii. Take remedial measures for achievement of performance standards as laid down in NEPRA Performance Standards (Distribution) Rules, 2005.
- viii. The Petitioner can minimize its technical losses through prudent planning and engineering design practices, therefore, is directed to implement such activities and submit is plans in this regard to the Authority by March 31, 2021.
- ix. Carry out detailed analysis about the hard and soft areas relative to claims in earlier studies and submit report to the Authority by March 31, 2021.
- x. to give clear disclosures in its Financial Statements with respect to the consumer financed spares and stores, work in progress and cash & bank balance for the FY 2020-21 & onward.

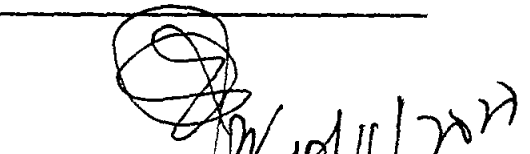


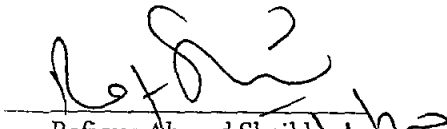
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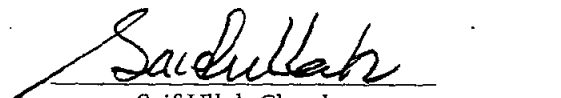
- xi. Segment reporting with clear break-up of costs in financial statements for the Distribution and Supply Functions in light of the amended NEPRA Act.
  - xii. Provide electricity connections to all these pending applications without further delay and submit a quarterly progress report in this regard.
  - xiii. Stop the existing practice of deducting 20% of SAP funds for grid augmentation and carry out the augmentation of the grid by itself after coordinating with the Ministry of Energy.
  - xiv. Restrain from unlawful utilization of receipts against deposit works and security deposits, failing which, the proceedings under the relevant law may be initiated against the Petitioner.
  - xv. Provide the required details of late payment charges recovered from the consumers and invoices raised by CPPA (G) under the head of mark-up on delayed payments for the period from FY 2015-16 to FY 2018-19, in its next tariff petition.
  - xvi. Provide project wise detailed report for the investment carried out along-with their cost/benefit analysis and technical/financial savings achieved.
- 36.2. The determination of the Authority is hereby intimated to the Federal Government for notification in the official gazette in terms of section 31(7) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997.

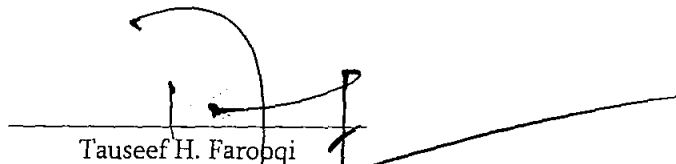
AUTHORITY

  
Engr. Bahadur Shah  
Member

  
Rehmatullah Baloch  
Member

  
Rafique Ahmed Shaikh  
Member

  
Saif Ullah Chattha  
Vice Chairman

  
Tauseef H. Farooqi  
Chairman

