



PESHAWAR ELECTRIC SUPPLY COMPANY (PESCO)

Tel: 091-9212033
Fax: 091-9212024
www.pesco.com.pk

Office of The
Chief Executive Officer
PESCO Peshawar

No. 320-29/DG MIRAD/CEO PESCO

Dated: 17/03/2023

The Registrar,
National Electric Power Regulatory Authority (NEPRA),
NEPRA Tower, Ataturk Avenue (East), G5/1,
Islamabad.

Subject: **APPLICATION FOR GRANT OF AN ELECTRIC POWER SUPPLY LICENSE TO PESHAWAR ELECTRIC SUPPLY COMPANY (PESCO) LIMITED AS SUPPLIER OF LAST RESORT.**

PESCO is Deemed Licensee for Supply of Electric Power as per proviso to Sub-Section (1) of Section 23E which states "No person shall, unless licensed by the Authority under this Act, engage in the supply of electric power to a consumer" under Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997, amended up to date for period of five years which will expire on May 01, 2023. As per Regulation 3(2)(b) of NEPRA Licensing (Electric Power Supplier) Regulations, 2022 notified as per SRO No. 466(1)/2022 dated March 28, 2022, a Deemed Licensee must apply to the Authority / NEPRA at least ninety (90) days before expiry of the period.

Accordingly, in pursuance of Regulation 3(l) of NEPRA Licensing (Electric Power Supplier) Regulations, 2022 and in accordance with Regulation 3 of the NEPRA Licensing (Application, Modification, Extension and Cancellation) Procedure Regulations, 2021 please find attached herewith an application for kind consideration of the Authority for grant of Electric Power Supply License to PESCO. PESCO BoD has authorized undersigned in its 185th BoD meeting held on March 15th, 2023 vide Item No. 14 (Application for the grant of an electric license to PESCO Limited as Supplier of Last Resort) to sign the application and take all the necessary actions regarding thereto.

Consequently, I, Arif Mahmood S/o Sardar Mohammad Ishaq Khan Chief Executive Officer PESCO, hereby request the honorable Authority for grant of an Electric Power Supply License to Peshawar Electric Power Company (PESCO) limited as Supplier of Last Resort for 20 years or more as deemed appropriate.

For any clarification or additional information or any other matter relating to this application Mr. Atif Jawad (Director General MIRAD) PESCO (0330-9972000, email: dg.mirad@pesco.com.pk) is designated as focal person.

Documents Attached:

1. Checklist as per Regulation 3 (1) of the NEPRA Licensing (Application, Modification, Extension and Cancellation) Procedure Regulations, 2021 and all supporting documents thereto.
2. Cross Check of Allied Bank Ltd. vide Cheque No.13 77162260 dated 17/03/2023 amounting to Rs.3,267,664/- (Three million, two hundred sixty-seven thousand, six hundred, sixty-four) in favor of Registrar NEPRA, is attached. (Original).



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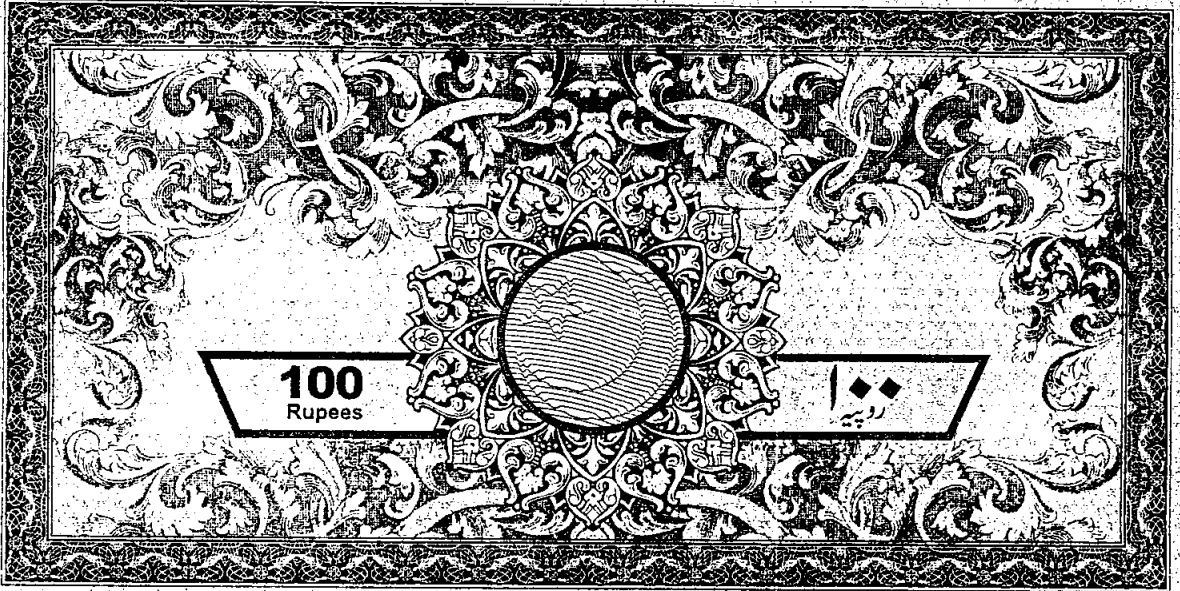
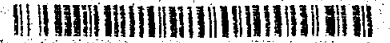
Office of The
Chief Executive Officer
PESCO Peshawar

3. Affidavit of the CEO PESCO (Authorized Officer) on Non-Judicial Stamp Paper worth Rs.100 /- regarding the correctness, authenticity and accuracy of the application, documents, and information. (Original)
4. Affidavit of the CEO PESCO (Authorized Officer) on Non-Judicial Stamp Paper worth Rs.100 /- regarding other Licenses granted under the Act. (Original)


Chief Executive Officer
PESCO Peshawar

Copy to:

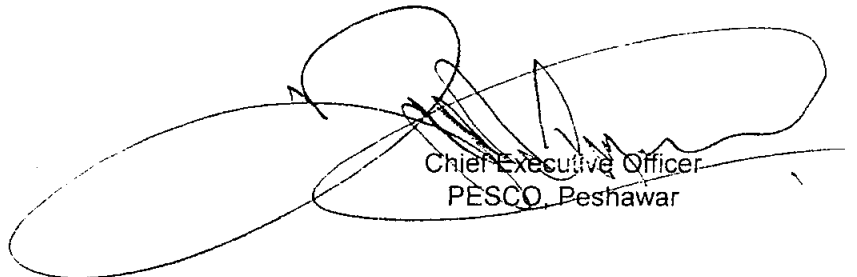
1. DG MIRAD, PESCO for information
2. Dy. General Manager Finance PESCO Peshawar for information
3. Chief Engineer (Technical) PESCO Peshawar for information
4. Chief Engineer (Operation) PESCO Peshawar for information
5. Chief Commercial Officer PESCO Peshawar for information
6. Chief Law Officer PESCO Peshawar for information
7. Head of Internal Audit PESCO Peshawar
8. SO to CEO PESCO for information
9. Master file MIRAD

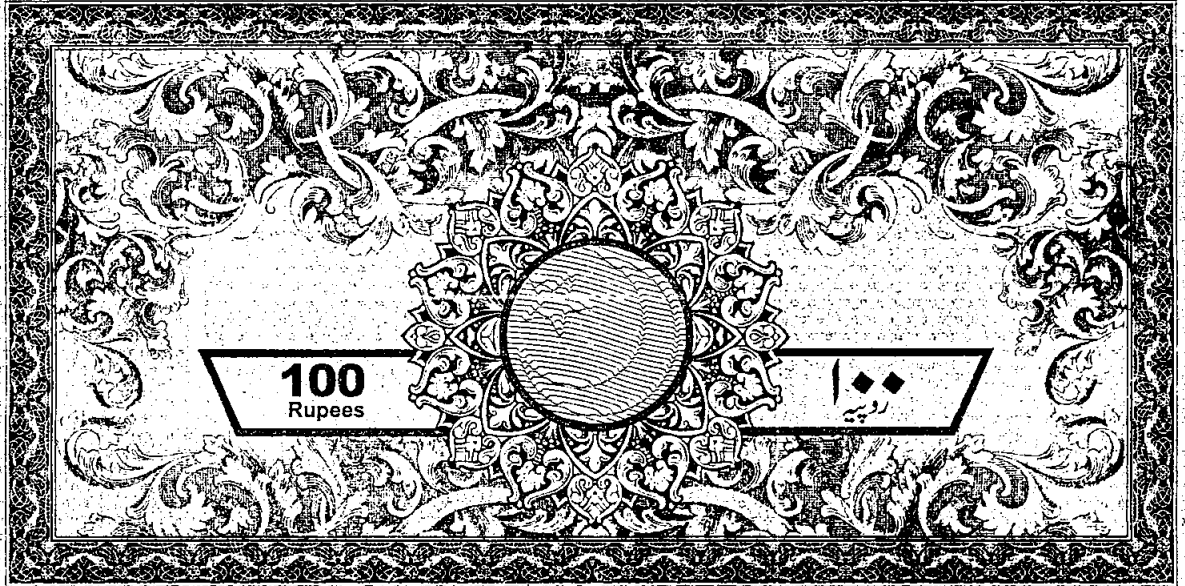
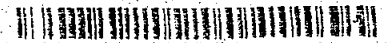


AFFIDAVIT

I, Arif Mehmood S/O Sardar Muhammad Ishaq Khan, Chief Executive Officer Peshawar Electric Supply Company having CNIC No. 12101-4176270-5 duly authorized by the Board of Directors of Peshawar Electric Supply Company Limited in its 185th BOD Meeting held on March 15th, 2023 in terms of regulations 3.(4)(g) of the NEPRA License (Application, Modification, Extension and Cancellation) Procedure Regulations, 2021 do hereby, solemnly affirm and testify that the consents of the application for grant of Electric Power Supply License as Supplier of Last Resort are in accordance with Regulation 3(1) of NEPRA Licensing (Electric Power Supplier) Regulations, 2022 and Regulation 3 of the NEPRA Licensing (Application, Modification, Extension and Cancellation) Procedure Regulations, 2021 and that the annexed documents are true and correct to the best of my knowledge, belief on the basis of provided confirmations by the concerned formations put before me; and further declare that:

1. I am the Chief Executive Officer of the Peshawar Electric Supply Company (PESCO) and fully aware of the affairs of the Company particularly to endorse application for grant of Electric Power Supply License.
2. Whatsoever stated in the application and accompanied documents is true and nothing has been concealed.

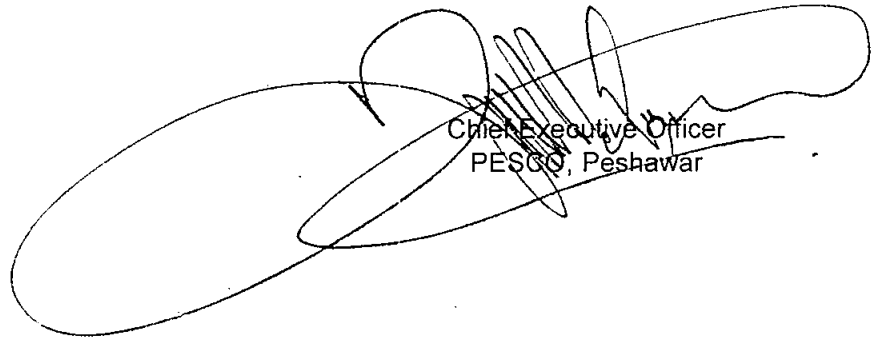

Chief Executive Officer
PESCO, Peshawar



AFFIDAVIT

I, Arif Mehmood S/O Sardar Muhammad Ishaq Khan, Chief Executive Officer Peshawar Electric Supply Company having CNIC No. 12101-4176270-5 duly authorized by the Board of Directors of Peshawar Electric Supply Company Limited in its 185th BOD Meeting held on March 15th, 2023 in terms of Regulations 3.(4)(g) of the NEPRA License (Application, Modification, Extension and Cancellation) Procedure Regulations, 2021 do hereby, solemnly affirm and testify that the following license has been granted by the honorable authority to PESCO:

1. Distribution License No. 07/DL/2002 dated April 23rd, 2002 (Currently Extended Provisionally by the Authority till April 30, 2023 through the letter No. NEPRA/R/DG(Lie)/LAD-07/23507 dated December 13, 2022).


Chief Executive Officer
PESCO, Peshawar

Checklist as per Regulation 3 of NEPRA Licensing (Application, Modification, Extension and Cancellation) Procedure Regulations, 2021

Sr.	Description	Remarks
1	The type or category of license	Electric Power Supply License as Supplier of Last Resort.
2	The proposed time period of extension.	Proposed time period is 20 years starting from May 01, 2023 to 30 April, 2042 or more.
4	Certified copies of: (a) certificate of incorporation. (b) memorandum and articles of association. (c) annual reports of the company.	Attached as Annexure-A
5	last annual return of the Company submitted in compliance of section 130 of the Companies Act.	Attached as Annexure-B
6	Evidence of adequate financial and technical resources available to the applicant for the purposes of undertaking related electric power services for which application for grant of license has been filed; • evidence of cash balances held in reserve by the applicant, • bank certificates; • details of charges or encumbrances attached to the applicant's assets • latest audited financial statements of the applicant; • expressions of interest to provide credit or financing along with sources and details thereof, • documents describing the net worth and the equity and debt ratios of the applicant, as on the date of the audited balance sheet accompanying the application.	Audited Financial Report for F.Y 2021-22 attached as Annexure-C
7	Detailed profile of the applicant and the applicant's senior management. technical and professional staff.	Summary abstract (Name, Designation, Experience, Qualification) of Management Officers attached as Annexure-D
8	Application fee as set out in Schedule-II (Fees for Grant, Extension of Term or Modification of License)	Cross Cheque of Allied Bank of Pakistan Cheque No. 1377162260 dated 17/03/2023 , amounting to Rs.3,267,664/- (Three million, two hundred sixty-seven thousand, six hundred sixty-four) in favor of Registrar NEPRA, is attached), being the net of 8% tax withheld of the gross amount Rs. 3,551,809/- as applicable fee in schedule II of the Regulations.

9	Applicable documents in support and information set out in Schedule III for Electric Power Supply.	<p>Following attached as Annexure-E</p> <ul style="list-style-type: none"> i). Relevant feeder maps Number expected load. ii). Consumer class/category, sub-category based on sanctioned load and voltage level. iii. Tariff categories of consumer classes to be served. iv). Demand and consumption pattern on different time periods. V) Procurement Plan for meeting expected loads. vi). 12-month projections on expected load, number of consumers and expected sale of units for each consumer category. vii). Training and development procedures and manuals. viii). Information relating to: <ul style="list-style-type: none"> a). Proposed service territory b) Billing and Collection procedures (including provisions for remote metering) c) ability to access consumer metering systems and other services /equipment d) emergency provisions and protocols
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GOVERNMENT OF PAKISTAN



Certified True copy
Company Secretary
PESCO

CERTIFICATE OF INCORPORATION

(Under section 32 of the Companies Ordinance, 1984 (XLVII of 1984))

Company Registration No. L 09497 of 1997-98

I hereby certify that "PESHAWAR ELECTRIC SUPPLY COMPANY LTD."

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is this day incorporated under the Companies Ordinance, 1984 (XLVII of 1984) and that

the company is limited by _____ Shares.

Given under my hand at _____ Lahore.

this 23rd day of April

one thousand nine hundred and _____ ninety eight.

Fee Rs. =5,000,200/-.



CRO-1

[Signature]
REGISTRAR
OF COMPANIES

No. JRL 4534
dated 23-4-98

GOVERNMENT OF PAKISTAN



CERTIFICATE FOR COMMENCEMENT OF BUSINESS

[Under section 146 (2) of the Companies Ordinance, 1984 (XLVII of 1984)]

I hereby certify that the **"PESHAWAR ELECTRIC SUPPLY COMPANY LTD."**

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which was incorporated under the
Companies Ordinance, 1984 (XLVII of 1984), on the **23rd**

day of **April** 19 **98** and which has filed a duly verified
declaration in the prescribed form that the conditions of clauses (a) to (e) of sub-section
(1) of Section 146 of the said Ordinance have been complied with, is entitled to
commence business.

Given under my hand at **Lahore**

this **12th** day of **June**

one thousand nine hundred and **Ninety eight.**

Fee Rs. **=200/-**

C.R.O.-4



(**AKBAR SHAH**)
Joint Registrar of Companies

No. JRL/8628 dt 13/6/98

Company Secretary
PESCO

Certified true copy

THE COMPANIES ORDINANCE, 1984

Company Limited by Shares

Memorandum

and

Articles of Association

PESHAWAR ELECTRIC SUPPLY COMPANY LIMITED

PESHAWAR ELECTRIC SUPPLY COMPANY LIMITED

INDEX

MEMORANDUM OF ASSOCIATION

Sr. No.	Contents	Page No.
1.	Name	1
2.	Registered Office	1
3.	Objects	1
4.	Liability of Members	8
5.	Authorized Capital	8

PESHA WAR ELECTRIC SUPPLY COMPANY LIMITED

INDEX

ARTICLES OF ASSOCIATION

Sr. No.	Contents	Page No.
1.	Preliminary	1
2.	Business	2
3.	Shares	3
4.	Transfer of Shares	4
5.	Transmission of Shares	6
6.	Alteration of Capital	7
7.	Meetings and Proceedings	7
8.	Management and Administration	11
9.	Powers and Duties of Directors	12
10.	Disqualification of Directors	13
11.	Proceedings of Directors	14
12.	Election and Removal of Directors	15
13.	The Seal	16
14.	Dividends and Reserves	16
15.	Accounts	17
16.	Notices	18
17.	Confidentiality	19
18.	Reconstruction	19
19.	Winding Up	19
20.	Indemnity	20
21.	Arbitration	20

THE COMPANIES ORDINANCE, 1984

PUBLIC COMPANY LIMITED BY SHARES

MEMORANDUM OF ASSOCIATION

OF

PESHAWAR ELECTRIC SUPPLY COMPANY LIMITED

- I. The name of the company is "Peshawar Electric Supply Company Limited"
- II. The registered office of the company will be situated in Lahore, Province of Punjab, Pakistan.
- III. The objects for which the Company is established are to undertake any or all of the following businesses:
 1. To acquire or take over those properties, rights and liabilities of the Pakistan Water and Power Development Authority comprising that administrative division formally known as the Peshawar Area Electricity Board (AEB) pursuant to the Pakistan Water and Power Development Authority Act of 1958 (as amended) and to carry on, expand and extend the businesses and activities of such Board or any part thereof including, without limitation, the business of a public electricity distributor and supplier.
 2. To acquire or take over the properties, rights and liabilities of the grid stations of the Pakistan Water and Power Development Authority and the transmission lines in relation thereto which at the date of adoption of this Memorandum and Articles of Association are directly and exclusively supplying electricity to the areas formerly supplied by the Peshawar AEB and are located within the said AEB.
 3. To carry on all or any of the businesses of purchasing, importing, transforming, converting, distributing, supplying, exporting and dealing in electricity and all other forms of energy and products or services associated therewith and of promoting the conservation and efficient use of electricity and all other forms of energy, and all other powers necessary or incidental to the business of electricity distribution and supply.
 4. Electrification. - To do anything which a public electricity supplier is empowered or required to do under or by virtue of or under a license or other authorization granted according to law and its implementing rules and regulations or any statutory instrument made thereunder or any statutory modification or re-enactment thereof and to plan, survey, design, supply equipment, and carry out the electrification of cities, towns, villages, gas and oil refineries, workshops, buildings, highways, bridges, ports, air terminals, and other premises within its area of supply.
 5. Dealer in Electrical Equipments. - To carry on all or any of the businesses of wholesalers, retailers, traders, importers, exporters, suppliers, distributors, designers, developers, manufacturers, installers, fitters, testers, repairers, maintainers, contractors, constructors, operators, users, inspectors, reconditioners, servicers, improvers, alterers, protectors, removers, hirers, replacers, importers and exporters of, and dealers in, electrical appliances, systems products and services used for energy conservation,

Certified true copy
Company Secretary
PESCO

agricultural, industrial, household and general equipment, furniture, fixtures, fittings and devices, and all other kinds of goods, equipment, machinery, materials and installations, including but not limited to cables, wires, meters, pylons, tracks, rails, pipelines and any other plant, apparatus, equipment, systems and things incidental to the efficient transformation, supply, and distribution of electricity.

6. Determination of Retail Tariff Rates. - To ascertain the retail tariff rates that will secure recovery of operating costs, interest charges and depreciation of assets, redemption at due time of loans other than those covered by depreciation, payment of taxes, and a reasonable return on investment, and to petition the appropriate government body for the adoption of or increase in its schedule of retail tariff rates.
7. Facilities and Installations. - To locate, establish, construct, equip, operate, use, manage and maintain power grid stations, transforming, switching, conversion, and distribution facilities, grid stations, cables, overhead lines, substations, switching stations, tunnels, cable bridges, link boxes, telecommunications stations, masts, aerials and dishes, fiber optic circuits, satellites and satellite microwave connections, heat pumps, plant and equipment for combined heat and power schemes, offices, computer centers, shops, dispensing machines for pre-payment cards and other devices, showrooms, depots, factories, workshops, plants, printing facilities, warehouses and other storage facilities (including but not limited to facilities for storage and disposal of products and waste), training, education and display centers, stands and show-houses, testing premises, laboratories, research stations, compressor stations, vehicle parks, terminals, transport facilities, roads, and other electrical installations and infrastructure it may deem beneficial.
8. Acquisition and Conveyance of Assets. - To acquire or convey, whether by purchase, lease, concession, grant, hire or otherwise, establish, develop, exploit, operate and maintain real or personal properties including but not limited to land, any estates in land, claims, licenses, concessions, easements, exploration and production rights, and rights or interests of all descriptions in or relating to the same, which may seem to the Company capable or possibly capable of affording or facilitating the purchase, transformation, conversion, supply, distribution, and development of electricity or any other form of energy, and for the accomplishment of all the purposes of the Company herein stated.
9. Site Development. - To build, construct, maintain, alter, enlarge, pull down, and remove or replace structures, factories, offices, works, wharves, roads, railways, tramways, machinery, engines, walls, fences, banks, dams, sluices or water courses and to clear sites for the same and to work, manage and control the same and to carry on any other business which may seem to the Company capable of being conveniently carried on in connection with the above or calculated directly or indirectly to enhance the value of or render more profitable the Company's properties, but not to engage in the business of a real estate developer.
10. Intellectual Property Rights. - To apply for and take out, purchase or otherwise acquire any patents, patent rights, inventions, secret processes, designs, copyrights, trademarks, service marks, commercial names and designations, technological know-how, formulae, licenses, concessions and the like (and any interest in any of them), and exclusive or non-exclusive or limited rights to use any secret or other information as to any invention or secret process of any kind, and to use, exercise, develop, and grant licenses

in respect of, and otherwise turn to account and deal with, the property, rights and information so acquired.

11. **Metering.** - For the purposes of electricity supply, distribution and communication, to install in, on, above or under any premises or place and to operate, use, inspect, maintain, repair, replace and remove cables, lines, ducts, transformers, switchgear (remotely controlled and otherwise, and including time switches), fuses, circuit breakers, electricity service equipment, meters and other devices for measuring or controlling the quantity or quality of electricity supplied, prepayment and debt payment devices, items provided to afford access to, support, encase, insulate, and protect from damage or tampering, the above-mentioned gadgets, or to protect people and property from injury or damage, or to comply with any legal obligation and for other purposes associated with the supply of electricity and to install all such things and apparatus and items for the purposes of supplying, measuring and controlling light, heat, steam, hot water, air-conditioning and refrigeration, and for associated purposes, including payment for these facilities.
12. **Demand Forecasting.** - To provide or procure the provision of such facilities and services as may be necessary or desirable to forecast electricity/energy demand and to satisfy such demand.
13. **Transportation.** - To acquire, (whether by purchase, lease, concession, grant, hire or otherwise), charter, lease, take or let on hire, operate, use, employ or turn to account, build, equip, service, repair, maintain, and supply motor vehicles, railway locomotives, wagons, trucks, vessels, and craft of any description, engineering plants and machinery, and parts and accessories of all kinds, and to carry on the businesses of storage contractors, freight contractors, carriers by land, water and air of freight and passengers, forwarding agents, shipping agents and agents of any other kind, in so far as such activities are incidental to or necessary for the transformation, supply and distribution of electricity.
14. **Audio-Visual System.** - To carry on as principal, agent, contractor or sub-contractor all or any of the businesses of running, operating, managing, supplying and dealing in systems for the conveyance by any means of sounds, visual images, signals, and services, facilities and equipment ancillary to or for use in connection with such systems.
15. **Management Information System.** - To carry on all or any of the businesses of running, operating, managing, supplying and dealing in data processing and information retrieval systems, computers, computer programmes and software, computer bureau and data bases, meter reading and credit checking and to provide services, facilities and equipment ancillary to or for use in connection with the same.
16. **Research and Development.** - To carry on business as inventors, researchers and developers, to conduct, promote and commission research and development in connection with the businesses and activities of the Company and its subsidiaries, to establish and maintain research stations, laboratories, workshops, testing and proving grounds and sites, facilities and establishments and installations, and to exploit and turn to account the results of any research and development carried out by or for it.
17. **Labour Contracting.** - To carry on all or any of the businesses of consultants, advisers and suppliers of management, personnel and training services, whether generally or in respect of one or more of the types of business or activity which the Company has

power to carry on, and to provide training and educational courses, instruction and materials, of every description for workers of the Company and for other persons.

18. **Contracts.** - To enter into agreement with any individual, firm, cooperative or other society, company, corporate body, Government or local authority or other legal entity necessary or expedient for the purpose of carrying on any business of the Company.
19. **Engineering Services.** - To carry on all or any of the businesses of and provide services associated with, engineers (including without limitation electrical, mechanical, heating, ventilation, civil, chemical, sanitation, telecommunications and gas engineers), mechanics, technicians, draftsmen, designers, surveyors, architects, builders, decorators, caterers, kitchen installers, and shopfitters.
20. **Advertisement.** - To adopt such means of making known the products of the Company as may seem expedient and, in particular, by advertising in the press, by circulars, by purchase and exhibition of works of art or interests, by publication of books and periodicals, and by granting prizes, rewards and donations.
21. **Other Businesses.** - To carry on all or any of the businesses of manufacturers, wholesalers, retailers, and traders, whether generally or in relation to particular goods or commodities, and to carry on all or any of the businesses of factors, debt collectors, and developers of and dealers in property, so far as incidental to or necessary for the transformation, distribution and supply of electricity.
22. **Borrowing.** - To borrow or raise money or secure or discharge any debt or obligation (whether of the Company or any other person) in such manner as the Company thinks fit and in particular (but without prejudice to the generality of the foregoing) by the creation or issue, upon such terms as to priority or otherwise as the Company thinks fit, of securities of any kind or mortgages or discharges founded or based upon all or any part of the undertaking, property, assets and rights (present and future) of the Company, or, without any such security, and advance payments with or without allowance of mark-up thereon.
23. **Bank Accounts.** - To open, operate, transfer, and close banking accounts of the Company with any bank or banks and to draw, make, accept, endorse, discount, execute, and issue promissory notes, bills of exchange, bills of lading, warrants, debentures, and other negotiable/non-negotiable or transferable/non-transferable instruments, but not to act as a finance or banking company.
24. **Guaranty and Suretyship.** - To enter into any guarantee, contract of indemnity or suretyship and, in particular (without prejudice to the generality of the foregoing), to guarantee, support or secure, with or without consideration, whether by personal obligation or by mortgaging or charging all or any part of the undertaking, property and assets (present and future), and unsubscribed capital of the Company or by both such methods or in any other manner, the performance of any contract, obligation or commitment of, and the repayment or payment of the principal amounts of and any premiums, interest, dividends, and other moneys payable on or in respect of any securities or liabilities of, any person, including (without prejudice to the generality of the foregoing) any company which is a subsidiary, an affiliate or a holding company of the Company or otherwise associated with the Company, whether or not any valuable consideration or advantage is received by the Company.

25. Partnership. - To enter into partnership, joint venture or cooperation arrangements with any person or company or other legal entity, local or foreign, carrying on or engaged in any business or transaction which the Company is authorized to carry on or engage in, or otherwise seek assistance from or assist any such person, company or legal entity.
26. Related Businesses. - To acquire by any means the whole or any part of the assets, and to undertake the whole or any part of the liabilities, of any person, natural or juridical, carrying on or proposing to carry on any business which the Company is authorized to carry on or which can be carried on in connection therewith, to acquire an interest in, amalgamate or enter into partnership or into any arrangement for sharing profits, cooperation, or mutual assistance, with any such person, to promote, form and sponsor any company or companies in furtherance of the objects herein stated, and to give or accept, for any of the acts or things aforesaid or property acquired, such consideration as the Company thinks fit, including without limitation, any shares, debentures, or other securities or rights.
27. Equity Investment. - To invest the surplus moneys of the Company not immediately required in any manner to subscribe for, purchase or otherwise acquire, and to hold, and deal with, any shares, debentures, bonds, notes, and other securities, obligations and investments of any nature whatsoever, including any options or rights in respect of them, and otherwise to invest and deal with the money and assets of the Company, but not to act as an investment company.
28. Lending. - To advance money or give credit to such persons or companies and on such terms as may seem expedient and, in particular, to customers and others having dealings with the Company, to guarantee the performance of any contract or obligation and the payment of money by the Company, and to accept securities of any person or any property or interest therein of whatever nature in payment or partial payment for any services rendered or for any sale or supply made to, or debt owing from, any such person, but not to act as a finance or banking company.
29. Trusts. - To vest any real or personal property, rights or interests acquired by or belonging to the Company in any person or company on behalf of or for the benefit of the Company, with or without any declared trust in favour of the Company, and to undertake and execute any trust the undertaking whereof may seem desirable, either gratuitously or otherwise.
30. Portfolio Investments. - Subject to such terms and conditions as may be thought advantageous, to trade its shares and to undertake markup and currency swaps, options (including traded options), swap option contracts, forward exchange contracts, futures contracts or other financial instruments allowed by law, including hedging agreements of any kind, all or any of which may be on a fixed and/or floating rate basis and/or in respect of local or foreign currency or commodities of any kind, but not to engage in the business of a stockbroker.
31. Government Permissions. - To apply for and obtain necessary consents, permissions and licenses from any Government, Provincial, Local, Foreign, Multilateral or other authorities or entities for enabling the Company to carry any of its objects into affect or for extending any of the powers of the Company or for effecting any modification of the constitution of the Company or for any other purpose which may seem expedient, and to enter into arrangements with any Government or authorities, foreign, federal,

provincial, municipal, local or otherwise, public or quasi-public bodies, or with any other persons, in any place where the Company may have interests that may seem conducive to the objects of the Company or any of them and to obtain from any such Government, authorities or persons any rights, privileges and concessions which the Company may think fit to obtain, and to carry out, exercise and comply therewith.

32. **Dispute Resolution.** - To resolve disputes by negotiation, conciliation, mediation, arbitration, litigation or other means, judicial or extra-judicial, and to enter into compromise agreement with creditors, members and any other persons in respect of any difference or dispute with them and to exercise the power to sue and be sued and to initiate or oppose all actions, steps, proceedings or applications which may seem calculated directly or indirectly to benefit or prejudice, as the case may be, the interests of the Company or of its members.
33. **Employees' Funds.** - To establish and maintain or procure the establishment and maintenance of any contributory or non-contributory pension or superannuation funds for the benefit of, and give or procure the giving of donations, gratuities, pensions, allowances or emoluments to such persons who are or were at any time in the employ or service of the Company, or of any company which is a holding company or a subsidiary of the Company or is allied to or associated with the Company or with any such subsidiary or affiliate company, or who are or were at any time directors or officers of the Company or of any such other company as aforesaid, and the wives, widows, families and qualified dependents of any such persons, and also to establish, subsidize and subscribe to institutions, associations, clubs or funds calculated to be for the benefit of or to advance the interests and well-being of the Company or of any such other company as aforesaid, and make payments to or towards the insurance of any such person as aforesaid and do any of the matters aforesaid, either alone or in conjunction with any such other company as aforesaid.
34. **Remuneration.** - To enter into contracts with its salaried employees, including a chief executive who, prior to his appointment as such, was not a director of the Company or of its subsidiary or holding Company, and to provide for such other financial assistance to said employees or workers under personnel rules and regulations that the Company may subsequently adopt.
35. **Commissions.** - To pay and discharge all or any expenses, costs and disbursements, and to pay commissions and to remunerate any person for services rendered or to be rendered in connection with the formation, registration, promotion and flotation of the Company and any company formed, sponsored, registered, and promoted by the Company or incidental to any negotiations between promoters preliminary to the formation of the Company, and the underwriting, placing or issue at any time of securities of the Company or of any other person plus all costs and expenses incurred in the acquisition of any property or assets, including the accomplishment of all or any formalities which the Company may think necessary or proper in connection with any of the matters aforesaid.
36. **Charitable Contributions.** - To subscribe or contribute (in cash or in kind) surplus properties to, and to promote or sponsor, any charitable, eleemosynary, scientific, educational, benevolent or useful object of a public character or any object which may in the opinion of the Company be likely, directly or indirectly, to further the interests of the Company, its employees and workers or its members.

37. **Dissolution and Winding Up.** - To cease carrying on or wind up any business or activity of the Company and to cancel any registration of and to wind up or procure the dissolution of the Company in any state or territory.
38. **Equity Conversion.** - To issue, allot and grant options over securities of the Company towards the satisfaction of any liability or obligation undertaken or agreed to be undertaken by or for the benefit of the Company, or in consideration of any obligation or for any other similar purpose.
39. **International Operations.** - To procure the Company to be registered or recognized in any part of the world and to do all or any of the above things in any part of the world, either as principal, agent, trustee, contractor or otherwise, alone or in collaboration with another, and either by or through agents, trustees, sub-contractors, subsidiaries or otherwise.
40. **Disposal of Assets and Declaration of Dividends.** - To dispose by any means of the whole or any part of the assets of the Company or of any interest therein and to distribute in specie or otherwise by way of dividends or bonus or reduction of capital all or any of the property or assets of the Company among its members, and particularly, but without prejudice to the generality of the foregoing, securities of any other company formed to take over the whole or any part of the assets or liabilities of the Company or any proceeds of sale or other disposal of any property or assets of the Company.
41. **Insurance.** - To insure the property, assets, and employees of the Company in any manner deemed fit by the Company, and to create any reserve fund, sinking fund, insurance fund or any other special fund whether for depreciation or for repairing, insuring, improving, extending or maintaining any of the properties of the Company or for any other purpose conducive to the interests of the Company, but not to act as an insurance company.
42. **Regulations.** - To make rules or regulations not inconsistent with this Memorandum and to provide for all matters for which provision is necessary or expedient for the purpose of giving effect to the provisions of this Memorandum and the efficient conduct of the affairs of the Company.
43. **General Power.** - To carry on any other businesses or activities which the Directors consider capable of being carried on directly or indirectly for the benefit of the Company and to do all such other things as may be deemed incidental or conducive to the attainment of the above objects or any of them.

Declaration. It is hereby declared that

- (a) the word "company" in this Memorandum of Association, except where used in reference to this Company, shall be deemed to include any partnership or other body of persons, whether corporate or unincorporated, and whether domiciled in Pakistan or elsewhere;
- (b) the objects specified in each of the paragraphs of this clause shall be regarded as independent objects and, accordingly, shall in no way be limited or restricted (except where otherwise expressed in such paragraphs) by reference to or inference from the terms of any other paragraph or the name of the Company, but may be carried out in as full and ample a manner and construed in as wide a

sense as if each of the said paragraphs defined the objects of a separate and distinct company;

- (c) the headings used in each of the paragraphs are for convenience only and are not intended to affect the construction thereof in any way; and,
- (d) notwithstanding anything contained in the foregoing object clauses of this Memorandum of Association, nothing herein shall be construed as empowering the Company to undertake or indulge in the business of banking or financing institution, leasing, investment, or real estate brokerage or insurance, directly or indirectly, as restricted by law or in any unlawful operations.

IV. The liability of the members is limited.

V. The authorized share capital of the Company is Rs. 50,000,000,000 (Rupees Fifty billion) divided into 5,000,000,000 (five billion) ordinary shares of Rs. 10 (Rupees Ten) each with power to increase or reduce the capital and to divide the shares in the capital for the time being into several classes and to attach thereto respectively such rights, privileges or conditions as may be determined by or in accordance with the regulations of the Company, and to vary, modify or abrogate any such rights, privileges or conditions in such manner as may for the time being be provided by the regulations of the Company in accordance with law; provided, however, that rights as between various classes of ordinary shares, if any, as to profits, votes and other benefits shall be strictly proportionate to the paid-up value of shares.

We, the several persons whose names and addresses are subscribed below, are desirous of being formed into a company in pursuance of this Memorandum of Association and we respectively agree to take the number of shares in the capital of the Company set opposite our respective names.

Name and surname (Present and former) in full (in Block Letters)	Father's/ Husband's Name in Full	Nationality	Occupation	Residential Address in Full	Number of Shares taken by Each Subscriber	Signature
1. Mr. Muhammad Yunis Marwat	Muhammad Khan	Pakistani	WAPDA Service	House No. 109, Shami Road, Peshawar Cantt.	1	
2. Mr. Ata-ur-Rehman Khan	Zia-ur-Rehman Khan	Pakistani	WAPDA Service	53-B, WAPDA Officer's Colony, Upper Mall, Lahore.	1	
3. Mr. Inayat Ullah	Saif Ullah Khan	Pakistani	WAPDA Service	Bungalow No.34-B, WAPDA Colony, Upper Mall, Lahore.	1	
4. Mr. Abdul Wakil Khan Afridi	Haji Nasir Khan Afridi	Pakistani	WAPDA Service	H. No. B-2, 132kV grid station Zero point colony, H-8, Islamabad.	1	
5. Mr. Muhammad Rafique	Abdul Ghani	Pakistani	WAPDA Service	927-Ravi Block, Allama Iqbal Town, Lahore-54570.	1	
6. Mr. Muhammad Ayub Qazi	Qazi Muhammad Shafique	Pakistani	WAPDA Service	Civil Quarters, Kohat Road, Peshawar.	1	
7. Mr. Ahmad Nawaz Mughal	Muhammad Hussain	Pakistani	WAPDA Service	H. No. 106, Block-E, Guishan-e-Ravi, Lahore.	1	

Total number of shares taken 7 (Seven)

Dated the _____ day of _____

Witnesses to above signatures

(Full Name, Father's/Husband's Name)

(in Block Letters) _____

Signature _____

Occupation _____

Full Address _____

THE COMPANIES ORDINANCE, 1984
PUBLIC COMPANY LIMITED BY SHARES
ARTICLES OF ASSOCIATION
OF
PESHAWAR ELECTRIC SUPPLY COMPANY LIMITED

I. PRELIMINARY

1. TABLE "A" Not to Apply

The regulations in Table 'A' in the First Schedule to the Companies Ordinance, 1984 shall not apply to the Company except as reproduced herein.

2. Definitions

Unless the context otherwise requires, capitalized terms used in these Articles shall have the meanings set out below:-

- (a) **"Articles"** mean these Articles as originally framed or as from time to time altered in accordance with law.
- (b) **"Board"** means the group of Directors in a meeting duly called and constituted or, as the case may be, the Directors assembled at a board.
- (c) **"Company"** means the Peshawar Electric Supply Company Limited.
- (d) **"Directors"** means the Directors for the time being of the Company as named in Article 49 and, subsequently, such members duly elected and registered pursuant to Sections 178 and 205, respectively .
- (e) **"Month"** means calendar month according to the Gregorian calendar.
- (f) **"Office"** means the registered office for the time being of the Company.
- (g) **"Ordinance"** means the Companies Ordinance, 1984, or any modification or re-enactment thereof for the time being in force.
- (h) **"Ordinary Resolution"** means a resolution passed at a general meeting of the Company when the votes cast (whether *viva voce*, by show of hands or by poll) in favour of a resolution by members who, being entitled to vote in person or by proxy, do so vote, exceed the number of votes, if any, cast against the resolution by members so entitled and voting.
- (i) **"Register"** means, unless the context otherwise requires, the register of members to be kept pursuant to Section 147 of the Ordinance.
- (j) **"Seal"** means the common or official seal of the Company.

III. SHARES

A. General

5. Shares Under Directors' Control

Subject to Section 183 and these Articles, the shares of the Company shall be under the control of the Directors who may allot or otherwise dispose of the same to such persons, on such terms and conditions as the Directors think prudent.

6. Amount Payable on Application

No shares shall be offered to the public for subscription except upon the term that the amount payable on application shall not be less than the full amount of the nominal amount of the share.

7. Allotment of Shares

No share shall be issued at a discount except in accordance with the provisions of the Ordinance. The Directors shall, as regards any allotment of shares, duly comply with such of the provisions of Sections 68 to 73, as may be applicable to the Company. The minimum subscription upon which the Company may proceed to allot the shares shall be Rs 10,000 (Rupees Ten Thousand).

8. Share Certificates

Every person whose name is entered as a member in the Register shall, free of charge, be entitled to receive within ninety (90) days after allotment or within forty-five (45) days of the application for registration of transfer, a certificate under Seal specifying the share or shares held by him and the amount paid-up thereon, including in particular and without limitation, such legends as the Company shall be obliged to affix to certain classes of share certificates as provided by law or as the Company shall have agreed to affix pursuant to any contractual arrangement in this respect; Provided, that, in respect of share or shares held jointly by several persons, the Company shall not be bound to issue more than one certificate, and delivery of a certificate for a share to one of several joint holders shall be sufficient delivery to all.

9. Certificate under Seal

The certificate of title to shares may be issued under the authority of a Director or of a committee of Directors duly authorized thereto by the Board in such manner and form as the Directors may from time to time prescribe. The Seal shall be duly affixed to every share certificate issued by the Company.

10. Issuance of Replacement Certificate

If a share certificate is defaced, lost or destroyed, it may be renewed on payment by the requesting shareholder or his representative of such fee and stamp taxes, if any, and compliance with such terms prescribed by the Directors as to evidence and indemnity and payment of expenses incurred by the Company in investigating title.

11. Joint Holders

The Company shall not be bound to register more than four persons as joint holders of any share.

12. Trusts Not Recognized

Except as required by law, no person shall be recognized by the Company as holding any share/s upon any trust, and the Company shall not be bound by or be compelled in any way to recognize (even when having notice thereof) any equitable, contingent, future or partial interest in any share or any interest in any fractional part of a share or (except only as by these Articles or by law otherwise provided) any other rights in respect of any share except an absolute right to the entirety thereof in the registered holder.

13. Payment of Commission

The Company may at any time pay a commission to any person for subscribing or agreeing to subscribe (whether absolutely or conditionally) for any shares, debentures or debenture stock in the Company or procuring or agreeing to procure subscriptions (whether absolutely or conditionally) for any shares, debentures or debenture stock in the Company; Provided, that, if the commission in respect of shares shall be paid or payable out of capital, the statutory requirements and conditions shall be observed and complied with, and the amount or rate of commission shall not exceed such percentage on the shares, debentures or debenture stock in each case subscribed or to be subscribed, as may be determined by the Board subject to any limits required by law. The commission may be paid or satisfied, either wholly or partly, in cash or in shares, debentures or debenture stock. The Company may also on any issue of shares pay such brokerage fees as may be lawful; Provided that such brokerage fees shall not exceed such percentage of the shares, debentures or debenture stock paid-up as may be determined by the Board, subject to any limits required by law.

14. Bar on Use of Company Funds

Except to the extent and in the manner allowed by Section 95, no part of the funds of the Company shall be employed in the purchase of, or in loans upon the security of, the Company's shares.

B. TRANSFER OF SHARES

15. Transfer

The instrument of transfer of any share in the Company shall be executed both by the transferor and transferee, and the transferor shall be deemed to remain the holder of the share until the name of the transferee is entered in the Register in respect thereof.

16. Form of Transfer

Shares in the Company shall be transferred in the following form, or in any usual or common form which the Directors shall approve:-

PESHAWAR ELECTRIC SUPPLY COMPANY LIMITED

I/We, _____, of _____, in consideration of the sum of Rupees _____ paid to me by _____, of _____, (hereinafter called the "Transferee/s", for brevity), do hereby transfer to the Transferee/s the Ordinary/Preferred Share(s) numbered _____ to _____, inclusive, standing in my/our name in the books of the Peshawar Electric Supply Company Limited, to hold unto the said Transferee, his/her/their executors, administrators and assigns, subject to the several conditions on which I/We held the same at the time of the execution hereof, and I/We, the Transferee/s, do hereby agree to take the said share (s) subject to the conditions aforesaid.

Witness our hands this _____ day of _____

Transferor

Transferee

Signature

Signature

Signed by the above-named Transferor/s and Transferee/s in the presence of:

Witnesses

Full Name, Father's/
Husband's Name

(1) _____
Signature

Nationality _____

Full Address: _____

Occupation _____

Full Address of
Transferee: _____

(2) _____
Signature

Full Address: _____

Occupation _____

17. Non- Refusal of Transfer of Shares

The Directors shall not transfer any fully paid shares unless the transfer deed is defective or invalid. The Director may decline to recognize any instrument of transfer, unless-

- (a) a fee not exceeding two rupees as may be determined by the Directors and the appropriate stamp tax is paid to the Company in respect thereof; and
- (b) the duly stamped instrument of transfer is accompanied by the certificate of the shares to which it relates, and such other evidence as the Directors may reasonably require to show the right of the transferor to make the transfer.

If the Directors refuse to register a transfer of shares, they shall within one Month after the date of which the transfer deed was lodged with the Company send to the transferee and the transferor notice of the refusal indicating the defect, invalidity or any ground for objection to the transferee, who shall, after removal of such defect or invalidity be entitled to re-lodge the transfer deed with the Company.

18. Closure of Register

On giving seven days' prior notice in the manner provided by the Ordinance, the Register may be closed for such period or periods not exceeding forty-five (45) days in any one year as the Directors may from time to time determine; however, the Register shall not be closed for a period longer than thirty (30) days at any given time.

C. TRANSMISSION OF SHARES

19. Transmission

The executors, administrators, heirs or nominees, as the case may be, of a deceased sole holder of a share shall be the only persons recognized by the Company as having any title to the share. In the case of a share registered in the names of two or more holders, the survivor or survivors shall upon proof of his right of succession be the only person or persons recognized by the Company as having any title to the share.

20. Election to Register or Transfer

Any person becoming entitled to a share in consequence of the death or insolvency of a member shall, upon such evidence being produced as may from time to time be required by the Directors, have the right, either to be registered as a member in respect of the share or, instead of being registered himself, to make such transfer of the share as the deceased or insolvent person could have made. The Directors shall, in either case, have the same right to decline or suspend registration as they would have had in the case of a transfer of the share by the deceased or insolvent person before the death or insolvency.

21. Rights of Person Entitled by Transmission

A person becoming entitled to a share by reason of the death or insolvency of the holder shall be entitled to the same dividends and other advantages to which he would have been entitled if he were the registered holder of the share, except that he shall not, before being registered as a member in respect of the share, be entitled in respect of it to exercise any right conferred by membership in relation to meetings of the Company.

D. ALTERATION OF CAPITAL

22. Power to Increase Capital

The Company may, from time to time, by ordinary resolution, increase the share capital by such sum to be divided into shares of such amount as the resolution shall prescribe.

23. Further Issue of Capital

All further issue of shares capital shall be subject to the applicable provisions of Section 86. Thereafter, the Directors may dispose of the same in such manner as they think most beneficial to the Company.

24. Provisions Applicable to New Shares

The new shares capital shall be subject to the same provisions with reference to transfer and transmission as the original share capital.

25. Consolidation and Subdivision

The Company may, by ordinary resolution:-

- (a) consolidate and divide its share capital into shares of larger amount than its existing shares;
- (b) subdivide its existing shares or any of them into shares of smaller amount than that fixed by the Company's Memorandum of Association, subject to the provisos to Section 92, sub-section (1), clause (d); or
- (c) cancel any shares which, at the date of the passing of the resolution, have not been taken or agreed to be taken by any person.

26. Reduction of Share Capital

The Company may, by Special Resolution, reduce its share capital in any manner, with and subject to any incident authorized and consent required by law.

IV. MEETINGS AND PROCEEDINGS

A. GENERAL MEETINGS

27. Statutory Meeting

The statutory general meeting of the Company shall be held within the period required by Section 157.

28. Annual General Meeting

The annual general meeting shall be held in accordance with the provisions of Section 158, within eighteen (18) Months from the date of incorporation of the Company and, thereafter, once at least in every year within a period of six Months following the close of its financial year and not later than fifteen Months after the holding of its last preceding annual general meeting, as may be determined by the Directors.

29. Other Meetings

All general meetings of the Company other than the statutory meeting or an annual general meeting shall be called extraordinary general meetings.

30. Extraordinary Meetings

The Directors may whenever they think necessary, call an extraordinary general meeting. Extraordinary general meetings may also be called on such requisition, or in default, may be called by such requisition, as provided under Section 159. If at any time there are not within Pakistan sufficient Directors capable of acting to form a quorum, any Director of the Company may call an extraordinary general meeting in the same manner as nearly as possible as that in which meetings may be called by the Directors.

B. Notice and Proceedings

31. Notice of Meetings

Twenty-one days' notice at the least (exclusive of the day on which the notice is served or deemed to be served, but inclusive of the day for which notice is given) specifying the place, the date and the hour of meeting and, in case of special business, the general nature of that business, shall be given in the manner provided by the Ordinance for the general meeting to such persons as are, under the Ordinance or the regulations of the Company, entitled to receive such notices from the Company.

32. Special Business

All business shall be deemed special that is transacted in an extraordinary general meeting and those transacted in an annual general meeting, with the exception of declaration of dividends, the consideration of the accounts, balance sheet and the reports of the Directors and auditors, the election of Directors, and the appointment and fixing of the remuneration of auditors.

33. Quorum

No business shall be transacted at any general meeting unless a quorum of members is present at that time when the meeting proceeds to business. Three members present personally who represent not less than twenty-five percent of the total voting power either on their own account or as proxies shall be a quorum.

34. Effect of Quorum Not Being Present

If within half an hour from the time appointed for the meeting a quorum is not present, the meeting, if called upon the requisition of members, shall be dissolved; In any other case, it shall stand adjourned to the same day in the next week at the same time and place, and, if at the adjourned meeting a quorum is not present within half an hour from the time appointed for the meeting, the members present, being not less than three, shall be a quorum.

35. Chairman of Meeting

The Chairman of the Board of Directors, if any, shall preside as chairman at every general meeting of the Company, but if there is no such Chairman, or if at any meeting he is not present within fifteen minutes after the time appointed for the meeting, or is unwilling to act as chairman, any one of the Directors present may be elected to be the chairman, and if none of the Directors is present, or willing to act as chairman, the members present shall choose one of their number to be the chairman.

36. Adjournment

The Chairman may, with the consent of any meeting at which a quorum is present (and shall if so directed by the majority of members present), adjourn the meeting from time to time but no business shall be transacted at any adjourned meeting other than the business left unfinished at the meeting from which the adjournment took place. When a meeting is adjourned for ten days or more, notice of the adjourned meeting shall be given as in the case of an original meeting. Save as aforesaid, it shall not be necessary to give any notice of an adjournment or of the business to be transacted at an adjourned meeting.

37. Voting

A resolution put to the vote in any general meeting shall be decided on a show of hands unless a poll is (before or on the declaration of the result of the show of hands) demanded. Unless a poll is so demanded, a declaration by the Chairman that a resolution has, on a show of hands, been carried, or carried unanimously, or by a particular majority, or lost, and an entry to that effect in the minutes of the proceedings of the Company shall be conclusive evidence of the fact, without proof of the number or proportion of the votes recorded in favor of, or against, that resolution.

38. Demand for a Poll

A poll may be demanded only in accordance with the provisions of Section 167.

39. Manner of Taking a Poll

If a poll is duly demanded, it shall be taken in accordance with the manner laid down in Section 168 and the result of the poll shall be deemed to be the resolution of the meeting at which the poll was demanded.

40. Time of Taking a Poll

A poll demanded on the election of Chairman or on a question of adjournment shall be taken at once.

41. Casting Vote

In the case of an equality of votes, whether on a show of hands or on a poll, the chairman of the meeting at which the show of hands takes place, or at which the poll is demanded, shall have and exercise a second or casting vote.

C. Votes of Members

42. Right to Vote

Subject to any rights or restrictions for the time being attached to any class or classes of shares, on a show of hands every member present in person shall have one vote except for election of Directors in which case the provisions of Section 178 shall apply. On a poll, every member shall have voting rights as laid down in Section 160.

43. Voting By Joint Holders

In case of joint-holders, the vote of the senior who tenders a vote, whether in person or by proxy, shall be accepted to the exclusion of the votes of the other joint-holders. For this purpose, seniority shall be determined by the order in which the names stand in the Register.

44. Voting; Corporation Representatives

On a poll, votes may be given either personally or by proxy; Provided, that, no body corporate shall vote by proxy as long as a resolution of its directors in accordance with the provisions of Section 162 of the Ordinance is in force.

45. Proxy to be in Writing

The instrument appointing a proxy shall be in writing under the hand of the principal to his attorney duly authorized in writing. A proxy must be a member of the Company.

46. Instrument Appointing Proxy to be Deposited

The instrument appointing a proxy and the power-of-attorney or other authority (if any) under which it is signed, or a notarially certified copy of that power or authority, shall be deposited at the Office of the Company not less than forty-eight (48) hours before the time for holding the meeting at which the person named in the instrument proposes to vote and in default the instrument of proxy shall not be treated as valid.

47. Form of Proxy

An instrument appointing a proxy may be in the following form, or a form as near thereto as may be:

PESHAWAR ELECTRIC SUPPLY COMPANY LIMITED

I, _____, of _____, in the District of _____, being a member of Peshawar Electric Supply Company Limited, hereby appoint _____ of _____, as my proxy to vote for me and on my behalf at the (annual/extraordinary as the case may be) general meeting of the Company to be held on the _____ day of _____ and at any adjournment thereof.

48. Revocation of Authority

A vote given in accordance with the terms of an instrument of proxy shall be valid notwithstanding the previous death or insanity of the principal or revocation of the proxy or of the authority under which the proxy was executed, or the transfer of the share in respect of which the proxy is given; Provided, that, no intimation in writing of such death, insanity, revocation or transfer as aforesaid shall have been received by the Company at its Office before the commencement of the meeting or adjourned meeting at which the proxy is used.

V. MANAGEMENT AND ADMINISTRATION

A. Board of Directors

49. Number of Directors

The number of Directors shall not be less than seven. The first Directors, to hold office until the first annual general meeting, shall be:-

1. Mr. Muhammad Yunis Marwat
2. Mr. Ata-ur-Rehman Khan
3. Mr. Inayat Ullah
4. Mr. Abdul Wakil Khan Afridi
5. Mr. Muhammad Rafique
6. Mr. Muhammad Ayub Qazi
7. Mr. Ahmad Nawaz Mughal

50. Qualification of Directors

Save as provided in Section 187, no person shall be appointed as a Director unless he is a member of the Company.

51. Chairman of the Board

The Directors may elect one of their number as the Chairman of the Board and vest in him such powers and functions as they may deem fit in relation to the management and administration of the affairs of the Company subject to their general supervision and control.

52. Chief Executive

The Directors may elect one of their number to be the Chief Executive of the Company in accordance with the provisions of Sections 198 and 199 and vest in him such powers and functions as they deem fit in relation to the management and administration of the affairs of the Company subject to their general supervision and control. The Chief Executive of the Company shall be the *ex-officio* Vice-Chairman of the Board. The

provisions of the Ordinance shall be observed regarding other matters relating to the Chief Executive.

53. Remuneration

Subject to any approval or limits required by law, the terms and conditions and remuneration of:-

- (a) Director for performing extra services, including the holding of the office of Chairman;
- (b) the Chief Executive; and
- (c) any Director for attending the meetings of the Directors or a Committee of Directors shall be determined by the Board of Directors.

54. Alternate Director

A Director may, with the approval of the Board, appoint any person (including another Director) to be his alternate Director and such an alternate Director shall be entitled to notice of meetings of the Directors and to attend and vote thereat accordingly and, generally, to exercise all the rights of such absent Director subject to any limitations in the instrument appointing him. For the purposes of the proceedings at such meetings, the provisions of these Articles shall apply as if any alternate Director (instead of his appointer) were a Director. An alternate Director shall not require any share qualification and he shall *ipso facto* vacate office as and when his appointer (a) vacates office as a Director; (b) removes the appointee from office; or (c) returns to Pakistan; Provided, that, upon each occasion upon which the appointer thereafter leaves Pakistan again, and unless the appointer shall have informed the Company to the contrary, he shall be deemed to have re-appointed the appointee as his alternate Director and no further approval of the Board shall be required unless the appointer desires to approve another person not previously approved by the Board as his alternate. If an alternate Director shall be himself a Director, his voting rights shall be cumulative but he shall not be counted as more than one for quorum purposes. Any appointment or removal under this Article shall be reflected by notice in writing under the hand of the Director making the same.

B. POWERS AND DUTIES OF DIRECTORS

55. General Management Powers

The business of the Company shall be managed by the Directors, who may exercise all such powers of the Company as are not by the Ordinance or by these regulations, required to be exercised by the Company in general meeting, subject nevertheless to the provisions of the Ordinance or to any of these Articles, and such regulations being not inconsistent with the aforesaid provisions, as may be prescribed by the Company in a general meeting; but no regulation made by the Company in general meeting shall invalidate any prior act of the Directors which would have been valid if that regulation had not been made.

56. Borrowing Powers

The Directors may exercise all the powers of the Company to raise money otherwise than by issue of shares and to mortgage, charge, pledge, hypothecate or otherwise create

an encumbrance on its undertaking or any part thereof and to issue debentures and other securities whether outright or as security for any obligation, liability or debt of the Company or of any third party. In exercising the aforesaid powers of the Company the Directors may, from time to time and on such terms and conditions as they think fit, raise money from banks and financial institutions and from other persons under any permitted system of financing, whether providing for payment of interest or some other form of return, and in particular the Directors may raise money on the basis of mark-up price, musharika, modaraba or any other permitted mode of financing, and without prejudice to the generally of the foregoing the Directors may exercise all or any of the powers of the Company under Section 196(2) of the Ordinance. In particular, the Directors may issue any security as defined in Section 2(1)(34) of the Ordinance or may issue any instrument or certificate representing redeemable capital as defined in 2(1)(30A) of the Ordinance or participatory redeemable capital as defined in Section 2(1)(25) of the Ordinance.

57. Duties of Directors

The Directors shall duly comply with the provisions of the Ordinance.

58. Minute Books

The Directors shall cause minutes to be made in books provided for the purpose of:-

- (a) all appointments of officers made by the Directors;
- (b) the names of the Directors present at each meeting of the Directors and of any committee of the Directors; and
- (c) all resolutions and proceedings at all meetings of the Company and of the Directors and of committees of Directors; and every Director present at any meeting of Directors or committee of Directors shall sign his name in a book to be kept for that purpose.

C. DISQUALIFICATION OF DIRECTORS

59. Disqualification of Directors

No person shall become a Director of the Company if he suffers from any of the disabilities or disqualifications mentioned in Section 187 of the Ordinance and, if already a Director, shall cease to hold such office from the date he so becomes disqualified or disabled or:-

- (a) if removed by general or special order of the holding company;
- (b) if removed by a resolution of members as hereinafter provided; or
- (c) if by notice in writing given to the Company he resigns his office;

Provided, however, that no Director shall vacate his office by reason only of his being a member of any company which has entered into contracts with, or done any work for, the Company but such Director shall not vote in respect of any such contract or work, and if he does so vote, his vote shall not be counted.

64. Proceedings of Committee Meetings

A committee may meet and adjourn as it thinks fit. Questions arising at any meeting shall be determined by a majority of votes of the members present. In case of an equality of votes, the chairman shall have and exercise a second or casting vote.

65. Validity of Directors' Acts

All acts done in any meeting of the Directors or of a committee of Directors shall, notwithstanding that it be afterwards discovered that there was some defect in the appointment of such Directors or that they or any of them were disqualified, be as valid as if every such person had been duly appointed and was qualified to be a Director unless the said act or acts is *ultra vires* in itself.

66. Resolution in Writing

A resolution in writing circulated to all the Directors and signed by a majority of the total number of Directors or affirmed by them through fax, telex or telegram shall be as valid and effectual as if it had been passed at a meeting of the Directors duly convened and held.

E. ELECTION AND REMOVAL OF DIRECTORS

67. Rotation of Directors

At the first annual general meeting of the Company, all the Directors shall retire from office, and Directors shall be elected in their place in accordance with Section 178 for a term of three years.

68. Eligibility for Re-election

A retiring Director shall be eligible for re-election.

69. Election in Accordance with the Ordinance

The Directors shall comply with the provisions of Sections 174 to 178 and Sections 180 and 184 relating to the election of Directors and matters ancillary thereto.

70. Filling of Casual Vacancy

Any casual vacancy occurring in the Board of Directors may be filled by the Directors, but the person so chosen shall be subject to retirement at the same time as if he had become a Director on the day on which the Director in whose place he is chosen was last elected as Director.

71. Removal of Director

The Company may remove a Director but only in accordance with the provisions of the Ordinance.

VI. THE SEAL

72. Common Seal

The Directors shall provide a common seal of the Company which shall not be affixed to any instrument except by the authority of a resolution of the Board or by a committee of Directors authorized in that behalf by the Board. Two (2) Directors or one Director and the secretary of the Company shall sign every instrument to which the common seal is affixed.

73. Official Seal

The Directors may provide for the use in any territory, district or place not situated in Pakistan, of an official seal which shall be a facsimile of the common seal of the Company, with the addition on its face of the name of every territory, district or place where it is to be used. The provisions of Section 213 shall apply to the use of the official seal.

VII. DIVIDENDS AND RESERVES

74. Declaration of Dividends

The Company in general meeting may declare dividends but no dividend shall exceed the amount recommended by the Board.

75. Interim Dividends

The Board may from time to time direct payment to the members or to the holding company such interim dividends as appear to be justified by the distributable profits of the Company.

76. Dividends Payable Out of Profits

No dividends shall be paid otherwise than out of distributable profits of the year or any other undistributed profits. No unpaid dividend shall bear interest against the Company.

77. Dividends Payable on Amount Paid on Shares

All dividends shall be declared and paid according to the amounts paid on the shares.

78. Reserve Fund

The Directors may, before recommending any dividend, set aside out of the profits available for distribution of the Company such sums as they think proper as a reserve or reserves which shall, at the discretion of the Directors, be applicable for meeting contingencies, or for equalizing dividends, or for any other purpose to which the profits of the Company may be properly applied, and pending such application may either be employed in the business of the Company or be invested in such investments (other than shares of the Company) as the Directors may, subject to the provisions of the Ordinance, from time to time think fit.

79. Profit Carried Forward

The Directors may carry forward any profits which they may think prudent not to distribute, without setting them aside as a reserve.

80. Payment of Dividends Specie

With the sanction of a resolution in a general meeting, any dividend may be paid wholly or in part by the distribution of specific assets and in particular of paid-up shares or debentures of any other company or in any one or more of such ways. The Directors may fix the value for distribution of such specific assets or any part thereof and may determine that cash payments shall be made to any members upon the footing of the value so fixed, in order to adjust the rights of all members, and may vest any such specific assets in trust for the members entitled to the dividend as may seem expedient to the Directors.

81. Dividends to Joint Holders

If several persons are registered as joint holders of any share, any one of them may give effectual receipt for any dividend payable on the share.

82. Notice of dividend

Notice of any dividend that may have been declared shall be given in the manner hereinafter mentioned to the persons entitled thereto. The Company may give such notice by publication in a newspaper of general circulation in the Province where the Office is situated.

83. Period for Payment of Dividends

Dividends shall be paid within the period specified in Section 251.

VIII. ACCOUNTS

84. Books of Account

The Directors shall cause to be kept proper books of account as required under Section 230.

85. Place Where Accounts Kept

The books of account shall be kept at the Office or at such other place as the Directors shall think fit and shall be open to inspection by the Directors during business hours.

86. Inspection by Members

The Directors, or their representatives, shall from time to time determine whether and to what extent and at what time and place/s and under what conditions or regulations the accounts and books or papers of the Company or any of them shall be open to the inspection of members not being Directors. No member (not being a Director) shall have any right of inspecting of any account and book or papers of the Company, except

as conferred by law or authorized by the Directors or by the Company in general meeting.

87. Annual Accounts

The Directors shall as required by Sections 233 and 236 cause to be prepared and to be laid before the Company in general meeting such profit and loss accounts and balance sheets duly audited and reports as are referred to in those sections.

88. Balance Sheet and Profit and Loss Account

A balance sheet, profit and loss account, and other reports referred to in the preceding Article shall be made out every year and laid before the Company in the annual general meeting made up to a date not earlier than six months before such meeting. The balance sheet and profit and loss account shall be accompanied by a report of the auditors of the Company and the report of Directors.

89. Copy of Accounts to be Sent to Members

A copy of the balance sheet and profit and loss account and reports of Directors and auditors shall, at least twenty-one days preceding the meeting, be sent to the persons entitled to receive notices of general meetings in the manner in which notices are to be given as hereinafter provided.

90. Compliance with the Ordinance

The Directors shall in all respects comply with the provisions of Sections 230 to 236.

91. Capitalization of Profits

The Company in general meeting may, upon the recommendation of the Directors, resolve that it is desirable to capitalize any part of the amount for the time being standing to the credit of any of the Company's reserve accounts or to the credit of the profit and loss accounts or otherwise available for distribution. The Company may then set free such sum for distribution among the members who would have been entitled thereto if distributed by way of dividend and in the same proportions, on condition that the same be not paid in cash but be applied in or towards paying up in full un-issued shares or debenture of the Company to be allotted and distributed, credited as fully paid up to and amongst such members in the proportion aforesaid. The Board of Directors shall give effect to such distribution by resolution.

92. Audit

Auditors shall be appointed and their duties regulated in accordance with Sections 252 to 255 of the Ordinance.

IX. NOTICES

93. Notice to Members, etc.

Notice shall be given by the Company to members and auditors of the Company and other persons entitled to receive notice in accordance with law.

X. CONFIDENTIALITY

94. Confidentiality Undertaking

Every director, manager, adviser, auditor, trustee, member of a committee, officer, agent, accountant, or other employees of the Company shall, if so required by the Directors, before entering upon his duties, sign a confidentiality undertaking in relation to all transactions of the Company with its customers and the state of accounts with individuals and in matters relating thereto, and shall undertake not to reveal any of the matters which may come to his knowledge in the discharge of his duties, except when required to do so by the Directors or by any general meeting or by any a court of law of competent jurisdiction and except so far as may be necessary in order to comply with any of the provisions in these presents.

95. Members' Access to Company Premises

No member or other person (not being a Director) shall be entitled to enter upon the property of the Company or examine the Company's premises or properties without the permission of a Director, subject to Article 94, to require discovery of or any information respecting any detail of the Company's trading or any matter which is or may be in the nature of a trade secret, mystery of trade, or secret process or of any matter whatsoever which may relate to the conduct of the business of the Company and which in the opinion of the Directors will be inexpedient, in the interest of the Company and its members, to communicate.

XI. RECONSTRUCTION

96. Reconstruction

On any sale of the undertakings of the Company, the Directors or the liquidators on a winding up may, if authorized by a Special Resolution, accept fully paid shares, debentures or securities of any other company, either then existing or to be formed for the purchase in whole or in part of the property of the Company. The Directors (if the profits of the Company permit), or the liquidators (in a winding up), may distribute such shares or securities, or any other properties of the Company amongst the members without realization, or vest the same in trustees for them. A Special Resolution may provide for the distribution or appropriation of the cash, shares or other securities, benefits or property, and for the valuation of any such securities or property at such price and in such manner as the meeting may approve. All shareholders shall be bound by any valuation or distribution so authorized, and waive all rights in relation thereto save only such statutory rights (if any) as are, in case the Company is proposed to be or is in the course of being wound up, incapable of being varied or excluded by these Articles.

XII. WINDING UP

97. Division and distribution of Assets Upon Dissolution

If the Company is wound up, the liquidator may, with the sanction of a Special Resolution of the Company and any other sanction required by law, divide amongst the members in specie or kind the whole or any part of the assets of the Company (whether

they shall consist of property of same kind or not) and may, for such purpose, set such value as he deems fair upon any property to be divided as aforesaid and may determine how such division shall be carried out as between the members or different classes of members. The liquidator may, with like sanction, vest the whole or any part of such assets in trustees upon such trust for the benefit of the contributors, as the liquidator with like sanction, shall think fit; Provided, that, no member shall be compelled to accept any shares or other securities whereon there is any liability.

XIII. INDEMNITY

98. Indemnification

Every officer or agent of the Company may be indemnified out of the assets of the Company for any liability incurred by him in defending any proceedings, whether civil or criminal, arising out of his dealings in relation to the affairs of the Company, except those brought by the Company against him, in which judgement is given in his favour or in which he is acquitted, or in connection with any application under Section 488 in which relief is granted him by a court of competent jurisdiction.

XIV. ARBITRATION

99. Differences to be Referred to Arbitrator

Every intra-corporate dispute shall, as a condition precedent to any other action at law be referred, in conformity with the Arbitration Act, 1940, as amended, and its implementing rules, to the decision of an arbitrator to be appointed by the parties in dispute or, if they cannot agree upon a single arbitrator, to the decision of two arbitrators of whom one shall be appointed by each of the parties in dispute, or, in the event of the two arbitrators not agreeing, then of an umpire to be appointed by the two arbitrators, in writing, before proceeding on the reference. Such decision and arbitral award shall be final and binding on the parties. Intra-corporate disputes shall include any dispute that may arise between the Company on the one hand and any of the members, their executors, administrators or assigns on the other hand, or between members, their executors, administrators or assigns, relating to these Articles or the statutes, or anything then or thereafter done, executed, omitted or suffered in pursuance of these Articles or of the statutes or any breach or alleged breach, or otherwise relating to these Articles or to any statute affecting the Company or to any of the affairs of the Company.

the several persons whose names and addresses are subscribed below, are desirous of being formed into a company in pursuance of these Articles of Association and we respectively agree to take the number of shares in the capital of the Company set opposite our respective names.

Name and surname (Present and former) in full (in Block Letters)	Father's/ Husband's Name in Full	Nationality	Occupation	Residential Address in Full	Number of Shares taken by Each Subscriber	Signature
1. Mr. Muhammad Yunis Marwat	Muhammad Khan	Pakistani	WAPDA Service	House No. 109, Shami Road, Peshawar Cantt.	1	
2. Mr. Ata-ur-Rehman Khan	Zia-ur-Rehman Khan	Pakistani	WAPDA Service	53-B, WAPDA Officer's Colony, Upper Mall, Lahore.	1	
3. Mr. Inayat Ullah	Saif Ullah Khan	Pakistani	WAPDA Service	Bungalow No.34-B, WAPDA Colony, Upper Mall, Lahore.	1	
4. Mr. Abdul Wakil Khan Afridi	Haji Nasir Khan Afridi	Pakistani	WAPDA Service	H. No. B-2, 132kV grid station Zero point colony, H-8, Islamabad.	1	
5. Mr. Muhammad Rafique	Abdul Ghani	Pakistani	WAPDA Service	927-Ravi Block, Allama Iqbal Town, Lahore-54570.	1	
6. Mr. Muhammad Ayub Qazi	Qazi Muhammad Shafique	Pakistani	WAPDA Service	Civil Quarters, Kohat Road, Peshawar.	1	
7. Mr. Ahmad Nawaz Mughal	Muhammad Hussain	Pakistani	WAPDA Service	H. No. 106, Block-E, Gulshan-e-Ravi, Lahore.	1	

Total number of shares taken 7 (Seven)

Dated the _____ day of _____.

Witnesses to above signatures

(Full Name, Father's/Husband's Name)

(in Block Letters) _____

Signature _____

Occupation _____

Full Address _____

THE COMPANIES ACT, 2017
THE COMPANIES (GENERAL PROVISIONS AND FORMS) REGULATIONS, 2018 [Section 130(1) and Regulation 4]

ANNUAL RETURN OF COMPANY HAVING SHARE CAPITAL

PART-I

(Please complete in typescript or in bold block capitals.)

- 1.1 CUIIN (Registration Number)

0	0	3	9	0	1	8
---	---	---	---	---	---	---
- 1.2 Name of the Company

Peshawar Electric Supply Company Ltd.
--
- 1.3 Fee Payment Details 1.3.1 Challan No

M-2022-474069

 1.3.2 Amount

1320/-

- 1.4 Form A made up to

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- 1.5 Date of AGM

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PART-II

Section-A

- 2.1 Registered office address

Room No.158 PESCO WAPDA House, Shami Road Peshawar

- 2.2 Email Address:

sec.pesco@gmail.com

- 2.3 Office Tel. No.:

091-9210226

- 2.4 Office Fax No.:

091-9223136

- 2.5 Principal line of business

Sale of Power

- 2.6 Mobile No. of Authorized officer
(Chief Executive/ Director/ Company Secretary/Chief Financial Officer)

Company Secretary PESCO. 0330-9971140
--

- 2.7 **Authorized Share Capital**
- | Classes and kinds of Shares | No. of Shares | Amount | Face Value |
|-----------------------------|---------------|----------------|------------|
| Ordinary Shares | 5,000,000,000 | 50,000,000,000 | 10/- |
| | | | |
| | | | |
- 2.8 **Paid up Share Capital**
- | Classes and kinds of Shares | No. of Shares | Amount | Face Value |
|-----------------------------|---------------|--------|------------|
| Ordinary Shares | 1000 | 10000 | 10/- |
| | | | |
| | | | |
- 2.9 **Particulars of the holding /subsidiary company, if any**
- | Name of company | Holding/Subsidiary | % of shares held |
|-----------------|--------------------|------------------|
| | | |
| | | |

2.10 Chief Executive Officer

Name	Gul Nabi Syed													
Address	PESCO HQ WAPDA House, Peshawar.													
NIC No	1	5	5	0	1	2	2	3	7	3	5	6	3	

2.11 Chief Financial Officer

Name	Yasir Naseem													
Address	PESCO HQ WAPDA Colony, Shami Road, Peshawar													
NIC No	1	3	1	0	1	0	8	7	4	5	5	4	7	

2.12 Secretary

Name	Mr. Arshad Javed													
Address	PESCO HQ WAPDA House, Shami Raod, Peshawar.													
NIC No	3	8	2	0	1	5	3	2	5	0	4	8	7	

2.13 Legal Advisor

Name	Irfan Reayat													
Address	PESCO HQ WAPDA House, Shami Raod, Peshawar.													
NIC No	1	3	1	0	1	8	1	5	4	0	5	8	1	

2.14 Particulars of Auditor(s)

Name	Address
M/s RSM Avas Haider Liaqat Nauman Chartered Accountants)	Suit # 06, 2 nd Floor Cantonment Plaza Fakhre-e-Alam Road, Peshawar Cantt.

2.15 Particulars of Share Registrar (if applicable)

Name	-
Address	-
e-mail	-

Section-B

2.16 List of Directors as on the date annual return is made

#	Name	Residential Address	Nationality	NIC No. (Passport No. if foreigner)	Date of appointment or election
1	Faiz Ullah Khan	House No. 556, St# 17 Sec# E-3 Phase-1 Hayat Abad Peshawar	Pakistani	1 7 3 0 1 - 1 4 5 0 5 5 8 - 5 0 4 1 1 2 2	
2	AZAM KHAN DURRANI	House No. 608, Street No. 2 G 9/2, Islamabad.	Pakistani	1 1 1 0 1 - 1 4 7 2 0 9 5 - 5 0 4 1 1 2 2	
3	MR. MUSHTAQ AHMAD ABBASI	Abubakar Street Sultanpur Havelian Cantt. Abbottabad.	Pakistani	1 3 1 0 1 - 1 2 0 3 9 9 1 - 1 0 4 1 1 2 2	
4	MUHAMMAD NADEEM	Malik House Dalazak Road Muballah Nadeem town Peshawar.	Pakistani	1 7 3 0 1 - 7 1 0 6 1 4 4 - 1 0 4 1 1 2 2	
5	ABDUL HAQ	Nowshera House Kabul River Station Nowshera Kalan, Nowshera	Pakistani	1 7 2 0 1 - 2 3 8 5 6 9 1 - 3 0 4 1 1 2 2	
6	SYED SAMAR SHAH	House No. 1144/77 Muballah Doat Muhammad Kati Khel, Tank	Pakistani	1 2 2 0 1 - 3 5 8 3 3 2 2 - 9 0 4 1 1 2 2	
7	IFTIKHAR AHMAD KHAN	House No. 3, Chinur Road, Muballah University Town, Peshawar.	Pakistani	1 7 3 0 1 - 3 2 8 7 3 6 8 - 9 0 4 1 1 2 2	
8	FARHAN ZAFAR JHAGRA	House No. 8-3 St# 59 Sector F-7/4, Islamabad	Pakistani	1 7 3 0 1 - 8 5 9 6 1 1 8 - 9 0 4 1 1 2 2	
9	MISBAH-UD- DIN	Muballah Mohraand Abad, Landi Arbab Road, Peshawar.	Pakistani	1 7 3 0 1 - 1 6 1 8 1 8 1 - 9 0 4 1 1 2 2	

		Rahim Abad, Charsadda Road, Mardan.	Pakistani	1	6	1	0	1	-	9	2	1	3	5	4	9	-	3	0	4	1	1	2	2
11	Alam Zeb Khan	Ministry of Energy (Power Division) Islamabad	Pakistani	6	1	1	0	1	-	7	7	7	8	8	4	2	-	3	2	0	0	6	2	2
12	Tashfeen Haider	G-31 Old Jumrud Road, University Town, Peshawar.	Pakistani	1	4	3	0	1	-	0	5	9	7	4	8	3	-	1	3	0	0	5	2	2
13	Syed Shahid Raza Zaidi	H.No. 309 St.No.16 Ghauri Town Phase-IV Islamabad.	Pakistani	6	1	1	0	1	-	1	8	8	8	8	2	0	-	5	1	0	0	3	2	1
14	Gul Nabi Syed	WAPDA Colony, PESCO HQ, WAPDA House, Peshawar.	Pakistani	1	5	5	0	1	-	2	2	3	7	3	5	6	-	1	0	6	0	9	2	2

Use separate sheet, if necessary

2.17 List of members & debenture holders on the date upto which this Form is made

S#	Folio #	Name	Address	Nationality	No. of shares held/Debenture	NIC No. (Passport No. if foreigner)																			
Members																									
01	1	Faiz Ullah Khan	House No. 556, St# 17 Sec#E-3 Phase-1 Hayat Abad Peshawar	Pakistani	1	1	7	3	0	1	-	1	4	5	0	5	5	8	-	5					
02	2	IFTIKHAR AHMAD KHAN	House No. 3, Chinar Road, Muhallah University Town, Peshawar.	Pakistani	1	1	7	3	0	1	-	3	2	8	7	3	6	8	-	9					
03	3	MUHAMMAD NADEEM	Malik House Dalazak Road Muhallah Nadeem town Peshawar.	Pakistani	1	1	7	3	0	1	-	7	1	0	6	1	4	4	-	1					
04	4	AZAM KHAN DURRANI	House No. 608, Street No.2 G-9/2, Islamabad.	Pakistani	1	1	1	1	0	1	-	1	4	7	2	0	9	5	-	5					
05	5	MUHAMMAD HAROON KHAN	Rahim Abad, Charsadda Road, Mardan.	Pakistani	1	1	6	1	0	1	-	9	2	1	3	5	4	9	-	3					
06	6	Alam Zeb Khan	Ministry of Energy (Power Division) Islamabad	Pakistani	1	6	1	1	0	1	-	7	7	7	8	8	4	2	-	3					
07	7	Gul Nabi Syed	WAPDA Colony, PESCO HQ, WAPDA House, Peshawar.	Pakistani	1	1	5	5	0	1	-	2	2	3	7	3	5	6	-	1					
		Ministry of Water & Power Islamabad.			993																				
		Total			1000																				
Debenture holders																									

Use separate sheet, if necessary

2.18 Transfer of shares (debentures) since last Form A was made				
S#	Name of Transferor	Name of Transferee	Number of shares transferred	Date of registration of transfer
Members				
01	Amir Zafar	Faiz Ullah Khan	1	04-11-2022
02	Muhammad Mohsin Khan	Iftikhar Ahmad Khan	1	-do-
03	Muhammad Hafeez-ur-Rehman	Muhammad Nadeem	1	-do-
04	Syed Karamat Ali Rizvi	Azam Khan Durrani	1	-do-
05	Dilroze Khan	Muhammad Haroon Khan	1	-do-
06	Arbab Khudadad Khan	Alam Zeb Khan	1	-do-
07	Muhammad Jabbar Khan	Gul Nabi Syed	1	06-09-2022
Debenture holders				

Use separate sheet, if necessary

**PESHAWAR ELECTRIC SUPPLY COMPANY LIMITED
REVIEW REPORT ON STATEMENT OF COMPLIANCE WITH THE PUBLIC
SECTOR COMPANIES (CORPORATE GOVERNANCE) RULES, 2013
FOR THE YEAR ENDED JUNE 30, 2022**

Total consumption increased by 33% as compared to the previous year mainly because of increase in tariff and sale growth. The table below shows the category wise pattern of consumption during the year ended on 30th June, 2022 as compared to the previous year.

(Consumers in "thousand's and Billing in "Million Rs.)

	Consumers	Billing	Consumers	Billing
Domestic	3,546	97,402	3,375	74,681
Commercial	394	30,683	378	23,815
Industrial	28	69,379	28	49,849
Bulk & Other	46	34,244	44	25,927
Agriculture	23	1,470	23	1011
Public lighting	1	415	1	368
Total	4,038	233,592	3,849	175,651

3. FINANCIAL REVIEW

a) Financial Performance/ Profit & Loss FY 2021-22

The company has suffered a net loss of Rs. 102,128 million for the year under consideration as against the loss of Rs. 22,746 million in the previous year. The main reason for excess loss in 2021-22 was the unprecedented increase in Power Purchase Cost due to increase in prices of Furnace Oil together with exchange rate parity, Revised Tariff notified by GoP in February, 2021 and revised PESCO T&D Losses Target to 21.33% from 31.95%. The per unit purchase price for the year 2021-22 was Rs. 17.4 per KWh against Rs. 12.0 per KWh in FY 2020-21.

The tariff differential subsidy worth Rs. 51,390 million (2021: Rs. 61,816 million) is the difference between the tariff determined by NEPRA and the tariff notified by Govt. of Pakistan. Overall, the subsidies of PESCO has been decreased by 17% with respect to the last year, which is due to the revision of rates as determined by NEPRA for FY 2019-20 and notified by GoP.

Number of Consumers has been increased by 5% (2021: 4,038, 2021:3,849) and units sold during the year were 10,355 Kwh at an average rate of Rs. 16.59 per Kwh (2021: 13.91 per Kwh). During the year under consideration, Transmission and Distribution Losses have decreased by 0.7%.

Comparative position of various components of total revenue is given in table below for information:

	MIn Rs	MIn Rs	MIn Rs	Rs/Kwh
Sale of energy	171,782	16.59	133,645	13.91
Tariff Diff Subsidies	51,390	4.96	61,816	6.43
Total Revenue	223,172	21.55	195,461	20.34
Rental & Service Income	49	0.005	59	0.006
Amortized deferred Credits	2,071	0.20	1,852	0.19
Other Income	7,735	0.75	7,744	0.81
Non-Tariff Rev	9,855	0.95	9,655	1.00
Total Revenue	233,027	22.50	205,116	21.35

The account of revenues and comparison of cost components given below would be helpful in better understanding of the financial facts of the company:

	MIn Rs	Rs/Kwh	MIn Rs	Rs/Kwh
Power purchase	292,803	28.28	188,258	19.59
Salaries & wages	23,617	2.28	22,162	2.31
General & Admin Exp	1,517	0.15	1,402	0.15
R&M	1,039	0.10	1,177	0.12
Elec: Bill Collection	215	0.02	235	0.02
Insurance of GS	18	0.00	30	0.00
Bad Debts Provision	8,060	0.78	8,428	0.88
Depreciation	3,709	0.36	3,296	0.34
Financial Charges	1,914	0.18	708	0.07
Provision for Taxation	2,263	0.22	2,166	0.23
Total Cost	335,155	32.37	227,862	23.72

Since the company has a net loss during the Financial Year 2021-22, therefore, tax under Section 113 of the "Ordinance" was applicable on the company's Turnover at the rate of 1.25%.

Thus the resultant profit / (loss) for respective year has emerged as under:

	MIn Rs	MIn Rs
Total Revenue	233,027	205,116
Total Cost	(335,155)	(227,862)
Net Profit/(Loss)	(102,128)	(22,746)

The summarized six years Profit and Loss position is as under:

Sales Revenue	78,472	87,312	107,567	127,504	133,645	171,782
Subsidy from GoP on sale of electricity	31,664	34,745	58,484	73,409	61,816	51,390
Total Revenue	110,136	122,057	166,051	200,914	195,461	223,172
Cost of electricity	(108,053)	(142,942)	(169,014)	(199,594)	(188,258)	(292,803)
Gross profit/ (Loss)	2,083	(20,885)	(2,963)	1,320	7,203	(69,630)
Rental and service income	44	44	46	46	59	49
Amortization of deferred credit	1,291	1,490	1,603	1,708	1,852	2,071
Profit before operating cost	3,418	(19,351)	(1,314)	3,074	9,114	(67,511)
Other operating cost excluding depreciation	(21,449)	(21,360)	(26,448)	(25,651)	(33,434)	(34,466)
Depreciation on property, plant and equipment	(2,293)	(2,644)	(2,871)	(3,026)	(3,296)	(3,709)
	(23,741)	(24,005)	(29,319)	(28,677)	(36,730)	(38,175)
Operating Profit/(Loss)	(20,324)	(43,356)	(30,633)	(25,603)	(27,616)	(105,686)
Other income	4,240	4,952	5,757	13,674	7,744	7,735
Financial expense	(2,461)	(335)	(2,870)	(842)	(708)	(1,914)
Net Loss before taxation	(18,544)	(38,738)	(27,746)	(12,772)	(20,580)	(99,866)
Taxation	(828)	(1,183)	(1,517)	(1,851)	(2,166)	(2,263)
Net loss after taxation	(19,372)	(39,921)	(29,263)	(14,622)	(22,746)	(102,128)

a) Financial Performance/ Balance Sheet FY 2021-22

Equity Injection

Ministry of Energy (Power Division) has issued various directions during FY 2021-22 to book GoP Equity amounting to Rs. 72,676 Million in PESCO books of accounts.

Staff Retirement Benefit

Based on the actuarial valuation results for FY 2021-22, Staff Retirement benefit provision have been increased by 22.26%.

Trade and Other Payables

The significant change in Trade Payables is due to the increase in Payables to CPPA amounting Rs. 24 billion.

Growing Receivables

The continuous accumulation of PESCO's receivables from Govt of Pakistan has remained a major concern for the Company and has had a significant impact on the Company's working capital position. As on 30 June 2022, PESCO's net receivables from Govt of Pakistan in respect of Subsidy stand at around Rs. 42.901 Billion and Receivables from consumers are 171 Billion. On the issue of receivables and payables in relation to government entities, the Company remains in continuous engagements with relevant stakeholders to seeks a fair and amicable resolution, with all settlements whether Federal or Provincial, tabled together under one umbrella.

UPDATE ON TARIFF RELATED MATTERS

While we note that cost of power purchase constitutes over 87.36% of the total cost of PESCO, the Tariff Petition for FY 2018-19 and FY 2019-20 was filed on 30th August, 2019 in light of NEPRA letter No.NEPA/SAT-I/TRF-330/PESCO-2015/9863 dated 3rd June, 2019, wherein, it was intimated that the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (the NEPRA Act) has been amended vide the Regulation of Generation, Transmission and Distribution of Electric Power (Amendment) Act, 2018 (the Amendment Act) and PESCO was required to file separate Tariff Petitions for power supply (sale of electric power) and distribution (all other non-sale elements) with the Authority. NEPRA has issued determination in respect of PESCO request in December, 2020 and the same has been notified by GoP on 12th February, 2021. Moreover, NEPRA issued directions in its determination to PESCO to file Multi Year Tariff Petition for a period of 5 years (FY 2020-21 to FY 2024-25). Accordingly, PESCO filed Multi Year Tariff Petition for FY 2020-21 to FY 2024-25 dated 03-06-2021 and hearing of the same was held on 10-08-2021. NEPRA has issued determination in respect of PESCO request in June, 2022, however the GoP has not notified the same during FY 2021-22. As per Audited Accounts of FY 2021-22 Distribution Margin was not recovered due to the non-notification of Tariff for FY 2021-22 by GoP and the same was recovered on the basis of FY 2019-20 tariff.

RISK MANAGEMENT

The Company is facing challenge of increasing payables because of energy purchased due to unprecedented increase in Power Purchase Cost, Technical & Distribution Losses and low recovery. At operational level, the Company's main concern is to minimize Line Losses, improve recovery against billing and to attain accuracy in the meter reading. The Company is also facing challenges in the areas of credit and liquidity risks in respect of financial risks. The Board is determined to effectively combat these challenges through intensive planning, timely decision-making and strategic load management.

SAFETY MANAGEMENT SYSTEM

Safety Management System has been introduced and the Safety KPIs have been assigned to the employees. The Company has revisited safety procedures and practices for earthing and grounding to make them less prone to theft. In addition, the Company is also undertaking revalidation of earthing and grounding of its network by examining each and every pole with tagging of the same in the system and combing of the feeders is also being carried out to reduce loss. The Company has prepared a robust safety plan, which includes up-gradation of protection system, replacement of bare conductors with ABC, rehabilitation of stolen or damaged grounding on HT and LT network and other related projects along with extensive public awareness campaigns. Safety walks and safety talks are held with pictorial view. Safety Committees are constituted at Circle, Division and Sub Division Level. The committees point out /plug the loop holes in the current safety management system and monitor the safety of line staff and public in the Top Priority. Safety Trainings (formal, informal)/Safety Seminars/ parade are conducted regularly and surprise visits are also conducted by the senior management. Safety Department has been withdrawn from Chief Operation Officer and is reporting to the CEO of the company.

INVESTMENT AND DEVELOPMENT PROGRAM

Aligned with vision to provide uninterrupted power supply along with improved system reliability and service levels, the Company is making continuous investments in capacity addition, technological advancements for improved network performance and safety and protection of its network.

During the year under review, despite the hard financial and liquidity position, the Company has successfully managed to continue investing in expansion and renovation of system through System Augmentation Program (SAP). During the year an amount of Rs. 19,965 million (2021: Rs. 13,997 million) was invested in the system. The net fixed asset base of PESCO has increased from Rs. 59,241 million as on June 30th, 2017 to Rs. 101,917 million as on June 30th, 2022 i.e approximately 72% increase in five years' span.

ERP & BILLING SYSTEM

PESCO was provided computers and Oracle software, for ERP and billing, in the shape of grant by USAID in 2014. Due to sustained efforts of the Board of Directors, the Management has finally operationalized the billing system (IBS provided by PITC)

on the same system and has operationalized the ERP comprising Financial Management, Human Resources and Material Management including Procurement.

ELIMINATION OF OVERBILLING AND RECOVERY OF LEGITIMATE ARREARS

Due to growing concern with regard to accumulation of huge amount of arrears PESCO on the directions of Ministry of Energy (Power Division) duly endorsed by the BoD has planned to start a pilot project for outsourcing of revenue collection.

Further with the help of Provincial Govt Task Force at District and Tehsil level has been established to improve the recovery of legitimate outstanding electricity dues and eliminating the menace of theft of electricity.

It is expected that fruitful results will be achieved in coordination with Provincial Govt.

PERFORMANCE MANAGEMENT SYSTEM:

In order to introduce performance based culture, PESCO has embarked on a journey where a paradigm shift is being brought about the working of the company. To ensure focus and direction "Performance Management System" has been introduced, where the senior management have been given annual targets (KPIs) and their performance is measured against the achievements of targets at the year end. Performance Evaluation Reports have been revised and made quantifiable to bring about a system of transparency, accountability and merit. Performance has been linked to the individual's promotion and the promotion policy has been revised. The new developed system has been broadcasted and communicated throughout the company and the master trainers have been developed who are providing training for better comprehension. The board has also the vision to introduce proper reward and reprimand system in the company to encourage those who perform well and non-performer would be brought to book.

FUTURE OUTLOOK

PESCO is adjusting its long term business plan and strategy to adopt new technology based solution for the long standing issues related to its financial health, customer services and supply of reliable power to its customers. The company is in the process of up-gradation, rehabilitation, extension and renovation of Transmission and Distribution Network i.e Grid Stations, Transmission Lines and Feeders during the year to improve the voltage profile of its system. For FY 2022-23, PESCO has a plan to invest Rs. 11,097 million from its own resources as well as PSDP budget allocated by the GOP to improve its transmission and distribution system to ensure uninterrupted power supply to the consumers. Despite of all the challenges PESCO is being facing i.e T&D loss above NEPRA target, less than 100% Recovery, Severe shortage of staff, geographical issues etc. the Board has a strong belief & confidence to turnaround PESCO into a good performing DISCO. Strategic plan has been drawn which includes;

- Bifurcation and Combing of 11kv feeders
- Area Planning of Overloaded i-e high loss and high voltage drop feeders
- Conversion of LT lines on 130 feeders from Lt bare conductor to ABC for elimination of theft through direct hooks. Furthermore, Asset Performance management system (APMS) will be installed on 100 & 200 KVA transformers in 60 feeders selected for ABC installation.
- Outsourcing revenue collection & bill distribution function through pilot project.
- Conversion of all consumers having load 5KW & above to AMR meters.
- Use of Insulated conductor for transformer jumpering and in narrow streets to ensure safety.
- Up-gradation of PESCO's GIS Infrastructure through deployment of Arc-GIS Enterprise.
- Extension of HT Lines, LT Lines, Distribution Transformers, HT and LT Feeders.
- Creation of Task force and involvement of local administration to reduce losses and improve recovery.
- Installation of Shunt Capacitors.
- Creation of Model Sub-Divisions/Circles to reduce loss and improve recovery
- Revamping of Internal Audit Department to ensure Operating Effectiveness of Internal Controls in accordance with Institute of Internal Audit (IIA) standards.
- Operationalization of Payroll and Pension Payment System
- Optimum use of new Billing and ERP systems to bring efficiency and transparency in PESCO's operations.
- Replacement of Non-Static Energy Meters with Static Energy Meters.
- Bifurcations of circles/divisions/subdivision for better services to consumers.

EARNINGS PER SHARE

The Earnings per Share (EPS) of the company for the year ended on 30th June 2022 has been Rs. (102.13) Million.

PATTERN OF SHARE HOLDING

Out of 1,000 ordinary shares of Rs.10/- each, 993 shares are held in the name of President, Islamic Republic of Pakistan, whereas, 7 shares (@ 1 share each) are in the name of 07 directors nominated by the Ministry of Energy (Power Division).

BOARD OF DIRECTORS

The Ministry of Energy (Power Division) reconstituted the Board vide Notification No.7(1)2018-DISCOs dated 28-12-2020 and No.2(1)2018-DISCOs dated 07-05-2021.

Presently the Company's Board consists of eleven (11) Directors; of which one is an Executive Director with the following detail;

S.No	Name of Directors	Status
01	Amir Zafar	Independent
02	Muhammad Hafeez-ur-Rehman	Independent
03	Syed Karamat Ali Rizvi	Independent
04	Muhammad Mohsin Khan	Independent
05	Dilroze Khan	Independent
06	Sadiq Hussain	Independent
07	Arbab Khudadad Khan	Independent
08	Alam Zeb Khan, Rep: MoE (Power Division)	Non-Executive
09	Syed Shahid Raza Zaidi, Rep: MoF	Non-Executive
10	Tashfeen Haider, Rep: Energy Deptt. KPK	Non-Executive
11	Engr. Gul Nabi Syed	Executive

Note: Mr. Sultan Mazhar Sher resigned from PESCO Board dated 01-08-2021

In line with Public Sector Companies (Corporate Governance) Rules, 2013, the positions of Chairman and Chief Executive Officer are kept separate. The Chairman of the Board is an independent Director. The Board has constituted different Sub-Committees which give their best input and expert opinion on different strategic issues, for final approval by the Board. Detail of the meetings attended by the Board of Directors during FY 2021-22 is as follows;

Meeting detail of the Board during FY 201-22 (Reconstituted and Notified on 28.12.2020):-

Director's Name	Meeting No.	Count
Amlr Zafar	160,161,162,163,164,165,166,167,168,169, 170,171,172,173,174,175,176,177,178	19
Muhammad Hafeez-ur-Rehman	160,161,162,163,164,165,166,167,168,169, 170,171,172,173,174,175,176,177,178	19
Syed Karamat Ali Rizvi	160,161,162,163,164,165,166,167,168,169, 170,171,172,173,174,175,176,177,178	19
Sultan Mazhar Sher	160,162,	02
Muhammad Mohsin Khan	160,161,162,163,164,165,166,167,168,169, 170,171,172,173,174,175,176,177,178	19
Dilroze Khan	160,161,162,163,164,165,166,167,168,169, 170,171,172,173,174,175,176,177,178	19
Sadiq Hussain	160,161,162,163,164,165,166,167,168,169, 170,171,172,173,174,175,176,178	18
Arbab Khudadad Khan	160,161,162,163,164,165,166,167,168,169, 170,171,172,173,174,175,176,177,178	19
Alam Zeb Khan	161,162,163,164,165,166,167,168,169,170, 171,172,173,174	14
Hasan Raza Saeed	175,176,177,178	04
Syed Shahid Raza Zaidi	161,162,163,165,166,167,168,169,170,171,1 73,174,175,176,177,178	16
Zafar-ul-Islam	160,161,162,163,164,165,166,167,168,169,1 70,171,172,173,174,175	16
Sami Ulah	177,178	02
Tashfeen Haider		00
Muhammad Jabbar Khan	160,161,162,163,164,166,169,171,172,173,1 74,175,176,177,178	15

There are seven committees of the present Board of Directors PESCO. Detail of meetings held during the year is given as under.

Audit & Legal Committee	06
Technical Up-Gradation, Automation & Special Projects Committee	07
Finance, Procurement & Risk Management Committee	05
HR & Nomination Committee	09
Policy, Strategy & Market Reforms Committee	04
Marketing & Customer Services Committee	00
Health Safety Environment & Quality Assurance Committee	03

Remuneration

Board of Directors have a formal policy and transparent procedure for remuneration of Directors in accordance with Companies Act, 2017 and Code of Corporate Governance (CCG). Details of aggregate amount of remuneration are available in Note 30 of the Financial Statements. An amount of Rs. 60,000/- (Rs. 48,000 net of Taxes) is paid for attending BoD meetings and Committee meetings to each member. Moreover, reimbursement is made regarding expenditure on account of travelling, boarding and lodging.

CORPORATE GOVERNANCE & COMPLIANCE WITH COMPANIES ACT

The Board of Directors hereby declares that for the year ended June 30, 2022:

The financial statements give true and fair view of the state of the company's affairs as at June 30, 2022 and of the loss, its comprehensive loss, its cash flows and changes in equity for the year as stated in the Auditors' Report.

The Board of Directors has complied with relevant principles of Corporate Governance, and has identified the rules, if any, have not been complied along with the reason for such noncompliance in the Statement of Compliance.

Appropriate accounting policies have been consistently applied in preparation of financial statements and accounting estimates are based on reasonable and prudent judgment.

Proper Books of Accounts of the company have been maintained.

System of internal controls is regularly monitored by the Audit & Legal Committee and reported to the Board of Directors, to ensure compliance with the fundamental principles of probity and propriety, objectivity, integrity and honesty in the manner prescribed in the rules.

The principal activities and the development and performance of the Company's business during the financial year are covered in preceding pages of this Directors' Report.

No change occurred during the financial year concerning the nature of the business of the Company or of its subsidiaries, or any other company in which the Company has interest.

There has been no material departure from the best practices of Corporate Governance as detailed in Code of Corporate Governance.

International Accounting Standards, as applicable in Pakistan, have been followed in the preparation of Financial Statements.

The main trends and factors likely to affect the future development, performance and position of the company's business are described under "Future Outlook".

The details of contingencies and commitments are available under Note 14 and 20.2 of the Financial Statements.

Key Operational and Financial data of the last six years in summarized form is a part of this Directors' Report.

The company is not operating Employee's Retirement Fund Bank Account due to losses.

All statutory payments on account of taxes, duties, levies and charges in the normal course of business, payable as on June 30, 2022, have been cleared subsequent to the year end.

As at June 30, 2022 the principal and markup due has aggregated to Rs. 10,011 million and Rs. 3,179 million against GOP, ADB and PSDP loans mentioned in Note 07 and 13 due to non-finalization of Repayment Schedule.

The Auditors Report to the Shareholders for the financial year ended 30.06.2022 is qualified on account of non-recording of supplemental charges and reproduced as under:

"The Company has not recorded supplemental charges since 2010 being charged Central Power Purchasing Agency (CPPA) which are delayed payment charges of Independent Power Producers (IPPs). In our view, had these charges been recorded, trade and other payables and negative equity would have been higher by Rs. 99.556 billion (2021: Rs. 76.369) and loss for the year would have been higher by Rs. 23.187 billion (2021: Rs. 17.006 billion)".

These supplemental charges are delayed payment charges for Power Producers and PESCO has taken up the said matter with NEPRA who have not allowed the same to PESCO, rather asked PESCO to adjust the same against the late payment charges received from consumers. Considering the quantum of supplemental charges, these cannot be adjusted against late payment charges received from consumers being on lower side, therefore, this matter has been taken up with NEPRA. However, NEPRA has not allowed the same to PESCO and has directed CPPA to file separate petition regarding supplemental charges of the whole system.

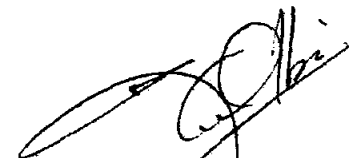
Further, as explained in note 1.2 of the financial statements, the auditors have reported material uncertainties relating to going concern. The Company has prepared the financial statements on going concern basis as the Company has managed to

continue its operations due to continuous support from GoP. The management is of the view that support is likely to be continued in future, therefore, these financial statements have not been adjusted under the "Going Concern Assumption".

Financial statements shows PKR. 44,916 million (2020: PKR. 42,817 million) as receivable from TESCO. Management believes that since TESCO is a Government entity there is no likelihood of default by TESCO in paying its dues and is confident of recovering the debts; and Company has not yet issued shares equivalent to share deposit money of PKR. 18.082 billion.


ACKNOWLEDGEMENT

The Directors wish to praise all the Management, Executive Officers, Finance, Administrative and Technical staff members for their contribution and dedication for the smooth running of the Company's Operations.




Engr. Gul Nabi Syed
Chief Executive Officer
PESCO

For and on behalf of
The Board of Directors



(Amir Zafar)
Chairman, BoD, PESCO.

Certified copy



Company Secretary
PESCO

PROFILE OF PESCO SENIOR MANAGEMENT

Sr.#	Name	BPS	Qualification	Date of join-Wapda	Designation
1	Arif Mahmood Sadozai	20	B.E (E)	5/11/1992	Chief Executive Officer
2	Fazli Rabbi	20	M.Sc (E)	4/15/1990	Chief Engineer Technical
3	Gul Nabi Syed	20	M.Sc (E)MBA	4/14/1990	Chief Engineer
4	Sami Ullah Bangash	20	B.Sc. (E)	1/30/1990	Chief Engineer P&E
5	Muhammad Arif	20	B.Sc (E)	4/15/1990	Chief Engineer O&M(Dist)
6	Tahir Moeen	20	M.Sc (E)	3/16/1990	Chief Commercial Officer
7	Muhammad Imran	20	M.Sc/MBA	7/9/1990	Director General HR
8	Muhammad Zubair	20	M.A	7/17/1989	Director General Admin
9	Atif Jawad	20	MS (Mgt:) MBA	2/21/2006	Director General MIRAD
10	Yasir Naseem	20	FCMA	1/29/2011	Dy.GM Finance
11	Altaf Hussain	20	M.Sc (Math)	7/17/1989	Director General MM
12	Muhammad Aslam	20 (upgraded)	B.E. (Electronics)	8/20/1988	Project Director GSC
13	Muhammad Zubair	20 (upgraded)	B.Sc. (E)	5/5/1991	Chief Operation Officer
14	Akhtar Hamid Khan	20 (upgraded)	M.Sc (E)	5/11/1992	Chief Engineer PMU
15	Asif Jan Marwat	20 (upgraded)	B.Sc. (Eng)	9/3/1999	Manager Operation Mardan
16	Gohar Rehman Bangash	20 (upgraded)	B.Sc (E)	5/11/1992	Manager Operation Khyber Circle
17	Habib ur Rehman	20 (upgraded)	B.Sc. (E)	9/14/1999	Manager Operation Peshawar Circle
18	Nadir Zaman Kundi	20 (upgraded)	B.Sc. (E)	5/4/1993	Manager D.I. Khan Circle
19	Sardar Sajid Nawaz	20 (upgraded)	B.Sc (E)	5/11/1993	Chief Engineer O&M(T&G)
20	Shaukat Ullah	20 (upgraded)	B.Sc (E)	5/16/1993	Manager Operation Hazara-1 Circle
21	Irshad Ali	19	MSc MCS	7/26/1990	Manager MIS
22	Sajjad Islam	MP	CMA, ACCA, MBA (Finance)	3/22/2022	Head Internal Audit
23	Irfan Riayat	MP	LLM	6/16/2021	Chief Law Officer

PESHAWAR ELECTRIC SUPPLY COMPANY LIMITED

FINANCIAL STATEMENTS

FOR THE YEAR ENDED JUNE 30, 2022

certified copy

RSM

RSM Awaiz Hyder Liaquat Nauman
Chartered Accountants

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Company Secretary
PESCO

INDEPENDENT AUDITOR'S REPORT

To the Members of Peshawar Electric Supply Company Limited

Report on the Audit of the Financial Statements

Qualified Opinion

We have audited the annexed financial statements of Peshawar Electric Supply Company Limited (the Company), which comprise the statement of financial position as at June 30, 2022, and the statement of profit or loss, the statement of comprehensive income, the statement of changes in equity, the statement of cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies and other explanatory information, and we state that except as described in the *Basis for Qualified Opinion* section below, we have obtained all the information and explanations which, to the best of our knowledge and belief, were necessary for the purposes of the audit.

In our opinion and to the best of our information and according to the explanations given to us, except for the possible effects of the matter described in the *Basis for Qualified Opinion* section of our report, the statement of financial position, the statement of profit or loss, the statement of comprehensive income, the statement of changes in equity and the statement of cash flows together with the notes forming part thereof conform with the accounting and reporting standards as applicable in Pakistan and give the information required by the Companies Act, 2017 (XIX of 2017), in the manner so required and respectively give a true and fair view of the state of the Company's affairs as at June 30, 2022 and of the loss and other comprehensive loss, the changes in equity and its cash flows for the year then ended.

Basis for Qualified Opinion

The Company has not recorded supplemental charges since 2010 being charged by Central Power Purchasing Agency (CPPA) which are delayed payment charges of Independent Power Producers (IPPs). In our view, had these charges been recorded, trade and other payables and negative equity would have been higher by Rs. 99.556 billion (2021: Rs. 76.369 billion) and loss for the year would have been higher by Rs. 23.187 billion (2021: Rs. 17.006 billion).

We conducted our audit in accordance with International Standards on Auditing (ISAs) as applicable in Pakistan. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the Company in accordance with the International Ethics Standards Board for Accountants' Code of Ethics for Professional Accountants as adopted by the Institute of Chartered Accountants of Pakistan (the Code) and we have fulfilled our other ethical responsibilities in accordance with the Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our qualified opinion.

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Lahore : 92 (42) 35872731-3
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Faisalabad : 92 (41) 854 1165/854 1985
Islamabad : 92 (51) 2340490
Rawalpindi : 92 (51) 5193135
Quetta : 92 (81) 282 9809
Kabul : 93 (790) 058155

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Material Uncertainty relating to Going Concern

Without further qualifying our opinion, we draw attention to note 1.2 to the accompanying financial statements, which shows that the Company has suffered a net loss of Rs. 120.918 billion (2021: Rs. 29.252 billion) for the year ended June 30, 2022 and at that date, the accumulated losses were Rs. 452.222 billion (2021: Rs. 331.304 billion). Similarly, the current liabilities exceed the current assets by Rs. 231.327 billion (2021: Rs. 196.053 billion) as at the year end. These conditions, along with other matters as set forth in note 1.2 to the financial statements indicate the existence of material uncertainty that cast significant doubt about the Company's ability to continue as a going concern. However, the financial statements have been prepared on going concern basis as the Company has managed to continue its operation due to continuous support from Government of Pakistan in the foreseeable future.

Emphasis of Matters

We draw attention to:

- a) note 20.2 to the accompanying financial statements, which described various matters regarding tax contingencies, the ultimate outcome of which cannot be presently determined, hence pending the resolution thereof, no provision for the same has been made in the accompanying financial statements;
- b) note 20.1 to the accompanying financial statements which shows Rs. 44.916 billion (2021: Rs. 42.817 billion) as receivable from Tribal Electric Supply Company (TESCO). Management believes that since TESCO is government owned entity there is no likelihood of default by TESCO in paying its liabilities and PESCO is confident of recovering the debts; and
- c) note 6.11 to the accompanying financial statements which explain that the Company has not yet issued shares of Rs. 18.082 billion (2021: Rs. 18.082 billion) to WAPDA.

Our opinion is not modified in respect of these matters.

Information Other than the Financial Statements and Auditor's Report Thereon

Management is responsible for the other information. The other information comprises the information included in the directors' report, but does not include the financial statements and our auditor's report thereon.

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We draw attention to the matter described in the *Basis for Qualified opinion* section above. Accordingly, we are unable to conclude whether or not the other information is materially misstated with respect to this matter.

RSM

Responsibilities of Management and Board of Directors for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with the accounting and reporting standards as applicable in Pakistan and the requirements of Companies Act, 2017(XIX of 2017) and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

Board of directors are responsible for overseeing the Company's financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs as applicable in Pakistan will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with ISAs as applicable in Pakistan, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company to cease to continue as a going concern.

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- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with the board of directors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Report on Other Legal and Regulatory Requirements

Based on our audit, we further report that in our opinion:

- a) Except for the possible effects of the matter described in the *Basis for Qualified Opinion* section of our report, proper books of account have been kept by the Company as required by the Companies Act, 2017 (XIX of 2017);
- b) Except for the possible effects of the matter described in the *Basis for Qualified Opinion* section of our report, the statement of financial position, the statement of profit or loss, the statement of comprehensive income, statement of changes in equity and the statement of cash flows together with the notes thereon have been drawn up in conformity with the Companies Act, 2017 (XIX of 2017) and are in agreement with the books of account and returns;
- c) Except for the possible effects of the matter described in the *Basis for Qualified Opinion* section of our report, investments made, expenditure incurred and guarantees extended during the year were for the purpose of the Company's business; and
- d) No Zakat was deductible at source under the Zakat and Ushr Ordinance, 1980 (XVIII of 1980).

Other Matter

The financial statements for the year ended June 30, 2021 were audited by another firm of Chartered Accountants who expressed a qualified opinion on those financial statements dated November 05, 2021.

The engagement partner on the audit resulting in this independent auditor's report is Muhammad Arif Saeed.


RSM AVAIS HYDER LIAQUAT NAUMAN
CHARTERED ACCOUNTANTS

Place: Peshawar
Date: November 16, 2022
UDIN: AR20221051341c8Rzike

PESHAWAR ELECTRIC SUPPLY COMPANY LIMITED
STATEMENT OF FINANCIAL POSITION
AS AT JUNE 30, 2022

	Note	2022 Rupees	2021 Rupees
EQUITY AND LIABILITIES			
Share capital and reserves			
Authorized share capital: 5,000,000,000 (2021: 5,000,000,000) ordinary shares of Rupees 10 each		50,000,000,000	50,000,000,000
Issued, subscribed and paid up share capital	5	10,000	10,000
Deposits for issue of share capital	6	92,855,405,071	20,176,265,375
Accumulated losses		(452,222,342,089)	(331,304,484,837)
TOTAL EQUITY		(359,366,927,028)	(311,128,209,262)
Non-current liabilities			
Liabilities against government investment	7	50,187,189,539	50,187,189,539
Long term loans - secured	8	7,867,513,425	6,555,331,205
Staff retirement benefits	9	126,421,111,801	103,404,478,886
Deferred credit	10	39,221,980,766	35,052,284,971
Consumers' security deposits	11	6,260,816,713	5,546,066,824
		229,958,612,044	200,745,351,525
Current liabilities			
Trade and other payables	12	462,689,582,387	434,248,163,312
Accrued markup	13	3,178,873,917	2,482,411,872
Current maturity of long term loans	8	2,143,075,981	1,862,381,843
Provision for taxation	29	2,257,808,735	2,139,934,147
		470,269,341,020	440,732,891,174
TOTAL LIABILITIES		700,227,953,064	641,478,242,699
Contingencies and commitments			
	14	-	-
		340,861,026,036	330,350,033,437
ASSETS			
Non-current assets			
Property, plant and equipment	15	101,917,287,124	85,661,993,782
Long term loans - considered good	16	1,786,049	8,198,200
		101,919,073,173	85,670,191,982
Current assets			
Stores, spare parts and loose tools	17	9,580,113,785	4,893,824,440
Trade debts	18	78,977,481,839	70,447,801,109
Loans and advances - considered good	19	2,496,250,975	2,238,054,612
Other receivables - considered good	20	95,734,896,215	89,920,320,379
Receivable from Government of Pakistan (Ministry of Finance)	21	42,901,199,260	63,704,244,859
Cash and bank balances	22	9,252,011,789	13,475,596,076
		238,941,952,863	244,679,841,475
TOTAL ASSETS		340,861,026,036	330,350,033,437

The annexed notes form an integral part of these financial statements.

CHIEF EXECUTIVE OFFICER

DIRECTOR

PESHAWAR ELECTRIC SUPPLY COMPANY LIMITED
STATEMENT OF PROFIT OR LOSS
FOR THE YEAR ENDED JUNE 30, 2022

	Note	2022 Rupees	2021 Rupees
Sale of electricity	23	171,781,726,839	133,845,192,581
Subsidy from Government of Pakistan on sale of electricity		51,380,432,017	61,816,100,660
		223,172,158,856	195,461,293,241
Cost of electricity	24	(292,802,591,808)	(188,257,812,829)
Gross (loss) / profit		(69,630,432,952)	7,203,680,412
Amortization of deferred credit	10	2,070,881,984	1,852,461,762
		(67,559,550,968)	9,056,142,174
Operating cost			
Other operating cost excluding depreciation	25	(34,465,916,868)	(33,434,069,418)
Depreciation on property, plant and equipment	15.1	(3,709,338,188)	(3,295,858,682)
		(38,175,254,855)	(36,729,918,100)
Operating loss		(105,734,805,823)	(27,673,775,926)
Other income			
Rental and service income	26	48,903,377	59,171,198
Other income	27	7,734,853,804	7,743,628,970
		7,783,756,981	7,802,800,168
Financial cost	28	(1,914,485,107)	(708,342,159)
Loss before taxation		(99,865,533,948)	(20,579,317,917)
Taxation	29	(2,262,666,777)	(2,166,299,737)
Loss for the year		(102,128,200,726)	(22,745,617,654)

The annexed notes form an integral part of these financial statements.


CHIEF EXECUTIVE OFFICER


DIRECTOR

PESHAWAR ELECTRIC SUPPLY COMPANY LIMITED
STATEMENT OF COMPREHENSIVE INCOME
FOR THE YEAR ENDED JUNE 30, 2022

	2022 Rupees	2021 Rupees
Loss for the year	(102,128,200,728)	(22,745,617,654)
Other comprehensive income / (loss):		
Items that will not be reclassified to profit or loss		
Actuarial loss on remeasurement of post retirement benefits	(18,789,666,736)	(6,506,565,669)
Total comprehensive loss for the year	<u>(120,917,857,462)</u>	<u>(29,252,183,323)</u>

The annexed notes form an integral part of these financial statements

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CHIEF EXECUTIVE OFFICER


DIRECTOR

PESHAWAR ELECTRIC SUPPLY COMPANY LIMITED
STATEMENT OF CHANGES IN EQUITY
FOR THE YEAR ENDED JUNE 30, 2022

	Issued, subscribed and paid up share capital	Deposit for issue of shares	Accumulated loss	TOTAL
	RUPEES			
Balance as at July 01, 2020	10,000	20,176,265,375	(302,052,301,314)	(281,876,025,939)
Total comprehensive loss for the year	-	-	(29,252,183,323)	(29,252,183,323)
Balance as at June 30, 2021	10,000	20,176,265,375	(331,304,484,637)	(311,128,209,262)
Total comprehensive loss for the year	-	-	(120,917,857,482)	(120,917,857,482)
Equity injection against mark-up	-	879,673,400	-	879,673,400
Equity injection against receivables	-	71,799,466,296	-	71,799,466,296
Balance as at June 30, 2022	10,000	92,855,405,071	(452,222,342,099)	(359,366,927,028)

The annexed notes form an integral part of these financial statements.

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CHIEF EXECUTIVE OFFICER


DIRECTOR

PESHAWAR ELECTRIC SUPPLY COMPANY LIMITED
STATEMENT OF CASH FLOWS
FOR THE YEAR ENDED JUNE 30, 2022

	Note	2022 Rupees	2021 Rupees
CASH FLOWS FROM OPERATING ACTIVITIES			
Loss before taxation		(99,865,533,949)	(20,579,317,917)
Adjustments for non-cash charges and other items:			
Depreciation	15.1	3,709,338,186	3,295,858,682
Provision for staff retirement benefits		11,005,794,140	11,382,066,240
Provision for doubtful debts		8,060,100,946	8,427,867,283
Profit on bank deposits		(971,445,234)	(638,178,037)
Amortization of deferred credit		(2,070,881,984)	(1,852,481,762)
Exchange difference - net		-	(48,111,794)
Financial charges		1,914,485,107	708,342,159
		<u>21,647,391,161</u>	<u>21,275,382,771</u>
Operating (deficit) / profit before working capital changes		(78,218,142,788)	696,064,854
(Increase) / decrease in current assets:			
Stores, spare parts and loose tools		(4,686,289,345)	461,130,702
Trade debts		(16,589,781,678)	(7,426,910,693)
Loans and advances - considered good		(258,196,363)	(20,619,607)
Other receivables - considered good		(5,814,574,836)	(2,139,319,321)
Receivable from Government of Pakistan (Ministry of Finance)		20,803,045,599	(717,302,728)
		<u>(6,545,796,621)</u>	<u>(9,843,021,647)</u>
Increase in current liabilities		29,536,449,846	27,407,203,936
Cash (used in) / generated from operations		<u>(55,227,489,563)</u>	<u>16,280,247,143</u>
Staff retirement benefits paid		(6,778,818,161)	(6,657,863,688)
Tax paid		(2,262,666,777)	(2,039,798,379)
Financial charges paid		(1,914,485,107)	(4,680,702)
		<u>(10,955,970,045)</u>	<u>(8,702,342,769)</u>
Net cash (used in) / generated from operating activities		<u>(66,183,459,608)</u>	<u>9,557,904,374</u>
CASH FLOWS FROM INVESTING ACTIVITIES			
Capital expenditure incurred during the year		(19,964,631,548)	(13,938,031,151)
Profit received on bank deposits		971,445,234	638,178,037
Proceeds from customers in deferred credit		6,240,577,779	4,129,678,113
Long term loans disbursed during the year		6,412,151	(10,839,170)
Net cash used in investing activities		<u>(12,746,196,384)</u>	<u>(9,181,014,171)</u>
CASH FLOWS FROM FINANCING ACTIVITIES			
Long term loans obtained		1,312,182,220	1,568,179,303
Consumers' security deposits		714,749,789	643,017,223
Proceeds from GoP investment against circular debt		72,679,139,696	-
Net cash generated from financing activities		<u>74,706,071,705</u>	<u>2,211,196,526</u>
Net (decrease) / increase in cash and cash equivalents		(4,223,584,287)	2,588,086,729
Cash and cash equivalents at beginning of the year		13,475,596,076	10,887,508,347
Cash and cash equivalents at end of the year	22	<u>9,252,011,789</u>	<u>13,475,596,076</u>

The annexed notes form an integral part of these financial statements.

CHIEF EXECUTIVE OFFICER

DIRECTOR

PESHAWAR ELECTRIC SUPPLY COMPANY LIMITED
NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED JUNE 30, 2022

1 STATUS AND ACTIVITIES

- 1.1 Peshawar Electric Supply Company Limited (PESCO) ("the Company") is a public limited company incorporated under the repealed Companies Ordinance, 1984 (now Companies Act, 2017), having its registered office situated at WAPDA House, Lahore. The company was incorporated on April 23, 1998 to acquire/takeover all the properties, rights, assets, obligations and liabilities of Peshawar Area Electricity Board owned by Pakistan Water and Power Development Authority (WAPDA) and such other assets and liabilities as agreed. The company commenced commercial operation w.e.f. July 01, 1998. The principal activity of the company is the distribution and supply of electricity within its defined geographical boundaries. National Electric Power Regulatory Authority (NEPRA) has granted Distribution License to the company for electricity distribution. Government of Pakistan has notified the tariff determined by NEPRA for Peshawar Electric Supply Company Limited (PESCO). It currently purchases electricity through Central Power Purchasing Agency (CPPA) which is an associated undertaking of the Company.
- 1.2 The company has suffered a net loss of PKR. 120,918 million (2021: Rs. 29,252 million) for the year ended June 30, 2022 during the year under reference which has increased the accumulated losses to Rs. 452,222 million (2021: Rs. 331,304 million). Moreover, the current liabilities exceed current assets by an amount of Rs. 231,327 million (2021: Rs. 196,053 million). These factors indicate the existence of a material uncertainty, which may cast significant doubts on the company's ability to continue as a going concern. However, these financial statements have been prepared on going concern basis on the rational assumption that the losses due to shortfall in tariff and distribution losses will be made through Government subsidies. Further the company has initiated the programs and actions for reduction of distribution losses and recovery of receivables from consumers and associated undertakings.

2 BASIS OF PREPARATION

2.1 Statement of compliance

These financial statements have been prepared in accordance with the accounting and reporting standards as applicable in Pakistan. The accounting and reporting standards applicable in Pakistan comprise of:

- International Financial Reporting Standards (IFRS Standards) issued by the International Accounting Standards Board (IASB) as notified under the Companies Act, 2017; and
- Provisions of and directives issued under the Companies Act, 2017

Where provisions of and directives issued under the Companies Act, 2017 differ from the IFRS Standards, the provisions of and directives issued under the Companies Act, 2017 have been followed.

2.2 Application of new and revised International Financial Reporting Standards (IFRSs)

2.2.1 Standards, amendments to standards and interpretations becoming effective in current year

The following standards, amendments to standards and interpretations have been effective and are mandatory for financial statements of the Company for the periods beginning on or after July 01, 2021 and therefore, have been applied in preparing these financial statements:

IAS / IFRS	Description
IFRS 4	Insurance Contracts
IFRS 7	Financial Instruments: Disclosures
IFRS 9	Financial Instruments
IFRS 16	Leases
IAS 39	Financial Instruments: Recognition and Measurement

The IASB has published 'Interest Rate Benchmark Reform — Phase 2 with amendments that address issues that might affect financial reporting after the reform of an interest rate benchmark, including its replacement with alternative benchmark rates.

The IASB has published 'Covid-19 - Related Rent Concessions beyond 30 June 2021 (Amendment to IFRS 16)' that extends, by one year, the May 2020 amendment that provides lessees with an exemption from assessing whether a COVID-19-related rent concession is a lease modification.

The adoption of the above amendments to accounting standards and revised Conceptual Framework did not have any material effect on the Company's financial statements.

2.2.2 Standards, amendments to standards and interpretations becoming effective in current year but not relevant.

There are certain new standards, amendments to standards and interpretations that became effective during the year and are mandatory for accounting periods of the Company beginning on or after July 01, 2021 but are considered not to be relevant to the Company's operations and are, therefore, not disclosed in these financial statements.

2.2.3 Standards, amendments to standards and interpretations becoming effective in future periods

The following standards, amendments to standards and interpretations have been published and are mandatory for the Company's accounting periods beginning on or after their respective effective dates:

IAS / IFRS		Effective date (annual periods beginning on or after)
IFRS 3	Reference to the Conceptual Framework (Amendments)	01 January, 2022
IAS 1	Classification of Liabilities as Current or Non-current (Amendments)	01 January, 2022 *
IAS 16	Proceeds before Intended Use (Amendments)	01 January, 2022
IAS 37	Onerous Contracts - Costs of Fulfilling a Contract (Amendments)	01 January, 2022
IFRS 10 / IAS 28	Sale or Contribution of Assets between an Investor and its Associate or Joint Venture (Amendments)	Not yet finalized

* The IASB has issued an exposure draft proposing to defer the effective date of the Amendments to IAS 1 to 01 January 2023.

2.2.4 Improvements to accounting standards issued by the IASB (2018-2020 cycle)

Standard or Interpretation

IAS / IFRS		Effective date (annual periods beginning on or after)
IFRS 9	Financial instruments - fees in the '10 percent' test for derecognition of financial liabilities	01 January, 2022
IAS 41	Agriculture - Taxation in fair value measurements	01 January, 2022

Further, the following new standards have been issued by IASB which are yet to be notified by the SECP for the purpose of applicability in Pakistan.

Standard or Interpretation

IAS 1	Presentation of Financial Statements	01 January, 2023
IAS 8	Accounting Policies, Changes in Accounting Estimates and Errors	01 January, 2023
IAS 12	Income Taxes	01 January, 2023
IAS 16	Property, Plant and Equipment	01 January, 2022
IAS 37	Provisions, Contingent Liabilities and Contingent Assets	01 January, 2022

2.2.5 Standards, amendments to standards and interpretations becoming effective in future period but not relevant.

There are certain new standards, amendments to standards and interpretations that are effective from different future periods but are considered not to be relevant to the Company's operations, therefore, not disclosed in these financial statements.

2.3 Basis of measurement

These financial statements have been prepared under the historical convention except for the staff retirement benefits which are carried at present value in accordance with the requirement of IAS-19, "Employee Benefits".

2.4 Functional and presentation currency

The financial statements are prepared in Pakistani Rupees which is the Company's functional and presentation currency. All functional information presented in Pakistani Rupees has been rounded to the nearest rupee unless otherwise stated.

2.5 Significant accounting estimates and judgments

The preparation of financial statements in conformity with approved accounting standards requires the use of certain critical accounting estimates. It also requires management to make judgment, estimates and assumption that affect the application of policies and reported amounts of assets and liabilities, income and expenses. Estimates and associated assumptions are based on historical experience and other factors that are believed to be reasonable under the circumstances, the result of which form the basis of making the judgment about carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates. The estimates and underlying assumption are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised if the revision affects only that period or in the period of revision and future periods if affects both current and future periods. Judgments made by the management in application of approved accounting standards that have significant effect on the financial statements and estimates with a significant risk of material adjustment in the next year are discussed in ensuring paragraphs.

2.5.1 Property, plant and equipment

The company reviews the useful lives and residual values of property, plant and equipment on a regular basis. Any change in estimates in future years might affect the carrying amounts of the respective items of property, plant and equipments with a corresponding effect on the depreciation charge and amortization of deferred credit.

2.5.2 Provision for inventory obsolescence and doubtful receivables

The Company reviews the carrying amount of stores and spares on a regular basis and provision is made for obsolescence if there is any change in usage pattern and physical form of related stores and spares. Further the carrying amounts of trade and other receivables are assessed on a regular basis and if there is any doubt about the reliability of these receivables, appropriate amount of provision is made.

2.5.3 Staff retirement benefits

Retirement benefits are provided to regular employees of the Company. Calculation of provision for staff retirement benefits require assumptions to be made of the future outcomes, the principle ones being in respect of increase in remuneration, discount rates and inflation rate used to convert future cash flows to current values. Calculations are sensitive to changes in the underlying assumptions.

2.5.4 Taxation

The Company takes into account the current income tax laws and decisions taken by the taxation authorities. Instances where the Company's views differ from the views taken by the income tax department at the assessment stage and where the Company considers that its view on items of material nature is in accordance with law, the amounts are shown as contingent liabilities.

2.5.5 Contingencies

The Company reviews the status of all the legal cases on a regular basis. Based on the expected outcomes and lawyers' judgment, appropriate disclosure or provision is made.

2.5.6 Impairment

The carrying amounts of the Company's assets are reviewed at each reporting date to determine whether there is any indication of impairment. If such indication exists the assets recoverable amount is estimated. Impairment recognized wherever the carrying amount of the asset exceeds its recoverable amount. Impairment losses are charged to statement of comprehensive income current year.

3 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The accounting policies set below have been applied consistently to all periods presented in these financial statements.

3.1 Staff retirement benefits

The Company provides pension, post retirement medical, free electricity benefits and compensated absences to all its regular employees. These are unfunded defined benefit plans, liabilities for these benefits are determined on the basis of actuarial valuation carried out by using the Projected Unit Credit Method. The amounts recognized in Statement of financial position represent the present value of defined benefit obligations as adjusted for unrecognized actuarial gains and losses.

All actuarial gains and losses are recognized in 'other comprehensive income' as they occur.

For General Provident Fund and WAPDA welfare Fund, the company makes deductions from salaries of employees and remits the same to the funds established by WAPDA.

3.2 Deferred credit

Amount received from consumers and the government as contribution towards the cost of extension of distribution network and of providing service connections are deferred for amortization over the useful lives of related assets. Amortization and depreciation for the year are included in statement of profit or loss.

3.3 Trade and other payables

Trade and other payables are obligations to pay for goods and services that have been acquired in the ordinary course of business from suppliers. Accounts payable are classified as current liabilities if payment is due within one year. If not, they are presented as non-current liabilities. Liabilities for trade and other amounts payable are carried at cost which is the fair value of the consideration to be paid in the future for goods and services received, whether or not billed to the Company and subsequently measured at amortised cost. Exchange gains and losses arising on transaction in respect of liabilities in foreign currency are added to the carrying amount of the respective liabilities.

3.4 Mark-up bearing borrowings

Mark-up bearing borrowings are recognized initially at cost, less attributable transaction cost. Subsequent to initial recognition, mark-up bearing borrowings are stated at original cost less subsequent repayments, while the difference between the original recognized amounts (as reduced by periodic payments) and redemption value is recognized in the Statement of profit or loss and other comprehensive income account over the period of borrowing on effective rate basis. The borrowing cost on qualifying asset is included in the cost of related asset.

3.5 Borrowing cost

Borrowing costs are charged to income as and when incurred except costs that are directly attributable to acquisition, construction or production of qualifying assets that are capitalized as part of the cost of assets.

3.6 Taxation

Income tax expense comprises current and deferred tax. Tax expense is recognized in profit or loss except to the extent that relates to items recognized directly in equity, in which case it is recognized in equity.

Current

Provision for current taxation is based on taxable income at the current rate of taxation after taking into account tax credits and tax rebates, if any.

Deferred

Deferred tax is accounted for using the balance sheet method, providing for temporary differences between the carrying value of assets and liabilities for financial reporting purposes and the amount used for taxation purposes. Deferred tax is measured at the tax rates that are expected to be applied to temporary differences when they reverse, based on the laws that have been enacted or substantively enacted at the reporting date.

Deferred tax is recognized on all major temporary differences. Deferred tax assets recognized to the extent that it is probable that future taxable profits will be available against which the temporary difference, unused tax losses and tax credits can be utilized. Deferred tax are reviewed at each reporting date and are reduced to the extent that it is no longer probable that the relaxed tax benefit will be realized.

Deferred tax assets and liabilities are offset if there is a legally enforceable right to offset current tax liabilities and assets, and they relate to income taxes levied by the same tax authority on the same taxable entity, or on different tax entities, but they intend to settle current tax liabilities and assets on the net basis or their tax assets and liabilities will be realized simultaneously.

3.7 Provision

Provisions are recognized in the statement of financial position when the company has legal or constructive obligation as a result of past event and it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of obligation. Provisions are measured at the present value of expected expenditure, discounted at a pre tax rate that reflects current market assessment of the time value of money and the risk specific to the obligation. However, provisions are reviewed at each reporting date and adjusted to reflect current best estimates.

3.8 Contingencies and commitments

A contingent liability is disclosed when the Company has a possible obligation as a result of past events, existence of which will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the Company; or the Company has a present legal or constructive obligation that arises from past events, but it is not probable that an outflow of resources embodying economic benefits will be required to settle the obligation, or the amount of the obligation cannot be measured with sufficient reliability.

3.9 Property, plant and equipment

Freehold land is stated at cost amount while capital work in progress is stated at cost less impairment loss, if any. Building on freehold land and distribution equipment are stated at cost amount less accumulated depreciation. All other operating fixed assets are stated at cost less accumulated depreciation and accumulated impairment, if any.

Cost include expenditure that is directly attributable to the acquisition of the asset. The cost of self-constructed assets include the cost of materials, direct labour and any other costs directly attributable to bringing the assets into working condition for their intended use and capitalized borrowing costs.

Depreciation is charged to income on straight line method so as to write-off the depreciable amount of an asset over its estimated useful life at the rates mentioned in note 15.1 to the financial statements. Depreciation on depreciable assets is commenced from the month the asset is available for use up to the month preceding the month of disposal. Major renewals and improvements are capitalized, while minor replacements, repairs and maintenance are charged to income.

3.10 Impairment

The carrying amounts of assets are reviewed at each reporting date to determine whether there is any indication of impairment loss. If any such indication exists, the recoverable amount of that asset is estimated in order to determine the extent of the impairment loss if any. Impairment losses are recognized as expense in other comprehensive income.

An impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the assets carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortization. If no impairment loss had been recognized. For non-financial assets, financial assets measured at amortized cost, available for sale financial assets that are debt securities, the reversal is recognized in profit or loss.

3.11 Stores, spare parts and loose tools

These are valued at moving average cost less allowance for impairment for obsolete and slow moving stores. Items in transit which are valued at cost comprising invoice value and related expenses incurred thereon up to the reporting date less impairment, if any.

3.12 Trade debts and other receivables

Trade and other receivables are recognized and carried at original invoice amount which is the fair value of the consideration to be received in future for goods sold. When a trade debt is uncollectable, it is written and charged statement of profit or loss. Subsequent recoveries of amounts previously written off are credited to the profit or loss.

3.13 Cash and cash equivalents

Cash and cash equivalents comprise cash in hand and bank balances.

3.14 Financial Instruments

3.14.1 Financial assets

The Company classifies its financial assets in the following categories: at fair value through profit or loss, fair value through other comprehensive income and amortized cost. The classification depends on the purpose for which the financial assets were acquired. Management determines the classification of its financial assets at initial recognition. All the financial assets of the Company as at statement of financial position date are carried at amortized cost.

Amortized Cost

A financial asset is measured at amortized cost if it meets both the following conditions and is not designated as at fair value through profit or loss:

- (i) it is held with in a business model whose objective is to hold assets to collect contractual cash flows; and
- (ii) its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding

Impairment of financial assets

The Company recognizes loss allowance for Expected Credit Losses (ECLs) on financial assets measured at amortized cost and contract assets. The Company measures loss allowance at an amount equal to lifetime ECLs. Lifetime ECLs are those that result from all possible default events over the expected life of a financial instrument. The maximum period considered when estimating ECLs is the maximum contractual period over which the Company is exposed to credit risk. At each reporting date, the Company assesses whether the financial assets carried at amortized cost are credit-impaired. A financial asset is credit-impaired when one or more events that have detrimental impact on the estimated future cash flows of the financial assets have occurred. Loss allowances for financial assets measured at amortized cost are deducted from the gross carrying amount of the assets. The gross carrying amount of a financial asset is written off when the Company has no reasonable expectations of recovering a financial asset in its entirety or a portion thereof.

As per notification of Securities and Exchange Commission of Pakistan Vide S.R.O. 985 (I)/2019 Dated September 2, 2019, the requirement with respect to application of expected credit loss in IFRS-9 shall not be applicable to financial assets due from Government of Pakistan. Such financial assets shall be dealt with in according with the requirement of IAS-39 (Financial Instruments).

3.14.2 Financial liabilities

All financial liabilities are recognized at the time when the Company becomes a party to the contractual provisions of the instrument.

3.14.3 Recognition measurement

All financial assets and liabilities are initially measured at cost, which is the fair value of the consideration given and received respectively. These financial assets and liabilities are subsequently measured at fair value, amortized cost or cost, as the case may be. The particular measurement methods adopted are disclosed in the individual policy statements associated with each item.

3.14.4 Derecognition

The financial assets are de-recognized when the Company loses control of the contractual rights that comprise the financial assets. The financial liabilities are de-recognized when they are extinguished i.e. when the obligation specified in the contract is discharged, cancelled or expired.

3.16 Offsetting of financial assets and financial liabilities

Financial assets and financial liabilities are offset and the net amount is reported in the financial statements only when the Company has a legally enforceable right to set-off the recognized amounts and the Company intends to settle either on a net basis or realize the asset and settle the liability simultaneously.

3.16 Derivative financial instruments

These are initially recorded at fair value on the date a derivative contract is entered into and are re-measured to fair value at reporting date. The method of recognizing the resulting gain or loss depends on whether the derivative is designated as a hedging instrument, and if so, the nature of the item being hedged. The Company does not apply hedge accounting for any derivatives. Any gain or loss from change in fair value of derivatives that do not qualify for hedge accounting are taken directly to profit or loss.

3.17 Foreign currency transactions and translation

Transactions in foreign currencies are converted into functional currency (PKR) at the rates of exchange prevailing on the date of transaction. Monetary assets and liabilities in foreign currencies are translated into functional currency at the rates of exchange prevailing on the reporting date. Exchange gains and losses are recognized in profit or loss.

3.18 Revenue recognition

Electricity sale

Revenue related to electricity sales is recognized once the company supplies electricity and there is no unfulfilled obligation on the part of the Company. Electricity is supplied at the rates determined by NEPRA and notified by Government of Pakistan from time to time. Late payment surcharge is recognized on accrual basis.

Tariff adjustment

Tariff adjustment for variation in fuel price is recognized in the relevant period on the basis of rates determined by NEPRA and notified by Government of Pakistan up to the date of approval of financial statements by the board of directors of the company.

Contract assets

Contract assets arise when the Company performs its performance obligations by providing services to a customer before the customer pays its consideration or before payment is due.

Contract liabilities

Contract liability is the obligation of the Company to provide services to a customer for which the Company has received consideration from the customer. If a customer pays consideration before the Company provides services, a contract liability is recognized when the payment is made. Contract liabilities are recognized as revenue when the Company performs its performance obligations under the contract.

Others

- Scrap sales are recognized on delivery to customers at realized amounts.
- Return on deposit is accrued on time proportion basis by reference to the principle outstanding and the applicable rate of return.
- All other income is recognized on accrual basis.

3.19 Electricity subsidy to consumers

Subsidy on electricity announced by the Government of Pakistan for consumers is recognized under revenue on accrual basis.

4 SUMMARY OF SIGNIFICANT TRANSACTIONS AND EVENTS

The company has incurred gross loss amounting to Rs. 69.63 billion during current year due to unprecedented increase in fuel prices as well as exchange parity without corresponding increase in Consumer End Tariff. Due to the said increase, the cost of power purchase was increased by Rs. 5.46 per unit during the current year as compared to the last year with a financial impact of Rs. 90.4 billion. Similarly the tariff of financial year 2020-21 was charged to the consumers during current year, thereby resulting in the gross loss during current year.

		2022 Rupees	2021 Rupees
5 ISSUED, SUBSCRIBED AND PAID UP SHARE CAPITAL			
	<u>2022</u> <u>Number of shares</u>	<u>2021</u> <u>Number of shares</u>	
	<u>1,000</u>	<u>1,000</u>	<u>10,000</u> <u>10,000</u>

1000 Ordinary shares of Rs.10 each, issued as fully paid up in cash to President of Pakistan (through PEPCO) and its nominee Directors.

	Note	2022 Rupees	2021 Rupees
6 DEPOSITS FOR ISSUE OF SHARE CAPITAL			
Incorporation expenses incurred by WAPDA		5,042,575	5,042,575
Allocation of net worth transferred by WAPDA	6.1	8,885,483,927	8,885,483,927
		8,890,526,502	8,890,526,502
Adjustment of other loans and assets	6.2	7,620,265,187	7,620,265,187
Adjustment of net assets on transfer of FATA business to WAPDA	6.3	1,571,234,102	1,571,234,102
		18,082,025,791	18,082,025,791
Equity injection against mark-up	6.4	2,094,239,584	2,094,239,584
Equity injection against supplemental charges	6.5	879,673,400	-
Equity injection against accounts receivables	6.6	27,773,678,000	-
GoP equity injection	6.7	5,236,221,196	-
GoP equity injection	6.8	20,142,046,300	-
GoP equity injection	6.9	15,292,224,200	-
GoP equity injection	6.10	3,355,296,600	-
	6.11	92,855,405,071	20,176,265,375

- 6.1 This represents net worth of the Company as on 01 July 1998 and subsequent adjustments/additions.
- 6.2 This represents adjustments of loan repayment and assets transferred, through current account maintained with WAPDA.
- 6.3 It represents net worth of FATA amounting to Rs. 1,670 million which has been surrendered to WAPDA w.e.f. from July 01, 2003 but still held by PESCO on their behalf and the reversal of employees retirement benefits amounting to Rs. 99.05 million on incorporation of TESCO.
- 6.4 Ministry of Energy (Power Division) through its letter No. PF-5(4)/2012-Vol.X dated 22-03-2019 directed all DISCO's to book equity amounting to Rs. 9.348 billion against payment of financial charges in respect of STFFs of PKR 7.487 billion, PKR 25 billion and PKR 30 billion. The payment of these charges has been made by the Govt of Pakistan (Finance Division) and PESCO's share is Rs. 2.094 billion.
- 6.5 Ministry of Energy (Power Division) through its letter No. F-05(06-PHL) 2021-22 dated 02-09-2021 directed all DISCO's to book GoP equity amounting to Rs. 4.4 billion and CPPA has issued Credit Note to PESCO amounting to Rs. 879.673 million vide Credit Note No. PPA - 13 / PESCO-01 dated 09-09-2021.
- 6.6 Ministry of Energy (Power division) through its letter No. F-05(06-PHL) 2021-22 dated 07-02-2022 directed all the DISCOs to book GoP Equity amounting to Rs.134.783 billion and CPPA-G has issued a credit note to PESCO amounting to Rs. 27.773 billion vide Credit Note No. PPA-188 / PESCO-18 dated 31-01-2022.
- 6.7 Ministry of Energy (Power Division) through its letter No. F-05(02) 2021-22 dated 18-02-2022 directed all DISCO's to book GoP equity amounting to Rs. 24.847 billion and CPPA has issued credit note to PESCO amounting to Rs. 5.236 billion vide Credit Note No. PPA - 248 / PESCO-24 dated 23-02-2022.
- 6.8 Ministry of Energy (Power Division) through its letter No. F-05(02) 2021-22 dated 22-07-2022 directed all DISCO's to book GoP equity amounting to Rs. 96.133 billion and CPPA has issued Credit Note to PESCO amounting to Rs. 20.142 billion vide Credit Note No. PPA - 449 / PESCO-45 with effective date 30-6-2022.
- 6.9 Ministry of Energy (Power Division) through its letter No. F-05(02) 2021-22 dated 07-07-2022 directed all DISCO's to book GoP equity amounting to Rs. 72.986 billion and CPPA has issued Credit Note to PESCO amounting to Rs.15.292 billion vide Credit Note No. PPA - 425 / PESCO-42 with effective date 30-6-2022.
- 6.10 Ministry of Energy (Power Division) through its letter No. F-05(02) 2021-22 dated 01-08-2022 directed all DISCO's to book GoP equity amounting to Rs. 16.014 billion and CPPA has issued Credit Note to PESCO amounting to Rs. 3.355 billion vide Credit Note No. PPA - 458 / PESCO-46 with effective date 30-6-2022.
- 6.11 WAPDA has confirmed vide letter No. 36-66/GMF(P)/MFHQ/B.K-40 to the Company to issue shares of Rs. 10 each equivalent to share deposit money of Rs. 18.082 billion. Rest of Rs. 74.773 billion is the equity injected by GoP.

	Note	2022 Rupees	2021 Rupees
7 LIABILITIES AGAINST GOVERNMENT INVESTMENT			
Federal Government Investments (Circular Debt Settlement)	7.1	<u>50,187,189,539</u>	<u>50,187,189,539</u>

- 7.1 This amount shows GoP Investment in the DISCO's against Circular Debt Settlement. As per letter of Government of Pakistan Finance Division No. F-1(5) CF-I/2012-13/1017 dated July 02, 2013, Finance Division has transferred Rs. 341.958 billion in PEPCO's account through State Bank of Pakistan on June 27, 2013 for the settlement of power sector circular debt payable to IPP's and other entities. PESCO received Credit Memo No. PPA-204/PESCO-26 dated May 06, 2014 for Rs. 82.145 billion from CPPA on account of GoP Investment against Circular debt of aforesaid amount. Credit Memo No. PPA-278/PESCO-31 dated November 30, 2017 for Rs. 1.168 billion and Credit Memo No. PPA-279/PESCO-32 dated 30-11-2017 for Rs.16.786 billion and Debit Memo No. PPA-07 / PESCO-01 dated 31-01-2018 for Rs. 0.087 billion has been adjusted against this liability on account of Subsidy Receivable from Government of Pakistan.
As per letter of Ministry of Energy (Power Division) letter No. PF-05(02)2019-20 dated 23-12-2020, a Debit Note No. PPA-156/PESCO-18 dated 31-12-2020 is received from CPPA on account of adjustment of equity amounting to Rs. 13.936 billion which is recorded during the year.

	Note	2022 Rupees	2021 Rupees
8 LONG TERM LOANS - secured			
Loan from Government of Pakistan	8.1	125,284,795	125,284,795
Asian Development Bank - Trench I (2438-PK)	8.2	847,267,493	847,267,493
Asian Development Bank - Trench II (2727-PK)	8.3	955,422,626	955,422,626
Asian Development Bank - Trench III (2972-PK)	8.4	1,976,630,025	1,976,630,025
Asian Development Bank - Trench IV (3096-PK)	8.5	1,668,205,374	1,668,205,374
Earthquake Reconstruction and Rehabilitation Authority	8.6	1,860,090,470	1,276,723,432
Electrification work at Chitral (Federal PSDP) CCPR-3129	8.7	199,203,000	109,293,178
132 KV Grid system Chitral (Federal PSDP) CCPR-3130	8.8	148,522,590	58,522,590
Evacuation of Power from Swabi (Federal PSDP) CCPR-3131	8.9	230,000,000	170,000,000
Supply of Power to Rashakai Economic Zone(Federal PSDP) CCPR-7018	8.10	1,457,868,927	930,363,535
Supply of Power to Hattar Economic Zone (Federal PSDP) CCPR-7019	8.11	742,094,106	300,000,000
		<u>10,010,589,406</u>	<u>8,417,713,048</u>
Less: Current maturity		(2,143,075,981)	(1,862,381,843)
		<u>7,867,513,425</u>	<u>6,555,331,205</u>

8.1 Loan from Government of Pakistan:

This loan has been advanced by the Government of Pakistan (GoP) for the restoration of Power Distribution Infrastructure and Electricity Consumption in earthquake affected areas. The loan is free of interest charges and currency fluctuations.

8.2 Asian Development Bank - Trench I

This represents relevant portion of total term finance facility obtained by the Government of Pakistan (GoP) from Asian Development Bank (ADB) for power distribution and enhancement project. Out of total finance facility an amount of US \$ 36.60 million has been allocated to the Company vide letter dated 30-03-2009 of Ministry of Economic Affairs & Statistics (Economic Affairs Division) Government of Pakistan. Out of the total allocated facility, the Company has utilized and repaid US \$ 22.661 million and US \$ 0.424 million respectively and left with outstanding amount up to US \$ 22.237 million as at June 30, 2018. Ministry of Economic Affairs & Statistics (Economic Affairs Division) vide letter No. 6-16(7) DMR/GF/2011 dated 25-08-2014 has revised the terms and conditions of the loan. Under the revised terms, the loan carries interest @ 17 % inclusive of exchange risk 6% is repayable in 26 semi-annual instalments ending August 15, 2023 with first repayment due on February 15, 2011. Accordingly the principal amount which has fallen due and are due for repayment within 12 months of the reporting date has been transferred to current portion. Further, since the revised repayment terms require the repayment of principal in Pak Rupee, exchange difference arising on revaluation of this loan for the year has not been recognized.

8.3 Asian Development Bank - Trench II

This represents re-lent portion of total term finance facility obtained by the GoP from ADB for power distribution and enhancement project. Out of total finance facility, an amount of US \$ 26.66 million has been allocated to the Company vide letter No. 1(3) ADB-II/06-A dated 31-03-2011 of Ministry of Economic Affairs & Statistics (Economic Affairs Division) Government of Pakistan. As per the letter dated 09-04-2011 of the Ministry of Economic Affairs & Statistics (Economic Affairs Division), the loan amount has been lent to the Company on the following terms:

- 15% p.a inclusive of interest rate of 8.2% plus exchange risk coverage (ERC) of 6.8% which shall be charged both on principal amount and interest amount separately.

- repayment maximum period of 17 years excluding a grace period of 3 years.
- all charges and fees including commitment charges etc if any payable by the Government of Pakistan to the above foreign lender shall also be borne by the Company.

8.4 Asian Development Bank - Trench III

This represents re-lent portion of total term finance facility obtained by the GoP from ADB for power distribution and enhancement project. Out of total finance facility an amount of US \$ 21.55 million has been allocated to the Company vide letter No. 2(9) ADB-II/12 dated 31-12-2013 of Ministry of Economic Affairs & Statistics (Economic Affairs Division) Government of Pakistan. Out of the total allocated facility the company has utilized US \$ 7.38 million up to June 30, 2016. As per the letter dated 31-12-2013 of the Ministry of Economic Affairs & Statistics (Economic Affairs Division) the loan amount has been relented to the Company on the following terms:

- 15% p.a inclusive of interest rate of 8.2% plus exchange risk coverage (ERC) of 6.8% which shall be charged both on principal amount and interest amount separately.
- repayment maximum period of 20 years including a grace period of 5 years.
- all charges and fees including commitment charges etc if any payable by the Government of Pakistan to the above foreign lender shall also be borne by the Company.

8.5 Asian Development Bank - Trench IV

This represents re-lent portion of total term finance facility obtained by the GoP from ADB for power distribution and enhancement project. Out of total finance facility an amount of US \$ 24.71 million has been allocated to the Company vide letter No. 2(18) ADB-II/13 dated 07-11-2014 of Ministry of Economic Affairs & Statistics (Economic Affairs Division) GoP. Out of the total allocated facility the company has utilized US \$ 9.77 million up to June 30, 2016. As per the letter dated 07-11-2014 of the Ministry of Economic Affairs & Statistics (Economic Affairs Division) the loan amount has been relented to the Company on the following terms:

- 15% inclusive of interest rate of 8.2% plus exchange risk coverage (ERC) of 6.8% which shall be charged both on principal amount and interest amount separately.
- repayment maximum period of 25 years including a grace period of 5 years.
- all charges and fees including commitment charges etc if any payable by the Government of Pakistan to the above foreign lender shall also be borne by the Company.

8.6 Earthquake Reconstruction and Rehabilitation Authority

This represents re-lent portion of total term finance facility obtained by the GoP from ADB for Earthquake Emergency Assistance Project. Out of total finance facility an amount of US \$ 11.00 million has been allocated to the Company vide letter dated 22-07-2008 of Ministry of Economic Affairs & Statistics (Economic Affairs Division) Government of Pakistan. As per the above said letter, the loan amount has been relented to the Company on the terms and conditions agreed between the GoP and ADB which are as follows:

- the facility carries interest at 1% per annum on the amount of the loan withdrawn from the loan account and outstanding from time to time.
- repayment maximum period of 40 years including a grace period of 10 years, repayment shall be made in 30 semi annual installments.

8.7 Electrification work at Chitral (CCPR-3129)

This represents long term loan facility provided by the Finance Division of Government of Pakistan under the Public Sector Development Program (PSDP) for electrification works at different valleys of Lower District Chitral. The project involves construction of 437.73 KM HT line and 597 KM LT line in District Chitral Lower area. The total estimated cost of the project is Rs. 1,558.689 million. As per schedule provided by the Finance Division, the loan has been sanctioned on the following terms:

- The loans will be recoverable in 25 years along-with interest which includes grace period of five years for recovery of principal amount. The interest will be chargeable at the prevailing rate for the respective year.
- As at June 30, 2022, an amount of Rs. 185.750 million has been released by the Ministry, however, adjustment of Rs. 13.453 million was recorded against the accrued markup after which accumulated loan amount is Rs. 199.203 million.

8.8 132 KV Grid system Chitral (CCPR-3130)

This represents long term loan facility provided by the Finance Division of Government of Pakistan under the Public Sector Development Program (PSDP) for establishment of 132 KV along with up-gradation of existing 33 KV Grid System in District Chitral. The total estimated cost of the project is Rs. 309.981 million. As per schedule provided by the Finance Division, the loan has been sanctioned on the following terms:

- The loans will be recoverable in 25 years along-with interest which includes grace period of five years for recovery of principal amount. The interest will be chargeable at the prevailing rate for the respective year.

- As at June 30, 2022, an amount of Rs. 138.909 million has been released by the Ministry, however adjustment of Rs. 9.613 million was recorded against the accrued markup after which accumulated loan amount is Rs. 148.522 million.

8.9 Evacuation of Power from Swabi (CCPR-3131)

This represents long term loan facility provided by the Finance Division of Government of Pakistan under the Public Sector Development Program (PSDP) for construction of 132 KV transmission lines to evacuate power from 220 KV Grid Station Swabi to meet with the additional load demand and voltage profile improvement in the area. The total estimated cost of the project is Rs. 747.29 million. As per schedule provided by the Finance Division, the loan has been sanctioned on the following terms:

- The loans will be recoverable in 25 years along-with interest which includes grace period of five years for recovery of principal amount. The interest will be chargeable at the prevailing rate for the respective year.

- As at June 30, 2022, an amount of Rs. 206.680 million has been released by the Ministry, however adjustment of Rs. 23.320 million was recorded against the accrued markup after which accumulated loan amount is Rs. 230 million.

8.10 Supply of Power to Rasahkai Economic Zone (CCPR-7018)

This represents long term loan facility provided by the Finance Division of Government of Pakistan under the Public Sector Development Program (PSDP) for construction of 11 KV feeder and 132 KV transmission lines for supply of Power to Rashakai Special Economic Zone. The total estimated cost of the project is Rs. 182,5.796 million. As per schedule provided by the Finance Division, the loan has been lent on the following terms:

- The loans will be recoverable in 25 years along-with interest which includes grace period of five years for recovery of principal amount. The interest will be chargeable at the prevailing rate for the respective year.

- As at June 30, 2022, an amount of Rs. 1,330.664 million has been released by the Ministry, however adjustment of Rs. 127.198 million was recorded against the accrued markup after which accumulated loan amount is Rs. 1,457.862 million.

8.11 Supply of Power to Hattar Economic Zone (CCPR-7019)

This represents long term loan facility provided by the Finance Division of Government of Pakistan under the Public Sector Development Program (PSDP) for construction of 11 KV feeder and 132 KV transmission lines for supply of Power to Hattar Special Economic Zone. The total estimated cost of the project is Rs. 1036.828 million. As per schedule provided by the Finance Division, the loan has been sanctioned on the following terms:

- The loans will be recoverable in 25 years along-with interest which includes grace period of five years for recovery of principal amount. The interest will be chargeable at the prevailing rate for the respective year.

- As at June 30, 2022, an amount of Rs. 689.141 million has been released by the Ministry, however adjustment of Rs. 42.953 million was recorded against the accrued markup after which accumulated loan amount is Rs. 742.094 million.

10 DEFERRED CREDIT

	2022 Rupees	2021 Rupees
Balance brought forward	51,518,071,095	47,388,392,982
Additions during the year	6,240,577,779	4,129,678,113
	57,758,648,874	51,518,071,095
Amortization		
- Balance brought forward	(16,465,786,124)	(14,613,324,362)
- For the year	(2,070,881,984)	(1,852,461,762)
	(18,536,668,108)	(16,465,786,124)
	39,221,980,766	35,052,284,971

10.1 This represents amount received from customers for new connections/construction works. The amount is initially recorded under "Trade Payables" and then transferred to this head once task is completed. The amount is amortized over the life of fixed assets.

11 CONSUMERS' SECURITY DEPOSITS

	2022 Rupees	2021 Rupees
Consumers' security deposits	6,260,816,713	5,546,066,924

These represent security deposits received from consumers at the time of electricity connection and are refundable/adjustable on disconnection of electricity supply. This amount has been kept in a separate bank account.

12 TRADE AND OTHER PAYABLES

	Note	2022 Rupees	2021 Rupees
Associated undertakings - unsecured	12.1	415,885,191,829	391,675,632,352
Trade creditors payable		2,524,342,316	1,217,128,686
		418,409,534,145	392,892,761,038
Receipt against deposit work		25,518,413,497	22,440,427,037
Realized :			
Electricity duty		-	37,243,749
Professional tax		452,650	1,790,827
Income tax withheld		454,968,955	193,793,621
TV license fee		51,650,504	56,344,136
Neelum Jhelum surcharge		885,425,953	837,662,376
Equalization surcharge		772,909,809	774,076,319
Taxes		966,859	7,873,973
Finance cost surcharge		1,074,810,227	3,411,019,608
UOS/Tariff rationalization surcharge		993,008,113	968,220,142
General sales tax		396,141,810	123,625,829
		4,610,334,980	6,411,550,580
Un -Realized :			
Electricity duty		1,473,522,049	1,257,718,139
Income tax on electricity bills		1,110,158,680	856,087,888
TV license fee		1,189,778,464	1,067,738,175
Neelum Jhelum surcharge		1,310,670,255	1,339,448,119
Equalization surcharge		225,487,424	225,737,232
Taxes		102,306,627	106,550,420
Finance cost surcharge		4,195,156,698	3,557,203,522
UOS/Tariff rationalization surcharge		223,763,781	265,066,897
General sales tax		1,357,830,815	1,357,830,815
		11,188,674,793	10,033,371,207

	2022 Rupees	2021 Rupees
Others:		
Employees shares in fund	8,831,180	6,479,544
Accrued liabilities	1,405,113,684	1,291,364,491
Retention money - contractors / suppliers	534,463,975	421,765,306
Capital contribution awaiting connections	975,981,970	699,717,349
Other liabilities	38,234,163	50,726,760
	<u>2,962,624,972</u>	<u>2,470,053,450</u>
	<u>462,689,582,387</u>	<u>434,248,163,312</u>

12.1 Creditors - associated undertakings

National Transmission and Dispatch Company	3,352,873,276	3,408,156,684
Faisalabad Electric Supply Company	67,614,946	62,747,562
Multan Electric Power Company	458,560,666	460,082,018
Central Power Purchasing Agency	411,987,894,772	387,727,534,342
Pakistan Electric Power Company	13,349,580	14,213,157
CE (RE) Lahore	4,898,589	4,898,589
	<u>415,885,191,829</u>	<u>391,675,632,352</u>

13 ACCRUED MARKUP

Asian Development Bank - Trench I (2438-PK)	407,554,919	358,451,917
Asian Development Bank - Trench II (2727-PK)	485,479,947	403,390,065
Asian Development Bank - Trench III (2972-PK)	1,089,708,243	838,763,732
Asian Development Bank - Trench IV (3096-PK)	955,005,945	736,232,431
Earthquake Reconstruction and Rehabilitation Authority	143,535,863	99,100,527
Electrification work at Chitral(Federal PSDP) CCPR-3129	7,371,000	2,908,000
132 KV Grid system Chitral (Federal PSDP) CCPR-3130	6,453,800	2,011,800
Evacuation of Power from Swabi(Federal PSDP) CCPR-3131	5,730,000	4,917,000
Supply of Power to Rasahkai E Zone(Federal PSDP) CCPR-7018	45,400,400	26,990,400
Supply of Power to Hattar E Zone(Federal PSDP) CCPR-7019	32,634,000	9,646,000
	<u>3,178,873,917</u>	<u>2,482,411,872</u>

13.1 During the year 2020, receivable from AJK amounting to Rs. 3,450 million has been adjusted against accrued markup amounting to Rs. 1,686.539 million against ADB Trench I, Rs. 823.603 million against ADB Trench II, Rs. 464.247 million against ADB Trench III, Rs. 411.167 million against ADB Trench IV and Rs. 64.13 million against ERRRA as non cash adjustment vide GoP Finance Division letter No. F.I(14)CF-1/2015-16/1290 dated 26-09-2019.

14 CONTINGENCIES AND COMMITMENTS

There are no material contingencies as at reporting date (2021: Nil).

	Note	2022 Rupees	2021 Rupees
15 PROPERTY, PLANT AND EQUIPMENT			
Operating fixed assets	15.1	68,373,127,271	59,012,674,313
Capital work in progress	15.2	<u>33,544,159,853</u>	<u>26,649,319,449</u>
		<u>101,917,287,124</u>	<u>85,661,993,762</u>

15.1 Operating fixed assets

	Freehold land	Leasehold land	Buildings	Distribution equipment	Computer and ancillary equipment	Furniture and fixtures	Vehicles	Other equipment	Total
Rupees									
As at June 30, 2020									
Cost	782,532,415	878,400	3,303,023,871	81,172,907,100	679,387,289	48,454,701	725,345,087	674,915,111	87,395,443,774
Accumulated depreciation	-	-	(791,014,977)	(30,041,808,679)	(315,006,655)	(35,606,106)	(634,686,448)	(373,132,147)	(32,191,058,010)
Net book value	782,532,415	878,400	2,512,008,894	51,131,298,421	364,378,634	10,848,595	90,659,641	301,782,964	55,204,387,764
Year ended June 30, 2021									
Opening net book value	782,532,415	878,400	2,512,008,894	51,131,298,421	364,378,634	10,848,595	90,659,641	301,782,964	55,204,387,764
Additions during the year	215,393,854	-	-	-	31,236,877	2,689,522	201,525,000	122,089,567	572,934,820
Transfers from CWIP	-	-	316,864,081	6,214,256,330	-	-	-	-	6,531,210,411
Disposals									
Cost	-	-	-	(46,190,529)	-	-	(9,379,768)	-	(55,570,287)
Accumulated depreciation	-	-	-	46,190,529	-	-	9,379,768	-	55,570,287
Depreciation charge	-	-	(71,850,809)	(3,031,572,154)	(64,817,415)	(2,748,989)	(54,162,736)	(70,906,777)	(3,295,858,682)
Closing net book value	1,007,926,269	878,400	2,757,112,166	54,313,982,597	330,998,096	10,789,128	238,021,903	352,965,754	59,012,674,313
As at June 30, 2021									
Cost	1,007,926,269	878,400	3,819,877,752	87,340,972,901	710,824,166	49,144,223	917,490,329	797,004,678	94,444,018,718
Accumulated depreciation	-	-	(962,885,586)	(33,026,990,304)	(379,626,070)	(38,365,095)	(679,468,426)	(444,038,924)	(35,431,344,405)
Net book value	1,007,926,269	878,400	2,757,112,166	54,313,982,597	330,998,096	10,789,128	238,021,903	352,965,754	59,012,674,313
Year ended June 30, 2021									
Opening net book value	1,007,926,269	878,400	2,757,112,166	54,313,982,597	330,998,096	10,789,128	238,021,903	352,965,754	59,012,674,313
Additions during the year	107,653,034	-	-	6,248,273,345	48,691,164	4,091,009	288,132,240	128,153,336	6,822,194,128
Transfers from CWIP	-	-	218,259,533	6,029,337,483	-	-	-	-	6,247,597,016
Disposals									
Cost	-	-	-	-	-	-	(28,981,234)	-	(28,981,234)
Accumulated depreciation	-	-	-	-	-	-	28,981,234	-	28,981,234
Depreciation charge	-	-	(73,916,426)	(3,406,954,893)	(63,978,625)	(2,761,302)	(83,089,588)	(76,637,352)	(3,709,338,186)
Closing net book value	1,115,579,303	878,400	2,901,455,273	63,184,638,532	315,910,635	12,118,835	443,064,555	399,481,738	66,373,127,271
As at June 30, 2022									
Cost	1,115,579,303	878,400	3,838,237,285	98,618,583,729	759,515,330	53,235,232	1,176,661,335	922,168,014	107,484,848,628
Accumulated depreciation	-	-	(936,782,012)	(36,493,945,197)	(443,604,695)	(41,116,397)	(733,696,780)	(622,676,276)	(36,111,721,357)
Net book value	1,115,579,303	878,400	2,901,455,273	63,184,638,532	315,910,635	12,118,835	443,064,555	399,481,738	66,373,127,271
Annual rate of depreciation	-	-	2%	3.8%	10%	10%	10%	10%	

	2022 Rupees	2021 Rupees
15.1.1 Reconciliation of book value:		
Net book value at the beginning of the year	59,012,674,313	55,204,387,764
Additions during the year	6,822,194,128	572,934,820
Transfers from CWIP	6,247,597,016	6,531,210,411
Disposal during the year	(28,961,234)	(55,570,287)
Depreciation for the year	(3,709,338,186)	(3,295,858,682)
Depreciation adjustment on disposal	28,961,234	55,570,287
Net book value at the end of the year	<u>68,373,127,271</u>	<u>59,012,674,313</u>

15.1.2 Government of Pakistan (GoP) and Ministry of Energy through Power Holding (Private) Limited is in process of arranging Shariah Compliant Islamic Finance Facility through issuance of Sukuk amounting Rs. 400 billion to settle the Energy Sector Circular Debts of all DISCO's. During the year 30-06-2019 & 30-06-2020, GoP has issued Pakistan Energy Sukuks under Ijarah agreement for PKR 400 billion for the period of 10 years to the Banks, Mutual Funds, Security Broker and other Domestic Financial Institutions. For this purpose PESCO Land is treated as underlying asset. Under the arrangement, PESCO holds the title of these Assets as Trustee/Title Agent on behalf of Sukuk Certificate holders. The legal documents executed by PESCO and the relevant counter parties reveal that the said assets have been leased out under an Ijarah agreement to GOP with an undertaking to resell the Assets to the PESCO at the end of the Ijarah Term. Although the legal documents have contemplated the overall arrangement on the model of Sukuk Ijarah, the management of PESCO has exercised its judgement, as required under International Accounting Standards (IAS)-1, "Presentation of Financial Statements", that the said transaction was in substance, a financing arrangement and therefore did not give rise to revenue on account of disposal of PESCO Assets. The management also determined that PESCO could not derecognize the Assets as the conditions to recognize revenue on sale of land have not been satisfied. In view of the above, based on the substance over form and the fact that proceeds of Sukuk Bonds had been retained by the PHPL, the repayment of Ijarah Sukuk and Ijarah rentals is the responsibility of the GoP and PESCO does not have to derecognize the assets in its financial statements.

	Note	2022 Rupees	2021 Rupees
15.2 Capital work in progress			
Civil works		484,033,912	488,834,768
Distribution equipment work in progress	15.2.2 & 15.2.3	33,060,125,941	26,160,484,681
		<u>33,544,159,853</u>	<u>26,649,319,449</u>
15.2.1 Movement of CWIP is as follows:			
Opening balance		26,649,319,449	19,756,073,245
Addition during the year		13,142,437,420	13,424,456,615
Transferred to operating fixed assets		(6,247,597,016)	(6,531,210,411)
		<u>33,544,159,853</u>	<u>26,649,319,449</u>

15.2.2 This includes Deposit Work in Progress amounting to Rs. 14,643 million (2021: Rs. 8,273 million).

15.2.3 Financial expenses of the following PSDP loans will be capitalized during the year as per IAS 23 "Borrowing Costs".

	2022 Rupees	2021 Rupees
Electrification work at Chitral (CCPR-3129)	16,645,000	4,179,000
132 KV Grid system Chitral (CCPR-3130)	11,305,000	4,762,000
Evacuation of Power from Swabi (CCPR-3131)	20,056,000	8,990,000
Supply of Power to Rashkai Economic Zone (CCPR-7018)	123,781,000	48,817,000
Supply of Power to Hattar Economic Zone (CCPR-7019)	57,673,000	17,914,000
	<u>229,460,000</u>	<u>84,662,000</u>
16 LONG TERM LOANS - considered good		
House building advance	2,482,787	8,641,008
Car advance	5,000	5,000
Motor cycle advance	67,482	80,481
Purchase of plot	556,664	6,070,661
	<u>3,111,933</u>	<u>14,797,150</u>
Current maturity of long term loans	(1,325,884)	(6,598,950)
	<u>1,786,049</u>	<u>8,198,200</u>

16.1 This represents long term loans made to employees. House building and plot loans are repayable in 10 years, car and motor-cycle loans in 5 years. Markup is charged on these loans at the same rate as that payable on employees balances in General Provident Fund. Loans are secured by mortgage of immovable property and hypothecation of vehicles.

	Note	2022 Rupees	2021 Rupees
17 STORES, SPARE PARTS AND LOOSE TOOLS			
Stores		9,585,082,288	4,898,792,923
Provision for obsolete stores		(4,968,483)	(4,968,483)
		<u>9,580,113,785</u>	<u>4,893,824,440</u>
18 TRADE DEBTS			
Sale of electricity		47,981,134,388	43,389,408,549
Government levies and other charges	18.2	30,996,347,451	27,058,394,560
Secured and considered good		78,977,481,839	70,447,801,109
Considered doubtful		82,038,054,450	83,977,953,504
		<u>171,015,536,289</u>	<u>154,425,754,613</u>
Provision for doubtful debts		(92,038,054,450)	(83,977,953,504)
		<u>78,977,481,839</u>	<u>70,447,801,109</u>
18.1 Trade debts are secured to the extent of corresponding consumers' security deposits against electricity connection.			
	Note	2022 Rupees	2021 Rupees
18.2 Government levies and other charges			
Electricity duty receivable-E/Bills		1,473,522,049	1,257,718,139
Income tax receivable-E/Bills		1,110,158,680	856,087,888
G.S.T receivable		20,761,948,544	18,095,425,947
T.V fee receivable		1,189,778,464	1,067,738,175
Neelum Jhelum surcharge receivable		1,310,670,255	1,339,448,119
Equalization surcharge receivable		225,487,424	225,737,232
Extra tax receivable		179,525,330	93,895,761
Further tax receivable		143,079,616	126,894,851
Sales tax 2014 receivable		80,760,620	66,848,245
Tax under 235-A receivable		99,612,733	106,373,659
Tax under 235-B receivable		2,893,894	176,761
FC surcharge receivable		4,195,156,698	3,557,203,522
U.O.S/Tariff rationalization surcharge receivable		223,763,781	265,056,897
Additional tax receivable		189,363	189,364
		<u>30,996,347,451</u>	<u>27,058,394,560</u>
19 LOANS AND ADVANCES - considered good			
Current portion of long term loans - considered good	16	1,325,884	6,598,950
Advances to suppliers - considered good		323,874,630	142,703,146
Advance income tax		2,118,442,254	2,052,974,293
Advances for expenses	19.1	52,608,207	35,778,223
		<u>2,496,250,975</u>	<u>2,238,054,612</u>
19.1 Advances for expenses			
Against other expenses		48,242,975	31,939,899
For travelling expenses		4,365,232	3,838,324
		<u>52,608,207</u>	<u>35,778,223</u>
20 OTHER RECEIVABLES - considered good			
Due from WAPDA and associated undertakings-net	20.1	46,458,961,973	44,161,764,724
Receivable from tax authorities	20.2	44,858,512,634	41,065,818,275
Pension receivable from associated undertakings	20.3	4,248,320,286	4,609,760,934
Others receivables - net		169,100,322	82,976,446
		<u>95,734,895,215</u>	<u>89,920,320,379</u>

	2022 Rupees	2021 Rupees
20.1 Due from WAPDA and associated undertakings - net		
WAPDA Welfare Fund	616,886,510	507,692,308
WAPDA	398,226,146	398,226,146
GENCO-1	684,299	558,424
GENCO-2	5,227,776	4,249,819
GENCO-3	6,812,552	5,857,789
Lahore Electric Supply Company	7,644,189	6,728,828
Quetta Electric Supply Company	70,774,374	60,084,851
Gujranwala Electric Power Company	8,721,093	4,497,102
Islamabad Electric Supply Company	420,006,425	350,060,220
Hyderabad Electric Supply Company	3,897,646	3,247,901
GENCO-4	1,539,342	1,424,394
Tribal Electric Supply Company	44,916,271,384	42,817,491,762
Sukkar Electric Power Company	2,290,237	1,645,180
	<u>46,458,961,973</u>	<u>44,161,764,724</u>
20.2 Receivable from tax authorities		
Receivable from tax authorities - net	44,858,512,634	41,065,818,275
	<u>44,858,512,634</u>	<u>41,065,818,275</u>

- 20.2.1** This represents amounts receivable from taxation authorities in respect of carry forward of excess input tax paid over output tax. The management of the Company believes that excess amounts of input sales tax paid are refundable on a lump sum basis or through monthly claims in the Company's sales tax returns.
- 20.2.2** Four sales tax refund cases involving total amount of Rs.16,275 million are pending before Islamabad High Court, Islamabad. Previously the Appellate Tribunal Inland Revenue (ATIR) has decided the matter in favor of PESCO. Moreover, sales tax refund amounting to Rs.15,063 million is also pending before the Peshawar High Court and the management of the Company believes that decisions of these cases are likely to be in favor of Company.
- 20.2.3** Regional Tax Office (RTO), Peshawar issued four show cause notices to the Company on the issue of adjustment of sales tax collected from Steel Melter consumers against the accumulated credit sales tax balance of the Company, for the period from May 2008 to December 2010, July 2012 to December 2012, January 2013 and February 2013 in which sales tax demands of Rs. 1,630 million, Rs. 531 million, Rs. 65 million and Rs. 21 million respectively were raised. The Company contested these show cause notices, however Deputy Commissioner Peshawar, Commissioner Inland Revenue (Appeals) Peshawar and Peshawara High Court decided the matter of demands of Rs. 1,630 million, Rs. 531 million, Rs. 65 million and Rs. 21 million in favor of RTO Peshawar, hence the disputed amounts were recovered. The said decisions of lower court were challenged before the Supreme Court of Pakistan, however the Supreme Court has decided the matter in favour of FBR vide a short order issued on 15-02-2021. The management of the Company believes that since this is an industry wide issue, therefore the company has positive prospects to get favourable outcome.
- 20.2.4** A show cause notice has been issued to the company by RTO for recovery of Rs. 314 million, 344 million and 464 million adjusted against the output tax collected from Steel Melter against the credit sales tax balance of the company for the period from January 2011 to June 2011, July 2011 to December 2011 and January 2012 to June 2012 respectively and the same was also recovered. The Commissioner Inland Revenue (Appeals) and Appellate Tribunal Inland Revenue (ATIR), Peshawar decided the appeals of cases amounting to Rs. 314 million and Rs. 464 million against the Company whereas ATIR has accepted the company's appeal in the case amounting to Rs. 344 million in favor of the company. The said orders of ATIR Peshawar were challenged and are pending before Peshawar High Court for adjudication.
- 20.2.5** Appeal against Tax liability created on account of inadmissible input tax on supplies to Tribal Areas (PATA) to the tune of Rs. 2,093 million have been decided by ATIR in favour of the PESCO, the order of ATIR has been challenged by FBR before the Peshawar High Court and the same is pending for adjudication. Another appeal against tax liability of Rs. 5,130 million created on account of inadmissible input tax on supplies to Tribal Areas (PATA) is pending for adjudication before ATIR, Lahore. Moreover, an appeal (Sales tax reference) against the tax liability of Rs. 1,650 million is also pending before the Peshawar High Court. In another instance, a tax liability of Rs. 5,050 million has been created against the Company by RTO Peshawar on similar grounds, the company has filed an appeal before the CIR (Appeals) Peshawar and the same is pending for adjudication. Since, the appellate authorities has already decided similar cases in favour of the company, the management of the company believes that there is high likelihood of winning these cases.
- 20.2.6** Three cases related to Sales Tax liability on 'Subsidies received from GoP' involving tax liabilities to the tune of Rs. 6,412 million, Rs. 5,002 million and Rs. 4,862 million have been decided in favor of the Company by before ATIR, however the department has filed a Sales Tax reference before the Peshawar High Court against the order of the ATIR in the instant matter. The management of the company believes that since ATIR has decided the issue in favour of the Company, therefore the likelihood of winning these cases is high.

	2022 Rupees	2021 Rupees
20.3 Pension receivable from associated undertakings - unsecured, considered good		
WAPDA	2,771,182,021	2,790,489,895
GENCO-1	4,469,638	4,128,201
GENCO-2	11,961,761	8,377,302
GENCO-3	12,197,297	12,821,350
National Transmission and Dispatch Company Limited	536,941,140	500,159,306
Lahore Electric Supply Company Limited	134,221,795	132,242,909
Faisalabad Electric Supply Company Limited	144,062,091	162,285,816
Multan Electric Power Company Limited	60,542,118	67,040,680
Quetta Electric Supply Company Limited	28,563,674	38,349,677
Gujranwala Electric Power Company Limited	5,804,428	100,869,403
Islamabad Electric Supply Company Limited	409,836,017	487,941,972
Hyderabad Electric Supply Company Limited	57,935,355	53,792,470
GENCO-4	2,023,827	1,478,723
Tribal Area Electric Supply Company Limited	55,249,646	162,317,728
Pakistan Electric Power Company Limited	-	73,655,637
Sukkar Electric Power Company	13,329,478	10,973,445
Regional Representative Karachi	-	321,849
Power Information Technology Company	-	2,516,571
	<u>4,248,320,286</u>	<u>4,609,760,934</u>

20.3.1 The maximum amount due from related parties at the end of month is Rs. 4.248 billion (2021 Rs. 4.609 billion).

21 RECEIVABLE FROM GOVERNMENT OF PAKISTAN (Ministry of Finance)

This represents subsidy receivable from Ministry of Finance on account of tariff differential. Movement in this account during the year is as follows:

	2022 Rupees	2021 Rupees
Opening balance as at July 01,	63,704,244,859	62,986,942,131
Tariff differential subsidy recognized during the year	30,493,901,037	53,983,729,932
Industrial support package claimed	2,156,329,699	2,836,229,357
Zero rated subsidy claim	1,436,650,365	451,356,159
Small Business and Industry subsidy claim	-	2,785,615,393
Prime minister relief package	5,764,118,309	-
Credit note adjusted	(60,654,045,009)	(59,339,628,113)
	<u>42,901,199,260</u>	<u>63,704,244,859</u>

21.1 Tariff differential subsidy is net off tariff rationalization surcharge of Rs. 9.476 billion (2021: Rs. 2.963 billion) adjusted against receivable from Government of Pakistan through tariff differential subsidy invoices.

22 CASH AND BANK BALANCES	Note	2022 Rupees	2021 Rupees
Cash in hand		-	2,820
Cash at banks in:			
Deposit accounts	22.1	2,097,794,537	6,809,211,246
Current accounts	22.2	<u>7,154,217,252</u>	<u>6,666,382,010</u>
		<u>9,252,011,789</u>	<u>13,475,596,076</u>

22.1 These include interest ranging from 11.15 % to 14.2 % (2021: 5% to 7%) per annum.

22.2 These include balances of capital contribution accounts of Rs. 1,401 million (2021: Rs. 2,235 million) and meter security accounts of Rs. 5,757 million (2021: Rs. 3,867 million).

	Note	2022 Rupees	2021 Rupees
23 SALE OF ELECTRICITY			
Gross sale of electricity		206,690,790,718	153,911,128,084
Less: Sales tax		(34,909,063,879)	(20,265,935,503)
Net sale of electricity		171,781,726,839	133,645,192,581
Subsidy from the Government of Pakistan (GoP) on sale of electricity	23.1	49,234,102,318	58,979,871,303
Industrial support package from GoP on sale of electricity		2,158,329,699	2,836,229,357
		51,390,432,017	61,816,100,660
		<u>223,172,158,856</u>	<u>195,461,293,241</u>

23.1 This includes tariff differential subsidy of Rs. 28,777 million (2021: Rs. 39,860 million) , zero rated subsidy of Rs.1,437 million (2021: Rs. 451 million), applicable quarterly tariff subsidy of Rs. 13,256 million (2021: Rs.17,088 million) , prime minister relief package subsidy of Rs. 5,764 million(2021: Rs. Nil) and small & medium enterprise subsidy of Rs. Nil (2021: 1,581 million).

	Note	2022 Rupees	2021 Rupees
24 COST OF ELECTRICITY			
Central Power Purchase Agency	24.1	288,472,468,849	185,902,156,242
Market Operations Agency Fee		73,305,391	56,900,563
Inadmissible sales tax on supplies		4,258,816,568	2,298,556,024
		<u>292,802,591,808</u>	<u>188,257,612,829</u>

24.1 This include Power purchase of Rs.276.067 (2021: Rs. 190.049 billion net of adjustment of Rs. 4.146 billion) relating to financial years 2009-2015.

	Note	2022 Rupees	2021 Rupees
25 OTHER OPERATING COST EXCLUDING DEPRECIATION			
Salaries, wages and other benefits		23,616,859,225	22,162,056,991
Repairs and maintenance		1,038,720,195	1,176,814,504
Rent, rates and taxes		121,261,092	226,691,786
Power, light and water		83,438,238	70,346,994
Postage and telephone		35,352,844	58,505,025
Office supplies and other expenses		487,152,416	402,218,070
Travelling allowance		283,026,943	236,320,046
Transportation expenses		203,245,024	182,548,808
Insurance expense		17,990,361	30,126,175
Electricity bill collection charges		214,879,818	235,230,667
Legal and professional charges		54,379,042	37,516,439
PITC and other charges	25.2	145,048,544	107,344,825
NEPRA fee and charges		46,098,124	36,940,796
Auditor's remuneration		950,000	1,080,000
Advertisement and publicity		18,342,325	18,229,765
Provision for doubtful debts		8,060,100,946	8,427,867,283
Write-off long term advance		-	115,000
Directors fee		20,585,685	9,425,730
Miscellaneous expenses		18,485,847	16,680,514
		<u>34,465,916,669</u>	<u>33,434,059,418</u>

25.1 Salaries, wages and other benefits include retirement benefits of an amount of Rs. 11.005 billion (2021: Rs. 11.382 billion).

25.2 These charges include payments made by the company to Power Information Technology Company (PITC).

	Note	2022 Rupees	2021 Rupees
26 RENTAL AND SERVICE INCOME			
Meter rent		38,669,763	42,839,209
Public lighting		1,885,054	2,009,147
Service rent		1,650,721	8,395,232
Connection / reconnection fee		8,717,839	5,927,610
		<u>48,903,377</u>	<u>59,171,198</u>
27 OTHER INCOME			
Profit on bank deposits		971,445,234	638,178,037
Sale of scrap		364,018,365	157,884,807
Late payment surcharge		2,964,934,049	2,896,813,950
Wheeling charges from TESCO	27.1	2,490,046,402	2,800,505,820
Exchange gain		-	48,111,794
Miscellaneous		944,411,554	1,202,034,562
		<u>7,734,853,604</u>	<u>7,743,628,970</u>
27.1	This represent the amount charged to TESCO for the use of Company's transmission system / lines for electricity purchased from CPPA.		
		2022 Rupees	2021 Rupees
28 FINANCE COST			
Asian Development Bank - Trench I (2438-PK)		49,103,002	75,291,270
Asian Development Bank - Trench II (2727-PK)		82,089,882	118,728,051
Asian Development Bank - Trench III (2972-PK)		250,944,511	266,466,853
Asian Development Bank - Trench IV (3096-PK)		218,773,514	231,517,601
Earthquake Reconstruction and Rehabilitation Authority		12,852,595	11,657,682
Bank charges		6,098,624	4,680,702
Overheads charged by CPPA		879,673,400	-
Exchange loss		414,949,579	-
		<u>1,914,485,107</u>	<u>708,342,159</u>
29 TAXATION			
Current tax		2,257,808,735	2,139,934,147
Prior year		4,858,042	26,365,590
		<u>2,262,666,777</u>	<u>2,166,299,737</u>
29.1	Provision for current year taxation has been made on the basis of minimum tax on turnover under section 113 of income tax ordinance 2001. Accordingly numerical reconciliation between the average tax rate and applicable tax rate has not been presented in the financial statements.		
29.2	In view of uncertainty of taxable profit in the foreseeable future against which the losses could be utilized, the company has not recognized deferred tax asset. Had the company recognized deferred tax, deferred tax asset as at June 30, 2022 would be Rs. 52,271 million (2021: Rs. 94,217 million).		

30 REMUNERATION OF CHIEF EXECUTIVE, DIRECTORS AND EXECUTIVES

	June 30, 2022			June 30, 2021		
	Chief Executive Officer	Directors	Executives	Chief Executive	Directors	Executives
	Rupees			Rupees		
Managerial remuneration	10,865,984	-	74,372,004	5,444,523	-	54,534,948
Meeting fee	-	20,585,685	-	-	9,425,730	-
Bonus-one time basic pay	188,310	-	2,903,730	132,230	-	-
Other perquisites	1,059,824	-	10,199,676	258,600	-	70,896,432
	<u>12,093,898</u>	<u>20,585,685</u>	<u>87,475,410</u>	<u>5,835,353</u>	<u>9,425,730</u>	<u>125,430,380</u>
Number of persons	1	14	22	1	8	35

31 FINANCIAL RISK MANAGEMENT

The Company has exposure to the following risks from its use of financial instruments:

- Credit risk
- Liquidity risk
- Market risk

This note presents information about the company's exposure to each of the above risks, the Company's objectives, policies and processes for measuring and managing risk and management of capital. Further quantitative disclosures are included throughout these financial statements.

Risk management framework

The Board of Directors has overall responsibility for the establishment and oversight of the Company's risk management framework. The Board is responsible for developing and monitoring the Company's risk management policies.

The Company's risk management policies are established to identify and analyze the risks faced by the Company, to set appropriate risk limits and controls, and to monitor risks and adherence to limits. Risk management policies and systems are reviewed regularly to reflect changes in market conditions and the Company's activities. The Company, through its training and management standards and procedures, aims to develop a disciplined and constructive control environment in which all employees understand their roles and obligations.

The Company's Board oversees how management monitors compliance with the company's risk management policies and procedures and reviews the adequacy of the risk management framework in relation to the risks faced by the Company. The Board is assisted in its oversight role by Internal Audit. Internal Audit undertakes both regular and ad hoc reviews of risk management controls and procedures, the results of which are reported to the Board.

The Company finances its operations through equity, borrowings and management of working capital with a view to maintaining an appropriate mix between various sources of finance to minimize risk.

31.1 Credit risk

Credit risk is the risk of financial loss to the Company if a consumer or counterparty to a financial instrument fails to meet its contractual obligations. The Company is exposed to credit risk to the extent of loans, deposits and advances, trade debts, interest accrued, other receivables and bank balances. The Company deals with regular and permanent consumers who normally make payments on time. The Company controls its credit risk by continuous monitoring of its receivables. The management believes that there is no credit risk involved in respect of receivables from the Government of Pakistan.

31.1.1 Exposure to credit risk

The carrying amounts of the financial assets represent the maximum credit exposures. Out of total financial assets of Rs. 182.254 billion (2021: Rs. 196.496 billion), the financial assets which are subject to credit risk amounted to Rs. 182.254 billion (2021: Rs. 196.496 billion). The carrying amounts of financial assets exposed to credit risk at reporting date are as

	2022 Rupees	2021 Rupees
Loans	3,111,933	14,797,150
Trade debts	78,977,481,839	70,447,801,109
Other receivables	50,876,382,581	48,854,502,104
Receivable from GoP (Ministry of Finance)	42,901,199,260	63,704,244,859
Bank balances	9,252,011,789	13,475,596,076
	<u>182,010,187,402</u>	<u>196,496,941,298</u>

Geographically there is no concentration of credit risk as the company operates in the same geographical area.

31.1.1.1 The maximum exposure to credit risk for trade receivables at the reporting date by type of sector is as follows:

	2022 Rupees	2021 Rupees
Government sector	19,579,882,966	17,815,457,750
Private sector	59,397,798,873	52,632,343,359
	<u>78,977,481,839</u>	<u>70,447,801,109</u>

31.1.2 Impairment losses

The aging of trade receivables at the reporting date was:

	2022		2021	
	Gross	Impairment	Gross	Impairment
	Rupees			
Not past due	24,515,134,867	13,193,686,180	19,733,155,908	105,138,447
Past due up to 1 year	2,802,567,502	1,508,300,742	2,171,058,197	437,200,238
Past due between:				
- 1 to 3 years	11,655,594,799	6,272,870,244	12,087,444,955	8,161,015,348
Over 3 years	132,042,239,121	71,063,197,285	120,434,095,553	75,274,599,471
	<u>171,015,536,289</u>	<u>92,038,054,451</u>	<u>154,425,754,613</u>	<u>83,977,953,504</u>

31.1.2.1 The movement in the allowance for impairment in respect of trade debts during the year was as follows:

	2022 Rupees	2021 Rupees
Balance as at July 01, 2021	83,977,953,504	75,550,086,221
Charge for the year	<u>8,060,100,946</u>	<u>8,427,867,283</u>
Balance as at June 30, 2022	<u>92,038,054,450</u>	<u>83,977,953,504</u>

31.1.3 Allowances for impairment

Based on past experience, the management believes that no impairment allowance is necessary in respect of trade debts against which impairment allowance has not been created. Trade debts are due from regular and permanent customers and mainly include government agencies and the Company does not expect these customers to fail to meet their obligations.

31.1.4 Write-off policy

The allowance account in respect of trade debts is used to record impairment losses unless the Company is satisfied that no recovery of the amount owing is possible. At that point the amount considered irrecoverable is written off against the financial asset directly.

31.2 Liquidity risk

Liquidity risk is the risk that the Company will not be able to meet its financial obligations as they fall due. The Company's approach to managing liquidity is to ensure, as far as possible, that it will always have sufficient liquidity to meet its liabilities when due, under both normal and stressed conditions, without incurring unacceptable losses or risking damage to the Company's reputation.

31.2.1 The maturity profile of the Company's financial liabilities based on the contractual amounts is as follows:

June 30, 2022			
Long term loans including markup		Trade and other payables	
Carrying amount	Contractual cash flows	Carrying amount	Contractual cash flows
Rupees			
Maturity up to one year	2,143,075,981	4,918,294,584	462,689,582,387
Maturity between 1 to 5 years	1,307,190,391	2,999,962,427	-
Maturity over five years	8,421,738,280	19,327,634,691	-
	<u>11,872,004,632</u>	<u>27,245,891,702</u>	<u>462,689,582,387</u>

June 30, 2021			
Long term loans including markup		Trade and other payables	
Carrying amount	Contractual cash flows	Carrying amount	Contractual cash flows
Rupees			
Maturity up to one year	1,862,381,843	5,033,121,267	434,248,163,312
Maturity between 1 to 5 years	1,335,026,000	4,160,883,941	-
Maturity over five years	5,220,305,205	10,124,391,743	-
	<u>8,417,713,048</u>	<u>19,318,396,951</u>	<u>434,248,163,312</u>

31.2.2 The contractual cash flows relating to the loan related financial liabilities have been determined on the basis of mark-up rates disclosed in note 8 to these financial statements.

31.3 Market risk

Market risk is the risk that changes in market prices, such as foreign exchange rates, interest rates and equity prices will affect the company's income or the value of its holdings of financial instruments. The objective of market risk management is to manage and control market risk exposures within acceptable parameters, while optimizing the return. The Company is exposed to currency risk and interest rate risk only.

31.3.1 Exposure to currency risk

Foreign currency risk is the risk that the future cash flows of financial asset or a liability will fluctuate due to a change in foreign exchange rates. It arises mainly where receivables and payables exist due to transactions entered into in foreign currencies. The Company's exposure to foreign currency risk is as follows:

	2022 Rupees	2021 Rupees
Financial liabilities		
Long term loans	1,660,090,470	1,276,723,432
Accrued mark-up	143,535,663	99,100,527
Total exposure	<u>1,803,626,133</u>	<u>1,375,823,959</u>

The following significant exchange rates applied during the year:

	Average rate		Reporting date rate	
	2022	2021	2022	2021
US Dollars	177.45	159.10	204.85	157.54

At reporting date, if the PKR had strengthened by 10% against the US Dollar with all other variables held constant, post-tax profit for the year would have been higher by the amount shown below, mainly as a result of net foreign exchange gain on net foreign currency exposure at reporting date.

	2022 Rupees	2021 Rupees
Effect on loss	<u>128,057,455</u>	<u>137,579,165</u>

The weakening of the PKR against US Dollar would have had an equal but opposite impact on the post-tax loss.

The sensitivity analysis prepared is not necessarily indicative of the effects on profit for the year and assets / liabilities of the Company.

31.3.2 Interest rate risk

The interest rate risk is the risk that the fair value of future cash flows of a financial instrument will fluctuate because of changes in the market interest rates. Majority of the interest rate exposure arises from long term loans. Therefore, a change in interest rate at reporting date would affect profit and loss of the company:

	2022 Rupees	2021 Rupees
Fixed rate Instruments		
Financial assets		
Long term loans	1,786,049	8,198,200
Bank balances	2,097,794,537	6,809,211,246
	<u>2,099,580,586</u>	<u>6,817,409,446</u>
Financial liabilities		
Long term loans	<u>10,010,589,406</u>	<u>8,417,713,048</u>

31.4 Capital management

The company's objective when managing capital is to safeguard the Company's ability to continue as a going concern so that it can continue to provide returns to shareholders and benefits to other stakeholders, and to maintain a strong capital base to support the sustained development of its business. The Company manages its capital structure, which comprises capital and reserves, by monitoring its return on net assets, and make adjustments to it in the light of changes in economic conditions. In order to maintain or adjust the capital structure, the Company may adjust the amount of dividend to shareholders, appropriation of amounts to capital reserves and / or issue new shares.

The company manages its capital structure and makes adjustments to it in the light of changes in economic conditions.

	2022 Rupees	2021 Rupees
31.5 Financial instruments by category		
Financial assets at amortized cost		
Loans	3,111,933	14,797,150
Trade debts	78,977,481,839	70,447,801,109
Other receivables	50,876,382,581	48,854,502,104
Receivable from GoP (Ministry of Finance)	42,901,199,260	63,704,244,859
Cash and bank balances	9,252,011,789	13,475,596,076
	<u>182,010,187,402</u>	<u>196,496,941,298</u>
Financial liability at amortized cost		
Long term loans	10,010,589,406	8,417,713,048
Consumers' security deposits	6,260,816,713	5,546,066,924
Trade and other payables	425,008,512,127	401,074,847,719
Accrued markup	3,178,873,917	2,482,411,872
	<u>444,456,792,163</u>	<u>417,520,839,563</u>

31.6 Fair value of financial assets and liabilities

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

Underlying the definition of fair value is the presumption that the Company is a going concern and there is no intention or requirement to curtail materially the scale of its operations or to undertake a transaction on adverse terms.

A financial instrument is regarded as quoted in an active market if quoted prices are readily and regularly available from an exchange dealer, broker, industry group, pricing service or regulatory agency, and those prices represent actual and regularly occurring market transactions on an arm's length basis.

IFRS 13 'Fair Value Measurement' requires the Company to classify fair value measurements and fair value hierarchy that reflects the significance of the inputs used in making the measurements of fair value hierarchy has the following levels:

- Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities.
- Level 2: Inputs other than quoted prices included within level 1 that are observable for the asset either directly that is, derived from prices.
- Level 3: Inputs for the asset or liability that are not based on observable market data (that is, unadjusted) inputs.

Transfer between levels of the fair value hierarchy are recognised at the end of the reporting period during which the changes have occurred.

32 TRANSACTIONS AND BALANCES WITH RELATED PARTIES

WAPDA holds 99.99% shares of the Company, therefore all electricity generation and distribution undertakings of WAPDA are related parties of the company. Other related parties comprise of associated companies, directors, key management personnel, Government of Pakistan and Government owned entities.

Transactions with Government of Pakistan and Government owned entities are not disclosed as the management is of the opinion that it is impracticable to disclose such transactions due to the nature of the Company's operations.

Balances with related parties have been disclosed in respective notes to the financial statements. Transactions with electricity generation and distribution undertakings of WAPDA, other than remuneration and benefits to Chief Executive as disclosed in note 30 to the financial statements are as follows:

	2022 Rupees	2021 Rupees
Free electricity supplied by the Company	<u>200,063,737</u>	<u>138,597,198</u>
Free electricity supplied to the Company	<u>27,181,241</u>	<u>25,343,932</u>
Services provided by the Company (mainly include cash remitted to CPPA)	<u>152,798,270,369</u>	<u>113,238,213,002</u>
Electricity purchased by the Company	<u>282,802,591,808</u>	<u>188,257,612,829</u>
Management fee	<u>24,458,370</u>	<u>107,344,825</u>
Wheeling charges recognized as income	<u>2,490,046,402</u>	<u>2,800,605,820</u>
Rent loan received during the year	<u>1,312,182,220</u>	<u>1,050,312,548</u>
Mark-up expense during the year	<u>1,914,485,107</u>	<u>708,342,159</u>
Subsidy adjusted during the year	<u>60,654,045,009</u>	<u>58,339,628,113</u>
Subsidy claimed during the year	<u>39,850,999,410</u>	<u>60,056,930,841</u>
Adjustment of equity	<u>-</u>	<u>13,936,101,879</u>

33 RECONCILIATION OF MOVEMENT OF LIABILITIES TO CASH FLOWS ARISING FROM FINANCING ACTIVITIES

	June 30, 2022		
	Long term Borrowings including related accrued markup	Retained Earnings	Total
	Rupees		
Balance as at July 01, 2021	10,900,124,920	(302,052,301,314)	(291,152,176,394)
Proceeds from long term loans	4,437,779,093	-	4,437,779,093
Loans adjusted	(1,184,812,265)	-	(1,184,812,265)
	14,153,091,748	(302,052,301,314)	(287,899,209,566)
Total changes from financing activities			
Other changes			
Interest expense	696,462,045	-	696,462,045
Total loan related other changes	696,462,045	-	696,462,045
Total equity related other changes	-	(120,917,857,462)	(120,917,857,462)
Balance as at June 30, 2022	14,849,553,793	(422,970,158,776)	(408,120,604,983)

	June 30, 2021		
	Long term Borrowings including related accrued markup	Retained Earnings	Total
	Rupees		
Balance as at July 01, 2020	8,629,922,754	(302,052,301,314)	(293,422,378,560)
Proceeds from Long term loans	1,568,179,303	-	1,568,179,303
Loans adjusted	(85,147,203)	-	(85,147,203)
	10,112,954,854	(302,052,301,314)	(291,939,346,460)
Total changes from financing activities			
Other changes			
Interest adjusted	787,170,066	-	787,170,066
Total loan related other changes	787,170,066	-	787,170,066
Total equity related other changes	-	(29,252,183,323)	(29,252,183,323)
Balance as at June 30, 2021	10,900,124,920	(331,304,484,637)	(320,404,359,717)

34 BENAZIR EMPLOYEE STOCK OPTION SCHEME

On August 14, 2008, the Government of Pakistan (GoP) launched Benazir Employees' Stock Option Scheme (the Scheme) for employees of certain State Owned Enterprises (SOEs) and non-State Owned Enterprises, where GoP holds significant investments (non-SOEs). The scheme is applicable to permanent and contractual employees who were in employment of these entities on the date of launch of the scheme, subject to completion of five years vesting period by all contractual employees and by permanent employees in certain instances.

The Scheme provides for a cash payment to employees on retirement or termination based on the price of shares of respective entities. To administer this scheme, GoP shall transfer 12 % of its investments in such SOEs and non-SOEs to a Trust Fund to be created for this purpose by each of such entities. The eligible employees would be allotted units by each Trust Fund in proportion to their respective length of service and on retirement or termination such employees would be entitled to receive such amounts from Trust Funds in exchange for the surrendered units as would be determined based on market price for listed entities or breakup value for non-listed entities. The shares relating to the surrendered units would be transferred back to GoP.

The Scheme also provides that 50% of dividend related to shares transferred to the respective Trust Fund would be distributed amongst the unit-holder employees. The balance 50% dividend would be transferred by the respective Trust Fund to the Central Revolving Fund managed by the Privatization Commission of Pakistan for payment to employees against surrendered units. The deficit, if any, in Trust Funds to meet the re-purchase commitment would be met by GoP.

The IFRS 2 "Share Based Payments" will be implemented once the shares are issued against "deposits for shares".

35 NUMBER OF EMPLOYEES

2022

2021

Total number of employees as at the reporting date

12,425

12,767

Average number of employees during the year

12,783

13,135

36 DATE OF AUTHORIZATION FOR ISSUE

These financial statements were authorized for issue on _____ by the Board of Directors of the Company.

37 CORRESPONDING FIGURES

Corresponding figures have been rearranged and reclassified, wherever considered necessary, for the purpose of comparison.

38 GENERAL

38.1 Nomenclature of the following accounts has been changed:

Previous Nomenclature

Deletion during the year

Depreciation adjustment

Management fees and other charges

Current Nomenclature

Disposal during the year

Depreciation adjustment on disposal

PITC and other charges

38.2 Figures have been rounded off to the nearest Rupees.

CHIEF EXECUTIVE OFFICER

DIRECTOR

Certified copy

Company Secretary
PESCO

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
1	000401	DHAMTOUR	12092	23170	12.20	240.77
2	000402	CANTT	5646	18496	17.46	503.64
3	000404	KAKUL(PMA)	4	1198	6.86	241.45
4	000405	S.D.A	2	1253	0.47	14.70
5	000406	REPCO	12240	24903	20.12	545.77
6	000407	NAWAN SHEHR	11067	22500	16.33	325.94
7	000408	SHERWAN	11197	16483	10.68	174.78
8	000410	KEHAL	12793	24035	17.35	347.00
9	000412	BAGNOTAR	8300	11993	4.78	58.46
10	000414	THANDYANI	5082	7507	3.19	54.42
11	000416	RAWALAKOT	4584	11743	10.14	263.59
12	000417	CMH ABBOTTABAD	1	808	1.74	52.63
13	001101	CANTT BANNU	4244	4952	4.48	94.55
14	001102	CITY NO.1	5890	5895	4.25	73.41
15	001103	CITY NO.2	7761	7026	4.88	117.32
16	001104	GHORIWALA-1	3773	4856	3.31	61.80
17	001109	SCARP	8287	3643	3.15	54.52
18	001110	MANDAN	5562	4953	2.66	43.06
19	001111	BAKA KHEL-1	429	1633	1.65	47.19
20	001113	BAZAR AHMAD KHAN	4321	3867	3.79	64.86
21	001114	JANI KHEL (SCARP)	1712	2486	0.79	22.79
22	001115	CITY-III BANNU	7098	8419	5.76	162.95
23	001116	HAWAID BANNU	3181	3588	1.31	26.54
24	001117	ISMAIL KHANI	4608	3652	2.10	34.29
25	001118	JANI KHEL-2	5266	5312	3.10	57.34
26	001119	NURAR-2 BANNU	3479	2715	2.37	39.49
27	001120	WOOLEN MILL	3	946	2.90	83.68
28	001121	FATHMA KHEL	2114	3238	3.31	62.89
29	001122	MANDAN-2	2977	3962	3.03	50.23
30	001123	EXPRESS CANTT	632	7328	12.57	381.33
31	001124	ISMAIL KHEL	3304	2910	2.30	37.47
32	001125	BAKA KHEL-2	959	1261	0.23	8.77
33	001126	CITY-4	3192	4876	5.53	121.26
34	001127	SHABAZ AZMAT KHEL	1475	1933	1.74	24.64
35	001128	NURAR-3	1771	2053	2.50	38.80
36	001129	FATHMA KHEL-2	1205	3154	2.91	72.74
37	001130	UNIVERSITY OF ENG: & TECHNOLOGY BANNU	2	212	0.20	5.89
38	001131	CITY-5	2821	3897	4.44	87.97
39	001401	BATAGRAM	8341	12452	10.80	240.53
40	001402	BATTAL	12220	19724	16.67	323.73
41	001403	K.ABAD	4736	6977	3.25	63.20

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
42	001404	DESHAN	4350	6005	2.74	45.45
43	001405	JABBAR	10224	14601	9.09	144.15
44	001406	DHQ BATTAGRAM	1	1441	0.23	7.50
45	001407	SHUMLAI	2768	4481	3.47	79.39
46	001408	CHATTAR	4175	7130	0.45	10.17
47	002402	OUCH	3461	8106	7.19	131.41
48	002405	PIDC	6456	15211	13.33	240.04
49	002406	EXP-BAT-KHELA	5228	11378	12.71	264.47
50	002407	CHAKDARA	6031	12162	12.12	203.97
51	002408	THANA	7145	14645	13.55	242.05
52	002409	ASBAN	6104	13188	13.29	232.83
53	002410	BRANGOLA	5803	8938	10.90	181.94
54	002411	ALADAND	9005	15014	16.28	270.77
55	002413	NEW ASBAND	7626	13885	13.63	216.72
56	002414	SHAHI KHEL	2935	6711	5.87	108.32
57	002415	JALALA	8298	15650	16.79	311.32
58	002417	YAR STEEL MILLS	1	4200	9.16	254.80
59	002418	ITTIMAD STEEL MILLS	2	5026	12.64	377.86
60	002420	CITY BATKHELA	734	2096	9.61	180.99
61	002421	EXPRESS NASAF	4899	10818	9.91	165.30
62	002422	EXPRESS CHAKDARA CITY	5707	11012	12.63	249.20
63	002423	EXPRESS KOTI GRAM	5421	10108	9.73	151.90
64	002424	ITIMAD-2	1	4900	1.51	50.63
65	002425	UNIVERSITY OF MALAKAND	15	2165	1.68	47.82
66	002426	KHADAGZAI EXPRESS	5432	7663	8.68	132.32
67	002427	BAGH DHERAI	3990	7505	7.06	114.45
68	002428	SWT MOTORWAY TUNEL ZULAMKOT	1	1000	0.34	12.32
69	002601	CHARSADDA-1	6653	16220	11.73	269.22
70	002602	NISATTA	6883	12213	10.65	214.55
71	002603	MAJOKI	5345	9585	7.10	141.56
72	002604	SARDHERI	7582	16039	12.99	297.61
73	002607	BAHLOLA	4180	7435	1.82	36.83
74	002608	TARNAB	7361	12120	8.14	144.98
75	002609	RAJJAR	7258	14350	11.22	240.52
76	002610	TURANGZAI	3875	5542	2.71	50.73
77	002611	GUL ABAD CHARSADDA	3369	8908	4.59	123.21
78	002612	DARGAI	4805	10136	6.25	125.69
79	002614	KALYAS	4782	8208	7.71	154.62
80	002615	CHARSADDA KHAS	4964	7965	7.01	140.04
81	002616	AL-RAHMAN CNG	1	154	0.46	16.11
82	002617	INDUSTRIAL	26	1173	2.81	97.67
83	002618	PRANG	4722	6201	5.38	97.35
84	002619	CITY	6767	11010	13.00	346.51

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
85	002620	IJAZ FLOUR MILL	1	473	0.80	25.98
86	002621	DOSEHRA	2732	3576	3.71	66.54
87	002622	TURANGZAI BABA TOWN SHIP	197	1100	0.76	21.95
88	002623	DHQ CHARSADE	60	944	0.21	7.21
89	003401	C.R.B. CANAL	5040	9993	9.57	195.55
90	003402	CANTT: D.I.KHAN	4416	7249	7.16	160.59
91	003403	CITY-1	7224	8952	10.49	217.05
92	003404	CITY-2	3872	7262	7.72	185.70
93	003405	DOMAN O.MILL	4151	6569	9.47	160.57
94	003406	GOMAL	4428	8308	7.16	103.69
95	003407	KOTLA HABIB	3748	7151	6.49	111.89
96	003408	MANDARA	4932	6964	8.61	146.79
97	003409	QAYYUM NAGAR	4551	10837	5.30	91.82
98	003410	RADIO PAK D.I.KHAN	2	695	0.35	11.05
99	003411	SAGGU	4804	8833	7.31	124.75
100	003412	T.T.MILL	19	3267	18.29	507.33
101	003413	UNIVERSITY	5555	10336	9.72	176.69
102	003414	SHEIKH YOUSAF	1973	5155	4.08	95.74
103	003415	SADDER	5288	7622	6.67	130.55
104	003416	BARAN ABAD	1592	2989	3.84	70.92
105	003417	CANTT-2	1371	6025	6.70	192.40
106	003418	D.D.A	3328	5846	6.48	114.25
107	003419	MURYALI-1	4456	8401	9.99	208.95
108	003420	MUSLIM BAZAR	3622	5228	7.36	138.91
109	003421	MUFTI MEHMOOD HOSPITAL DIKHAN	28	3780	6.17	182.67
110	003422	DEGREE COLLEGE DIKHAN	3724	6993	9.67	204.06
111	003423	MURYALI-2	4006	7326	9.47	186.40
112	003424	TOWN HALL	1742	4178	5.51	136.32
113	003425	COMMISSIONERY BAZAR	3630	4233	5.63	110.31
114	003426	TOPAN WALA	3906	6827	6.57	177.42
115	003427	INDUS	3492	5039	8.67	152.06
116	003428	MUNEEZ ABAD	1638	2574	4.63	69.99
117	003430	SHEIKH YOUSAF-2	3160	6161	7.89	173.54
118	003431	MES DIK	1	2210	6.73	203.02
119	003432	TAUSEEF ABAD	1378	2411	3.32	64.23
120	003433	SMALL INDUSTRIAL ESTATE	13	385	0.01	0.37
121	005901	EXPRESS-TOWN-1	10574	21414	21.07	513.16
122	005904	SIRYA	12020	20262	19.16	373.52
123	005906	NAJIBULLAH	7256	13854	12.91	257.24
124	005908	PANIAN	6923	13513	10.88	215.17
125	005910	T&T COLONY NEW	222	3898	8.91	267.58
126	005912	PHOSPHATE	7	2711	7.16	185.22
127	005914	EXPRESS-TOWN-II	5721	13785	12.34	334.32

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
128	005918	SARAI NIAMAT KHAN	12554	21793	17.26	336.19
129	005919	BANDI SHER KHAR	3781	5898	4.30	79.13
130	005921	KALABAT	8095	16502	16.82	364.79
131	005923	ZEB PHARMACEUTICAL	3	881	4.27	108.79
132	005924	SWABI MERA	5821	10934	13.68	264.95
133	005925	CHAMBA PIND PROJECT	5	823	1.15	35.04
134	005927	KTS-2 HARIPUR	7362	12593	15.40	325.39
135	005928	KOT NAJEEBULLAH HRP	7669	12758	16.00	346.12
136	005929	TOWN-3	7868	15785	18.37	459.21
137	005930	PANIAN-2	4916	9651	12.28	265.55
138	005931	JUDICIAL COMPLEX	1	835	0.19	5.96
139	005932	TOWN-4	6795	12663	11.34	242.07
140	005933	TOWN-5	3335	6981	6.05	125.81
141	005934	SWABI MAIRA	6323	8342	0.92	14.33
142	005936	KOHSAR STEEL	1	4890	0.24	9.19
143	005937	KP ECONOMIC ZONE-II	1	3500	0.00	0.00
144	006801	AKORA	3365	11965	18.01	482.10
145	006802	ATTOCK	3962	11861	11.12	266.81
146	006803	JALBAI	5698	11716	10.85	233.06
147	006804	KHAIR ABAD	4515	16314	15.51	443.12
148	006805	LEATHER TANNERY	7	2093	0.04	1.19
149	006806	MIAN ESSA	6140	10389	9.75	183.43
150	006807	JEHANGIRA TOWN	7588	13239	11.83	258.70
151	006808	PAKISTAN TOBACCO COMPANY (P.T.C)	3	5305	16.85	467.40
152	006809	SWAT CERAMICS COMPANY	2	1078	6.36	176.93
153	006810	MIAN GLASS	4	1547	0.06	1.71
154	006811	TUBEWELL	4277	9243	9.83	179.58
155	006813	TORDHER	8659	14292	14.97	299.34
156	006814	ADAM ZAI	9347	16279	16.83	357.40
157	006815	NEW KHAIR ABAD	227	18649	23.12	774.01
158	006817	HAQANIA	8161	13876	13.48	305.61
159	006818	KHUSHAL KHAN KHATTAK	2537	6242	7.50	141.07
160	006819	MANKAI	5028	8455	8.06	152.15
161	006820	JALSAI	4936	8349	6.90	122.49
162	007004	HAYATABAD-1	1323	19115	13.81	418.02
163	007005	INDUSTRIAL ESTATE	384	20157	23.57	682.15
164	007010	HAYATABAD-2	2119	8176	9.88	265.78
165	007016	OMROC	344	7349	10.70	295.79
166	007018	EXPRESS NO-1	202	19554	20.57	622.78
167	007020	OLYMPIA PAPER MILL	108	17594	39.62	1109.82
168	007021	EXPRESS NO-2	18	5906	4.27	136.23
169	007023	HAYATABAD-3	2412	16059	17.09	486.31
170	007025	KACHA GHARHI	2932	5123	4.34	97.24

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
171	007027	RAHMAN MEDICAL INSTITUTE (RMI)	5	3277	7.48	301.45
172	007029	KARKHANO	3262	6964	5.79	193.46
173	007033	EXPRESS-3	700	15717	13.71	393.59
174	007036	PPI	1	4000	26.60	723.11
175	007037	NORTH WEST GENERAL HOSPITAL (NWGH)	1	1323	3.14	108.27
176	007038	FRONTIER TECH WOOD	2	6700	32.72	860.80
177	007039	AL-HAFIZ CRYSTOPLAST	1	3500	12.27	292.71
178	007040	EXPRESS-4	396	14575	21.70	637.61
179	007041	MOHMAND STEEL MILLS	1	1400	0.00	0.78
180	007042	REGI MODEL TOWN	1483	9139	5.24	142.17
181	007043	KIDNEY CNETRE	5	2965	4.27	144.01
182	007044	PREMIER CHIP BOARD	1	1800	0.31	13.39
183	007045	PPI-2	1	3800	23.24	605.07
184	007046	MAYKA STEEL	1	2900	0.89	25.26
185	007047	PESHAWAR INSTITUTE CARDIOLOGY (PIC)	1	4900	4.89	142.72
186	007048	NORTHERN BOTTLING	1	4500	9.61	232.22
187	007052	HAYATABAD-4	2099	10999	7.12	194.27
188	007053	HAYATABAD-5	2877	10191	17.85	471.46
189	007055	AL-HAJ STEEL MILL	1	2500	0.75	24.90
190	009801	KARAK-1	4278	6319	5.71	103.46
191	009802	SABIR ABAD	1709	4888	2.70	65.99
192	009803	BOGARA	3428	7102	5.00	105.98
193	009804	BAHADAR KHEL	4300	5387	4.29	85.21
194	009805	LATUMBER	3826	5180	4.62	87.68
195	009808	AHMAD WALA	4481	6779	6.37	125.47
196	009809	TOWN SHIP	1	400	1.13	34.01
197	009811	SABIRABAD-2	3248	6092	5.12	103.48
198	009812	HIGH WAY	2058	4303	4.27	80.08
199	009814	KARAK-2	3243	7688	5.86	143.81
200	009815	WARANA	2763	3622	3.57	58.09
201	009817	MIR SAHIB KHAN	985	2977	3.01	75.17
202	009818	INDUSTRIAL ESTATE	23	767	0.43	13.55
203	009819	SURDAG	949	1282	1.55	31.12
204	009820	WOMAN & CHILDREN HOSPITAL KARAK	1	22	0.46	14.31
205	009821	SABIR ABAD-3	2205	2552	4.16	63.23
206	009822	KUNDA KARAK	703	875	0.21	3.38
207	011101	BABRI MILL	7	5349	18.15	516.54
208	011103	CITY-1	395	956	0.01	0.36
209	011104	CITY-2	6605	10738	9.00	245.85
210	011106	GUMBAT	5178	10954	12.18	300.16
211	011108	KHERMATO	2585	4326	4.70	101.20
212	011110	LATCHI	4669	9215	7.96	172.29
213	011111	O.T.S	4857	7359	8.22	175.06

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
214	011112	SLEEPER FACTORY	6318	11290	11.32	262.13
215	011113	CADET COLLEGE KOHAT	2493	7262	8.94	249.26
216	011114	KDA HOSPITAL	5	1709	1.48	44.63
217	011115	KOHAT TEXTTILE MILL	2	3560	4.55	140.07
218	011116	ALI ZAI-1	4203	6552	9.62	205.33
219	011117	BARH	4493	7034	9.81	207.50
220	011118	KOHAT TUNNAL	22	1834	1.00	39.08
221	011120	COLLEGE TOWN	6142	10003	13.14	284.73
222	011121	KOHAT EXPRESS	1402	2420	2.70	52.41
223	011122	CITY-3	5262	7218	8.46	217.90
224	011123	JARMA	3180	6136	6.00	129.07
225	011124	CITY-4	5095	9037	10.83	258.93
226	011125	PAF BASE KOHAT	2	1261	5.07	153.47
227	011126	TAPPI	3311	5163	6.19	131.68
228	011127	BILITANG	5756	8680	10.99	233.97
229	011128	KOHAT UNIVERSITY SC. & TECH. (KUST)	26	1479	1.90	55.69
230	011129	KOHAT INDUSTRIAL ESTATE	22	1380	0.69	24.70
231	011130	DHODA INDUSTRIAL ESTATE	2740	4394	5.18	104.42
232	011131	SHADI KHEL	2778	3697	4.19	78.92
233	011132	KOHAT ENCLAVE	80	325	0.13	3.36
234	012801	BAFFA	8895	14829	12.66	240.27
235	012802	MANGLOOR	14518	27799	20.96	413.21
236	012803	CITY MANSEHRA	11480	19634	20.09	510.45
237	012804	PERHANA (OGHI)	12941	22209	18.66	349.81
238	012805	QALANDAR ABAD	13637	28184	21.95	477.14
239	012806	CHANNAI	10208	22670	20.18	481.14
240	012807	KHAKI	11059	22707	21.59	519.79
241	012808	DHODIAL	9421	20477	16.75	382.50
242	012809	GHAZI KOT	1650	4531	4.32	101.72
243	012810	INDUSTRIAL STATE	73	3541	5.15	168.37
244	012811	ATTER SHISHA	9269	17679	15.87	343.15
245	012812	MURADPUR	8044	13179	12.92	252.17
246	012813	SHINIARI	6378	11632	12.79	301.82
247	012814	CHITTI DHERI	5671	9535	9.84	199.60
248	012815	LASSAN NAWAB	8751	13949	9.23	164.90
249	012816	PAKHAL	11091	20765	19.23	407.94
250	012817	IHSAN SHAHEED	5318	9408	8.69	162.66
251	012818	SHAHEEN SHAHEED	5354	8349	6.58	118.67
252	012901	NAWAN KALI	6002	11023	12.82	278.94
253	012904	CITY-2	4350	9444	13.65	356.06
254	012905	INDUSTRIAL	691	18006	18.78	617.56
255	012906	AHMED ABAD	4408	7473	6.02	121.48
256	012907	NISATTA ROAD	3688	7003	4.50	104.54

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
257	012909	MAHABAT ABAD	7706	16691	11.64	274.40
258	012910	RURAL-I (TORU)	8068	13211	13.44	258.00
259	012912	BANK ROAD	6411	13222	18.32	485.28
260	012913	BAGH E ARUM	2967	7257	6.60	189.91
261	012914	EID GAH	3459	6274	11.58	274.96
262	012916	SHEIKH MALTOON	2340	7990	11.62	302.58
263	012918	MARDAN MEDICAL COMPLEX	140	3386	5.05	150.23
264	012920	NEW INDUSTRIAL EXPRESS	93	11347	16.93	561.70
265	012921	A.WALI KHAN UNIVERSITY MDN	1	2460	1.43	43.36
266	012922	BACHA KHAN MEDICAL COLLEGE MARDAN	0	0	0.00	0.00
267	013703	LORA-1	11167	17335	8.98	146.28
268	013715	LORA-2	6111	11235	6.51	115.98
269	014501	DARWAZGAI	6301	11228	9.15	178.71
270	014502	NIZAMPURA	5702	8701	6.80	129.10
271	014606	PANJ KATHA	5656	14562	13.02	305.74
272	015001	BARA BANDA	8287	17608	15.86	357.82
273	015002	KHESHKI TOWN	7019	12619	10.66	208.64
274	015003	KHESHKI TUBEWELL	3142	6598	5.47	109.30
275	015004	PAF-1 RISALPUR	2	3281	8.01	225.24
276	015005	PIR SABAQ	7646	13055	9.42	204.97
277	015006	RISALPUR CANTT:	56	10831	14.22	427.85
278	015007	S.J.MILL	2	700	0.10	3.03
279	015008	KABAL RIVER	5052	10269	9.18	221.15
280	015012	ABA KHEL	4839	7041	6.16	117.39
281	015013	PAF-2 RISALPUR	1	1502	8.05	231.62
282	015014	NOWSHERA KALAN (N.S.CITY)	5761	10099	8.85	185.44
283	015015	COMPANY BAGH	10233	23871	24.74	611.09
284	015016	ZIARAT KAKA SAHIB	5189	9014	11.37	230.33
285	015017	RISALPUR INDUSTRIAL	259	37232	33.61	1051.81
286	015018	NOWSHERA MEDICAL COLLEGE	1	2800	2.77	84.45
287	015019	RISALPUR	5447	8807	9.60	203.43
288	015020	RASHKAI NO-2	5398	9626	9.54	199.60
289	015021	INDUSTRIAL ZONE-3	75	13106	16.84	571.08
290	015022	KHESHKI EXPRESS	4205	6491	5.81	106.74
291	015023	TEHSIL ROAD	2923	4679	5.49	132.57
292	015024	BEHRAM KALI	2879	4299	4.19	76.63
293	015025	INDUSTRIAL MAX	35	7689	10.08	325.08
294	015101	C.S.T MILL	4	804	0.13	4.31
295	015102	AMAN GARH	5862	18727	20.87	574.58
296	015106	JALO ZAI	8796	14977	17.60	378.33
297	015107	MANKI SHARIF	5156	11800	8.13	191.36
298	015111	H.P.T	4	1390	0.11	3.40
299	015112	R.A.BAZAR	7190	14179	14.03	301.62

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
300	015114	GHEE MILL	113	2080	3.23	88.83
301	015115	PIR PAI	4851	12850	15.00	385.15
302	015116	M.E.S.	44	3004	8.17	259.34
303	015117	G.E. ARMY	45	3712	8.51	237.46
304	015118	ARMOUR	3912	8143	11.18	266.71
305	015119	FEROZ SONS	3	1894	2.33	63.87
306	015120	KHATTAK HILLS	4353	7466	2.22	45.47
307	015121	NOWSHERA CANTT	5543	9385	1.73	49.64
308	015601	ROMAK	4152	7626	6.72	109.67
309	015602	PAROVA	2976	6871	7.56	129.49
310	015604	MIRAN SUGER MILL	7	584	0.94	28.94
311	015605	SIKANDER	997	1327	2.18	31.08
312	015606	RASHID	1269	1767	2.51	36.25
313	015607	NAIWALA	3943	5711	7.64	116.50
314	015608	KIRI SHAMOZAI	2266	3160	2.17	39.61
315	016201	BANA MARI	4856	10063	11.02	271.09
316	016202	BARA	5042	7978	5.15	95.65
317	016203	CIVIL QUARTER	4232	8440	12.25	306.11
318	016204	DEH BAHADAR	3648	3418	4.62	97.87
319	016205	AMIN COLONY	1503	18287	20.57	654.99
320	016206	LANDI ARBAB	3803	5892	7.06	158.40
321	016207	NAWTHIA	8370	15712	20.17	452.59
322	016208	SUNEHRI MASJID	2710	10565	16.16	483.89
323	016209	WAZIR BAGH	4402	11248	13.01	304.06
324	016210	ABASIN	3569	9112	8.86	254.14
325	016211	KOHAT ROAD	4143	8598	8.45	212.27
326	016212	P.A.F EXPRESS	1	5095	5.79	178.08
327	016213	SHEKH MOHAMMADI	4813	7705	8.09	180.37
328	016214	GULBERG	5234	10851	13.63	320.84
329	016215	PISHTAKHARA	5101	7555	6.12	115.28
330	016216	NEW DEH BAHADAR	2732	4434	6.03	121.65
331	016217	MURSHID ABAD	5366	8598	12.05	284.86
332	016218	NEW LANDI ARBAB	5258	6880	8.91	196.48
333	016219	DORA ROAD	3224	4687	5.18	105.50
334	016220	SWATI GATE	4016	8468	11.86	274.85
335	016221	NODEH PAYAN	3958	5444	7.54	169.72
336	016222	AFRIDI ABAD	3158	12410	17.38	499.37
337	016223	LANDI ARBAB-3	3638	4859	6.94	142.38
338	016224	SCHEME CHOWK	3766	4062	0.37	6.97
339	019301	DALA ZAK	6691	11171	14.70	348.87
340	019302	NASAPA	7724	13759	13.58	289.27
341	019304	KHAZANA SUGAR MILL	7	977	0.60	18.92
342	019305	NAGUMAN	4181	7716	5.68	110.56

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
343	019307	BAKSHU PULL	5919	11327	9.23	192.44
344	019309	EID GAH PESHAWAR	3548	8383	13.37	342.27
345	019312	GHARI HAMZA	5799	10134	9.06	180.28
346	019313	SARBILAND PURA	3779	9886	14.63	423.30
347	019314	CHARSADA ROAD	3479	9322	14.81	396.33
348	019315	LATIF ABAD	2081	3999	9.88	254.01
349	019316	NAGUMAN INDUSTRIAL	77	11459	18.60	636.96
350	019317	NEW GHARI	3109	4106	4.94	98.34
351	019318	NISHAT	2530	3561	5.59	122.34
352	019319	KHAZANA	7024	10986	12.93	264.76
353	019320	AFGHAN COLONY	3197	4951	5.60	126.83
354	019321	SARDAR AHMED JAN COLONY	3431	5506	3.71	89.70
355	021101	TOPI	13378	29260	23.99	489.32
356	021102	KALABAT	3052	6688	6.57	183.71
357	021104	F-1 (H.S.MILL)	124	13401	12.15	334.36
358	021107	F-7 (GANDAF)	8535	27719	12.22	238.61
359	021108	G.I.K.	1	5000	6.69	210.97
360	021113	F-6 (IND.2 MIX)	151	23121	13.79	418.56
361	021114	MANAI	5954	13620	12.54	270.55
362	021115	NEW YOUSAFZAI	7070	11887	10.89	203.30
363	021116	UTLA	5659	10166	6.10	93.40
364	021117	SINO HYDRO-1	9	3923	0.17	7.23
365	021118	SINO HYDRO-2	1	3950	1.95	61.48
366	021119	KOTHA	4915	9251	8.65	167.37
367	021120	BET GALI AMAZAI	2996	5070	2.46	31.80
368	022501	TOWN	9204	21615	16.32	343.16
369	022502	LINK ROAD	10200	20152	15.90	333.70
370	023501	BADABER	2440	4182	5.11	120.82
371	023503	HASSAN KHEL	668	2110	0.93	21.17
372	023504	PAF	14	5109	0.50	20.62
373	023505	SYPHAN	2435	4281	3.74	87.12
374	023506	LIVE STOCK	18	239	0.12	3.54
375	023901	AWAN	4099	6488	5.17	82.90
376	023902	PAHARPUR	5149	9458	6.25	110.75
377	023903	PANYALA	4968	7136	5.38	108.76
378	023904	YARIK	4305	8287	6.66	142.94
379	023905	SCARP	5465	11050	8.85	161.89
380	023906	SCARP-2 (BUND KURAI)	2873	5204	3.24	53.19
381	023907	DHAKKI	4859	7279	6.38	94.58
382	023908	AL-MOIZ SUGAR MILL	7	812	0.18	7.51
383	023909	ACHU KHEL-2	0	0	0.00	0.00
384	023910	PAHARPUR-2	4187	6781	5.54	104.79
385	025807	GOKAND	5582	9905	11.55	204.90

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
386	026201	DARGAI NEW	6200	12150	14.17	257.67
387	026202	SAKHA KOT	8058	17186	19.36	366.48
388	026203	KOT FEEDER	5744	10542	10.16	163.30
389	026204	M.KHAN	4522	9138	7.24	121.84
390	026205	DARGAI OLD	133	176	0.28	6.17
391	026207	AGRA	4903	8202	7.56	113.42
392	026208	KHAN GHARI	3803	9373	9.77	204.60
393	028201	HANGU CITY	4762	9636	12.79	308.55
394	028202	USTER ZAI	3066	6948	6.94	155.78
395	028203	ZARGARI	4228	8823	7.77	176.82
396	028206	CITY-2	2603	3779	4.70	85.61
397	028207	SAMANA HANGU	2302	4006	4.47	93.22
398	028208	MITA KHAN HANGU	3425	5062	5.61	93.66
399	028209	KAHI	4060	5901	3.79	76.79
400	028210	HANGU BYPASS	4175	6336	8.55	157.33
401	028211	DHQ HOSPITAL HANGU	1	799	0.74	23.31
402	028212	TOGH SRAI	1919	3358	4.31	89.14
403	028214	CITY-3 HANGU	3709	6041	3.88	98.09
404	028302	N.R.T.C.	4583	9539	9.82	210.52
405	028303	ALI KHAN	4360	10858	10.11	247.67
406	028304	TELEPHONE INDUSTRY PAKISTAN	2	2902	0.30	8.89
407	028305	MIRPUR	3863	7613	6.70	136.31
408	028306	BAYYAN	8463	13856	12.33	234.52
409	028604	POF-1	2	1026	0.08	3.20
410	028605	POF-2	1	1120	0.01	1.24
411	028607	CENTRAL AMMUNITIION DEPOT HAV	1	840	0.88	27.69
412	028609	INFANTRY BRIGADE	1	3750	1.86	59.96
413	031103	P.A.F	1764	3511	5.24	133.68
414	031201	AIR PORT (EXPRESS)	3155	2201	2.55	56.08
415	031205	NURAR-I K-GARHI	3879	2917	2.82	45.16
416	031206	CANTT:	1768	1905	2.06	41.67
417	031207	AIR PORT-2	633	2014	2.24	51.75
418	031208	AMANDI	727	1115	1.62	30.13
419	032401	MATANI OLD	1957	3609	4.09	91.58
420	032404	AZA KHEL	1089	2830	1.30	29.59
421	032406	NEW MATTANI	2440	4166	4.48	101.02
422	034001	AMAN KOT	6953	10366	13.87	291.59
423	034002	PABBI CITY	6260	13414	15.36	401.06
424	034003	CHERAT	6	271	5.28	159.64
425	034005	SPIN KHAK	5282	10840	9.17	221.53
426	034006	TARNAB	263	1726	4.44	99.97
427	034007	JALO ZAI	4054	6732	5.98	126.20
428	034008	PANA KOT	1693	6057	3.27	76.40

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
429	034009	P.S.O	118	1448	7.40	168.31
430	034011	SHEKHAN	4878	10959	5.18	109.37
431	034012	DAGAI	5416	8234	12.40	296.37
432	034013	BANDA MUHIB	5699	7160	8.34	167.21
433	034014	SALEH KHANA	4376	5437	5.93	108.95
434	034015	AKBAR PURA PABBI	11	119	7.30	158.38
435	034016	SHEIKH SHAHBAZ BABA	4241	5357	7.65	171.58
436	034017	BANDA NABI	4472	5582	8.85	184.97
437	034018	TARU JABBA	17	496	7.03	171.86
438	034019	SHAH KOT	3852	5768	5.58	107.54
439	034020	PABBI HOSPITAL	0	0	0.00	0.00
440	034401	GUL BAHAR	5242	12428	17.21	454.83
441	034402	NISHTAR ABAD	6148	21834	17.43	572.18
442	034403	LALA	4325	9735	8.84	200.98
443	034405	PANDO ROAD	4789	12366	15.22	374.19
444	034406	RADIO PAK	16	1277	0.71	22.19
445	034407	SIKANDAR PURA	6459	12577	13.70	343.90
446	034408	BAGHBANAN	5832	10753	10.62	258.10
447	034409	HASHTNAGRI	2860	8401	8.17	227.62
448	034410	CHAMKANI	3272	7273	7.81	201.58
449	034411	JAGRA	3522	7265	8.77	208.95
450	034412	CHUGHAL PURA	3771	20056	22.15	687.12
451	034414	HUSSAIN ABAD	4783	10645	14.41	367.36
452	034415	ZARYAB	5597	9866	12.74	295.96
453	034416	URMER	5431	6038	8.27	173.37
454	034417	ISLAM ABAD	3661	8032	10.70	305.46
455	034418	FAQIR ABAD	3305	6658	5.62	145.13
456	034419	SHEIKH ABAD	5394	8463	13.01	295.14
457	034420	SETHI TOWN	5917	9105	15.63	361.25
458	034421	MOLVI JEE	5	2048	1.26	39.73
459	034422	NHA COMPLEX	10	571	0.22	6.60
460	034423	NEW CITY HOME	2733	7424	10.09	270.32
461	034601	ISLAMIA COLLEGE	4720	10091	9.15	219.28
462	034603	KHYBER TEACHING HOSPITAL	15	1722	6.04	177.66
463	034604	MICHNI ROAD	289	10926	5.52	192.96
464	034605	N.C.ROAD	1336	18579	13.86	416.43
465	034606	AIR PORT ROAD	433	5419	2.85	82.54
466	034609	SCARP-1	3233	6726	3.50	73.22
467	034611	UNIVERESITY TOWN	3851	16049	18.33	579.67
468	034613	BIHARI COLONY	3540	10488	9.94	256.78
469	034614	FORT JAIL	116	5976	5.67	186.05
470	034615	TEHKAL	4523	7406	7.66	176.04
471	034617	SADDAR ROAD.	5808	15264	15.22	523.87

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
472	034619	PALOSI.	3055	5172	4.92	106.44
473	034620	MAKDARZAI	2933	5204	4.50	90.38
474	034621	MALL ROAD	2461	10486	10.54	354.56
475	034622	BABU GHARI	5171	12559	15.74	403.13
476	034623	TEHKAL PAYAN-II	1540	2255	2.69	55.80
477	034624	PAF Base	2	3903	12.51	380.57
478	034625	CAA	1	2000	4.29	130.38
479	034628	MES-2	1	4880	14.97	430.96
480	034629	JEHANGIR ABAD	2072	12558	12.60	475.79
481	034630	COMMERCIAL	1029	3245	3.49	106.17
482	034631	MARBLE INDUSTRIES	119	6683	0.71	26.84
483	034701	CHOWK YADGAR	4487	14384	15.85	484.36
484	034703	DABGARI	9215	17420	15.64	442.85
485	034705	GOVT.HOUSE	12	121	0.70	21.51
486	034707	L.R.HOSPITAL	215	6861	8.31	242.00
487	034708	QISSA KHANI	4137	8855	8.47	279.89
488	034709	RADIO PAK	1	450	0.15	4.81
489	034712	KAKSHAL	4114	9910	13.16	341.35
490	036501	ADHI ZAI	2907	3875	5.26	94.57
491	036504	MORAN KOROONA	1832	3207	4.81	83.33
492	036505	SHABQADAR FORT	3663	5420	5.49	137.06
493	036506	RASHAKAI	4245	5339	0.09	2.38
494	036507	KHWAJAWAS	3824	6783	0.02	0.42
495	036508	SROKALI	3529	8940	0.01	0.53
496	036509	SREEKH	5519	8190	4.99	95.83
497	036510	PALAWAN QILA	1336	2058	3.00	56.09
498	036511	HALIM ZAI	486	908	1.09	19.79
499	036512	PIR QILLA	4814	8440	0.02	0.41
500	036513	AMBADHER	3541	4436	7.40	142.60
501	036514	KOTAK	1332	1630	2.22	42.56
502	036515	BAHLOL KHEL	1629	2149	4.55	79.79
503	036516	MATTA MUGHAL KHEL	2278	3196	5.13	94.33
504	036517	KANGRA	2501	3063	3.48	62.80
505	036518	MIR ZAI	1640	2021	3.54	64.40
506	036519	FATMA KHEL	1623	1706	3.39	58.63
507	036520	INDUSTRIAL MATTA S/Q	127	12726	20.08	678.91
508	036521	CNG	8	1322	2.61	93.71
509	036522	CIVIL HOSPITAL SHABQADAR	4	233	0.37	11.35
510	036523	KATOZAI	1535	1592	3.86	66.55
511	036524	ATTAKI	713	1014	1.29	22.08
512	038401	KUNDA	10404	23633	20.45	474.25
513	038402	BAM KHEL	6799	13051	12.18	245.96
514	038403	SHAH MANSOOR	5424	10574	10.30	227.11

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
515	038404	CHAR BAGH	9922	19813	16.47	336.56
516	038405	MATHRA	5101	13033	9.45	177.21
517	038406	TOTALAI	3082	6030	7.91	131.20
518	038407	NAWAN KALI	4526	8407	6.75	136.22
519	038408	CITY	6852	12438	15.15	375.93
520	038409	DANDOKA	4245	7098	6.71	125.10
521	038410	PUNJPIR	6316	10473	10.66	220.00
522	038412	KARNAL SHER	3355	6497	5.29	108.23
523	038413	MANSABDAR	5927	13699	13.82	337.99
524	038414	SHAH MANSOOR HOSPITAL	2	661	1.67	49.23
525	038415	LAHORE	8165	14644	12.38	239.57
526	038416	KHUDO KHEL	8768	16013	16.05	298.61
527	038417	GAR YOUSAFI	4274	7286	6.61	122.31
528	038418	PALO DHAND	6010	12978	12.55	287.25
529	038419	MANARI	6505	10269	12.32	265.58
530	038420	ZAIDA	6617	10003	10.50	203.06
531	038421	SHEIKH JANA	6362	10004	9.78	179.04
532	038422	SWABI UNIVERSITY	1	1068	0.60	18.11
533	038423	TOWN-1 SWABI	36	72	0.01	0.11
534	038424	TOWN-2 SWABI	0	0	0.00	0.00
535	038425	CHINGLAI	5127	8174	3.20	57.70
536	038604	TAJAZAI	2196	2825	1.90	43.59
537	038606	GHOZNI KHEL	6521	8018	5.02	96.86
538	038902	MALAKAND	4554	8408	9.10	138.68
539	038903	HAJI ABAD	5187	11399	9.15	159.52
540	038904	SAMAR BAGH	9325	16729	10.64	151.05
541	038906	DHQ HOSPITAL TMG	92	1057	1.09	30.20
542	039301	CITY & CANTT	3990	5221	3.08	67.81
543	039302	DABARA	4125	4806	4.19	77.46
544	039303	GUL IMAM	4203	4454	9.02	123.83
545	039304	RANWAL	2915	4049	4.19	73.75
546	039305	MULAZAI-1	2628	2411	7.36	91.74
547	039306	UMER ADDA	1524	1305	2.06	35.24
548	039307	KOT AZAM	2898	2903	8.30	108.37
549	039308	SABIR BABA	2229	2102	2.22	35.76
550	039309	MULAZAI-2	1790	3124	2.92	72.09
551	039310	CITY-2 TANK	2211	2932	2.82	58.17
552	039311	KOT AZAM-2	692	1560	3.42	51.31
553	039401	DOABA	5370	9347	6.67	147.71
554	039403	THALL	2521	4847	3.91	88.88
555	039404	NARYAB	4556	6690	4.24	86.32
556	039405	CANTT	16	1215	6.18	184.94
557	039408	CITY-2	2804	3761	4.83	118.70

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
558	046001	CHAMBA GUL	1385	1810	1.91	38.55
559	046002	MANDORI	2916	5092	4.47	96.74
560	046003	LACHI	4758	6760	8.40	182.24
561	046004	TERRE	7399	11426	13.32	287.25
562	046006	SHAKARA DURA	5367	6522	7.74	143.18
563	046008	LACHI RURAL	4656	6265	8.02	157.84
564	046009	LACHI-2	6	770	1.55	53.73
565	046102	MALAMJABA	10783	18975	25.50	444.04
566	046103	DEHERAI	7732	12341	13.73	229.45
567	046104	MINGORA-1	6400	9721	11.70	204.85
568	046105	DEVLAI	9603	15515	17.29	272.38
569	046106	RAHIM ABAD	6241	17153	20.20	433.23
570	046108	NAWAY KALAY	8388	17949	21.54	432.39
571	046109	SAIDU SHARIF	7916	16280	18.43	353.18
572	046111	MINGORA-4	6031	9047	9.00	201.56
573	046112	ODIGRAM	5030	9501	9.20	167.04
574	046113	KABAL	5785	11152	11.52	208.60
575	046115	KANJU	8543	18575	19.38	359.95
576	046116	GULKADA	4588	9701	11.73	263.22
577	046118	MARGHUZAR	7025	11946	12.60	206.09
578	046119	SINOR MINGORA	3	804	0.40	10.48
579	046120	QALAGAI	8856	13046	12.83	195.02
580	046121	GOGDARA	4218	7114	8.06	140.34
581	046122	TAKHTA BAND	8190	19119	21.47	431.07
582	046123	QAMBAR	6063	13802	14.95	322.84
583	046124	SANGAR	6334	10178	10.29	169.25
584	046125	HAJI BABA	8071	14447	18.57	332.85
585	046126	SAIDU BABA	7453	13922	15.92	293.31
586	046127	BARA BANDAI	5824	10305	11.70	202.61
587	046128	SHAH DARA	9205	13030	15.59	298.90
588	046129	HOSPITAL EXPRESS	53	5432	2.35	61.78
589	046130	AJRANGA KHAIL	3652	6786	8.07	142.08
590	046131	DARDYAL	7253	9531	9.51	134.59
591	046132	KANJU CANTT	1	4787	0.00	0.00
592	046133	MANGLAWAR	4948	7412	0.95	22.73
593	046202	GHAZI	10632	29661	20.25	469.16
594	046203	WAPDA COLONY L/B-3	509	3995	1.66	47.53
595	046204	WAPDA L/B-4	643	3461	1.40	37.21
596	046205	SOBRA L/B-5	1389	10545	2.59	67.18
597	046206	SRI KOT	6487	8572	8.63	156.96
598	046207	L-I G.B.C	7	3551	0.72	19.14
599	046209	QAZI PUR AIR FIELD	5	4271	8.00	240.24
600	046210	JHAMERA CR	4430	7268	7.08	134.90

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
601	046302	CHITRAL HYDEL (I) URBAN	2253	3893	2.69	43.93
602	046401	DARA ZINDA	795	1653	2.36	43.96
603	046402	DRABAN	3341	4737	11.62	208.84
604	046403	GANDI UMER KHAN	1580	2391	2.67	47.60
605	046601	KULACHI	2706	2753	5.80	98.67
606	046602	HATTALA	2823	3110	6.98	102.48
607	046603	MADDI	2210	2513	7.06	108.94
608	046604	DAMAN	1690	2036	1.22	23.67
609	047302	CITY-1	1	3077	26.59	690.89
610	047303	CITY-2	1	3077	24.38	638.11
611	047304	KOHALA-1	1	3077	11.47	300.63
612	047305	H.P.T.	1	3077	5.16	135.50
613	047306	NOSERI	1	3077	7.14	188.62
614	047307	SECRETARIATE	1	3077	11.70	306.20
615	047308	KOHALA-2	3	3122	19.17	497.25
616	047309	CITY-3	1	3077	14.96	390.40
617	047311	WATER SUPPLY	1	3077	7.75	202.13
618	047314	MUZAFARABAD CITY-4	1	2000	26.52	695.75
619	047315	MUZAFARABAD KAHARI EXPRESS	1	2000	23.89	627.99
620	047316	STATE BANK	1	1000	7.39	197.38
621	047317	BARAR KOT	1	1500	10.97	288.01
622	047318	C.M.H	1	2000	2.81	73.31
623	047319	CITY-5	1	3430	15.82	416.64
624	047320	PATTIKA	1	1735	0.00	0.00
625	051401	CIRCULAR ROAD	878	7790	8.74	297.42
626	051402	ACADEMY TOWN	2572	7321	10.31	276.80
627	051403	ACHINI	3998	6790	5.93	134.48
628	051404	RAHAT ABAD	3268	6729	5.59	127.27
629	051405	DANISH ABAD	1260	4438	14.52	424.58
630	051406	ENGINEERING COLLEGE	528	14063	12.89	392.75
631	051407	CANAL TOWN	3358	9906	11.16	319.96
632	051408	UNIVERSITY CAMPUS	1079	12828	10.64	348.46
633	051409	GUL ABAD	1404	6596	6.16	189.10
634	051410	TAJ ABAD	6087	15620	20.77	530.62
635	051411	GHARIB ABAD	4200	8484	7.78	184.09
636	051412	REGI	2058	3404	9.91	265.64
637	051414	ABDARA	5546	8194	7.38	156.18
638	051415	HAYATABAD MEDICAL COMPLEX (HMC)	3	2863	8.36	250.37
639	051416	OLD HAYATABAD	83	798	10.36	278.05
640	051417	RING ROAD	1037	10022	9.69	356.15
641	051418	AGRICULTURE UNIVERSITY	367	8603	6.05	178.28
642	051419	ACHINI-2	3644	5165	3.86	84.92
643	051420	SUFAID DEHRI	3776	5470	5.49	115.03

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
644	051421	HASAN ZAI	3394	8209	9.36	227.24
645	051422	JAMALUDDIN AFGHANI ROAD	1250	5414	8.11	238.80
646	051423	OLD BARA ROAD	2106	7491	9.71	279.80
647	051424	MALKANDHER	5136	14022	17.37	436.27
648	051425	CASUALTY MULTI BLOCK	5	1422	1.88	56.04
649	051426	DHA	154	1314	0.15	4.63
650	051801	CHANARI	1	1846	16.66	437.94
651	051802	GARHI/D	1	3077	13.16	348.80
652	051803	CHIKKAR	1	800	10.54	276.68
653	051804	KHAWRA	1	1735	6.47	172.27
654	056701	UMAR ZAI	5169	8785	4.45	104.43
655	056702	ZIAM	4076	6164	2.94	52.64
656	056703	TANGI MIRA	3509	6067	3.81	74.16
657	056705	BARAZAI (TANGI-I)	6031	8670	10.21	228.69
658	056707	SHER PAO	5780	8858	4.71	83.44
659	056709	ABAZAI (TANGI-II)	3035	4873	5.13	107.43
660	056710	MIR ABAD	3243	3329	4.26	114.71
661	056712	DHERI HAMEED	4243	7051	3.73	69.49
662	056713	DAKKI	4648	7331	4.22	68.33
663	056714	LUQMAN SHAHEED	0	0	0.95	20.62
664	056715	TANGI NUSRAT ZAI	4400	6622	7.16	156.14
665	056716	LIFT IRRIGATION	1	281	0.88	22.29
666	056718	MIRZA DHER	4374	6141	4.18	89.66
667	056720	TEHSIL H/Q HOSPITAL	1	124	0.21	6.70
668	056721	KULADAND	2669	4026	2.75	43.53
669	058001	BALAKOT	20188	31236	15.28	315.30
670	058003	GARHI HABIBULLAH	17193	26181	20.42	390.71
671	058004	O/G BOHI	6217	8554	5.72	95.99
672	059601	PEZU	6530	12283	8.21	184.13
673	059602	GURLANGI	912	1953	2.14	63.86
674	059603	ABDUL KHEL	844	1077	0.92	20.79
675	059604	KHYBER	1066	1289	0.51	11.51
676	062501	DIR (ARC-3)	4165	7052	6.99	121.05
677	062502	BARAWAL	4640	6570	8.84	137.16
678	062503	WARI (ARC-2)	5410	8032	9.80	148.95
679	062504	SHERINGAL	4401	6534	8.81	135.95
680	062506	PANAKOT	5620	7731	9.25	146.87
681	062507	OSHERAI	5625	7298	10.91	156.35
682	062701	SAIF TEXTILE	1	4990	20.53	594.51
683	062702	SHAHZAD GHEE MILL	3	2800	7.23	185.36
684	062703	LATIF S.TEXTILE	1	1500	2.93	87.37
685	062705	MIXED INDUSTRIAL	355	35618	32.83	900.36
686	062706	KHYBER SPENING	1	2500	8.55	241.14

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
687	062707	TAW: POLYSTER	3	6089	2.87	96.87
688	062708	MEEZAN TEXTILE MILLS	2	2295	2.99	91.33
689	062709	PESHAWAR STEEL	3	4519	4.82	147.82
690	062710	KHYBER STEEL MILLS	1	4998	9.94	271.65
691	062711	ALREHMAN STEEL	4	7337	0.00	0.75
692	062712	ITFHZ TEXTILE	2	3758	2.91	91.56
693	062714	SARHAD STEEL	1	4804	0.01	2.10
694	062715	A.J. TEXT MILLS	2	5716	18.51	545.77
695	062716	GADOON TEXT MILLS	1	4800	11.76	351.53
696	062717	ALAFI STEEL MILLS	2	2205	0.78	24.41
697	062719	JANDA	6764	11939	10.45	197.32
698	062720	STFA	166	2268	0.40	10.24
699	062721	HATTAR TEXTILE	1	3371	10.47	297.29
700	062722	MARGHUZ	6336	10928	11.09	225.77
701	062723	GADON TEXTILE MILL NO.2	1	4950	14.53	430.88
702	062725	DAUD STEEL MILL	1	3000	0.00	0.85
703	062726	M/S SYNTRON	2	1303	6.63	185.25
704	062727	CHERAT PAPER SACK	1	4900	9.34	262.70
705	062729	MARDAN STEEL MILL	1	3000	3.15	84.45
706	062730	SWABI TEXTILE MILL	4	1536	8.06	226.42
707	062731	AL-HAMZA WOOD	1	1600	5.73	154.13
708	062732	FAMILY FLATS	1155	2309	1.61	29.89
709	062733	JADOON METAL WORKS	1	3500	1.71	45.91
710	062734	BAJA EXPRESS	4575	7926	7.91	157.18
711	062735	CHARAT PACKAGING UNIT-2	1	3500	3.30	86.98
712	062736	ALFA PIPE	1	3000	4.37	113.72
713	062737	THANDKOI	2881	4582	5.38	106.80
714	062801	A.M.C	12	2244	8.60	264.11
715	062802	JHANGI	12687	28369	21.46	480.46
716	062803	JINNAH ABAD	10856	26822	22.19	524.35
717	062804	A.P.S	9418	22594	18.53	429.63
718	062805	COMSATS UNIVERSITY	3	618	1.12	33.40
719	062806	MANDIAN	9169	20517	17.55	397.73
720	062807	TANAWAL	9119	13811	8.05	128.96
721	062808	S.I.E ABOTTABAD	111	2791	4.82	161.54
722	062809	BANDA PIR KHAN	8074	15162	12.32	268.55
723	062810	PMA-2	1	3200	4.83	152.52
724	062811	INOR-I	1	600	0.21	6.67
725	063801	HATTAR-1	756	18524	16.47	442.26
726	063802	SALVE TECH	4	4791	3.32	93.27
727	063803	CRESENT TEXTILE	1	1970	3.86	108.77
728	063804	SPIN GHAR	1	1500	10.62	296.72
729	063805	HATTAR-2	265	22097	31.09	883.80

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
730	063807	BIAFO	2	685	0.67	20.56
731	063808	SHADI KHANPUR	4579	13959	15.68	414.10
732	063809	HIE-5	752	16515	29.84	812.57
733	063810	H.E.C.	1	750	0.35	10.61
734	063811	MURREE GLASS	4	3954	8.22	186.61
735	063812	SURAJ GALI	5503	14922	12.18	291.26
736	063814	NEELAM	1	4500	0.04	1.18
737	063815	HATTAR-3	1	4949	13.42	349.96
738	063816	SYTRONICS	2	4950	19.16	491.94
739	063817	HATTAR-4	129	17552	17.55	489.13
740	063818	ADDEL STEEL (INDPENDENT)	1	4990	0.01	0.86
741	063819	ECO PACK	1	4822	17.20	448.94
742	063822	NOVA SYN PAC	1	2600	9.97	273.53
743	063823	AL HADEED ENGINEERING	1	4990	0.00	0.75
744	063824	REHMAT STEEL FURNANCE	1	4950	0.74	24.74
745	063825	M/S PAKISTAN ACCUMULATOR	3	7480	41.80	1137.91
746	063826	M/S MUJAHID STEEL HATTAR	1	4880	5.03	146.53
747	063827	M/S M.A STEEL HATTAR	1	4990	22.45	622.14
748	063828	M/S H.I.E-6	75	12836	25.37	713.40
749	063829	REHAMT CAPITAL STEEL	1	1900	1.11	34.17
750	063830	HATTAR STEEL-2 RE-ROLLING MILL	1	4990	13.01	328.91
751	063831	FDL	1	2000	10.50	258.42
752	063833	ALI STEEL	1	4070	2.23	44.42
753	063834	CORONET FOOD	1	4900	17.69	454.66
754	063837	FARID STEEL	1	4900	21.23	568.80
755	063838	MUJAHID STEEL-2	1	4950	1.56	52.95
756	063839	MINROX	1	965	0.05	1.34
757	063842	HORIZON PAPER MILLS	1	4997	23.45	566.74
758	063843	SURAJ GALI-2	5769	13638	8.27	175.54
759	063844	SHARIF GASES PVT LTD	1	1998	9.26	232.08
760	063845	HATTAR-7	35	8002	12.05	348.86
761	065701	KHESHKI (3.3 KV)	1	2000	9.82	165.21
762	067101	BADBER	2284	5127	3.85	89.59
763	067102	SARBAND	2155	1609	2.52	60.43
764	067103	BALARZAI	3225	3236	3.60	86.67
765	067104	MASHOGAGAR	2846	3891	2.79	54.88
766	067105	SHAHAB KHEL	925	1042	2.40	53.71
767	067106	SHEIKHAN	1520	2233	4.69	108.91
768	067107	ARMY WELFARE TRUST (AWT)	354	1378	1.15	31.21
769	067801	GARAM CHASHMA	613	671	0.00	0.32
770	069301	SHAH DAND	5252	10968	11.10	262.95
771	069302	GHARI KAPURA	8657	13824	14.56	284.96
772	069303	ZANDO	5330	10524	9.95	203.22

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
773	069304	LAKSON TOBACCO COMPANY	1	3000	0.33	9.95
774	069305	NEW PAR HOTI	5003	8743	10.54	242.00
775	069306	TORU	1324	1729	2.65	49.97
776	069307	NEW BAGHDADA	7054	12283	12.99	293.79
777	069308	BALA GHARI	4692	7323	7.63	150.83
778	069309	DANG BABA	4159	6329	8.79	177.12
779	069310	DURAN ABAD	4865	8300	11.50	262.21
780	069311	SHANKAR	3545	6906	6.67	144.86
781	069312	GAJU KHAN	3158	5217	9.70	283.30
782	069313	MALAKAND ROAD	3645	6746	6.19	129.17
783	069314	MALL ROAD	3127	8214	6.40	207.66
784	069315	COL. JAWAD KHAN SHAHEED	251	2053	2.18	72.16
785	069316	PUNJAB REGIMENT CENTRE	1	2289	4.55	137.08
786	069317	TAUS BABAINI	4451	7560	7.26	131.26
787	069401	GUMBAT NEW	6350	9657	11.29	232.26
788	069402	KHUSHAL GARH	3839	5259	8.01	162.61
789	069404	PATYALA	4343	5053	8.57	166.95
790	069405	SIAB	2353	4651	6.46	155.06
791	069406	SHADI PUR	0	0	0.00	0.00
792	069901	DAUDSHAH / KURAM (KG-1)	2584	1962	3.03	64.51
793	070901	ATHMOQAM	1	800	1.02	26.11
794	070902	PANJKOT	1	800	13.40	351.13
795	070903	PATAKA	1	800	16.23	422.61
796	070904	NOSADDA	1	1000	0.00	0.00
797	071801	S/Y FEEDER NO.10	784	2239	2.19	58.41
798	071802	S/Y FEEDER NO.11	827	5143	3.97	115.30
799	071803	S/Y FEEDER NO.12	282	6124	2.28	70.96
800	073601	KHUNGAI	4064	10504	8.88	177.74
801	073602	LAL QILA	7697	14396	12.24	193.11
802	073603	RAHIM ABAD	4563	9311	8.38	133.88
803	073604	DANWA	3965	8189	8.22	142.27
804	073605	MAIDAN	4664	8902	9.23	145.92
805	073609	SADO	5984	13892	12.43	221.05
806	073610	MAYAR	5230	9489	9.27	153.77
807	073611	DUSHKHEL	3055	6861	6.55	108.45
808	073614	AKA KHEL	7630	13996	15.35	233.14
809	073615	UDIGRAM	8222	16555	15.25	242.00
810	073616	BALAMBAT	4966	11248	11.67	220.27
811	073617	SHEIKHAN	5700	14475	14.00	309.50
812	073618	KHALL	5845	11771	12.49	214.31
813	073619	MANYAL	2816	4999	5.39	83.86
814	073620	EXPRESS JANDUL	6710	12060	10.74	163.17
815	073621	SHAMSI KHAN	3540	6946	6.00	93.80

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
816	073622	GOSAM	4939	8709	9.58	161.21
817	073623	RABBAT	4783	8626	7.15	109.75
818	074404	BILOT	5540	10794	10.36	192.64
819	075701	UMAR ABAD	4306	7455	5.89	109.77
820	075702	TAKHT BHAI	6184	14159	14.54	345.34
821	075703	SHERGARH	4664	10035	9.18	205.49
822	075704	TAKKAR	6791	12384	14.84	327.59
823	075706	HATHYAN	7709	12545	12.81	246.08
824	075707	MADI BABA	5928	8491	6.26	124.30
825	075708	JEHANGIR ABAD	6606	13182	13.01	283.05
826	075709	NEW KATLANG MDN.	4245	6085	6.38	113.41
827	075710	REHMAN COTTON MILL	2	4550	19.54	563.37
828	075711	MANDANI	2031	2430	4.37	91.30
829	075712	NEW TAKKAR	5920	9736	10.09	193.17
830	075713	LUND KHAWAR	4497	7608	7.21	137.30
831	075714	BADRAGA	4251	8828	8.55	190.55
832	075715	NARAY WALA	2763	4581	5.00	98.28
833	075716	NEW SHERGARH	4302	7934	10.09	265.37
834	075717	NEW BADRAGA	1820	2923	3.00	53.62
835	075718	SHAH DAND	4965	7563	8.10	162.00
836	075719	HARICHAND	3013	3929	6.22	149.16
837	075720	SAID ABAD	7160	11754	11.76	235.02
838	075721	KOT	3942	6912	6.70	127.54
839	075722	PATI KALAN	3826	5998	3.92	72.87
840	075723	SADAT BABA	3289	5200	5.37	98.68
841	078301	DALLAN	2324	3305	4.45	105.08
842	078302	TERRY-2	1556	2077	0.42	11.25
843	079201	KARIM PURA	9526	13301	15.59	418.43
844	079202	SHUBA	3973	11026	7.95	256.64
845	079203	SECERTARIATE	756	7152	9.60	285.90
846	079204	BASHIR ABAD	3438	7466	10.61	282.81
847	079205	DEANS	2	2501	2.13	84.81
848	079206	KOHATI GATE	6814	9175	11.09	340.72
849	079207	JUDICIAL COMPLEX	2	2530	1.84	55.77
850	079208	PAK MEDICAL CENTER	1	2000	0.93	37.84
851	079209	MES	1	3277	12.47	364.18
852	079210	NEW ALLIED WARD LRH	1	4989	5.41	162.39
853	079211	PIPAL MANDI	6069	7225	4.60	127.09
854	080101	MATTANI NEW AZA KHEL	1409	1979	2.72	56.96
855	080103	TELABAND	1151	2689	1.63	35.38
856	080108	DARWAZGAI	1063	2435	2.17	49.57
857	080109	MATANI CITY	2544	3237	4.56	97.67
858	080110	MARYAM ZAI	1394	1690	3.23	70.77

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
859	080114	ZANGLE BADABER	1262	2734	2.03	48.26
860	080401	JANDU KHEL	3067	3367	2.42	39.94
861	080402	TOWN SHIP	3799	7787	5.94	143.66
862	080403	DOMEL	2946	4627	2.59	58.32
863	080404	THAL WAZIR	3592	4257	2.21	38.30
864	080405	ZAKIR KHEL	2986	3371	4.94	85.09
865	080406	DOMEL-2	1003	1561	1.95	32.47
866	080407	BASIA KHEL	3624	3416	4.28	82.58
867	080408	DOMEL-3	4546	4513	4.70	77.74
868	080409	TALL WAZIR-2	2041	2366	2.11	36.13
869	080410	KGN TOWNSHIP	2	400	3.32	98.77
870	080411	BINOR CANCER	1	788	0.37	11.35
871	080412	KOTI SADAT	4712	5906	5.76	105.14
872	080413	JANDU KHEL-2	1754	2869	4.31	72.73
873	080414	SMALL INDUSTRIAL	145	6047	7.84	254.13
874	080415	THAL WAZIR-3	830	1680	1.79	28.36
875	080416	DURRANI COLLEGE BANNU	34	865	0.68	19.93
876	080417	CENTRAL JAIL BANNU	34	457	0.88	26.83
877	080418	UNIVERSITY SCIENCE-TECHNOLOGY BANNU	1	436	0.73	21.96
878	081901	SHAHGAI HINDKIAN	5921	11801	11.12	242.66
879	081902	PAJAGI	6058	10697	9.67	192.87
880	081903	PIR BALA	4054	6988	5.05	108.09
881	081904	OPAZAI	5224	8917	3.59	69.65
882	081905	CHAGHARMATTI	961	1508	1.76	34.01
883	081906	INDUSTRIAL	297	14516	24.56	843.31
884	081909	BENAZIR BHUTO WOMAN UNIVERSITY ??	1	2720	0.57	16.91
885	081910	KANIZA	2336	3689	3.82	73.48
886	082901	CHAKESAR	3289	4063	4.11	81.14
887	082902	THAKOT	2421	3944	4.19	87.74
888	082903	BESHAM-2	13	321	0.59	13.88
889	082904	ALLAI	2172	2785	5.98	129.68
890	083001	DAROSH NO-1	4694	6969	7.45	110.17
891	083002	CITY DROSH	2042	2676	3.92	72.58
892	083103	JUTILASHT	5383	9272	8.95	137.85
893	083104	EXPRESS CHITRAL	5945	8141	10.82	197.44
894	083402	HAYAT ABAD-7	719	5889	6.92	190.41
895	083403	HAYAT ABAD-8	1969	11118	12.66	342.45
896	083405	HAYATABAD-9	3602	15865	20.52	544.91
897	083409	KHYBER-2	1158	9139	10.15	286.14
898	083411	CEIL WOOD	0	0	2.75	74.55
899	083412	HAYATABAD-10	4341	16115	18.30	462.15
900	083416	HAYATABAD SURGICAL HOSPITAL	1	700	0.95	37.45
901	083417	HAYATABAD-11	2881	16726	9.81	269.04

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
902	083418	HAYATABAD-12	3348	15415	18.88	505.91
903	083420	SHAUKAT KHANAM CANCER HOSPITAL	2	4915	11.71	358.10
904	083421	FRONTIER GREEN WOOD	2	3006	9.42	240.71
905	083422	DEAN HEIGHTS	395	3626	2.48	74.52
906	083423	FRONTIER CERAMICS	2	3997	16.53	395.41
907	083424	KHYBER-1	1633	7170	7.71	191.49
908	083428	HAYATABAD-13	955	6179	6.77	180.47
909	085701	AYUBIA	7209	13372	5.64	115.48
910	085702	NATHIAGALI	2243	5839	3.73	105.08
911	085703	MAKKOL	9282	14689	5.85	82.52
912	085704	PF BASE KALABAGH	4	430	1.64	51.81
913	086501	GULOZAI	414	612	0.55	16.51
914	086502	FATU ABDUR RAHIMIA	4086	9760	9.32	225.58
915	086503	MIAN GUJAR	3829	5683	5.94	114.25
916	086504	O.P.F	528	1730	2.06	51.23
917	086505	PAKHA GHULAM	6598	13988	17.12	409.71
918	086506	WADPAGGA	3855	8495	7.39	162.87
919	086507	MUHAMMAD ZAI	4029	6386	6.60	130.37
920	086508	GUL BELA	3183	6174	7.11	171.14
921	086509	NEW GUL ABAD	4482	7476	14.43	360.16
922	086510	LUCKY STAR	1	450	0.60	21.39
923	086511	JINAH MEDICAL COLLEGE	1	156	0.21	7.80
924	086512	BUS RAPID TRANSIT (B.R.T)	1	4506	2.84	79.34
925	086513	DURAN PUR	2193	5005	5.52	126.11
926	086801	NEW MIAN KHAN	5855	13123	15.76	332.08
927	086802	HERO SHAH	5307	9663	10.56	192.29
928	086803	TAJ WOOD INDUS	2	2329	10.37	242.20
929	086804	SHER STEEL MILL	1	4970	19.65	644.01
930	086805	WAZIR ABAD	4340	7377	7.19	117.52
931	086806	ALI STEEL FURNACE	4	5180	6.63	214.99
932	086807	MALKAND STEEL	1	4850	12.80	398.18
933	086808	KOT EXPRESS	4483	7115	7.37	112.14
934	086809	M/S IFTIKHAR TAJ STEEL MILL	1	3800	18.19	567.20
935	086810	M/S IFTIKHAR TAJ STEEL MILL UNIT-1	1	3810	3.22	105.01
936	086811	MALAKAND	5534	12091	16.91	325.36
937	086812	PAK PREMIER STEEL	1	3000	5.64	183.92
938	086813	PALAI EXPRESS	4810	11297	9.64	168.93
939	086814	QASMI EXPRESS	6043	8964	10.24	181.59
940	086815	DARGAI STEEL MILLS	1	4000	7.25	190.21
941	086816	IHTISHAM MILLS	1	3650	3.15	97.11
942	086817	GUL SHAHZAD STEEL MILLS	1	4700	20.90	532.24
943	086818	MANSHA STEEL MILL	1	2700	3.80	100.41
944	086819	M/S INTL PIPE, TUB & ST REROLNG MIL	1	4500	3.10	102.73

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
945	086820	SUBHAN SHAHEED	4437	6740	5.64	94.87
946	086821	DIAMOND CASTING FACTORY	1	4950	0.28	10.01
947	086822	SIDB	13	3644	0.26	8.56
948	086823	KHALEEL STEEL INDUSTRIES	1	4850	0.29	8.73
949	087501	NEW WARI	5747	8836	15.58	278.62
950	087502	SULTAN KHEL	6114	7244	12.91	211.11
951	087503	PAINDA KHEL	6151	7030	13.74	213.61
952	087504	KARO	3808	4553	9.75	157.89
953	087505	TORMANG-3	4199	6158	11.28	185.35
954	087601	BERI BAGH	5049	10225	14.19	347.91
955	087602	RING ROAD	6815	11945	13.97	322.64
956	087603	AKHOON ABAD	3256	7346	7.25	162.03
957	087604	HAZAR KHANI	3622	6436	6.40	144.19
958	087605	JAMIL CHOWK	5981	13151	16.85	427.58
959	087606	KACHORI	3012	6542	6.24	146.35
960	087607	YAKKA TOOT	1779	5502	5.91	165.45
961	087608	RASHID GHARI	4950	11975	12.78	317.60
962	087609	SURIZAI BALA	2651	4382	3.37	64.11
963	087610	BARKI	1073	1452	3.30	69.78
964	087611	RING ROAD-2	98	3806	6.03	216.77
965	087612	MUSAZAI	4764	8252	5.56	110.12
966	087613	PHANDO BABA	2472	3958	3.93	83.04
967	087614	CHAIRMAN DAFTAR	4143	7435	10.21	237.95
968	087616	MIAN UMAR BABA	3590	5522	7.98	164.04
969	087617	SHARIF ABAD	4243	7220	8.87	199.52
970	087618	KHAN MAST	5650	9444	12.12	266.38
971	087701	NEW KHWAZA KHILA	7875	13921	17.56	327.53
972	087702	SHIN	12263	19044	20.29	331.47
973	087703	CHARBAGH	6375	10374	11.80	205.96
974	087704	SHANGLA	9273	13439	15.56	236.17
975	087706	MATTA-1	8289	13901	16.10	295.34
976	087707	EXPRESS CHARBAGH	8903	13418	13.80	220.07
977	087708	MATTA-3 (SHAWAR)	10604	15346	15.00	223.20
978	087709	MATTA-4 (CHUPRIAL)	8799	12323	11.01	157.51
979	087710	BAIDARA	5680	8785	12.51	211.17
980	087711	DRUSH KHELA	6510	9014	11.78	185.40
981	087712	SHAWAR EXPRESS	6677	9372	10.67	169.88
982	087713	UNIVERSITY OF SWAT	1	1569	0.18	4.84
983	089603	MADYAN	12072	17061	14.62	228.46
984	089604	RAHAT KOT	13983	19389	16.91	249.52
985	090101	KALU KHAN	4037	7375	10.37	212.17
986	090102	RUSTAM	9009	15585	16.26	329.40
987	090103	SHAHBAZ GARHI	10487	17222	15.97	288.32

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
988	090104	NARO	5076	13731	12.60	309.94
989	090106	ADINA	4283	8131	7.14	146.36
990	090107	NAZAR KILI	3615	5577	4.72	84.88
991	090108	BAKHSHALI	10522	16203	16.04	303.91
992	090109	ISMAILA	6684	15243	11.74	245.65
993	090110	SHEWA	5996	10311	8.56	164.59
994	090111	K.S.CADET COLLEGE	1	1562	0.81	24.65
995	090112	SAWALDHER	8814	13878	13.62	255.60
996	090113	PALO DEHRY	2932	4603	4.56	79.88
997	090114	SUDHAM	7199	13270	12.95	254.88
998	090115	PERMOLAI	4275	6168	5.21	87.54
999	090116	BARU	5455	8284	9.54	180.60
1000	090117	DOBAI ADDA	0	0	0.00	0.00
1001	090301	SARAI NOURANG-1	3274	5631	2.66	64.11
1002	090302	SCARP-1	3613	6194	3.74	77.76
1003	090303	SARAI NOURANG-2	6222	10470	8.92	225.38
1004	090304	SCARP-2	3942	4219	3.00	66.05
1005	090305	F.T.M.	4392	4654	4.05	77.01
1006	090306	LANDIWA	6581	6215	4.30	90.90
1007	090307	GUMBILA	3112	5269	4.11	81.52
1008	090308	GHORIWALA-2	3389	3636	3.54	67.88
1009	090309	KAKKI	2063	2871	2.89	45.96
1010	090310	LANDIWAH-2	3137	5207	2.91	60.47
1011	090311	SARAI NOURANG-3	3525	5417	5.69	113.33
1012	090312	MALIK FLOUR MILL	1	430	0.27	10.17
1013	090313	KOT PUSHA	1116	1945	0.77	14.91
1014	090601	KATLANG	7052	13172	15.65	357.12
1015	090602	JAMAL GARHI	5593	9125	9.14	174.45
1016	090603	GHAZI BABA	5981	9750	10.45	211.02
1017	090604	NEW KATLANG	9478	13224	15.99	314.63
1018	090605	HAFIZ WALI SHAHEED	4088	5651	6.29	109.70
1019	091001	GHARISHER DAD	1404	1796	5.93	166.18
1020	091002	WARSAK DAM COLONY	757	2493	2.16	58.48
1021	091003	MATHRA	3903	6019	4.76	104.68
1022	091005	SOFAID SANG	1502	3866	4.88	139.67
1023	091006	SAFDAR ABAD	937	2384	2.44	59.90
1024	091007	SWAT SCOUT	1	1500	3.77	122.29
1025	091008	KOCHIAN	1736	2304	3.72	93.75
1026	091009	SHAHI BALA	1363	1989	1.84	36.47
1027	091010	MES WARSAK	1	1580	2.46	75.06
1028	091011	SHAHEEN FOUNDATION	77	293	0.27	7.13
1029	091014	SHAHGAI INDUSTRIAL	31	2744	3.83	133.43
1030	091901	SUSAL	7220	11910	10.09	180.00

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
1031	091902	DILBORI	11736	19153	16.02	309.90
1032	091903	DARBAND	10985	18642	11.96	204.73
1033	091904	SHERGARH	5412	8286	6.65	107.16
1034	094001	SHEIKHABAD	6206	9580	7.68	142.33
1035	094002	SULTAN ABAD	4609	6587	5.32	105.12
1036	094003	UTMANZAI	2581	3432	2.68	56.82
1037	094004	KHANMAI	6107	9237	9.51	178.02
1038	094005	SMALL INDUSTRIAL ESTATE CHARSADDA	21	1609	1.83	61.58
1039	094201	HARYANA	4345	8041	6.82	144.86
1040	094202	NORTHERN BYPASS	3964	6906	6.40	139.87
1041	094203	TAKHT ABAD	4403	6794	4.84	85.62
1042	094204	NAGUMAN-2	1790	2181	2.38	42.90
1043	095501	DUBAIR	3710	4741	4.86	83.11
1044	095502	DASSU	619	1174	0.60	10.57
1045	095601	PURAN	5558	6855	7.55	101.25
1046	095602	ALPURI	6262	8632	8.90	125.96
1047	095603	AMARTONG	5879	6715	6.03	70.76
1048	095604	YEKH TANGI	1906	2089	2.07	23.01
1049	099201	ACHO KHEL	8364	10320	6.45	128.31
1050	099202	BAGU KHEL	2490	3578	1.38	28.42
1051	099203	LAKKI CITY	7576	10951	7.09	141.35
1052	099204	GHAZNI KHEL NO 2	2420	3938	2.18	45.42
1053	099205	LAKKI CITY-2	4421	9203	8.30	202.12
1054	099206	GHAZNI KHEL-3	2919	5475	5.01	102.52
1055	099207	ACHU KHEL-2	5227	8723	5.25	113.67
1056	099208	TAJORI-3	440	1637	0.71	16.48
1057	099209	ABBA SHAHEED KHEL	3649	5688	3.59	63.34
1058	099210	TAJORI	2951	4500	3.91	81.78
1059	099211	GANDI	3097	4017	3.65	79.95
1060	099212	TAJORI CITY	1374	2203	1.79	37.08
1061	099213	LAKKI-3	3458	6367	4.99	102.59
1062	100201	MAJOHI	1	1000	0.00	0.00
1063	100601	CHATTAR CLASS	1	1000	1.87	50.01
1064	100602	KING ABDULLAH UNIVERSITY	1	500	0.09	3.16
1065	102601	DEWANA BABA	4666	11654	14.60	294.53
1066	102602	KARAKHAR	4715	10719	16.53	336.71
1067	102603	SALARZAY	3471	7533	9.60	188.71
1068	102604	IRRIGATION	2216	4074	5.12	89.92
1069	102605	CHAMLA	5334	12033	14.63	301.78
1070	102606	SONIGRAM	3743	8886	10.92	216.57
1071	102607	NAWAGAI	6102	9475	11.07	186.06
1072	102609	KULYARI	2752	6165	8.60	174.23
1073	102610	PIR BABA	3095	4897	10.37	182.61

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
1074	102611	ELLUM	3521	8544	10.33	204.48
1075	102612	ASHEZAI	2668	10379	15.14	342.93
1076	102613	MANDERR	4498	9162	12.62	235.51
1077	102614	EXPRESS DHQ HOSPITAL	4	167	0.46	13.90
1078	102615	GAGRA	276	7733	10.28	255.17
1079	102616	SHAL BANDAI	6043	10126	13.42	233.57
1080	102617	CHAGHARZAI	3370	4776	5.97	91.90
1081	102618	MALAK PUR BUNIR	2592	4866	3.02	60.83
1082	102619	AMAZAI	0	0	0.00	0.00
1083	105401	KOHAT DEV. AUTHORITY	4510	11011	15.02	378.98
1084	105402	GAMGOL SHARIF	2262	4037	6.86	161.71
1085	105403	ALI ZAI-2	3012	4446	7.91	185.86
1086	105404	NEW CITY-1	3960	8243	7.22	214.34
1087	105405	G.E. ARMY (MES) KOHAT	1	4360	15.85	476.03
1088	105406	HANGU ROAD	5010	8385	11.00	251.21
1089	105407	SHEIKHAN	3008	4692	4.90	102.51
1090	105408	CITY-5	3263	4302	5.91	127.94
1091	105409	KOHAT DEV. AUTHORITY PHASE-2	1707	4697	5.05	118.05
1092	105410	EID GAH KOHAT	1296	2686	3.40	82.77
1093	105411	NEW USTERZAI	2967	5224	5.88	114.07
1094	106101	LANGER KHEL	3647	5195	3.55	65.35
1095	106102	PAI	1209	1162	5.19	73.71
1096	109201	QURASHI MORE	3604	9149	9.87	218.92
1097	109202	KULACHI WALA	1443	1888	1.96	30.17
1098	109203	FATEH	2933	4519	3.85	60.03
1099	109204	UNIVERSITY CAMPUS	297	2480	2.91	81.43
1100	109205	CHASHMA SUGAR MILLS	1	495	1.28	33.55
1101	109206	SARHAD DEVELOPMENT AUTHORITY (SDA)	6	998	0.64	18.77
1102	110001	DAULAT	7271	13222	10.36	197.74
1103	110002	SUDHER	5573	9462	7.35	134.96
1104	110003	GUMBAT	3302	4730	5.15	91.40
1105	110004	NEW YAR HUSSAIN	6310	9740	10.11	201.44
1106	110005	JAMRA	5347	8533	6.43	108.82
1107	110006	TARAKAI	4681	7340	7.49	144.25
1108	110007	DAGAI	3959	6928	6.87	136.10
1109	110009	ZONE-2 DHOBAN	2	480	0.24	8.96
1110	110010	NEW KALU KHAN	2888	4277	0.94	17.81
1111	114901	GARHI DOPATA-1	1	1846	14.87	389.06
1112	114902	AIR PORT-1	1	2000	11.77	313.48
1113	114903	NEW SECRETARIAT	1	4115	8.13	212.97
1114	114904	CHATTER	1	2744	10.26	269.34
1115	114905	KOHALLA-3	1	3258	15.97	420.27
1116	114906	AIRPORT-2	1	3090	20.05	530.14

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
1117	114907	GARHI DOPATA-2	1	2125	13.35	352.90
1118	114908	KOMMIKOT	1	1000	11.33	297.76
1119	114910	DOMEL	1	1000	9.74	261.96
1120	115301	MANYAR	5332	8724	9.95	166.81
1121	115302	MUSA KHEL	3231	7397	7.38	130.55
1122	115303	EXPRESS SHAMOZAI	5099	8174	8.94	148.03
1123	115304	BARIKOT	7167	13547	14.74	268.76
1124	115305	ZARA KHELA	4612	8682	9.88	173.06
1125	115306	KOZ ABAKHAIL	4612	8102	8.87	158.13
1126	115307	KOTA	3549	5261	6.73	109.51
1127	117201	HAVELIAN CITY	8883	17414	13.31	299.14
1128	117202	KOKAL	8538	17039	12.38	273.81
1129	117203	TOWN HAVELIAN	8176	14024	13.54	266.90
1130	117204	SARA-E-SALAH	6586	10323	10.14	182.14
1131	117205	BAGRA	8447	17544	16.53	380.99
1132	117206	REHANA	3881	5730	5.66	97.68
1133	117207	KHOLIAN	6408	13134	11.42	259.48
1134	117208	JABRI	5502	6759	4.82	77.29
1135	117209	SAJIKOT	6279	9396	7.16	134.67
1136	117210	SUNGHER	3	3	0.00	0.08
1137	117301	POHAN	4794	7933	8.70	197.70
1138	117302	JAN ABAD	2870	5833	5.94	116.45
1139	117303	PAKISTAN CHOWK	5720	6488	7.55	178.62
1140	117304	CANAL ROAD	2858	4624	6.52	147.70
1141	117305	MIRWAS	3781	6537	6.63	140.17
1142	117306	NEW MANGA	1872	2967	2.85	54.66
1143	117307	CHARSADDA ROAD	5753	12646	9.92	257.47
1144	117308	KATLANG ROAD	2696	4641	7.04	145.26
1145	117309	NEW SHEIKH MALTOON	2194	7372	5.98	144.94
1146	117310	GUJAR GARHI	8376	13882	13.02	283.74
1147	117311	SALIM KHAN / AZAM INDUSTRY	6248	11156	10.83	218.48
1148	117312	GREEN ACRES	694	2695	1.01	26.69
1149	117313	INDUSTRIAL-04	48	7537	4.93	194.43
1150	117314	UET MARDAN	68	545	0.15	4.26
1151	117315	SHAMSI ROAD	3783	4557	2.07	46.68
1152	117316	MUSLIM ABAD	3311	4661	2.18	53.35
1153	117317	RING ROAD	2242	4335	1.38	26.28
1154	118101	SHAHI BAGH	5301	14169	18.85	509.85
1155	118102	KHWAJA TOWN	2334	4351	6.43	150.67
1156	118103	ICF-2	1750	5274	5.98	168.92
1157	118104	DARMANGI	1947	3694	4.37	107.28
1158	118105	ZENTARA	55	600	0.24	7.89
1159	118106	YOUSAF ABAD	3881	6764	10.62	242.58

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
1160	118107	DUR E KAMIL ROAD	2758	6673	9.01	248.38
1161	118108	SAEED ABAD	2009	4689	9.26	245.88
1162	118109	HASSAN GHARI	3963	6272	7.87	174.47
1163	118110	WARSAK ROAD	2856	6624	10.02	246.01
1164	118111	SHAMI ROAD	1998	16843	16.79	499.96
1165	119101	HISSAR BABA	6143	9620	11.92	200.16
1166	119102	KHAR	6662	10163	11.94	198.66
1167	119103	PERVEZ SHAHEED	3941	9942	11.14	225.86
1168	119104	BATKHELA	4939	11109	12.32	255.87
1169	119105	CITY BATKHELA	5728	8267	2.14	36.67
1170	119501	BESHAM CITY	4225	7437	9.93	202.38
1171	119502	MAIRA	2205	3796	6.73	127.08
1172	120001	WAPDA TOWN	4593	10749	7.57	198.40
1173	120002	SCARP-1	4687	7872	8.01	160.86
1174	120003	WAZIR GHARI	4993	8636	5.31	115.52
1175	120004	WAPDA COLONY	2235	7298	2.62	63.69
1176	120005	TARU JABBA	4668	9138	3.92	97.85
1177	120006	AKBAR PURA	6677	10536	4.22	89.01
1178	122101	USMAN BABA	4069	4852	9.19	143.05
1179	123501	NUSRAT ABAD	1263	2791	2.93	60.84
1180	123502	TAKHTE NUSRATI	2013	2770	3.08	53.05
1181	123503	SIRAJ BABA	1382	2690	2.06	44.43
1182	123504	CHOWKARA KARAK	1855	3395	2.83	62.21
1183	123505	SHANAWA GUDI KHEL EXPRESS	2369	3496	1.76	41.83
1184	123901	WAH NOBEL	3	1033	0.07	2.41
1185	123902	NOMEE STEEL	1	4990	3.87	106.82
1186	123903	NEELUM STEEL-2	1	4900	13.42	324.58
1187	123904	HATTAR 8 (M/S HATTAR STEEL UNIT 3)	1	4950	0.02	1.07
1188	123905	SILVER LAKE HIE HARIPUR	6	3961	9.69	254.20
1189	123906	AL GUJJAR BROTHER STEEL	1	1298	3.28	72.10
1190	123907	MUSTEHKAM STEEL	1	4950	15.44	424.32
1191	123908	NEELUM PAPER	1	3500	3.29	74.15
1192	123909	HATTAR-9	0	0	0.00	0.00
1193	123910	VENUS CARPET	0	0	0.00	0.00
132 KV FEEDERS						
1194	120901	132KV ALHAJ ASIA STAR STEEL	1	40000	0.54	14.81
1195	122801	132KV CHERAT CEMENT FACTORY	1	63000	23.36	627.79
1196	120701	132KV F.F.STEEL MILL HAYATABAD	1	18087	81.06	1697.17
1197	086101	132KV SAADI CEMENT FACTORY	1	25500	92.85	2508.27
1198	079901	132KV BEST WAY CEMENT FACTORY	1	26000	56.99	1427.60
1199	071401	132KV KOHAT CEMENT FACTORY	1	81760	208.38	5264.42
1200	071601	132KV LOCO MOTIVE FACTORY	1	3000	1.94	49.97

Feeder List June 2022

Sr No			No of Cons	Load (KW)	Units	Billing
	Code	Feeder Name			Sold	
1201	071201	132KV P.P.C CHD	1	6000	0.00	8.13
1202	117801	132KV ZRK INDUSTRY MARDAN	1	10000	64.00	1682.82
1203	078401	132KV A.W.T CEMENT FACTORY	1	30000	82.40	2326.24
1204	071701	132KV MUSTAHKUM CEMENT FACTORY	2	50001	122.04	3295.28
1205	078601	132KV TARNAWA	1	15000	16.46	504.63

**CATEGORY WISE UNITS BILLED AND REVENUE BILLED
FOR THE MONTH OF 06 / 2021**

(Units & Amount in Million)

Category	No. of consumers	U/Sold	Fixed Charges	Variable Charges	Tariff Total	WAPDA Total	Grand Total (W/O Subsidy)
DOMESTIC							
Up to 50 units	328,017	4.24	0.00	32.72	32.72	33.84	42.59
1-100 units	1,205,172	61.11	0.00	505.31	505.31	530.19	647.98
101-200 units	814,114	130.28	0.00	1111.63	1111.63	1150.97	1391.05
201-300 units	530,622	134.93	0.00	1399.06	1399.06	1445.14	1727.90
301-700 units	423,045	178.00	0.00	2791.15	2791.15	2870.56	3415.34
Above 700 units	43,485	47.00	0.00	1031.14	1031.14	1059.09	1258.12
Temp. domestic E-1 i (55)	369	0.02	0.00	0.48	0.48	0.49	0.59
A-1b (03) T	30,043	19.53	0.00	361.16	361.16	366.45	448.11
Total Domestic	3,374,867	575.10	0.00	7232.66	7232.66	7456.73	8931.67
COMMERCIAL							
A-2a (04)	358,981	31.83	0.00	656.88	656.88	675.28	905.06
A-2b (05)	58	0.01	0.02	0.18	0.20	0.20	0.25
A-2c (06)	17,013	40.86	89.11	864.67	953.77	959.15	1303.01
Temp. Commi E-1 ii (56)	1,934	0.16	0.00	3.65	3.65	3.74	5.28
Total Commercial	377,986	72.86	89.13	1525.38	1614.50	1638.37	2213.59
INDUSTRIAL							
B-1, E-2 (07,08,58)	11,726	0.44	0.00	8.91	8.91	9.10	11.91
B-2b (09) T	9,094	5.31	-0.11	85.46	85.35	86.44	114.34
B-2a (10,11)	965	0.02	0.09	0.44	0.53	0.53	0.71
B-2b (12) T	5,570	53.12	160.09	874.85	1034.94	1037.98	1316.72
B-3 (13)	43	0.00	0.00	0.00	0.00	0.00	0.00
B-3 (14) T	180	56.07	78.20	887.43	965.63	968.28	1173.98
B-4 (16)	1	0.00	0.00	0.00	0.00	0.00	0.00
B-4 (17) T	12	38.71	46.80	640.12	686.92	684.40	856.53
Total Industrial	27,591	153.68	285.08	2497.21	2782.29	2786.73	3474.19
BULK SUPPLY							
C-1a (19)	13	0.02	0.00	0.53	0.53	0.53	0.63
C-1b (25)	272	1.20	0.86	27.11	27.97	27.61	33.00
C-1c (26) T	498	4.38	6.02	90.09	96.11	97.14	115.70
C-2a (28)	19	0.88	0.81	19.79	20.60	22.39	26.33
C-2b (29)	48	14.30	16.78	290.17	306.95	267.84	329.45
C-3a (37)	1	0.00	0.00	0.00	0.00	0.00	0.00
C-3b (38) T	1	1.24	2.76	25.34	28.10	28.10	33.94
C-1a,C-2a,C-3a, (59,60,61)	1	0.00	0.00	0.00	0.00	0.00	0.00
Total Bulk	853	22.03	27.22	453.04	480.26	443.60	539.07
AJK							
K-1a (35)	5	0.00	0.00	0.00	0.00	0.00	0.00
K-1b (36) T	34	27.50	35.19	562.89	598.08	598.08	609.90
K-2 (15) Rawat	-	0.00	0.00	0.00	0.00	0.00	0.00
Total AJK	39	27.50	35.19	562.89	598.08	598.08	609.90
TUBE WELL							
D-1a (46)	538	0.02	0.00	0.51	0.51	0.52	0.61
D-1a (41,42)	196	0.00	0.00	0.09	0.09	0.09	0.11
D-1a (43,44) T	39	0.01	0.00	0.13	0.13	0.14	0.16
D-1b (45) T	89	0.34	0.21	5.98	6.19	6.44	7.66
D-2 (47,48) T	226	0.10	0.10	1.16	1.27	1.29	1.35
D-2 (49,52)	15,999	1.72	2.89	17.73	20.62	21.28	24.95
D-1b (50,51) T	5,917	6.72	11.88	66.52	78.39	80.37	96.13
D-1b (53,54) T	45	0.01	0.06	0.07	0.13	0.14	0.17
Total Tube Well	23,049	8.91	15.14	92.19	107.33	110.27	131.14
General Services (66)	43,355	34.81	0.00	765.52	765.52	770.51	905.14
Publiuc Lighting G-1 (72)	708	0.58	0.00	13.74	13.74	14.45	17.16
Publiuc Lighting G-2 (73)	455	0.30	0.00	7.11	7.12	7.28	8.64
Resideintial Colonies H-1 (76)	32	0.10	0.00	2.35	2.35	2.35	2.87
Resideintial Colonies H-2 (79)	17	0.01	0.00	0.15	0.15	0.15	0.18
Railway Traction I (22)	-	0.00	0.00	0.00	0.00	0.00	0.00
Co. Generation Tariff-J (85)	1	0.00	0.00	0.00	0.00	0.00	0.00
Total P/Light, Resid & Railway	1,213	0.99	0.01	23.35	23.35	24.23	28.85
GRAND TOTAL	3,848,953	895.88	451.76	13,152.24	13,603.99	13,828.53	16,833.55

TARIFF Total =Fixed ch+Var ch+LPF Penalty+Seasonal ch

WAPDA Total =Tariff Total+Meter rent+Service rent+LP Surcharge

Grand Total =WAPDA Total+PTV+ED+Income Tax+GST+NJS

CATEGORY WISE UNITS BILLED AND REVENUE BILLED
07 / 2020 to 06 / 2021

(Units & Amount in Million)

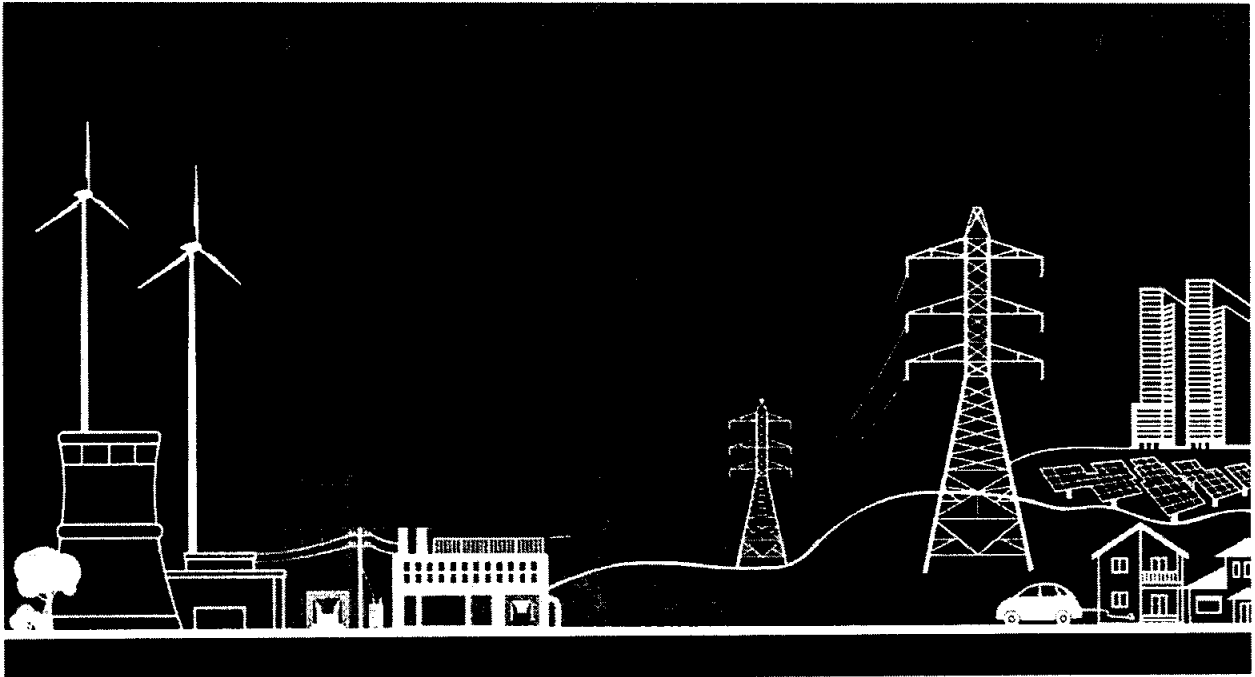
Category	No. of consumers	U/Sold	Fixed Charges	Variable Charges	Tariff Total	WAPDA Total	Grand Total (W/O Subsidy)
DOMESTIC							
Up to 50 units	328,017	45.656	0.00	427.91	427.91	446.12	542.95
1-100 units	1,205,172	955.459	0.00	7535.11	7535.11	8020.82	9775.79
101-200 units	814,114	1365.607	0.00	10667.26	10667.26	11267.26	13531.72
201-300 units	530,622	1088.159	0.00	10257.25	10257.25	10765.78	12841.95
301-700 units	423,045	1311.491	0.00	19017.86	19017.86	19754.66	23317.79
Above 700 units	43,485	423.188	0.00	8641.37	8641.37	8998.84	10559.79
Temp. domestic E-1 i (55)	369	0.210	0.00	5.25	5.25	5.56	6.49
A-1b (03) T	30,043	182.876	0.02	3315.40	3315.42	3410.90	4104.91
Total Domestic	3,374,867	5372.65	0.02	59867.41	59867.43	62669.95	74681.40
COMMERCIAL							
A-2a (04)	358,981	322.274	0.00	6546.18	6546.18	6890.89	9013.12
A-2b (05)	58	0.108	0.25	2.58	2.83	2.88	3.38
A-2c (06)	17,013	477.308	940.52	9882.59	10823.11	11219.69	14734.60
Temp. Comm E-1 ii (56)	1,934	1.944	0.00	43.63	43.63	46.38	63.91
Total Commercial	377,986	801.63	940.77	16474.98	17415.75	18159.85	23815.02
INDUSTRIAL							
B-1, E-2 (07,08,58)	11,726	5.380	0.00	108.07	108.07	113.21	143.04
B-2b (09) T	9,094	70.843	2.64	1164.38	1167.02	1221.40	1529.95
B-2a (10,11)	965	0.665	2.20	11.94	14.14	14.78	18.41
B-2b (12) T	5,570	770.773	1735.96	12565.98	14301.94	14720.17	17949.11
B-3 (13)	43	0.000	0.00	0.00	0.00	0.00	0.00
B-3 (14) T	180	808.049	911.50	12946.65	13858.15	14279.78	16884.75
B-4 (16)	1	0.000	0.00	0.00	0.00	0.00	0.00
B-4 (17) T	12	618.382	593.44	10210.95	10804.39	11131.05	13323.75
Total Industrial	27,591	2274.09	3245.74	37007.97	40253.72	41480.40	49849.01
BULK SUPPLY							
C-1a (19)	13	0.195	0.00	4.47	4.47	4.91	5.67
C-1b (25)	272	15.624	10.82	345.10	355.92	378.31	439.07
C-1c (26) T	498	52.578	70.90	1052.95	1123.85	1190.93	1383.44
C-2a (28)	19	11.900	9.68	261.42	271.11	301.02	347.08
C-2b (29)	48	167.433	169.03	3331.56	3500.59	3652.98	4279.98
C-3a (37)	1	0.050	0.00	1.13	1.13	1.24	1.52
C-3b (38) T	1	14.936	22.41	294.31	316.71	321.10	380.79
C-1a,C-2a,C-3a, (59,60,61)	1	0.000	0.00	0.00	0.00	0.00	0.00
Total Bulk	853	262.72	282.84	5290.93	5573.77	5850.49	6837.55
AJK							
K-1a (35)	5	0.000	0.36	0.00	0.36	0.36	0.36
K-1b (36) T	34	378.743	429.36	7576.62	8005.97	8020.12	8080.57
K-2 (15) Rawat	-	0.000	0.00	0.00	0.00	0.00	0.00
Total AJK	39	378.74	429.72	7576.62	8006.33	8020.48	8080.93
TUBE WELL							
D-1a (46)	538	0.143	0.00	4.61	4.61	4.85	5.53
D-1a (41,42)	196	0.064	0.00	1.63	1.63	1.68	1.97
D-1a (43,44) T	39	0.036	0.00	0.99	0.99	1.08	1.25
D-1b (45) T	89	2.064	2.13	35.89	38.01	39.45	45.80
D-2 (47,48) T	226	0.880	0.64	8.77	9.41	9.72	10.09
D-2 (49,52)	15,999	14.983	16.47	149.70	166.17	174.28	188.74
D-1b (50,51) T	5,917	60.757	83.46	553.83	637.29	670.83	756.65
D-1b (53,54) T	45	0.066	0.40	0.60	1.01	1.10	1.23
Total Tube Well	23,049	78.99	103.10	756.03	859.12	902.98	1011.26
General Services (66)	43,355	424.616	0.09	9174.99	9175.08	9545.39	10973.85
Public Lighting G-1 (72)	708	8.184	0.01	187.65	187.65	200.95	233.78
Public Lighting G-2 (73)	455	4.837	0.04	110.64	110.68	115.56	134.04
Residential Colonies H-1 (76)	32	1.161	0.00	26.18	26.18	26.64	32.00
Residential Colonies H-2 (79)	17	0.081	0.00	1.83	1.83	1.83	2.22
Railway Traction I (22)	-	0.000	0.00	0.00	0.00	0.00	0.00
Co. Generation Tariff-J (85)	1	0.000	0.00	0.00	0.00	0.00	0.00
Total P/Light, Resid & Railway	1,213	14.26	0.04	326.30	326.34	344.98	402.04
GRAND TOTAL	3,848,953	9,607.71	5,002.32	136,475.23	141,477.56	146,974.51	175,651.07

TARIFF Total =Fixed ch+Var ch+LPF Penalty+Seasonal ch

WAPDA Total =Tariff Total+Meter rent+Service rent+LP Surcharge

Grand Total =WAPDA Total+PTV+ED+Income Tax+GST+NJS

**POWER ACQUISITION PROGRAMME
2023-24 TO 2027-28**



PESHAWAR ELECTRIC SUPPLY COMPANY

Executive Summary

Peshawar Electric Supply Company (PESCO), incorporated as a Public Limited Company on 25th April 1998, is responsible for the delivery of electricity to over 4 Million consumers (population of around 350 Million) of all civil districts in the province of Khyber Pakhtunkhwa, Pakistan as set out in PESCO's Distribution License No. 07/DL/2002, granted by NEPRA under the NEPRA Act on April 30, 2002 and provisionally allowed by NEPRA vide NEPRA/R/DG(Lic)/LAD-07/23507 dated December 13, 2022 up to April 30, 2023.

While PESCO is currently the deemed Electric Power Supply Licensee in terms of Section 23E of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (the "Act"), however, PESCO will approach NEPRA for grant of Licence as Electric Power Supplier (Supplier of Last Resort) for its service territory in due course of time.

The Power Acquisition Programme (PAP) is prepared in compliance to NEPRA Electric Power Procurement Regulations, 2022 covering plan period from 2023-24 to 2027-28. It aims to assess the position of security of supply for PESCO consumers' needs for next 5 years (2023-24 to 2027-28), and plan regarding procurement of additional power through competitive bidding as per above mentioned regulations, if required.

PESCO has recently prepared its Medium-Term Load Forecast (MTLF) for the period 2022-23 to 2031-32 with 2021-22 as base year. The MTLF is the base of this PAP, and the component of demand is calculated from the same. PESCO's total capacity requirement estimated for the year 2023-24 is 3017 MW and that of year 2027- 28 is 3516 MW.

CPPA-G in its role as Market Operator (MO) has recently issued Capacity Obligation report which includes detail of Firm Capacity Certificates for legacy generation, including existing install generation plants as well as committed generation plants as per IGCEP-2021. Firm Capacity of PESCO is taken from this document, which shows that PESCO's share of firm capacity for year 2023-24 is 4638 MW and that of year 2027-28 is 4920 MW.

PESCO's assessment of security of supply reveals that PESCO has already secured adequately sufficient supply for next 5 years, which meets its capacity requirement against forecasted demand of its consumers. However, if any requirement/shortfall arises in the next iteration of MTLF then the PAP will be revised accordingly.

It may, therefore, be safely concluded that there is no immediate need of procurement of any additional power for next 5 years from 2023-24 to 2027-28, as PESCO already has sufficient capacity available/ committed.

Table of Contents

Executive Summary.....	i
1. Introduction	1
1.1. Regulatory Compliance:	1
1.2. Input Factors:	2
1.2.1. Commercial Allocation Factors:	2
1.2.2. Capacity Obligation Percentage.....	2
1.2.3. Transmission Losses:	2
1.2.4. Firm Capacity Calculation:	2
1.2.5. Reserve Margin.....	3
2. Demand Forecast Results	4
2.1. Historical Sale and Demand	4
2.2. Demand forecast for next 5 years.....	4
2.3. PESCO's Capacity Requirement at Generation Level	4
3. Contracted Firm Capacity	6
3.1. Firm Capacity of Existing Installed Generation Plants	6
3.2. Firm Capacity of Planned/ Committed Projects	9
3.3. Projects to be Retired in Plan Period.....	11
3.4. Year-wise Total Generation Capacity	11
3.5. PESCO's share in contracted/ planned firm capacity	11
4. Security of Supply.....	12
4.1. Security of Supply Position:	12
5. Power Procurement.....	13
5.1. Power Procurement Requirement	13
CLARIFICATIONS/ DISCLAIMER.....	14

List of Tables

Table 1-1 Supplier of Last Resort Allocation Factors*	2
Table 1-2 Equivalent Availability Factors	3
Table 2-1 Historical Sale and Demand	4
Table 2-2 PESCO Energy and Demand Forecast	4
Table 2-3 PESCO's peak demand forecast for calendar years	4
Table 2-4 PESCO's Capacity Requirement Forecast	5
Table 3-1 Firm Capacity of Existing Generation	6
Table 3-2 Firm Capacity of Planned Generation Projects	9
Table 3-3 Total Firm Capacity	11
Table 3-4 Total Firm Capacity	11
Table 3-5 PESCO's share in total Firm Capacity	11
Table 4-1 PESCO's security of supply position	12
Table 5-1 PESCO's power procurement requirement	13

List of Figures

<i>Figure 4-1 Security of Supply Position for PESCO.....</i>	<i>12</i>
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1. INTRODUCTION

This Power Acquisition Programme (PAP) of PESCO is prepared in compliance with Authority instructions as part of application for grant of Electric Power Supplier Licence and covers next 5-year time span from 2024-25 to 2027-28 as plan years. PESCO has recently prepared its Medium-Term Load Forecast (MTLF) based upon Power Market Survey (PMS) Model, with 2021-22 as base year and forecast horizon covers 10 years from 2022-23 to 2031-32. This Power Acquisition Programme (PAP) is based upon results of this latest MTLF for the next 5 years. PESCO peak demand forecast for plan years have been taken from MTLF results and used for preparation of this PAP. PESCO's existing contracted capacity consists of existing legacy generation plants installed and committed generation plants as listed in IGCEP-2021 approved by the Authority. Firm Capacities of existing and planned projects are calculated and provided by MO in its recently issued Capacity Obligation Report. For calculation of PESCO's share in total generation capacity, Commercial Allocation Factor as defined in Market Commercial Code (MCC) are used.

PESCO peak demand forecast is compared with contracted generation firm capacity for next 5 years to ensure security of supply for its consumers. Any shortfall in contracted capacity, is to be procured in the light of NEPRA Electric Power Procurement Regulations, 2022.

1.1. Regulatory Compliance:

NEPRA Electric Power Procurement Regulations, 2022 obligates an electric power supplier to plan in advance and ensure security of supply for its consumers by planning power procurement in adequate quantity. Regulation 6, sub regulation 1, of these regulations states that;

“A supplier of last resort shall prepare a rolling five-year power acquisition programme on an annual basis which shall include;

- (a) its requirements in terms of energy and peak demands, in accordance with the Distribution Code and other applicable documents, during the preceding twelve months on actual basis and projections for the subsequent five years;
- (b) existing contracted energy and capacity;
- (c) its capacity obligations as determined by the market operator in accordance with the Market Commercial Code;
- (d) proposed new and firm power procurement during the next three years and indicative procurement for the subsequent two years in accordance with these regulations;
- (e) mode of procurement against each proposed procurement and respective timelines including start and completion of the procurement process and start of operations of the respective projects;
- (f) contracted energy and capacity that is expected to become available during next five years with respective timelines including indication of delay (if any); and
- (g) any other information considered relevant and necessary to explain and justify the proposed power acquisition programme.”

This PAP is being prepared in compliance with above regulations of the Authority, in order to ensure security of supply for consumers of PESCO.

1.2. Input Factors:

1.2.1. Commercial Allocation Factors:

PESCO share in Legacy Generation is calculated based upon commercial allocation factors defined in **Market Commercial Code (MCC)** section 18.2.5.2. Table 8 of this section is reproduced below;

Table 1-1 Supplier of Last Resort Allocation Factors *

Supplier	Allocation Factor
LESCO	21.10%
GEPCO	9.82%
FESCO	13.09%
IESCO	10.15%
MEPCO	17.06%
PESCO	12.89%
HESCO	4.79%
QESCO	5.62%
TESCO	1.74%
SEPCO	3.73%
KE	As per Bilateral Contract

* These factors may change in future due to surplus supply in national system and basis of these factors may also change to align with co-incidental demand of XW-DISCOs.

1.2.2. Capacity Obligation Percentage:

Capacity Obligation Percentage used for preparation of this PAP is 100% for all years to ensure security of supply for next 5 years and comply with Authority directions to plan in advance the procurement of adequate quantity of electric supply for PESCO consumers. However, Procurement Programme for first three years is deterministic while indicative for subsequent two years.

1.2.3. Transmission Losses:

To calculate PESCO demand uplifted up to Generation Level, Transmission Losses of **2.639%** are used for next 5 years as per NEPRA's latest determination No. NEPRA/R/ADG(TRF)/TRF-533/NTDC-2020/17537-17539 dated September 16, 2022 of NTDCL tariff for the years 2019-20, 2020-21 and 2021-22.

1.2.4. Firm Capacity Calculation:

For calculation of initial firm capacity of upcoming generation projects, equivalent availability factors listed in Market Commercial Code (MCC) section 8.4.2.1 are used. Table 1 of this section is reproduced below;

Table 1-2 Equivalent Availability Factors

Sr. No.	Generation Technology	Equivalent Availability Factor
1	Dispatchable Technologies	
1.1	Hydro with reservoir	0.92
1.2	Thermal (either liquid fuels, gas or coal fired)	0.92
1.3	Bagasse	0.92
1.4	Thermal Solar	0.87
1.5	Nuclear	0.87
2	Non-Dispatchable Technologies	
2.1	Hydro run of river	Based on the feasibility study
2.2	Wind	0.30
2.3	Solar PV	0.22

1.2.5 Reserve Margin:

A reserve margin of 10% is used as provided in Market Commercial Code (MCC) section 9.2.4.3.

2. DEMAND FORECAST RESULTS

PESCO has prepared Medium-Term Load Forecast for the period 2022-23 to 2031-32 with 2021-22 as base year. This MTLF is based upon Power Market Survey (PMS) model which utilized historical database of sale and demand for each grid station of PESCO, input factors such as load factors, coincidence factors and loss reduction plan to calculate expected sale and demand for next ten (10) years. This forecast is performed for each grid station level as well as PESCO level.

2.1. Historical Sale and Demand

Historical Sale and Demand of PESCO for last 5 years is tabulated below;

Table 2-1 Historical Sale and Demand

Year	Energy Sale (GWh)	Energy Purchase (GWh)	Peak Demand (@132 kV) MW
2017-18	8795.4	14213	2065
2018-19	9074	14427	2207
2019-20	9043	14792	2367
2020-21	9608	15542	2354
2021-22	10355	16562	2369

2.2. Demand forecast for next 5 years

PESCO energy and demand forecast for next 5 years is tabulated below;

Table 2-2 PESCO Energy and Demand Forecast

Year	Energy Sale (GWh)	Energy Purchase (GWh)	Peak Demand (MW) @132 kV
2022-23	11289	17676	2526
2023-24	12271	18808	2672
2024-25	13078	19735	2800
2025-26	13884	20645	2929
2026-27	14438	21302	3024
2027-28	14932	21902	3114

PESCO Demand for next 5 years (Plan Period) is tabulated below;

Table 2-3 PESCO's peak demand forecast for calendar years

Year	2023-24	2024-25	2025-26	2026-27	2027-28
Peak Demand (MW) @132 kV	2672	2800	2929	3024	3114

2.3. PESCO's Capacity Requirement at Generation Level

PESCO's capacity requirement at generation level is calculated by up-lifting the demand at 132kV level with transmission losses as discussed in 1.2.3. and reserve margin as discussed in 1.2.5. Resultantly PESCO's total capacity requirement (Capacity Obligation) at generation level is as below;

Table 2-4 PESCO's Capacity Requirement Forecast

Year	2023-24	2024-25	2025-26	2026-27	2027-28
Peak Demand (MW) @132 kV	2672	2800	2929	3024	3114
Transmission Losses	2.639%	2.639%	2.639%	2.639%	2.639%
Peak Demand (MW) @Generation	2743	2874	3006	3104	3196
Reserve Margin	10%	10%	10%	10%	10%
Total Capacity Requirement (MW)	3017	3161	3307	3414	3516

Detailed Medium-Term Load Forecast (MTLF) Report forming basis for this Power Acquisition Programme has already been submitted for consideration of Authority.

3. CONTRACTED FIRM CAPACITY

PESCO's existing contracts for generation capacity consists entirely of Legacy Generation allocated to PESCO as per commercial allocation factors already discussed in 1.2.1. Apart from existing installed generation, several generation projects are planned/ committed for future years as provided in IGCEP 2021, approved by the Authority. Similarly, a few generation projects are retiring during next 5 years as provided in IGCEP 2021. Detail of firm capacities of existing/ planned generation has been communicated by CPPA-G (Market Operator) vide CPPA-G/CEO/MOD/2022/1241-50 dated November 29, 2022.

3.1. Firm Capacity of Existing Installed Generation Plants:

Firm Capacity of Existing Generation Plants is tabulated below;

Table 3-1 Firm Capacity of Existing Generation

Sr#	Projects	Technology	Initial Firm Capacity (MW)
1	APL	Thermal	199.7
2	AGL	Thermal	150.29
3	CPH	Thermal	1038.34
4	EPQL	Thermal	193.83
5	EPTL	Thermal	527.09
6	FPCDL	Thermal	157.81
7	HPGCL	Thermal	161.79
8	HSR	Thermal	1158.22
9	LPTL	Thermal	183.59
10	NEL	Thermal	196.70
11	Balloki	Thermal	1000.90
12	HBS	Thermal	1075.70
13	NCPL	Thermal	170.89
14	NPL	Thermal	176.80
15	OPCL	Thermal	187.53
16	PQEPC	Thermal	1225.04
17	QATPL	Thermal	1033.06
18	SPL	Thermal	189.28
19	SECL	Thermal	186.26
20	UCH-II	Thermal	335.68
21	KAPCO	Thermal	1458.50
22	AEL	Thermal	10.796
23	SABA	Thermal	101.68
24	HUBCO	Thermal	1158.25
25	LIBERTY	Thermal	200.86
26	FKPCL	Thermal	113.897
27	ROUSCH	Thermal	410.696
28	KEL	Thermal	118.027
29	AES Lalpir	Thermal	302.48
30	AES Pakgen	Thermal	303.63
31	HCPC	Thermal	106.06

Sr#	Projects	Technology	Initial Firm Capacity (MW)
32	UCH	Thermal	577.17
33	Guddu	Thermal	507.74
34	Guddu 747	Thermal	558.95
35	Jamshoro	Thermal	581.30
36	Nandipur	Thermal	445.98
37	Muzaffargarh	Thermal	687.19
38	Davis	Thermal	9.20
39	Agar textile	SPP	2.12
40	Lucky cement	SPP	29.70
41	Thatta Cement	SPP	45
42	Al-noor sugar mill	SPP	36
43	kumhariwala	SPP	2.82
44	Noon Sugar	SPP	14
45	Anoond	SPP	10
46	Omni	SPP	12.8
47	Tarbela	Hydel	3478
48	Tarbela Ext 4	Hydel	1410
49	Mangla	Hydel	1000
50	Ghazi Brotha	Hydel	1081.04
51	Warsak	Hydel	179.77
52	Chashma	Hydel	98.44
53	Jinnah	Hydel	19.18
54	Allai khwar	Hydel	80.21
55	Khan khwar	Hydel	30.75
56	Dubair Khwar	Hydel	111.6
57	Neelam jehlam	Hydel	801.98
58	Golengole	Hydel	14.29
59	Gomal Zam	Hydel	7.87
60	Rasul	Hydel	8.3
61	Dargai	Hydel	14.56
62	Nandipur	Hydel	5.85
63	Shadiwal	Hydel	3.46
64	Chichoki	Hydel	4.47
65	Kuram garhi	Hydel	3.35
66	Renala	Hydel	0.97
67	Chitral	Hydel	0.97
68	Jabban	Hydel	20.28
69	Jagran	Hydel	27.27
70	Malakand III	Hydel	75.36
71	New Bong Escape	Hydel	67.82
72	Patrind	Hydel	129.09
73	Daral khwar	Hydel	2
74	Gul pur	Hydel	93
75	Jhing	Hydel	12.24
76	Marala HPP	Hydel	6.48
77	Pakpatan HPP	Hydel	2.397
78	ACT	Wind	15.39
79	Artistic	Wind	24.52

Sr#	Projects	Technology	Initial Firm Capacity (MW)
80	FFCEL	Wind	18.91
81	FWEL-1	Wind	20.29
82	FWEL-2	Wind	21.88
83	Gul ahmad	Wind	17.72
84	Hawa	Wind	26.28
85	Jhimpir	Wind	27.4
86	Master	Wind	23.04
87	Metro	Wind	18.45
88	Sachal	Wind	20.47
89	Sapphire	Wind	22.01
90	TGF	Wind	21.04
91	TGS	Wind	22.9
92	TGT	Wind	21.89
93	Tricon-A	Wind	27.62
94	Tricon-B	Wind	27.07
95	Tricon-C	Wind	26.74
96	UEP	Wind	41.15
97	Yunus	Wind	20.63
98	ZEPL	Wind	21.7
99	Tenaga	Wind	27.4
100	Dawood	Wind	27.4
101	Zephire	Wind	27.4
102	Tricom	Wind	15
103	Master Green	Wind	15
104	JDW-II	Bagasse	26
105	JDW-III	Bagasse	27
106	RYKML	Bagasse	30
107	Chiniot Power	Bagasse	63
108	Hamza Sugar	Bagasse	15
109	Thall Power	Bagasse	25
110	Almoiz Industries	Bagasse	36
111	Chanar Energy	Bagasse	22
112	Chashnupp-I	Nuclear	302.53
113	Chashnupp-II	Nuclear	302.53
114	Chashnupp-III	Nuclear	311.00
115	Chashnupp-IV	Nuclear	304.58
116	K-2	Nuclear	996.15
117	Harappa	Solar	3.96
118	Quaid e Azam	Solar	28.75
119	AJ Power	Solar	2.64
120	Apollo	Solar	28.78
121	Best Green	Solar	28
122	Crest Energy	Solar	29.47
Total Installed Capacity		29326.0	

3.2. Firm Capacity of Planned/ Committed Projects:

Detail of Installed Capacity and Firm Capacity for planned/ committed Projects as communicated by CPPA-G up to year 2026-27 is tabulated below.

Table 3-2 Firm Capacity of Planned Generation Projects

Sr#	Name of Committed Project	Fuel Type	Installed Capacity (MW)	Firm Capacity (MW)	Expected Schedule of Commissioning
1	Act_2	Wind	50	15	Dec-21
2	Artistic_Wind_2	Wind	50	15	Dec-21
3	Chianwali HPP	Hydro	5.38	4.57	Dec-21
4	Din	Wind	50	15	Dec-21
5	Gul_Electric	Wind	50	15	Dec-21
6	Indus_Energy	Wind	50	15	Dec-21
7	Jabori	Hydro	10.20	8.67	Dec-21
8	Koto	Hydro	40.80	34.68	Dec-21
9	Lakeside	Wind	50	15	Dec-21
10	Liberty_Wind_1	Wind	50	15	Dec-21
11	Liberty_Wind_2	Wind	50	15	Dec-21
12	Metro_Wind	Wind	60	18	Dec-21
13	NASDA	Wind	50	15	Dec-21
14	Ranolia	Hydro	17	14.45	Dec-21
15	Zhenfa	Solar	100	22	Dec-21
16	Lucky	Local Coal	660	607.20	Jan-22
17	Helios	Solar	50	11	Mar-22
18	HNDS	Solar	50	11	Mar-22
19	Karora	Hydro	11.80	10.03	Mar-22
20	Meridian	Solar	50	11	Mar-22
21	Thar TEL	Local Coal	330	303.60	Mar-22
22	Chamfall	Hydro	3.2	2.72	Mar-22
23	K-3	Nuclear	1145	996.15	Apr-22
24	Trimmu	CCGT_RLNG	1263	1161.96	Apr-22
25	Jagran-II	Hydro	48	40.80	May-22
26	Thar-I (SSRL)	Local Coal	1320	1214.40	May-22
27	Deg Outfall	Hydro	4.04	3.43	Jun-22
28	Thal Nova	Local Coal	330	303.60	Jun-22
Total 2021-22			5948.42	4914.27	
1	Access_Electric	Solar	11	2.42	Aug-22
2	Access_Solar	Solar	12	2.64	Aug-22
3	Jamshoro Coal (Unit I)	Imported Coal	660	607.20	Oct-22
4	Gwadar	Imported Coal	300	276	Jun-23
5	Karot	Hydro	720	612	Jun-23
6	Siachen	Solar	100	22	Jun-23
7	Zorlu	Solar	100	22	Jun-23
8	Siddiqsons	Local Coal	330	303.60	Jun-23
Total 2022-23			2233	1847.86	

Sr#	Name of Committed Project	Fuel Type	Installed Capacity (MW)	Firm Capacity (MW)	Expected Schedule of Commissioning
1	Gorkin Matiltan	Hydro	84	71.40	Jul-23
2	Riali-II	Hydro	7	5.95	Jul-23
3	Suki Kinari	Hydro	884	751.40	Jul-23
4	Manjhand	Solar	50	11	Sep-23
5	Safe	Solar	10	2.20	Sep-23
6	Western	Wind	50	15	Nov-23
7	Alliance	Bagasse	30	27.60	Dec-23
8	Bahawalpur	Bagasse	31.20	28.70	Dec-23
9	Faran	Bagasse	27	24.84	Dec-23
10	Hamza-II	Bagasse	30	27.60	Dec-23
11	HSM	Bagasse	26.50	24.38	Dec-23
12	Hunza	Bagasse	50	46	Dec-23
13	Indus	Bagasse	31	28.52	Dec-23
14	Ittefaq	Bagasse	31	28.52	Dec-23
15	Kashmir	Bagasse	40	36.80	Dec-23
16	Mehran	Bagasse	27	24.84	Dec-23
17	RYK Energy	Bagasse	25	23	Dec-23
18	Shahtaj	Bagasse	32	29.44	Dec-23
19	Sheikhoo	Bagasse	30	27.60	Dec-23
20	TAY	Bagasse	30	27.60	Dec-23
21	Trans_Atlantic	Wind	48	14.40	Dec-23
22	Two_Star	Bagasse	50	46.00	Dec-23
23	Chapari Charkhel	Hydro	10.56	8.98	Mar-24
24	Lawi	Hydro	69	58.65	Apr-24
25	Tarbela_Ext_5	Hydro	1530	1300.50	May-24
Total 2023-24			3233.26	2690.92	
1	CASA	Cross Border Interconnection	1000	1000	Aug-24
2	Kathai-II	Hydro	8	6.80	Dec-24
3	Dasu_1 Uint 1-3	Hydro	1080	918	Apr-25
Total 2024-25			2088	1924.80	
1	Mohmand	Hydro	800	680	Apr-26
2	Dasu_1 Unit 4-6	Hydro	1080	918	Nov-25
Total 2025-26			1880	1598	
1	Keyal Khwar	Hydro	128	108.80	Feb-27
2	Harpo	Hydro	34.50	29.33	Apr-27
Total 2026-27			162.50	138.13	

3.3. Projects to be Retired in Plan Period

Detail of Projects to be retired during plan period (2023-24 to 2027-28) is tabulated below;

Table 3-3 Total Firm Capacity

Sr#	Projects	Technology	Initial Firm Capacity (MW)	Retirement
1	GTPS Block#4	Thermal	106.057	2022
2	KAPCO	Thermal	1458.5	2023
3	Guddu-II U(5-10)	Thermal	379.1	2023
4	Jamshoro U(1-4)	Thermal	294.1	2023
5	Muzaffargarh	Thermal	559.1	2023
6	HUBCO	Thermal	1158.249	2027
7	KEL	Thermal	118.027	2027
8	LIBERTY	Thermal	200.863	2027

3.4. Year-wise Total Generation Capacity

Year wise total Legacy Generation as per IGCEP-2021 is tabulated below;

Table 3-4 Total Firm Capacity

Year	2023-24	2024-25	2025-26	2026-27	2027-28
Firm Capacity (MW)	35982	35982	37907	39505	38166

3.5. PESCO's share in contracted/ planned firm capacity

PESCO's share in Legacy Generation Capacity in line with Commercial Allocation factors, discussed in 1.2.1. , is tabulated below;

Table 3-5 PESCO's share in total Firm Capacity

Year	2023-24	2024-25	2025-26	2026-27	2027-28
PESCO's Firm Capacity (MW)	4638	4638	4886	5092	4920

4. SECURITY OF SUPPLY

Security of Supply for PESCO consumers is assessed on the basis of total capacity requirement of PESCO as per **Table 2-4** and PESCO's firm capacity as per **Table 3-4**.

4.1. Security of Supply Position:

PESCO's security of supply position is depicted below;

Table 4-1 PESCO's security of supply position

Year	2023-24	2024-25	2025-26	2026-27	2027-28
Total Capacity Requirement(MW) (100% for all years) (MW)	3017	3161	3307	3414	3516
PESCO's Firm Capacity(MW)	4638	4638	4886	5092	4920
Difference	1621	1477	1579	1678	1404
%age	35%	32%	32%	33%	29%

The above analysis provides that over the plan horizon (2023-24 to 2027-28) PESCO has adequately sufficient supply of Generation to meet total capacity requirement of PESCO.

The security of supply situation as elaborated above is presented graphically below;

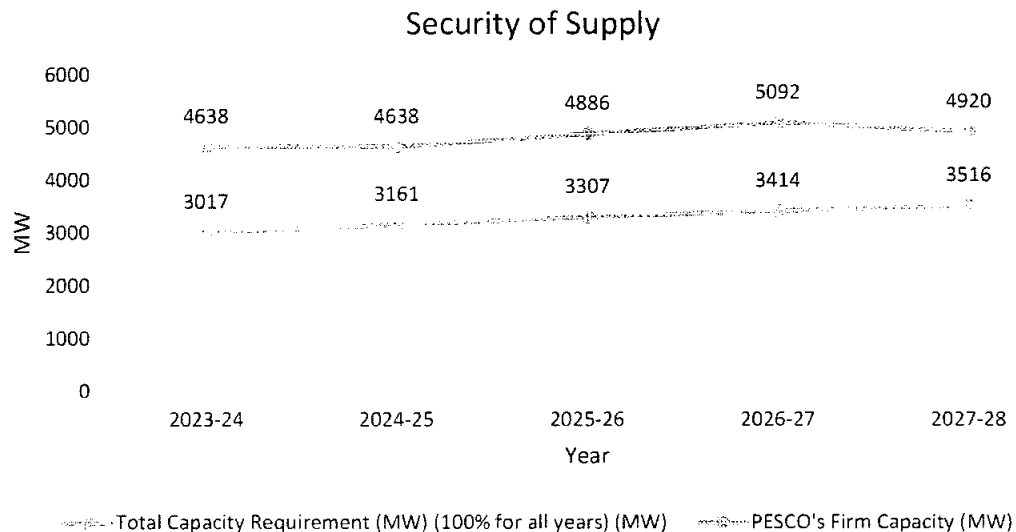


Figure 4-1 Security of Supply Position for PESCO

5. POWER PROCUREMENT

PESCO, in the role of Supplier of Last Resort (SOLR), is required to ensure security of supply for its customers by planning in advance and securing adequately sufficient capacity to meet the demand of its customers. Any future power procurement is strictly planned in accordance with consumer demand and any difference between supply and demand, to ensure economical investment in the best interest of consumers.

5.1. Power Procurement Requirement:

It is evident from Table 4-1 that PESCO has adequately sufficient supply of generation capacity contracted/ planned to meet the demand of its customers. Therefore, there is no immediate need to procure additional power for plan years (2023-24 to 2027-28).

Table 5-1 PESCO's power procurement requirement

Year	2023-24	2024-25	2025-26	2026-27	2027-28
Power Procurement Required (MW)	0	0	0	0	0

CLARIFICATIONS/ DISCLAIMER

1. Firm Capacities of Existing and Planned projects have been considered as per Capacity Obligation Statement issued by CPPA-G in their role as Market Operation(MO).
2. Retirement of Generation Projects has been considered as per IGCEP-2021.
3. Timelines of Planned generation projects are considered as per IGCEP-2021 for this PAP.
4. Accuracy of Demand Forecast is dependent upon economic stability of the country. Due to current economic situation in the country, the future demand may vary from demand forecast.
5. Commercial Allocation Factors of Legacy Generation are considered as per Market Commercial Code (MCC). However, it is submitted that these factors may be reviewed on the basis of co-incidental demand of XW-DISCOs.
6. Reserve Margin is considered as per MCC. However, it is suggested that same may be dispensed with for calculation of capacity obligation as non-coincidental peak demand of DISCOs are being considered while calculating capacity obligation.
7. In compliance of Ministry of Energy (Power Division)'s directions to undertake solarization of 11 KV feeders, the PESCO has identified 44 No. 11 KV feeders for solarization through 3rd party Solar Parks ranging from 1-4 MW each with an aggregate estimated capacity of 100 MWp. Currently the approval of RFP and determination of Benchmark Tariff for the said project is under consideration of the Authority. Based on the methodology for calculation of initial firm capacity as per Market Commercial Code clause 8.4.2.1, the initial firm capacity is assessed at 22 MW. However, Subject to realization of the timelines of the project, the said additional Solar PV Distributed Generation capacity will be available by end of September, 2023 and as such any minor non-compliances expected will be mitigated.

4 PMS Forecast Results

4.1 Recorded Forecast & Rationalized Computed Forecast

The term 'Recorded Forecast' means the energy sale figures used in the forecast has not been adjusted for un-served energy (load shedding). Forecasted sale, growth rates, transmission and distribution losses, generation requirement and peak demand without incorporating load shedding has been shown in below

Forecast without Incorporating Load Shedding effect (Low Forecast)Table
1-1: Rationalized Computed Forecast

Year	Sale	G.R	Distribution Losses		Energy Received at 11 kV	Peak Demand at 11 kV	Transmission Losses		Energy Sent out at 132 kV	Load Factor	Peak Demand at 132 kV	G.R
		(%)	(GWh)	(%)	GWh	MW	(GWh)	(%)	(GWh)	(%)	(MW)	(%)
2021-22	10598		6021	36.2	16619	2379	331.6	1.96	16951	79.8	2426	
2022-23	11532	8.8	6189	34.9	17721	2531	335.9	1.86	18057	79.9	2579	6.3
2023-24	12514	8.5	6328	33.6	18842	2675	338.3	1.76	19180	80.4	2723	5.6
2024-25	13530	8.1	6547	32.6	20077	2848	340.4	1.67	20418	80.5	2896	6.3
2025-26	14547	7.5	6743	31.7	21290	3019	339.6	1.57	21630	80.5	3067	5.9
2026-27	15520	6.7	7041	31.2	22561	3201	337.4	1.47	22899	80.5	3249	5.9
2027-28	16434	5.9	7339	30.9	23773	3378	331.7	1.38	24105	80.3	3425	5.4
2028-29	17548	6.8	7815	30.8	25362	3618	328.5	1.28	25691	80.0	3665	7.0
2029-30	18679	6.4	8292	30.7	26972	3862	322.4	1.18	27294	79.7	3908	6.6
2030-31	20064	7.4	8879	30.7	28943	4160	317.0	1.08	29260	79.4	4205	7.6
2031-32	21432	6.8	9444	30.6	30875	4453	307.3	0.99	31183	79.2	4497	6.9
Avg. Growth (2022-2032)	7.30%				6.39%	6.47%			6.29%		6.37%	



Table 1-2Note: This forecast is also called the Low Forecast.

The term 'Rationalized Computed Forecast' means the energy sale figures used in forecast have been adjusted for un-served energy (load shedding). Forecasted energy sale, growth rates, transmission and distribution losses, generation requirement and peak demand with incorporating load shedding in a rationalized way, on the recommendation of NTDC. This time the un-served energy has been divided into two categories such that technical (Constraints based) and non-technical (AT&C Based). Energy shed due to constraints has been incorporated from the Year-01 to final year while AT&C based unserved energy is not taken for first 03 Years including base year and then incorporated from the Year-03 but gradually taken in effect till horizon year such that 5% in Year-03 , 10% in Year-04, 20% in Year-5, 30% for Year-6, 45% for Year-7, 60% for Year-8, 80% for Year-9 and in this way total unserved energy has been incorporated 100% in Year-10/Final Year.

Rationalized forecast has been depicted in below table here and as well as **Table-1-1**.

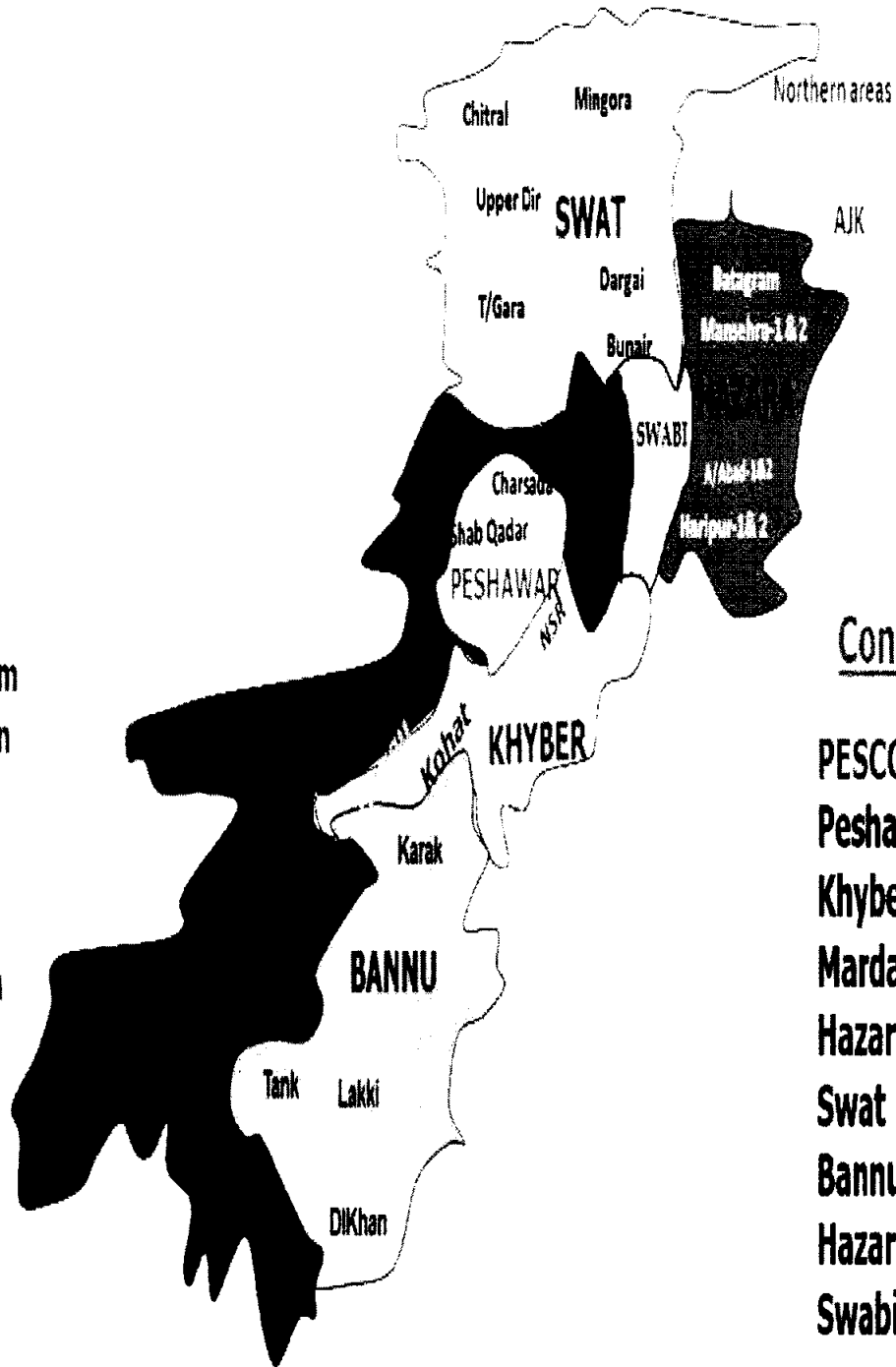
Rationalized Computed Forecast Table

Year	Sale	G.R	Distribution Losses		Energy Received at 11 kV	Peak Demand at 11 kV	Transmission Losses		Energy Sent out at 132 kV	Load Factor	Peak Demand at 132 kV	G.R
		(%)	(GWh)	(%)	GWh	MW	(GWh)	(%)	(GWh)	(%)	(MW)	(%)
2021-22	10598		6021	36.2	16619	2379	331.6	1.96	16951	79.8	2426	
2022-23	11532	8.8	6189	34.9	17721	2531	335.9	1.86	18057	79.9	2579	6.3
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2024-25	13530	8.1	6547	32.6	20077	2848	340.4	1.67	20418	80.5	2896	6.3
2025-26	14547	7.5	6743	31.7	21290	3019	339.6	1.57	21630	80.5	3067	5.9
2026-27	15520	6.7	7041	31.2	22561	3201	337.4	1.47	22899	80.5	3249	5.9
2027-28	16434	5.9	7339	30.9	23773	3378	331.7	1.38	24105	80.3	3425	5.4
2028-29	17548	6.8	7815	30.8	25362	3618	328.5	1.28	25691	80.0	3665	7.0
2029-30	18679	6.4	8292	30.7	26972	3862	322.4	1.18	27294	79.7	3908	6.6
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2031-32	21432	6.8	9444	30.6	30875	4453	307.3	0.99	31183	79.2	4497	6.9
Avg. Growth (2022-2032)	7.30%				6.39%	6.47%			6.29%		6.37%	



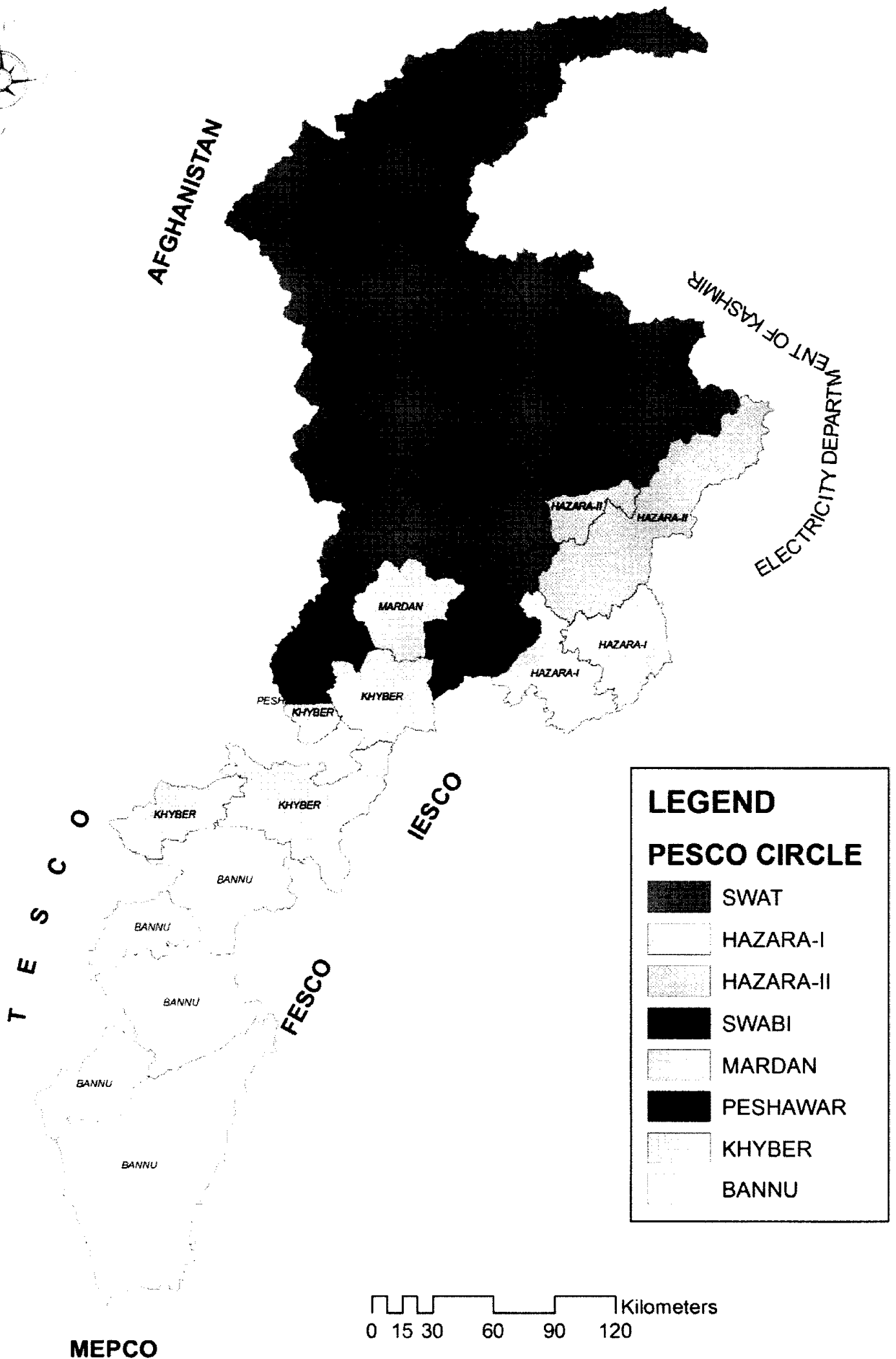
Districts: 25 No.
 Covered Area: 74,521 Sq Km
 Population: 35.53 Million

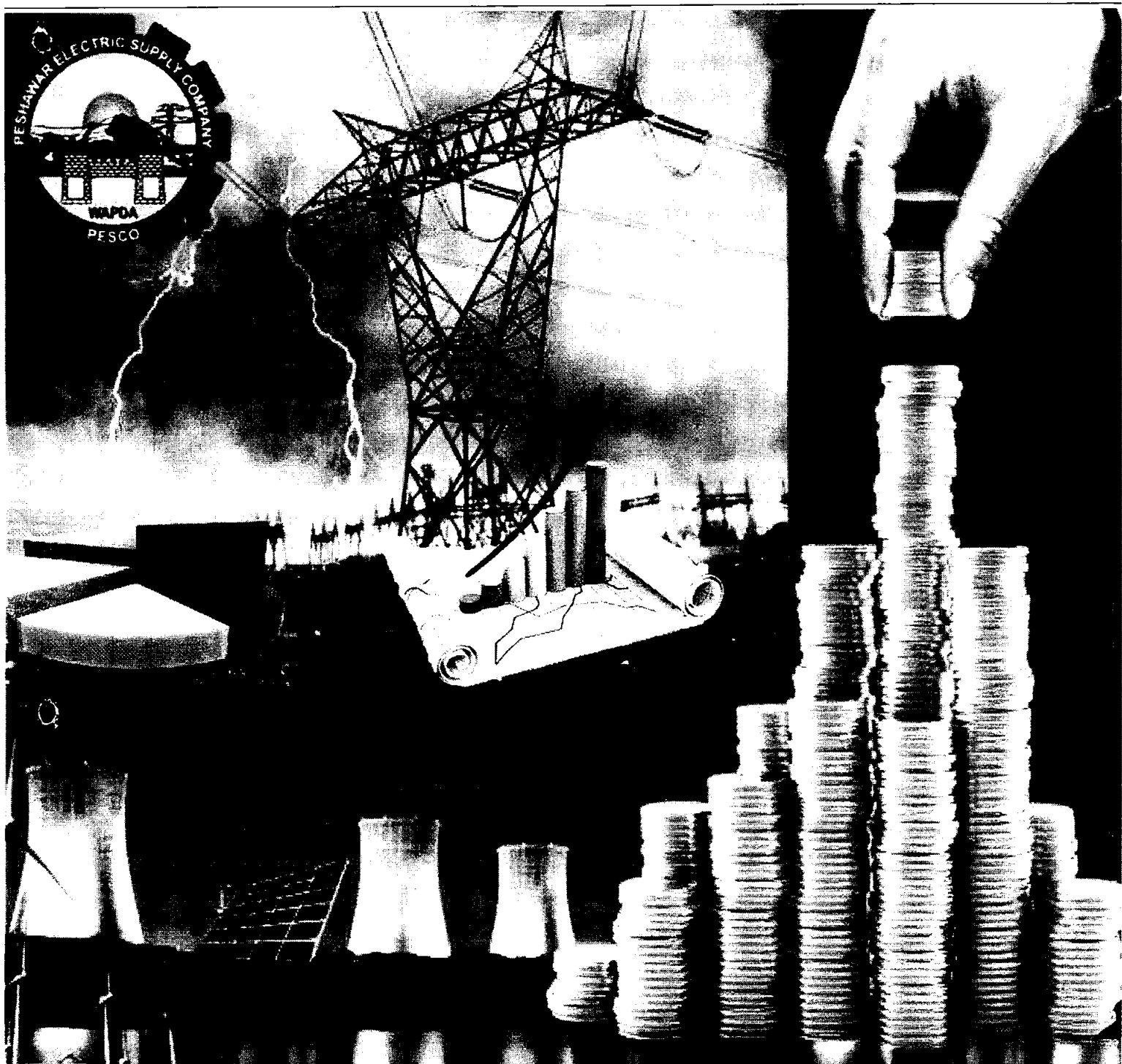
8 Distribution Circles
 39 Operation Divisions
 191 Operation Sub Division



Consumers (Million)

PESCO	3.940
Peshawar	0.698
Khyber	0.606
Mardan	0.351
Hazara-I	0.436
Swat	0.788
Bannu	0.509
Hazara-II	0.271
Swabi	0.281





DISTRIBUTION INTEGRATED INVESTMENT PLAN (DIIP)

2022-2027



Contents

Section -I
Executive Summary
Section -II
The Company's - Baseline
Section -III	i
Forecasts for Next Five Years.....	i
Section -IV	i
Next Five Years Goals and Objectives	i
Section -V	i
Projects and Programs.....	i
Section -VI	ii
Costs and Financing Plan.....	ii
Section - VII	ii
Benefits and Financial Analysis.....	ii
Section - VIII	ii
Section - IX	ii
Investment Plan Implementation.....	ii
Section - X.....	iii
Implementation, Monitoring Plan and Reporting	iii
Section - XI	iii
Environmental and Social Assessment.....	iii
Section -I.....	1
Executive Summary.....	1
Section -II	3
The Company's- Baseline	3
Section -III	18
Forecasts for Next Five Years.....	18
Section -IV	22
Next Five Years Goals and Objectives	22
Section -V	29
Projects and Programs – Scope	29
Section -VI	75
Costs and Financing Plan.....	75
Section - VII	100
Benefits and Financial Analysis.....	100

Section - VIII	103
Financial Projections	103
Investment Plan Implementation.....	106
Section - X.....	107
Implementation, Monitoring Plan and Reporting	107
Section - XI	115
Environmental and Social Assessment and Mitigation Plans	115

Section -I

Executive Summary

- i. Introduction
- ii. Purpose and Goal of Investment Plan
- iii. Major Planning Situation
- iv. Company's Investment Plan

Section -II

The Company's - Baseline

- i. **General Information**
 - History
 - Geographic Coverage, Company's Structure, Human Resources and Corporate Governance
 - Statistical & Financial Information, including Purchases and Sales of Electricity, staff to customer's index, losses by network, outages etc.
 - Existing Project Design and Implementation System of DISCO
 - Existing Operation System of DISCO
 - Approving Investments, Investments made in last five years, source of financing and works executed
 - Financial Position
 - Overall Financial Performance (Profit/Loss)
 - Ratios analysis
 - Subsidies
 - Repair and maintenance expenses for the last five years
- ii. **Power Demand and Supply**
 - Daily Load Demand
 - Seasonal Load Profile
- iii. Secondary Transmission and Distribution Network Condition
- iv. Financial Management, Budgeting Process, revenue recognition ...
- v. HR Management
- vi. IT-MIS
- vii. Commercial Management
- viii. **Internal Control**
 - Expenditure (Admin & Financial) Approval
 - Investment Approval
 - Internal Audit
- ix. Legal and Contractual Framework
- x. Governance and Description of the relationships among the Governments
- xi. **Presentation and Analysis of the main issues facing the Company**
 - Financial Issues
 - Investments Needs
 - Other Issues

Section -III

Forecasts for Next Five Years

- i. Consumer Growth by Category
- ii. Energy and Demand Forecasts
- iii. Generation Forecast and Power Acquisition Program
- iv. Anticipated Load Shedding
- v. Other Changes Including Technological Advances
- vi. Analysis

Section -IV

Next Five Years Goals and Objectives

- i. Goals and Objectives Matrix
- ii. Rationale for Setting Goals and Objectives and the Planning Criteria for Proposed Investments

Section -V

Projects and Programs

A. Plan for Expansion and Rehabilitation of Secondary Transmission System

- Expansion and Rehabilitation (two scenarios Best and optimally Achievable)
- Load Flow Studies for Best Case and optimally Achievable Cases
- Short Circuit Studies for Best Case and Optimally Achievable Cases

B. Plan for Expansion and Rehabilitation of Distribution System

- Expansion and Rehabilitation (two scenarios Best and Optimally Achievable)
- Status of Study Based Distribution System Planning Based on GIS Mapping and the Rollout Plans

C. Other Functional Improvement Plans:

- i. Commercial Improvement Plan
- ii. Financial Management Improvement Plan
- iii. Human Resource Improvement Plan, including **Staffing Plan aligned with the Investment Plan**
- iv. Communications Improvement Plan

Section -VI

Costs and Financing Plan

A. Capital Expenditure and Additional Operating Costs for Expansion and Rehabilitation of Secondary Transmission and Distribution System (for Best and Optimally Implementable Scenarios):

- Summary of Annual Capital Expenditure Costs
- Summary of Annual Recurring Costs
- Details Costing

B. Capital Expenditure and Additional Operating Costs for Other Functional Improvement Plans:

- Summary of Annual Capital Expenditure Costs
- Summary of Annual Recurring Costs
- Details

C. Summary Costs for the Integrated Investment Plan (Transmission, Distribution and other Functional Plans)

- Summary of Cost for Best Case
- Summary of Cost for Optimally Implementable Case
- Summary of Annual Recurring Costs

D. Financing Plan

Section - VII

Benefits and Financial Analysis

A. Expansion and Rehabilitation of Secondary Transmission and Distribution System:

- i. Tangible Benefits
- ii. Non-tangible Benefits

Section - VIII

Financial Projections

Section - IX

Investment Plan Implementation

- i. Business Planning Organization for Preparation of Investment Plans

Section - X
Implementation, Monitoring Plan and Reporting
i. Implementation Schedules

Section - XI
Environmental and Social Assessment

Section -I

Executive Summary

i. Introduction

Peshawar Electric Supply Company (PESCO), incorporated as a Public Limited Company on 23rd April 1998, is responsible for the delivery of electricity to over 3.94 million consumers of all civil districts of Khyber Pukhtunkhwa (KPK), Pakistan as set out in PESCO's Distribution License no. 07/DL/2002, granted by NEPRA under the NEPRA Act on April 04, 2002, as a result of the restructuring of WAPDA's Power Wing, PESCO assumed its official operations and is since then being headed by a Chief Executive Officer (CEO). PESCO pays a power purchase price (in Rs/kWh) for the electricity it procures from the Central Power Purchasing Agency (CPPA) or from other sources on behalf of the CPPA which would include the generation and transmission charges regulated by NEPRA. The major objectives of the company include ensuring uninterrupted and stable power supply to all its customers along with state of the art customer care as well as establishing and operating reliable electricity distribution networks.

Currently, PESCO has 14,331 active employees, employed in eight directorates and is responsible for distributing electricity to approximately 3.94 million consumers. The consumer mix comprises approximately 87.8 % domestic consumers (3.46 million) including residential consumers in both urban and rural areas, 9.8% commercial consumers (0.385 million) including business consumers such as markets, plazas, and offices in both urban and rural areas, 0.68% industrial consumers (0.027 million) consisting of large and small industrial loads, 0.02% bulk consumers (853) consisting primarily of large societal consumers like housing societies, 0.6% agricultural consumers (0.023 million) including tube wells in rural areas, and 1.1% other consumers (45424).

ii. Purpose and Goal of Investment Plan

The Integrated Investment Plan¹ entails PESCO's vision, mission, core values, stakeholders' needs, general indicators, sales and consumer forecasts, power supply issues with limitations, human resources and organizational development, financial projections, regulatory requirements including quality of service, subsidies and legal restrictions affecting timely collection of delinquent payments, performance indices with initiatives and risk assessment and will serve as a central reference document for integrated cross-functional planning that will help PESCO make informed decisions based on priorities.

The goal of the Investment Plan/Business Plan is to create a document which will be used by the CEO and senior managers of PESCO to focus its activities and energies for the next five years in making PESCO a financially viable company by improving the regulation and governance of the entity, introducing new technologies including upgrade of existing technology and machinery and improving human resources in line with best practices worldwide. This plan will also be utilized by the Strategic Planning Committee to the Board for regular monitoring, to ensure that company achieves its stated objectives.

¹ The term Investment Plan or Business Plan will be used interchangeably throughout this document, as NEPRA names the Business Plan as the Investment Plan

This Investment Plan covers a five year period from 2022-23 to 2026-27, encompassing the following areas:

- Defining the activities and resources available to PESCO through the incorporation agreements and laws relating to it
- Identifying projections of power demand, power resources and population served expected in the time period from 2022-23 to 2026-27.
- Illustrating the strategic objectives for 2022-23 to 2026-27, aligned with optimally achievable scenario as defined by the regulator, which designated coordinators prepared to accomplish the strategic goals in the five year timeframe of the Investment Plan
- The best and optimally achievable scenarios to demonstrate what is required and what can be achieved keeping in view the resources constraints and realities on ground
- Projecting the financial impact on PESCO's bottom-line of implementing the project plans

iii. Major Planning Situation

The following challenges faced by PESCO require integrated cross functional planning:

- Technical challenges and technological advances that require PESCO to upgrade the network, including metering to receive and measure continuous and reliable flow of power
- Operational challenges to maintain continuous flow of reliable power to the customers and meet their expectations in demand dominated, load-shedding driven regime
- Institutional challenges faced while developing the capacity of PESCO
- Smooth power evacuation, especially related to variable renewable being integrated in the network
- Compliance with applicable laws and regulations
- Social responsibility to conserve energy and social up-lift

iv. Company's Investment Plan

The five year Investment Plan (2022-23 to 2026-27) is intended to be used by PESCO managers and the Strategic Planning Committee of the Board of Directors as a reference guide to the upgradation and operations of PESCO, taking into consideration the activities projected to occur in the next five years. Although the Investment Plan is based on a five year window, it will be a living document and will be updated to reflect changes in requirements.

As per regulatory requirement specified in DIIP formats, two scenarios have been worked out, Best Case Scenario (if implemented, the company will achieve NEPRA standards in five years, comes with a higher cost) and Optimally Achievable Scenario (based on what company can fund, procure and implement realistically, comes with less cost, but compromise on the performance). The Multi Year Tariff (MYT) of PESCO will be based on the Achievable Scenario, and the Best Case is prepared to demonstrate the overall needs of the DISCO to meet the benchmarks specified by NEPRA in five years.

Abstract of the business plan based on the two scenarios is presented hereunder:

Under this five year plan PESCO will expand and rehabilitate its Transmission and Distribution (T&D) systems. Moreover, plans have been prepared to improve the financial, commercial, human resource and communications functions, including IT that supports the main T&D business. From new grid stations to AMRs for commercial improvements, initiatives have been planned to improve the overall performance of the company in an integrated manner. For details on scope please refer Section-V of this plan.

Costs Summary:

- Total Cost Best Case: Rs.170,271 million (Including deposit and other cost)
- Total Cost Optimally Achievable Case: Rs. 80463 million (Including deposit and other cost)

Benefits Summary:

- Best Case: Savings of 1435.6 MKWh of energy through loss reduction and smooth dispersal of power from new generation.
- Optimally Achievable Case: Savings of 1018.6 MKWh of energy through loss reduction and smooth dispersal of power from new generation.

Loss Reduction and Collections Targets:

PESCO will reduce the losses from 38.1% in 2022-23 to 34.4 % by 2026-27. PESCO has attained the collection efficiency of 89.3 % that will be improved up to 91.8% during the control period.

Section -II

The Company's– Baseline

i. General Information

▪ History

Peshawar Electric Supply Company, PESCO, is a Public Limited Utility Company, responsible for the distribution of electric power to the population of KPK. PESCO was incorporated in Pakistan under the Companies Ordinance 1984, on 23rd April 1998, in line with Government policy of unbundling and corporatizing Pakistan's power sector, as a result of restructuring of WAPDA's Power Wing after the enforcement of NEPRA Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997). PESCO's Distribution License No. 07/DL/2002 was issued by NEPRA on April 04, 2002 for the sale of power.

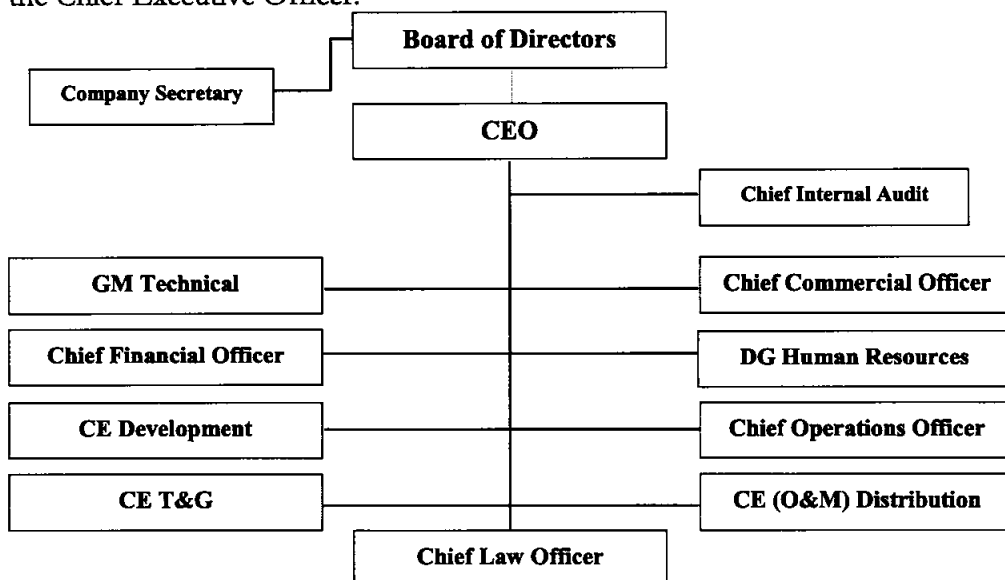
▪ Geographic Coverage

The network facilities of Peshawar Area Electricity Board (PAEB) of WAPDA were transferred to PESCO after its incorporation. PESCO's service area comprises of all the civil districts of KPK, spanning a total service area of 74,521 sq.km and 3943762 consumers.

▪ **Company's Structure, Human Resources and Corporate Governance**

The following organogram explains the management hierarchy of PESCO.

Its Board of Directors is responsible for overall policy making, decision making and guiding the authority. The day-to-day affairs of the company are run by its eight Executive Directors who are responsible for their respective functions, under the overall control of the Chief Executive Officer.



- **Statistical & Financial Information**, including Purchases and Sales of Electricity, losses, and revenue billing and collection depicting the company's financial health is tabulated below:

Description	Units	2016-17	2017-18	2018-19	2019-20	2020-21
Units Received	MkWh	12511	14220	14427	14792	15541
Units Sold	MkWh	8432	8796	9074	9043	9608
T & D Losses.	%	32.60	38.1	37.11	38.9	38.2
Revenue Billed	M.Rs.	98674	109271	135418	160484	176074
Revenue Collected	M.Rs.	87902	97852	120003	140798	181274
O & M Cost	M.Rs.	15369	16875	20469	20918	25006
Repair & Maintenance	M.Rs.	736	647	729	788	1177
Salaries/Pensions	M.Rs.	13621	15253	18546	18837	22162
Travelling Expenses	M.Rs.	222	227	231	234	236
Vehicle Expenses	M.Rs.	127	133	160	169	183
Other Expenses	M.Rs.	664	615	803	890	2308

- **General level of Investments:** PESCO has made the following investments excluding consumer contribution in different projects:

(Mln Rs.)

Description	2016-17	2017-18	2018-19	2019-20	2020-21
Development of Power	991	2931	2099	673	2634.5
Energy Loss Reduction	919	964	768	1033	1570.4
STG	1435	1459	1286	1219	3741.9
Total	3346	5354	4153	2925	7946.8

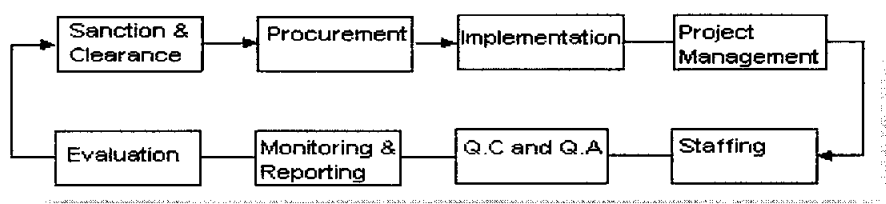
- **Existing Project Design and Implementation System of DISCO**

The project design and implementation system of PESCO is based on the resource allocation (the anticipated amount of material required and obtained for the execution of the project), resource leveling (the required amount of resources to be provided at a proper time e.g, at the start of a phase, more work force and less material may be required as compared to the growth or maturity stage) and resource scheduling/loading (the amount of resources required during the specified phase of the project).

PESCO has the required capability, personnel and expertise to implement and execute a project. It has well established, functioning departments that are capable of handling projects of similar nature and magnitude. Some of these departments are as under:

- Engineering
- Material Management
- Finance
- Commercial

Project implementation is summarized in the form of a flow chart as below:



Further, to align its planning department with current and future needs of the business, PESCO is restructuring its overall planning function.

- **Existing Operation System of DISCO**

The existing administrative layout of PESCO operation system is given below:

Description	Circles	Divisions	Subdivisions	R.O Office
Distribution	8	39	191	39

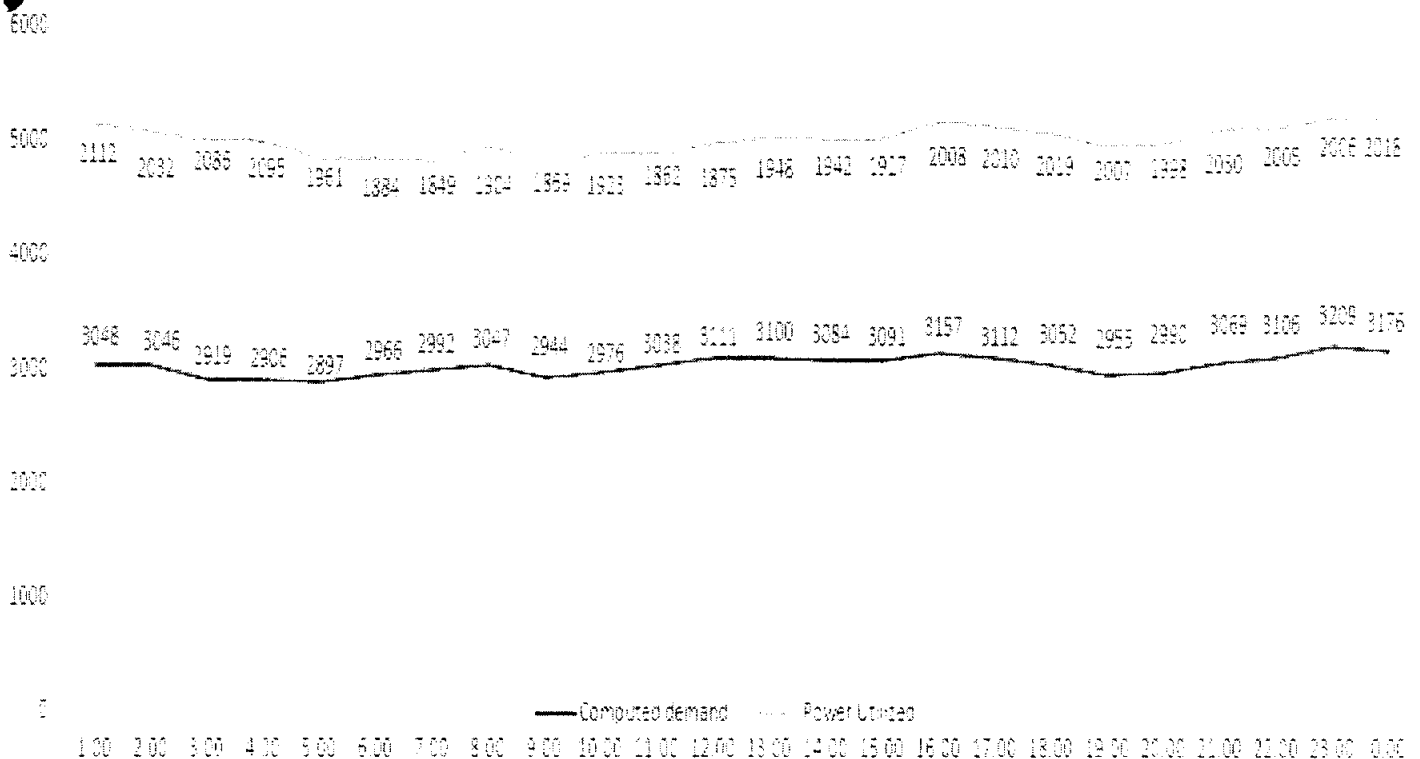
Each Distribution division has one revenue /customer service office. The distribution circles, divisions, customer services offices and subdivisions deal with all types of customers of the company. The Grid System Operation (GSO) circle, divisions and subdivisions take care of and maintain the power supply through 132kV and 66kV systems comprising of the transmission lines and grid stations while the Grid System Construction (GSC) executes 66kV and 132kV grid station and transmission lines works. The Metering and Testing (M&T) section takes care of the installation, maintenance and testing of energy meters of all types. The Construction Section undertakes the implementation and execution of investment programs of 11kV and LT (0.4 kV), System Augmentation Program (ELR and DOP), deposit works and village electrification.

ii. Power Demand and Supply

▪ Daily Load Demand

Below is the graphical representation of load fed below and computed demand, the difference is the load-shedding:

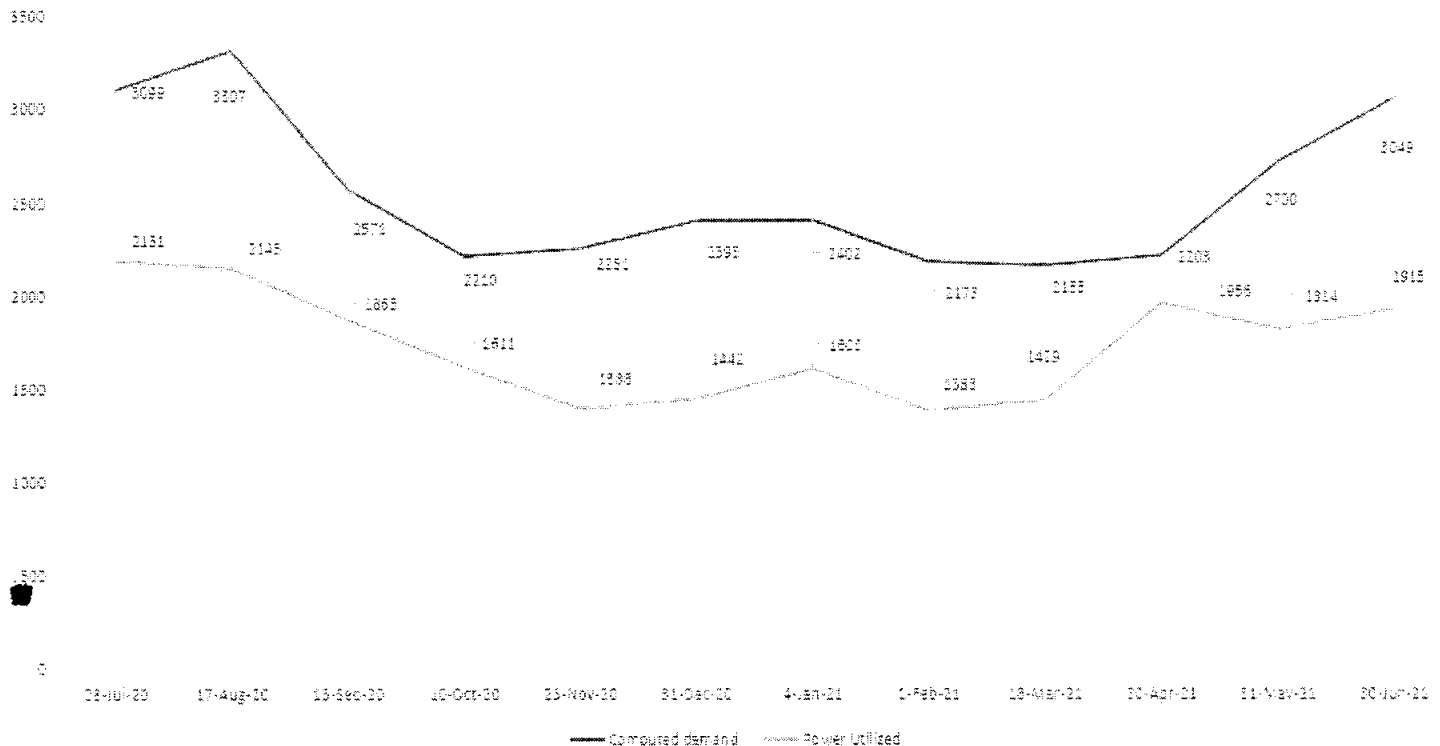
PESCO Daily load demand



■ **Seasonal Load Profile**

Below is the graphical representation of load fed below and computed demand, the difference is the load-shedding:

Max Peak Demand of PESCO for 2020-21



iii. Secondary Transmission and Distribution Network Condition:

PESCO has a 84 grid stations of 132 kv, 11 grid stations of 66 kv and 2 grid stations of 33 kv, thus making a total of 97 grid stations. PESCO serves 3.94 million customers through 1164 number of distribution feeders with a total length of 37711 km of HT Lines and 45599 km of LT Lines. The total number of distribution transformer in PESCO is 80404.

Main equipment status (power transformers, transmission lines, distribution lines and distribution transformers) is provided above.

iv. Financial Management:

The accounting systems and the corresponding back-office operations of PESCO are legacy based which are not only unable to meet the growing needs of the company but also incapable of providing timely information required for senior management to make effective decisions or properly monitor and control utility operations. The ERP is being implemented; however all the current processes are manually run. PESCO's cost/revenue centers are dispersed

geographically, adding to the delay in reporting. The number and type of financial transactions are complex and diverse, and the data required managing these transactions quite voluminous.

The system of inventory / material management requires significant manual effort and does not provide real time valuation and status of the inventory. The inventory of PESCO, despite of real time updating, is updated periodically for its valuation, thus, weakening the overall internal control system which in turn does not provide timely information for the project costing or project management. The inventory at warehouse is maintained manually on Microsoft Excel without any use of inventory coding.

Lack of automation in financial system and its manual integration with billing system results in working capital difficulties for PESCO and delay follow up with banks for cash-in-transit by respective customer service offices.

The PESCO requirement for Operating and Maintenance expenses for the Financial Year 2020-21 was Rs. 25,006 million. The brief head-wise detail is provided in the table below:

S. No.	Expense Head	O&M Expense Requirement (Rs. Million)
1	Salaries and Benefits	22162
2	Repair and Maintenance	1177
3	Travelling Expenses	236
4	Vehicle Expenses	183
5	Other Expenses	2308
	Total	25006

v. HR Management

PESCO Existing Strength

Sr. No.	Particulars	Sanctioned	Working	Vacant
1	Engineers	416	241	175
2	Others	206	87	119
Grand Total		622	328	294

Grade 16 & Below

Sr#	Posts	BPS	Strength	Working	Vacant
1	A/C Officer	16	34	31	3
2	Asstt: Secretary	16	1	—	1
3	Asstt:Pvt:Secretary	16	35	23	12
4	Audit Officer	16	30	26	4
5	Computer Operator	16	61	16	45

Distribution Company Integrated Investment Plan (DIIP) / Business Plan - PESCO

6	Computer Teacher	16	1	1	--
7	D A O	16	98	73	25
8	Land Acq:Collector	16	1	--	1
9	Office Superintendent	16	81	71	10
10	Section Supervisor	16	39	6	33
11	Store Sys: Sup:	16	14	6	8
12	Supervisor (DC)	16	56	28	28
13	Supervisor (DE)	16	31	32	-1
14	T.G.Teacher	16	13	11	2
15	Tehsildar	16	9	2	7
16	Account Assistant	15	257	92	165
17	Assistant / H.C.	15	616	201	415
18	Audit Assistant	15	89	50	39
19	Care Taker	15	2	--	2
20	Commercial Asstt:	15	774	333	441
21	Commercial Supdt:	15	40	29	11
22	Data Coder	15	65	62	3
23	Data Entry Operator	15	54	49	5
24	DM-A	15	11	--	11
25	Foreman	15	29	14	15
26	L.S-I	15	852	362	490
27	LFM-I	15	30	13	17
28	Librarian	15	1	--	1
29	LS-I(Instructor)	15	8	4	4
30	P.T.I	15	1	1	--
31	Security Inspector	15	13	4	9
32	Sr.Store Keeper	15	22	10	12
33	SSO-I	15	146	72	74
34	Test Inspector	15	21	12	9
35	A.F.M	14	46	27	19
36	Assistant BCS	14	34	--	34
37	Assistant DCS	14	34	--	34
38	Cashier	14	34	--	34
39	DM-B	14	57	21	36
40	Junior Store Keeper	14	29	19	10
41	L.S-II	14	808	468	340
42	Lab Assistant	14	36	7	29
43	LFM-II	14	35	7	28
44	MRS-I	14	74	9	65

Distribution Company Integrated Investment Plan (DIIP) / Business Plan - PESCO

45	P.S.I / A.P.P.	14	1	—	1
46	PC Operator	14	71	—	71
47	SSO-II	14	183	172	11
48	Steno Grade-II	14	130	5	125
49	Stock Verifier	14	3	—	3
50	Sub Engineer	14	17	9	8
51	Test Asstt:	14	23	18	5
52	Transport Supervisor	14	1	1	—
53	A.D.M	13	16	20	-4
54	Cable Jointer	13	3	—	3
55	Electrician-I	11	1	2	-1
56	Fitter Line Man	11	4	1	3
57	Fitter-I	11	28	26	2
58	L.M.I	11	2,328	1,500	828
59	MRS-II	11	117	86	31
60	Senior Clerk	11	301	60	241
61	Store Clerk	11	31	5	26
62	Work Supervisor	11	8	—	8
63	Winder	10	—	4	-4
64	Electrician-II	9	7	4	3
65	Fitter-II	9	75	23	52
66	J.Clerk W/S:	9	659	293	366
67	J/Clerk Coml:	9	117	12	105
68	Jr.Clerk A/C	9	14	5	9
69	Khatib/Imam	9	4	1	3
70	L.M-II	9	2,408	1,611	797
71	Meter Mechanic	9	30	9	21
72	Meter Reader	9	2,628	1,614	1,014
73	SSA	9	111	112	-1
74	Surveyor	9	13	10	3
75	Tracer	9	109	6	103
76	Security Sergeant	8	133	77	56
77	ALM	7	7,162	3,811	3,351
78	ASSA	7	385	274	111
79	Auditor	7	117	3	114
80	Bill Distributor	7	1,336	296	1,040
81	Driver	7	728	381	347
82	Electrician	7	8	1	7
83	Gate Clerk	7	2	—	2

Distribution Company Integrated Investment Plan (DIIP) / Business Plan - PESCO

84	Helper	7	2	1	1
85	Helper(P&I)	7	10	5	5
86	Legal Clerk	7	34	—	34
87	Machine Attendant	7	20	2	18
88	Moulder	7	4	—	4
89	P/Fitter	7	4	—	4
90	Qanoongo	7	1	—	1
91	Security Guard	6	1,309	559	750
92	Blacksmith	5	21	1	20
93	Carpenter	5	5	1	4
94	Helper Pipe Fitter	5	2	—	2
95	Khadim/ Mozain	5	2	2	—
96	Mechanic	5	—	1	-1
97	Meter Helper	5	45	11	34
98	Naib Court	5	1	1	—
99	Patwari	5	6	—	6
100	Plumber	5	2	—	2
101	T.W.O	5	27	12	15
102	Timekeeper	5	1	—	1
103	Turner	5	6	1	5
104	Welder	5	16	5	11
105	Work Mistri	5	8	—	8
106	Daftari	4	43	4	39
107	H/Fitter	4	18	—	18
108	H/Molder	4	4	1	3
109	H/Turner	4	3	—	3
110	MATE	4	2	—	2
111	PPC Operator	4	4	1	3
112	Aya	3	1	—	1
113	Cleaner	3	112	35	77
114	Hammer Man	3	10	1	9
115	Helper Welder	3	4	—	4
116	R/Lifter	3	—	1	-1
117	Store Helper	3	109	20	89
118	Badraga	2	1	—	1
119	Barkandaz	2	3	—	3
120	Bearer	2	13	11	2
121	Beldar	2	2	—	2
122	Cook	2	8	3	5

123	Khalasi	2	30	3	27
124	Khasadar	2	37	4	33
125	Labour	2	7	1	6
126	Marter Mat	2	4	—	4
127	Painter	2	1	1	—
128	R/House Helper	2	1	—	1
129	Store Coolly	2	18	3	15
130	Chowkidar	1	320	116	204
131	Ehalmed	1	7	—	7
132	Library Attendant	1	1	—	1
133	Mali	1	220	93	127
134	Masson	1	2	—	2
135	Naib Qasid	1	863	370	493
136	Sweeper	1	460	89	371
	Total		27,868	14,003	13,865

PESCO regularly conducts training and capacity building of its employees largely through self-owned training facilities (CTCs and RTCs) and WAPDA Staff College. The trainings that are mandated by WAPDA for the Officers are conducted at the Staff College while the local training centers organize around fifteen to twenty regular training programs each year for PESCO employees. An average of 2,000 numbers of staff trained under various functional and skill based training programs each year. In the year 2021-22, a total of 1,979 (14% of total strength) employees were trained at the RTC and WAPDA Staff College. Meanwhile, the budgeted amount spend on these trainings was nearly Rs. 2 million.

PESCO has a total of five training facilities including one RTC and four CTCs to deliver trainings to the employees. Recently, PESCO has upgraded the RTC and four CTCs of PESCO.

vi. IT-MIS

IT which is the backbone of the business has significantly improved but still required further scaling.

The table below depicts the IT infrastructure being developed by PESCO by getting assistance from PDP:

Projects	Server	Desktop	Laptop	UPS	Printer	Scanner	LAN	WAN	Other Hardware	Software
ERP/ CIS	8	413	39	415	133	32	778 nodes	46 links	-	Oracle covering Finance, HR and MM modules for ERP & Customer Care and Billing software for CIS
Mobiles for MR	-		-			-	-	-	mobiles	MMR Software
CSC	2	4	-	6	-	-	-	-	-	CMS v 2.2
P&E	1	6	-	7	2	-	8 nodes	-	-	ArcGIS & SynerGEE
AMR	7	181	-	182	176	-	6 nodes	1 link ²	13,250 AMR meters	MDC Software
LDI ³	4	6	-	7	1	-	16 nodes	1 link ⁴	-	MDC Software
IT Lab at HQ	-	16	-	16	1	-	17 nodes	-	-	-
Intranet Portal Project	3	13	3	13	1	11	24 nodes	44 links	-	-
RTC Lab	1	25	3	2	1	-	26 nodes	-	-	-
Data Center	Racks, UPS, backup systems, fire safety, HVAC, biometric based security, video surveillance, backup generator etc.									
Total Quantity	23	707	45	691	358	43	875	92	N/A	-

²PDC at PESCO HO is connected with WAPDA House NOC @ 2 Mbps

³Servers for LDI and AMR are located at WAPDA House NOC.

⁴AMI at PESCO HO is connected with WAPDA House NOC @ 2 Mbps

vii. Commercial Management

The commercial operations of PESCO were legacy based and did not offer much in terms of transparency, data accuracy, system efficiency and services to consumers. Therefore, there was a dire need to improve commercial procedures and bring them at par with best practices adopted by utilities worldwide. With the vision to improve the overall commercial operations, PESCO implemented an optimal fusion of activities that would be in order to revolutionize the business practices adopted by PESCO which took its commercial operations many steps further.

The old billing system of PESCO was characterized by manual and cumbersome processes, inadequate controls, insufficient commercial focus, limited transparency and a lack of reliable information. Therefore, CIS, which is the critical backbone of customer care and commercial operations, was implemented at selected circles of PESCO.

As far as meter reading process is considered, the orthodox practice was recording the reading and calculating the consumption on customer records (Kalamzu card), transferring this data to the meter reading list, obtaining approval for the compiled readings by operating personnel and then entering the reading and the consumption into the computer which was a time consuming process leaving little or no time to verify suspect readings. Therefore, data manipulation and transcription errors were common causing the entire process to be highly inefficient with poor internal controls. In response to this, PESCO implemented the IMR initiative under which the process of meter reading was re-engineered and the role of the MIS directorate was increased to maintain registers electronically, eliminate redundancies and ensure better monitoring methods. The MMR was implemented in different Circles of PESCO.

PESCO has also implemented a large-scale high-end meter replacement program across its territory, with AMR (GSM/GPRS) meters for up to 12,500 high-end residential, agricultural, commercial and industrial customers having a sanctioned load of more than 20 kW to ensure improved commercial performance, increased revenue (by modernizing PESCO's meter reading) and commercial management processes by reducing losses and saving energy.

The following table illustrates the trend of units purchased from CPPA and subsequent billing to the consumers by PESCO:

Description	(Units in GWh)					
	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Units Received from CPPA	11627	12511	14220	14302	14792	15541
Units Billed to Customers	7682	8432	8796	9074	9043	9608
Units Lost	3945	4078	5425	5228	5748	5933
Losses (%)	33.9	33	38.1	36.6	38.9	38.2

The table below gives an illustration of the billing and collection pattern of PESCO:

(Revenue in Million Rs)

Description	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Revenue Billed to Customers	98759	98674	109271	135418	160484	176074
Revenue Collected from Customers	85980	87901	97852	120003	140798	181274
Revenue Collection (%)	89.5	89	89.5	88.6	87.7	103

viii. Internal Control

■ Investment Approval

The company has adopted WAPDA procedures and PEPCO approved book of Financial Powers for processing all types of expenditures. The above documents prescribe financial and administrative powers of various offices for different type of expenditures.

The investment program is categorized into three components: Development of Power, Rehabilitation / Energy Loss Reduction and Secondary Transmission Lines and Grid Stations and now been transformed into the Distribution Integrated Investment Plan (DIIP)/ Business Plan, which also covers other functional areas plans as well.

The Planning Department under supervision of CEO and Chief Engineer and in consultation with Operation, Finance and other Directorates prepared PC-1s for DOP, ELR, STG and RE. The PC-1s were submitted to Planning Division of GOP after approval of BOD/Authority for final approval from ECNEC and subsequently they were approved. The approved PC-1s are the basis of annual investment. Now DIIP will be utilized for getting regulatory approval first and then taking the desired course of approval, based on funding sources.

■ Internal Audit

There are three types of audits conducted in PESCO Internal Audit, Govt. Audit and Audit by a chartered company. Each has different scope and objectives. The internal audit processes of PESCO are governed by the legacy systems which have missed the mark to adequately identify non-compliance with existing procedures such as:

- Units consumed but consumer not billed
- Damaged or slow meters
- Inaccurate meter reading
- Units billed to nonexistent consumers
- Failure to monitor accounts with payment arrangements

Under the co-sourcing arrangement, a co-sourcing partner was hired provided assistance to PESCO to implement a risk based audit approach as defined in the new internal audit manual for a period of one year. After a year, the performance of the audit function was evaluated and it was revealed that the internal audit function has significantly improved as the desired controls were established within the processes. The capacity and capability of the internal audit staff was also increased.

ix. Legal and Contractual Framework

The primary function of PESCO is to distribute electrical power to the residents and industries within its service area.

The important legal and regulatory documents, principal contracts, and laws under which PESCO must operate are:

- The Companies Ordinance 1984
- PESCO Memorandum of Association
- PESCO Articles of Association
- Distribution License 2002
- NEPRA Performance Standard 2005
- Income Tax Ordinance 2001

The Companies Ordinance of 1984 encompasses all the rules and regulations for businesses registered with Security Exchange Commission of Pakistan (SECP). The Ordinance provides legal protection to the businesses, with the SECP keeping a close check on financial and corporate entities to ensure the stakeholders' interest. According to the Ordinance, PESCO has to follow the Memorandum of Association and Articles of Association.

According to its Memorandum of Association, in April 1998, PESCO was incorporated as a Limited Liability Company with the right to acquire properties and grid stations of WAPDA with the sole purpose of carrying on and expanding the business and supplying electricity to the areas formerly supplied by the Peshawar Area Electricity Board (AEB). Similarly, the Companies Ordinance of 1984 provides a framework of rules and regulations to PESCO, known as its Articles of Association, which cause PESCO to be classified as a Public Limited business and therefore subject to the laws which apply to such corporations.

NEPRA, under the regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (hereinafter NEPRA Act), amended by the act of parliament on 27th April 2018, wherein it has been enacted as this Act shall be called the Regulation of Generation, Transmission and Distribution of Electric Power (Amendment) Act 2018, is responsible for regulating the electricity sector in Pakistan which includes determining the Revenue Requirement, tariffs and other terms and conditions for the supply of electricity by the Generation, Transmission and Distribution Companies and to recommend the same to the Federal Government for notification. For this purpose NEPRA has laid down certain guidelines and procedures under the NEPRA Tariff Standards and Procedures Rules, 1998 and subsequent amendments made in the act. This petition is being filed in the light of updated NEPRA Act, wherein through the act of parliament the wire business has been separated from the Commercial services of a Distribution Company, the Act has also introduced Market Operator, Electric Power Trader, Electric Power Supplier and also has

made amendments to the generation of electricity within the country. This Petition is being filed in compliance of Clause 23 (c) wherein the licensee for electric power trader has been introduced and act quotes that “no person shall, unless licensed by the Authority under this Act, engage in electric power” and clause 23 (e) wherein the term Electric Power Supply Licensee has been introduced, act states that “no person shall unless license by the Authority under this Act, engage in the supply of electric power to a consumer: provided that the holder of a distribution license on the date of coming in to effect of the Regulation of Generation, Transmission and Distribution of Electric Power (Amendment Act, 2018) shall deemed to hold a license for supply of electric power under this section for a period of 5 years from the said date In April 2002, NEPRA granted a distribution license to PESCO as per section 21 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997. According to it, PESCO can engage in distribution services and make sales of power to consumers in the Service Territory and the Concession Territory subject to and in accordance with the terms and conditions of the license.

NEPRA also prescribes separate performance standards for generation, transmission and distribution of safe, efficient and reliable electric power to all the consumers.

Additionally, the taxation system is defined by the Income Tax Ordinance of 2001. Like all DISCOs, PESCO has to comply with this Ordinance and file the following returns:

- Annual income tax return
- Monthly sales tax return
- Statement of deductions and calculations
- Monthly withholding tax
- Quarterly advance tax

The following deductions are made by PESCO and are duly submitted to the Government of Pakistan:

- Sales tax
- Withholding tax on sales tax
- Withholding tax on goods
- Withholding tax on sales
-

Section -III

Forecasts for Next Five Years

Through Power Market Survey (PMS), PESCO prepares the forecast ten years. The forecasts for the period of FY2021 to FY2031 are tabulated in this section. Additionally, the generation plan is prepared centrally by NTDC that is also attached.

i. Consumer Growth by Category

DIIP 1 – Consumer Growth by Category

(Nos in Million)

Circle	Domestic	Commercial	Industrial	T/ Well	Others	Total
2022-23	0.1315	0.0131	0.0047	0.0015	0.0013	0.1522
2023-24	0.2263	0.0259	0.0119	0.0019	0.0021	0.2682
2024-25	0.2330	0.0276	0.0074	0.0020	0.0022	0.2722
2025-26	0.3201	0.0402	0.0049	0.0024	0.0032	0.3709
2026-27	0.2886	0.0315	0.0051	0.0025	0.0034	0.3311

ii. Energy and Demand Forecasts

DIIP2 – Energy and Demand Forecasts

Category-wise Energy Sales (GWh) – Including Load Shedding

Description	FY-2022-23	FY-2023-24	FY-2024-25	FY-2025-26	FY-2026-27
Domestic	6387	6788	7204	7771	8285
Commercial	875	932	992	1081	1150
Public Lighting	14	15	15	16	17
Small Industries	82	85	89	94	98
M&L Industries	2665	3526	3967	4126	4285
Tube Well	93	100	107	117	126
Bulk	679	708	737	778	819
TOTAL	10794	12154	13112	13982	14781
Growth %	6	12.6	7.9	6.6	5.7

Category-wise Energy Sales (GWh) – Excluding Load Shedding

Description	FY-2022-23	FY-2023-24	FY-2024-25	FY-2025-26	FY-2026-27
Domestic	6246	6555	6877	7240	7548
Commercial	855	900	947	1007	1048
Public Lighting	14	14	15	15	16
Small Industries	80	82	85	87	90
M&L Industries	2607	3406	3786	3844	3904
Tube Well	91	97	103	109	115
Bulk	664	683	704	725	746
TOTAL	10557	11737	12516	13027	13466
Growth %	6.1	11.2	6.6	4.1	3.4

Category-wise Demand (MW) – Including Load Shedding

Description	FY-2022-23	FY-2023-24	FY-2024-25	FY-2025-26	FY-2026-27
Domestic	1194	1268	1345	1450	1548
Commercial	142	152	162	178	190
Public Lighting	3	3	3	3	3
Small Industries	8	8	8	9	9
M&L Industries	392	538	610	632	654
Tube Well	13	14	15	16	17
Bulk	83	87	90	95	100
TOTAL	1679	1907	2063	2201	2327
Growth %	6.5	13.6	8.2	6.7	5.7

Category-wise Demand (MW) –Excluding Load Shedding

Description	FY-2022-23	FY-2023-24	FY-2024-25	FY-2025-26	FY-2026-27
Domestic	1140	1196	1254	1319	1377
Commercial	136	143	151	162	169
Public Lighting	3	3	3	3	3
Small Industries	7	7	8	8	8
M&L Industries	374	508	569	575	582
Tube Well	12	13	14	15	15
Bulk	79	82	84	86	89
TOTAL	1603	1798	1923	2002	2070
Growth %	6.7	12.1	6.9	4.1	3.4

iii. **Generation Forecast and Power Acquisition Program**

Whereas, the Peshawar Electric Supply Company (“PESCO”) is currently the deemed Electric Power Supply Licensee in terms of Section 23E of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (the “Act”) as reproduced below:

23E. Electric power supply licence. – (1) No person shall, unless licensed by the Authority under this Act, engage in the supply of electric power to a consumer:

“Provided that the holder of a distribution license on the date of coming into effect of the Regulation of Generation, Transmission and Distribution of Electric Power (Amendment) Act, 2018 shall be deemed to hold a license for supply of electric power under this section for a period of five years from such date.”

Whereas, as per (draft) NEPRA (Electric Power Procurement) Regulations, 2022 (“draft Regulations”), PESCO, apart from being deemed “electric power supply licensee” and by having right to provide distribution service in the service territory, is also to act as “supplier of last resort”.

As per Regulation 3 (1) of the said “draft Regulations”, each Electric Power Supplier shall be responsible for protecting the security of supply at economic prices for its consumers, by planning in advance power procurement in adequate quantity and conditions, with consideration and requirements:

- i. Procure sufficient power to meet the demand of its consumers with prudent demand forecasts with the best of available information, to avoid unnecessary under or over procurement;
- ii. Adopt adequate power procurement strategy and risk mitigation mechanism; and
- iii. Maintain the financial strength and sufficient payment capacity to be considered credit worthy, and timely comply with its power procurement and use of system charges payment obligations.

The Regulation 3(2) of the “draft Regulations” requires the electric power supply licensee to submit to the Authority an updated business plan demonstrating that the licensee continues to comply with the requirements of prescribed eligibility criteria, the requirements in other applicable documents. The Regulation 3(3) prescribes the least ingredients of the business plan.

Under Regulation 4 of the said “draft Regulations” requires the “supplier of last resort” to provide Power Acquisition Program and new power procurement.

Strategic Directive 4 (a) and (b) of the “draft National Electricity Plan 2022-26”

This part of overall Business Plan of PESCO for the period 2022-23 to 2026-27 deals with its obligations under the above mentioned legal / regulatory requirements. For the purposes of guiding principle for security of supply, Strategic Directive 4 (a) and (b) are also reproduced as below:

During the currency of this NE-Plan, IGCEP shall be developed and approved on annual basis. Accordingly, each iteration of IGCEP shall account for the following:

- a) Served demand shall be used as basis for the purpose of demand forecast;
- b) Government, at any time, may decide to incorporate commercial load management quantum in demand forecast based on:
 - i. position and incremental impact on circular debt;
 - ii. Adjustment in AT&C losses by the Regulator;
 - iii. XW-DISCOs’ preparedness as provided in Strategic Directive 020.

(Note: The Strategic Directive 020 deals with broad contours of the Strategic Roadmap already agreed with the Government of Pakistan, Ministry of Energy (Power Division).

The detail Power Acquisition Plan is attached herewith in **(Annex-I)**

iv. Other Changes Including Technological Advances

PESCO has introduced technology to improve its financial, commercial and overall business management, which need to be sustained and scaled-up. Therefore, preparing and implementing DIIP is extremely important.

v. Analysis

As depicted above, the power demand of the customers is growing rapidly, and extensive generation is being added. With overloaded transmission and distribution system, if proper plan like DIIP is not approved, implemented, monitored and closed in-time, then the customers will not get relieve and the whole generation investments can go down the drain.

Section -IV

Next Five Years Goals and Objectives

i. Goals and Objectives Matrix

The goals are long term targets and objectives are medium term targets. The objectives defined by PESCO are SMART i.e. Specific, Measurable, Attainable, Realistic and Timely. The target setting has been done keeping in view what can be **achieved optimally** in next five years. Table below (DIIP4) lists the goals and objectives for next five year for the company, are prepared by extensive discussions and coordination within PESCO and goals & objectives from initial exercise are placed at **(Annex-II)**

DIIP4 - Goals and Objectives Matrix

PESCO GOALS AND OBJECTIVES												
Strategic Goals	Strategic Objectives	Cordinating Directorate(s)	Leading Directorate	Tareget Measurement	Measurement FY 2021-22	Year Wise Objective 2022-23 to 2026-27					Project Manager	Supporting Plan
						2022-23	2023-24	2024-25	2025-26	2026-27		
1.0 Improve Operational Efficiency	1.1.a Reduce technical and comercial losses -Improved HT/LT Ratio -Improved power factor -Improved voltage profile Reduce average length of HT feeders -AT&C based Investments -Single Phase transformers piloting to hard areas w/o LT ABC expansion (conversion of bare LT with HT)	P&E, PD Const, PD GSC, MM, Fin, Comm, Ops, MIS	Technical	%age of KWh	37.8	36.9%	34.9%	33.9%	33.6%	33.3%	GM Technical, CE P&E and team	DIIP-Transmission and Distribution Plan

	Strategic Objectives	Coordinating Directorate(s)	Leading Directorate	Target Measurement	Measurement FY 2021-22	Year Wise Objective 2022-23 to 2026-27					Project Manager	Supporting Plan
						2022-23	2023-24	2024-25	2025-26	2026-27		
1.0 Improve Operational Efficiency	1.1.b Reduce Commercial Losses	CSD, MIS and Ops	CSD	%age of KWh	Overall 4.4% Commercial Loss will be reduced in next Five(05) Years	0.9%	1.9%	0.99%	0.40%	0.24%	CSD and his team	DIIP- Commercial Improvement Plan(CIP)
	1.2 Improve SAIDA/SAIFI To meet specified regulatory performance standards	Ops, T&G, O&M Dist, CSD, Technical	O&M Dist	Hours/Numbers	Over Specified Limit of NEPRA					To comply with NEPRA's specified standards		
	1.3 Improve collections to 100%	CSD, Ops, MIS, O&M Dist	CSD	%age billed amount excluding subsidy	89.3%	89.8%	90.3%	90.8%	91.3%	91.8%		
	1.4 Eliminate fatal & non-fatal accidents	Ops, O&M Dist, MM, HR, Dev, T&G	Operations	No of accidents	in double figures per year	Substantial Reduction	Eliminate	Eliminate	Eliminate	Eliminate	DD Safety	DIIP_ Lineman Safety Plan
2.0 Improve Customer Care and Service	2.1.1 "Soft area" Reduction in billing complaints to less than 1%	Ops, CSD, O&M Dist	CSD	%age of total consumers	More than 10%	Reduction	Reduction	Reduction	<1%	<1%	CSD and his team	DIIP- Commercial Improvement Plan(CIP)
	2.1.2 "Hard area" Reduction in billing complaints to less than 5%	Ops, CSD, O&M Dist	CSD	%age of total consumers	More than 10%	Reduction	Reduction	Reduction	<25%	<10%		
	2.2 Minimize New Connections installation duration	Ops, O&M, Dist, CSD, MM	CSD	No of days	NERPA's guidelines not complied with			To comply with NEPRA's specified standards				
	2.3 Minimize Reconnection installation duration	Ops, O&M, Dist, CSD, MM	CSD	No of days	NERPA's guidelines not complied with			To comply with NEPRA's specified standards				
	2.4 Minimize the redressal time for supply complaints	Ops, MIS, CSD, O&M Dist	MIS	Hours	NERPA's guidelines not complied with			To comply with NEPRA's specified standards				

Strategic Goals	Strategic Objectives	Cordinating Directorate(s)	Leading Directorate	Tareget Measurement	Measurement FY 2021-22	Year Wise Objective 2022-23 to 2026-27					Project Manager	Supporting Plan
						2022-23	2023-24	2024-25	2025-26	2026-27		
3.0 Improve PESCO's Infrastructure	3.1 Human-ware											
	3.1.1 Start Training & capacity building initiatives	HR & All	HR		Legacy training	TNA, Training plans, CPD					HRD and his team	Human Resources Improvement Plan (IIRIP)
	3.1.2 Fulfill the basic requirement for needs to operate for field staff	HR, FIN, Ops, O&M Dist	HR		No comprehensive system in place	LM plan part of the overall DIIP						
	3.2 Orgaware											
	3.2.1 Org A&R review and implementation	HR & All	HR		Not fully implemented	Align org structure with business strategy					HRD and his team	Organizational Improvement Plan(OIP)
	3.2.2 Improve recruitment process	All	HR		Legacy Process	Needs Improvement						
	3.2.3 Conduct yardstick study for Human Resources	All	HR		Yardstick study is obsolete	Yardstick Study to be updated						
	3.2.4 Implement Performance based management system	PR, HR	HR		Legacy system with no implementation	1)Upgrade and implement the existing accelerated promotion policy and 2) Increments based on performance ratings of PER's						
	3.2.5 Improvement in office facilities/work environment	HR & All	HR		Limited/inadequate facilities	Needs Improvement						

Strategic Goals	Strategic Objectives	Cordinating Directorate(s)	Leading Directorate	Tareget Measurement	Measurement FY 2021-22	Year Wise Objective 2022-23 to 2026-27					Project Manager	Supporting Plan
						2022-23	2023-24	2024-25	2025-26	2026-27		
3.0 Improve PESCO's Infrastructure	3.3 Technoware											
	3.3.1 AMI expansion	MIS, Ops, O&M Dist, CSD, P&E	CSD	% of Customers Covered with AMR	Project by PESCO is in process.	AMR/AMI at all 11 KV feeders are installed both on incoming and outgoing. AMR/AMI at consumer level upto 10 kw load will be installed in next five years.					CSD	Commercial Improvement Plan (CIP)
	3.3.2 Expand HHU and meter correction	MIS, Ops, O&M Dist, CSD, P&E	CSD	% of Customers Covered with HHUs	Project by PESCO is in process.	"Soft area" 100% is completed. "Hard area" 50% will be cover in next five years.					CSD	Commercial Improvement Plan (CIP)
	3.3.3 Replace electromechanical meters with static meters (100%)	Ops, O&M Dist, CSD, P&E	CSD	% of Customers Covered with Static Meters	Project by PESCO is in process.	100% electronic meters					CSD	Commercial Improvement Plan (CIP)
	3.3.4 P&E expansion to GIS Mapping	P&E, MIS, Ops, O&M Dist	P&E		Project by PESCO is in process.	Fully implemented in PESCO					P&E	DIIP
	3.4 Inforware											
	3.4.1 Implement ERP & its rollout	All	FIN		Project by PESCO is in process.	Extension of the IT network to support ERP in all circles.					FD	Financial Management Improvement Plan (FMIP)
	3.4.2 Implement CIS & its rollout	CSD, MIS	CSD		Project by PESCO is in process.	Extension to all circles					CSD	Commercial Improvement Plan (CIP)
	3.4.3 Expand intranet portal to PESCO	All	MIS		Deployment at H/Q level	Already deployed and will be improved further in next five years.					MIS	Communication Improvement Plan (CIP)
	3.4.4 Improve communications through email	All	MIS		Paper based communication	Promote e-communication culyure					DGIT	Internal comm. Improvement Plan(ICIP)

Strategic Goals	Strategic Objectives	Cordinating Directorate(s)	Leading Directorate	Tareget Measurement	Measurement FY 2021-22	Year Wise Objective 2022-23 to 2026-27					Project Manager	Supporting Plan
						2022-23	2023-24	2024-25	2025-26	2026-27		
4.0 Comply with applicable laws and regulation	4.1 Companies Ordinance 1984	FIN, Company Secretary	FIN		—	Study and Compliance Required					All	Create a Library, map all requirements and Make it part of Business Plan
	4.2 Code of Corporate Governance for Public Sector	FIN, Company Secretary	FIN		—							
	4.3 Income Tax Ordinance	Legal, FIN, CSD, MIS	FIN		—							
	4.4 Sales Tax Act	Legal, FIN, CSD, MIS	FIN		—							
	4.5 Electricity Act & rules	Legal, CSD	CSD		—							
	4.6 Theft Ordinance CPC	Ops, Legal	CSD		—							
	4.7 Industrial Relations	HR, Legal	HR		—							
	4.8 Other labor laws	HR, Legal	HR		—							
	4.9 PPRA Rules	Dev, P&E	P&E		—							
	4.10 Distribution Licence	Ops, T&G, P&E, Dev, CSD, FIN	FIN		—							
	4.11 NEPRA Act & Rules	All	FIN		—							
	4.12 Compliance with	Dev	Dev		—							
	4.13 Power Sale Agreement with CPPA	Legal, FIN, CSD, T&G	FIN		—							
5.0 Make PESCO a socially responsible corporate entity	5.3 Campaign for energy conservation	P&E, PR	PR	No of Campaigns	Limited Campaigns	DISCO's wide					Communicati on Head	Stakeholders Communicatio n Plan

In the above table the goals for PESCO are divided into five major categories (i) Improve operational efficiency (this includes technical (transmission and distribution systems operational efficiency⁵), financial, commercial, human resource, employee safety etc. (ii) Customers Services and Care, (iii) Improve DISCOs Infrastructure (with only top priority projects under the four heads defined that need highest of attention), (iv) Comply with applicable laws and regulations and (v) The initiatives that the DISCO may take to make it more socially responsible corporate entity.

⁵ NEPRA Performance Standards (Distribution) Rules, 2005 and Distribution Codes were consulted while preparing these objectives

ii. Rationale for Setting Goals and Objectives and the Planning Criteria for Proposed Investments

The goals and objectives that have been narrated under DIIP-4 were prepared after extensive discussions and coordination efforts within PESCO. These are the targets that PESCO has set and the projects / initiatives have been identified to meet these set targets. The resources requirements for the best case were far more than the capacity PESCO to fund and execute. Initiatives have been identified and prioritized under the optimally achievable scenario keeping in view, the following factors:

- a. The reliable dispersal of power, especially the power that will be injected within PESCO in next five years, including the variable renewables
- b. Funding availability as PESCO can arrange funding only up to Rs.80463 million as required under the achievable scenario and not Rs.170271 million as required under best case.
- c. Capacity to procure and execute is another constraint that has limited PESCO's capability to implement the achievable scope, not the larger scope envisaged under best scenario developed
- d. Meeting the technical parameters specified in the Grid Code, Distribution code performance standards and consumer service manual
- e. Loss reduction from 38.1% in 2022-23 to 34.4% in 2026-27 , the loss improvement potential saturates as the losses are further decreased and improving/maintaining collections
- f. Improving internal controls, faster information availability and quality of data through back-office automation
- g. Improving the competencies of the employees and their morale, through training capacity building and incentives
- h. Improving corporate brand image by improving internal and external communications
- i. Safety of line-staff is a key part of DIIP, includes special focus on LM safety
- j. Return on investment is also considered while planning and prioritizing the interventions
- k. Other objectives (social uplift e.g. village electrification) are part of the plan as well

Section -V

Projects and Programs – Scope

A. Secondary Transmission System

This section covers scope for the expansion and rehabilitation of secondary transmission network (132 kV and or 66 kV) of PESCO.

PESCO has prepared two Scenarios and the related scope. **Scenario-1** (the Best Case), that if implemented would have completely revamped the transmission network and enabled the DISCOs to achieve the NEPRA's specified Performance Standards Distribution and provision of the Distribution Code, especially the Distribution Planning Code issued by NEPRA.

The company has also prepared a **Scenario-2** (the Optimally Achievable Case) based on its procurement, execution and especially the ability to raised funding. The Multi Year Tariff (MYT) is based on based on the Optimally Achievable Case scope and costs.

The proposed sub Transmission Lines and Grid Stations works for DISCO also includes the scope for "Deposit Work" and these works are separately identified in the formats below:

▪ Load Flow Studies for Best Case and Optimally Achievable Cases

This section covers the load flow peak-cases for five years. The assumptions and results of these studies are discussed under this section and detailed plots are referred in the Annexures. Special situation, for instance, integration with Solar Power (large induction) over a specified period in PESCO has been paid special attention in the studies.

As per NEPRA's guidelines provided in the DIIP formats, PESCO has prepared two Scenarios and the related scope. Scenario-1 (the Best Case), that if implemented will completely revamp the transmission network and enable the DISCOs to achieve the NEPRA's specified Performance Standards Distribution and provision of the Distribution Code, especially the Distribution Planning Code issued by NEPRA.

Further, the company has also prepared a Scenario-2 (the Optimally Achievable Case) based on its procurement / execution capacity and availability / capacity to raise funding for the investments. Detailed system studies for the future years (based on two scenarios as defined above) have been carried out to determine the justification of the proposed sub-projects in PESCO area under five year DIIP and to assess their impact on the system transmission network.

The other objectives of the studies are identification of any reinforcements required with the proposed sub-projects in terms of new lines, new substations transformer addition/augmentation, reactive power compensation and switchgear addition/replacement at the substations, in addition to the already planned/under execution projects in PESCO. The benefits of the proposed sub-projects to the network of PESCO have also been determined through system studies and are discussed below.

Methodology of Analysis – Load Flow Studies

The methodology of system studies/analysis for both scenarios (best and achievable scenarios) is given as under:

- i. Under this DIIP, PESCO's network expansion plan including already planned/under-execution projects have been included
- ii. The proposed sub-projects to be implemented have been identified through load flow studies and identified separately
- iii. The complete system model of the National Grid has been simulated, i.e., system network of not only the PESCO but also of NTDC and the neighboring DISCOs have been simulated for the purpose of analysis
- iv. The assumptions on which the system studies are based have been mentioned with necessary details below
- v. Two type of analysis, i.e., load flow and short circuit, have been carried out and their results have been presented in the report
- vi. Load flow analysis has been carried out for the steady state normal system operating condition in order to:
 - Assess adequacy of the network to feed the proposed sub- projects
 - Determine any additional transmission reinforcement and/or reactive compensation requirement for the scope of work of sub-projects
 - Justification of proposed projects
 - Determine the benefits of the above proposed works at substations and transmission lines in terms of reduction in transmission losses, improvement in voltage profile, reduction in loading of transmission lines or transformers, spare capacity margin in the transmission system
- vii. Short circuit analysis has been carried out to compute 3-phase and 1-phase short circuit levels at the substations. A comparison between the computed short levels and short circuit rating of the installed switchgear equipment at the existing substations has also been made in the vicinity of the proposed sub-projects in order to assess whether any switchgear equipment is appropriate or will become under-rated after the commissioning of the proposed sub-project(s). Recommendations for under-rated switchgear have also been made where needed, which essentially is replacement, also made part of scope.
- viii. Conclusions and recommendations on the basis of technical analyses have been presented at the end

Assumptions – Load Flow Studies

The load flow studies are based on the following assumptions:

- i. Latest PMS load forecast, attached as **(Annex-III)**. The diversified values of the peak projected loads on substations, existing and new, have been modeled as per latest PMS load forecast. The loads have been adjusted as per the ratio between PESCO Peak including load shedding and the algebraic sum of recorded individual peaks of the substations of PESCO. This diversified peak is modeled in the load flow cases that helps in identifying scope for transmission lines
- ii. The scope of substation is derived from their individual undiversified peaks separately in excel based models. This scope identified is then modeled in the load flow cases.
- iii. Generation expansion plan utilized in the load flow studies is attached at **(Annex-IV)**. All the existing as well as the proposed power plants, both in public and private sectors have been assumed in operation in all the study scenarios as per their expected commissioning schedules

- iv. Latest PESCO's planned/on-going transmission expansion/re-enforcement projects, including substations (extension, augmentation, conversion, new), transmission lines have also been simulated in the studies as per their expected commissioning schedules

Study Criteria– Load Flow Studies

The load flow studies have been carried out keeping in view the following criteria in the PESCO's network:

Best Case

- Voltage Limits: $\pm 5\%$ under normal operating conditions
- Loading of transmission lines and transformers have been kept within 80% of their capacities under normal operating conditions.
- N-1 contingency analysis has been carried out and additional scope to meet that criteria is also simulated

Optimally Achievable Case

- Voltage Limits: $\pm 5\%$ under normal operating conditions
- Loading of transmission lines and transformers have been kept within 80% of their capacities under normal operating conditions.
- N-1 contingency analysis has not been carried out under this option as it would be require further reinforcement in PESCO's transmission network for which PESCO at this stage has no firm financing

Results of Load Flow Studies

Load flow studies have been carried out with already planned/on-going projects; and with & without proposed subprojects in 5 year plan to study their impact on the system network.

The year wise Single line diagram of the system showing voltage profile and MW/MVAR flows are (Annex-V).

i. Year Wise Voltage Profile

It is evident from the study exhibits that voltage profile will improve and becomes within permissible limits.

ii. Year Wise Loading Position - For Grids refer to the Excel Sheet and for T/Lines refer to plots of Load Flow

Load flow studies have also been carried out for both Best and optimally achievable system scenario with the proposed rehabilitation in form of Conversions, 132 kV Capacitors and New transmission Lines and year wise loading position of Transmission lines are attached (Annex-VI)

iii. Reduction In Transmission Losses

Year	MW		Units (MKWh)	
	Ideal	Realistic	Ideal	Realistic
2022-23	11.20	11.2	53.96	53.96
2023-24	14.40	10.22	69.38	49.24
2024-25	15.70	5.00	75.64	24.09
2025-26	18.22	11.9	87.78	57.33
2026-27	12.00	10.00	57.82	48.18

- **Expansion and Rehabilitation (Best Case) - Scope**
The scope of Work for Best Case is tabulated here under:

a. Grid Stations (Best Case)

D11P 5 - Grid Stations (Best Case)

Sr. No	Description	Total No.	Total Capacity (MVA)	2022-23	2023-24	2024-25	2025-26	2026-27
1	New							
a	132 KV	41	2308	8	10	11	6	6
2	Conversion							
a	66 to 132 KV	5	260	1	3		1	
b	33 to 132 KV	1	26			1		
3	Augmentation							
a	132 KV	24	336	10	12	2		
b	66 KV							
4	Extension (Transformer)							
a	132 KV	11	371	4	7			
b	66 KV							
5	Rehabilitation							
a	132 KV	2		2				
b	66 KV							
	Total	84	3301	25	32	14	7	6

b. Transmission Lines (Best Case)

i. New Line(Best Case)

DIIP 6 – Transmission Lines: New Line (Best Case)

Sr. No.	Description	Total Length (km)	2022-23	2023-24	2024-25	2025-26	2026-27
1	132 KV D/C	493	170	127	63	35	98
2	132 KV SDT	387	133	93	42	16	103

ii. Rehabilitation/Reconductoring/Up-gradation (Best Case)

DIIP 7 – Transmission Lines: Rehabilitation/ Reconductoring / Up-gradation (Best Case)

Sr. No.	Description	Total Length (km)	2022-23	2023-24	2024-25	2025-26	2026-27
1	132 KV D/C	0					
2	132 KV SDT	61			61		
3	132 KV Addl: CKT	235		30	87	68	50

iii. Reconductoring and Rerouting (Best Case)

DIIP 8 – Transmission Lines: Reconductoring and Rerouting (Best Case)

Sr. No.	Description	Total Length (km)	2022-23	2023-24	2024-25	2025-26	2026-27
1	132 KV D/C	20		20			
2	132 KV SDT	130	56	49		2	23

iv. Capacitor(Best Case)

DIIP 9 – Transmission Lines: Capacitors (Best Case)

Sr. No.	Description	Total (MVAR)	2022-23	2023-24	2024-25	2025-26	2026-27
1	132 KV Capacitor						
2	11 KV Capacitor	926	120	204	300	216	86

▪ **Expansion and Rehabilitation (Optimally Achievable Case) - Scope**

The scope of Work for Achievable Case is tabulated here under:

a. Grid Stations (Optimally Achievable Case)

DHP 10 - Grid Stations Optimally Achievable Case

Sr. No	Description	Total No.	Total Capacity (MVA)	2022-23	2023-24	2024-25	2025-26	2026-27
1	New							
a	132 KV	38	2178	8	7	10	8	5
2	Conversion							
a	66 to 132 KV	5	260	1	3		1	
b	33 to 132 KV	1	26			1		
3	Augmentation							
a	132 KV	24	336	10	12	2		
b	66 KV							
4	Extension (Transformer)							
a	132 KV	11	371	4	7			
b	66 KV							
5	Rehabilitation							
a	132 KV	2		2				
b	66 KV							
	Total	81	3171	25	29	13	9	5

b. Transmission Lines (Optimally Achievable Case)

i. New Line

DHP 11 - Transmission Lines (Optimally Achievable): New Line

Sr. No.	Description	Total Length (km)	2022-23	2023-24	2024-25	2025-26	2026-27
1	132 KV D/C	389	170	87	52	46	34
2	132 KV SDT	354	133	93	39	16	73

ii. Rehabilitation/Reconductoring/Up-gradation

DIIP 12 - Transmission Lines (Optimally Achievable): Rehabilitation/Reconductoring/Up-gradation

Sr. No.	Description	Total Length (km)	2022-23 (Km)	2023-24 (Km)	2024-25 (Km)	2025-26 (Km)	2026-27 (Km)
1	132 KV D/C	0					
2	132 KV SDT	61				61	
3	132 KV Addl: Ckt	61				61	

iii. Reconductoring and Rerouting

DIIP 13 - Transmission Lines (Optimally Achievable): Reconductoring and Rerouting

Sr. No.	Description	Total Length (km)	2022-23 (Km)	2023-24 (Km)	2024-25 (Km)	2025-26 (Km)	2026-27 (Km)
1	132 KV D/C	20		20			
2	132 KV SDT	195		56	69	70	

iv. Capacitors

DIIP 14 - Transmission Lines (Optimally Achievable): Capacitors

Sr. No.	Description	Total (MVAR)	2022-23	2023-24	2024-25	2025-26	2026-27
1	132 KV Capacitor						
2	11 KV Capacitor	926	120	204	300	216	86

▪ Short Circuit Studies

The computed fault levels have been compared with the short circuit rating of the installed switchgear equipment at the substations to identify any under-rated switchgear in the existing substation.

The maximum short circuit levels have been computed with the following assumptions under IEC 909 standard by setting:

- Transformers tap ratio to unity
- Line charging to zero
- Shunt elements to zero under in positive sequence
- Voltage at 1.1 p.u

As per above short circuit study results, following rating of switchgear is recommended while keeping margin for future network expansion:

- 40 kA for 132 kV
- 40 kA for 11 kV, especially for power transformers.

It has been found that the short circuit levels, as a result of the induction of the proposed subprojects, will not increase at the existing substations in their vicinity.

B. Plan for Expansion and Rehabilitation Distribution System – Scope

Under this section, the Expansion and Rehabilitation (two scenarios Best and Optimally Achievable) are presented and the Status of Study Based Distribution System Planning Based on GIS Mapping and the Rollout Plans are also discussed.

This section covers the expansion and rehabilitation of distribution network (11kV and below) of the distribution company.

PESCO has prepared two Scenarios and the related scope. **Scenario-1** (the Best Case), that if implemented will completely revamp the distribution network and enable the DISCOs to achieve the NEPRA's specified Performance Standards for Distribution and the provisions of the Distribution Code, especially the Distribution Planning Code issued by NEPRA.

PESCO has also prepared a **Scenario-2** (the Optimally Achievable Case) based on its procurement and execution capacity and will make the MYT rate case based on this scenario.

The proposed distribution works for PESCO also includes the scope for "Deposit Works" and "Village Electrification Works" and these works are separately identified in the formats below.

▪ **Expansion and Rehabilitation (Best Case)**

The table DIIP 15 captures the complete scope under Best Case for distribution system:

DIIP15 - Distribution System (Best Case)

Sr. No.	Description	Unit	Quantities					Total
			2022-23	2023-24	2024-25	2025-26	2026-27	
Scope of Work for 11 kV and Below Expansion								
A.								
1	Expansion of HT Lines							
	Number of proposals	Nos	26	24	25	26	25	126
	Length of new HT line	Km	234	216	225	234	225	1134
	Reconductoring	Km	65	60	63	65	63	315
2	Transformers							
	a. 25 KVA	Nos	2270	2300	2459	2500	2500	12029
	b. 50 KVA	Nos	1673	2000	1500	2100	2200	9473
	c. 100 KVA	Nos	250	300	250	341	300	1441
	d. 200 KVA	Nos	50	60	70	98	90	368
	e. others KVA	Nos						
	Sub Total		4243	4660	4279	5039	5090	23311
3	11 KV Capacitors							
	a. Fixed 450 KVAR	Nos	26	24	25	26	25	126
	b. Fixed 900 KVAR	Nos						
	c. Others	Nos						
	Sub Total		26	24	25	26	25	126
4	11 KV Panel	Nos	26	24	25	26	25	126
5	11kV 500 MCM Cable	km	8	7	8	8	7.5	38
Scope of Work for LT Expansion								
B.								
1	New LT Lines							
	Number of proposals	Nos	4243	4660	4279	5039	5090	23311
	Length of new LT line (Total Wasp+ANT)	Km	2546	2796	2567	3023	3054	13987
2	LT Capacitors							
	a. Different KVARs	Nos						
	Other Equipment's and Material							
	a. Single Phase Meters	Nos	121760	214560	217760	296640	264800	1115600
	b. Three Phase Meters	Nos	22830	40230	40830	55620	49650	209175
	c. MDI	Nos	7610	13410	13610	18540	16550	69725
	Sub Total		152200	268200	272200	370800	331000	1394500
Scope of Cost Deposit Work								

C.	Village Electrification							
1	New HT Lines							
	Length of new HT line	Km	366.2	438.8	487.6	536.7	609.4	2438.6
2	New LT Lines							
	Length of new LT line	Km	1230.4	1433.4	1686.7	1855.4	2144.5	8350.4
3	Transformers							
	a. 25 KVA	Nos	416	458	504	555	611	2544
	b. 50 KVA	Nos	1300	1550	1705	1876	2100	8531
	c. 100 KVA	Nos	300	550	605	666	733	2854
	d. 200 KVA	Nos	83	92	102	113	125	515
	e. others KVA	Nos						
	Sub Total		2099	2650	2916	3210	3569	14444
D.	Independent Feeder							
1	New HT Lines							
	Length of new HT line	Km	220	210	225	205	215	1075.0
2	New LT Lines							
	Length of new LT line	Km						
3	Transformers							
	a. 25 KVA	Nos						
	b. 50 KVA	Nos						
	c. 100 KVA	Nos	37	40	39	35	40	191
	d. 200 KVA	Nos	15	11	14	15	11	66
	e. others KVA	Nos						
	Sub Total		52	51	53	50	51	257
4	11 KV Panel	Nos	53	51	54	50	52	260
5	<u>11KV 500 MCM S/C Cable @ 300 Meter/Feeder</u>	Km	15.9	15.3	16.2	15.0	15.6	78.0

Methodology

The distribution Voltage is 11 KV on HT and 0.4 KV on LT system. Estimation of material requirement is made on the basis of SDI. All aspects are considered while deciding the design and requirement of material e.g. requirement of new line for urban as well as for Rural area. For reconductoring of urban area's line as well as rural area are considered keeping in view the size of conductor as well. Different type of assemblies are selected which is used commonly and estimation for a specific assembly is made separately.

For economical and safety purpose, PC Poles will be utilized along with Steel structure for extension of HT/LT lines in the areas under electrification. The ratio of steel structures and PC' poles will be maintained as 10:90. ACSR and AAC will be used for the purpose of current carrying from

the Grid Station to the point of DS/utilization. 25 KVA, 50 KVA, 100 KVA, 200 KVA sizes of Distribution Transformers will be used. Span length of structures and P.C Poles has been worked out according to SDI so as to ensure adequate clearance, safety as well as avoiding obstruction in normal life.

Evaluation of Material Requirements

Scope of material requirements under the Distribution Expansion Project is calculated as per data collected upto 09/2021 and detailed in the following section.

The Expansion BOQs for different DOP measures have been developed as follows:

New 11 KV Switchgear (Control Panels)

11 KV panels to be added according to the following break-up:

Panels for express feeders to be built for Shifting/bifurcation of existing feeders	126 Nos
--	---------

ACSR Conductors for new express line construction

It is estimated that 126-Nos feeders will require construction of express lines for their bifurcation. On the average 9 km of 3-phase HT line will be constructed per feeder based on historical construction data. The overall share of different ACSR conductors in the total of 1134 km of lines is estimated based on historical construction data and the segregate is given as below:

Km Line

Osprey	61.11%	1134×0.6110	692.87 Km
Dog	37.7%	1134×0.3777	427.518 Km
500 MCM	1.11%	1134×0.0111	<u>12.58 Km</u>
Total			1134 Km

Calculation of Material for 11 KV System

(i) 11 kV Line Re-conductoring

Estimated re-conductoring per feeder based on sample studies, works out to be = 2.5 Km

Estimated % share of different Conductors in re-conductoring:

Osprey	20%
Dog	40%
Rabbit	40%

Number of feeders for rehabilitation 126 Nos.
Therefore, total re-conductoring length 126×2.5 315 Km
The quantities of ACSR conductors required for re-conductoring are therefore:

Km Line

Osprey	20%	315×0.20	63 KM
Dog	40%	315×0.40	126 KM
Rabbit	40%	315×0.40	<u>126 KM</u>
			Total 315 KM

(ii) Capacitor Applications for Power Factor Improvement

The sample studies indicate that at an average, one capacitor bank of 450 kVAR is needed per feeder for improving the power factor to 95% from existing average power factor of 85% on the selected feeders. For 126 No. 11 kV feeders, requirement of capacitor banks of 450 kVAR each will, therefore, be 126 Nos.

(iii) Augmentation of Over-loaded Transformers

The number of transformers required for replacement against overloading is worked out as follows:

50 % will be adjusted in DOP and 50 % in ELR.

Share of Transformers required for Augmentation

25 kVA	12029 Nos.
50 kVA	9473 Nos.
100 kVA	1441 Nos.
200 kVA	368 Nos.

Total: 23311 Nos.

(vi) New LT Lines

Each new transformer is estimated to have at least three LT circuits of (600 M). Based on this estimation, the LT line conductor is calculated as follows:

Total LT line required: $\frac{600 \times 23311}{1000} = 13986.6 \text{ Km}$

The final estimated conductor lengths are therefore:

New 3-φ LT line (Wasp)	2097.99 km
New 3-φ LT line (Ant)	6293.97 km

(vii) LT Line Reconductoring

The average LT line reconductoring per LT rehabilitation proposal is estimated based on historical as:

3-φ, Wasp conductor line		0.25 km
3-φ, Ant Conductor line		0.25 km
LT line reconductoring (3-φ, Wasp)	23311 x 0.25	5827.75 km
LT line reconductoring (3-φ, Ant)	23311 x 0.25	5827.75 km

(ix) Energy Meters

The requirement of energy meters for installation of new meters is estimated as per PMS data. Year wise installation of meters is estimated according to the increase in the growth rate for next five year.

Village Electrification:

- The estimation of scope of work in next five years is based on the historical data of the previous years which was provided by the office of PD (C&O) PESCO.

Dedicated 11-kv Feeders:

- The estimation of scope of work in next five years is based on the historical data of the financial years 2013-14, 2014-15, 2015-16, 2016-17, and 2017-18.
- HT conductor percentage is based on historical data.
- 200 KVA transformers and 100 KVA transformers are considered on historical data.

Scope of Work for 11 kV and Below Rehabilitation		unit	2022-23	2023-24	2024-25	2025-26	2026-27	Total
A.								
1	Rehabilitation of HT Lines							
	Number of proposals	Nos	59	60	61	56	59	295
	New Line	Km	531	540	549	504	531	2655
	Reconductoring	Km	148	150	153	140	148	738
2	New Transformers							
	a. 25 KVA	Nos	2270	2300	2459	2500	2500	12029
	b. 50 KVA	Nos	1673	2000	1500	2100	2200	9473
	c. 100 KVA	Nos	250	300	250	341	300	1441

	d. 200 KVA	Nos	50	60	70	98	90	368
	e. others KVA	Nos						
	Sub Total		4243	4660	4279	5039	5090	23311
3	Installation of 11 kV Panels	Nos	59	60	61	56	59	295
4	11kV 500 MCM Cable	Km	18	18	18	17	18	89
Scope of Work for LT Rehabilitation								
B.								
1	LT Lines Rehabilitation							
	New LT Line	Km	848.6	932	855.8	1007.8	1018	4662
	Reconductoring of LT Line	Km	636	699	642	756	764	3497
	Rabbit (Conversion LT feeders)	Km	424	466	428	504	509	2331
	Other Equipments and Material							
	a. Single Phase Meters	Nos	230783	242322	254439	267160	280519	1275223
	b. Three Phase Meters	Nos	17194	18054	18957	19905	20900	95009
	Sub Total		247978	260376	273395	287065	301418	1370233

The narrative, assumptions and details explaining the scope above are hereunder:

Methodology for Rehabilitation

The distribution Voltage is 11 KV on HT and 0.4 KV on LT system. Estimation of material requirement is made on the basis of SDI. All aspects are considered while deciding the design and requirement of material e.g. requirement of new line for urban as well as for Rural area. For reconductoring of urban area's line as well as rural area are considered keeping in view the size of conductor as well. Different type of assemblies are selected which is used commonly and estimation for a specific assembly is made separately.

For economical and safety purpose, PC Poles will be utilized along with Steel structure for extension of HT/LT lines in the areas under electrification. The ratio of steel structures and PC' poles will be maintained as 10:90. ACSR and AAC will be used for the purpose of current carrying from the Grid Station to the point of DS/utilization. 25 KVA, 50 KVA, 100 KVA, 200 KVA sizes of Distribution Transformers will be used. Span length of structures and P.C Poles has been worked out according to SDI so as to ensure adequate clearance, safety as well as avoiding obstruction in normal life.

Evaluation of Material Requirements

Scope of material requirements under the Distribution Rehabilitation Project is calculated as per data collected upto 09/2021 and detailed in the following section.

The BOQs for different ELR measures have been developed as follows:

New 11 KV Switchgear (Control Panels)

11 KV panels to be added according to the following break-up:

Panels for express feeders to be built for Shifting/bifurcation of existing feeders	295 Nos
--	---------

ACSR Conductors for new express line construction

It is estimated that 295-Nos feeders will require construction of express lines for their bifurcation. On the average 9 km of 3-phase HT line will be constructed per feeder based on historical construction data. The overall share of different ACSR conductors in the total of 2655 km of lines is estimated based on historical construction data and the segregate is given as below:

Km Line

Osprey	61.10%	2655×0.6111	1622.205 Km
Dog	37.77%	2655×0.3777	1000.935 Km
500 MCM cable	1.11%	2655×0.0111	<u>29.205 Km</u>
Total			2655 Km

Calculation of Material for 11 KV System Rehabilitation

(i) 11 kV Line Re-conductoring

Estimated re-conductoring per feeder based on sample studies, works out to be = 2.5 Km

Estimated % share of different Conductors in re-conductoring:

Osprey	20%
Dog	40%
Rabbit	40%

Number of feeders for rehabilitation 295 Nos.

Therefore, total re-conductoring length 295×2.5 737.5 Km

The quantities of ACSR conductors required for re-conductoring are therefore:

Km Line

Osprey	50%	737.5×0.200	147.5 KM
Dog	40%	737.5×0.400	295 KM
Rabbit	10%	737.5×0.400	<u>295 KM</u>
Total			737.5 KM

(ii) Capacitor Applications for Power Factor Improvement

The sample studies indicate that at an average, one capacitor bank of 450 kVAR is needed per feeder for improving the power factor to 95% from existing average power factor of 85% on the selected feeders. For 295 No. 11 kV feeders, requirement of capacitor banks of 450 kVAR each will, therefore, be 295 Nos.

(iii) Installation of New Transformers

The number of new transformers required for installation is worked out as follows:

50 % will be adjusted in DOP and 50 % in ELR.

Share of Transformers

25 kVA	12029	Nos.
50 kVA	9473	Nos.
100 kVA	1441	Nos.
200 kVA	368	Nos.

Total: 23311 Nos.

(vi) New LT Lines

Each new transformer is estimated to have at least three LT circuits of (200 M). Based on this estimation, the LT line conductor is calculated as follows:

$$\text{Total LT line required: } \frac{200 \times 23311}{1000} = 4662.2 \text{ Km}$$

The final estimated conductor lengths are therefore:

New 3-φ LT line (Wasp)	2331.1 km
New 3-φ LT line (Ant)	2331.1 km

(vii) LT Line Reconductoring

The average LT line reconductoring per LT rehabilitation proposal is estimated based on historical as:

3-φ, Wasp conductor line		0.05 km
3-φ, Ant Conductor line		0.10 km
LT line reconductoring (3-φ, Wasp)	23311 x 0.05	1165.55 km
LT line reconductoring (3-φ, Ant)	23311 x 0.10	2331.1 km

(ix) **Energy Meters**

The requirement of energy meters for replacement of defective meters is estimated as per Historic data which is distributed year wise.

▪ **Installation of ABC Cable (Best Case) - Scope**

Sr. No	Circle	Division	No. of Feeders	Length of ABC Cable
				(Km)
		City Rural	2	100.968
		Charsadda	8	534.01
		Shabqadar	6	97.865
		Rural	9	239.099
		Bannu-1	12	266.632
		Lakki	7	329.532
		Tank	2	81.882
		Bannu-2	8	379.954
3	Khyber	Khyber	16	449.892
TOTAL			70	2479.834

▪ **Electrification works in Chitral (Best Case) -- Scope**

S.NO	DESCRIPTION	UM	QTY
1	H.T STRUCTURE 45' LONG	NO	105
2	H.T STRUCTURE 36' LONG	NO	6120
3	L.T. STRUCTURE 30' LONG	NO	10010
4	ACSR DOG	MTR	707586
5	ACSR RABBIT	MTR	669545
6	AAC WASP	MTR	19936
7	AAC ANT	MTR	2681280
8	25 KVA TRANSFORMER	NO	68
9	50 KVA TRANSFORMER	NO	200
10	100 KVA TRANSFORMER	NO	37
11	STEEL CROSS ARM / D-FITTING	NO	342
12	STEEL CROSS ARM WITH BRACES	NO	12450
13	PIN INSULATOR	NO	37350
14	PIN FOR STEEL CROSS ARM	NO	37350
15	DISC INSULATOR	NO	9348
16	DEAD END CLAMP FOR DOG/RABBIT	NO	9348

17	SPOOL INSULATOR (LT)	NO	42388
18	D-SHACKLE ASSEMBLY	NO	42388
19	PLATE FORM (SINGLE STRUCTURE)	NO	268
20	PLATE FORM (DOUBLE STRUCTURE)	NO	37
21	ENY NUT	NO	9348
22	EARTH UNIT WITH THIMBLE 10'	NO	16844
23	STAY ROD WITH ELBOW AND THIMBLE	NO	9701
24	GALVENISED STEEL WIRE 10 MM	KG	265380
25	DROP OUT CUT OUT	NO	915
26	PVC 19/0.83 4/CORE	MTR	4680
27	P.G CONNECTOR T-110	NO	2408
28	P.G CONNECTOR T-150	NO	9348
29	DOUBLE ARMING BOLT 5/8" x 14"	NO	24900
30	DOUBLE ARMING BOLT 5/8" x 20"	NO	1014
31	BOLT & NUT 5/8" x 2"	NO	79014
32	BOLT & NUT 5/8" x 10"	NO	6120
33	BOLT & NUT 5/8" x 14"	NO	12450
34	WASHER ROUND 1" x 7/16"	NO	97584
35	STAY STRIP / CLAMP	NO	9701
36	500 MCM S/CORE	MTR	1800
37	11 KV PANEL	MTR	6
38	IN DOOR KIT	NO	18
39	OUT DOOR KIT	NO	18

▪ **World Bank Project (Best Case) – Scope**

Compt:	Name of Project	No. of Projects	Type of Projects	Detail
1 (b)	Installation of 11kV capacitor banks	1	Reactive Power Compensation	27x12MVAR switch shunt capacitors
	Upgradation of 132kV bus bars	1	Bus Bar Upgradation	20 No. 132 kV Grid Stations
	Extension of Power T/Fs	04	Installation of Additional Power T/Fs	Installation of Power T/Fs at existing 132 kV Grid Stations
	Augmentation of Power T/Fs	14	Replacement of Existing 26 MVA T/Fs	Installation of 14x40 MVA Power T/Fs for replacement of 26MVA T/Fs

1 (c)	Reconductoring with HTLS/Greely	4	Replacement of low capacity conductor	Installation of high capacity conductor at 4 No. Transmission Lines (49km)
2 (a)	Billing & IT infrastructure	1	Upgradation of existing system	Billing & IT infrastructure improvement
	Transformer Monitoring System	1	Installation of TMS	60 No's 11 kV feeders in Peshawar & Khyber Circles selected for installation of ABC
	Up gradation of ESCO GIS infrastructure	1	GIS mapping	Up gradation to Arc-GIS Enterprise
2 (b)	AMI Meters	1	Installation of AMI Meters	65,000 Meters (5-20kW consumers)
	ABC	1	Installation of ABC	60 No's 11 kV feeders in Peshawar & Khyber Circles (1298 km)
3 (a, b & c)	Technical Assistance	1	Improvement and facilitation of the system, Consultancy Services	Equipment for M&T, T/Fs Workshops, T&P, PPE, IT, vehicles, STG spares, Project Implementation support, Training and capacity building.

▪ **Distribution Projects under Special PSDP (Best Case) - Scope**

No.	Name of sub Project	Year wise Phasing (Scope of Work)			
		FY 2022-23	FY 2023-24	FY 2024-25	Total
1	Combing of Feeders & Replacement of bare LT Conductor By ABC Cable	35 No Feeder having length of ABC 535.734 KM	43 No Feeder having length of ABC 1443.347 KM	26 No Feeder having length of ABC 1204.4 KM	3343.314
2	Rehabilitation of HV Distribution System	8	15	17	40

3	Installation of Asset Performance Management System (APMS) on 2508 No Distribution transformers	978 100 kVA	777 200 kVA	1352 100 kVA	586 200 kVA	727 100 kVA	352 200 kVA	3057 100 kVA	1715 200 kVA
4	Upgradation of IT Infrastructure	1. Data Center Upgradation – UCS System 2. LAN/WAN Infra upgradation 3. Level – 1 Expansion and Deployment						3	
5	Procurement of Operational Vehicles	Double Cabin Pick ups-15						15	

▪ **Expansion and Rehabilitation (Optimally Achievable Case) - Scope**

The table DIIP 16 captures the complete scope under Achievable Case for distribution system:

DIIP16 - Distribution System (Optimally Achievable Case)

Sr. No.	Description	Unit	Quantities					
			2022-23	2023-24	2024-25	2025-26	2026-27	Total
Scope of Work for 11 kV and Below Expansion								
A.								
1	New HT Lines							
	Number of proposals	Nos	10	12	15	16	18	71
	Length of new HT line	Km	90	108	135	144	162	639
	HT Reconductoring	Km	25	30	38	40	45	178
2	Transformers							
	a. 25 KVA	Nos	40	45	40	35	40	200
	b. 50 KVA	Nos	100	120	115	120	150	605
	c. 100 KVA	Nos	150	160	165	152	155	782
	d. 200 KVA	Nos	80	90	90	90	100	450
	e. others KVA	Nos						
	Sub Total		370	415	410	397	445	2037

3	11 KV Capacitors							
	a. Fixed 450 KVAR	Nos	10	12	15	16	18	71
	b. Fixed 900 KVAR	Nos						
	c. Others	Nos						
	Sub Total		10	12	15	16	18	71
4	11 KV Panel	Nos	10	12	15	16	18	71
5	11kV 500 MCM Cable	km	3	4	5	5	5.4	21
Scope of Work for LT Expansion								
B.								
1	New LT Lines							
	Number of proposals	Nos	370	415	410	397	445	2037
	Length of new LT line (Total Wasp+ANT)	Km	222	249	246	238	267	1222
	LT Reconductoring	Km	185	208	205	199	223	1019
2	LT Capacitors							
	a. Different KVARs	Nos						
	Other Equipments and Material							
	a. Single Phase Meters	Nos	127222	132311	137604	143108	148832	689078
	b. Three Phase Meters	Nos	15744	16374	17029	17710	18419	85276
	c. MDI	Nos	1753	1824	1897	1972	2051	9497
	Sub Total		144720	150509	156529	162791	169302	783852
Scope of Cost Deposit Work								
C.	Village Electrification							
1	New HT Lines							
	Length of new HT line	Km	105.9	216.2	223.5	225.5	224.0	995.0
2	New LT Lines							
	Length of new LT line	Km	179.0	380.4	399.5	402.0	398.0	1758.9
3	Transformers							
	a. 25 KVA	Nos	50	120	120	120	119	529
	b. 50 KVA	Nos	40	100	118	118	115	491
	c. 100 KVA	Nos	35	68	72	73	74	322
	d. 200 KVA	Nos	30	40	42	44	47	203
	e. others KVA	Nos						
	Sub Total		155	328	352	355	355	1545
D.	Independent Feeder							
1	New HT Lines							
	Length of new HT line	Km	74.0	93.0	96.0	99.5	104.5	467.0
2	New LT Lines							
	Length of new LT line	Km						
3	Transformers							

	a. 25 KVA	Nos						
	b. 50 KVA	Nos						
	c. 100 KVA	Nos	17	16	15	18	17	83
	d. 200 KVA	Nos	25	27	24	23	26	125
	e. others KVA	Nos						
	Sub Total		42	43	39	41	43	208
4	11 KV Panel	Nos	10	29	24	25	28	116
5	<u>11KV 500 MCM S/C Cable @ 300 Meter/Feeder</u>	Km	3.0	8.7	7.2	7.5	8.4	34.8

Methodology

The distribution Voltage is 11 KV on HT and 0.4 KV on LT system. Estimation of material requirement is made on the basis of SDI. All aspects are considered while deciding the design and requirement of material e.g. requirement of new line for urban as well as for Rural area. For reconductoring of urban area's line as well as rural area are considered keeping in view the size of conductor as well. Different type of assemblies are selected which is used commonly and estimation for a specific assembly is made separately.

For economical and safety purpose, PC Poles will be utilized along with Steel structure for extension of HT/LT lines in the areas under electrification. The ratio of steel structures and PC' poles will be maintained as 10:90. ACSR and AAC will be used for the purpose of current carrying from the Grid Station to the point of DS/utilization. 25 KVA, 50 KVA, 100 KVA, 200 KVA sizes of Distribution Transformers will be used. Span length of structures and P.C Poles has been worked out according to SDI so as to ensure adequate clearance, safety as well as avoiding obstruction in normal life.

Evaluation of Material Requirements

Scope of material requirements under the Distribution Expansion Project is calculated and detailed in the following section.

The Expansion BOQs for different DOP measures have been developed as follows:

New 11 KV Switchgear (Control Panels)

11 KV panels to be added according to the following break-up:

Panels for express feeders to be built for
Shifting/bifurcation of existing feeders

71 Nos

ACSR Conductors for new express line construction

It is estimated that 71-Nos feeders will require construction of express lines for their bifurcation. On the average 9 km of 3-phase HT line will be constructed per feeder based on historical construction data. The overall share of different ACSR conductors in the total of 639 km of lines is estimated based on historical construction data and the segregate is given as below:

Km Line

Osprey	61.11%	639×0.6111	390.42 Km
Dog	37.77%	639×0.3777	240.90 Km
500 MCM	1.11%	639×0.0111	<u>7.02 Km</u>
Total			639 Km

Calculation of Material for 11 KV System

(i) 11 kV Line Re-conductoring

Estimated re-conductoring per feeder based on sample studies, works out to be = 2.5 Km

Estimated % share of different Conductors in re-conductoring:

Osprey	20%
Dog	40%
Rabbit	40%

Number of feeders for rehabilitation 71 Nos.
 Therefore, total re-conductoring length 71×2.5 177.5 Km
 The quantities of ACSR conductors required for re-conductoring are therefore:

Km Line

Osprey	20%	177.5×0.200	35.5 KM
Dog	40%	177.5×0.400	71 KM
Rabbit	40%	177.5×0.40	<u>71 KM</u>
Total			177.5 KM

(ii) Capacitor Applications for Power Factor Improvement

The sample studies indicate that at an average, one capacitor bank of 450 kVAR is needed per feeder for improving the power factor to 95% from existing average power factor of 85% on

the selected feeders. For 71 No. 11 kV feeders, requirement of capacitor banks of 450 kVAr each will, therefore, be 71 Nos.

(iii) Augmentation of Over-loaded Transformers

The number of transformers required for replacement against overloading is worked out as follows:

Share of Transformers required for Augmentation

25 kVA	200	Nos.
50 kVA	605	Nos.
100 kVA	782	Nos.
200 kVA	450	Nos.

Total: 2037 Nos.

(vi) New LT Lines

Each new transformer is estimated to have at least three LT circuits of (600 M). Based on this estimation, the LT line conductor is calculated as follows:

$$\text{Total LT line required: } \frac{600 \times 2037}{1000} = 1222.2 \text{ Km}$$

The final estimated conductor lengths are therefore:

New 3-φ LT line (Wasp)	305.55 km
New 3-φ LT line (Ant)	916.65 km

(vii) LT Line Reconductoring

The average LT line reconductoring per LT rehabilitation proposal is estimated based on historical as:

3-φ, Wasp conductor line		0.25 km
3-φ, Ant Conductor line		0.25 km
LT line reconductoring (3-φ, Wasp)	2037 x 0.25	509.25 km
LT line reconductoring (3-φ, Ant)	2037 x 0.25	509.25 km

(ix) Energy Meters

The requirement of energy meters for installation of new meters is estimated as per our demand for each year.

Scope of Work for 11 kV and Below Rehabilitation		unit	2022-23	2023-24	2024-25	2025-26	2026-27	Total
A.								
1	Rehabilitation of HT Lines							
	Number of proposals	Nos	39	42	42	42	42	207
	New 11KV Line	Nos	351	378	378	378	378	1863
	Reconductoring	Km	98	105	105	105	105	518
2	New Transformers							
	a. 25 KVA	Nos	42	43	35	39	41	200
	b. 50 KVA	Nos	170	195	200	190	195	950
	c. 100 KVA	Nos	207	210	223	249	220	1109
	d. 200 KVA	Nos	130	145	160	140	120	695
	e. others KVA	Nos						
	Sub Total		549	593	618	618	576	2954
3	Installation of 11 kV Panels	Nos	39	42	42	42	42	207
4	11kV 500 MCM Cable	km	12	13	13	13	13	62
Scope of Work for LT Rehabilitation								
B.								
1	LT Lines Rehabilitation							
	New LT Line	Km	110	119	124	124	115	591
	Reconductoring of LT Line	Km	82	89	93	93	86	443
	Rabbit (Conversion LT Feeders)	Km	55	59	62	62	58	295
	Other Equipments and Material							
	a. Single Phase Meters	Nos	111701	117286	123150	129308	135773	617218
	b. Three Phase Meters	Nos	5464	5737	6024	6325	6641	30191
	Sub Total	Nos	117165	123023	129174	135633	142414	647409

Methodology for Rehabilitation

The distribution Voltage is 11 KV on HT and 0.4 KV on LT system. Estimation of material requirement is made on the basis of SDI. All aspects are considered while deciding the design and requirement of material e.g. requirement of new line for urban as well as for Rural area. For reconductoring of urban area's line as well as rural area are considered keeping in view the size of conductor as well. Different type of assemblies are selected which is used commonly and estimation for a specific assembly is made separately.

For economical and safety purpose, PC Poles will be utilized along with Steel structure for extension of HT/LT lines in the areas under electrification. The ratio of steel structures and PC' poles will be

maintained as 10:90. ACSR and AAC will be used for the purpose of current carrying from the Grid Station to the point of DS/utilization. 25 KVA, 50 KVA, 100 KVA, 200 KVA sizes of Distribution Transformers will be used. Span length of structures and P.C Poles has been worked out according to SDI so as to ensure adequate clearance, safety as well as avoiding obstruction in normal life.

Evaluation of Material Requirements

Scope of material requirements under the Distribution Rehabilitation Project is calculated and detailed in the following section.

The BOQs for different ELR measures have been developed as follows:

New 11 KV Switchgear (Control Panels)

11 KV panels to be added according to the following break-up:

Panels for express feeders to be built for Shifting/bifurcation of existing feeders	207 Nos
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ACSR Conductors for new express line construction

It is estimated that 207-Nos feeders will require construction of express lines for their bifurcation. On the average 9 km of 3-phase HT line will be constructed per feeder based on historical construction data. The overall share of different ACSR conductors in the total of 1863 km of lines is estimated based on historical construction data and the segregate is given as below:

Km Line

Osprey	61.11% 1863 x 0.6111	1138.30 Km
Dog	37.77% 1863 x 0.3777	702.35 Km
500 MCM	1.11% 1863 x 0.0111	<u>20.5 Km</u>
	Total	1863 Km

Calculation of Material for 11 KV System Rehabilitation

(i) 11 kV Line Re-conductoring

Estimated re-conductoring per feeder based on sample studies, works out to be = 2.5 Km

Estimated % share of different Conductors in re-conductoring:

Osprey	20%
Dog	40%
Rabbit	40%

Number of feeders for rehabilitation 207 Nos.
 Therefore, total re-conductoring length 207×2.5 517.5 Km
 The quantities of ACSR conductors required for re-conductoring are therefore:

Km Line

Osprey	50%	517.5×0.200	103.5 KM
Dog	40%	517.5×0.40	207 KM
Rabbit	10%	517.5×0.40	207 <u>KM</u>
			Total 517.5 KM

(ii) Capacitor Applications for Power Factor Improvement

The sample studies indicate that at an average, one capacitor bank of 450 kVAR is needed per feeder for improving the power factor to 95% from existing average power factor of 85% on the selected feeders. For 207 No. 11 kV feeders, requirement of capacitor banks of 450 kVAR each will, therefore, be 207 Nos.

(iii) Installation of New Transformers

The number of new transformers required for installation is worked out as follows:

Share of Transformers required

25 kVA	200	Nos.
50 kVA	950	Nos.
100 kVA	1109	Nos.
200 kVA	695	Nos.

Total: 2945 Nos.

(vi) New LT Lines

Each new transformer is estimated to have at least two LT circuits of (200 M). Based on this estimation, the LT line conductor is calculated as follows:

Total LT line required: $\frac{200 \times 2945}{1000} = 589$ Km

The final estimated conductor lengths are therefore:

New 3-φ LT line (Wasp)	294.5 km
New 3-φ LT line (Ant)	294.5 km

(vii) **LT Line Reconductoring**

The average LT line reconductoring per LT rehabilitation proposal is estimated based on historical as:

3-φ, Wasp conductor line		0.05 km
3-φ, Ant Conductor line		0.1 km
LT line reconductoring (3-φ, Wasp)	2945 x 0.05	147.25 km
LT line reconductoring (3-φ, Ant)	2945 x 0.1	294.5 km

(ix) **Energy Meters**

The requirement of energy meters for replacement of defective meters is estimated as per Historic data which is distributed year wise.

▪ **Installation of ABC Cable (Optimally Achievable Case) - Scope**

Sr. No	Circle	Division	No. of Feeders	Length of ABC Cable
				(Km)
		City Rural	2	100.968
		Charsadda	8	534.01
		Shabqadar	6	97.865
		Rural	9	239.099
		Bannu-1	12	266.632
		Lakki	7	329.532
		Tank	2	81.882
		Bannu-2	8	379.954
3	Khyber	Khyber	16	449.892
TOTAL			70	2479.834

▪ Electrification works in Chitral (Optimally Achievable Case) – Scope

S.NO	DESCRIPTION	UM	QTY
1	H.T STRUCTURE 45' LONG	NO	105
2	H.T STRUCTURE 36' LONG	NO	6120
3	L.T. STRUCTURE 30' LONG	NO	10010
4	ACSR DOG	MTR	707586
5	ACSR RABBIT	MTR	669545
6	AAC WASP	MTR	19936
7	AAC ANT	MTR	2681280
8	25 KVA TRANSFORMER	NO	68
9	50 KVA TRANSFORMER	NO	200
10	100 KVA TRANSFORMER	NO	37
11	STEEL CROSS ARM / D-FITTING	NO	342
12	STEEL CROSS ARM WITH BRACES	NO	12450
13	PIN INSULATOR	NO	37350
14	PIN FOR STEEL CROSS ARM	NO	37350
15	DISC INSULATOR	NO	9348
16	DEAD END CLAMP FOR DOG/RABBIT	NO	9348
17	SPOOL INSULATOR (LT)	NO	42388
18	D-SHACKLE ASSEMBLY	NO	42388
19	PLATE FORM (SINGLE STRUCTURE)	NO	268
20	PLATE FORM (DOUBLE STRUCTURE)	NO	37
21	ENY NUT	NO	9348
22	EARTH UNIT WITH THIMBLE 10'	NO	16844
23	STAY ROD WITH ELBOW AND THIMBLE	NO	9701
24	GALVENISED STEEL WIRE 10 MM	KG	265380
25	DROP OUT CUT OUT	NO	915
26	PVC 19/0.83 4/CORE	MTR	4680
27	P.G CONNECTOR T-110	NO	2408
28	P.G CONNECTOR T-150	NO	9348
29	DOUBLE ARMING BOLT 5/8" x 14"	NO	24900
30	DOUBLE ARMING BOLT 5/8" x 20"	NO	1014
31	BOLT & NUT 5/8" x 2"	NO	79014
32	BOLT & NUT 5/8" x 10"	NO	6120
33	BOLT & NUT 5/8" x 14"	NO	12450
34	WASHER ROUND 1" x 7/16"	NO	97584
35	STAY STRIP / CLAMP	NO	9701
36	500 MCM S/CORE	MTR	1800
37	11 KV PANEL	MTR	6
38	IN DOOR KIT	NO	18
39	OUT DOOR KIT	NO	18

▪ **World Bank Project (Optimally Achievable Case) – Scope**

Compt:	Name of Project	No. of Projects	Type of Projects	Detail
1 (b)	Installation of 11kV capacitor banks	1	Reactive Power Compensation	27x12MVAR switch shunt capacitors
	Upgradation of 132kV bus bars	1	Bus Bar Upgradation	20 No. 132 kV Grid Stations
	Extension of Power T/Fs	04	Installation of Additional Power T/Fs	Installation of Power T/Fs at existing 132 kV Grid Stations
	Augmentation of Power T/Fs	14	Replacement of Existing 26 MVA T/Fs	Installation of 14x40 MVA Power T/Fs for replacement of 26MVA T/Fs
1 (c)	Reconductoring with HTLS/Greely	4	Replacement of low capacity conductor	Installation of high capacity conductor at 4 No. Transmission Lines (49km)
2 (a)	Billing & IT infrastructure	1	Upgradation of existing system	Billing & IT infrastructure improvement
	Transformer Monitoring System	1	Installation of TMS	60 No's 11 kV feeders in Peshawar & Khyber Circles selected for installation of ABC
	Up gradation of ESCO GIS infrastructure	1	GIS mapping	Up gradation to Arc-GIS Enterprise
2 (b)	AMI Meters	1	Installation of AMI Meters	65,000 Meters (5-20kW consumers)
	ABC	1	Installation of ABC	60 No's 11 kV feeders in Peshawar & Khyber Circles (1298 km)
3 (a, b & c)	Technical Assistance	1	Improvement and facilitation of the system, Consultancy Services	Equipment for M&T, T/Fs Workshops, T&P, PPE, IT, vehicles, STG spares, Project Implementation support, Training and capacity building.

▪ **Distribution Projects under Special PSDP (Optimally Achievable Case) - Scope**

No.	Name of sub Project	Year wise Phasing (Scope of Work)							
		FY 2022-23		FY 2023-24		FY 2024-25		Total	
1	Combing of Feeders & Replacement of bare LT Conductor By ABC Cable	35 No Feeder having length of ABC 535.734 KM		43 No Feeder having length of ABC 1443.347 KM		26 No Feeder having length of ABC 1204.4 KM		3343.314	
2	Rehabilitation of HV Distribution System	8		15		17		40	
3	Installation of Asset Performance Management System (APMS) on 2508 No Distribution transformers	978 100 kVA	777 200 kVA	1352 100 kVA	586 200 kVA	727 100 kVA	352 200 kVA	3057 100 kVA	1715 200 kVA
4	Upgradation of IT Infrastructure	1. Data Center Upgradation – UCS System 2. LAN/WAN Infra upgradation 3. Level – 1 Expansion and Deployment						3	
5	Procurement of Operational Vehicles	Double Cabin Pick ups-15						15	

▪ **Status of Study Based Distribution System Planning Based on GIS Mapping and the Transition Plan**

The status as per FY2020-21 on the mapping of HT and LT network and studies based on GIS mapped network on modern planning analysis tool(s) is provided in DIIP 17. Also, the plan to map the whole HT and LT network and subsequent conversion to planning based on GIS mapping using modern state of the art tools is given in table DIIP 17.

Sr. No.	Description	Unit	Quantities						
			2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	Total
GIS Surveying & Mapping									
	HT Surveying & Mapping								
	Number of 11 kV Feeders (New & updation)	Nos	50	70	70	70	70	70	400
	LT Surveying & Mapping								
	Number of LT Lines	Nos	70	70	75	75	71	70	431
	Length of LT Lines Mapped	Km	5044	5044	5405	5405	5116	5044	31058
	Load Flow Studies								
	Number of 11 kV Feeders	Nos.	450	550					
	Software & Tools Required								
	GIS Software Licenses	Nos		20					
	Plotters	Nos		8					
	GPS enabled Tablet	Nos		100					
	Computers (High End)	Nos		20					

			Quantities						
			2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	Total
Study Based Planning using GIS Maps with Modern Planning Tools - Transition Plan									
	Tools Required								
	Simulation Software Licenses	Nos		8					8

In order to carry out GIS field survey and its updating, tools like GPS sets, computers, printers and SynerGEE licenses will be required. In addition PESCO Planning & Engineering need a comprehensive Enterprise GIS Solution that enables centralized, enterprise –level geodatabase management and server-based publication of maps and geographic information services throughout the enterprise and on the Internet as web services.

C. Other Functional Improvement Plans:

i. Commercial Improvement Plan

This plan covers the commercial improvement activities including but not limited to metering (including AMRs), Digital Mobile meter reading, improvement in billing systems, anti-theft initiatives, consumer's database update, customer's services improvement initiatives etc. The scope that what will be done in each of the five year are provided here. The narrative shall is supported by justification.

Commercial Improvement Plan Items (Illustrations below)		FY-2022-23	FY-2023-24	FY-2024-25	FY-2025-26	FY-2026-27	Total
		Total	Total	Total	Total	Total	Total
A	AMR Metering	1950	300	300	300	300	3150
B	SMS Data collection						
C	Consumer Census						
D	Data Center	95	105	*	*	*	200
E	Email Hosting	0.84	0.924	1.016	1.118	1.229	5.127
F	Billing SMS	4.8	5.28	5.808	6.388	7.027	29.303
G	Mobiles for meter reading	0	0	0	0	0	0
F	Licenses and support	142.3	103.1	*	*	*	245.4
Total		2192.94	514.304	306.824	307.506	308.256	3629.83

(For Achievable Case)

Commercial Improvement Plan Items (Illustrations below)		FY-2022-23	FY-2023-24	FY-2024-25	FY-2025-26	FY-2026-27	Total
		Total	Total	Total	Total	Total	Total
A	AMR Metering	60	120	200	200	200	780
B	SMS Data collection						
C	Consumer Census						
D	Data Center	34	130	*	*	*	164
E	Email Hosting	0.84	0.924	1.016	1.118	1.229	5.127
F	Billing SMS	4	5.28	5.808	5.8	5.8	26.688
G	Mobiles for meter reading	0	0	0	0	0	0
F	Licenses and support	50	143	*	*	*	193
Total		148.84	399.2	207	207	207	1168.815

The Integrated Commercial Improvement Plan (ICIP) broadly aims to demonstrate commercial loss reduction, improvement in revenues and improvement in customer services through process automation, transparency, accountability, and improved productivity in order to create a foundation for sustainable commercial operations. Additional goals and objectives include:

Please refer table DIIP-4 for complete mapping of ICIP with goals and objectives. Here are the highlights related to commercial interventions:

- Improving PESCO's operational efficiency through:
 - Reduced commercial losses by 4.6% progressively over the period of five years

- Improving customer care and services:
 - Reducing complaints related to billings to less than 0.1%
 - Minimizing new connections installation duration to comply with NEPRA's requirements
 - Minimizing reconnection installation duration to comply with NEPRA's requirements
 - Maximizing the time between date of receipt of bill and due date (10 days)
- Improving PESCO's infrastructure:
 - Implementing CIS and its rollout to overcome billing errors and ensure more controls over billing through modern technology

Other related objectives:

- Streamlined procedure without compromising system of internal controls
- Re-direction of documents on an efficient path to reduce revenue cycle and process cycle time
- Faster complaint resolution and timely availability of accurate information for better decision making
- Increased accuracy of billing through reduction of human interface in commercial processes
- Increased efficiency, easy access and administration through an online complaint system

Problem Statement (Baseline-Defined)

The current commercial operations of DISCOs are legacy based and do not offer much in terms of transparency, data accuracy, system efficiency and services to consumers. Therefore, there is a dire need to improve commercial procedures and bring them at par or close to best practices adopted by utilities worldwide. The commercial cycle starts with meter readings (which is manual), billing (which is being done through a legacy billing system), collections and customers services, which also needs considerable improvements.

Response

As a result of comprehensive planning exercise, PESCO has identified some low cost and quick impact interventions that would transform the way PESCO operate commercially and would bring a paradigm shift in its commercial operations. The ICIP is an optimal fusion of all the activities that would be implemented through the course of five years to revolutionize the business practices adopted by PESCO and take its commercial operations further.

To improve the efficiency and accuracy of the consumer billing process, CIS will be scaled-up. The updated consumer's database from the consumer census will be utilized to populate the CIS database i.e. through IMR. In addition, the data on electricity consumption, whether received from AMR meters or mobiles for meter reading, will be processed through CIS. This will shorten the meter reading and billing cycle thus ensuring that cash flows hit the ledgers of the DISCO much sooner and with less effort. Further, in order to curb potential theft and non-recovery, a surveillance unit will also be setup across the DISCOs that will be responsible to monitor incidents of theft and guard the revenues of the company. This cell will also enforce the nonpaying consumers to pay their outstanding dues. To achieve excellence in customer services, the Customer Service Centers (CSCs) will be upgraded in each subdivision. These centers will facilitate the consumers and improve the brand image of PESCO in

the eyes of the consumers. In conjunction, a Customers Management System (CMS) will be launched all across PESCO, along with a toll free number where consumers can file their complaints.

All these integrated commercial efforts will create a synergized effect of improving the commercial performance of PESCO and making it a more profitable entity. Therefore, based on the return on investment offered, these projects have been chosen.

Customers Information System (CIS)

The operations of DISCOs are characterized by manual and cumbersome processes, inadequate controls, insufficient commercial focus, limited transparency and a lack of reliable information. As a result, operations are highly inefficient with substantial revenue leakages and poor customer orientation. Integrating and automating core commercial functions like meter reading and billing/collections will minimize the human element in commercial processes and lay the foundation for sustainable revenue cycle reforms.

Integrating and automating core commercial functions like meter reading and billing/collections that will minimize the human element in commercial processes and lay the foundation for sustainable revenue cycle reforms is being planned. From customer care and metering to billing, payments, credit and collections, these applications enable the customer experience and support all aspects of billing and revenue collections. Augmented with mobiles for meter reading, the CIS will generate accurate consumer bills and a one-window customer services facility will provide improved customer experience. This will result in improved operational efficiency, increased accuracy of bills, reduced process cycle time and more efficient customer services with a reduction in customer complaints.

Therefore, CIS, which is the critical backbone of customer care and commercial operations, is being implemented at PESCO and Power Information Technology Company (PITC) at PESCO.

CIS is a web based application system. The required servers and allied hardware is being provided that has the capacity to cover the entire company's customer's base. PITC has developed the CIS application whereas Oracle license for database was purchased by PESCO. The CIS rollout comprises of numerous elements including the application software, database engine, computer hardware and networks (LANs and WANs), network installation and testing, data conversion from legacy system to a new system, data cleansing, pre-installation and on-the-job training, and operational support for a limited time. All these activities will be done by PESCO.

ii. Financial Management Improvement Plan

PESCO is implementing ERP and the costs for ERP implementation are already covered. Further PESCO started work to improve the internal audit function and audit and accounting manuals. Under this plan PESCO envisages to conduct specialized studies like Assets tagging and valuation. Provision for covering the bandwidth operational costs is also made under this DIIP for ERP.

Financial Improvement Plan Items (Illustrations below)		FY-2022-23	FY-2023-24	FY-2024-25	FY-2025-26	FY-2026-27	Total
		Total	Total	Total	Total	Total	Total
A	ERP system implementation	65	9	9	9	9	101
B	Revamping the Internal Audit						
C	Other studies and models preparation						
G	IT infrastructure to support new initiatives						
F	Others etc...						
Total		65	9	9	9	9	101

Financial Improvement Plan Items (Illustrations below)		FY-2022-23	FY-2023-24	FY-2024-25	FY-2025-26	FY-2026-27	Total
		Total	Total	Total	Total	Total	Total
B	Revamping the Internal Audit						
C	Other studies and models preparation						
G	IT infrastructure to support new initiatives						
F	Others etc...						

(For Achievable Case)

iii. Human Resource Improvement Plan

This plan covers the HR improvement activities, revamping / addition of training facilities, training of employees through external facilities, conducting some studies, improving the working environment etc. Under this section scope that what will be done in each of the five year under are discussed. The narrative shall also be supported by the justification.

HR Improvement Plan Items (Illustrations below)		FY-2022- 23	FY-2023- 24	FY-2024- 25	FY-2025-26	FY-2026- 27	Total
		Total	Total	Total	Total	Total	Total
A	Revamping of Training Centers						
B	Training of employees through external training institutions						
C	Human Resource Information System Implementation						
D	Conducting the yard stick study						
E	IT infrastructure to support new initiatives						
F	Improving the working environment						
G	Others etc...						
Total							

(For Achievable Case)

HR Improvement Plan Items (Illustrations below)		FY- 2022-23	FY- 2023-24	FY- 2024-25	FY- 2025-26	FY- 2026-27	Total
		Total	Total	Total	Total	Total	Total
A	Revamping of Training Centers						
B	Training of employees through external training institutions						
C	Human Resource Information System Implementation						
D	Conducting the yard stick study						
E	IT infrastructure to support new initiatives						
F	Improving the working environment						
G	Others etc...						
Total							

The Human Resource Improvement Plan (HRIP) broadly aims to increase the functional capacity of DISCO staff by providing the institutional model for technical and behavioral skills among the company's employees. It also aims to increase the productivity and quality of services provided both internally and externally, creating a foundation for sustainable HR operations. Additional goals and objectives include:

Human-ware:

- Improving PESCO's infrastructure:
 - Starting training and capacity building initiatives
 - Improving the recruitment process
 - Fulfilling the basic requirement for needs to operate for field staff
 - Improving communications with staff
 - Identifying a turnaround group

Org-ware:

- Org A&R review and implementation

- Improving office facilities/work environment
- Conducting yardstick study for HR
- Conducting motivational campaigns
- Career planning
- Improving health and educational facilities for employees

Others:

- Streamlined HR procedure and system of internal controls.
- Increased efficiency and effectiveness of the departments.
- Increased knowledge and skills of staff in their functional areas

The current operations and budgets of DISCOs lack a focus towards the improvement of human resource functions and significantly neglect the skill development of employees which often times is a major contributing factor towards the poor overall performance of the organization. Therefore, there is a dire need to improve human resource functions and bring them at par with best practices adopted by utilities worldwide. As a result of DISCOs' operational audits, which identified some interventions that would transform the way these DISCOs operate and bring a paradigm shift in their human resource functions. The HRIP is an optimal fusion of all the activities that would be implemented through the course of five years to revolutionize the business practices adopted by PESCO and ensure the development of its human capital.

The HRIP offers a holistic approach as it not only targets one of the main goals of the organization i.e. increased efficiency but also takes the employees' perspective into consideration through improved facilities/work environment. The HRIP starts with striking the heart of human resource development i.e. training and capacity building of the staff. For this purpose, PESCO will begin the process of adequately funding the proper training function by allocating training and development specific budget at two percent of the operating budget and increasing it by almost one percent per year. To be effective, the trainings must be a continuing process that steadily enhance the technical skills and reinforce safe working practices especially amongst the linemen.

All these efforts will create a synergized effect of improving the human resource functions of the DISCO and making it a more profitable entity.

iv. Communications Improvement Plan

This plan covers the communications improvement activities including but not limited to improving the internal communication amongst employees and external communication with customers to improve image of the company etc. Under this section scope of work is provided to be done in each of the five years.

DIIP 22- Communication Improvement Plan (For Best Case)

Communications Plan Items (Illustrations below)		FY-2022-23	FY-2023-24	FY-2024-25	FY-2025-26	FY-2026-27	Total
		Total	Total	Total	Total	Total	Total
A	Improving Internal Communications with Employees						
B	Improving External Communications with Customers						
C	Communication material						
D	Others etc...						
Total							

(For Achievable Case)

Communications Plan Items (Illustrations below)		FY-2022-23	FY-2023-24	FY-2024-25	FY-2025-26	FY-2026-27	Total
		Total	Total	Total	Total	Total	Total
A	Improving Internal Communications with Employees						
B	Improving External Communications with Customers						
C	Communication material						
D	Others etc...						
Total							

PESCO often receive negative coverage in the local media due to the absence of active communications and media strategy. Moreover, the basic functions of communications are undermined with little or no communications budget. The public relations department lacks the resources, manpower and expertise that prevent PESCO from achieving corporate communication standards and creating a positive image among their consumers. The Communications Improvement Plan (CIP) thus, offers a holistic approach because it not only emphasizes the importance of public awareness and image building initiatives for the DISCO but also the internal communication. A part from this, it also focuses on improving the internal communication among staff specially the officer

cadre who are involved in the decision making and for the purpose, require immediate access to the information, when and where required.

This plan identified some low cost interventions that would transform the way PESCO operate their PR department. Frequent consumer awareness campaigns and regular interaction with consumers are few of the highly recommended activities targeting educated and well-informed consumers who are bound to play their role in energy conservation and spread positive messages. In addition, PESCO will allocate a clearly defined budget and resources for consumer awareness activities. The CIP is an optimal fusion of all such activities that would be implemented through the course of five years by PESCO to take its communications and outreach further.

Through the initiatives indicated, the CIP aims to improve PESCO's branding with recognition among local communities and consumers and improved understanding among the young generation regarding their role in energy conservation along with improved corporate communication and increase in the usage of email and telephonic communication amongst PESCO's staff.

All these efforts will create a synergized effect of improving the communications function of the DISCO and making it a corporate entity at par with utilities worldwide. Therefore, based the maximum band for the buck, these projects have been chosen.

A. Internal Communication:

Mail Servers:

Before PESCO could take the initiative to improve communication with its external stakeholder such as consumers and the community as a whole, it must ensure that it has achieved the optimum level required in the internal communication among staff. To achieve this objective, PESCO should acquire the basis infrastructure that would help the staff to have affective communication among them. The modes of communication that are needed to be strengthened by PESCO as an organization are electronic communication via email and, telephonic communication over the cell phones.

In order to provide instant access to the information required for the spontaneous decision making and problem solving, PESCO employees in the officer cadre need to have in their possession, at least an email address to communicate within the boundaries of PESCO and a cell phone enabling them to relay their communication outside the premises of their offices. Therefore a mail server is suggested to be deployed within the organization. Scanners will also be installed to ease the email functionality. This will be done right after the communication protocols have been set, user trainings have been imparted and procedures have been finalized; all of which would happen in the first year of Business Plan implementation. In addition, cell phones will also be provided to the officers serving the dual purpose of not only making phone calls but also checking their emails.

Annual Employee Recognition Event:

It is the duty of an organization to appreciate its employees because as a matter of fact, an organization is in existence only because of its employees. Therefore, PESCO will organize an annual function to celebrate its successes and achievement in the last year as well as to recognize the employees that have given PESCO the reasons for celebration through their dedication and hard work. This will not only motivate the employees but will consequently result in creating harmony and mutual understanding among them.

These interventions will ensure that PESCO establish an effective internal communication setup required to run the organization and its operations, in a more efficient manner.

B. Public Communication & Outreach Activities:

PESCO's Public Relations (PR) Departments comprise one PR officer and two clerical staff who dedicate a good portion of their time to issuing rebuttals to inaccurate media reports. The concept of image building and consumer awareness needs improvement. Therefore this plan which actually comprises of a complete portfolio in the realm of Public Communication and Outreach, helping put forward an improved brand image of PESCO, better customer services and better informed customers through a series of outreach campaigns.

1. Mass Media Campaigns

The Public Relations and Customer Services Departments of PESCO will design localized campaigns to target consumers on both energy conservation and the timely payments of bills. These campaigns will help PESCO in its image promotion as a well-run and progressive power distribution company. PESCO staff will be given an opportunity to talk to consumers through radio, TV and newspapers to educate consumers regarding the distribution business of PESCO.

In the long run, these campaigns will result in an improved image of PESCO as a dynamic and customer-friendly entity through external communications that will help to smoothly implement consumer awareness campaigns and will empower the PR Department to deliver assertive communications and outreach on behalf of PESCO.

2. Public Outreach & Awareness Programs

Consumer outreach activities will help build a relationship between PESCO and its consumers. Campaigns targeted at schools and universities, and industries, traders and farmers will be planned in close coordination with the relevant departments of PESCO.

A variety of interventions at schools and colleges will be held including energy conservation seminars, lectures on PESCO's role as a DISCO, debating, essay writing and painting competitions. These will help in the image promotion of PESCO among school- / college-going students. A range of consumer awareness material will be disseminated to improve the knowledge of students on energy conservation and efficiency at both homes and schools.

Industries are important consumers of PESCO therefore targeting industrialists, through seminars at the Chamber of Commerce, will spread energy conservation awareness and the effectiveness of energy audits. Speakers from PESCO will be arranged to speak with industrialists on selected topics e.g. energy conservation, better relationships between PESCO and industries and the need for strengthening cooperation to the mutual benefit of both.

Similarly meetings will be organized with Press Club, to gain its support to spread the message to the masses to adopt energy conservation measures and place PESCO's conservation material in prominent locations.

Farmers, in addition to being important consumers of PESCO, can play a significant role in the conservation of energy through the use of efficient tubewells and legally managing their connections. Improved relationships between farmers and PESCO are the key to discouraging theft and soliciting timely bill payments.

3. Design and printing of Customer Awareness Material

PESCO's corporate image requires steps to be taken for its improvement and to promotion as a DISCO rather than an electricity generation and supply control entity. A localized media campaign will be designed and executed to create awareness among consumers regarding PESCO and energy conservation. Material will include news articles, brochures and leaflets, billboards, pamphlets, local cable advertisements and documentaries. A new corporate tagline (slogan) along with business cards will help introduce a uniform public face of the company at the professional level and will be proposed to PESCO management.

As part of the overall branding campaign, PESCO's Customer Services Centers will be branded through the strategic placement of standees, banners and other awareness material. Brochures, leaflets and handbooks will be developed for employee safety measures and workplace ethics that will help guide Customer Service Center employees. The proposed action plan includes designing content that educates consumers about PESCO's role as a DISCO and the different energy conservation measures they can adopt.

4. Student Energy Conservation Programs

Another important intervention is the energy efficiency and anti-theft campaigns consisting of mass media and Informational and Educational Communication (IEC) materials for dissemination to the public as well as internal communications. These are grassroots-level promotions that target awareness at community level or through schoolchildren and college/university students with action-oriented messages, where benefits of proposed actions are quantitative and clear to the audience. For instance, replacing an incandescent light bulb with an energy saver will help reduce consumption by 50%, resulting in money saving and increased availability of electricity.

5. Radio Talk shows

Talk shows aired through radio are one of the cost effective ways to directly reach the consumers and to tame their minds by talking about the positive developments being carried out by PESCO and showing the positive side of the picture. These talk shows also provide an opportunity to the consumers to take part in the ongoing discussions with the senior officials of PESCO, turn attention to their complaints, or provide their feedback.

6. Monthly News Letter

Any progressive organization would like to update the society in general and its employees and consumers in particular, in a progressive manner, about the achievement it is making throughout the course of time. Newsletter is an effective matter to get this done. PESCO will publish monthly newsletter that will not only contain the updates about the organization but will also include news, events, articles, consumer feedback and other topics of interest.

Rather than presenting the scope in a table it is narrated and explained below:

A. Internal Communications

For enhancing email internal communication via email, the company will deploy physical IT infrastructure consisting of one Mail Server and associated paraphernalia. In addition, scanners will be provided in all the distinguished offices of PESCO to facilitate email communication. Further, to facilitate swift communication amongst the officers, smart phones will be designated for all the officers enabling them not only to make calls but also to check and respond to the emails on the go.

Apart from investments in the communications technology, PESCO will invest in the human aspect as well by arranging at least one Employee Recognition Event each year. It will be a formal event attended by all the employees of PESCO in which the high-achievers will be acknowledged for their services and successes.

B. External Communications

Public Outreach Office of PESCO will be strengthened by provision of a Toyota Hiace for rapid outdoor mobility of staff for performing outreach activities in the field.

At least four mass media campaigns in a year will be arranged within the territory of PESCO, two campaigns will be based on the theme of anti-theft while two will focus energy conservation. These will include publishing advertisement in leading local newspapers, and relaying the message using the electronic media: TV, Cable and FM Radio. In addition, billboards, pole streamers and similar mediums will also be utilized to spread the message among the consumers.

Apart from these campaigns, public outreach programs and awareness sessions will be arranged at university, community and district levels. It is anticipated that at least four sessions per year at each level will be organized to reciprocate the message.

Printed material is an effective way to penetrate within the masses therefore, consumer awareness material will be designed and printed which includes but not limited to brochures, pamphlets, leaflets, flyers etc. In addition, a newsletters will be also published each month.

v. Linemen Training, Tools and Equipment

PESCO has provided quality tools, vehicles and equipment, and also conducted different trainings of line staff on the latest tools and equipment that are used worldwide to make line work effective and prevent lineman from fatal and severe non-fatal accidents. A hundred purpose-built vehicles have been provided making the line staff able to carry all necessary tools and equipment that are mandatory to perform their job safely.

PESCO's senior and middle managers are also trained so that they can realize the importance of lineman safety in quality work production and elimination of these accidents. The point of consensus has developed in the PESCO due to safety trainings at all levels of management and line staff is "all these accidents are avoidable and can be eliminated". To reach such point, unwavering commitment is required at every level of DISCO to show zero tolerance attitudes on any accident in future. The management can't justify its position by initiating disciplinary actions against SDOs and Supervisors only, but the management has to have allocated good amount of resources in lineman safety.

Currently PESCO have serious dearth in Transport, Tools and Personal Protective Equipment for Linemen. Further PESCO operate its safety through Deputy Manager Safety with two safety inspectors, in one research it is concluded that in a well-run power utility its safety personnel ratio to its employees should be 1/250, whereas PESCO has such ratio 1/4000. To improve such ratio PESCO Safety Organization needs restructuring immediately.

In this business plan PESCO has incorporated such needs in lineman safety with extensive homework and calculations. In this plan, all the needs of Safety Organization restructuring, Trainings and Safety Professional Development Programs for management and line staff, provision of Bucket Mounted Trucks for transport and Ravis for supply complaints handling, communication (mobile phones provision for all LM), Linemen equipment and PPEs have been catered with to make PESCO lineman safe, effective and efficient (that includes miscellaneous gang-tools, individual tools, personal protective equipment are planned to be procured). This plans also includes provision for customized trainings for PESCO's LM.

This plan under safety when executed well save PESCO from huge losses due to poor quality of work and rampant accidents of experienced lineman caused in the shape of heavy financial losses and human loss and it will also improve response to complaint time resulted in improved customer services. Please refer below for details of Tools and Planting scope for achievable case.

Best case

Sr. No.	Description	Unit	Quantities					
			2022-23	2023-24	2024-25	2025-26	2026-27	Total
	Vehicles		74	82	90	99	109	455
	Sub Total		74	82	90	99	109	455
	Tools & Plants (T&P)							
	a. Instrument and Test Equipment	Nos						
	b. Special Tools	Nos						
	c. Mechanical Plants (generators, welding plants etc.)	Nos						
	d. LM Tools other than personal protective equipment	Nos						
	e. Clip on Volt-Ohm Meter	Nos	40	32	20			92
	f. Clip on Power Analyzer	Nos	21	9	5			35
	g. AC Recording Watt/Var Meter	Nos	15	7	2			24
	h. Personal Computers with Printers	Nos	11	13	8			32
	Sub Total		235	225	215	198	218	1091

Optimally Achievable (Real) case

Sr. No.	Description	Unit	Quantities					Total
			2022-23	2023-24	2024-25	2025-26	2026-27	
	Vehicles		0	28	31	34	37	130
	Sub Total		0	28	31	34	37	130
	Tools & Plants (T&P)							
	a. Instrument and Test Equipment	Nos						
	b. Special Tools	Nos						
	c. Mechanical Plants (generators, welding plants etc.)	Nos						
	d. LM Tools other than personal protective equipment	Nos						
	e. Clip on Volt-Ohm Meter	Nos	40	32	20			92
	f. Clip on Power Analyzer	Nos	21	9	5			35
	g. AC Recording Watt/Var Meter	Nos	15	7	2			24
	h. Personal Computers with Printers	Nos	11	13	8			32
	Sub Total		87	117	97	68	74	443

The Peshawar Electric Supply Company ("PESCO") has also formulated a Transport Policy in order to reduce its transport related expenditure to an acceptable low level and monetization of transport for its officers.

The objectives of the Policy include:

- To increase the effectiveness and quality of services rendered by the officers now possessing fuel efficient and reliable vehicles by virtue of this policy.
- To curtail un-necessary transport expenditure and to restrict I limit the running and maintenance expenditure of these vehicles.
- To eliminate the misuse of official vehicles.
- To overcome the shortage of vehicles and drivers.
- To provide a regular mechanism for replacement of old vehicles with new ones after every five years.
- To observe the austerity measures regarding monetization of vehicles.

The above framed policy if implemented will impact current implication of vehicles requirements as depicted in above table for next five years

Section -VI

Costs and Financing Plan

A. Capital Expenditure and additional Operating Costs for Expansion and Rehabilitation (this section also includes the total cost of DIIP)

▪ Details of Costing

The detailed costs of Transmission, Distribution and functional plans is provided hereunder, with more details Annexed.

▪ STG-Expansion and Rehabilitation (Best Case)

a. Grid Stations

DIIP 25 - STG Expansion and Rehabilitation (Best Case): Grid Stations

Rs. In Million								
Sr. No	Description	Total Cost	Total Capacity Added (MVA)	2022-23	2023-24	2024-25	2025-26	2026-27
1	New							
a	132 KV	11327	2308	1065	2793	3897	2059	1514
2	Conversion							
a	66 to 132 KV	1052	260	120	682		250	
b	33 to 132 KV	132	26			132		
3	Augmentation							
a	132 KV	1071	336	519	312	240		
b	66 KV							
4	Extension (Transformer)							
a	132 KV	687	371	432	255			
b	66 KV							
5	Rehabilitation							
a	132 KV	400		400				
Total		14669	3301	2536	4042	4269	2309	1514

b. Transmission Lines (Best Case)

i. New Line

DIIP 26 - STG Expansion and Rehabilitation (Best Case): Transmission Lines (Best Case): New Lines

Rs. In Million							
Sr. No.	Description	Total Cost	2022-23	2023-24	2024-25	2025-26	2026-27
1	T/Line D/C	8303	3463	1774	1132	512	1422
2	T/Line SDT	3529	655	867	440	125	1442

ii. Rehabilitation/Reconductoring/Up-gradation (Best Case)

DIIP 27 - STG Expansion and Rehabilitation (Best Case); Transmission Lines (Best Case); Rehabilitation/Reconductoring/Up-gradation

Rs. In Million							
Sr. No.	Description	Total Cost	2022-23	2023-24	2024-25	2025-26	2026-27
1	132 KV D/C	0					
2	132 KV SDT	376			376		
3.	132 KV Addl: Ckt	1469		128	496	495	350

iii. Reconductoring and Rerouting (Best Case)

DIIP 28 - STG Expansion and Rehabilitation (Best Case); Transmission Lines (Best Case); Reconductoring and Rerouting

Rs. In Million							
Sr. No.	Description	Total Cost	2022-23	2023-24	2024-25	2025-26	2026-27
1	132 KV D/C	120		120			
2	132 KV SDT	2502	728	642	936	20	175
	Total Cost	16299	4846	3531	3381	1152	3389

iv. Capacitor

DIIP 29 - STG Expansion and Rehabilitation (Best Case); Transmission Lines (Best Case); Capacitor

Sr. No.	Description	Total (MVAR)	2022-23	2023-24	2024-25	2025-26	2026-27
1	132 KV Capacitor						
2	11 KV Capacitor	1305.21			261.00	201.00	85.00

▪ **Expansion and Rehabilitation (Optimally Achievable Case)**

a. Grid Stations

DHP 30 - Expansion and Rehabilitation (Optimally Achievable Case): Grid Stations

Rs. In Million								
Sr. No	Description	Total Cost	Total Capacity (MVA)	2022-23	2023-24	2024-25	2025-26	2026-27
1	New							
a	132 KV	11907	2178	2269	3761	3772	1310	796
2	Conversion							
a	66 to 132 KV	1052	260	120	682		250	
b	33 to 132 KV	132	26			132		
3	Augmentation							
A	132 KV	1071	336	519	312	240		
B	66 KV							
4	Extension (Transformer)							
A	132 KV	617	371	362	255			
B	66 KV							
5	Rehabilitation							
A	132 KV	400		400				
B	66 KV							
	Total	15179	3171	3670	5010	4144	1560	796

b. T/Lines (Optimally Achievable Case)

i. New Line

DHP 31- Expansion and Rehabilitation (Optimally Achievable Case): Transmission Lines (Optimally Achievable Case): New Line

Sr. No.	Description	Total Cost	2022-23	2023-24	2024-25	2025-26	2026-27
1	T/Line D/C	3960	974	274	1663	235	814
2	T/Line SDT	2192	655	867	390	125	155

Rs. In

Million

ii. **Rehabilitation/Reconductoring/Up-gradation**

DIIP 32 - Expansion and Rehabilitation (Optimally Achievable Case): Transmission Lines (Optimally Achievable Case): Rehabilitation/Reconductoring/Up-gradation

Rs. In Million							
Sr. No.	Description	Total Cost	2022-23	2023-24	2024-25	2025-26	2026-27
1	132 KV D/C	0					
2	132 KV SDT	376				376	
3	132 KV Addl: Ckt	343				343	

iii. **Reconductoring and Rerouting**

DIIP 33 - Expansion and Rehabilitation (Optimally Achievable Case): Transmission Lines (Optimally Achievable Case): Reconductoring and Rerouting

Rs. In Million							
Sr. No.	Description	Total Cost	2022-23	2023-24	2024-25	2025-26	2026-27
1	132 KV D/C	120		120			
2	132 KV SDT	1665		729	191	745	
	Total Cost	8656	1629	1990	2244	1824	969

iv. **Capacitor**

DIIP 34- Expansion and Rehabilitation (Optimally Achievable Case): Transmission Lines (Optimally Achievable Case): Capacitor

Sr. No.	Description	Total (MVAR)	2022-23	2023-24	2024-25	2025-26	2026-27
1	132 KV Capacitor						
2	11 KV Capacitor	1305.21			261.00	201.00	85.00

▪ **Distribution System-Expansion and Rehabilitation (Best Case)**

DIIP35 - Distribution System Expansion and Rehabilitation (Best Case)

Sr. No.	Description	Rs. In Million					
		2022-23	2023-24	2024-25	2025-26	2026-27	Total
Cost of Work for 11 kV and Below Expansion							
A.							
1	Expansion of HT Lines						
	New Line	650	600	625	650	625	3148
	Reconductoring	67	62	65	67	65	327
	Sub Total	717	662	690	717	690	3475
2	Transformers						
	a. 25 KVA	643.5	652.0	697.1	708.7	708.7	3410.15
	b. 50 KVA	790.8	945.3	709.0	992.6	1039.9	4477.56
	c. 100 KVA	150.8	180.9	150.8	205.6	180.9	869.00
	d. 200 KVA	48.2	57.9	67.5	94.5	86.8	354.82
	e. others KVA						
	Sub Total	1633.3	1836.1	1624.4	2001.5	2016.3	9111.5
3	11 KV Capacitors						
	a. Fixed 450 KVAR	4	4	4	4	4	20
	b. Fixed 900 KVAR						
	c. Others						
	Sub Total	4	4	4	4	4	20
4	11 KV Panels	34	31	33	34	33	165
5	11 kV 500 MCM Cable	21	20	20	21	20	103
Cost of Work for LT Expansion							
B.							
1	New LT Lines						
	New LT line	2750.239	3020.531	2773.574	3266.192	3299.250	15109.79
	Reconductoring	721.261	792.146	727.381	856.572	865.241	3962.60
	Sub Total	3471.261	3813.146	3501.381	4122.572	4164.241	19072.6
2	LT Capacitors						
	a. Different KVARs						
	Other Equipments and Material						
	a. Single Phase Meters	175.700	309.610	314.228	428.052	382.106	1609.70
	b. Three Phase Meters	70.088	123.506	125.348	170.753	152.426	642.12
	c. MDI	114.150	201.150	204.150	278.100	248.250	1045.80
	Sub Total	359.938	634.266	643.726	876.905	782.782	3297.62

Total A(1-5)+B(1-3)		6240	7001	6517	7777	7710	35245
Other charges		1919.8	2154.4	2005.4	2393.4	2372.4	10846.9
Supportive plan		2687.354	987.506	821.040	809.740	843.940	6149.58
Total DOP Cost		10848	10142	9343	10980	10927	52239.85
Cost of Cost Deposit Work							
C.	Village Electrification						
1	New HT Lines						
	New HT line	475.4	559.4	620.1	683.1	776.1	3114.1
2	New LT Lines						
	New LT line	1042.6	1214.1	1427.9	1570.7	1814.7	7070.0
3	Transformers						
	a. 25 KVA	117.9	129.8	142.9	157.3	173.2	721.2
	b. 50 KVA	614.5	732.6	805.9	886.7	992.6	4032.3
	c. 100 KVA	180.9	331.7	364.8	401.6	442.0	1721.1
	d. 200 KVA	80.0	88.7	98.3	109.0	120.5	496.6
	e. others KVA						
	Sub Total	993.3	1282.9	1412.0	1554.6	1728.4	6971.2
	Total Cost C(1-3)	2511.4	3056.3	3459.9	3808.4	4319.2	17155.2
	Other Charges	772.9	940.6	1064.8	1172	1329.2	5279.5
	Total Cost of Project	3284.3	3996.9	4524.7	4980.4	5648.4	22434.7
D.	Independent Feeder						
1	New HT Lines						
	New HT line	582.5	556.0	595.8	542.8	569.3	2846.4
2	New LT Lines						
	New LT line	Nil	Nil	Nil	Nil	Nil	Nil
3	Transformers						
	a. 25 KVA						
	b. 50 KVA						
	c. 100 KVA	14.5	10.6	13.5	14.5	10.6	63.6
	d. 200 KVA	22.3	23.9	23.5	21.1	24.1	114.9
	e. others KVA						
	Sub Total	36.8	34.5	37.0	35.6	34.7	178.6
4	11 KV Panel	69.3	66.7	70.6	65.4	68.0	340.1
5	11KV 500 MCM S/C Cable @ 300 Meter/Feeder	43.2	41.5	44.0	40.7	42.4	211.8
	Total Cost D (1-5)	168.0	310.0	323.0	684.5	714.4	2199.9
	Other Charges	56.1	133.7	170.8	428.9	517.4	1306.9
	Total Cost of Project	224	444	494	1113	1232	3507

Cost of Work for 11 kV and Below Rehabilitation		Rs. In Million					
A.		2022-23	2023-24	2024-25	2025-26	2026-27	Total
1	Rehabilitation of HT Lines						
	New Line	1474	1499	1524	1399	1474	7371
	Reconductoring	153	156	158	145	153	766
	Sub Total	1627	1655	1682	1544	1627	8137
2	New Transformers						
	a. 25 KVA	643.5	652.0	697.1	708.7	708.7	3410.2
	b. 50 KVA	790.8	945.3	709.0	992.6	1039.9	4477.6
	c. 100 KVA	150.8	180.9	150.8	205.6	180.9	869.0
	d. 200 KVA	48.2	57.9	67.5	94.5	86.8	354.8
	e. others KVA						
	Sub Total	1633.3	1836.1	1624.4	2001.5	2016.3	9111.5
3	Fixed 11 KV 450 KVAR	9	9	9	9	9	46
4	Installation of 11 kV Panels	77	78	80	73	77	386
5	11kV 500 MCM Cable (km)	48	49	50	46	48	240
Cost of Work for LT Rehabilitation							
B.							
1	LT Lines Rehabilitation						
	New LT Line	988.474	1085.621	996.861	1173.915	1185.796	5430.668
	Reconductoring of LT Line	194.125	213.203	195.772	230.543	232.877	1066.520
	Rabbit (Conversion LT Feeder)	446.27	490.13	450.06	530.002	535.36	2451.849
	Sub Total	1628.869	1788.954	1642.693	1934.46	1954.033	8949.037
	Other Equipment's and Material						
	a. Single Phase Meters	249.246	261.708	274.794	288.533	302.961	1377.241
	b. Three Phase Meters	52.786	55.426	58.198	61.108	64.163	291.681
	Sub Total	302.031	317.134	332.992	349.641	367.124	1668.922
Total A(1-4)+B(1-2)		5325.2	5733.188	5421.085	5957.601	6093.457	28538.46
Other Charges		1639.0	1764.6	1666.1	1833.5	1877.0	8780.2
Supportive Cost		113.820	125.530	137.530	151.120	155.120	694.119
Total ELR Cost		7079	7624	7218	7942	8142	38005

▪ Cost of ABC Cable (Best Case)

Sr. No	Circle	Division	No. of Feeders	Length of ABC Cable	Amount Required
				(Km)	(Rs. In Million)
		City Rural	2	100.968	120.901
		Charsadda	8	534.01	597.062
		Shabqadar	6	97.865	127.160
		Rural	9	239.099	290.882
		Bannu-1	12	266.632	335.507
		Lakki	7	329.532	359.766
		Tank	2	81.882	98.217
		Bannu-2	8	379.954	437.924
3	Khyber	Khyber	16	449.892	555.906
TOTAL			70	2479.834	2923.324

▪ Cost of Electrification works in chitral (Best Case)

S.NO	DESCRIPTION	UM	QTY	RATE	TOTAL
1	H.T STRUCTURE 45' LONG	NO	105	64500	6772500
2	H.T STRUCTURE 36' LONG	NO	6120	28500	174420000
3	L.T. STRUCTURE 30' LONG	NO	10010	17900	179179000
4	ACSR DOG	MTR	707586	109	77126874
5	ACSR RABBIT	MTR	669545	56	37494520
6	AAC WASP	MTR	19936	79	1574944
7	AAC ANT	MTR	2681280	49	131382720
8	25 KVA TRANSFORMER	NO	68	130000	8840000
9	50 KVA TRANSFORMER	NO	200	202642	40528400
10	100 KVA TRANSFORMER	NO	37	340000	12580000
11	STEEL CROSS ARM / D-FITTING	NO	342	1940	663480
12	STEEL CROSS ARM WITH BRACES	NO	12450	3040	37848000
13	PIN INSULATOR	NO	37350	240	8964000
14	PIN FOR STEEL CROSS ARM	NO	37350	344	12848400
15	DISC INSULATOR	NO	9348	1050	9815400
16	DEAD END CLAMP FOR DOG/RABBIT	NO	9348	157	1467636
17	SPOOL INSULATOR (LT)	NO	42388	45	1907460
18	D-SHACKLE ASSEMBLY	NO	42388	113	4789844
19	PLATE FORM (SINGLE STRUCTURE)	NO	268	5500	1474000

20	PLATE FORM (DOUBLE STRUCTURE)	NO	37	9240	341880
21	ENY NUT	NO	9348	75	701100
22	EARTH UNIT WITH THIMBLE 10'	NO	16844	529	8910476
23	STAY ROD WITH ELBOW AND THIMBLE	NO	9701	1450	14066450
24	GALVENISED STEEL WIRE 10 MM	KG	265380	114	30253320
25	DROP OUT CUT OUT	NO	915	5300	4849500
26	PVC 19/0.83 4/CORE	MTR	4680	390	1825200
27	P.G CONNECTOR T-110	NO	2408	97	233576
28	P.G CONNECTOR T-150	NO	9348	108	1009584
29	DOUBLE ARMING BOLT 5/8" x 14"	NO	24900	130	3237000
30	DOUBLE ARMING BOLT 5/8" x 20"	NO	1014	169	171366
31	BOLT & NUT 5/8" x 2"	NO	79014	23	1817322
32	BOLT & NUT 5/8" x 10"	NO	6120	73	446760
33	BOLT & NUT 5/8" x 14"	NO	12450	85	1058250
34	WASHER ROUND 1" x 7/16"	NO	97584	17	1658928
35	STAY STRIP / CLAMP	NO	9701	100	970100
36	500 MCM S/CORE	MTR	1800	794	1429200
37	11 KV PANEL	MTR	6	1500000	9000000
38	IN DOOR KIT	NO	18	4700	84600
39	OUT DOOR KIT	NO	18	6900	124200

Cost of World Bank Project (Best Case)

Compt:	Name of Project With Detail	Cost (\$ Million)	Cost (Rs. Million)
1 (b)	27x12MVAR switch shunt capacitors	4.74	758.211
	Upgradation of 132kV Bus Bars at 20 No. G/Ss	1.31	210.258
	Extension of Power T/Fs with 40MVA at 4 No. G/Ss	3.53	564.93
	14 No. Augmentation of 26 MVA Power T/Fs with 40MVA	9.49	1518.02
1 (c)	Reconductoring with HTLS/Greely 04 No. T/Lines (49km)	4.01	642.241
2 (a)	Billing & IT infrastructure Upgradation	2.80	448
	Installation of Transformer Monitoring System (TMS) at 60 No's 11 kV Feeders in Peshawar & Khyber Circles	2.68	428.15
	Up gradation of PESCO GIS infrastructure to Arc-GIS Enterprise	3.74	599

2 (b)	65,000 AMI Meters Installation (5-20kW consumers)	6.50	1040
	ABC installation 60 No's Feeders in Peshawar & Khyber Circles (1298 km)	12.20	1951.54
3 (a)	Technical Assistance (Equipment for M&T, T/Fs Workshops, T&P, PPE, IT, vehicles etc.)	9.53	1,525.59
3 (b)	Training & Capacity Building	0.45	72.00
3 (c)	Project Implementation Support	2.00	320.00
Sub Total		62.99	10077.94
A	IDC	3.34	534.13
B	Price Contingency	1.89	302.34
C	Physical Contingency	1.89	302.34
D	Project Overhead (PESCO Support)	3.34	534.13
Total		73.44	11,750.88

ANNUAL BREAKDOWN AND AMOUNT TO BE SPENT ON PROJECT

Rs. Million					
Comp:	Description	2022-23	2023-24	2024-25	Total Cost
1	11 kV Capacitors, 132 kV Bus Bars, Extension / Augmentation of PTF & Reconductoring of 132 kV T/Lines	769.84	2092.03	1322.20	4184.06
2	IT Infrastructure, APMS, GIS Mapping, AMI Meters & ABC installation	912.07	2478.55	1566.48	4957.1
3	Technical Assistance (Equipment for M&T, T/Fs Workshops, T&P, PPE, IT, vehicles Consultancy, etc.)	549.09	1408.05	652.57	2609.72
Total		2231.00	5978.63	3541.25	11751

▪ **Cost of Distribution Projects under Special PSDP (Best Case)**

S.No.	Name of sub Project	Year wise Phasing (Rs. in Million)			
		FY 2022-23	FY 2023-24	FY 2024-25	Total
1	Combing of Feeders & Replacement of bare LT Conductor By ABC Cable	1531.618	2882.523	2071.770	6485.911
2	Rehabilitation of HV Distribution System	240	450	510	1200
3	Installation of Asset Performance Management System (APMS) on 2508 No Distribution transformers	446.378	477.351	267.243	1190.97
4	Upgradation of IT Infrastructure	528			528
5	Procurement of Operational Vehicles	105			105

Distribution System- Expansion and Rehabilitation (Optimally Achievable Case)

DIIP36 - Distribution System Expansion and Rehabilitation (Optimally Achievable Case)

Sr. No.	Description	Rs. In Millions					
		2022-23	2023-24	2024-25	2025-26	2026-27	Total
Cost of Work for 11 kV and Below Expansion							
A.							
1	Expansion of HT Line						
	New HT line	250	300	375	400	450	1774
	Reconductoring	26	31	39	42	47	184
Sub Total		276	331	414	442	497	1958
2	Transformers						
	a. 25 KVA	11	13	11	10	11	57
	b. 50 KVA	47	57	54	57	71	286
	c. 100 KVA	90	96	100	92	93	472
	d. 200 KVA	77	87	87	87	96	434
	e. others KVA						
Sub Total		226	253	252	245	272	1248
3	11 KV Capacitors						
	a. Fixed 450 KVAR	2	2	2	2	3	11
	b. Fixed 900 KVAR						
	c. Others						
Sub Total		2	2	2	2	3	11
4	11 KV Panel	13	16	20	21	24	93
5	11kV 500 MCM Cable	8	10	12	13	15	58
Cost of Work for LT Expansion							
B.							
1	New LT Lines						
	New LT line (Total Wasp+ANT)	240	269	266	257	288	1320
	Reconductoring	63	71	70	67	76	346
Sub Total		261.814	270.814	282.269	258.542	239.725	1313.16
2	LT Capacitors						
	a. Different KVARs	Nill	Nill	Nill	Nill	Nill	Nill
	Other Equipments and Material						
	a. Single Phase Meters	184	191	199	207	215	994
	b. Three Phase Meters	48	50	52	54	57	262
	c. MDI	26	27	28	30	31	142
	Sub Total	258	269	279	290	302	1399

Total of A(1-5)+B(1-3)		1086	1219	1315	1338	1476	6433
Other Charges		334.1	375.2	404.6	411.8	454.2	1979.9
Supportive Cost		304	778	579	546	565	2773
Total DOP Cost		1724	2373	2298	2296	2495	11186
Cost of Cost Deposit Work							
C.	Village Electrification						
1	New HT Lines						
	New HT line	159.4	298.9	312.3	315.4	314.0	1400.0
2	New LT Lines						
	New LT line	159.0	328.7	345.1	347.6	343.9	1524.4
3	Transformers						
	a. 25 KVA	14.2	34.0	34.0	34.0	33.7	150.0
	b. 50 KVA	18.9	47.3	55.8	55.8	54.4	232.1
	c. 100 KVA	21.1	41.0	43.4	44.0	44.6	194.2
	d. 200 KVA	28.9	38.6	40.5	42.4	45.3	195.7
	e. others KVA						
Sub Total		83.1	160.9	173.7	176.2	178.0	772.0
Total Cost C(1-3)		401.5	788.5	831.1	839.2	835.9	3696.3
Other Charges		123.6	242.7	255.8	258.3	257.3	1137.5
Total Cost of Project		525.1	1031.2	1086.9	1097.5	1093.2	4833.8
D.	Independent Feeder						
1	New HT Lines						
	New HT line	165.0	222.5	232.1	241.1	252.7	1113.4
2	New LT Lines						
	New LT line	Nil	Nil	Nil	Nil	Nil	Nil
3	Transformers						
	a. 25 KVA						
	b. 50 KVA						
	c. 100 KVA	10.3	9.6	9.0	10.9	10.3	50.1
	d. 200 KVA	24.1	26.0	23.1	22.2	25.1	120.5
	e. others KVA						
Sub Total		34.4	35.7	32.2	33.0	35.3	170.6
4	11 KV Panel	13.1	37.9	31.4	32.7	36.6	151.7
5	11KV 500 MCM S/C Cable @ 300 Meter/Feeder	8.1	23.6	19.5	20.4	22.8	94.5
Total Cost D(1-5)		220.6	319.7	315.2	327.2	347.4	1530.2
Other Charges		89.4	159.3	187.8	225.8	239.6	901.8
Total Cost of Project		310	479	503	553	587	2432

Cost of Work for 11 kV and Below Rehabilitation (Rs. In Millions)

A.		Rs. In Millions					
1	Rehabilitation of HT Lines	2022-23	2023-24	2024-25	2025-26	2026-27	Total
	New line	974	1049	1049	1049	1049	5172
	Reconductoring	101	109	109	109	109	537
	Sub Total	1075	1158	1158	1158	1158	5709
2	New Transformers						
	a. 25 KVA	11.9	12.2	9.9	11.1	11.6	56.7
	b. 50 KVA	80.4	92.2	94.5	89.8	92.2	449.0
	c. 100 KVA	124.8	126.6	134.5	150.2	132.7	668.8
	d. 200 KVA	125.3	139.8	154.3	135.0	115.7	670.1
	e. others KVA						
	Sub Total	342.4	370.8	393.2	386.0	352.2	1844.6
3	11 KV Capacitors						
	a. Fixed 450 KVAR	6	7	7	7	7	33
	b. Fixed 900 KVAR						
	c. Others						
	Sub Total	6	7	7	7	7	33
4	Installation of 11 kV Panels	51	55	55	55	55	271
5	11kV 500 MCM Cable	32	34	34	34	34	169
Cost of Work for LT Rehabilitation							
B.							
1	LT Lines Rehabilitation						
	New LT Line	127.898	138.149	143.973	143.973	134.188	688.181
	Reconductoring of LT Line	25.118	27.131	28.275	28.275	26.353	135.151
	Rabbit (Conversion LT Feeders)	57.744	62.372	65.001	65.001	60.584	310.701
	Sub Total	210.76	227.65	237.24	237.249	221.125	1134.03
	Other Equipment's and Material						
	a. Single Phase Meters	120.637	126.669	133.002	139.653	146.635	666.595
	b. Three Phase Meters	16.774	17.613	18.494	19.418	20.388	92.686

	Sub Total	137.412	144.281	151.496	159.070	167.023	759.282
	Total Cost A(1-3)+B(1-2)	1855	1997	2031	2036	1995	9915
	Other Charges	570.9	614.5	625.2	626.7	613.9	3051.2
	Supportive Cost	2.820	2.530	2.530	0.000	0.000	7.879
	Total ELR Cost	2429	2614	2659	2663	2609	12974

▪ Cost for Installation of ABC Cable: (Optimally Achievable Case)

Sr. No	Circle	Division	No. of Feeders	Length of ABC Cable	Amount Required
				(Km)	(Rs. In Million)
		City Rural	2	100.968	120.901
		Charsadda	8	534.01	597.062
		Shabqadar	6	97.865	127.160
		Rural	9	239.099	290.882
		Bannu-1	12	266.632	335.507
		Lakki	7	329.532	359.766
		Tank	2	81.882	98.217
		Bannu-2	8	379.954	437.924
3	Khyber	Khyber	16	449.892	555.906
TOTAL			70	2479.834	2923.324

▪ Cost for Electrification works in Chitral (Optimally Achievable Case)

S.NO	DESCRIPTION	UM	QTY	RATE	TOTAL
1	H.T STRUCTURE 45' LONG	NO	105	64500	6772500
2	H.T STRUCTURE 36' LONG	NO	6120	28500	174420000
3	L.T. STRUCTURE 30' LONG	NO	10010	17900	179179000
4	ACSR DOG	MTR	707586	109	77126874
5	ACSR RABBIT	MTR	669545	56	37494520
6	AAC WASP	MTR	19936	79	1574944
7	AAC ANT	MTR	2681280	49	131382720
8	25 KVA TRANSFORMER	NO	68	130000	8840000
9	50 KVA TRANSFORMER	NO	200	202642	40528400
10	100 KVA TRANSFORMER	NO	37	340000	12580000
11	STEEL CROSS ARM / D-FITTING	NO	342	1940	663480
12	STEEL CROSS ARM WITH BRACES	NO	12450	3040	37848000
13	PIN INSULATOR	NO	37350	240	8964000

14	PIN FOR STEEL CROSS ARM	NO	37350	344	12848400
15	DISC INSULATOR	NO	9348	1050	9815400
16	DEAD END CLAMP FOR DOG/RABBIT	NO	9348	157	1467636
17	SPOOL INSULATOR (LT)	NO	42388	45	1907460
18	D-SHACKLE ASSEMBLY	NO	42388	113	4789844
19	PLATE FORM (SINGLE STRUCTURE)	NO	268	5500	1474000
20	PLATE FORM (DOUBLE STRUCTURE)	NO	37	9240	341880
21	ENY NUT	NO	9348	75	701100
22	EARTH UNIT WITH THIMBLE 10'	NO	16844	529	8910476
23	STAY ROD WITH ELBOW AND THIMBLE	NO	9701	1450	14066450
24	GALVENISED STEEL WIRE 10 MM	KG	265380	114	30253320
25	DROP OUT CUT OUT	NO	915	5300	4849500
26	PVC 19/0.83 4/CORE	MTR	4680	390	1825200
27	P.G CONNECTOR T-110	NO	2408	97	233576
28	P.G CONNECTOR T-150	NO	9348	108	1009584
29	DOUBLE ARMING BOLT 5/8" x 14"	NO	24900	130	3237000
30	DOUBLE ARMING BOLT 5/8" x 20"	NO	1014	169	171366
31	BOLT & NUT 5/8" x 2"	NO	79014	23	1817322
32	BOLT & NUT 5/8" x 10"	NO	6120	73	446760
33	BOLT & NUT 5/8" x 14"	NO	12450	85	1058250
34	WASHER ROUND 1" x 7/16"	NO	97584	17	1658928
35	STAY STRIP / CLAMP	NO	9701	100	970100
36	500 MCM S/CORE	MTR	1800	794	1429200
37	11 KV PANEL	MTR	6	1500000	9000000
38	IN DOOR KIT	NO	18	4700	84600
39	OUT DOOR KIT	NO	18	6900	124200

■ **Cost of World Bank Project (Optimally Achievable Case)**

Compt:	Name of Project With Detail	Cost (\$ Million)	Cost (Rs. Million)
1 (b)	27x12MVAR switch shunt capacitors	4.74	758.211
	Upgradation of 132kV Bus Bars at 20 No. G/Ss	1.31	210.258
	Extension of Power T/Fs with 40MVA at 4 No. G/Ss	3.53	564.93
	14 No. Augmentation of 26 MVA Power T/Fs with 40MVA	9.49	1518.02
1 (c)	Reconductoring with HTLS/Greely 04 No. T/Lines (49km)	4.01	642.241
2 (a)	Billing & IT infrastructure Upgradation	2.80	448

	Installation of Transformer Monitoring System (TMS) at 60 No's 11 kV Feeders in Peshawar & Khyber Circles	2.68	428.15
	Up gradation of PESCO GIS infrastructure to Arc-GIS Enterprise	3.74	599
2 (b)	65,000 AMI Meters Installation (5-20kW consumers)	6.50	1040
	ABC installation 60 No's Feeders in Peshawar & Khyber Circles (1298 km)	12.20	1951.54
3 (a)	Technical Assistance (Equipment for M&T, T/Fs Workshops, T&P, PPE, IT, vehicles etc.)	9.53	1,525.59
3 (b)	Training & Capacity Building	0.45	72.00
3 (c)	Project Implementation Support	2.00	320.00
Sub Total		62.99	10077.94
A	IDC	3.34	534.13
B	Price Contingency	1.89	302.34
C	Physical Contingency	1.89	302.34
D	Project Overhead (PESCO Support)	3.34	534.13
Total		73.44	11,750.88

ANNUAL BREAKDOWN AND AMOUNT TO BE SPENT ON PROJECT

Rs. Million

Comp:	Description	2022-23	2023-24	2024-25	Total Cost
1	11 kV Capacitors, 132 kV Bus Bars, Extension / Augmentation of PTF & Reconductoring of 132 kV T/Lines	769.84	2092.03	1322.20	4184.06
2	IT Infrastructure, APMS, GIS Mapping, AMI Meters & ABC installation	912.07	2478.55	1566.48	4957.1
3	Technical Assistance (Equipment for M&T, T/Fs Workshops, T&P, PPE, IT, vehicles Consultancy, etc.)	549.09	1408.05	652.57	2609.72
Total		2231.00	5978.63	3541.25	11751

▪ **Cost of Distribution Projects under Special PSDP (Optimally Achievable Case)**

S.No.	Name of sub Project	Year wise Phasing (Rs. in Million)			
		FY 2022-23	FY 2023-24	FY 2024-25	Total
1	Combing of Feeders & Replacement of bare LT Conductor By ABC Cable	1531.618	2882.523	2071.770	6485.911
2	Rehabilitation of HV Distribution System	240	450	510	1200
3	Installation of Asset Performance Management System (APMS) on 2508 No Distribution transformers	446.378	477.351	267.243	1190.97
4	Upgradation of IT Infrastructure	528			528
5	Procurement of Operational Vehicles	105			105

▪ Cost for GIS Mapping and P&E:

Sr. No.	Description	Rs. in Million					
		2022-23	2023-24	2024-25	2025-26	2026-27	Total
GIS Surveying & Mapping							
1	HT Surveying & Mapping						
		2	2	2	2	2	10
2	LT Surveying & Mapping						
		4	4	4	4	4	10
3	Software & Tools Required						
	GIS Software (2.5 Million Lump sum)	4	18	17			39
	Simulation Software Licenses	2	20	20			42
	Plotter	1	2				3
	GPS enabled Tablet	1	5	5			11
	Computers (High End)	1	2				3
	Total	15	53	48	6	6	128

B. Capital Expenditure and Additional Operating Costs for Other Functional Improvement Plans:

Summary of Capital and Operational Expenditure Costs

The Scope and Cost of Functional Plans for best case is same which is mentioned below.

DHPST - Summary of Capital and Operational Expenditure Costs

(For Best Case)

Items		FY-2022-23	FY-2023-24	FY-2024-25	FY-2025-26	FY-2026-27	Total
		Total	Total	Total	Total	Total	Total
A	Commercial Improvement Plan	2192.94	514.304	306.824	307.506	308.256	3629.83
B	Financial Improvement Plan	65	9	9	9	9	101
C	HR Improvement Plan						
D	Communications Improvement Plan						
Subtotal: (A+B+C+D)		2257.94	523.304	315.824	316.506	317.256	3730.83

DHP 39-Costing of Commercial Improvement Plan

		FY-2022-23	FY-2023-24	FY-2024-25	FY-2025-26	FY-2026-27	Total
		Total	Total	Total	Total	Total	Total
A	AMR Metering	1950	300	300	300	300	3150
B	SMS Data collection						
C	Consumer Census						
D	Data Center	95	105	*	*	*	200
E	Email Hosting	0.84	0.924	1.016	1.118	1.229	5.127
F	Billing SMS	4.8	5.28	5.808	6.388	7.027	29.303
G	Mobiles for meter reading	0	0	0	0	0	0
F	Licenses and support	142.3	103.1	*	*	*	245.4
Total		2192.94	514.304	306.824	307.506	308.256	3629.83

DHP 40 -Costing of Financial Management Improvement Plan

		FY-2022-23	FY-2023-24	FY-2024-25	FY-2025-26	FY-2026-27	Total
		Total	Total	Total	Total	Total	Total
A	ERP system implementation	65	9	9	9	9	101
B	Revamping the Internal Audit						
C	Other studies and models preparation						
G	IT infrastructure to support new initiatives						
F	Others etc...						
Total		65	9	9	9	9	101

DHP 41- Costing of Human Resource Improvement Plan

		FY-2022-23	FY-2023-24	FY-2024-25	FY-2025-26	FY-2026-27	Total
		Total	Total	Total	Total	Total	Total

A	Revamping of Training Centers	0	0	0	0	0	0
B	Training of employees through external training institutions	0	0	0	0	0	0
C	Human Resource Information System Implementation	0	0	0	0	0	0
D	Conducting the yard stick study	0	0	0	0	0	0
E	IT infrastructure to support new initiatives	0	0	0	0	0	0
F	Improving the working environment	0	0	0	0	0	0
G	Others etc...						
Total		0	0	0	0	0	0

DIIP 42 Costing of Communications Improvement Plan

		FY-2022-23	FY-2023-24	FY-2024-25	FY-2025-26	FY-2026-27	Total
		Total	Total	Total	Total	Total	Total
A	Improving Internal Communications with Employees	0	0	0	0	0	0
B	Improving External Communications with Customers	0	0	0	0	0	0
C	Communication material	0	0	0	0	0	0
D	Others etc...						
Total		0	0	0	0	0	0

Cost of Functional Plan (Achievable Case)

		FY-2022-23	FY-2023-24	FY-2024-25	FY-2025-26	FY-2026-27	Total
		Total	Total	Total	Total	Total	Total
A	Commercial Improvement Plan	148.84	399.204	206.824	206.918	207.029	1168.815
B	Financial Improvement Plan	38	39	9	9	9	104
C	HR Improvement Plan	0	0	0	0	0	0
D	Communications Improvement Plan	0	0	0	0	0	0
Subtotal: (A+B+C+D)		186.84	438.204	215.824	215.918	216.029	1272.815
Costing of Commercial Improvement Plan							
		FY-2022-23	FY-2023-24	FY-2024-25	FY-2025-26	FY-2026-27	Total
		Total	Total	Total	Total	Total	Total
A	AMR Metering	60	120	200	200	200	780
B	SMS Data collection	0	0	0	0	0	0
C	Consumer Census	0	0	0	0	0	0
D	Data Center	34	130	0	0	0	164
E	Email Hosting	0.84	0.924	1.016	1.118	1.229	5.127
F	Billing SMS	4	5.28	5.808	5.8	5.8	26.688
G	Mobiles for meter reading	0	0	0	0	0	0
F	Licenses and support	50	143	0	0	0	193
Total		148.84	399.204	206.824	206.918	207.029	1168.815
Costing of Financial Management Improvement Plan							
		FY-2022-23	FY-2023-24	FY-2024-25	FY-2025-26	FY-2026-27	Total
		Total	Total	Total	Total	Total	Total

B	Revamping the Internal Audit	0	0	0	0	0	0
C	Other studies and models preparation	0	0	0	0	0	0
G	IT infrastructure to support new initiatives	0	0	0	0	0	0
F	Others etc...						
Costing of Human Resource Improvement Plan							
		FY-2022-23	FY-2023-24	FY-2024-25	FY-2025-26	FY-2026-27	Total
		Total	Total	Total	Total	Total	Total
A	Revamping of Training Centers	0	0	0	0	0	0
B	Training of employees through external training institutions	0	0	0	0	0	0
C	Human Resource Information System Implementation	0	0	0	0	0	0
D	Conducting the yard stick study	0	0	0	0	0	0
E	IT infrastructure to support new initiatives	0	0	0	0	0	0
F	Improving the working environment	0	0	0	0	0	0
G	Others etc...						
Total		0	0	0	0	0	0
Costing of Communications Improvement Plan							

Communications Plan Items (Illustrations below)		FY-2022-23	FY-2023-24	FY-2024-25	FY-2025-26	FY-2026-27	Total
		Total	Total	Total	Total	Total	Total
A	Improving Internal Communications with Employees	0	0	0	0	0	0
B	Improving External Communications with Customers	0	0	0	0	0	0
C	Communication material	0	0	0	0	0	0
D	Others etc...						
Total		0	0	0	0	0	0

C. Summary Costs for the Integrated Investment Plan

Summary of Cost for Best Case

DHIP43- Summary Costs for the Investment Plan: Summary of Cost for Best Case

Business Plan- DHIP PESCO (TOTAL COST OF BEST CASE)						
DESCRIPTION	FY-2022-23	FY-2023-24	FY-2024-25	FY-2025-26	FY-2026-27	TOTAL
Distribution cost without deposit	17918	17766	16561	18922	19057	90224
ABC Cable Installation	916	827	0	0	0	1743
Electrification in Chitral	395	241	165	0	0	801
World Bank Project	2231	5979	3541	0	0	11751
Distribution Projects under Special PSDP	2850	3800	2850	0	0	9500
Transmission cost without Others	3100.00	5343.00	2928.00	1508.00	2142.00	15021
Total Cost	27410	33956	26045	20430	21199	129040

DESCRIPTION	FY-2022-23	FY-2023-24	FY-2024-25	FY-2025-26	FY-2026-27	TOTAL
Distribution deposit cost	3508	4441	5019	5093	6880	24941
Other PSDP projects	429	0	0	0	0	429
Transmission cost Others	4282.36	1588.18	4982.35	2153.14	2845.99	15852.02
Total Cost	8219.4	6029.2	10001.4	7246.1	9726.0	41222.0

Summary of Cost for Optimally Achievable Case

DIIP44- Summary Costs for the Investment Plan: Summary of Cost for Optimally Achievable Case

Business Plan- DIIP PESCO (TOTAL COST OF ACHIEVABLE CASE)						
DESCRIPTION	2022-23	2023-24	2024-25	2025-26	2026-27	TOTAL
Distribution cost without deposit	4153	5104	5104	5136	5095	24592
ABC Cable Installation	916	827	0	0	0	1743
Electrification in Chitral	395	241	165	0	0	801
World Bank Project	2231	5979	3541	0	0	11751
Distribution Projects under Special PSDP	2850	3800	2850	0	0	9500
Transmission cost without Others	2500.00	4000.00	3000.00	1920.00	1765.00	13185
Total Cost	13045	19951	14660	7056	6860	61572

DESCRIPTION	2022-23	2023-24	2024-25	2025-26	2026-27	TOTAL
Distribution deposit cost	835	1510	1590	1650	1680	7265
Other PSDP projects	429	0	0	0	0	429
Transmission cost Others	2799	3000	3649	1664	85	11197
Total Cost	4063	4510	5239	3314	1765	18891

Summary of O&M Costs

DIIP45- Summary Costs for the Investment Plan: Summary of O&M Costs

O&M COST (ACHIEVABLE CASE)						
DESCRIPTION	2022-23	2023-24	2024-25	2025-26	2026-27	TOTAL
Distribution O&M cost	483.1	504.9	479.9	527.2	534.2	2529.4
Transmission O&M cost without other	50.00	80.00	60.00	38.40	35.30	263.70
Distribution deposit O&M cost	101.1	147.0	162.8	210.4	231.4	852.7
Transmission O&M cost with Others	100.60	179.57	143.80	33.28	1.70	458.96
ABC Cable Installation O&M Cost	0.095	0.0898	0.092	0.094	0.092	0.4628
Electrification in Chitral O&M Cost	0.446	0.456	0.416	0.404	0.384	2.106
World Bank Project O&M Cost	44.62	119.58	70.82	0	0	235.02
Total O&M Cost	780.0	1031.6	917.8	809.8	803.1	4342.3

D. Financing Plan:

DEP 4- Financing Plan

Peshawar Electric Supply Company						
Investment						
		2022-23	2023-24	2024-25	2025-26	2026-27
		Projected	Projected	Projected	Projected	Projected
Investment Plan						
DOP	[Min Rs]	1724	2490	2445	2473	2495
ELR	[Min Rs]	2429	2614	2659	2663	2600
STG	[Min Rs]	2500	4000	3000	1920	1765
Others						
Electrification work at different valleys of district Chitral	[Min Rs]	395	241	165		
132KV Grid system & upgradation of 33KV Grid System in District Chitral	[Min Rs]	10				
ABC Cable for Peshawar, Khyber & Bannu Circle	[Min Rs]	916	827			
Evacuation of Power from 220/132KV Grid Station Swabi	[Min Rs]	248				
Supply of Power to Special Economic Zone Hattar	[Min Rs]	200				
Supply of Power to Special Economic Zone Rashakai	[Min Rs]	341				
World Bank Project	[Min Rs]	2231	5979	3541		
Distribution Projects under Special PSDP	[Min Rs]	2850	3800	2850		
STG Projects under PSDP special finances (Proposed)	[Min Rs]	2000	3000	3388	1463	
Deposit Work	[Min Rs]	835	1510	1590	1650	1680
Other PSDP Projects		429				
Capacitor Banks				261	201	85
Total	[Min Rs]	17108	24461	19899	10370	8625

Section - VII

Benefits and Financial Analysis

A. Expansion and Rehabilitation of Secondary Transmission and Distribution System:

i. Tangible Benefits

Additional Energy Available for Sales (for Transmission)				
	Best		Achievable	
2022-23	755.00	1405.43	755.00	1405.43
2023-24	1124.00	2092.33	940.00	1749.81
2024-25	794.00	1478.03	742.00	1381.23
2025-26	420.00	781.83	524.00	975.43
2026-27	208.00	387.19	210.00	390.92

Year Wise Saving of Distribution Projects Under special PSDP					
		Year wise Phasing (Rs. in Million)			
		FY 2022-23	FY 2023-24	FY 2024-25	Total
1	Combing of Feeders & Replacement of bare LT Conductor By ABC Cable	46.73 Mkwh	83.46 Mkwh	45.94 Mkwh	176.137
2	Rehabilitation of HV Distribution System	16	30	34	80
3	Installation of Asset Performance Management System (APMS) on 2508 No Distribution transformers				
4	Upgradation of IT Infrastructure				
5	Procurement of Operational Vehicles				

i. Non-tangible Benefits

The other benefits like improvement in voltage profile, improving the overloading of the network will be achieved after completion of project.

Section - VIII

Financial Projections

Please find below the income statement, balance sheet and cash flow of PESCO for tariff control period.

Financial Statements								
								Rs. in Million
INCOME STATEMENT	Audited	Audited	Projected	Projected	Projected	Projected	Projected	Projected
	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
INCOME STATEMENT								
Sale of Power	127,504	133,645	178,472	208,290	249,529	287,993	319,292	350,251
Rental & Service income	46	59	68	78	90	103	119	137
Total Sales	127,550	133,704	178,540	208,368	249,618	288,096	319,411	350,387
Subsidy	73,410	61,816	48,745	65,981	70,422	71,967	71,649	70,697
Amortization of deferred Credit.	1,708	1,853	1,841	1,882	1,947	2,006	2,061	2,111
	202,668	197,373	229,126	276,231	321,987	362,070	393,120	423,195
Purchase of Power	199,594	188,258	273,186	286,134	311,294	329,817	344,156	357,522
Gross Profit	3,073	9,116	-44,059	-9,904	10,694	32,253	48,965	65,673
OPERATING EXPENSES								
Establishment Cost	20,129	23,829	27,073	32,778	36,452	40,582	45,005	49,915
Maintenance & repair and Others	788	1,177	1,208	1,268	1,458	1,677	1,928	2,218
Depreciation	3,026	3,296	3,738	4,187	4,675	5,233	5,875	6,586
Provision for Bad Debt	4,734	8,428	8,006	8,807	9,688	10,656	11,722	12,894
Total Operating Expenses	28,677	36,730	40,025	47,040	52,273	58,149	64,530	71,612
OPERATING PROFIT / (LOSS)	-25,604	-27,614	-84,084	-56,944	-41,579	-25,896	-15,565	-5,940
ADD: Other Income	13,674	7,743	7,894	7,881	8,209	8,562	8,950	9,387
EBIT	-11,930	-19,871	-76,191	-49,062	-33,370	-17,334	-6,615	3,448
LESS: Interest Expense	842	708	1,502	1,577	1,624	1,656	1,688	1,728
PROFIT / (LOSS) BEFORE TAX	-12,772	-20,579	-77,692	-50,639	-34,994	-18,991	-8,303	1,719
Income Tax/Turnover tax	1,851	2,166	2,353	2,727	3,247	3,733	4,130	4,524
NET PROFIT/LOSS FOR THE YEAR	-14,622	-22,746	-80,046	-53,366	-38,241	-22,724	-12,433	-2,804

Financial Statements

Rs. In Million

Balance Sheet	Audited	Audited	Projected	Projected	Projected	Projected	Projected	Projected
	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Assets								
Fixed Assets								
Gross Fixed Assets	87,395	94,444	109,922	126,003	148,997	167,702	177,450	185,557
LESS: Accumulated Depreciation	32,191	35,431	39,170	43,357	48,031	53,265	59,139	65,725
Net Fixed Assets	55,204	59,013	70,752	82,647	100,965	114,437	118,310	119,832
Capital Work in Progress	19,756	26,649	27,637	28,664	30,131	31,325	31,948	32,465
Long Term Advances, Deposit	4	8	9	9	9	10	10	11
Current Assets								
Inventory / Stores & Spares	5,355	4,894	6,887	7,792	9,177	10,203	10,518	10,661
Account Receivable	161,899	154,426	173,523	194,769	218,973	245,468	273,247	301,967
Less: Provision for Bad Debt	75,550	83,978	91,984	100,791	110,479	121,135	132,857	145,751
Net Accounts Receivable	86,349	70,449	81,539	93,978	108,494	124,333	140,389	156,216
Receivable from Associated Companies	1,703	1,344	1,479	1,627	1,789	1,968	2,165	2,381
Receivable from TESCO	39,988	42,817	44,958	46,307	46,770	47,706	48,660	49,633
Advances, Deposits, Prepay. & Other Rec.	111,306	111,700	123,886	140,382	157,987	175,979	193,891	211,565
Cash & Bank Balances	10,888	13,475	13,920	14,448	14,908	15,113	15,625	16,013
Total Current Assets	255,589	244,679	272,670	304,532	339,125	375,302	411,248	446,469
TOTAL ASSETS	330,553	330,350	371,068	415,852	470,233	521,075	561,516	598,777
Liabilities & Equity								
			657,658					
Shareholders' Equity	20,176	20,176	20,176	20,176	20,176	20,176	20,177	20,178
Retained Earnings	-302,052	-331,304	-411,350	-464,716	-502,957	-525,681	-538,114	-540,918
Total Equity	-281,876	-311,128	-391,174	-444,539	-482,780	-505,504	-517,937	-520,740
Long Term / Deferred Liabilities								
ADB Loans/PHP Loan	5,505	6,555	6,355	6,155	5,905	5,755	5,605	5,455
Liability against govt.loan	64,123	50,187	50,187	50,187	50,187	50,187	50,187	50,187
Deferred Credits (Consumer's Capital Cont. etc.)	32,775	35,052	35,919	37,197	38,614	40,798	43,310	45,625
Employees Retirement Benefits	92,173	103,404	106,734	109,969	113,835	116,657	118,847	120,801
Total Long Term / Deferred Liability	194,576	195,199	199,196	203,509	208,542	213,400	217,953	222,073
Payable to CPPA for Supplies-Plan deficit & Others	378,713	407,210	521,784	612,363	694,095	758,770	802,935	834,597
Payable to Associated Companies	632	964	1,012	1,062	1,115	1,171	1,230	1,291
Creditors, Accrued & Other Liabilities	38,507	38,106	40,249	43,457	49,261	53,238	57,336	61,556
Total current Liabilities	417,852	446,279	563,045	656,883	744,471	813,180	861,501	897,443
TOTAL LIABILITIES AND EQUITY	330,553	330,350	371,068	415,852	470,233	521,075	561,516	598,777

Financial Statements

Rs. in Million

CASH FLOW STATEMENT	Audited	Audited	Projected	Projected	Projected	Projected	Projected	Projected
	2019-2020	2020-2021	2021-2022	2022-2023	2022-2024	2022-2025	2022-2026	2022-2027
CASHFLOW FROM OPERATING ACTIVITIES								
Net Profit (loss) for the Period after tax	-14,622	-22,746	-30,046	-53,366	-38,241	-22,724	-12,433	-2,804
Adjustments:								
ADD: Depreciation	3,026	3,296	3,738	4,187	4,675	5,233	5,875	6,586
Amortisation of Deferred Income	-1,708	-1,853	-1,841	-1,882	-1,947	-2,006	-2,061	-2,111
Provision for Bad Debts	4,734	8,428	8,006	8,807	9,688	10,656	11,722	12,894
Intrest Income	-2,787	-105	-916	-1,807	-2,888	-4,177	-5,594	-7,154
Provision for Ret. Benefits	8,613	11,382	12,724	14,105	15,528	16,994	18,504	20,059
Interest Expense	842	708	1,502	1,577	1,624	1,656	1,688	1,728
Cash Flow from Operations	-1,901	-889	-56,831	-28,375	-11,558	5,636	17,704	29,204
Working Capital Changes								
(Increase)/Decrease in Debtors	-20,273	7,472	-19,097	-21,246	-24,204	-26,495	-27,778	-28,721
(Increase)/Decrease in Inventories	-858	461	-1,993	-904	-1,385	-1,027	-315	-143
(Increase)/Decrease in Advances, Deposit.etc	-10,146	-2,864	-14,462	-17,992	-18,231	-19,106	-19,063	-18,864
Increase/(Decrease) in Creditors, accrued and other liabilities	55,374	28,427	116,766	93,837	87,588	68,709	48,321	35,943
	24,097	33,497	81,215	53,695	43,768	22,081	1,165	-11,784
Payment for Ret. Benefits	-11,833	-6,658	-6,858	-7,063	-7,275	-7,493	-7,718	-7,950
Cash Flow from Operating Activities	10,363	25,950	17,526	18,256	24,934	20,224	11,151	9,470
Cash Generated From Operation								
Financial Charges Paid	-842	-660	-1,502	-1,577	-1,624	-1,656	-1,688	-1,728
Interest Received	112	0	0	0	0	0	0	0
Capital Reciepts -Deferred Credit	2,992	4,130	1,089	1,159	1,864	1,690	1,574	1,427
Net Cash flow From Operating activities	12,625	29,420	17,114	17,839	25,175	20,258	11,036	9,168
CASH FROM INVESTING ACTIVITIES:								
Fixed Assets Acquired	-4,096	-7,049	-15,478	-16,082	-22,993	-18,705	-9,748	-8,108
Capital Work in Progress	-1,629	-6,893	-988	-1,026	-1,468	-1,194	-622	-518
Long Term Advances	9	-4	-0	-0	-0	-0	-0	-1
Cash In/(Out) flow from Investing Activities	-5,716	-13,947	-16,468	-17,111	-24,464	-19,902	-10,374	-8,631
CASH FROM FINANCING ACTVTIES								
NEW LOAN ADB(ERRA)	-463	-12,886	-200	-200	-250	-150	-150	-150
Cash In/(Out) flow from Financing Activities	-463	-12,886	-200	-200	-250	-150	-150	-150
Net Cashflow During the Year	6,445	2,587	445	527	460	205	512	388
Cash - Start of the Year	4,443	10,888	13,475	13,920	14,448	14,908	15,113	15,625
Short Term Investment								
Cash - End of the Year	10,888	13,475	13,920	14,448	14,908	15,113	15,625	16,013

Section - IX

Investment Plan Implementation

Business Planning Organization for Preparation of Investment Plans

The stewardship responsibility of the Board of Directors (the Board) is to have an oversight role over the management of the DISCO, which is responsible for the day-to-day conduct of the business. The Board must assess and ensure systems are in place to identify and manage the risks of the Company's business with the underline objective of preserving Company's assets and steering it in a strategic direction that ensures fulfilling its objectives. The Board, through the Chief Executive Officer (CEO), sets the attitude and disposition of the Company towards achieving sets of goals and objectives, in compliance with applicable laws and regulations. Business Plan is a tool that helps a company to achieve its goals and objectives.

PESCO has started the business planning initiative / DIIP that will entail company's goals and objectives to the initiatives that are required to meet those objectives. The integrated cross-functional plan will cover the core business (transmission and distribution system expansion and rehabilitation) and support business (improving the commercial, financial, HR and other functional improvement) initiatives to meet the stated objectives. The PESCO's business plan for 2020-21 to 2024-25 is prepared by PESCO and will be update each year. In-order to sustain this initiative, a strategic planning organization is required within PESCO, who can assist the CEO of the Company to prepare, maintain, improve, monitor and get implemented the business plan.

Section - X

Implementation, Monitoring Plan and Reporting

Transmission Expansion and Rehabilitation
Distribution Expansion and Rehabilitation:

ID	Task	Task Name	Duration	Start	Finish	2021	2022	2023	2024	2025	2026	2027	2028
1		integrated generation, transmission and distribution	1320 days	Fri 7/1/22	Thu 7/22/27								
2		Grid stations-Exp And Rehab	1320 days	Fri 7/1/22	Thu 7/22/27								
3		designing and procurement	240 days	Fri 7/1/22	Thu 6/1/23								
4		designing and development	6 mons	Fri 7/1/22	Thu 12/15/22								
5		procurement	6 mons	Fri 7/1/22	Thu 12/15/22								
6		delivery	6 mons	Fri 12/16/22	Thu 6/1/23								
7		expansion and rehabilitation	1200 days	Fri 12/16/22	Thu 7/22/27								
8		new grid construction	1200 days	Fri 12/16/22	Thu 7/22/27								
9		conversion	60 mons	Fri 12/16/22	Thu 7/22/27								
10		augmentation	60 mons	Fri 12/16/22	Thu 7/22/27								
11		extension	60 mons	Fri 12/16/22	Thu 7/22/27								
12		transmission lines	60 mons	Fri 12/16/22	Thu 7/22/27								
13		designing and procurement	240 days	Fri 7/1/22	Thu 6/1/23								
14		designing and development	6 mons	Fri 7/1/22	Thu 12/15/22								
15		procurement	6 mons	Fri 7/1/22	Thu 12/15/22								
16		delivery of material	6 mons	Fri 12/16/22	Thu 6/1/23								
17		expension and rehabilitation	1200 days	Fri 12/16/22	Thu 7/22/27								
18		new transmission lines	1200 days	Fri 12/16/22	Thu 7/22/27								
19		reconductoring and upgrading	60 mons	Fri 12/16/22	Thu 7/22/27								
20		reconductoring and rerouting	60 mons	Fri 12/16/22	Thu 7/22/27								
21		fixed and switched capacitor installation	60 mons	Fri 12/16/22	Thu 7/22/27								
22		distribution system	1320 days	Fri 7/1/22	Thu 7/22/27								
23		rehabilitation and reconductoring	1320 days	Fri 7/1/22	Thu 7/22/27								
24		designing and procurement	240 days	Fri 7/1/22	Thu 6/1/23								
25		designing and development	6 mons	Fri 7/1/22	Thu 12/15/22								
26		procurement	6 mons	Fri 7/1/22	Thu 12/15/22								
27		delivery	6 mons	Fri 12/16/22	Thu 6/1/23								
28		11kv and Below Rehabilitation	1200 days	Fri 12/16/22	Thu 7/22/27								
29		Rehabilitation of HT lines	60 mons	Fri 12/16/22	Thu 7/22/27								
30		New HT lines	60 mons	Fri 12/16/22	Thu 7/22/27								
31		LT Rehabilitation	1200 days	Fri 12/16/22	Thu 7/22/27								
32		Rehabilaition of LT lines	60 mons	Fri 12/16/22	Thu 7/22/27								

ID	Task	Task Name	Duration	Start	Finish	2021	2022	2023	2024	2025	2026	2027	2028
33		overloaded Transformer Augmentation	60 mons	Fri 12/16/22	Thu 7/22/27			→					
34		New Transformer substation	60 mons	Fri 12/16/22	Thu 7/22/27			→					
35		Replacement of 2-leg Transformers	60 mons	Fri 12/16/22	Thu 7/22/27			→					
36		New LT lines	60 mons	Fri 12/16/22	Thu 7/22/27			→					
37		expension	1200 days	Fri 12/16/22	Thu 7/22/27								
38		11kv and Below Expansion	1200 days	Fri 12/16/22	Thu 7/22/27								
39		New HT lines	60 mons	Fri 12/16/22	Thu 7/22/27			→					
40		transformers	60 mons	Fri 12/16/22	Thu 7/22/27			→					
41		LT Expansion	1200 days	Fri 12/16/22	Thu 7/22/27								
42		New LT lines	60 mons	Fri 12/16/22	Thu 7/22/27			→					
43		transformers	60 mons	Fri 12/16/22	Thu 7/22/27			→					
44		planning and Engineering studies	1280 days	Fri 7/1/22	Thu 5/27/27								
45		GIS Mapping	64 mons	Fri 7/1/22	Thu 5/27/27								
46		Study Based planning	39.95 mons	Mon 5/29/23	Thu 6/18/26			→					

LM Safety, Tools and Equipment:

Task	Task Name	Duration	Start	Finish	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
1	lineman safety program	1268 days	Fri 7/1/22	Tue 5/11/27										
2	vehicles	1200 days	Fri 7/1/22	Thu 2/4/27										
3	bucket Mounted trucks	1200 days	Fri 7/1/22	Thu 2/4/27										
4	1st Lot(38 trucks)	240 days	Fri 7/1/22	Thu 6/1/23										
5	procurement	6 mons	Fri 7/1/22	Thu 12/15/22										
6	delivery	6 mons	Fri 12/16/22	Thu 6/1/23										
7	2nd Lot(134 trucks)	240 days	Thu 6/1/23	Wed 5/1/24										
8	procurement	6 mons	Thu 6/1/23	Wed 11/15/23										
9	delivery	6 mons	Thu 11/16/23	Wed 5/1/24										
10	3rd Lot(6 trucks)	240 days	Thu 5/2/24	Wed 4/2/25										
11	procurement	6 mons	Thu 5/2/24	Wed 10/16/24										
12	delivery	6 mons	Thu 10/17/24	Wed 4/2/25										
13	4th Lot(6 trucks)	240 days	Thu 4/3/25	Wed 3/4/26										
14	procurement	6 mons	Thu 4/3/25	Wed 9/17/25										
15	delivery	6 mons	Thu 9/18/25	Wed 3/4/26										
16	5th Lot(6 trucks)	240 days	Fri 3/6/26	Thu 2/4/27										
17	procurement	6 mons	Fri 3/6/26	Thu 8/20/26										
18	delivery	6 mons	Fri 8/21/26	Thu 2/4/27										
19	Ravis	1200 days	Fri 7/1/22	Thu 2/4/27										
20	1st Lot(32 Ravis)	240 days	Fri 7/1/22	Thu 6/1/23										
21	procurement	6 mons	Fri 7/1/22	Thu 12/15/22										
22	delivery	6 mons	Fri 12/16/22	Thu 6/1/23										

Task	Task Name	Duration	Start	Finish	2019	2020	2021	2022	2023	2024	2025	2026	2027
22	• 2nd Lot(110 Ravis)	240 days	Thu 6/1/23	Wed 5/1/24									
24	procurement	6 mons	Thu 6/1/23	Wed 11/15/23									
25	delivery	6 mons	Thu 11/16/23	Wed 5/1/24									
26	• 3rd Lot(6 Ravis)	240 days	Thu 5/2/24	Wed 4/2/25									
27	procurement	6 mons	Thu 5/2/24	Wed 10/16/24									
28	delivery	6 mons	Thu 10/17/24	Wed 4/2/25									
29	• 4th Lot(6 Ravis)	240 days	Thu 4/3/25	Wed 3/4/26									
30	procurement	6 mons	Thu 4/3/25	Wed 9/17/25									
31	delivery	6 mons	Thu 9/18/25	Wed 3/4/26									
32	• 5th Lot(6 Ravis)	240 days	Fri 3/6/26	Thu 2/4/27									
33	procurement	6 mons	Fri 3/6/26	Thu 8/20/26									
34	delivery	6 mons	Fri 8/21/26	Thu 2/4/27									
35	• Mobile phones	1200 days	Fri 7/1/22	Thu 2/4/27									
36	• 1st Lot(38 phones)	240 days	Fri 7/1/22	Thu 6/1/23									
37	procurement	6 mons	Fri 7/1/22	Thu 12/15/22									
38	delivery	6 mons	Fri 12/16/22	Thu 6/1/23									
39	• 2nd Lot(134 phones)	240 days	Thu 6/1/23	Wed 5/1/24									
40	procurement	6 mons	Thu 6/1/23	Wed 11/15/23									
41	delivery	6 mons	Thu 11/16/23	Wed 5/1/24									
42	• 3rd Lot(6 phones)	240 days	Thu 5/2/24	Wed 4/2/25									
43	procurement	6 mons	Thu 5/2/24	Wed 10/16/24									
44	delivery	6 mons	Thu 10/17/24	Wed 4/2/25									
45	• 4th Lot(6 phones)	240 days	Thu 4/3/25	Wed 3/4/26									
46	procurement	6 mons	Thu 4/3/25	Wed 9/17/25									
47	delivery	6 mons	Thu 9/18/25	Wed 3/4/26									
48	• 5th Lot(6 phones)	240 days	Fri 3/6/26	Thu 2/4/27									
49	procurement	6 mons	Fri 3/6/26	Thu 8/20/26									
50	delivery	6 mons	Fri 8/21/26	Thu 2/4/27									
51	• Tools & PPEs	1268 days	Fri 7/1/22	Tue 5/11/27									
52	procurement	48 mons	Fri 7/1/22	Thu 3/5/26									
53	delivery	48.4 mons	Fri 8/25/23	Tue 5/11/27									

Commercial Plan Schedule:

ID	Task	Task Name	Duration	Start	2021	2022	2023	2024	2025	2026
1		commercial improvement plan	721 days	Fri 7/1/22						
2		PESCO-Wide HHU Expansion	479 days	Fri 7/1/22						
3		Mobile HHUs (1788 Units)	240 days	Fri 7/1/22						
4		procurement	6 mons	Fri 7/1/22						
5		delivery	6 mons	Fri 12/16/22						
6		other equipments	240 days	Fri 7/1/22						
7		PCs (142)	240 days	Fri 7/1/22						
8		procurement	6 mons	Fri 7/1/22						
9		delivery	6 mons	Fri 12/16/22						
10		printers (142 units)	240 days	Fri 7/1/22						
11		procurement	6 mons	Fri 7/1/22						
12		delivery	6 mons	Fri 12/16/22						
13		DSL Connection(137 units)	240 days	Fri 7/1/22						
14		procurement	6 mons	Fri 7/1/22						
15		delivery	6 mons	Fri 12/16/22						
16		furniture & Accessories (150 units)	240 days	Fri 7/1/22						
17		procurement	6 mons	Fri 7/1/22						
18		delivery	6 mons	Fri 12/16/22						
19		split Air conditioners (150 units)	240 days	Fri 7/1/22						
20		procurement	6 mons	Fri 7/1/22						
21		delivery	6 mons	Fri 12/16/22						
22		transportation	479 days	Fri 7/1/22						
23		bikes (930 units)	240 days	Fri 7/1/22						
24		procurement	6 mons	Fri 7/1/22						
25		delivery	6 mons	Fri 12/16/22						
26		bikes (1395 units)	240 days	Thu 6/1/23						
27		procurement	6 mons	Thu 6/1/23						
28		delivery	6 mons	Thu 11/16/23						
29		PESCO-Wide AMR Expansion	240 days	Fri 7/1/22						
30		AMRs-Whole Current (61608 units)	240 days	Fri 7/1/22						
31		procurement	3 mons	Fri 7/1/22						
32		supply	3 mons	Fri 9/23/22						

Communications Plan Schedule:

Task	Task Name	Duration	Start	Finish	2021	2022	2023	2024	2025	2026	2027
1	communications improvement plan	1305 days	Fri 7/1/22	Thu 7/1/27							
2	internal communications	1044 days	Mon 7/3/23	Thu 7/1/27							
3	Email server deployment	12 mons	Mon 7/3/23	Fri 5/31/24							
4	provision of scanners	12 mons	Mon 7/3/23	Fri 5/31/24							
5	provision of smart phones	12 mons	Mon 7/3/23	Fri 5/31/24							
6	Annual employee event	1044 days	Mon 7/3/23	Thu 7/1/27							
7	first event	1 day	Mon 7/3/23	Mon 7/3/23							
8	second event	1 day	Tue 7/2/24	Tue 7/2/24							
9	third event	1 day	Tue 7/1/25	Tue 7/1/25							
10	fourth event	1 day	Wed 7/1/26	Wed 7/1/26							
11	fifth event	1 day	Thu 7/1/27	Thu 7/1/27							
12	External communications	1280 days	Fri 7/1/22	Thu 5/27/27							
13	Mass Media Campaigns	1200 days	Fri 7/1/22	Thu 2/4/27							
14	newspaper Ads in leading local news paper	60 mons	Fri 7/1/22	Thu 2/4/27							
15	cable TV spots throughout peshawar and its surroundings	60 mons	Fri 7/1/22	Thu 2/4/27							
16	public service announcement local FM radio	60 mons	Fri 7/1/22	Thu 2/4/27							
17	Billboards & street pole streamers	60 mons	Fri 7/1/22	Thu 2/4/27							
18	radio talk shows	60 mons	Fri 7/1/22	Thu 2/4/27							
19	public outreach & awareness programmes	1200 days	Fri 7/1/22	Thu 2/4/27							
20	university campus sessions	60 mons	Fri 7/1/22	Thu 2/4/27							
21	local imam masjid sessions	60 mons	Fri 7/1/22	Thu 2/4/27							
22	community center sessions	60 mons	Fri 7/1/22	Thu 2/4/27							
23	chamber of commerce sessions	60 mons	Fri 7/1/22	Thu 2/4/27							
24	press club meetings	60 mons	Fri 7/1/22	Thu 2/4/27							
25	energy conservation walk	60 mons	Fri 7/1/22	Thu 2/4/27							
26	painting & debate competition	60 mons	Fri 7/1/22	Thu 2/4/27							
27	monthly news letter	64 mons	Fri 7/1/22	Thu 5/27/27							

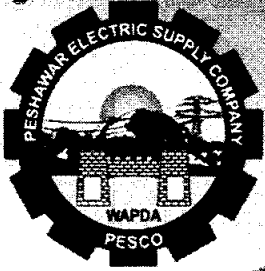
HR Plan Schedule:

	Task	Task Name	Duration	Start	Finish	2020	2021	2022	2023	2024	2025	2026	2027
1		HR Improvement plan	1221 days	Fri 7/1/22	Fri 3/5/27								
2		training & capacity building	960 days	Mon 7/3/23	Fri 3/5/27								
3		management trainings	48 mons	Mon 7/3/23	Fri 3/5/27								
4		international exchanges	48 mons	Mon 7/3/23	Fri 3/5/27								
5		CTC Upgrade (3 CTCs)	719 days	Fri 7/1/22	Wed 4/2/25								
6		CTC # 1	239 days	Fri 7/1/22	Wed 5/31/23								
7		procurement of furnitu	3 mons	Fri 7/1/22	Thu 9/22/22								
8		civil works	6 mons	Fri 9/23/22	Thu 3/9/23								
9		renovation & revampin	3 mons	Thu 3/9/23	Wed 5/31/23								
10		CTC # 2	240 days	Thu 6/1/23	Wed 5/1/24								
11		procurement of furniture & fixtures	3 mons	Thu 6/1/23	Wed 8/23/23								
12		civil works	6 mons	Thu 8/24/23	Wed 2/7/24								
13		renovation & revamping	3 mons	Thu 2/8/24	Wed 5/1/24								
14		CTC # 3	240 days	Thu 5/2/24	Wed 4/2/25								
15		procurement of furniture & fixtures	3 mons	Thu 5/2/24	Wed 7/24/24								
16		civil works	6 mons	Thu 7/25/24	Wed 1/8/25								
17		renovation &	3 mons	Thu 1/9/25	Wed 4/2/25								
18		Improving work environment	962 days	Fri 7/1/22	Mon 3/9/26								
19		improving 20% of facilities	12 mons	Fri 7/1/22	Thu 6/1/23								
20		improving 60% of facilities	12 mons	Fri 6/2/23	Thu 5/2/24								
21		improving 20% of facilities	12 mons	Tue 4/8/25	Mon 3/9/26								
22		yard stick study	480 days	Fri 7/1/22	Thu 5/2/24								
23		hiring of consultant	6 mons	Fri 7/1/22	Thu 12/15/22								
24		conducting YS study	18 mons	Fri 12/16/22	Thu 5/2/24								

Section - XI

Environmental and Social Assessment and Mitigation Plans

There will be environmental and social impacts of the implementing these projects. A detailed environmental and social assessment is required to be carried out to successfully complete this project.



PESCO

POWER ACQUISITION PLAN

2022-2031



POWER PROCUREMENT PLAN

1.01 Introduction:

The Peshawar Electric Supply Company Limited (“PESCO”) is currently the deemed Electric Power Supply Licensee in terms of Section 23E of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (the “Act”) which states that:

Electric power supply licence. – (1) No person shall, unless licensed by the Nepra/Authority under this Act, engage in the supply of electric power to a consumer: Provided that the holder of a distribution license on the date of coming into effect of the Regulation of Generation, Transmission and Distribution of Electric Power (Amendment) Act, 2018 shall be deemed to hold a license for supply of electric power under this section for a period of five years from such date.

Whereas, as per (draft) NEPRA (Electric Power Procurement) Regulations, 2022 (“draft Regulations”), PESCO, apart from being deemed “electric power supply licensee” and by having right to provide distribution service in its service territory and to serve its concession territory, is also to act as “supplier of last resort”.

Regulation 3 (1) of the said “draft Regulations” states that each Electric Power Supplier shall be responsible for protecting the security of supply at economic prices for its consumers, by planning in advance power procurement in adequate quantity and conditions, with consideration and requirements of:

- i. Procure sufficient power to meet the demand of its consumers with prudent demand forecasts with the best of available information, to avoid unnecessary under or over procurement.
- ii. Adopt adequate power procurement strategy and risk mechanism; and
- iii. Maintain the financial strength and sufficient payment capacity to be considered credit worthy, and timely comply with its power procurement and use of system charges payment obligations.

PESCO Consumers Details: -

PESCO since its inception is serving different categories of consumer from domestic to industrial tied to PESCO distribution system from LV to HT. The major consumers fall under domestic category whereas significant industrial consumers are also served by PESCO. The numbers of consumer are growing gradually and based on their historical growth rate the future consumers are extrapolated as under: -

Nos in Millions					
Description	2017-18	2018-19	2019-20	2020-21	(May- 2022)
Domestic	2.94	3.07	3.24	3.42	3.55
Commercial	0.34	0.35	0.36	0.38	0.394
Industrial	0.032	0.03	0.027	0.027	0.029
Agricultural	0.023	0.023	0.023	0.023	0.024
Other	0.024	0.024	0.024	0.024	0.025
TOTAL	3.359	3.497	3.674	3.874	4.022
Growth%		4.1	5.06	5.44	3.8

Projection of number of consumers over the period of 2023-27.

Nos in Millions					
Description	2023	2024	2025	2026	2027
Domestic	3.553	3.692	3.836	3.986	4.143
Commercial	0.391	0.402	0.414	0.43	0.44
Industrial	0.028	0.029	0.029	0.030	0.030
Agricultural	0.023	0.023	0.023	0.023	0.023
Other	0.024	0.024	0.024	0.024	0.024
TOTAL	4.020	4.170	4.327	4.490	4.659
Growth%		3.73	3.76	3.7	3.76

1.02 Demand Forecast 2022 – 2027:

Demand Forecast for the period 2021-30 has been developed under two (2) scenarios by virtue of PMS:

- i Low Forecast (Recorded); and
- ii Base Forecast (Computed)

Where the Base Forecast represents, the total expected sale, had the load shedding not be implemented, i.e., the computed loads; whereas the Low Forecast represents only the actual loads served, i.e., the recorded loads.

Accordingly, the position for the plan horizon 2022-27, under both the above-mentioned scenarios, each provided separately, has emerged as under:

1.02.1 Demand Forecast: Base Case Forecast:

Following is the expected demand (GWh and MW) under base case (Computed) scenario over the plan horizon 2022-23 to 2026-27.

Consumer Category	PESCO Category-Wise Sales Forecast (Base Case)				
	2022-23	2023-24	2024-25	2025-26	2026-27
	*GWh				
Domestic	6387	6788	7204	7771	8285
Commercial	875	932	992	1081	1150
Public Light	14	15	15	16	17
Small Industries	82	85	89	94	98
Medium & Large Industries	2665	3526	3967	4126	4285
Tube Wells	93	100	107	117	126
Bulk	679	708	737	778	819
TOTAL	10795	12154	13111	13983	14780

Consumer Category	PESCO Category-Wise Load Forecast (Base Case)				
	2022-23	2023-24	2024-25	2025-26	2026-27
	*MEGA WATTS				
Domestic	1194	1268	1345	1450	1548
Commercial	142	152	162	178	190
Public Light	3	3	3	3	3
Small Industries	8	8	8	9	9
Medium & Large Industries	392	538	610	632	654
Tube Wells	13	14	15	16	17
Bulk	83	87	90	95	100
TOTAL	1835	2070	2233	2383	2521

The figures above represent simple sum of load and NOT the System Peak Demand.

1.02.2 Demand Forecast: Low Case Forecast:

As per Demand Forecast (PMS) already submitted with NEPRA, following is the expected demand (GWh and MW) under low case (Recorded) scenario over the plan horizon 2022-23 to 2026-27.

Consumer Category	PESCO Category-Wise Sales Forecast (Low Case)				
	2022-23	2023-24	2024-25	2025-26	2026-27
	*GWh				
Domestic	6246	6555	6877	7240	7548
Commercial	855	900	947	1007	1048
Public Light	14	14	15	15	16
Small Industries	80	82	85	87	90
Medium & Large Industries	2607	3406	3786	3844	3904
Tube Wells	91	97	103	109	115
Bulk	664	683	704	725	746
TOTAL	10557	11737	12517	13027	13467

Consumer Category	PESCO Category-Wise Load Forecast (Low Case)				
	2022-23	2023-24	2024-25	2025-26	2026-27
	*MEGA WATTS				
Domestic	1140	1196	1254	1319	1377
Commercial	136	143	151	162	169
Public Light	3	3	3	3	3
Small Industries	7	7	8	8	8
Medium & Large Industries	374	508	569	575	582
Tube Wells	12	13	14	15	15
Bulk	79	82	84	86	89
TOTAL	1751	1952	2083	2168	2243

The TOTAL above represents simple sum of individual category loads and NOT the System Peak Demand.

Based on the consumer end demand as mentioned above, the expected demand (GWh and MW) under the low case scenario at 132KV level is expected as below.

Consumer Category	PESCO Energy Purchase (132 kV) Forecast (Low Case)				
	2022-23	2023-24	2024-25	2025-26	2026-27
	*GWh				
Domestic	9957	10373	10802	11288	11680
Commercial	1363	1424	1488	1570	1622
Public Light	22	22	24	23	25
Small Industries	128	130	134	136	139
Medium & Large Industries	4156	5390	5947	5993	6041
Tube Wells	145	153	162	170	178
Bulk	1059	1081	1106	1130	1154
TOTAL	16830	18573	19662	20311	20840

Consumer Category	PESCO Peak Demand (132 kV) Forecast (Low Case)				
	2022-23	2023-24	2024-25	2025-26	2026-27
	*MEGA WATTS				
Domestic	1510	1573	1638	1711	1771
Commercial	207	216	226	238	246
Public Light	3	3	3	3	4
Small Industries	15	15	15	15	16
Medium & Large Industries	474	615	679	684	690
Tube Wells	22	23	25	26	27
Bulk	121	123	126	129	132
TOTAL	2351	2568	2711	2807	2884

The figures above represent approximate share of each category to the System Peak Demand (132 kV) by applying co-incidence factor for each category.

1.02.3 PESCO Historical Average and peak recorded Demand:

Category	2015	2016	2017	2018	2019	2020
Recorded Max. Demand (MW)	1653	1839	1912	2167	2182	2069
Computed Max. Demand (MW)	2809	3110	3242	3296	3137	3307
AT&C based Load shedded (MW)	761	1028	948	771	813	918
Constraint Load Shedded (MW)	369	243	260	277	99	112
Total Load shed (MW)	1130	1271	1208	1048	912	1030
Annual Avg Recorded Load (MW)	1354	1461	1728	1648	1649	1602
Annual Avg computed Load (MW)	2409	2532	2706	2605	2508	2543
Annual Avg Load Shed (MW)	1055	1071	945	957	859	941
Annual avg load Energy based (MW)	1347	1428	1623	1647	1689	1774

1.03 Assessment of Demand:

For the purpose of assessing Security of Supply, the Peak Demand(s) under each of the above elaborated Two (2) Scenarios, has further been extrapolated to arrive at estimate of Peak Demand at Generation Level. This has been done by adding 2.5% energy losses for Transmission and Transformation at National Grid level. Accordingly, the below estimate represents Net Electrical Output (NEO) at generation level.

Case Description	PESCO Estimated Peak Demand at Generation Level				
	2022-23	2023-24	2024-25	2025-26	2026-27
	MEGA WATTS				
Base Case (+ T&T Loss of NTDC)	2464	2726	2911	3088	3245
Low Case (+ T&T Loss of NTDC)	2410	2633	2779	2877	2957

Figures above are estimation of System Peak Demand at Generation Bus-Bar after adding 2.5% T&T losses of NTDC.

1.04 Assessment of Supply:

For the purposes of Supply (power procurement) arrangement, the Indicative Generation Capacity Expansion Plan (IGCEP) 2021-30 as approved by the honorable Authority vide letter No. NEPRA / DG (Lic.) / LAT-1 / 37702-29 dated September 24, 2021 is considered as National source of Power Procurement.

For the purpose of assessing and establishing share for PESCO in the said National source of power procurement, we consider the already allocated percentage quota of 13.5%. Accordingly, 13.5% of the total IGCEP capacities (existing, committed & candidate) has been adopted for the purposes of Supply (Procurement) of PESCO. It is further clarified that, for the purposes of consideration, whole of the IGCEP capacities are considered as "Legacy" capacities, i.e. the capacities to be dealt

The capacities as considered and approved by the honorable Authority as part of

mentioned IGCEP are separately stated as below:

1.04.1 Existing Contracted Capacities:

Generation Fuel	Existing Contracted Power Generation Projects				
	2022-23	2023-24	2024-25	2025-26	2026-27
	*MEGA WATTS				
Imported Coal	3,960	3,960	3,960	3,960	3,960
Local Coal	660	660	660	660	660
RLNG	5,694	5,694	5,694	5,694	5,694
Gas	2,807	2,807	2,807	2,807	2,582
Nuclear	2,490	2,490	2,490	2,490	2,490
Bagasse	259	259	259	259	259
Solar	400	400	400	400	400
Hydro	9,898	9,898	9,898	9,898	9,898
Cross Border	-	-	-	-	-
Wind	1,336	1,336	1,336	1,336	1,336
RFO	3,507	3,507	3,507	3,507	2,083
TOTAL	31,011	31,011	31,011	31,011	29,363

1.04.2 Committed Capacities:

Generation Fuel	Committed Power Generation Projects				
	2022-23	2023-24	2024-25	2025-26	2026-27
	*MEGA WATTS				
Imported Coal	960	960	960	960	960
Local Coal	2,970	2,970	2,970	2,970	2,970
RLNG	1,263	1,263	1,263	1,263	1,263
Gas	-	-	-	-	-
Nuclear	1,145	1,145	1,145	1,145	1,145
Bagasse	-	490	490	490	490
Solar	473	532	532	532	532
Hydro	861	3,446	4,535	6,415	6,884
Cross Border	-	-	1,000	1,000	1,000
Wind	510	608	608	608	608
RFO	-	-	-	-	-
TOTAL	8,181	11,414	13,503	15,383	15,852

1.04.3 Candidate Capacities:

Generation Fuel	Candidate Power Generation Projects				
	2022-23	2023-24	2024-25	2025-26	2026-27
	*MEGA WATTS				
Imported Coal	-	-	-	-	-
Local Coal	-	-	-	-	-
RLNG	-	-	-	-	-
Gas	-	-	-	-	-
Nuclear	-	-	-	-	-
Bagasse	-	-	-	-	-
Solar	-	1,000	2,000	3,000	4,000
Hydro	-	-	-	-	-
Cross Border	-	-	-	-	-
Wind	-	1,000	2,000	3,000	3,062
RFO	-	-	-	-	-
TOTAL	-	2,000	4,000	6,000	7,062

1.04.4 Total IGCEP Capacities (Installed & Nominal):

Generation Fuel	Power Generation Projects IGCEP Total (Installed)				
	2022-23	2023-24	2024-25	2025-26	2026-27
	*MEGA WATTS				
Imported Coal	4,920	4,920	4,920	4,920	4,920
Local Coal	3,630	3,630	3,630	3,630	3,630
RLNG	6,957	6,957	6,957	6,957	6,957
Gas	2,807	2,807	2,807	2,807	2,582
Nuclear	3,635	3,635	3,635	3,635	3,635
Bagasse	259	749	749	749	749
Solar	873	1,932	2,932	3,932	4,932
Hydro	10,759	13,345	14,433	16,313	16,782
Cross Border	-	-	1,000	1,000	1,000
Wind	1,846	2,944	3,944	4,944	5,005
RFO	3,507	3,507	3,507	3,507	2,083
TOTAL	39,192	44,425	48,514	52,394	52,276

Generation Fuel	Power Generation Projects IGCEP Total (Nominal)				
	2022-23	2023-24	2024-25	2025-26	2026-27
	*MEGA WATTS				
Imported Coal	4,862	4,862	4,862	4,862	4,862
Local Coal	3,385	3,385	3,385	3,385	3,385
RLNG	6,937	6,937	6,937	6,937	6,937
Gas	2,807	2,807	2,807	2,807	2,582
Nuclear	3,549	3,549	3,549	3,549	3,549
Bagasse	259	749	749	749	749
Solar	873	1,932	2,932	3,932	4,932
Hydro	10,759	13,345	14,433	16,313	16,782
Cross Border	-	-	1,000	1,000	1,000
Wind	1,846	2,944	3,944	4,944	5,005
RFO	3,507	3,507	3,507	3,507	2,083
TOTAL	38,783	44,016	48,105	51,985	51,867

Estimated Tentative Share of PESCO:

Below estimation of tentative share of PESCO in various categories of the IGCEP capacities is based on already mentioned percentile share.

1.04.5 PESCO's Tentative Share in Existing Contracted Capacities:

Generation Fuel	Tentative PESCO Share in IGCEP Capacities (Existing) @ 13.5%				
	2022-23	2023-24	2024-25	2025-26	2026-27
	*MEGA WATTS				
Imported Coal	535	535	535	535	535
Local Coal	89	89	89	89	89
RLNG	769	769	769	769	769
Gas	379	379	379	379	379
Nuclear	336	336	336	336	336
Bagasse	35	35	35	35	35
Solar	54	54	54	54	54
Hydro	1336	1336	1336	1336	1336
Cross Border	-	-	-	-	-
Wind	180	180	180	180	180
RFO	473	473	473	473	281
TOTAL	4186	4186	4186	4186	3964

1.04.6 PESCO's Tentative Share in IGCEP Committed Capacities:

Generation Fuel	Tentative PESCO Share in IGCEP Capacities (Committed) @ 13.5%				
	2022-23	2023-24	2024-25	2025-26	2026-27
	*MEGA WATTS				
Imported Coal	130	130	130	130	130
Local Coal	401	401	401	401	401
RLNG	171	171	171	171	171
Gas	-	-	-	-	-
Nuclear	155	155	155	155	155
Bagasse	-	66	66	66	66
Solar	64	72	72	72	72
Hydro	116	465	612	866	929
Cross Border	-	-	135	135	135
Wind	69	82	82	82	82
RFO	-	-	-	-	-
TOTAL	1105	1541	1823	2077	2140

1.04.7 PESCO's Tentative Share in IGCEP Candidate Capacities:

Generation Fuel	Tentative PESCO Share in IGCEP Capacities (Candidate) @ 13.5%				
	2022-23	2023-24	2024-25	2025-26	2026-27
	*MEGA WATTS				
Imported Coal	-	-	-	-	-
Local Coal	-	-	-	-	-
RLNG	-	-	-	-	-
Gas	-	-	-	-	-
Nuclear	-	-	-	-	-
Bagasse	-	-	-	-	-
Solar	-	135	270	405	540
Hydro	-	-	-	-	-
Cross Border	-	-	-	-	-
Wind	-	135	270	405	413
RFO	-	-	-	-	-
TOTAL	-	270	540	810	953

1.04.8 PESCO's Tentative Share in IGCEP Total (Installed & Nominal) Capacities:

Generation Fuel	Tentative PESCO Share in IGCEP Capacities (Installed) @ 13.5%				
	2022-23	2023-24	2024-25	2025-26	2026-27
	*MEGA WATTS				
Imported Coal	664	664	664	664	664
Local Coal	490	490	490	490	490
RLNG	939	939	939	939	939
Gas	379	379	379	379	349
Nuclear	491	491	491	491	491
Bagasse	35	101	101	101	101
Solar	118	261	396	531	666
Hydro	1452	1802	1948	2202	2266
Cross Border	-	-	135	135	135
Wind	249	397	532	667	676
RFO	473	473	473	473	281
TOTAL	5291	5998	6549	7073	7057

Generation Fuel	Tentative PESCO Share in IGCEP Capacities (Nominal) @ 13.5%				
	2022-23	2023-24	2024-25	2025-26	2026-27
	*MEGA WATTS				
Imported Coal	656	656	656	656	656
Local Coal	457	457	457	457	457
RLNG	936	936	936	936	936
Gas	379	379	379	379	349
Nuclear	479	479	479	479	479
Bagasse	35	101	101	101	101
Solar	118	261	396	531	666
Hydro	1452	1802	1948	2202	2266
Cross Border	-	-	135	135	135
Wind	249	397	534	667	676
RFO	473	473	532	473	281
TOTAL	5236	5942	6496	7018	7002

1.05 Security of Supply:

Security of Supply has been analyzed based on each of the Two (2) Demand Forecast Scenarios as extrapolated up to Net Electrical Output level with that of the various categories of generation capacities as approve by the honorable Authority through IGCEP 2021-30, summarized as below:

Case Description	Assessment of Security of Supply (Base Case)				
	2022-23	2023-24	2024-25	2025-26	2026-27
	*MEGA WATTS				
Tentative Share in Generation:					
Existing Contracted	4186	4186	4186	4186	3964
Committed Projects	1105	1541	1823	2077	2140
Candidate Projects	-	270	540	810	953
Total Installed (All)	5291	5998	6549	7073	7057
Total Nominal (All)	5236	5942	6496	7018	7002
Extrapolated Demand at Bus-Bar	2464	2726	2911	3088	3245
Demand as %age of Existing	58.9 %	65.1 %	69.5 %	73.8 %	81.9 %
Demand as %age of Existing + Committed	46.6 %	47.6 %	48.4 %	49.3 %	53.2 %
Demand as %age of Total Installed	46.6 %	45.5 %	44.4 %	43.7 %	46.0 %
Demand as %age of Total Nominal	47.1 %	45.9 %	44.8 %	44.0 %	46.3 %

Case Description	Assessment of Security of Supply (Low Case)				
	2022-23	2023-24	2024-25	2025-26	2026-27
	*MEGA WATTS				
Tentative Share in Generation:					
Existing Contracted	4186	4186	4186	4186	3964
Committed Projects	1105	1541	1823	2077	2140
Candidate Projects	-	270	540	810	953
Total Installed (All)	5291	5998	6549	7073	7057
Total Nominal (All)	5236	5942	6496	7018	7002
Extrapolated Demand at Bus-Bar	2410	2633	2779	2877	2957
Demand as %age of Existing	57.6 %	62.9 %	66.4 %	68.7 %	74.6 %
Demand as %age of Existing + Committed	45.5 %	46.0 %	46.2 %	45.9 %	48.4 %
Demand as %age of Total Installed	45.5 %	43.9 %	42.4 %	47.7 %	41.9 %
Demand as %age of Total Nominal	46.0 %	44.3 %	42.8 %	41.0 %	42.2 %

The above detailed analysis, subject to the concurrence of honorable Authority, satisfactorily provides that over the plan horizon 2022-23 to 2026-27, the available capacities shall be adequately sufficient to meet with the demand requirements of PESCO consumers

(ANNEX-II)

PESCO GOALS AND OBJECTIVES

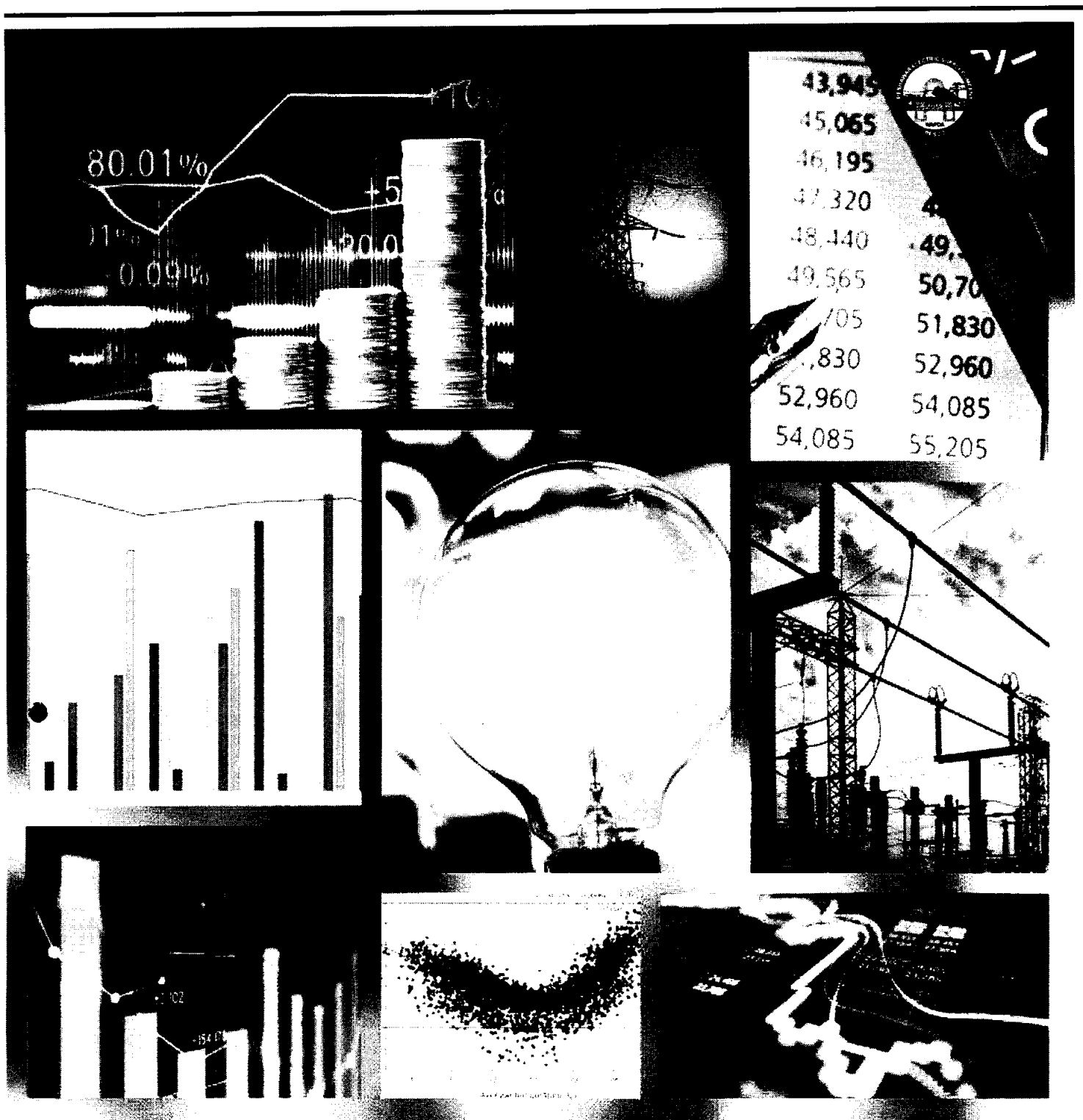
Strategic Goals	Strategic Objectives	Cordinating Directorate(s)	Leading Directorate	Tareget Measurement	Measurement FY 2021-22	Year Wise Objective 2022-23 to 2026-27					Project Manager	Supporting Plan
						2022-23	2023-24	2024-25	2025-26	2026-27		
1.0 Improve Operational Efficiency	1.1.a Reduce technical and comercial losses -Improved HT/LT Ratio -Improved power factor -Improved voltage profile Reduce average length of HT feeders -AT&C based Investments -Single Phase transformers piloting to hard areas w/o LT - ABC expansion (conversion of bare LT with HT)	P&E, PD Const, PD GSC, MM, Fin, Comm, Ops, MIS	Technical	%age of KWh	37.8	36.9%	34.9%	33.9%	33.6%	33.3%	GM Technical, CE P&E and team	DIIP-Transmission and Distribution Plan

	Strategic Objectives	Cordinating Directorate(s)	Leading Directorate	Tareget Measurement	Measurement FY 2021-22	Year Wise Objective 2022-23 to 2026-27					Project Manager	Supporting Plan
						2022-23	2023-24	2024-25	2025-26	2026-27		
1.0 Improve Operational Efficiency	1.1.b Reduce Comercial Losses	CSD, MIS and Ops	CSD	%age of KWh	Overall 4.4% Commercial Loss will be reduced in next Five(05) Years	0.9%	1.9%	0.99%	0.4%	0.24%	CSD and his team	DIIP- Commercial Improvement Plan(CIP)
	1.2 Improve SAIDA/SAIFI To meet specified regulatory performance standards	Ops, T&G, O&M Dist, CSD, Technical	O&M Dist	Hours/Numbers	Over Specified Limit of NEPRA					To comply with NEPRA's specified standards		
	1.3 Improve collections to 100%	CSD, Ops, MIS, O&M Dist	CSD	%age billed amount excluding subsidy	89.3%	89.8%	90.3%	90.8%	91.3%	91.8%		
	1.4 Eliminate fatal & non-fatal accidents	Ops, O&M Dist, MM, HR, Dev, T&G	Operations	No of acidents	in double figures per year	Substational Reduction	Eliminate	Eliminate	Eliminate	Eliminate	DD Safety	DIIP_ Lineman Safety Plan
2.0 Improve Customer Care and Service	2.1.1 "Soft area" Reduction in billing complaints to less than 1%	Ops, CSD, O&M Dist	CSD	%age of total consumers	More than 10%	Reduction	Reduction	Reduction	<1%	<1%	CSD and his team	DIIP- Commercial Improvement Plan(CIP)
	2.1.2 "Hard area" Reduction in billing complaints to less than 5%	Ops, CSD, O&M Dist	CSD	%age of total consumers	More than 10%	Reduction	Reduction	Reduction	<25%	<10%		
	2.2 Minimize New Connections installation duration	Ops, O&M, Dist, CSD, MM	CSD	No of days	NERPA's guidelines not complied with			To comply with NEPRA's specified standards				
	2.3 Minimize Reconnection Installation duration	Ops, O&M, Dist, CSD, MM	CSD	No of days	NERPA's guidelines not complied with			To comply with NEPRA's specified standards				
	2.4 Minimize the redressal time for supply complaints	Ops, MIS, CSD, O&M Dist	MIS	Hours	NERPA's guidelines not complied with			To comply with NEPRA's specified standards				

Strategic Goals	Strategic Objectives	Cordinating Directorate(s)	Leading Directorate	Tareget Measurement	Measurement FY 2021-22	Year Wise Objective 2022-23 to 2026-27					Project Manager	Supporting Plan
						2022-23	2023-24	2024-25	2025-26	2026-27		
3.0 Improve PESCO's Infrastructure	3.1 Human-ware											
	3.1.1 Start Training & capacity building initiatives	HR & All	HR		Legacy training	TNA, Training plans, CPD					HRD and his team	Human Resources Improvement Plan (HIRIP)
	3.1.2 Fulfill the basic requirement for needs to operate for field staff	HR, FIN, Ops, O&M Dist	HR		No comprehensive system in place	LM plan part of the overall DIIP						
	3.2 Orgaware											
	3.2.1 Org A&R review and implementation	HR & All	HR		Not fully implemented	Align org structure with business strategy					HRD and his team	Organizational Improvement Plan(OIP)
	3.2.2 Improve recruitment process	All	HR		Legacy Process	Needs Improvement						
	3.2.3 Conduct yardstick study for Human Resources	All	HR		Yardstick study is obsolete	Yardstick Study to be updated						
	3.2.4 Implement Performance based management system	PR, HR	HR		Legacy system with no implementation	1)Upgrade and implement the existing acelerated promotion policy and 2) Increments based on performance ratings of PER's						
	3.2.5 Improvement in office facilities/work environment	HR & All	HR		Limited/inadequate facilities	Needs Improvement						

Strategic Goals	Strategic Objectives	Cordinating Directorate(s)	Leading Directorate	Tareget Measurement	Measurement FY 2021-22	Year Wise Objective 2022-23 to 2026-27					Project Manager	Supporting Plan
						2022-23	2023-24	2024-25	2025-26	2026-27		
3.0 Improve PESCO's Infrastructure	<u>3.3 Technoware</u>											
	3.3.1 AMI expansion	MIS, Ops, O&M Dist, CSD, P&E	CSD	% of Customers Covered with AMR	Project by PESCO is in process.	AMR/AMI at all 11 KV feeders are installed both on incoming and outgoing. AMR/AMI at consumer level upto 10 kw load will be installed in next five years.					CSD	Commercial Improvement Plan (CIP)
	3.3.2 Expand HHU and meter correction	MIS, Ops, O&M Dist, CSD, P&E	CSD	% of Customers Covered with HHUs	Project by PESCO is in process.	"Soft area" 100% is completed. "Hard area" 50% will be cover in next five years.					CSD	Commercial Improvement Plan (CIP)
	3.3.3 Replace electromechanical meters with static meters (100%)	Ops, O&M Dist, CSD, P&E	CSD	% of Customers Covered with Static Meters	Project by PESCO is in process.	100% electronic meters					CSD	Commercial Improvement Plan (CIP)
	3.3.4 P&E expansion to GIS Mapping	P&E, MIS, Ops, O&M Dist	P&E		Project by PESCO is in process.	Fully implemented in PESCO					P&E	DIIP
	<u>3.4 Inforware</u>											
	3.4.1 Implement ERP & its rollout	All	FIN		Project by PESCO is in process.	Extension of the IT network to support ERP in all circles.					FD	Financial Management Improvement Plan (FMIP)
	3.4.2 Implement CIS & its rollout	CSD, MIS	CSD		Project by PESCO is in process.	Extension to all circles					CSD	Commercial Improvement Plan (CIP)
	3.4.3 Expand intranet portal to PESCO	All	MIS		Deployment at H/Q level	Already deployed and will be improved further in next five years.					MIS	Communication Improvement Plan (CIP)
	3.4.4 Improve communications through email	All	MIS		Paper based communication	Promote e-communication culyure					DGIT	Internal comm. Improvement Plan(ICIP)

Strategic Goals	Strategic Objectives	Cordinating Directorate(s)	Leading Directorate	Tareget Measurement	Measurement FY 2021-22	Year Wise Objective 2022-23 to 2026-27					Project Manager	Supporting Plan
						2022-23	2023-24	2024-25	2025-26	2026-27		
4.0 Comply with applicable laws and regulation	4.1 Companies Ordinance 1984	FIN, Company Secretary	FIN		—	Study and Compliance Required					All	Create a Library, map all requirements and Make it part of Business Plan
	4.2 Code of Corporate Governance for Public Sector	FIN, Company Secretary	FIN		—							
	4.3 Income Tax Ordinance	Legal, FIN, CSD, MIS	FIN		—							
	4.4 Sales Tax Act	Legal, FIN, CSD, MIS	FIN		—							
	4.5 Electricity Act & rules	Legal, CSD	CSD		—							
	4.6 Theft Ordinance CPC	Ops, Legal	CSD		—							
	4.7 Industrial Relations	HR, Legal	HR		—							
	4.8 Other labor laws	HR, Legal	HR		—							
	4.9 PPRA Rules	Dev, P&E	P&E		—							
	4.10 Distribution Licence	Ops, T&G, P&E, Dev, CSD, FIN	FIN		—							
	4.11 NEPRA Act & Rules	All	FIN		—							
	4.12 Compliance with	Dev	Dev		—							
	4.13 Power Sale Agreement with CPPA	Legal, FIN, CSD, T&G	FIN		—							
5.0 Make PESCO a socially responsible corporate entity	5.3 Campaign for energy conservation	P&E, PR	PR	No of Campaigns	Limited Campaigns	DISCO's wide					Communication Head	Stakeholders Communication Plan



ELECTRICITY DEMAND FORECAST BASED ON POWER MARKET SURVEY (2020-2031)





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- Mr. Shakeel (Dy. Director Planning, PESCO)
- Mr. Muhammad Ali (A.D Planning, PESCO)
- Mr. Khalil (A.D Planning , PESCO)

However the report was prepared by newly inducted MIRAD PESCO Team compromising of following officers.

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- Mr. Muhammad Ali (Assistant Manager Demand Forecasting, PESCO)
- Mr. Mansoor Ahmed (Assistant Manager Demand Forecasting, PESCO)

On the eve of publishing of this report we would like to express our sincere gratitude to NTDC Load Forecast Team comprising Engr. Tauseef ur Rehman Khan – Deputy Manager Load Forecast , Mr. Bilal- Assistant Manager Load Forecast and Mr. Shahid Abbas – Staff Economist. Their contribution and expertise have been very instrumental and invaluable for the quality of this report. Their devotion and dedication to keep the forecast methodology at par with the best international industrial practices is highly commendable. We highly appreciate the efforts of Power System Planning, NTDC for initiating the forecast process every year and facilitating all DSICOs to ensure the timely completion of the report.

PMS Team
PESCO

Executive Summary

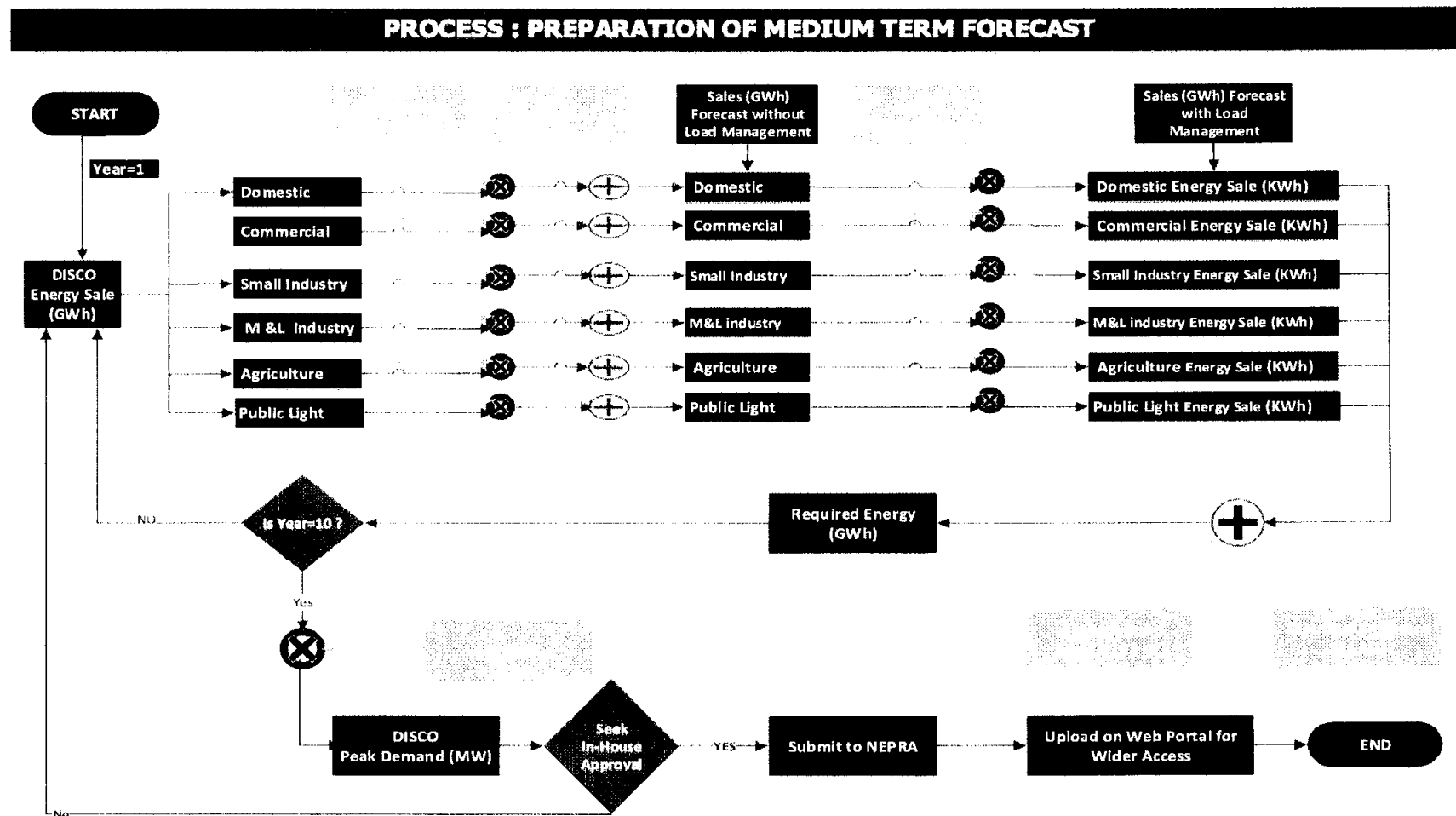
Peshawar Electric Supply Company (PESCO) is supplying power to civil divisions of Peshawar, Mardan, Kohat, Bannu, Dera Ismail Khan, Malakand, Hazara and their respective districts. This company came into existence in the year 2001 after unbundling of WAPDA system. Earlier it was known as Peshawar Area Electricity Board (AEB) in the year 2001, its distribution network comprised of fifty-nine 132 kV, thirty-two 66 kV sub-stations. In 2020-21, PESCO operates ninety five (95) 132 kV, eleven (11) 66 kV and three (03) 33 kV sub-stations.

This forecast is developed by conducting Power Market Survey (PMS), where the bottom up approach is applied considering the best international practices for the development of ten years forecast which is called Medium-term Load Forecast with facilitation from National Transmission and Dispatch Company (NTDC) and Central Power Purchasing Agency Guarantee Limited (CPPA-G). The year 2020-21 has been taken as the base year and the forecast horizon is ten years up to 2030-31. The base year sale data (consumer-category wise energy sale of each feeder) and the expected spot loads data at the locations of different sub-stations have been collected by PESCO Power Market Survey team besides Transmission & Distribution losses along with the loss reduction plans, historical category-wise sale and number of consumers. Furthermore, this report is updated on yearly basis, in order to capture any potential drastic change in consumer consumption pattern.

In the year 2020-21, peak demand of PESCO at 11KV was 2,319 MW, energy sale was 9,608 GWh, and energy purchased was 15305 GWh similarly at 132KV peak demand was 2,355 MW and energy purchased was 15542 GWh. In the total energy sale for the year 2020-21 the shares of domestic sector and industrial sector were 65% and 25% respectively. The total number of consumers in 2020-21 was 3.84 million, and number of consumers in various categories was 3.41 million in domestic, 0.37 million in commercial, 0.027 million in industrial sector and 0.023 million in agricultural sector.

Rationalized Computed Forecast results show that in the years 2025-26 and 2030-31 energy sale will be 13,982 GWh and 19,601 GWh, Peak Demand at 11KV will be 3,238 MW and 4,491 MW, similarly Peak Demand at 132KV will be 3,284 MW and 4,552 MW and energy purchased at 132KV will be 21,047 GWh and 28,975 GWh respectively. For the period 2020-21 to 2030-31, annual average compound growth rate of energy sale, peak demand and energy purchased will be 7.13%, 6.32% and 6.17% respectively.

Process Map



Prepared by : Load Forecast & Generation Planning Directorate, Office of General Manager Power System Planning,NTDC

*Software used: Microsoft Visio

Page 1 of 1
Dated:19-08-2019

Table of Contents

Acknowledgement	i
Executive Summary	ii
Process Map.....	iii
1 Introduction	1
2 Historical Supply and Demand Analysis	3
2.1 Category-wise Sale	3
2.2 Transmission and Distribution Losses	5
2.3 Recorded and Computed Peak Demand	6
2.4 Number of Consumers	7
3 Power Market Survey Methodology	9
3.1 Overview	9
3.2 Survey Base Data.....	9
3.3 Input Parameters	10
3.3.1 Growth Rates	10
3.3.2 Losses	10
3.3.3 Load Factors	11
3.3.4 Coincidence Factors	11
3.3.5 Load Shedding.....	12
3.4 Forecast Calculations	12
3.5 Energy Calculations	12
3.6 Peak Demand Calculations.....	13
3.7 Accumulations.....	13
4 PMS Forecast Results.....	14
4.1 Recorded Forecast & Computed Forecast	14
4.2 Category-wise Forecasted Energy Sale (GWh).....	17
4.3 Category wise Forecasted Demand (MW)	19
4.4 Civil Administrative Area Forecast	19
4.5 Monthly Demand (MW) and Energy (GWh) Purchase Projections.....	19
4.6 List of Overloaded Substations	19
4.7 List of Grids with their Codes and MVA Capacities.....	19
4.8 Peak Demand of Substations	19
4.9 Peak Demands of existing, transit and proposed grids (Family of Grids)	20
4.10 Per Capita Consumption	20
4.11 Category-wise Energy and Maximum Demand Projections for each Substation	21
Disclaimer	101

List of Figures

Figure 1-1: Computed Peak Demand Forecast	1
Figure 1-2: Historical Category-wise Sale.....	3
Figure 1-3: Historical Energy Sale and Losses (Transmission and Distribution) with their percentages	5
Figure 1-4: Historical Recorded and Computed Peak Demands	6
Figure 1-5: Number of Consumers	7
Figure 1-6: Computed Peak Demand.....	15
Figure 1-7: Energy Purchased Vs Energy Sale.....	16
Figure 1-8: Forecasted Category Wise Sale.....	18
Figure 1-9: Per Capita Consumption	20
Figure 1-10: Distribution Network Map (PESCO)	100

List of Tables

Table 1-1: Rationlized Computed Forecast	22
Table 1-2: Low Forecast	22
Table 1-3: Consumer Category Wise Sale – GWh (Lase Forecast)..... Error! Bookmark not defined.	24
Table 1-4: Consumer Category Wise Sale – GWh (Base Forecast)	255
Table 1-5: Consumer Category Wise Demand – MW without incorporating Load Shedding effect (Low Forecast).....	26
Table 1-6: Consumer Category Wise Demand – MW (Base Forecast)	27
Table 1-7: Division-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (Division: Peshawar).....	28
Table 1-8: Division-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (Division: Mardan).....	29
Table 1-9: Division-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (Division: Kohat)	30
Table 1-10: Division-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (Division: Bannu).....	31
Table 1-11: Division-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (Division: DI KHAN).....	332
Table 1-12: Division-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (Division: Malakand).....	33
3	
Table 1-13: Division-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (Division: Hazara).....	34
Table 1-14: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Peshawar).....	35
Table 1-15: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Charsada)	366
Table 1-16: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Nowsehra).....	37
Table 1-17: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Mardan).....	38
Table 1-18: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Sawabi)	39
Table 1-19 District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Kohat)	40
Table 1-20: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Hangu)	41
Table 1-21: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Karak)	42
Table 1-22: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Bannu).....	433
Table 1-23: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Lakki)	44
Table 1-24: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: D.I Khan)	45
Table 1-25: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Tank)	466
Table 1-26: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Swat)	47
Table 1-27: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Upper Dir).....	48

PESCO

Table 1-28: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Bunair).....	49
Table 1-29: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Shangla).....	50
Table 1-30: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Malakand).....	51
Table 1-31: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Chitral).....	52
Table 1-32: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Lower Dir).....	53
Table 1-33: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Abbotabad).....	54
Table 1-34: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Haripur).....	55
Table 1-35: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Mansehra).....	56
Table 1-36: Monthly Peak Demand Forecast (Base Forecast).....	57
Table 1-37: Monthly Energy Purchased Forecast (Base Forecast).....	58
Table 1-38: List of Overloaded Substations during Period 2020-21 to 2030-31 Overloading Criterion= 85%.....	59
Table 1-39: List of Overloaded Substations during Period 2020-21 to 2030-31 Overloading Criterion=100%	62
Table 1-40: List of Grids with their Codes and MVA Capacities.....	64
Table 1-41: Maximum Demand (MW) of Substations (Base Forecast)	68
Table 1-42 Family of Grids	76
Table 1-43: Category-wise Energy (kWh) and Maximum Demand (kW) of Substations for Year 2025-26(BaseForecast).....	86

1 Introduction

This report is the 29th issue of Power Market Survey forecast and is prepared by PESCO by getting assistance of NTDC & CPPA-G. This forecast was previously published by Planning Power NTDC and the current report is the first issue which is prepared by PESCO by getting assistance from CPPA. The report consists of year wise detailed forecast of energy sale and power demand for the whole company and each sub-station within the company's distribution network. In addition, forecast for Civil Administrative areas such as Divisions and Districts served by the company's distribution network is also computed and depicted in different tables. The forecasted peak demand of PESCO has been graphically presented in **Figure 1-1**.

Load forecasting is an important element of the power planning process involving prediction of energy and demand in the future. The forecast serves as the basis for demand and supply-side planning. Load forecasts are typically prepared by utilities for different time frames and the level of details required depends upon different planning applications and operations for which the forecast will be used.

Long term planning requires a system level forecast of total generation requirement and peak demand. On the other hand, transmission and distribution planning requires more load level and geographic details to assess location, timing and loading of individual lines, substations and transformation facilities. The following figure (**Figure 1-1**) shows the computed peak demand of PESCO for the current forecast period.

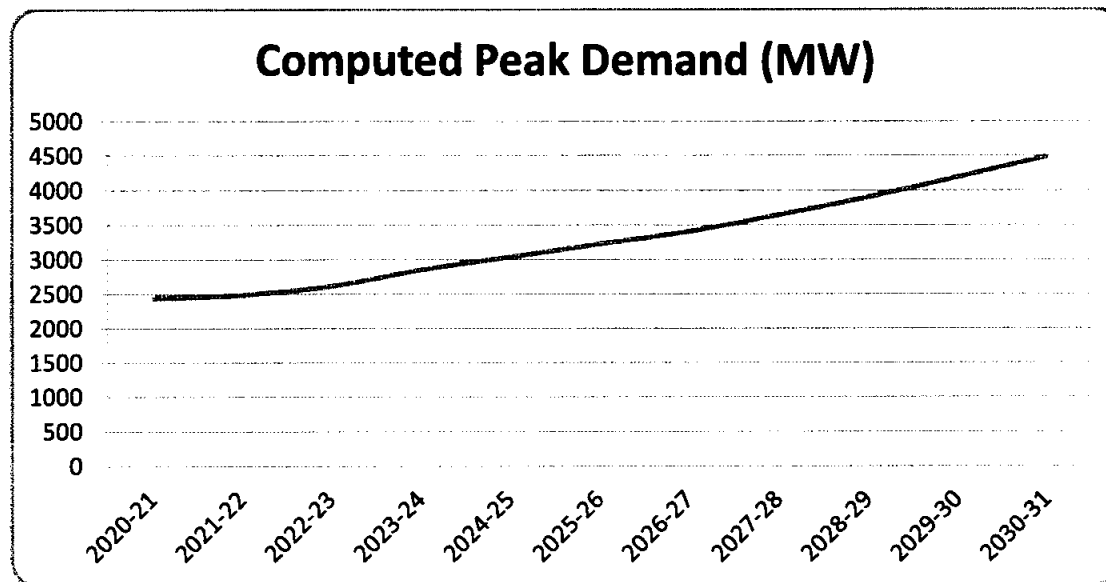


Figure 1-1: Computed Peak Demand Forecast

Forecasting models fall into the following three general categories:

- Trend models
- Econometric based models
- End-use models

Trend forecasts graphically or mathematically extrapolate past electricity demand trends into the future. They may be inadequate for short time periods where demographic changes in the underlying casual factors of load growth are not anticipated. Econometric models represent a more complex 'top-down' approach to forecasting and these models rely on the observed or the implied

PESCO

relationship between past energy consumption and other variables defining past economic output (likewise GDP data), demographics and price or income variables. End-use models relate energy use to the physical appliances stock levels and use patterns or industrial process. These end use models represent a 'bottom-up' forecasting approach and normally incorporate disaggregate end use forecast and consumer survey techniques.

This report has been prepared on the basis of Power Market Survey Methodology and the model used is called Power Market Survey (PMS) model. It uses bottom up approach. This model is a form of end use model which provides energy and power projections for all distribution companies and all grid stations within a company's distribution network.

The PMS model relies on an extensive data base of historical sales. The data base includes historical figures of consumption by consumer type (i.e. domestic, industrial and commercial etc.) of each feeder of a grid station and overall consumption from a grid station. Actual consumption data is adjusted for un-served demands attributed to load shedding.

Energy forecasts are computed for each consumption category at the sub area level on the basis of a trend analysis of recent per consumer sales plus new consumer connection applications. Industrial forecasts are based on interviews with existing consumers, trend projections and a review of the applications for request of new and increased service. These analyses are repeated for each sub area for each of the years to be forecasted. The annual peak demand is determined from the resulting energy forecasts by using the load factors and diversity factors developed for each consumer category. Forecasts are then aggregated to system level.

Because the PMS forecast is based on a mix of end-use, trend projection and known consumer expansion plans, it cannot be used reliably to predict demand over the longer term. This model had not been created to predict impacts of changes in growth of different economic sectors or consumers categories over time, or changes in both the absolute and relative prices of electricity, and of changes in the relationships between income growth and electricity growth over time as a result of market saturation and technological change (in order to capture these changes CPPA-G is using another model called regression model). Regression model is used for long term forecasting as the changes in growth are occurred due to change in technology, life style over a longer time period.

The Power Market Survey forecast model most closely approaches the requirements of power system planning. It provides the level of detail required for siting studies and transmission and substation planning as well as the sectoral details necessary to assess different sectors growth rates and their impacts on load shapes for the system, PESCO and grid stations. In addition, it also provides a reasonable approximation of unconstrained load growth because it makes specific provision for load shedding i.e. suppressed demand.

2 Historical Supply and Demand Analysis

2.1 Category-wise Sale

The costumers within the company can be segregated in different categories. The segregation is usually based upon the type of applications for which electricity is being used. Major categories include Domestic, Commercial, Small industries, Medium & Large industries and Agriculture.

The category-wise sale (GWh) along with percentage for the years 2010-11, 2015-16 & 2020-21 are given in

Figure 1-2.

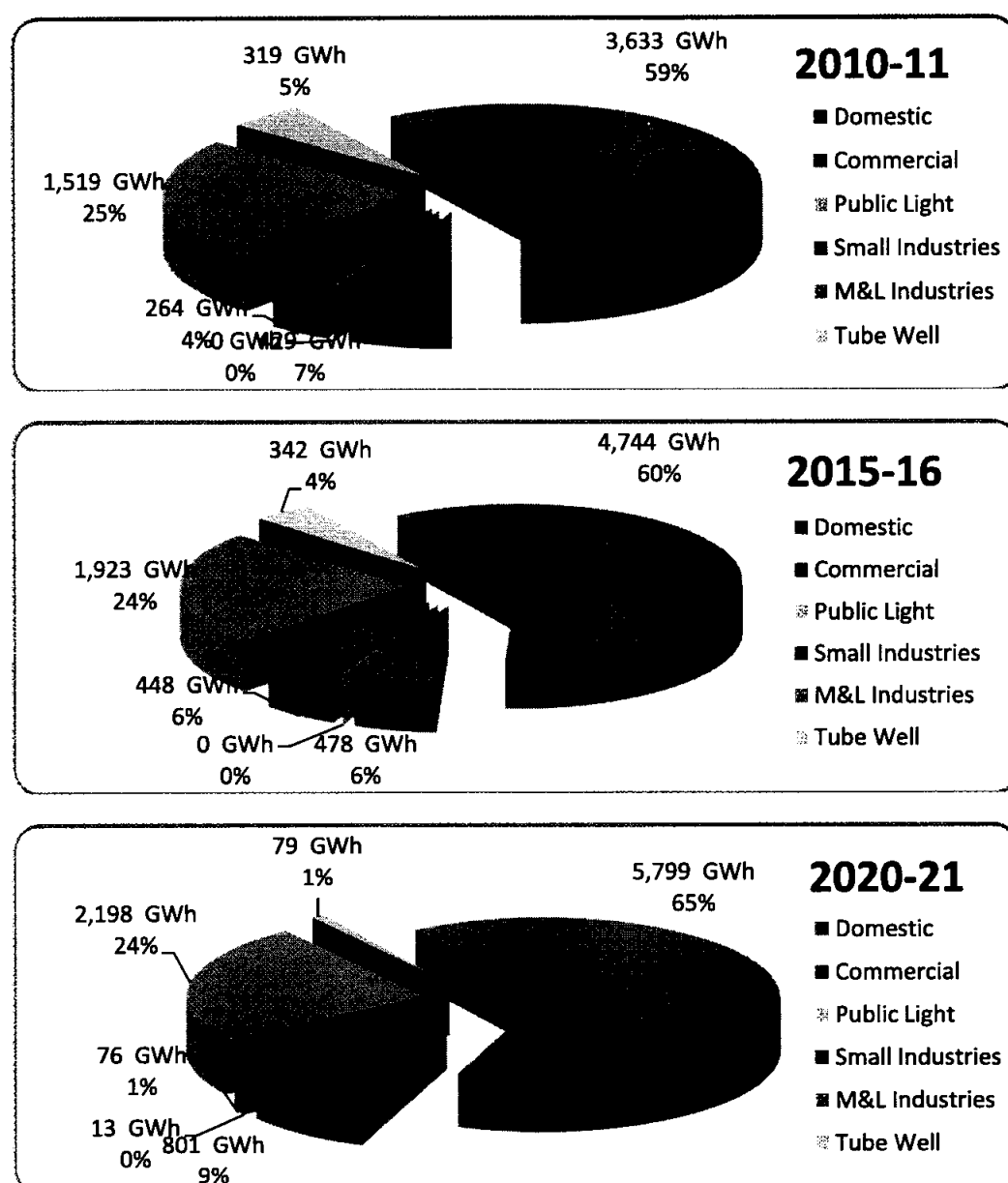


Figure 1-2: Historical Category-wise Sale

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Figures of category-wise sale for the last five years i.e. 2017-18 to 2020-21 are given in the table below.

Table 2.1-1: Historical Sale of PESCO

Financial Year	Domestic (GWh)	Commercial (GWh)	Public Light (GWh)	Small Industries (GWh)	M&L Industries (GWh)	Tube Well (GWh)	Bulk (GWh)	Total (GWh)
2017	4885	739	13	206	1926	83	580	8432
2018	4969	770	13	205	2117	79	642.49	8795.4
2019	5191	792	13	98	2245	67	668	9074
2020	5526	775	13	78	1930	69	652	9043
2021	5799	801	13	76	2198	79	641	9608
Ave. Growth (2017-2021)	4.3%	2.06%	0%	-18.91%	3.95%	-0.63%	2.66%	3.34%

2.2 Transmission and Distribution Losses

In PESCO's system, losses are divided into two types;

- Transmission Losses
- Distribution Losses

The losses of 132 kV transmission lines are considered as Transmission Losses whereas the losses of 11 kV and 440 Volts lines supplying the consumers are called Distribution Losses. In a system, generally the high losses are due to lack of proper maintenance and element of theft. Reduction in losses can be achieved through installation of properly sized conductors in 11kV feeders and low tension lines. Installation of capacitor banks to reduce reactive power and thereby improving power factor is also an effective method to reduce line losses. The breakup of energy sent out is shown as Sale, Distribution Losses and Transmission Losses with their percentages in **Figure 1-3** for the year 2018-19, 2019-20 and 2020-21.

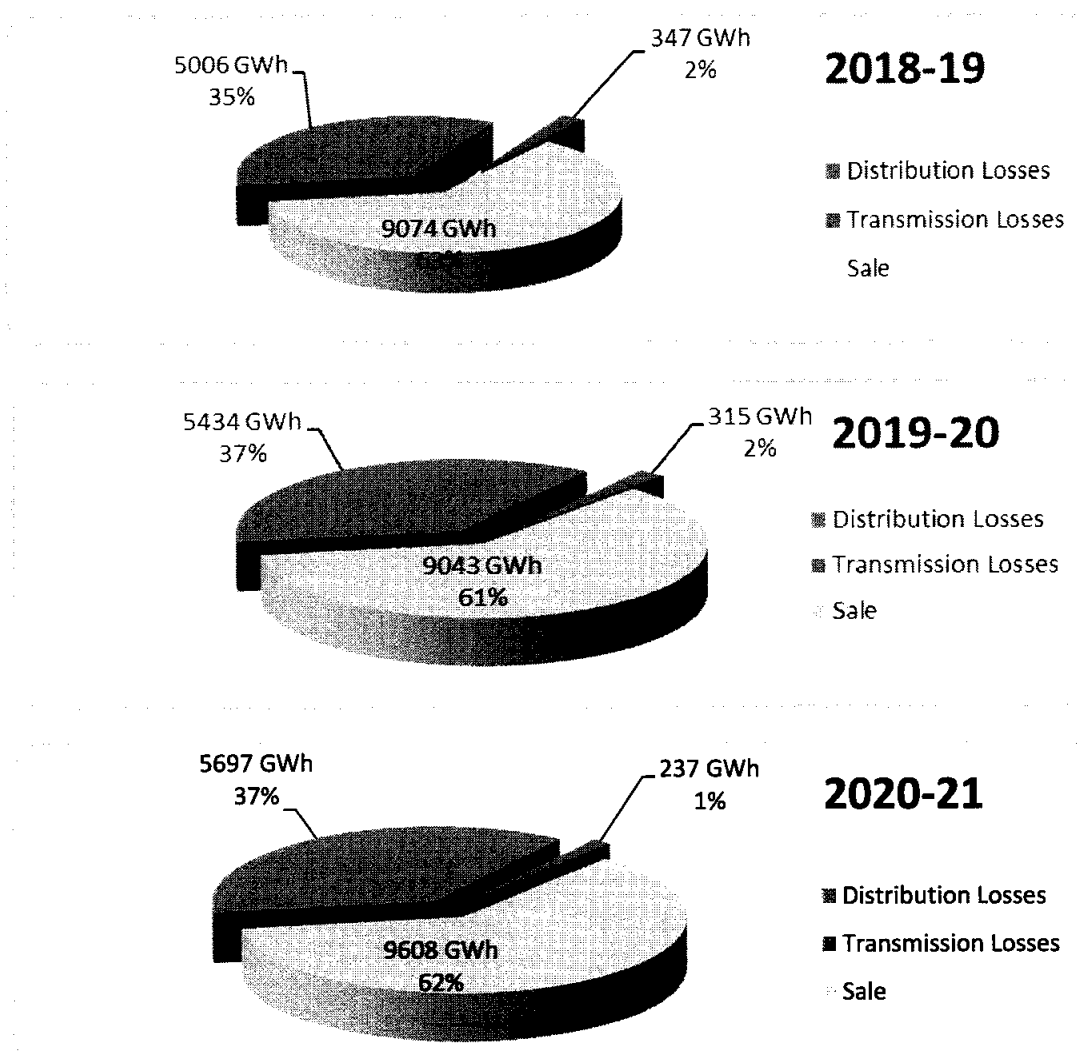


Figure 1-3: Historical Energy Sale and Losses (Transmission and Distribution) with their percentages

2.3 Recorded and Computed Peak Demand

Recorded peak demand is the highest electricity demand or maximum power supplied to the consumers during the base year. Computed peak demand is calculated from the recorded peak demand by adding the element of unserved power to the values of recorded peak demand. Figure 1-4 shows the recorded and computed peak demands (MW) from the year 2016-17 to 2020-21.

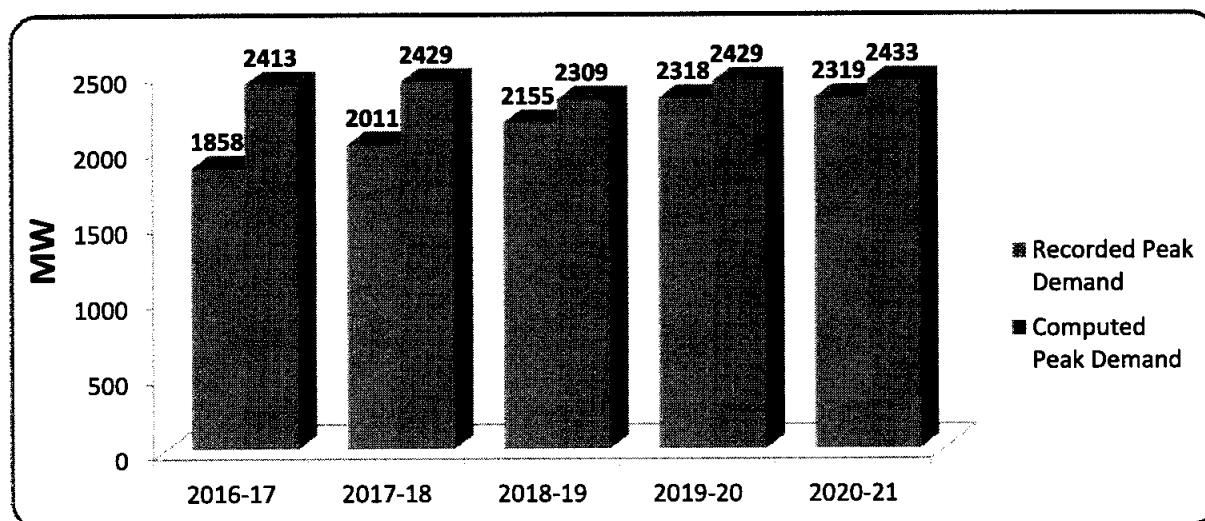


Figure 1-4: Historical Recorded and Computed Peak Demands

Historical figures of recorded and computed peak, energy sale and purchase, losses and load factors for PESCO are given in the following table.

Table 2.3-1: Historical Peak Demand, Energy Sale & Purchase, Losses and Load Factor

Year	Energy Sale	Energy Purchase	Losses		Computed Energy Purchased	Recorded Peak	Computed Peak	Rec. Load Factor	Comp. Load Factor
			11 KV	132 KV					
	GWh	GWh	GWh	GWh	GWh	MW	MW	%	%
2017	8432	12511	3694	385	19996.1	1858	2413	68	73
2018	8796	14213	5032	386	20529.3	2011	2429	73	72
2019	9074	14427	5006	347	20639	2155	2309	68	70
2020	9043	14792	5434	315	20011	2318	2429	68	71
2021	9608	15542	5697	237	15926	2319	2433	75	74
Avg. Growth (2017-2021)	3.3%	5.6%			-5.06%	5.75	0.27	2.699	0.37

2.4 Number of Consumers

Historical figures of number of consumers within PESCO's jurisdiction for the last five years are given below

Error! Reference source not found.. These figures show the total number of consumers in all consumer categories; i.e. Domestic, Commercial, Small industries, Medium & Large industries, Public Lighting, Bulk and agriculture.

Category-wise number of consumers for the last five years i.e. 2016-17 to 2020-21 is shown in the following table.

Table 2.4-1: Historical Number of Consumers in PESCO

Year	Domestic	Commercial	Public Light	Small Industries	M&L Industries	Tube Well	Bulk	Total
2017	2805470	321802	1088	25410	6613	23289	904	3184576
2018	2938544	337386	1096	23250	6623	23083	925	3330907
2019	3071012	349985	1083	20522	6060	22896	887	3472445
2020	3236055	362183	1119	11628	15291	22968	886	3650251

PESCO

2021	3418272	377987	1163	11611	15980	23049	892	3848973
Avg. Growth (2017-2021)	5.06%	4.10%	1.70 %	-15.92%	37.12%	-0.25%	-3.05%	4.85%

3 Power Market Survey Methodology

3.1 Overview

The Power Market Survey Model forms the basis of the Medium Term Forecast. It produces energy and peak demand forecast for each consumer category and grid station for the entire service area over a period of ten years. The model has three inter-related components: the main database, the basic input parameters and the calculations.

A huge energy consumption database has been developed through the Power Market Survey. The database contains base year consumption data for existing consumers and ten years' forecast data for new consumers for each consumer category within the company. In addition, there is separate information for peak demand in medium & large industries and traction categories. Because of its huge volume, this data is not listed as part of the report.

In addition to the database, a number of basic input parameters are separately prepared for PESCO which forms an integral part of the forecast model. These include:

- **Growth Rates:** The annual increase in consumption per consumer by consumer category
- **Loss Rates:** Transmission and Distribution Losses expressed as a percentage of energy purchased and energy sold, respectively
- **Load Factors:** It expresses the ratio of the amount of energy actually generated to the amount that would have been generated, had the peak demand been continued over the entire period.
- **Coincidence Factors:** Describing the load diversity within the system.

The forecast calculations within the model combine the energy consumption data and the input parameters to compute the energy and peak demand requirements within each area for each year to be forecasted. The basic data unit is an area. The data is accumulated from the area basis to grid stations, then to PESCO and ultimately combined to produce a forecast for the entire system.

A detailed discussion of each of the three model components is given below.

3.2 Survey Base Data

An extensive database has been developed on gross consumption by consumer category such as household (domestic), commercial, small industrial, large industrial, tube wells (agriculture), public lighting, and traction (electric rail). Energy consumption figures come from consumer service meter readings. Maximum demand readings and load factors for large industrial consumers and other demand-metered consumers are based on service meter readings. The consumption data is collected from Computer Centers of PESCO (It is category-wise consumption data of each feeder). The database also contains data regarding un-served demands attributed to load shedding.

The basic geographic unit represented within the database is called an area, although many areas are divided into two or more subareas. This occurs when portions of the area are served by different feeders or where a single feeder services different administrative district. Each area is assigned a series of codes which identify the technical boundaries associated with the area.

The technical boundaries, which are emphasized in this report, start at the grid station. Thus, all areas and subareas are assigned to one of the sub-stations in PESCO. These are distribution grid

PESCO

stations supplying power at 11 kV after transformation from a 132kV or 66 kV source. Grid stations are combined to form PESCO.

There can be up to eleven records in the data base for each area or subarea, one record for each year of forecast. The first year is typically year zero and records the base year level of consumption for each consumer category. The remaining records for the area list the incremental consumption associated with new consumers to be added to the area within the specified year.

This incremental consumption is based on applications for new or extended service which are filed at each revenue office and from discussions with the relevant industries and government agencies. Incremental industrial consumption is based on a combination of interviews, trend projections, and reviews of applications for new and/or increased service. Interviews are held with major industrial consumers to identify their current capacity utilization and any long-term plans they have for future expansion or changes in their electricity consumption. In addition, the various branches of the Ministry of Industries are interviewed to determine the number of applications received for new developments or plant expansions and the anticipated electrical load associated with each development or expansion. These anticipated new demands are added to the basic forecast of industrial consumption.

Extension of electricity to new areas over the forecast period is dealt with separately. The number of new communities to be electrified is also obtained. Initial loads and load growths are calculated based on past experience in terms of market penetration and consumption per consumer in newly electrified communities. This analysis is conducted at PESCO level.

There are over 10,000 area/subarea/year records in the data base.

3.3 Input Parameters

A number of input parameters are defined in order to use these in the Power Market Survey model. These parameters are:

- Transmission and Distribution Loss Rates
- The Growth Rates in consumption per consumer for each category
- Load Factors for each consumer category
- Coincidence or Diversity Factors
- Load Shedding or Unserved Energy

The definition and basic derivation of each parameter is discussed below.

3.3.1 Growth Rates

The forecast calculations, as will be discussed below, use per consumer growth rates to update the previous year's consumption before adding the incremental consumption estimate for the current year. The Power Market Survey model requires per consumer growth rates to be specified by PESCO for each consumer category (domestic, commercial, etc.). The rates selected for the forecast are based on average annual compound growth rates, calculated from the last five years data of each consumer category in PESCO.

3.3.2 Losses

For every 100 units of electricity purchased from a power station only 75 to 85 units are actually sold to the ultimate end-user. The remaining units are consumed by the power system itself during transmission and distribution of the sold energy. The transmission and distribution losses must be

—PESCO—

added to the sales forecast in order to determine the total generation requirement for the system. An additional source of "loss" is the consumption in auxiliaries (also called station service) used by the power plants in the process of generating electricity. Auxiliary consumption cannot be avoided and is totally dependent on the type of generation. For example, a thermal plant would have a higher auxiliary consumption than a hydro plant to account for the energy consumed by fuel and waste handling systems. Auxiliary losses are determined and incorporated in the forecast outside the model. However, presently as the power is purchased at the bus bar level so the energy consumption in auxiliary is not calculated.

The Power Market Survey model handles Distribution and Transmission losses in such a manner that Distribution losses are expressed as a percentage of Sales and Transmission losses are expressed as a percentage of the energy purchased from the generating stations. The model is capable of handling different loss rates of each year for PESCO. The Distribution and Transmission losses used in the Power Market Survey Model are based on the review of current loss rates and an evaluation of existing loss reduction initiatives within the Distribution Network of PESCO. The proposed losses (Distribution losses at 11kV and Transmission losses at 132 kV) are applied PESCO-wise. Previously a separate excel sheet was used outside the model to calculate the loss rates needed for the model. Now a separate module has been incorporated in the model to adjust 132 kV and 11 kV received and sale of PESCO. This model simulates sale, Distribution losses and Transmission losses of PESCO. It also includes the loss reduction program.

3.3.3 Load Factors

Energy sale in each consumer category is converted to peak power demand through the use of a load factor. It expresses the ratio of the amount of energy actually generated to the amount that would have been generated, had the peak demand been continued over the entire period. Load factors can be calculated over any time period but the most common are daily, weekly and annual.

The load factors utilized in the Power Market Survey Model relate annual energy sales to peak capacity for each consumer category (domestic, commercial, public lighting, small industries and private tube wells). Input load factors are not required for medium/large industry, public tube well and traction sales as consumption for these sectors is provided through the survey in both energy and power terms.

Maximum demand readings are available directly for large industrial and other demand metered consumers such as public tube wells. Load factors for non-demand metered consumers are determined on a sample basis. For example, peak demand is based on maximum demand readings from substation feeders which are identified as serving predominantly one sector.

Domestic and commercial load factors are differentiated by community size (village, town or city). Whereas a single load factor is used for small industrial, private tube wells, public lighting and traction because of the similar nature in the operation of these loads.

3.3.4 Coincidence Factors

The total energy demand of a number of individual consumers is determined as the simple sum of their individual energy consumption values. The total peak load, however, is calculated as the diversified sum of their individual peak load levels. The coincidence factor, as its name implies, is a general term which measures the coincidence between the peak loads of any number of individual consumers or consumer groups over a specified time period in order to compute a combined peak. Mathematically, it is the inverse of the diversity factor.

PESCO

The daily coincidence factor is determined by comparing the daily load patterns of each consumer or group under consideration. In this case, the sum of the individual hourly (or 15-minute) peaks would determine the overall daily load pattern and the overall peak load. Suppose one consumer (or group) consumes energy only in the morning and a second consumer (or group) consumes energy only in the evening, the coincidence factor between these two consumers would be zero and the peak load of the combined group would be the peak of the larger consumer. Conversely, if both groups consumed all energy at the same hour, the coincidence factor would be one and the combined peak would be the sum of the two peaks. In practice, the coincidence factor is found between these two extremes.

Coincidence factors can be determined between any group and sub-group of consumers whether it is domestic versus commercial or Lahore versus Islamabad, provided that reasonable estimates of the appropriate load patterns are available. Typically, these patterns are not readily available and must be synthesized from incomplete or estimated data. In addition, all coincidence factors calculated from these load patterns are approximations of the corresponding instantaneous peak faced by the system. In fact, a common practice is to define this instantaneous peak as the benchmark and specify all coincidence factors in relation to this peak and time. The advantage of this approach is that all peak can be easily converted into their contribution to the overall system peak, the disadvantage is that the relationship between any two groups cannot be so clearly specified and will likely be incorrectly specified.

The Power Market Survey Model depends upon specified coincidence factors between consumption categories and between consumption areas in the aggregation of peak loads from consumers to the peaks at grid stations and at PESCO level and at the level of overall system peak. The coincidence factors estimated for the medium term model have been based on the limited available System records of the peak loads at various points in their respective systems.

3.3.5 Load Shedding

Actual consumption data is also adjusted for un-served demands attributed to load shedding and to voluntary restraint by consumers (e.g. an industrial consumer who agrees to close his plant or switch to captive generation during peak hours). The load shedding data is collected from National Power Control Center (NPCC) of NTDC and also from the Power Dispatch Centers of PESCO. Now a days, all the load shedding is managed by PESCO at its 11 kV level.

3.4 Forecast Calculations

The forecast calculations involve three basic steps. Firstly, an energy forecast is determined at the area (or subarea) level using per consumer growth rates and incremental consumption estimates from the data base. This is then converted to a peak demand forecast, again at the area (or subarea) level using the input load and diversity factors. Then transmission and distribution losses are added and final step is to accumulate the areas into their corresponding grid stations, and grid stations into PESCO and finally whole PESCO to form the system.

3.5 Energy Calculations

The basic calculation unit is the area or subarea where applicable. The database provides the base year energy consumption level for each of the six consumption categories (Domestic, Commercial, Public Lighting, Small Industry, Private Tube Wells and Medium & Large Industry). The database also includes the peak demand associated with the medium and large industry category. The domestic energy forecast for year 1 (the base year is indicated as year 0) is calculated by multiplying the base year consumption by the domestic per consumer growth rate to account for growth in the

PESCO

intensity of use in the sector, and then incremental consumption listed in the database is added to account for new use in the sector. This process is repeated for the remaining five energy sectors (plus the medium and large industrial demand) for the entire forecast period (remaining 10 years). The total energy consumed in the subarea for each year of the forecast period is then computed.

3.6 Peak Demand Calculations

The annual energy sale values for each of the consumer category (domestic, commercial, public lighting, small industry and private tube well) are converted to peak demand using the load factors listed in the appropriate input parameter file and then adjusted to account for coincidence within the category. The annual peak demand for the subarea is computed as the sum of the individual category peaks multiplied by coincidence factors within the subarea. The sub area peak demands are accumulated to an area by applying proper coincidence factors.

3.7 Accumulations

The total energy and peak demand at a given grid station is calculated as the sum of all the areas and subareas in that grid station's service area plus an allowance for distribution losses. Peak demand estimates are accumulated, and different coincidence factors applied to city, town and village areas within the service area. The total energy and peak demand within PESCO is the sum of all grid stations in PESCO plus traction and an allowance for transmission losses. Peak demands are again diversified in the accumulation, and the system totals are obtained from PESCO total with some coincidence.

4 PMS Forecast Results

4.1 Recorded Forecast & Rationalized Computed Forecast

The term 'Recorded Forecast' means the energy sale figures used in the forecast has not been adjusted for un-served energy (load shedding). Forecasted sale, growth rates, transmission and distribution losses, generation requirement and peak demand without incorporating load shedding has been shown in below

Forecast without Incorporating Load Shedding effect (Low Forecast)Table
1-1: Rationalized Computed Forecast

Year	Sale	G.R	Distribution Losses		Energy Received at 11 kV	Peak Demand at 11 kV	Transmission Losses		Energy Sent out at 132 kV	Load Factor	Peak Demand at 132 kV	G.R
		(%)	(GWh)	(%)	GWh	MW	(GWh)	(%)	(GWh)	(%)	(MW)	(%)
20-21	9845		5838	37.2	15683	2433	242.9	1.52	15926	73.6	2471	
21-22	10186	3.5	5959	36.9	16144	2485	246.8	1.51	16391	74.2	2523	2.1
22-23	10794	6.0	6061	36.0	16855	2604	254.3	1.49	17109	73.9	2644	4.8
23-24	12154	12.6	6259	34.0	18413	2863	274.1	1.47	18687	73.4	2906	9.9
24-25	13112	7.9	6459	33.0	19571	3052	287.4	1.45	19858	73.2	3097	6.6
25-26	13982	6.6	6765	32.6	20747	3238	300.5	1.43	21047	73.2	3284	6.1
26-27	14781	5.7	7077	32.4	21858	3413	312.2	1.41	22170	73.1	3462	5.4
27-28	15859	7.3	7519	32.2	23378	3656	329.3	1.39	23707	73.0	3708	7.1
28-29	16963	7.0	7958	31.9	24921	3903	346.0	1.37	25267	72.9	3958	6.7
29-30	18271	7.7	8477	31.7	26748	4196	366.1	1.35	27114	72.8	4253	7.5
30-31	19601	7.3	8988	31.4	28589	4491	385.5	1.33	28975	72.7	4552	7.0
Ave. growth (2021-2031)	7.13%				6.19%	6.32%			6.17%		6.30%	

Table 1-2Note: This forecast is also called the Low Forecast.

The term 'Rationalized Computed Forecast' means the energy sale figures used in forecast have been adjusted for un-served energy (load shedding). Forecasted energy sale, growth rates, transmission and distribution losses, generation requirement and peak demand with incorporating load shedding in a rationalized way, on the recommendation of NTDC. This time the un-served energy has been divided into two categories such that technical (Constraints based) and non-technical (AT&C Based). Energy shed due to constraints has been incorporated from the Year-01 to final year while AT&C based unserved energy is not taken for first 03 Years including base year and then incorporated from the Year-03 but gradually taken in effect till horizon year such that 5% in Year-03, 10% in Year-04, 20% in Year-5, 30% for Year-6, 45% for Year-7, 60% for Year-8, 80% for Year-9 and in this way total unserved energy has been incorporated 100% in Year-10/Final Year.

Rationalized forecast has been depicted in below table here and as well as Table-1-1.

Rationalized Computed Forecast Table

Year	Sale	G.R	Distribution Losses		Energy Received at 11 kV	Peak Demand at 11 kV	Transmission Losses		Energy Sent out at 132 kV	Load Factor	Peak Demand at 132 kV	G.R
		(%)	(GWh)	(%)	GWh	MW	(GWh)	(%)	(GWh)	(%)	(MW)	(%)
20-21	9845		5838	37.2	15683	2433	242.9	1.52	15926	73.6	2471	
21-22	10186	3.5	5959	36.9	16144	2485	246.8	1.51	16391	74.2	2523	2.1
22-23	10794	6.0	6061	36.0	16855	2604	254.3	1.49	17109	73.9	2644	4.8
23-24	12154	12.6	6259	34.0	18413	2863	274.1	1.47	18687	73.4	2906	9.9
24-25	13112	7.9	6459	33.0	19571	3052	287.4	1.45	19858	73.2	3097	6.6
25-26	13982	6.6	6765	32.6	20747	3238	300.5	1.43	21047	73.2	3284	6.1
26-27	14781	5.7	7077	32.4	21858	3413	312.2	1.41	22170	73.1	3462	5.4
27-28	15859	7.3	7519	32.2	23378	3656	329.3	1.39	23707	73.0	3708	7.1
28-29	16963	7.0	7958	31.9	24921	3903	346.0	1.37	25267	72.9	3958	6.7
29-30	18271	7.7	8477	31.7	26748	4196	366.1	1.35	27114	72.8	4253	7.5
30-31	19601	7.3	8988	31.4	28589	4491	385.5	1.33	28975	72.7	4552	7.0
Avg. growth (2021-031)	7.13%				6.19%	6.32%			6.17%		6.30%	

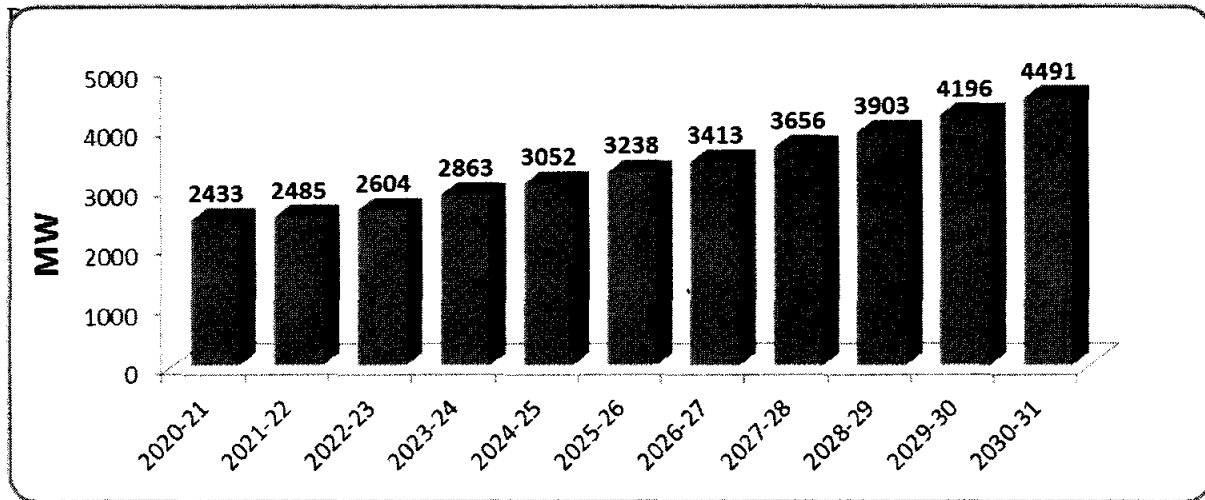


Figure 1-5. Similarly, energy sale and energy purchased also have been shown in **Figure 1-6**. The difference between energy purchased and energy sale shows all losses of PESCO. This forecast is also called the Base Forecast. If there had not been the load shedding, the recorded forecast (Low Forecast) would have been the actual forecast i.e. the Base Forecast.

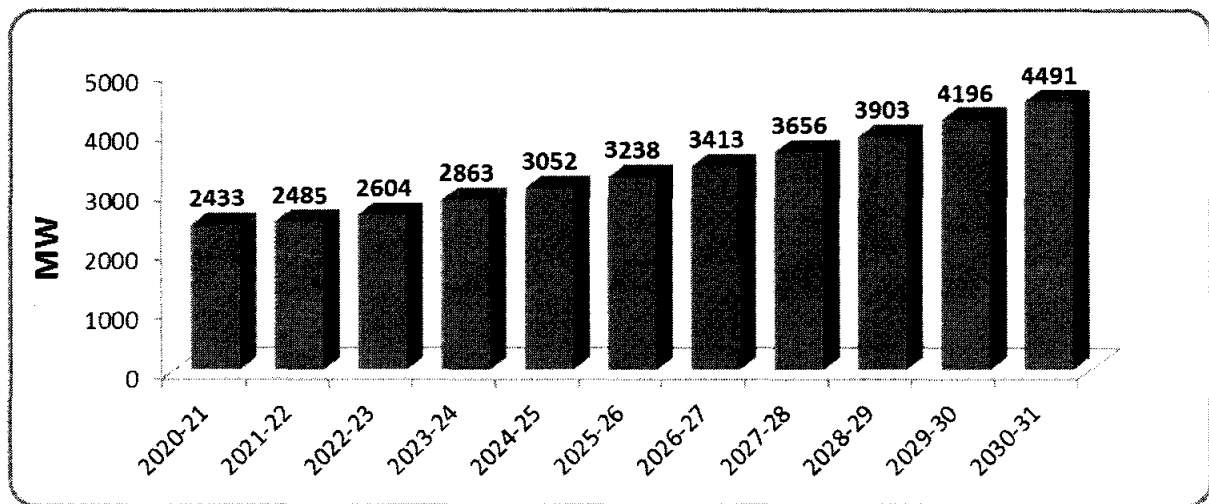


Figure 1-5: Computed Peak Demand

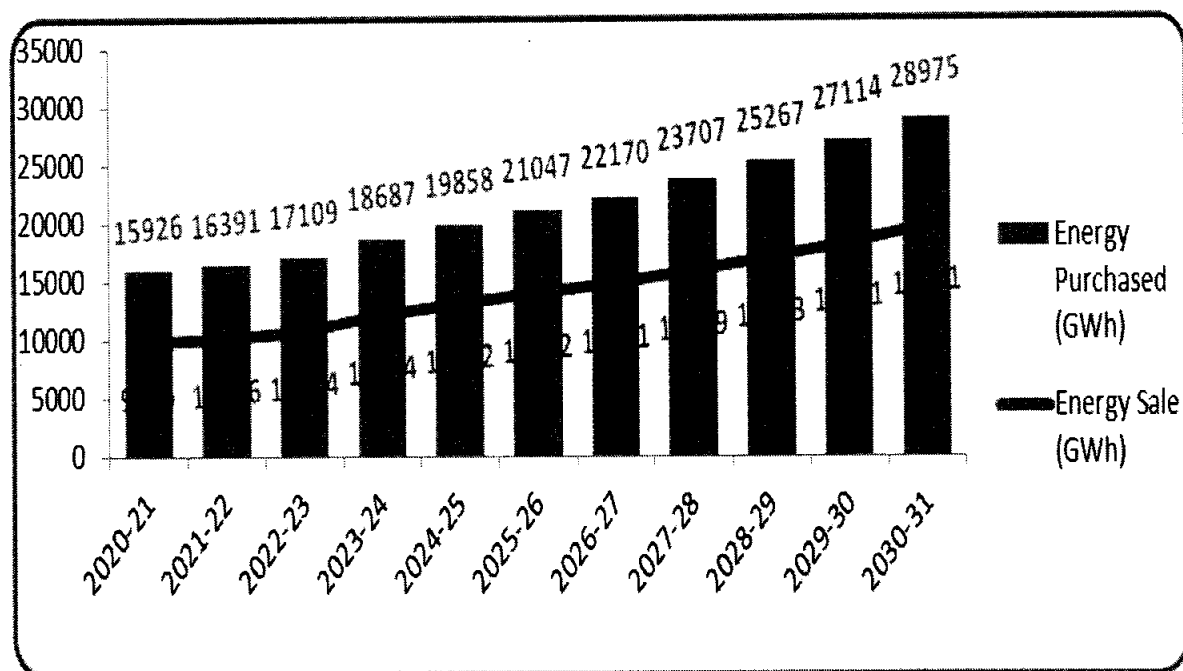


Figure 1-6: Energy Purchased Vs Energy Sale

4.2 Category-wise Forecasted Energy Sale (GWh)

Amount and percentage share of each consumer category in the total consumption for the year 2025-26 and year 2030-31 have been depicted in **Figure 1-7**. If we critically analyze

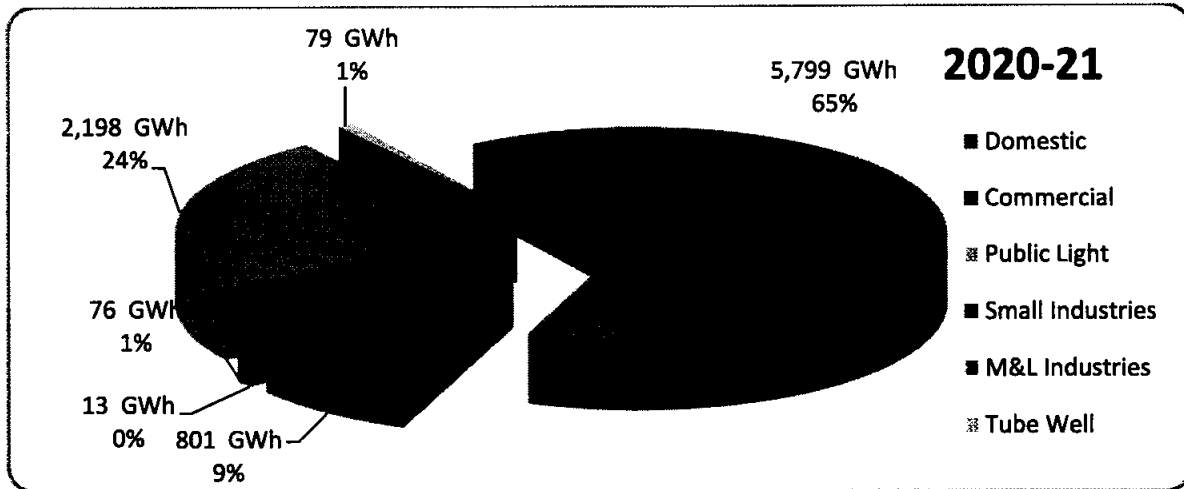
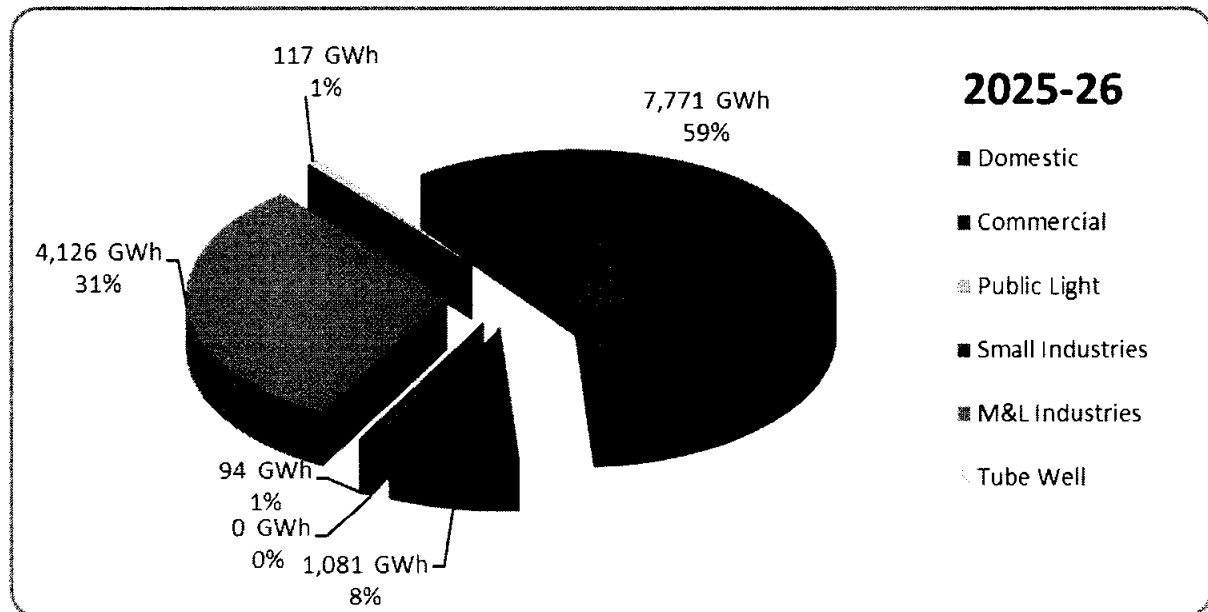


Figure 1-2 and **Figure 1-7**, it is evident that industrial sector has shown a decrease from 29% to 25%, from year 2010-11 up to year 2020-21 but it will increase to 29% in 2030-31 which is a healthy sign for the country's growth.



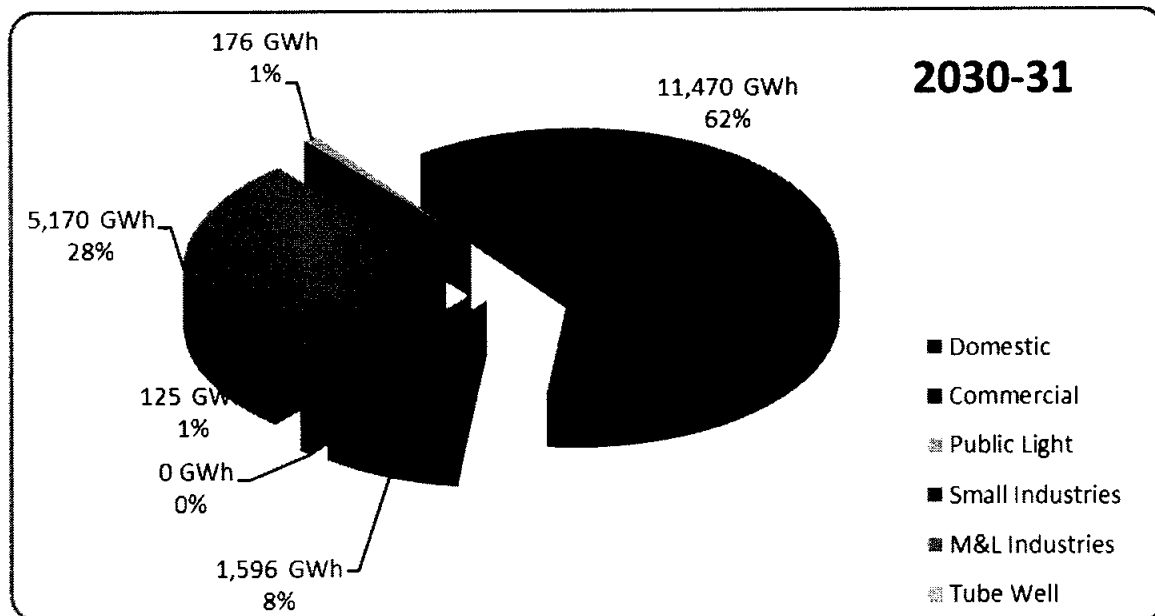


Figure 1-7: Forecasted Category Wise Sale

The category-wise forecasted sale incorporating load shedding effect (Low Forecast) is shown in Error! Reference source not found.. The category-wise forecasted sale with incorporating load shedding effect (Base Forecast) is shown in Table 1-1.

4.3 Category wise Forecasted Demand (MW)

The forecast of consumption (Demand) in MW without and with incorporating load shedding impact is shown in **Table 1-5** and **Table 1-6** respectively.

4.4 Civil Administrative Area Forecast

The PESCO service area comprises of seven administrative divisions i.e. Peshawar, Mardan, Kohat, Bannu, Dera Ismail Khan, Malakand, Hazara which comprises of 21 districts, Peshawar, Charsada, Nowsehra, Mardan, Sawabi, Kohat, Hangu, Karak, Bannu, Lakki, D.I Khan, Tank, Swat, Bunair, Upper Dir, Shangla, Malakand, Chitral, Lower Dir, Abbotabad, Haripur and Mansehra. The civil administrative Division-wise and District-wise energy and demand projections have been presented in **Table 1-7** to **Table 1-13**. The last column of the table contains peak demand.

4.5 Monthly Demand (MW) and Energy (GWh) Purchase Projections

The Month-wise demand (MW) and energy (GWh) purchase projections have been presented in **Table 1-36** and **Table 1-37**. To develop the projection, monthly demand and energy factors are computed for last five years and then its average is taken as a base factor for monthly demand and Energy projection. For this, each month peak is calculated from the ratio of the historical peak of that particular month to the annual historical peak of that year. Whereas each month Energy purchase is calculated from the ratio of historical monthly energy purchase of that particular month to annual energy purchase of that year. In this manner, historical ratios are calculated for each month of the last five years. The average of these values is taken as the monthly factor and multiplied with the peak demand of the year to obtain monthly peak demand and energy purchase.

4.6 List of Overloaded Substations

The list of overloaded substations will inform about that particular year in which a substation will be overloaded. The overloading criterion of a substation has been considered as 85% i.e. when any substation is 85% loaded, the remedial measures should be taken in the form of new substation or augmentation of the existing transformers. **Table 1-38** & **Table 1-39** show the lists of overloaded substations based on loading criterion of 85% and 100% respectively. Based on the loading criterion of 85%, the number of overloaded substations in year 2020-21 (base year) is Nineteen (19). Four (04) grids will get overloaded in year 2021-22, Five (05) in 2022-23, One (01) in 2023-24, One(01) in 2024-25, Two(02) in 2025-26, Three(03) in 2026-27, Six(06) in 2027-28, Three(03) in 2028-29 and Three (03) in 2029-30.

4.7 List of Grids with their Codes and MVA Capacities

The list of substations in PESCO mentioning number of transformers with MVA capacities at each substation is provided in the **Table 1-40**.

4.8 Peak Demand of Substations

A projection of peak demand at a substation is the most peculiar feature of this report. It is indeed a very rare and useful forecast. It provides the basis for transmission system expansion planning. It also provides a very solid ground for proposing a new substation or augmentation, extension and conversion of a sub-station. Only distribution losses have been considered in preparing the grid station peak demand forecast. The peak demand of each substation, existing as well as proposed, situated in the service area of PESCO has been shown in the

Table 1-41. The proposed substations during the present period have also been incorporated in this table. The demand of the proposed substations is shown on the existing grids before the commissioning of proposed substation and it is shifted to the proposed substation after its commissioning year.

4.9 Peak Demands of existing, transit and proposed grids (Family of Grids)

This report also shows the projection of peak demands of existing substations as well as the demands that will be transferred to the proposed substation at when commissioned. This is also a very important forecast to accurately plan the capacity of the proposed substations as well as the status of the existing substation after the load is transferred to the proposed substation. It accurately forecast the demand in MW that will be transferred from one existing grid to the proposed grid and as well as the total load that will be transferred to the proposed grid. The peak demands of existing, transit and proposed grids are shown in Error! Reference source not found.. Transit grid is a new term introduced in the current issue of the report. It is a virtual or temporary substation with a particular name and number on which the necessary load from one overloaded substation is shifted temporarily during base year. Proposed grids are shown in annexure with zero loads and the transit grid shows the estimated load that will be shifted from one existing substation to the proposed grid when it is commissioned. This table helps in finding out the amount of load in the future that will be shifted to the proposed grid from the existing grid when it is commissioned.

4.10 Per Capita Consumption

Per capita consumption is a very vivid indicator of development in a country. Usually developed countries have very high per capita consumption. Per capita consumption (kWh/person) for the year 2015-16, 2019-20, 2020-21, 2025-26 and 2030-31 is given in **Figure 1-8**. (The consumption for the years 2025-26, and 2030-31 are obtained from forecasted data.) . Population data is obtained from Pakistan Census 2016-17.

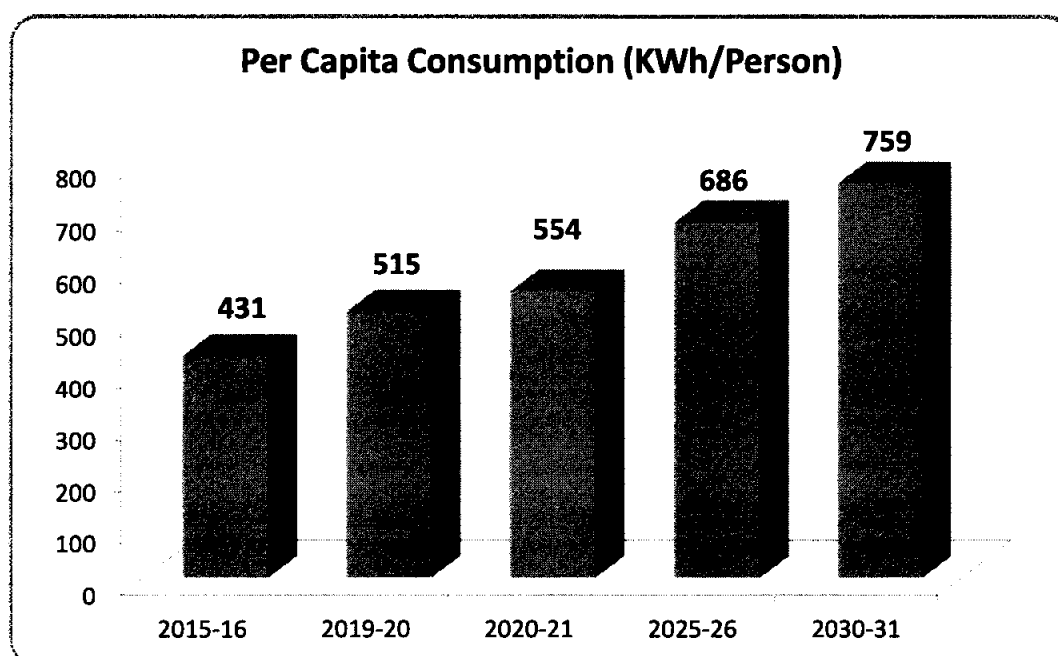


Figure 1-8: Per Capita Consumption

PESCO

4.11 Category-wise Energy and Maximum Demand Projections for each Substation

The category-wise energy and maximum demand projections for each substation have been presented in the last two columns of the **Table: 1-43** contain power factor and reactive power values. The maximum demand for the PESCO in this table is the diversified sum of the individual peak demands of each substation and this figure will coincide with the peak demand of the respective year. In order to reduce the volume of the report, only the values 2025-26 have been presented in the table.

Table 1-1: Rationalized Computed Forecast

Year	Sale	G.R	Distribution Losses		Energy Received at 11 kV	Peak Demand at 11 kV	Transmission Losses		Energy Sent out at 132 kV	Load Factor	Peak Demand at 132 kV	
		(%)	(GWh)	(%)	GWh	MW	(GWh)	(%)	(GWh)	(%)	(MW)	
2020-21	9845		5838	37.2	15683	2433	242.9	1.52	15926	73.6	2471	
2021-22	10186	3.5	5959	36.9	16144	2485	246.8	1.51	16391	74.2	2523	
2022-23	10794	6.0	6061	36.0	16855	2604	254.3	1.49	17109	73.9	2644	
2023-24	12154	12.6	6259	34.0	18413	2863	274.1	1.47	18687	73.4	2906	
2024-25	13112	7.9	6459	33.0	19571	3052	287.4	1.45	19858	73.2	3097	
2025-26	13982	6.6	6765	32.6	20747	3238	300.5	1.43	21047	73.2	3284	
2026-27	14781	5.7	7077	32.4	21858	3413	312.2	1.41	22170	73.1	3462	
2027-28	15859	7.3	7519	32.2	23378	3656	329.3	1.39	23707	73.0	3708	
2028-29	16963	7.0	7958	31.9	24921	3903	346.0	1.37	25267	72.9	3958	
2029-30	18271	7.7	8477	31.7	26748	4196	366.1	1.35	27114	72.8	4253	
2030-31	19601	7.3	8988	31.4	28589	4491	385.5	1.33	28975	72.7	4552	
Ave. Growth (2021-2031)	7.13%				6.19%	6.32%			6.17%		6.30%	



Table 1-2: Forecast without incorporating Load Shedding effect (Low Forecast)

Year	Energy Sale		Distribution Losses		Energy Received at 11 kV GWh	Peak Demand at 11 kV MW	Transmission Losses		Energy Sent out (GWh)	Load Factor (%)	Peak Demand (MW)
	(GWh)	G.R (%)	(GWh)	(%)			(GWh)	(%)			
2020-21	9608		5697	37.2	15305	2319	237	1.52	15542	75.3	2355
2021-22	9948	3.5	5820	36.9	15768	2371	241	1.51	16009	75.9	2407
2022-23	10557	6.1	5928	36.0	16484	2488	249	1.49	16733	75.6	2525
2023-24	11737	11.2	6044	34.0	17781	2700	265	1.47	18046	75.2	2741
2024-25	12516	6.6	6165	33.0	18681	2845	274	1.45	18955	75.0	2887
2025-26	13027	4.1	6303	32.6	19330	2946	280	1.43	19610	74.9	2988
2026-27	13466	3.4	6448	32.4	19914	3037	284	1.41	20199	74.9	3080
2027-28	14006	4.0	6641	32.2	20647	3154	291	1.39	20938	74.7	3198
2028-29	14571	4.0	6836	31.9	21408	3275	297	1.37	21705	74.6	3320
2029-30	15162	4.1	7035	31.7	22197	3400	304	1.35	22500	74.5	3447
2030-31	15774	4.0	7233	31.4	23008	3530	310	1.33	23318	74.4	3577
Avg. Growth (2021-2031)	5.08%				4.16%	4.29%			4.14%		4.27%



Table 1-3: Consumer Category Wise Sale – GWh (Low Forecast)

Year	Domestic		Commercial		Public Light		Small Industries		M&L Industries		Tube Well		Bulk		Total	
	(GWh)	G.R	(GWh)	G.R	(GWh)	G.R	(GWh)	G.R	(GWh)	G.R	(GWh)	G.R	(GWh)	G.R	(GWh)	G
2020-21	5799		801		13		76		2198		79		641.0		9608	
2021-22	6011	3.7	826	3.1	13	2.1	78	2.1	2284	3.9	85	7.7	651.0	1.6	9948	3
2022-23	6246	3.9	855	3.5	14	3.0	80	3.0	2607	14.1	91	6.7	664.0	2.0	10557	6
2023-24	6555	4.9	900	5.2	14	3.2	82	3.0	3406	30.6	97	6.4	683.0	2.9	11737	1
2024-25	6877	4.9	947	5.3	15	3.4	85	2.9	3786	11.2	103	6.2	704.0	3.1	12516	6
2025-26	7240	5.3	1007	6.3	15	3.5	87	2.9	3844	1.5	109	6.0	725.0	3.0	13027	4
2026-27	7548	4.3	1048	4.1	16	3.7	90	2.9	3904	1.5	115	5.8	746.0	2.9	13466	3
2027-28	7945	5.3	1098	4.8	16	3.9	92	2.9	3965	1.6	121	5.6	768.0	2.9	14006	4
2028-29	8357	5.2	1155	5.2	17	4.0	95	2.8	4028	1.6	128	5.4	791.0	3.0	14571	4
2029-30	8786	5.1	1219	5.5	18	4.2	98	2.8	4093	1.6	135	5.3	814.0	2.9	15162	4
2030-31	9231	5.1	1285	5.4	18	4.4	100	2.8	4160	1.6	142	5.1	838.0	2.9	15774	4
Avg. Growth (2021-2031)	4.8%		4.8%		3.5%		2.8%		6.6%		6.0%		2.7%		5.1%	



Table 1-4: Consumer Category Wise Sale – GWh (Base Forecast)

Year	Domestic		Commercial		Public Light		Small Industries		M&L Industries		Tube Well		Bulk		Total	
	(GWh)	G.R	(GWh)	G.R	(GWh)	G.R	(GWh)	G.R	(GWh)	G.R	(GWh)	G.R	(GWh)	G.R	(GWh)	G
2020-21	5943		821		13		78		2252		81		657		9845	
2021-22	6155	3.6	846	3.0	14	2.0	79	2.0	2338	3.8	87	7.6	667	1.5	10186	3
2022-23	6387	3.8	875	3.4	14	2.9	82	2.9	2665	14.0	93	6.5	679	1.8	10794	6
2023-24	6788	6.3	932	6.5	15	4.5	85	4.3	3526	32.3	100	7.8	708	4.3	12154	11
2024-25	7204	6.1	992	6.5	15	4.6	89	4.2	3967	12.5	107	7.4	737	4.1	13112	7
2025-26	7771	7.9	1081	8.9	16	6.1	94	5.4	4126	4.0	117	8.6	778	5.6	13982	6
2026-27	8285	6.6	1150	6.4	17	6.0	98	5.2	4285	3.8	126	8.2	819	5.3	14781	5
2027-28	8996	8.6	1244	8.1	18	7.1	104	6.1	4490	4.8	137	8.9	870	6.2	15859	7
2028-29	9729	8.1	1345	8.1	20	7.0	110	5.7	4689	4.4	149	8.4	921	5.9	16963	7
2029-30	10587	8.8	1469	9.2	21	7.9	118	6.4	4933	5.2	162	9.0	981	6.5	18271	7
2030-31	11470	8.3	1596	8.7	23	7.6	125	6.0	5170	4.8	176	8.4	1042	6.2	19601	7
Avg. Growth (2021-2031)	6.8%		6.9%		5.5%		4.8%		8.7%		8.1%		4.7%		7.1%	



Table 1-5: Consumer Category Wise Demand – MW without incorporating Load Shedding effect (Low Forecast)

Year	Domestic		Commercial		Public Light		Small Industries		M&L Industries		Tube Well		Bulk		Total	
	(MW)	G.R	(MW)	G.R	(MW)	G.R	(MW)	G.R	(MW)	G.R	(MW)	G.R	(MW)	G.R	(MW)	G.R
2020-21	1056		126		3		7		322		11		77		1463	
2021-22	1096	3.7	131	3.3	3	2.1	7	2.1	321	-0.4	12	6.4	78	1.3	1503	2.7
2022-23	1140	4.0	136	3.7	3	3.0	7	3.1	374	16.7	12	5.6	79	1.3	1603	6.7
2023-24	1196	4.9	143	5.7	3	3.2	7	3.0	508	35.7	13	5.4	82	3.8	1798	12.1
2024-25	1254	4.9	151	5.7	3	3.4	8	3.0	569	12.0	14	5.3	84	2.4	1923	6.9
2025-26	1319	5.2	162	7.0	3	3.5	8	3.0	575	1.2	15	5.1	86	2.4	2002	4.1
2026-27	1377	4.4	169	4.2	3	3.7	8	2.9	582	1.2	15	5.0	89	3.5	2070	3.4
2027-28	1452	5.4	177	5.1	3	3.9	8	2.9	589	1.2	16	4.9	92	3.4	2156	4.1
2028-29	1529	5.3	187	5.5	3	4.0	9	2.9	597	1.2	17	4.8	94	2.2	2245	4.1
2029-30	1610	5.3	198	5.8	3	4.2	9	2.9	604	1.3	18	4.7	97	3.2	2338	4.2
2030-31	1694	5.2	209	5.7	4	4.4	9	2.8	612	1.3	18	4.6	100	3.1	2435	4.1
Avg. Growth (2021-2031)	4.8%		5.2%		3.5%		2.9%		6.6%		5.2%				5.2%	

Table 1-6: Consumer Category Wise Demand – MW (Base Forecast)

Year	Domestic		Commercial		Public Light		Small Industries		M&L Industries		Tube Well		Bulk		Total
	(MW)	G.R	(MW)	G.R	(MW)	G.R	(MW)	G.R	(MW)	G.R	(MW)	G.R	(MW)	G.R	(MW)
2020-21	1108		133		3		7		338		12		80		1535
2021-22	1149	3.6	137	3.2	3	2.0	7	2.1	336	-0.5	12	6.3	82	2.5	1576
2022-23	1194	3.9	142	3.6	3	2.9	8	2.9	392	16.5	13	5.4	83	1.2	1679
2023-24	1268	6.2	152	7.0	3	4.5	8	4.3	538	37.4	14	6.8	87	4.8	1907
2024-25	1345	6.1	162	6.9	3	4.6	8	4.2	610	13.4	15	6.5	90	3.4	2063
2025-26	1450	7.8	178	9.6	3	6.1	9	5.5	632	3.7	16	7.7	95	5.6	2201
2026-27	1548	6.7	190	6.5	3	6.0	9	5.3	654	3.5	17	7.4	100	5.3	2327
2027-28	1683	8.8	206	8.4	4	7.1	10	6.2	683	4.4	19	8.2	106	6.0	2499
2028-29	1823	8.3	223	8.5	4	7.0	10	5.8	711	4.1	20	7.7	112	5.7	2676
2029-30	1986	9.0	244	9.5	4	7.8	11	6.5	745	4.8	22	8.4	120	7.1	2885
2030-31	2155	8.5	266	9.0	5	7.6	12	6.0	778	4.4	23	7.8	127	5.8	3098
Avg. Growth (2021-2031)	6.9%		7.2%		5.5%		4.9%		8.7%		7.2%				7.3%



Table 1-7: Division-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (Division: Peshawar)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2020-21	3265		1944	37.32	81	1.52	5290	36.3	1663
2021-22	3382	3.59	1987	37.00	82	1.51	5451	36.6	1701
2022-23	3500	3.49	2028	36.68	83	1.49	5611	36.7	1747
2023-24	3801	8.59	2100	35.59	88	1.47	5989	36.8	1857
2024-25	4048	6.50	2169	34.89	91	1.45	6308	36.8	1957
2025-26	4403	8.79	2273	34.04	97	1.43	6773	36.8	2100
2026-27	4668	6.00	2379	33.76	101	1.41	7147	36.8	2219
2027-28	5033	7.82	2534	33.49	107	1.39	7674	36.7	2387
2028-29	5409	7.47	2690	33.21	112	1.37	8211	36.6	2559
2029-30	5853	8.22	2873	32.92	119	1.35	8845	36.6	2762
2030-31	6308	7.76	3053	32.62	126	1.33	9487	36.5	2967
Avg. Growth (2021-2031)	6.81 %						6.02 %		5.96 %



Table 1-8: Division-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (Division: Mardan)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2020-21	1361		819	37.58	34	1.52	2214	43.0	588
2021-22	1401	2.97	832	37.24	34	1.51	2267	43.1	600
2022-23	1629	16.29	848	34.23	37	1.49	2515	42.1	681
2023-24	1957	20.10	877	30.95	42	1.47	2877	41.1	800
2024-25	2177	11.22	908	29.44	45	1.45	3130	40.6	880
2025-26	2297	5.54	954	29.34	47	1.43	3298	40.7	925
2026-27	2422	5.44	1001	29.24	49	1.41	3472	40.7	973
2027-28	2591	6.99	1067	29.16	52	1.39	3710	40.7	1039
2028-29	2764	6.66	1133	29.07	54	1.37	3951	40.7	1107
2029-30	2969	7.41	1210	28.96	57	1.35	4236	40.7	1187
2030-31	3177	7.00	1286	28.83	60	1.33	4523	40.7	1267
Avg. Growth (2021-2031)	8.85 %						7.41 %		7.98 %



Table 1-9: Division-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (Division: Kohat)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2020-21	868		467	35.00	21	1.52	1356	37.0	418
2021-22	890	2.52	474	34.74	21	1.51	1384	36.9	428
2022-23	915	2.84	482	34.49	21	1.49	1418	36.9	439
2023-24	956	4.49	498	34.24	22	1.47	1476	36.8	458
2024-25	999	4.48	514	33.98	22	1.45	1535	36.7	477
2025-26	1059	5.96	538	33.71	23	1.43	1620	36.7	504
2026-27	1121	5.89	563	33.44	24	1.41	1708	36.6	533
2027-28	1205	7.49	598	33.18	25	1.39	1829	36.5	572
2028-29	1291	7.15	633	32.91	27	1.37	1951	36.4	611
2029-30	1393	7.90	675	32.63	28	1	2096	36.4	658
2030-31	1497	7.46	715	32.33	30	1.33	2242	36.3	705
Avg. Growth (2021-2031)	5.60 %						5.16 %		5.35 %



Table 1-10: Division-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (Division: Bannu)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2020-21	296		188	38.83	7	2	491	23.1	242
2021-22	306	3.38	191	38.45	8	2	504	23.1	249
2022-23	317	3.78	195	38.07	8	1	520	23.1	257
2023-24	334	5.36	202	37.69	8	1	544	23.0	270
2024-25	352	5.33	209	37.30	8	1	570	23.0	283
2025-26	376	6.84	220	36.90	9	1	605	23.0	300
2026-27	402	6.76	231	36.50	9	1	641	23.0	319
2027-28	435	8.43	246	36.09	10	1	691	23.0	344
2028-29	470	8.03	261	35.68	10	1	742	22.9	369
2029-30	512	8.73	279	35.27	11	1	801	22.9	399
2030-31	554	8.25	296	34.84	11	1	861	22.9	430
Avg. Growth (2021-2031)	6.47 %						5.78 %		5.90 %



Table 1-11: Division-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (Division: D.I.Khan)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2020-21	456		289	38.83	12	2	756	32.9	263
2021-22	467	2.50	292	38.45	12	2	770	32.8	268
2022-23	481	3.01	296	38.07	12	1	789	32.7	275
2023-24	685	42.34	304	30.77	15	1	1004	34.2	335
2024-25	710	3.73	313	30.61	15	1	1039	34.1	347
2025-26	747	5.23	327	30.44	16	1	3144	34.0	366
2026-27	786	5.17	341	30.27	16	1	1143	34.0	384
2027-28	839	6.70	362	30.13	17	1	1217	33.9	411
2028-29	892	6.38	382	29.97	18	1	1292	33.8	437
2029-30	956	7.14	406	29.80	19	1	1380	33.7	468
2030-31	1020	6.74	429	29.61	20	1	1469	33.6	500
Avg. Growth (2021-2031)	8.40 %						6.86 %		6.64 %



Table 1-12: Division-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (Division: Malakand)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2020-21	1644		1044	38.83	42	2	2730	56.6	551
2021-22	1699	3.35	1062	38.45	42	2	2803	56.9	562
2022-23	1759	3.51	1081	38.07	43	1	2883	56.9	578
2023-24	1848	5.06	1118	37.69	44	1	3010	56.9	604
2024-25	1943	5.13	1156	37.30	46	1	3144	56.9	630
2025-26	2074	6.73	1213	36.90	48	1	3334	56.9	668
2026-27	2211	6.63	1271	36.50	50	1	3532	56.9	708
2027-28	2394	8.26	1352	36.09	53	1	3799	56.9	761
2028-29	2582	7.88	1433	35.68	56	1	4071	57.0	816
2029-30	2804	8.59	1528	35.27	59	1	4391	57.0	880
2030-31	3032	8.12	1621	34.84	63	1	4716	57.0	945
Avg. Growth (2021-2031)	6.31 %						5.62 %		5.55 %



Table 1-13: Division-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (Division: Hazara)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2020-21	1956		1086	35.71	47	2	3089	64.2	549
2021-22	2040	4.32	1122	35.48	48	2	3211	65.8	557
2022-23	2192	7.43	1131	34.05	50	1	3373	64.7	595
2023-24	2573	17.38	1159	31.07	56	1	3787	61.3	706
2024-25	2884	12.09	1190	29.21	60	1	4133	60.1	785
2025-26	3026	4.93	1240	29.07	62	1	4327	60.2	820
2026-27	3171	4.81	1291	28.93	64	1	4526	60.4	855
2027-28	3362	6.03	1360	28.79	67	1	4788	60.6	902
2028-29	3554	5.71	1427	28.65	69	1	5050	60.7	949
2029-30	3784	6.47	1508	28.49	72	1	5365	60.9	1006
2030-31	4014	6.08	1586	28.32	76	1	5676	61.0	1061
Avg. Growth (2021-2031)	7.46 %						6.27 %		6.81 %



Table 1-14: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Peshawar)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2020-21	2125		1304	38.02	53	1.52	3482	35.6	1117
2021-22	2193	3.18	1325	37.68	54	1.51	3572	35.7	1142
2022-23	2261	3.11	1346	37.32	54	1.49	3661	35.6	1173
2023-24	2402	6.24	1388	36.63	56	1.47	3846	35.6	1234
2024-25	2551	6.20	1432	35.96	58	1.45	4042	35.6	1297
2025-26	2764	8.35	1500	35.18	62	1.43	4326	35.6	1389
2026-27	2933	6.13	1569	34.85	64	1.41	4567	35.5	1468
2027-28	3172	8.15	1673	34.53	68	1.39	4914	35.4	1584
2028-29	3419	7.80	1777	34.20	72	1.37	5269	35.3	1703
2029-30	3711	8.54	1900	33.86	77	1.35	5689	35.2	1843
2030-31	4011	8.07	2022	33.52	81	1.33	6114	35.2	1985
Avg. Growth (2021-2031)	6.56%						5.79%		5.91%



Table 1-15: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Charsadda)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2020-21	294		186	38.83	7	1.52	487	20.5	271
2021-22	303	3.21	189	38.45	8	1.51	500	20.4	279
2022-23	314	3.71	193	38.07	8	1.49	515	20.4	288
2023-24	331	5.30	200	37.69	8	1.47	539	20.4	302
2024-25	348	5.30	207	37.30	8	1.45	564	20.4	316
2025-26	372	6.83	218	36.90	9	1.43	598	20.3	336
2026-27	397	6.75	228	36.50	9	1.41	635	20.3	357
2027-28	431	8.43	243	36.09	9	1.39	684	20.3	385
2028-29	465	8.04	258	35.68	10	1.37	734	20.3	413
2029-30	506	8.76	276	35.27	11	1.35	793	20.2	447
2030-31	548	8.28	293	34.84	11	1.33	853	20.2	481
Avg. Growth (2021-2031)	6.44%						5.75%		5.90%



Table 1-16: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Nowsehra)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2020-21	846		454	34.91	20	1.52	1320	45.9	329
2021-22	886	4.74	472	34.74	21	1.51	1379	47.0	335
2022-23	925	4.36	488	34.54	21	1.49	1435	47.7	343
2023-24	1068	15.45	512	32.40	24	1.47	1604	47.9	382
2024-25	1149	7.53	529	31.54	25	1.45	1702	47.8	407
2025-26	1267	10.35	555	30.46	26	1.43	1849	47.6	444
2026-27	1337	5.50	582	30.31	27	1.41	1946	47.7	466
2027-28	1430	6.91	618	30.18	29	1.39	2076	47.8	496
2028-29	1524	6.58	654	30.03	30	1.37	2208	47.9	526
2029-30	1635	7.34	696	29.87	32	1.35	2364	48.0	562
2030-31	1749	6.92	738	29.68	34	1.33	2520	48.1	598
Avg. Growth (2021-2031)	7.53%						6.68%		6.16%



Table 1-17: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Mardan)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2020-21	802		472	37.02	20	1.52	1294	40.2	368
2021-22	828	3.27	481	36.71	20	1.51	1329	40.2	377
2022-23	860	3.76	492	36.41	20	1.49	1372	40.1	391
2023-24	905	5.33	511	36.09	21	1.47	1438	40.0	411
2024-25	954	5.32	531	35.77	22	1.45	1507	39.9	431
2025-26	1019	6.84	559	35.45	23	1.43	1601	39.8	460
2026-27	1088	6.74	589	35.12	24	1.41	1700	39.7	489
2027-28	1181	8.61	630	34.79	26	1.39	1837	39.4	532
2028-29	1278	8.21	672	34.45	27	1.37	1977	39.2	575
2029-30	1392	8.92	720	34.10	29	1.35	2141	39.0	627
2030-31	1509	8.42	769	33.74	31	1.33	2309	38.8	679
Avg. Growth (2021-2031)	6.52%						5.96%		6.32%



Table 1-18: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Sawabi)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor		Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)	
2020-21	559		348	38.36	14	1.52	920	43.8	240	
2021-22	573	2.54	351	38.00	14	1.51	938	44.2	242	
2022-23	770	34.40	356	31.61	17	1.49	1143	41.7	313	
2023-24	1052	36.59	366	25.82	21	1.47	1439	39.5	415	
2024-25	1223	16.30	377	23.56	23	1.45	1623	38.9	477	
2025-26	1278	4.52	394	23.58	24	1.43	1697	39.1	496	
2026-27	1335	4.41	412	23.60	25	1.41	1772	39.2	515	
2027-28	1410	5.67	437	23.65	26	1.39	1873	39.5	542	
2028-29	1486	5.35	461	23.68	27	1.37	1974	39.7	568	
2029-30	1577	6.12	490	23.70	28	1.35	2095	39.9	599	
2030-31	1667	5.74	518	23.70	29	1.33	2214	40.1	630	
Avg. Growth (2021-2031)	11.55%						9.18%		10.15%	

Table 1-19: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Kohat)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2020-21	640		323	33.52	15	1.52	978	43.6	256
2021-22	653	2.05	326	33.29	15	1.51	994	43.5	261
2022-23	669	2.38	330	33.07	15	1.49	1014	43.4	267
2023-24	696	4.04	340	32.85	15	1.47	1051	43.4	277
2024-25	724	4.04	350	32.62	16	1.45	1090	43.3	287
2025-26	764	5.52	366	32.40	16	1.43	1146	43.2	303
2026-27	805	5.45	382	32.17	17	1.41	1204	43.2	318
2027-28	862	7.00	405	31.95	43	1.39	1284	43.1	340
2028-29	919	6.68	427	31.72	19	1.37	1365	43.1	362
2029-30	988	7.46	454	31.48	20	1.35	1461	43.0	388
2030-31	1057	7.04	480	31.23	21	1.33	1558	43.0	414
Avg. Growth (2021-2031)	5.15%						4.77%		4.91%



Table 1-20: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Hangu)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2020-21	136		86	38.83	3	1.52	225	30.4	85
2021-22	140	3.31	88	38.45	3	1.51	231	30.3	87
2022-23	145	3.65	89	38.07	4	1.49	238	30.3	90
2023-24	153	5.29	93	37.69	4	1.47	249	30.3	94
2024-25	161	5.25	96	37.30	4	1.45	261	30.3	98
2025-26	172	6.74	101	36.90	4	1.43	277	30.2	104
2026-27	183	6.67	105	36.50	4	1.41	293	30.2	111
2027-28	199	8.37	112	36.09	4	1.39	316	30.2	119
2028-29	215	7.97	119	35.68	5	1.37	338	30.2	128
2029-30	233	8.68	127	35.27	5	1.35	365	30.2	138
2030-31	252	8.20	135	34.84	5	1.33	393	30.1	149
Avg. Growth (2021-2031)	6.40%						5.71%		5.79%



Table 1-21: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Karak)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2020-21	92		58	38.83	2	1.52	153	19.2	91
2021-22	96	4.58	60	38.45	2	1.51	159	19.4	94
2022-23	101	4.78	62	38.07	2	1.49	165	19.5	97
2023-24	107	6.34	65	37.69	3	1.47	175	19.6	102
2024-25	114	6.23	68	37.30	3	1.45	185	19.7	107
2025-26	123	7.67	72	36.90	3	1.43	197	19.8	114
2026-27	132	7.55	76	36.50	3	1.41	211	19.8	121
2027-28	144	9.26	81	36.09	3	1.39	229	19.9	131
2028-29	157	8.80	87	35.68	3	1.37	247	20.0	141
2029-30	172	9.45	94	35.27	4	1.35	269	20.1	153
2030-31	187	8.92	100	34.84	4	1.33	291	20.2	165
Avg. Growth (2021-2031)	7.34%						6.65%		6.10%



Table 1-22: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Bannu)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2020-21	176		112	38.83	4	1.52	293	21.9	153
2021-22	182	3.21	114	38.45	5	1.51	300	21.8	157
2022-23	189	3.67	116	38.07	5	1.49	309	21.8	162
2023-24	199	5.26	120	37.69	5	1.47	323	21.7	170
2024-25	209	5.25	124	37.30	5	1.45	338	21.7	178
2025-26	223	6.78	131	36.90	5	1.43	359	21.7	189
2026-27	238	6.70	137	36.50	5	1.41	380	21.7	200
2027-28	258	8.39	146	36.09	6	1.39	410	21.6	216
2028-29	279	8.00	155	35.68	6	1.37	440	21.6	232
2029-30	303	8.71	165	35.27	6	1.35	475	21.6	251
2030-31	328	8.23	175	34.84	7	1.33	510	21.6	270
Avg. Growth (2021-2031)	6.40%						5.71%		5.86%



Table 1-23: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Lakki)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2020-21	119		76	38.83	3	1.52	198	23.3	97
2021-22	124	3.63	77	38.45	3	1.51	204	23.2	100
2022-23	129	3.93	79	38.07	3	1.49	211	23.2	104
2023-24	136	5.50	82	37.69	3	1.47	221	23.2	109
2024-25	143	5.45	85	37.30	3	1.45	231	23.2	114
2025-26	153	6.94	89	36.90	4	1.43	246	23.2	121
2026-27	163	6.84	94	36.50	4	1.41	261	23.2	129
2027-28	177	8.49	100	36.09	4	1.39	281	23.1	139
2028-29	192	8.08	106	35.68	4	1.37	302	23.1	149
2029-30	208	8.77	114	35.27	4	1.35	326	23.1	161
2030-31	226	8.28	121	34.84	5	1.33	351	23.1	174
Avg. Growth (2021-2031)	6.58%						5.88%		5.98%



Table 1-24: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: D.I Khan)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor		Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%		(MW)
2020-21	395		251	38.83	10	1.52	655	33.7		222
2021-22	404	2.30	252	38.45	10	1.51	666	33.7		226
2022-23	415	2.85	255	38.07	10	1.49	681	33.6		231
2023-24	615	48.16	262	29.90	13	1.47	891	35.0		290
2024-25	637	3.52	270	29.74	13	1.45	920	34.9		301
2025-26	669	5.03	281	29.60	14	1.43	964	34.9		316
2026-27	702	4.96	293	29.45	14	1.41	1009	34.8		331
2027-28	747	6.46	310	29.32	15	1.39	1073	34.7		353
2028-29	793	6.15	327	29.19	16	1.37	1136	34.6		375
2029-30	848	6.92	347	29.04	16	1.35	1212	34.5		401
2030-31	904	6.52	367	28.87	17	1.33	1288	34.5		427
Avg. Growth (2021-2031)	8.64%						6.99%			6.77%



Table 1-25: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Tank)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2020-21	61		39	38.83	2	1.52	101	23.3	50
2021-22	63	3.79	40	38.45	2	1.51	104	23.3	51
2022-23	66	4.01	40	38.07	2	1.49	108	23.3	53
2023-24	69	5.61	42	37.69	2	1.47	113	23.3	56
2024-25	73	5.54	44	37.30	2	1.45	119	23.3	58
2025-26	78	7.02	46	36.90	2	1.43	126	23.3	62
2026-27	84	6.94	48	36.50	2	1.41	134	23.3	66
2027-28	91	8.70	52	36.09	2	1.39	145	23.3	71
2028-29	99	8.27	55	35.68	2	1.37	156	23.3	76
2029-30	108	8.96	59	35.27	2	1.35	169	23.2	83
2030-31	117	8.46	62	34.84	2	1.33	182	23.2	89
Avg. Growth (2021-2031)	6.71%						6.02%		6.04%



Table 1-26: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Swat)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2020-21	571		362	38.83	14	1.52	948	59.8	181
2021-22	590	3.35	369	38.45	15	1.51	973	59.9	186
2022-23	612	3.78	376	38.07	15	1.49	1004	59.9	191
2023-24	645	5.38	390	37.69	15	1.47	1051	59.9	200
2024-25	680	5.37	404	37.30	16	1.45	1100	59.9	209
2025-26	727	6.88	425	36.90	17	1.43	1168	60.0	222
2026-27	776	6.79	446	36.50	17	1.41	1239	60.0	236
2027-28	842	8.48	475	36.09	19	1.39	1336	60.0	254
2028-29	910	8.10	505	35.68	20	1.37	1434	60.0	273
2029-30	990	8.82	539	35.27	21	1.35	1550	60.0	295
2030-31	1073	8.33	574	34.84	22	1.33	1668	60.0	317
Avg. Growth (2021-2031)	6.51%						5.82%		5.78%



Table 1-27: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Upper Dir)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2020-21	110		70	38.83	3	1.52	183	56.3	37
2021-22	114	3.28	71	38.45	3	1.51	188	56.2	38
2022-23	118	3.55	73	38.07	3	1.49	193	56.2	39
2023-24	124	5.17	75	37.69	3	1.47	202	56.1	41
2024-25	130	5.13	78	37.30	3	1.45	211	56.0	43
2025-26	139	6.62	81	36.90	3	1.43	224	55.9	46
2026-27	148	6.57	85	36.50	3	1.41	237	55.8	48
2027-28	161	8.35	91	36.09	4	1.39	255	55.8	52
2028-29	173	7.95	96	35.68	4	1.37	273	55.7	56
2029-30	188	8.65	103	35.27	4	1.35	295	55.6	61
2030-31	204	8.18	109	34.84	4	1.33	317	55.6	65
Avg. Growth (2021-2031)	6.33%						5.64%		5.78%



Table 1-28: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Bunir)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2020-21	186		118	38.83	5	1.52	308	51.9	68
2021-22	189	1.74	118	38.45	5	1.51	311	51.9	68
2022-23	195	3.08	120	38.07	5	1.49	319	51.9	70
2023-24	204	4.55	123	37.69	5	1.47	331	52.0	73
2024-25	213	4.75	127	37.30	5	1.45	345	52.0	76
2025-26	227	6.49	133	36.90	5	1.43	365	52.0	80
2026-27	241	6.38	139	36.50	5	1.41	386	52.0	85
2027-28	261	7.89	147	36.09	6	1.39	413	52.0	91
2028-29	280	7.51	155	35.68	6	1.37	442	52.0	97
2029-30	303	8.23	165	35.27	6	1.35	475	52.0	104
2030-31	327	7.77	175	34.84	7	1.33	508	52.0	111
Avg. Growth (2021-2031)	5.82%						5.13%		5.10%

Table 1-29: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Shangla)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2020-21	40		25	38.83	1	1.52	66	29.8	25
2021-22	41	3.65	26	38.45	1	1.51	68	29.8	26
2022-23	43	3.93	26	38.07	1	1.49	70	29.8	27
2023-24	45	5.53	27	37.69	1	1.47	74	29.8	28
2024-25	48	5.48	28	37.30	1	1.45	77	29.8	30
2025-26	51	6.97	30	36.90	1	1.43	82	29.8	31
2026-27	55	6.89	31	36.50	1	1.41	87	29.8	33
2027-28	59	8.64	33	36.09	1	1.39	94	29.8	36
2028-29	64	8.23	36	35.68	1	1.37	101	29.8	39
2029-30	70	8.93	38	35.27	1	1.35	109	29.8	42
2030-31	76	8.44	40	34.84	2	1.33	118	29.8	45
Avg. Growth (2021-2031)	6.65%						5.96%		5.98%



Table 1-30: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Malakand)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor		Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)	
2020-21	309		196	38.83	8	1.52	513	61.4	95	
2021-22	322	4.22	201	38.45	8	1.51	531	63.3	96	
2022-23	331	2.75	203	38.07	8	1.49	542	63.4	98	
2023-24	345	4.17	208	37.69	8	1.47	561	63.6	101	
2024-25	360	4.47	214	37.30	8	1.45	583	63.7	104	
2025-26	383	6.32	224	36.90	9	1.43	615	63.8	110	
2026-27	407	6.19	234	36.50	9	1.41	649	63.9	116	
2027-28	437	7.58	247	36.09	10	1.39	694	64.0	124	
2028-29	469	7.21	260	35.68	10	1.37	739	64.1	132	
2029-30	506	7.94	276	35.27	11	1.35	793	64.2	141	
2030-31	544	7.49	291	34.84	11	1.33	846	64.3	150	
Avg. Growth (2021-2031)	5.82%						5.14%		4.65%	



Table 1-31: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Chitral)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2020-21	33		21	38.83	1	1.52	54	40.1	15
2021-22	34	4.33	21	38.45	1	1.51	56	40.2	16
2022-23	36	4.52	22	38.07	1	1.49	58	40.2	17
2023-24	38	6.11	23	37.69	1	1.47	62	40.2	17
2024-25	40	6.02	24	37.30	1	1.45	65	40.2	18
2025-26	43	7.46	25	36.90	1	1.43	69	40.2	20
2026-27	46	7.35	27	36.50	1	1.41	74	40.1	21
2027-28	50	9.07	28	36.09	1	1.39	80	40.1	23
2028-29	55	8.65	30	35.68	1	1.37	86	40.1	25
2029-30	60	9.34	33	35.27	1	1.35	94	40.1	27
2030-31	65	8.82	35	34.84	1	1.33	101	40.1	29
Avg. Growth (2021-2031)	7.15%						6.46%		6.46%



Table 1-32: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Lower Dir)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor		Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)	
2020-21	396		251	38.83	10	1.52	658	51.1	147	
2021-22	409	3.35	256	38.45	10	1.51	675	51.2	151	
2022-23	425	3.77	261	38.07	10	1.49	696	51.2	155	
2023-24	448	5.37	271	37.69	11	1.47	729	51.2	163	
2024-25	472	5.35	281	37.30	11	1.45	763	51.2	170	
2025-26	504	6.87	295	36.90	12	1.43	810	51.2	181	
2026-27	538	6.79	309	36.50	12	1.41	860	51.2	192	
2027-28	584	8.49	330	36.09	13	1.39	927	51.2	207	
2028-29	631	8.09	350	35.68	14	1.37	995	51.2	222	
2029-30	687	8.80	374	35.27	15	1.35	1075	51.2	240	
2030-31	744	8.32	398	34.84	15	1.33	1157	51.2	258	
Avg. Growth (2021-2031)	6.50%						5.81%		5.80%	



Table 1-33: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Abbotabad)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2020-21	588		373	38.83	15	1.52	976	66.5	168
2021-22	598	1.69	374	38.45	15	1.51	986	66.4	169
2022-23	611	2.12	375	38.07	15	1.49	1001	66.4	172
2023-24	637	4.31	385	37.69	15	1.47	1037	66.4	178
2024-25	664	4.24	395	37.30	16	1.45	1074	66.4	185
2025-26	701	5.63	410	36.90	16	1.43	1127	66.3	194
2026-27	740	5.49	425	36.50	17	1.41	1182	66.3	204
2027-28	789	6.68	446	36.09	17	1.39	1252	66.2	216
2028-29	839	6.34	466	35.68	18	1.37	1323	66.1	228
2029-30	899	7.09	490	35.27	19	1.35	1407	66.1	243
2030-31	959	6.67	513	34.84	20	1.33	1491	66.0	258
Avg. Growth (2021-2031)	5.01%						4.33%		4.41%



Table 1-34: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Haripur)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2020-21	1025		496	32.59	24	1.52	1544	63.6	277
2021-22	1090	6.38	529	32.65	25	1.51	1644	66.8	281
2022-23	1218	11.72	533	30.43	26	1.49	1778	64.6	314
2023-24	1555	27.68	544	25.92	31	1.47	2131	58.3	417
2024-25	1821	17.09	558	23.44	35	1.45	2414	56.5	488
2025-26	1901	4.37	582	23.45	36	1.43	2519	56.7	507
2026-27	1981	4.23	607	23.45	37	1.41	2625	57.0	526
2027-28	2087	5.34	640	23.45	38	1.39	2765	57.3	551
2028-29	2192	5.02	671	23.45	40	1.37	2903	57.6	576
2029-30	2319	5.78	710	23.43	41	1.35	3070	57.8	606
2030-31	2444	5.40	747	23.40	43	1.33	3234	58.1	635
Avg. Growth (2021-2031)	9.08%						7.67%		8.64%



Table 1-35: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast (District: Mansehra)

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R (%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2020-21	343		217	38.83	9	1.52	569	53.0	122
2021-22	352	2.70	220	38.45	9	1.51	580	53.1	125
2022-23	363	3.13	223	38.07	9	1.49	595	53.1	128
2023-24	380	4.77	230	37.69	9	1.47	619	53.2	133
2024-25	398	4.79	237	37.30	9	1.45	645	53.3	138
2025-26	424	6.31	248	36.90	10	1.43	681	53.3	146
2026-27	450	6.25	259	36.50	10	1.41	719	53.4	154
2027-28	486	7.96	274	36.09	11	1.39	771	53.4	165
2028-29	523	7.62	290	35.68	11	1.37	824	53.4	176
2029-30	567	8.37	309	35.27	12	1.35	887	53.5	189
2030-31	611	7.91	327	34.84	13	1.33	951	53.5	203
Avg. Growth (2021-2031)	5.96%						5.28%		5.17%



Table 1-36: Monthly Peak Demand Forecast (Base Forecast)

Year	July (MW)	August (MW)	September (MW)	October (MW)	November (MW)	December (MW)	January (MW)	February (MW)	March (MW)	April (MW)	May (MW)	June (MW)
2020-21	3185	3175	3141	2173	2101	2408	2462	2469	2076	1923	2456	2
2021-22	2317	2099	2160	2089	1817	2147	2082	1746	1771	2072	2324	2
2022-23	2427	2200	2263	2189	1903	2250	2181	1829	1856	2170	2435	2
2023-24	2668	2418	2487	2406	2092	2473	2397	2011	2040	2386	2676	2
2024-25	2843	2576	2651	2564	2230	2635	2555	2143	2174	2542	2852	3
2025-26	3015	2733	2811	2720	2365	2795	2710	2273	2306	2697	3025	3
2026-27	3178	2880	2963	2866	2492	2946	2856	2396	2430	2842	3188	3
2027-28	3404	3085	3174	3070	2670	3155	3059	2566	2603	3044	3415	3
2028-29	3633	3293	3388	3277	2850	3368	3265	2739	2778	3249	3645	3
2029-30	3905	3539	3641	3522	3062	3620	3509	2943	2986	3492	3917	4
2030-31	4178	3787	3896	3769	3277	3873	3755	3150	3195	3737	4192	4

Table 1-37: Monthly Energy Purchased Forecast (Base Forecast)

Year	July	August	September	October	November	December	January	February	March	April	May	June	Total
	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh
	2170	2125	2009	1467	1345	1596	1674	1430	1325	1245	1622	2003	2003
	1750	1767	1523	1149	1114	1303	1385	1152	1152	1178	1357	1559	1600
	1827	1844	1590	1200	1163	1360	1446	1203	1202	1230	1417	1627	1700
	1995	2014	1737	1310	1270	1486	1579	1313	1313	1343	1547	1778	1800
	2120	2141	1845	1393	1350	1579	1678	1396	1395	1428	1644	1889	1900
	2247	2269	1956	1476	1431	1673	1779	1479	1479	1513	1743	2002	2100
	2367	2390	2060	1555	1507	1763	1874	1558	1557	1594	1836	2109	2200
	2531	2556	2203	1662	1612	1885	2004	1666	1665	1704	1963	2255	2300
	2698	2724	2348	1772	1718	2009	2136	1776	1775	1816	2092	2403	2500
	2895	2923	2520	1901	1843	2156	2292	1906	1905	1949	2245	2579	2700
	3094	3123	2693	2032	1970	2304	2449	2037	2036	2083	2399	2756	2800



Table 1-38: List of Overloaded Substations during Period 2020-21 to 2030-31 Overloading Criterion= 85%

S.No.	Name	Rating KV	Grid #	Total Capacity (MVA)	Total Capacity (MW)	Overloading Criterion (MW)	Overloading Criterion (%)	Year of Overloading	Overloading Status (MW)	Power Factor
1	Bannu	132	11	106	95.40	81.09	85.00	2020-21	96.40	0.90
2	Charsadda	132	26	106	95.40	81.09	85.00	2026-27	79.80	0.90
3	Jehangira	132	68	92	83.72	71.16	85.00	2022-23	70.10	0.91
4	Karak	132	98	78	70.20	59.67	85.00	2020-21	63.90	0.90
5	Mansehra	132	128	106	95.40	81.09	85.00	2029-30	77.90	0.90
6	Mardan-1	220	129	66	60.06	51.05	85.00	2020-21	67.80	0.91
7	Nizampur	132	145	26	23.40	19.89	85.00	2028-29	19.30	0.90
8	Nowshera City	132	150	111	101.01	85.86	85.00	2027-28	84.10	0.91
9	Peshawar Indust	132	162	160	144.00	122.40	85.00	2020-21	122.00	0.90
10	Shahi Bagh	132	193	146	131.40	111.69	85.00	2028-29	110.20	0.90
11	AMC Abbottabad	132	225	52	46.80	39.78	85.00	2020-21	41.10	0.90
12	Daggar	132	258	92	83.72	71.16	85.00	2027-28	70.50	0.91
13	Dargai	132	262	106	97.52	82.89	85.00	2027-28	82.70	0.92
14	Pabbi	132	340	106	95.40	81.09	85.00	2026-27	77.30	0.90
15	Peshawar City	132	344	120	108.00	91.80	85.00	2022-23	89.40	0.90
16	Peshawar Fort	132	347	80	72.00	61.20	85.00	2024-25	59.70	0.90
17	Tajazai	66	386	13	11.70	9.95	85.00	2020-21	11.50	0.90
18	Tank	132	393	66	59.40	50.49	85.00	2020-21	50.10	0.90
19	Swat	132	461	146	131.40	111.69	85.00	2027-28	107.70	0.90
20	Nishan-e-Mahla	132	462	28	25.20	21.42	85.00	2025-26	20.80	0.90

S.No.	Name	Rating KV	Grid #	Total Capacity (MVA)	Total Capacity (MW)	Overloading Criterion (MW)	Overloading Criterion (%)	Year of Overloading	Overloading Status (MW)	Power Factor
21	Kulachi	132	466	26	23.40	19.89	85.00	2029-30	19.60	0.90
22	Muzafar Abad	132	473	67	61.64	52.39	85.00	2020-21	54.20	0.92
23	Peshawar Univer	132	514	160	144.00	122.40	85.00	2020-21	123.30	0.90
24	Hattian	132	518	13	11.96	10.17	85.00	2020-21	11.00	0.92
25	Tangi	132	567	118	106.20	90.27	85.00	2021-22	89.90	0.90
26	Pezu	132	596	26	23.66	20.11	85.00	2020-21	19.70	0.91
27	Kheshki	66	657	3	2.70	2.30	85.00	2020-21	2.30	0.90
28	Sheikh Muhammad	500	671	0	0.00	0.00	85.00	2020-21	29.50	0.90
29	Gumbat	132	694	39	35.10	29.84	85.00	2028-29	28.70	0.90
30	Nousery	132	709	13	11.96	10.17	85.00	2027-28	10.00	0.92
31	Jalala	132	757	106	95.40	81.09	85.00	2020-21	84.80	0.90
32	Domail	220	804	66	60.06	51.05	85.00	2025-26	49.50	0.91
33	Sakhi Chashma	132	819	78	70.98	60.33	85.00	2026-27	58.00	0.91
34	Jutilasht	132	831	13	11.70	9.95	85.00	2020-21	10.90	0.90
35	Dalazak	132	865	78	70.20	59.67	85.00	2029-30	57.70	0.90
36	Rehman Baba	132	876	120	108.00	91.80	85.00	2022-23	90.00	0.90
37	Hussai	132	901	92	82.80	70.38	85.00	2022-23	69.20	0.90
38	Sarai Naurang	132	903	65	58.50	49.73	85.00	2021-22	49.10	0.90
39	Katlang	132	906	39	35.10	29.84	85.00	2021-22	28.30	0.90
40	Warsak	132	910	78	70.20	59.67	85.00	2027-28	57.50	0.90
41	Rajar	132	940	26	23.40	19.89	85.00	2020-21	22.90	0.90
42		220	942	26	23.40	19.89	85.00	2020-21	21.00	0.90

S.No.	Name	Rating KV	Grid #	Total Capacity (MVA)	Total Capacity (MW)	Overloading Criterion (MW)	Overloading Criterion (%)	Year of Overloading	Overloading Status (MW)	Power Factor
43	Shangla	132	956	21	18.90	16.07	85.00	2020-21	15.60	0.90
44	Tajazai	132	992	52	46.80	39.78	85.00	2020-21	40.50	0.90
45	Kotal Town Koha	132	1054	66	59.40	50.49	85.00	2023-24	49.80	0.90
46	Mardan-3	132	1173	80	72.00	61.20	85.00	2022-23	58.10	0.90
47	WAPDA House Col	132	1181	52	46.80	39.78	85.00	2021-22	39.00	0.90



Table 1-39: List of Overloaded Substations during Period 2020-21 to 2030-31 Overloading Criterion=100%

S.No.	Name	Rating KV	Grid #	Total Capacity (MVA)	Total Capacity (MW)	Overloading Criterion (MW)	Overloading Criterion (%)	Year of Overloading	Overloading Status (MW)	Power Factor
1	Bannu	132	11	106	95.40	95.40	100.00	2020-21	96.60	0.90
2	Charsadda	132	26	106	95.40	95.40	100.00	2029-30	94.20	0.90
3	Jehangira	132	68	92	83.72	83.72	100.00	2029-30	83.50	0.91
4	Karak	132	98	78	70.20	70.20	100.00	2027-28	68.10	0.90
5	Mardan-1	220	129	66	60.06	60.06	100.00	2020-21	65.70	0.91
6	Peshawar Indust	132	162	160	144.00	144.00	100.00	2028-29	141.80	0.90
7	AMC Abbottabad	132	225	52	46.80	46.80	100.00	2026-27	45.70	0.90
8	Peshawar City	132	344	120	108.00	108.00	100.00	2027-28	107.00	0.90
9	Peshawar Fort	132	347	80	72.00	72.00	100.00	2028-29	69.60	0.90
10	Tank	132	393	66	59.40	59.40	100.00	2024-25	57.70	0.90
11	Muzafar Abad	132	473	67	61.64	61.64	100.00	2026-27	61.00	0.92
12	Hattian	132	518	13	11.96	11.96	100.00	2024-25	11.80	0.92
13	Tangi	132	567	118	106.20	106.20	100.00	2026-27	102.10	0.90
14	Pezu	132	596	26	23.66	23.66	100.00	2025-26	23.50	0.91
15	Kheshki	66	657	3	2.70	2.70	100.00	2028-29	2.70	0.90
16	Sheikh Muhammad	500	671	0	0.00	0.00	100.00	2020-21	29.00	0.90
17	Jalala	132	757	106	95.40	95.40	100.00	2028-29	91.80	0.90
18	Domail	220	804	66	60.06	60.06	100.00	2029-30	58.80	0.91
19	Jutlasht	132	831	13	11.70	11.70	100.00	2021-22	11.40	0.90

S.No.	Name	Rating KV	Grid #	Total Capacity (MVA)	Total Capacity (MW)	Overloading Criterion (MW)	Overloading Criterion (%)	Year of Overloading	Overloading Status (MW)	Power Factor
20	Rehman Baba	132	876	120	108.00	108.00	100.00	2026-27	104.30	0.90
21	Hussai	132	901	92	82.80	82.80	100.00	2029-30	79.70	0.90
22	Sarai Naurang	132	903	65	58.50	58.50	100.00	2025-26	56.70	0.90
23	Katlang	132	906	39	35.10	35.10	100.00	2024-25	33.40	0.90
24	Rajar	132	940	26	23.40	23.40	100.00	2020-21	22.90	0.90
25	Shahi Bagh	220	942	26	23.40	23.40	100.00	2024-25	23.00	0.90
26	Shangla	132	956	21	18.90	18.90	100.00	2025-26	18.70	0.90
27	Tajazai	132	992	52	46.80	46.80	100.00	2024-25	46.10	0.90
28	Kotal Town Koha	132	1054	66	59.40	59.40	100.00	2029-30	58.40	0.90
29	Mardan-3	132	1173	80	72.00	72.00	100.00	2024-25	66.70	0.90
30	WAPDA House Col	132	1181	52	46.80	46.80	100.00	2026-27	45.10	0.90



Table 1-40: List of Grids with their Codes and MVA Capacities

Sr. No.	Grid No.	KV	Grid Name	Transformer (MVA)					Total (MVA)		Sr. No.	Grid No.	KV	Grid Name	Transformer (MVA)					Total (MVA)
				T1	T2	T3	T4	T5												
1	4	132	Abbottabad	26	40	26	0	0	92		2	11	132	Bannu	0	0	26	40	40	106
3	14	132	Battal	26	0	26	0	0	52		4	24	132	Chakdara	40	40	40	40	0	120
5	26	132	Charsadda	40	40	26	0	0	106		6	34	132	D.I KHAN	40	40	40	40	40	200
7	59	132	Haripur	0	0	40	40	26	106		8	68	132	Jehangira	26	40	26	0	0	92
9	70	132	Jamrud	40	40	26	40	0	146		10	98	132	Karak	26	26	26	0	0	78
11	111	132	Kohat	40	40	37	26	0	143		12	128	132	Mansehra	40	40	26	0	0	106
13	129	220	Mardan-1	40	26	0	0	0	66		14	145	132	Nizampur	26	0	0	0	0	26
15	150	132	Nowshera City	40	5	40	26	0	111		16	151	132	Nowshera Industrial	26	26	40	0	0	92
17	156	132	Prova	13	0	26	0	0	39		18	162	132	Peshawar Industrial	40	40	40	40	0	160
19	193	132	Shahi Bagh	26	0	40	40	40	146		20	211	132	R.B Tarbela	40	26	13	0	0	79
21	225	132	AMC Abbottabad	26	26	0	0	0	52		22	235	66	Badaber	8	10	0	0	0	18
23	239	66	Bandkuri	13	13	13	0	0	39		24	258	132	Daggar	26	26	40	0	0	92
25	262	132	Dargai	0	40	26	40	0	106		26	282	132	Hangu	0	0	26	26	0	52

Sr. No.	Grid No.	KV	Grid Name	Transformer (MVA)					Total (MVA)
				T1	T2	T3	T4	T5	
27	283	66	Haripur	6	6	13	0	0	25
29	311	66	Kohat	3	6	0	0	0	9
31	340	132	Pabbi	40	40	26	0	0	106
33	346	132	Peshawar Cantt	40	40	26	26	0	132
35	365	132	Shabqadar	13	40	40	26	40	159
37	386	66	Tajazai	0	13	0	0	0	13
39	393	132	Tank	0	0	0	26	40	66
41	460	132	Lachi	26	26	0	0	0	52
43	462	132	Nishat Tarbela	15	13	0	0	0	28
45	466	132	Kulachi	0	26	0	0	0	26
47	514	132	Peshawar University	40	40	40	40	0	160
49	567	132	Tangi	26	40	26	26	0	118
51	596	132	Pezu	13	13	0	0	0	26
53	627		Sadoon Amazai	26	40	26	26	0	118

Sr. No.	Grid No.	KV	Grid Name	Transformer (MVA)					Total (MVA)
				T1	T2	T3	T4	T5	
28	286	66	Havelian	13	13	0	0	0	26
30	312	66	Kuram Garhi	6	13	0	0	0	19
32	344	132	Peshawar City	40	40	40	0	0	120
34	347	132	Peshawar Fort	40	40	0	0	0	80
36	384	132	Swabi	26	40	40	26	0	132
38	389	66	Timergara	7	13	0	0	0	20
40	394	132	Tall	40	26	26	0	0	92
42	461	132	Swat	26	40	40	0	40	146
44	464	132	Draban	0	26	0	0	0	26
46	473	132	Muzafar Abad	15	26	0	26	0	67
48	518	132	Hattian	13	0	0	0	0	13
50	580	132	Balakot	26	0	0	0	0	26
52	625	66	Dir	13	13	0	0	0	26
54	638	132	Hattar	40	40	40	40	0	160

Sr. No.	Grid No.	KV	Grid Name	Transformer (MVA)					Total (MVA)
				T1	T2	T3	T4	T5	
55	657	66	Kheshki	3	0	0	0	0	3
57	693	132	Mardan-2	40	40	0	0	0	80
59	699	11	Kurram Garhi P/H	12	0	0	0	0	12
61	736	132	Timergara	40	26	13	26	26	131
63	783	132	Gurguri	13	0	0	0	0	13
65	819	132	Sakhi Chashma	26	26	26	0	0	78
67	830	132	Darosh	26	0	0	0	0	26
69	834	132	Hayatabad	40	26	40	40	0	146
71	865	132	Dalazak	26	26	26	0	0	78
73	876	132	Rehman Baba	40	40	40	0	0	120
75	896	132	Madyan	26	0	0	0	0	26
77	903	132	Sarai Naurang	26	26	13	0	0	65
79	910	132	Warsak	26	26	26	0	0	78
81	940		Rajar	26	0	0	0	0	26

Sr. No.	Grid No.	KV	Grid Name	Transformer (MVA)					Total (MVA)
				T1	T2	T3	T4	T5	
56	671	500	Sheikh Muhammadi	0	0	0	0	0	
58	694	132	Gumbat	13	26	0	0	0	3
60	709	132	Nousery	13	0	0	0	0	
62	757	132	Jalala	0	0	40	26	40	1
64	804	220	Domail	26	40	0	0	0	6
66	829	33	Thakot	4	4	4	0	0	
68	831	132	Jutilasht	13	0	0	0	0	
70	857	132	Nathia Gali	13	0	0	0	0	
72	875	132	Wari	26	26	0	0	0	5
74	877	132	Khwaza Khela	26	26	40	0	0	9
76	901	132	Hussai	26	26	40	0	0	9
78	906	132	Katlang	26	13	0	0	0	3
80	919	132	Oghi	13	26	0	0	0	3
82	942	220	Shahi Bagh	0	0	0	13	13	2

Table 1-41: Maximum Demand (MW) of Substations (Base Forecast)

S.No	Grid No	Name of Grid Station	KV	Year										
				2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2031
1	4	Abbottabad	132	40.5	40.9	41.6	42.3	43.2	44.1	45.1	46.4	47.8	49.3	50
2	11	Bannu	132	96.6	99.6	102.9	95.2	81.1	84	87.2	91.2	95.4	99.7	104
3	14	Battal	132	27.9	28.4	28.9	29.5	30.2	30.9	31.7	32.8	33.9	35.1	36
4	24	Chakdara	132	72.9	74.7	77	79.4	82.1	85	88.1	91.9	95.9	100	104
5	26	Charsadda	132	78.6	80.9	83.5	86.4	76.8	79.6	82.6	86.3	90.2	94.2	98
6	34	D.I KHAN	132	113.2	114.5	81.6	74.6	76.1	77.9	79.9	82.4	85.1	87.9	90
7	59	Haripur	132	64	65.3	55.2	56.8	58.5	51	52.7	54.7	56.9	59.1	61
8	68	Jehangira	132	66.1	67.6	70	72.4	74.3	76.7	79.1	81.9	84.8	87.9	9
9	70	Jamrud	132	102.3	101.8	99.9	100.9	81.4	83.3	85.4	87.7	90	92.4	94
10	98	Karak	132	63.8	66.5	56.7	59.2	61.9	64.7	67.7	71.3	75	78.9	82
11	111	Kohat	132	83.9	86.4	89.2	92.3	95.5	99	102.8	107.4	112.2	117.2	121
12	128	Mansehra	132	73.7	75.3	77.4	79.6	70.6	67.1	69.3	72.1	75.1	78.2	81
13	129	Mardan-1	220	67.6	68.8	70.8	61.8	63.8	66	68.4	71.2	74.2	77.2	80
14	137	Muree	132	5.3	5.4	5.5	5.6	5.8	5.9	6.1	6.3	6.5	6.8	7
15	145	Nizampur	132	11.2	12.1	13	13.9	14.9	15.9	16.9	18.1	19.4	20.7	2
16	146	Wah	132	4.2	4.3	4.4	4.5	4.7	4.8	5	5.2	5.4	5.7	5
17	150	Nowshera City	132	73.8	74	75.2	76.4	77.9	79.8	81.8	84.4	86.9	89.6	92
18	151	Nowshera Indust	132	47.5	48.8	50.2	51.7	44.1	45.5	47.1	49	50.9	53	5
19	156	Prova	132	17.2	17.7	18.3	19	19.6	20.4	21.2	22.2	23.2	24.2	25
20	157	Rawar Indust	132	122.3	125.5	129.5	133.8	121.1	125.5	130.1	135.9	141.8	148	154

S.No	Grid No	Name of Grid Station	KV	Year										
				2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
21	193	Shahi Bagh	132	85.7	88.1	91.1	94.2	88.2	91.5	95	99.3	103.8	108.5	113
22	211	R.B Tarbela	132	33.6	34.1	34.9	35.9	37	38.2	39.5	41	42.6	44.3	45
23	225	AMC Abbottabad	132	41.2	41.6	42.2	42.9	43.8	44.7	45.7	47.1	48.5	50.1	51
24	235	Badaber	66	13.8	14.3	14.8	0	0	0	0	0	0	0	0
25	239	Bandkuri	66	28.5	29.3	30.3	0	0	0	0	0	0	0	0
26	258	Daggar	132	68.6	69.3	60.5	62	63.8	65.9	68.1	70.7	73.5	76.3	79
27	262	Dargai	132	81.8	82	83.5	74.3	75.9	78.1	80.4	83	85.7	88.4	91
28	282	Hangu	132	34.5	35.5	36.7	38	39.3	26.2	27.2	28.5	29.8	31.1	32
29	283	Haripur	66	13.9	14.4	14.9	15.5	0	0	0	0	0	0	0
30	286	Havelian	66	1.1	1.3	2.4	2.6	2.7	2.9	3	3.2	3.4	3.6	3.8
31	311	Kohat	66	2.2	2.2	2.3	2.4	2.4	2.5	2.6	2.7	2.8	3	3.1
32	312	Kuram Garhi	66	15	15.4	15.9	16.4	16.9	0	0	0	0	0	0
33	340	Pabbi	132	73.3	76.3	66.2	69.2	72.2	57.8	60.4	63.6	66.9	70.3	73
34	344	Peshawar City	132	84.9	87	89.7	92.6	95.6	99	102.6	107	111.6	116.5	121
35	346	Peshawar Cantt	132	86.6	88.9	79.6	82.3	75.8	78.5	81.3	84.7	88.3	92.1	95
36	347	Peshawar Fort	132	53	54.4	56	57.9	59.9	61.9	64.2	66.8	69.6	72.6	75
37	365	Shabqadar	132	90.5	92.9	96	90.3	70.1	72.7	75.5	78.9	82.4	86.1	89
38	384	Swabi	132	85	87.5	77.3	61.9	64.1	66.5	69	72.2	75.4	78.8	82
39	386	Tajazai	66	11.5	11.9	12.3	0	0	0	0	0	0	0	0
40	389	Timergara	66	9.1	9.4	9.7	10.1	10.4	10.8	11.2	11.8	12.3	12.9	13
41			132	50.2	51.8	53.7	55.6	57.7	59.9	62.2	65.2	68.2	71.3	74

S.No	Grid No	Name of Grid Station	KV	Year										
				2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
42	394	Tall	132	26.6	27.4	28.3	29.3	30.4	31.5	32.7	34.1	35.7	37.3	38.4
43	460	Lachi	132	24.7	25.3	26	26.9	19.2	19.8	20.5	21.4	22.3	23.2	24.1
44	461	Swat	132	96.7	99	102.1	92	95.1	98.5	102.2	106.7	111.3	116.1	120.8
45	462	Nishat Tarbela	132	16.8	17.4	18	18.7	19.4	20.2	21	21.9	22.9	24	25
46	463	Chitral H/P	11	0.8	0.8	0.8	0.9	0.9	0.9	1	1	1.1	1.1	1.1
47	464	Draban	132	12.7	13.1	13.6	14	14.6	15.1	15.7	16.4	17.2	18	18.6
48	466	Kulachi	132	14.3	14.7	15.2	15.7	16.2	16.7	17.3	18.1	18.9	19.7	20.5
49	473	Muzafar Abad	132	54.4	54.8	55.6	56.9	58.2	59.6	61	62.4	63.9	65.4	66.8
50	514	Peshawar Univer	132	123.6	125.6	122	109	95.3	97.8	100.5	109.6	119	128.8	138.6
51	518	Hattian	132	11	11.1	11.3	11.6	11.8	12.1	12.4	12.7	13	13.3	13.6
52	567	Tangi	132	87.5	90.3	93.4	96.8	100.3	104.1	108.2	113.2	118.4	123.8	129.1
53	580	Balakot	132	13.9	14.1	14.4	14.7	15	15.4	15.8	16.3	16.9	17.5	18
54	596	Pezu	132	19.8	20.4	21.1	21.8	22.6	23.5	24.4	25.5	26.7	27.9	29
55	625	Dir	66	10.9	11.2	0	0	0	0	0	0	0	0	0
56	627	Gadoon Amazai	132	62.4	61.7	62.5	63.3	64.4	66.1	67.8	69.7	71.7	73.7	75
57	638	Hattar	132	109.6	111.2	75.6	76.2	77.3	79.3	81.2	83.3	85.4	87.6	89
58	657	Kheshki	66	2.4	2.4	2.5	2.5	2.5	2.6	2.6	2.7	2.7	2.8	2.9
59	671	Sheikh Muhammad	500	29	30	31.1	32.2	33.4	34.7	36	37.7	39.5	41.3	43
60	678	Garam Chashma P	11	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7
61	693	Mardan-2	132	59.2	60.9	61.9	63	48.6	49.7	50.8	52.4	54	55.7	57
62	700	Chabot	132	21.4	22.1	22.8	23.6	24.5	25.4	26.3	27.5	28.8	30.1	31

S.No	Grid No	Name of Grid Station	KV	Year										
				2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
63	699	Kurram Garhi P/	11	0.9	0.9	1	1	1	1	1.1	1.1	1.2	1.2	1.3
64	709	Nouser	132	8.6	8.7	8.8	9.1	9.3	9.5	9.7	10	10.2	10.5	10.8
65	714	Kohat Cement	132	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7
66	716	Locomotive	132	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
67	717	Consumer GS	132	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2
68	718	Tarbela P/H	11	2.5	2.6	2.7	2.8	2.9	3	3.1	3.3	3.4	3.6	3.8
69	736	Timergara	132	66.5	68.6	53.4	55.3	57.3	59.4	61.7	64.6	67.5	70.6	73.7
70	744	Chashma	132	3.3	3.4	3.5	3.7	3.8	3.9	4.1	4.3	4.4	4.6	4.8
71	757	Jalala	132	84.5	86.6	89.1	91.9	83.3	86.1	89.1	92.8	96.8	100.9	105
72	783	Gurguri	132	6.6	6.8	7.1	7.3	7.6	7.9	8.2	8.6	9	9.4	9.8
73	784	AWT Nizampur	132	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5
74	786	Tarnawa	132	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
75	799	Best Way Cement	132	14.7	14.7	14.7	59.7	59.7	59.7	59.7	59.7	59.7	59.7	59.7
76	801	Mattani	132	55.8	57.6	59.5	61.7	63.9	66.2	68.8	71.9	75.2	78.6	82
77	804	Domail	220	42.1	43.3	44.7	46.3	47.9	49.7	51.6	53.9	56.3	58.8	61.3
78	819	Sakhi Chashma	132	48.1	49.2	50.8	52.4	54.1	56.1	58.1	60.7	63.3	66	68.7
79	829	Thakot	33	8.4	8.6	8.9	9.2	0	0	0	0	0	0	0
80	830	Darosh	132	3.3	3.4	3.5	3.6	3.8	3.9	4.1	4.3	4.5	4.7	4.9
81	831	Jutilasht	132	10.9	11.4	11.9	12.4	13	13.5	14.2	14.9	15.7	16.5	17.3
82	834	Hayatabad	132	71.9	74.1	77	79.9	83.2	86.7	90.4	94.9	99.5	104.2	109
83	835	Chashma Gali	132	6.5	6.7	6.9	7.1	7.4	7.6	7.9	8.2	8.6	9	9.3

S.No	Grid No	Name of Grid Station	KV	Year										
				2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
84	861	Sadi Cement	132	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
85	865	Dalazak	132	45.8	46.5	47.3	48.3	49.4	50.6	52	53.9	55.8	57.8	59
86	875	Wari	66	26.6	27.5	28.4	0	0	0	0	0	0	0	0
87	876	Rehman Baba	132	84.6	87.3	90.2	93.4	96.8	100.5	104.3	109.1	114.2	119.4	124
88	877	Khwaza Khela	132	50.1	51.6	40.9	42.3	43.9	45.5	47.3	49.5	51.8	54.2	56
89	896	Madyan	132	11.5	11.8	12.1	12.5	12.9	13.4	13.9	14.5	15.1	15.7	16
90	901	Hussai	132	65.3	67.2	69.4	71.8	74.3	67.4	69.9	73.1	76.4	79.7	83
91	903	Sarai Naurang	132	47.7	49.2	50.9	52.7	54.6	56.7	58.9	61.6	64.4	67.3	70
92	906	Katlang	132	26.9	28.4	30	31.7	33.4	35.3	37.3	39.6	41.9	44.4	46
93	910	Warsak	132	55.8	57.6	47.5	49.2	51	52.9	54.9	57.5	60.1	62.8	65
94	919	Oghi	132	15.9	16.5	17	17.7	18.3	19	19.7	20.7	21.6	22.6	23
95	940	Rajar	132	22.9	23.7	24.5	25.4	26.3	27.3	28.4	29.7	31.1	32.5	3
96	942	Shahi Bagh	220	20.1	20.7	21.5	22.2	23	23.9	24.8	26	27.2	28.4	29
97	955	Pattan	33	3.5	3.6	3.7	3.9	0	0	0	0	0	0	0
98	956	Shangla	132	15.7	16.2	16.8	17.4	18	18.7	19.5	20.4	21.4	22.3	23
99	992	Tajazai	132	39.1	40.4	41.8	56.1	46.1	47.8	49.7	52	54.4	56.9	59
100	1006	Cattar Class	33	0	0	0	0	0	0	0	0	0	0	0
101	1054	Kotal Town Koha	132	46	47.2	48.5	50	51.5	53.2	55	57.2	59.5	61.9	64
102	1092	Gomal Universit	132	15.2	15.5	16	16.6	17.1	17.7	18.4	19.2	20.1	20.9	21
103	1100	Dobian	132	27.2	27.6	28.1	28.6	29.2	29.9	30.7	31.7	32.7	33.8	3
104	1101	Chakrapura	132	26.6	26.8	27.2	27.8	28.5	29.1	29.8	30.5	31.2	32	32

S.No	Grid No	Name of Grid Station	KV	Year										
				2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
105	1153	Barikot	132	24.2	25	25.8	26.7	27.6	28.6	29.7	31	32.4	33.8	35
106	1172	Kholian Bala Ha	132	29.8	30.2	29.7	30.3	31	31.7	32.5	33.6	34.8	35.9	37
107	1173	Mardan-3	132	49.2	51	56	61.3	66.7	72.3	78.2	87.7	97.6	107.8	114
108	1178	ZRK	132	25	25	25	25	25	25	25	25	25	25	2
109	1181	WAPDA House Col	132	36.5	37.7	39	40.4	41.9	43.4	45.1	47.2	49.4	51.7	54
110	1191	Batkheila	132	14.6	15	15.5	16	16.5	17.2	17.8	18.6	19.4	20.3	21
111	1195	Besham	132	9.9	10.1	10.5	10.8	11.2	11.6	12.1	12.6	13.2	13.8	14
112	1200	Taru Jabba	132	21.9	21.7	35.3	36.3	37.3	38.6	39.8	41.3	42.8	44.3	45
113	1207	FF Steel Mill H	132	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13
114	1209	Alhaj Asia Star	132	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31
115	1221	Sabir Abad	132	6.3	6.5	13.1	13.6	14.1	14.7	15.4	16.1	16.9	17.8	18
116	1228	Cherat Cement	132	15	15	15	15	15	15	15	15	15	15	1
117	1235	Siraj Baba	132	17.8	17.3	24	24.4	25	25.7	26.5	27.4	28.3	29.2	30
118	1300	RashakaiEconomi	132	0	0	67	160	210	210	210	210	210	210	21
119	1301	Hattar Economic	132	0	0	30	60	120	120	120	120	120	120	12
120	1302	Hazara Steel Mi	132	0	0	0	20	20	20	20	20	20	20	2
121	1305	DHA Peshawar	132	0	0	0	10	20	35	35	35	35	35	3
122	1306	Jalozai Housing	132	0	0	0	10	20	35	35	35	35	35	3
123	1307	Premier Cement	132	0	0	0	50	50	50	50	50	50	50	5
124	1308	Marble City	132	0	0	0	15	15	15	15	15	15	15	1
125	1309	Marble City	132	0	0	0	0	4	4.2	4.3	4.5	4.7	5	5

S.No	Grid No	Name of Grid Station	KV	Year										
				2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
126	6670	Thakot132	132	0	0	0	0	9.6	9.9	10.3	10.8	11.3	11.8	12
127	6672	Chota Lahor	132	0	0	0	9	9.4	9.7	10.1	10.5	11	11.5	1
128	6673	Kaka Sahib	132	0	0	0	0	9.2	9.5	9.8	10.2	10.6	11	11
129	6674	Warsak Road	132	0	0	17.4	18.1	18.7	19.4	20.1	21	21.9	22.9	23
130	6675	Hassan Zai	132	0	0	0	9	9.3	9.7	10	10.5	11	11.5	1
131	6677	Bannu-2	132	0	0	0	11.3	29.3	30.4	31.5	33	34.5	36	37
132	6678	Chirat Industri	132	0	0	0	0	0	17.8	18.6	19.5	20.6	21.6	22
133	6679	Behram Killi	132	0	0	0	11.1	11.4	11.8	12.2	12.7	13.3	13.8	14
134	6680	Munda-Jandol	132	0	0	8.8	9.1	9.4	9.7	10.1	10.6	11.1	11.6	12
135	6681	Lal Qilla	132	0	0	8.8	9.1	9.4	9.7	10.1	10.6	11.1	11.6	12
136	6682	D.I Khan-2	132	0	0	34.8	35.5	36.3	37.1	38	39.3	40.5	41.9	43
137	6683	Naguman	132	0	0	0	0	32.7	33.9	35.2	36.8	38.4	40.1	41
138	6684	Baja Bam Khel	132	0	0	0	9	12.8	13.3	13.8	14.4	15	15.7	16
139	6686	Lund Khwar	132	0	0	0	0	11.5	11.9	12.3	12.8	13.4	13.9	14
140	6687	Manga Dargai	132	0	0	0	0	9.1	9.5	9.8	10.3	10.7	11.2	11
141	6688	Nawan Killi	132	0	0	13.1	13.6	14	14.6	15.1	15.8	16.5	17.3	1
142	6689	Mardan-4	132	0	0	0	0	15.6	15.9	16.3	16.8	17.3	17.8	18
143	6690	Doaba	132	0	0	0	0	0	14.6	15.1	15.8	16.5	17.3	1
144	6691	Shakardara	132	0	0	0	0	8.5	8.8	9.1	9.5	9.9	10.3	10
145	6692	Bara Road	132	0	0	0	0	43	44.4	45.8	48.6	51.5	54.6	57
146	6693	Bara Galla	132	0	0	0	8.6	8.8	9	9.2	9.5	9.8	10.1	10

S.No	Grid No	Name of Grid Station	KV	Year										
				2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030
147	6694	Salar Zai	132	0	0	10.6	10.9	11.2	11.6	12	12.5	12.9	13.4	13
148	6695	Kabal	132	0	0	0	13.4	13.9	14.4	14.9	15.6	16.2	16.9	17
149	6696	Khan pur	132	0	0	11.8	12.1	12.5	12.9	13.3	13.9	14.4	15	15
150	6697	Lora	132	0	0	0	0	0	9.4	9.7	10.1	10.5	10.9	11
151	6698	Kala Dakha	132	0	0	0	0	0	5.9	6.1	6.4	6.6	6.9	7
152	6699	Lakkk-2	132	0	0	0	0	12.1	12.6	13	13.6	14.3	14.9	15
153	6700	Haripur-2	132	0	0	0	0	16.2	16.8	17.6	18.4	19.3	20.3	21
154	6701	Kuram Garhi132	132	0	0	0	0	0	17.5	18.1	18.9	19.7	20.5	21
155	6702	Badaber132	132	0	0	0	15.3	15.8	16.4	17	17.8	18.6	19.5	20
156	6703	Bandkuri132	132	0	0	0	31.4	32.5	33.7	35	36.6	38.3	40	41
157	6704	Dir132	132	0	0	11.4	11.8	12.1	12.4	12.8	13.3	13.9	14.4	1
158	6705	Dargai-2	132	0	0	0	10.7	10.9	11.2	11.5	11.9	12.3	12.7	13
159	6706	Rustam	132	0	0	0	0	0	9.7	10.1	10.5	11	11.5	1
160	6707	Hattar-2	132	0	0	36.8	37.1	37.7	38.6	39.6	40.6	41.6	42.7	43
161	6708	Jamrud-2	132	0	0	0	0	21.2	21.7	22.3	22.9	23.5	24.1	24
162	6709	Shinkiari	132	0	0	0	0	11.4	11.8	12.2	12.7	13.2	13.8	14
163	6801	Regi Model Town	132	0	0	15.8	32.1	32.9	33.9	34.8	37.4	40	42.8	45
164	6802	wari132	132	0	0	0	29.5	30.5	31.7	32.9	34.5	36.1	37.7	39
165	6803	Matta	132	0	0	12.5	13	13.5	14	14.5	15.2	15.9	16.6	17
		TOTAL DISCO:	0	4494.9	4595.3	4821.3	5234.3	5513.6	5709.4	5885.5	6112.3	6347.1	6591.3	684

Table 1-42: Family of Grids (Existing, Proposed & Transit Grid)

S.No	Group No	Grid No	Name of Grid Station	KV	Year										
					2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
1	1	286	Havelian	66	1.1	1.3	1.4	1.5	1.6	1.8	1.9	2	2.2	2.3	2
2	1	1172	Kholian Bala Ha	132	28.8	29.2	29.7	30.3	31	31.7	32.5	33.6	34.8	35.9	37
3	1	9017	kholian bala_Ha	132	1	1	1	1.1	1.1	1.1	1.1	1.2	1.2	1.3	1
4	2	992	Tajazai	132	28.6	29.5	30.6	31.7	32.9	34.1	35.4	37.1	38.8	40.5	42
5	2	386	Tajazai	66	0	0	0	0	0	0	0	0	0	0	0
6	2	8931	Tajazai_Tajazai	132	11.5	11.9	12.3	12.8	13.2	13.7	14.3	14.9	15.6	16.3	17
7	3	1200	Taru Jabba	132	21.9	21.7	22	22.3	22.8	23.3	23.9	24.5	25.1	25.8	26
8	3	340	Pabbi	132	44.3	46.1	48.1	50.2	52.4	54.8	57.3	60.3	63.4	66.7	7
9	3	8904	Pabbi_Taru jabb	132	12.3	12.8	13.4	13.9	14.6	15.2	15.9	16.8	17.6	18.5	19
10	4	1221	Sabir Abad	132	6.3	6.5	6.8	7	7.3	7.6	7.9	8.2	8.6	9	9
11	4	98	Karak	132	49.8	51.9	54.2	56.6	59.1	61.8	64.7	68.1	71.7	75.4	79
12	4	9016	Karak_sabirabad	132	5.8	6	6.3	6.6	6.9	7.2	7.5	7.9	8.3	8.7	9
13	5	1235	Siraj Baba	132	17.8	17.3	17.5	17.6	17.9	18.3	18.7	19.2	19.7	20.1	20
14	5	98	Karak	132	49.8	51.9	54.2	56.6	59.1	61.8	64.7	68.1	71.7	75.4	79
15	5	9015	Karak_siraj bab	132	6	6.2	6.5	6.8	7.1	7.4	7.8	8.2	8.6	9	9
16	6	6668	Pattan132	132	0	0	0	0	0	0	0	0	0	0	0
17	6	955	Pattan	33	0	0	0	0	0	0	0	0	0	0	0
18			Pattan_Pattan13	132	3.5	3.6	3.7	3.9	4	4.2	4.3	4.5	4.7	5	5

S.No	Group No	Grid No	Name of Grid Station	KV	Year										
					2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
19	7	6670	Thakot132	132	0	0	0	0	0	0	0	0	0	0	0
20	7	829	Thakot	33	0	0	0	0	0	0	0	0	0	0	0
21	7	8893	Thakot_Thakot13	132	8.4	8.6	8.9	9.2	9.6	9.9	10.3	10.8	11.3	11.8	12.3
22	8	6672	Chota Lahor	132	0	0	0	0	0	0	0	0	0	0	0
23	8	384	Swabi	132	56.2	57.9	59.8	61.9	64.1	66.5	69	72.2	75.4	78.8	82.1
24	8	8894	Swabi_Chota Lah	132	8.2	8.5	8.7	9	9.4	9.7	10.1	10.5	11	11.5	12
25	9	6673	Kaka Sahib	132	0	0	0	0	0	0	0	0	0	0	0
26	9	151	Nowshera Indust	132	37.1	38.2	39.2	40.4	41.6	43	44.5	46.2	48.1	50	51
27	9	8896	Nowshera Indust	132	8.2	8.4	8.7	8.9	9.2	9.5	9.8	10.2	10.6	11	11
28	10	6674	Warsak Road	132	0	0	0	0	0	0	0	0	0	0	0
29	10	346	Peshawar Cantt	132	67.1	68.9	70.9	73.3	75.8	78.5	81.3	84.7	88.3	92.1	95
30	10	8897	Peshawar Cantt_	132	8.2	8.4	8.7	9	9.3	9.6	10	10.4	10.8	11.3	11
31	11	6674	Warsak Road	132	0	0	0	0	0	0	0	0	0	0	0
32	11	910	Warsak	132	44.5	45.9	47.5	49.2	51	52.9	54.9	57.5	60.1	62.8	65
33	11	8898	Warsak_Warsak R	132	8.2	8.5	8.8	9.1	9.4	9.8	10.1	10.6	11.1	11.6	12
34	12	6675	Hassan Zai	132	0	0	0	0	0	0	0	0	0	0	0
35	12	365	Shabqadar	132	61.7	63.4	65.5	67.7	70.1	72.7	75.5	78.9	82.4	86.1	89
36	12	8899	Shabqadar_Hassa	132	8.2	8.4	8.7	9	9.3	9.7	10	10.5	11	11.5	12

S.No	Group No	Grid No	Name of Grid Station	KV	Year										
					2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
37	13	6677	Bannu-2	132	0	0	0	0	0	0	0	0	0	0	0
38	13	11	Bannu	132	71	73.2	75.6	78.3	81.1	84	87.2	91.2	95.4	99.7	103.9
39	13	8900	Bannu_Bannu-2	132	10.3	10.6	10.9	11.3	11.7	12.1	12.6	13.2	13.8	14.4	15.0
40	14	6677	Bannu-2	132	0	0	0	0	0	0	0	0	0	0	0
41	14	11	Bannu	132	71	73.2	75.6	78.3	81.1	84	87.2	91.2	95.4	99.7	103.9
42	14	8902	Bannu_Bannu-2	132	15.4	15.9	16.4	17	17.6	18.2	18.9	19.8	20.7	21.6	22.5
43	15	6678	Chirat Industri	132	0	0	0	0	0	0	0	0	0	0	0
44	15	340	Pabbi	132	44.3	46.1	48.1	50.2	52.4	54.8	57.3	60.3	63.4	66.7	70
45	15	8903	Pabbi_Chirat In	132	14.4	14.9	15.6	16.3	17	17.8	18.6	19.5	20.6	21.6	22.5
46	16	6679	Behram Killi	132	0	0	0	0	0	0	0	0	0	0	0
47	16	129	Mardan-1	220	55.4	56.4	58.1	59.8	61.6	63.8	66.1	68.8	71.6	74.6	77.6
48	16	8905	Mardan-1_Behram	132	10.3	10.4	10.7	11.1	11.4	11.8	12.2	12.7	13.3	13.8	14.4
49	17	6680	Munda-Jandol	132	0	0	0	0	0	0	0	0	0	0	0
50	17	736	Timergara	132	50.1	51.6	53.4	55.3	57.3	59.4	61.7	64.6	67.5	70.6	73.6
51	17	8906	Timergara_Munda	132	8.2	8.5	8.8	9.1	9.4	9.7	10.1	10.6	11.1	11.6	12.1
52	18	6681	Lal Qilla	132	0	0	0	0	0	0	0	0	0	0	0
53	18	736	Timergara	132	50.1	51.6	53.4	55.3	57.3	59.4	61.7	64.6	67.5	70.6	73.6
54	18	8907	Timergara_Lal Q	132	8.2	8.5	8.8	9.1	9.4	9.7	10.1	10.6	11.1	11.6	12.1

S.No	Group No	Grid No	Name of Grid Station	KV	Year										
					2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
55	19	6682	D.I Khan-2	132	0	0	0	0	0	0	0	0	0	0	0
56	19	34	D.I KHAN	132	71.2	71.9	73.2	74.6	76.1	77.9	79.9	82.4	85.1	87.9	90.6
57	19	8909	D.I KHAN_D.I Kh	132	33.9	34.3	34.8	35.5	36.3	37.1	38	39.3	40.5	41.9	43.2
58	20	6683	Naguman	132	0	0	0	0	0	0	0	0	0	0	0
59	20	365	Shabqadar	132	61.7	63.4	65.5	67.7	70.1	72.7	75.5	78.9	82.4	86.1	89.8
60	20	8908	Shabqadar_Nagum	132	20.5	21.1	21.8	22.5	23.3	24.2	25.1	26.2	27.4	28.6	29.8
61	21	6683	Naguman	132	0	0	0	0	0	0	0	0	0	0	0
62	21	193	Shahi Bagh	132	77.4	79.7	82.3	85.2	88.2	91.5	95	99.3	103.8	108.5	113.2
63	21	8911	Shahi Bagh_Nagu	132	8.2	8.4	8.7	9	9.3	9.7	10.1	10.5	11	11.5	12
64	22	6684	Baja Bam Khel	132	0	0	0	0	0	0	0	0	0	0	0
65	22	26	Charsadda	132	67.6	69.5	71.8	74.2	76.8	79.6	82.6	86.3	90.2	94.2	98.2
66	22	8910	Charsadda_Nagum	132	3	3.1	3.2	3.3	3.4	3.5	3.7	3.8	4	4.2	4.4
67	23	6684	Baja Bam Khel	132	0	0	0	0	0	0	0	0	0	0	0
68	23	384	Swabi	132	56.2	57.9	59.8	61.9	64.1	66.5	69	72.2	75.4	78.8	82.2
69	23	8912	Swabi_Baja Bam	132	8.2	8.5	8.7	9	9.4	9.7	10.1	10.5	11	11.5	12
70	24	6686	Lund Khwar	132	0	0	0	0	0	0	0	0	0	0	0
71	24	757	Jalala	132	70.4	72.2	74.3	76.6	79	81.6	84.5	88	91.8	95.6	99.4
72	24	8913	Jalala_Lund Khw	132	10.3	10.5	10.8	11.2	11.5	11.9	12.3	12.8	13.4	13.9	14.4

S.No	Group No	Grid No	Name of Grid Station	KV	Year										
					2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
73	25	6687	Manga Dargai	132	0	0	0	0	0	0	0	0	0	0	0
74	25	26	Charsadda	132	67.6	69.5	71.8	74.2	76.8	79.6	82.6	86.3	90.2	94.2	98.2
75	25	8914	Charsadda_Manga	132	8	8.3	8.5	8.8	9.1	9.5	9.8	10.3	10.7	11.2	11.7
76	26	6688	Nawan Killi	132	0	0	0	0	0	0	0	0	0	0	0
77	26	384	Swabi	132	56.2	57.9	59.8	61.9	64.1	66.5	69	72.2	75.4	78.8	82.2
78	26	8915	Swabi_Nawan Kil	132	12.3	12.7	13.1	13.6	14	14.6	15.1	15.8	16.5	17.3	18.1
79	27	6689	Mardan-4	132	0	0	0	0	0	0	0	0	0	0	0
80	27	693	Mardan-2	132	44.8	46.1	46.8	47.7	48.6	49.7	50.8	52.4	54	55.7	57.2
81	27	8916	Mardan-2_Mardan	132	14.4	14.8	15	15.3	15.6	15.9	16.3	16.8	17.3	17.8	18.3
82	28	6690	Doaba	132	0	0	0	0	0	0	0	0	0	0	0
83	28	282	Hangu	132	22.2	22.8	23.6	24.4	25.3	26.2	27.2	28.5	29.8	31.1	32.4
84	28	8917	Hangu_Doaba	132	12.3	12.7	13.1	13.6	14.1	14.6	15.1	15.8	16.5	17.3	18.1
85	29	6691	Shakardara	132	0	0	0	0	0	0	0	0	0	0	0
86	29	460	Lachi	132	17.1	17.5	18	18.6	19.2	19.8	20.5	21.4	22.3	23.2	24.1
87	29	8919	Lachi_Shakardar	132	7.6	7.8	8	8.3	8.5	8.8	9.1	9.5	9.9	10.3	10.7
88	30	6692	Bara Road	132	0	0	0	0	0	0	0	0	0	0	0
89	30	346	Peshawar Cantt	132	67.1	68.9	70.9	73.3	75.8	78.5	81.3	84.7	88.3	92.1	95.9
90	30	8918	Peshawar Cantt_	132	8.2	8.4	8.7	9	9.3	9.6	10	10.4	10.8	11.3	11.7

S.No	Group No	Grid No	Name of Grid Station	KV	Year										
					2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
91	31	6692	Bara Road	132	0	0	0	0	0	0	0	0	0	0	0
92	31	514	Peshawar Univer	132	87.6	89.1	90.9	93	95.3	97.8	100.5	109.6	119	128.8	13
93	31	8920	Peshawar Univer	132	15	15.3	15.6	16	16.3	16.8	17.2	18.8	20.4	22.1	23
94	32	6692	Bara Road	132	0	0	0	0	0	0	0	0	0	0	0
95	32	162	Peshawar Indust	132	107	109.8	113.3	117.1	121.1	125.5	130.1	135.9	141.8	148	15
96	32	8922	Peshawar Indust	132	15.3	15.7	16.2	16.8	17.3	18	18.6	19.5	20.3	21.2	22
97	33	6693	Panyala	132	0	0	0	0	0	0	0	0	0	0	0
98	33	34	D.I KHAN	132	71.2	71.9	73.2	74.6	76.1	77.9	79.9	82.4	85.1	87.9	90
99	33	8923	D.I KHAN_Panyal	132	8.2	8.3	8.4	8.6	8.8	9	9.2	9.5	9.8	10.1	10
100	34	6694	Salar Zai	132	0	0	0	0	0	0	0	0	0	0	0
101	34	258	Daggar	132	58.3	59	60.5	62	63.8	65.9	68.1	70.7	73.5	76.3	79
102	34	8925	Daggar_Salar Za	132	10.3	10.4	10.6	10.9	11.2	11.6	12	12.5	12.9	13.4	13
103	35	6695	Kabal	132	0	0	0	0	0	0	0	0	0	0	0
104	35	461	Swat	132	81.4	83.3	85.9	88.7	91.7	95	98.5	102.7	107.2	111.9	11
105	35	8926	Swat_Kabal	132	12.3	12.6	13	13.4	13.9	14.4	14.9	15.6	16.2	16.9	17
106	36	6696	Khan pur	132	0	0	0	0	0	0	0	0	0	0	0
107	36	59	Haripur	132	44.5	45.4	46.6	47.9	49.4	51	52.7	54.7	56.9	59.1	61
108	36	8927	Haripur_Khan pu	132	11.3	11.5	11.8	12.1	12.5	12.9	13.3	13.9	14.4	15	15

S.No	Group No	Grid No	Name of Grid Station	KV	Year										
					2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
109	37	6697	Lora	132	0	0	0	0	0	0	0	0	0	0	0
110	37	59	Haripur	132	44.5	45.4	46.6	47.9	49.4	51	52.7	54.7	56.9	59.1	61
111	37	8928	Haripur_Lora	132	8.2	8.4	8.6	8.8	9.1	9.4	9.7	10.1	10.5	10.9	11
112	38	6698	Kala Dakha	132	0	0	0	0	0	0	0	0	0	0	0
113	38	128	Mansehra	132	58.3	59.6	61.2	63	64.9	67.1	69.3	72.1	75.1	78.2	81
114	38	8929	Mansehra_Kala D	132	5.1	5.2	5.4	5.5	5.7	5.9	6.1	6.4	6.6	6.9	7
115	39	6699	Lakkk-2	132	0	0	0	0	0	0	0	0	0	0	0
116	39	992	Tajazai	132	28.6	29.5	30.6	31.7	32.9	34.1	35.4	37.1	38.8	40.5	42
117	39	8930	Tajazai_Lakkk-2	132	10.5	10.9	11.3	11.7	12.1	12.6	13	13.6	14.3	14.9	15
118	40	6700	Haripur-2	132	0	0	0	0	0	0	0	0	0	0	0
119	40	283	Haripur	66	0	0	0	0	0	0	0	0	0	0	0
120	40	8932	Haripur_Haripur	132	13.9	14.4	14.9	15.5	16.2	16.8	17.6	18.4	19.3	20.3	21
121	41	6701	Kuram Garhi132	132	0	0	0	0	0	0	0	0	0	0	0
122	41	312	Kuram Garhi	66	0	0	0	0	0	0	0	0	0	0	0
123	41	8921	Kuram Garhi_Kur	132	15	15.4	15.9	16.4	16.9	17.5	18.1	18.9	19.7	20.5	21
124	42	6702	Badaber132	132	0	0	0	0	0	0	0	0	0	0	0
125	42	235	Badaber	66	0	0	0	0	0	0	0	0	0	0	0
126	42	9001	Badaber_Badaber	132	13.8	14.3	14.8	15.3	15.8	16.4	17	17.8	18.6	19.5	20

S.No	Group No	Grid No	Name of Grid Station	KV	Year										
					2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
127	43	6703	Bandkuri132	132	0	0	0	0	0	0	0	0	0	0	0
128	43	239	Bandkuri	66	0	0	0	0	0	0	0	0	0	0	0
129	43	9002	Bandkuri_Bandku	132	28.5	29.3	30.3	31.4	32.5	33.7	35	36.6	38.3	40	41
130	44	6704	Dir132	132	0	0	0	0	0	0	0	0	0	0	0
131	44	625	Dir	66	0	0	0	0	0	0	0	0	0	0	0
132	44	9003	Dir_Dir132	132	10.9	11.2	11.4	11.8	12.1	12.4	12.8	13.3	13.9	14.4	15
133	45	6705	Dargai-2	132	0	0	0	0	0	0	0	0	0	0	0
134	45	262	Dargai	132	71.5	71.7	73	74.3	75.9	78.1	80.4	83	85.7	88.4	91
135	45	8924	Dargai_Dargai-2	132	10.3	10.3	10.5	10.7	10.9	11.2	11.5	11.9	12.3	12.7	13
136	46	6706	Rustam	132	0	0	0	0	0	0	0	0	0	0	0
137	46	901	Hussai	132	57.1	58.7	60.7	62.8	65	67.4	69.9	73.1	76.4	79.7	83
138	46	9004	Hussai_Rustam	132	8.2	8.4	8.7	9	9.3	9.7	10.1	10.5	11	11.5	12
139	47	6707	Hattar-2	132	0	0	0	0	0	0	0	0	0	0	0
140	47	638	Hattar	132	73.7	74.8	75.6	76.2	77.3	79.3	81.2	83.3	85.4	87.6	89
141	47	9005	Hattar_Hattar-2	132	35.9	36.4	36.8	37.1	37.7	38.6	39.6	40.6	41.6	42.7	43

S.No	Group No	Grid No	Name of Grid Station	KV	Year										
					2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
142	48	6708	Jamrud-2	132	0	0	0	0	0	0	0	0	0	0	0
143	48	70	Jamrud	132	78.7	78.3	79.2	80	81.4	83.3	85.4	87.7	90	92.4	94
144	48	9006	Jamrud_Jamrud-2	132	20.5	20.4	20.7	20.9	21.2	21.7	22.3	22.9	23.5	24.1	24
145	49	6709	Shinkiari	132	0	0	0	0	0	0	0	0	0	0	0
146	49	128	Mansehra	132	58.3	59.6	61.2	63	64.9	67.1	69.3	72.1	75.1	78.2	81
147	49	9007	Mansehra_Shinki	132	10.3	10.5	10.8	11.1	11.4	11.8	12.2	12.7	13.2	13.8	14
148	50	6801	Regi Model Town	132	0	0	0	0	0	0	0	0	0	0	0
149	50	70	Jamrud	132	78.7	78.3	79.2	80	81.4	83.3	85.4	87.7	90	92.4	94
150	50	9009	Jamrud_Regi Mod	132	3.1	3.1	3.1	3.1	3.2	3.3	3.3	3.4	3.5	3.6	3
151	51	6801	Regi Model Town	132	0	0	0	0	0	0	0	0	0	0	0
152	51	514	Peshawar Univer	132	87.6	89.1	90.9	93	95.3	97.8	100.5	109.6	119	128.8	13
153	51	9010	Peshawar Univer	132	6	6.1	6.2	6.3	6.5	6.7	6.8	7.5	8.1	8.7	9
154	52	6801	Regi Model Town	132	0	0	0	0	0	0	0	0	0	0	0
155	52	910	Warsak	132	44.5	45.9	47.5	49.2	51	52.9	54.9	57.5	60.1	62.8	65
156	52	9011	Warsak_Regi Mod	132	3.1	3.2	3.3	3.4	3.5	3.7	3.8	4	4.2	4.3	4
157	53	6801	Regi Model Town	132	0	0	0	0	0	0	0	0	0	0	0
158	53	346	Peshawar Cantt	132	67.1	68.9	70.9	73.3	75.8	78.5	81.3	84.7	88.3	92.1	95
159	53		Peshawar Cantt_	132	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.9	4.1	4.2	4

PESCO

S.No	Group No	Grid No	Name of Grid Station	KV	Year										
					2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030
160	54	6801	Regi Model Town	132	0	0	0	0	0	0	0	0	0	0	0
161	54	514	Peshawar Univer	132	87.6	89.1	90.9	93	95.3	97.8	100.5	109.6	119	128.8	13
162	54	9013	Peshawar Univer	132	15	15.2	15.5	15.9	16.2	16.7	17.1	18.6	20.2	21.9	23
163	55	6802	wari132	132	0	0	0	0	0	0	0	0	0	0	0
164	55	875	Wari	66	0	0	0	0	0	0	0	0	0	0	0
165	55	9014	wari_wari132	132	26.6	27.5	28.4	29.5	30.5	31.7	32.9	34.5	36.1	37.7	39
166	56	6803	Matta	132	0	0	0	0	0	0	0	0	0	0	0
167	56	877	Khwaza Khela	132	38.3	39.5	40.9	42.3	43.9	45.5	47.3	49.5	51.8	54.2	56
168	56	9008	Khwaza Khela_Ma	132	11.8	12.1	12.5	13	13.5	14	14.5	15.2	15.9	16.6	17
TOTAL PESCO:					3496.3	3577	3677.5	3786.7	3904.6	4036.1	4175.3	4366.8	4565.2	4771	49



Table 1-43: Category-wise Energy (kWh) and Maximum Demand (kW) of Substations for Year 2025-26 (Base Forecast)

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Reactive Power (MVAR)
										Private	Public					
				kWh	169688	34894	208	1425	12002	24	0	16991	0	235233		
				kW	35220	6639	79	152	3426	3	0	4847	0	47847		
				kWh	0	0	0	0	129654	0	0	0	0	129654		
				kW	0	0	0	0	30561	0	0	0	0	30561		
				kWh	170099	38767	484	929	7004	14	0	32961	0	250258		
				kW	30822	7138	184	132	1998	3	0	9410	0	47202		
				kWh	0	0	0	0	19201	0	0	0	0	19201		
				kW	0	0	0	0	42152	0	0	0	0	35829		
				kWh	17444	1983	0	123	134	797	0	300	0	20781		
				kW	16595	1415	0	39	38	318	0	85	0	17565		
				kWh	34005	3609	36	668	1949	701	0	0	0	40968		
				kW	9028	1056	14	95	556	187	0	0	0	10388		
				kWh	26988	3944	4	66	142	0	0	0	0	31144		
				kW	6555	919	2	9	41	0	0	0	0	6773		
				kWh	89606	4592	0	1395	3664	4561	0	0	0	103818		
				kW	36532	1380	0	223	1046	911	0	0	0	36082		
				kWh	144827	17372	0	2426	8113	1721	0	0	0	174458		
				kW	103330	7932	0	862	2316	764	0	0	0	109443		
				kWh	17200	2063	0	288	963	204	0	0	0	20720		
				kW	12272	942	0	102	274	91	0	0	0	12997		
				kWh	49523	13057	484	677	219	0	0	8322	0	72281		
				kW	16779	3692	184	110	65	0	0	2377	0	22046		

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Read Pot (M
										Private	Public					
12	1153	Barikot	132	kWh	104081	7463	0	1059	5465	7158	0	0	0	125226	0.90	15
				kW	30465	2434	0	135	1561	1430	0	0	0	30621		
				kWh	70466	10181	10	580	6483	401	0	396	0	88517		
				kW	16088	2324	4	82	1684	107	0	106	0	18356		
				kWh	72413	7188	0	1067	3681	0	0	0	0	84351		
				kW	33065	2414	0	195	1051	0	0	0	0	33053		
				kWh	38482	7334	406	534	9967	347	0	90	0	57160		
				kW	9152	1495	155	68	2845	55	0	22	0	13102		
				kWh	26182	2913	27	3	1794	0	0	0	0	30919		
				kW	12453	1663	10	0	511	0	0	0	0	12442		
				kWh	0	0	0	0	130598	0	0	0	0	130598		
				kW	0	0	0	0	41565	0	0	0	0	41565		
				kWh	307446	34544	18	3484	34739	4384	0	1560	0	386174		
				kW	79765	9618	7	530	9914	779	0	444	0	90951		
				kWh	159027	28584	71	1651	4100	820	0	0	0	194253		
				kW	72615	12550	27	320	1171	205	0	0	0	82544		
				kWh	18386	701	0	218	1185	485	0	0	0	20975		
				kW	4283	167	0	31	339	129	0	0	0	4207		
				kWh	0	0	0	0	5931	0	0	0	0	5931		
				kW	0	0	0	0	16102	0	0	0	0	16102		
				kWh	50000	8990	0	819	4194	610	0	2234	0	66847		
				kW	17296	2932	0	116	1196	163	0	638	0	20107		
				kWh	4982	366	0	20	0	0	0	0	0	5368		
				kW	1034	84	0	3	0	0	0	0	0	1008		

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Read Po (M
										Private	Public					
24	6672	Chota Lahor	132	kWh	34005	3609	36	668	1949	701	0	0	0	40968	0.90	5.
				kW	9028	1056	14	95	556	187	0	0	0	10388		
				kWh	0	0	0	0	154919	0	0	0	0	154919		
				kW	0	0	0	0	44212	0	0	0	0	44212		
				kWh	270322	32622	0	3346	36087	391	0	11489	0	354257		
				kW	90761	9310	0	629	10298	104	0	3280	0	108663		
				kWh	35923	4335	0	445	4796	52	0	1527	0	47077		
				kW	12061	1237	0	84	1369	14	0	434	0	14439		
				kWh	101559	22569	0	0	0	0	0	0	0	124128		
				kW	28984	8588	0	0	0	0	0	0	0	37572		
				kWh	192964	14025	0	3283	94295	435	0	0	0	305002		
				kW	51228	4213	0	466	26911	116	0	0	0	70494		
				kWh	121065	9494	5	401	8303	52	0	0	0	139320		
				kW	57584	3613	2	73	2369	14	0	0	0	54107		
				kWh	200170	16875	61	1412	226411	5069	0	1595	0	451593		
				kW	32644	2752	23	81	55805	1125	0	457	0	83597		
				kWh	28719	2421	9	203	32484	727	0	229	0	64791		
				kW	4683	395	3	12	8006	161	0	66	0	11994		
				kWh	19802	1477	0	91	0	0	0	0	0	21370		
				kW	4347	296	0	15	0	0	0	0	0	4192		
				kWh	92450	6034	0	240	1088	0	0	0	0	99812		
				kW	13530	918	0	34	310	0	0	0	0	13314		
				kWh	81969	2507	1	990	3445	1004	0	0	0	89917		
				kW	34656	1431	0	317	983	268	0	0	0	32006		

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Read Pot (M
										Private	Public					
36	1100	Domail	132	kWh	102818	3888	0	1976	12571	1988	0	17	0	123257	0.90	26
				kW	55892	2113	0	549	3587	397	0	5	0	53162		
				kWh	31122	1277	0	447	962	14	0	0	0	33823		
				kW	17764	911	0	64	274	4	0	0	0	16164		
				kWh	0	0	0	0	74673	0	0	0	0	74673		
				kW	0	0	0	0	14782	0	0	0	0	14782		
				kWh	65792	2498	17	1285	245307	1762	0	96	0	316758		
				kW	15021	634	6	547	66051	939	0	24	0	70739		
				kWh	95	0	0	0	0	0	0	0	0	95		
				kW	36	0	0	0	717	0	0	0	0	678		
				kWh	38623	5644	6	94	204	0	0	0	0	44571		
				kW	9381	1315	2	13	57	0	0	0	0	9692		
				kWh	29229	2336	0	363	7253	432	0	0	0	39614		
				kW	16683	1067	0	52	2070	115	0	0	0	18988		
				kWh	63641	2926	0	216	1141	1484	0	0	0	69408		
				kW	29060	1670	0	92	326	791	0	0	0	27148		
				kWh	11934	250	0	7	0	24	0	0	0	12215		
				kW	9731	190	0	2	0	10	0	0	0	8443		
				kWh	113298	9394	40	452	3474	467	0	1639	0	128763		
				kW	43112	3698	15	96	992	124	0	467	0	43655		
				kWh	253275	35657	929	2317	35165	20059	0	14088	0	361489		
				kW	45893	5427	353	269	8826	3206	0	4023	0	64598		
				kWh	69770	6395	145	699	4678	2929	0	48	0	84664		
				kW	15929	1521	55	99	1335	780	0	13	0	18745		

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Reactive Power (MVA)
										Private	Public					
48	6700	Hassan Zai	132	kWh	11877	930	2	117	3093	6	0	0	0	16025	0.91	5.
				kW	10430	758	1	75	883	3	0	0	0	10934		
				kWh	39122	3936	0	1841	706934	366	0	0	0	752199		
				kW	6380	642	0	168	106715	42	0	0	0	102552		
				kWh	0	0	0	0	451374	0	0	0	0	451374		
				kW	0	0	0	0	128817	0	0	0	0	128817		
				kWh	9014	907	0	424	162888	84	0	0	0	173318		
				kW	1470	148	0	39	24589	10	0	0	0	23630		
				kWh	0	0	0	0	0	0	0	104266	0	104266		
				kW	0	0	0	0	0	0	0	14405	0	12964		
				kWh	0	0	0	0	0	2357	0	0	0	2357		
				kW	0	0	0	0	0	628	0	0	0	565		
				kWh	732	24	0	1	0	0	0	5060	0	5817		
				kW	139	5	0	0	0	0	0	1444	0	1429		
				kWh	230748	11481	1569	118	55235	0	0	0	0	299152		
				kW	82316	4681	597	17	15763	0	0	0	0	93036		
				kWh	0	0	0	0	75229	0	0	0	0	75229		
				kW	0	0	0	0	21469	0	0	0	0	21469		
				kWh	255861	13981	0	5524	20619	5463	0	0	0	301448		
				kW	78940	4560	0	785	5885	1455	0	0	0	82463		
				kWh	250668	28777	0	4049	15746	1494	0	0	0	300734		
				kW	92307	10597	0	575	4493	398	0	0	0	92114		
				kWh	101559	22569	0	0	0	0	0	0	0	124128		
				kW	28984	8588	0	0	0	0	0	0	0	37572		

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Reactive Power (MVA)
										Private	Public					
				kWh	102299	38947	2263	3543	336903	261	0	0	0	484214		
				kW	15571	5928	861	289	76423	35	0	0	0	89196		
				kWh	26675	10156	590	924	87850	68	0	0	0	126262		
				kW	4060	1546	225	75	19928	9	0	0	0	23259		
				kWh	202542	23072	190	9017	192864	24548	0	924	0	453155		
				kW	42817	5268	72	1201	35386	6539	0	262	0	82391		
				kWh	35612	5180	0	100	335	0	0	0	0	41226		
				kW	14018	1971	0	14	95	0	0	0	0	14489		
				kWh	66601	11765	59	1040	7499	92	0	113	0	87167		
				kW	13338	2316	22	102	2140	12	0	33	0	16168		
				kWh	23593	3632	24	254	4975	1117	0	5357	0	38951		
				kW	7279	1121	9	32	1072	297	0	1529	0	10774		
				kWh	25963	4871	18	394	1959	9	0	406	0	33620		
				kW	4940	942	7	84	560	2	0	115	0	6317		
				kWh	154980	8360	0	664	3640	1935	0	0	0	169580		
				kW	88459	4338	0	152	1039	644	0	0	0	85168		
				kWh	107564	6444	0	1745	5084	1120	0	0	0	121957		
				kW	40930	1635	0	215	1451	224	0	0	0	37786		
				kWh	54203	7631	199	496	7526	4293	0	3015	0	77361		
				kW	9821	1161	76	58	1892	686	0	860	0	13826		
				kWh	0	0	0	0	0	17170	0	0	0	17170		
				kW	0	0	0	0	0	3267	0	0	0	2777		

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Read Po (M
										Private	Public					
71	657	Kholian Bala Havelia	132	kWh	135039	15253	94	1253	10778	388	0	611	0	163416	0.90	17
				kW	33512	3482	36	801	3076	258	0	175	0	35140		
				kWh	196995	15962	10	1092	4934	106	0	0	0	219101		
				kW	53543	4049	4	155	1408	28	0	0	0	50310		
				kWh	202969	32290	298	1839	15697	4760	0	8333	0	266187		
				kW	72406	9700	113	294	4366	1268	0	2381	0	86002		
				kWh	8211	1527	0	11	0	0	0	546	0	10295		
				kW	2403	363	0	2	0	0	0	158	0	2780		
				kWh	0	0	0	0	137896	0	0	0	0	137896		
				kW	0	0	0	0	39354	0	0	0	0	39354		
				kWh	113159	13493	100	775	3488	285	0	28059	0	159359		
				kW	49684	4401	38	83	996	38	0	8010	0	56924		
				kWh	44692	1046	0	294	0	80	0	0	0	46112		
				kW	19622	217	0	42	0	21	0	0	0	17912		
				kWh	23655	1010	0	114	2109	29	0	0	0	26918		
				kW	22502	385	0	24	603	8	0	0	0	19993		
				kWh	6948	395	0	30	21	11	0	0	0	7405		
				kW	1220	82	0	8	5	3	0	0	0	1121		
				kWh	80917	3583	0	1101	5097	1283	0	75	0	92056		
				kW	34211	1704	0	352	1455	342	0	17	0	32369		
				kWh	26080	1275	0	441	641	2120	0	0	0	30556		
				kW	13532	582	0	63	183	565	0	0	0	13432		
				kWh	37593	3465	13	154	1368	31	0	18	0	42643		
				kW	10729	1099	5	33	391	8	0	5	0	10429		

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Read Po (M
										Private	Public					
83	6681	Locomotive	132	kWh	0	0	0	0	1987	0	0	0	0	1987	0.93	0.
				kW	0	0	0	0	567	0	0	0	0	567		
				kWh	36540	4195	0	590	2295	218	0	0	0	43839		
				kW	13456	1545	0	84	655	58	0	0	0	13428		
				kWh	53872	3637	0	82	77	1	0	0	0	57669		
				kW	16621	1093	0	17	22	0	0	0	0	15090		
				kWh	32109	3608	2	364	3628	458	0	22	0	40191		
				kW	14662	1584	1	70	1035	114	0	5	0	16598		
				kWh	294934	55330	210	4476	22249	105	0	4616	0	381920		
				kW	56114	10705	80	954	6350	21	0	1318	0	71764		
				kWh	0	0	0	0	56422	0	0	0	0	56422		
				kW	0	0	0	0	16102	0	0	0	0	16102		
				kWh	207804	39601	2195	2882	53820	1872	0	488	0	308663		
				kW	49421	8073	835	369	15360	299	0	137	0	70768		
				kWh	151569	25937	824	4037	6952	710	0	6382	0	196409		
				kW	43256	7792	314	645	1984	126	0	1819	0	53138		
				kWh	88923	13604	263	462	15447	7	0	0	0	118707		
				kW	72508	11093	100	66	710	2	0	0	0	80255		
				kWh	48558	8309	264	1293	2227	227	0	2045	0	62923		
				kW	13858	2496	100	207	635	40	0	583	0	17024		
				kWh	46606	2616	27	120	131	2677	0	0	0	52178		
				kW	76005	4266	10	14	38	3056	0	0	0	70880		
				kWh	37593	3465	13	154	1368	31	0	18	0	42643		
				kW	10729	1099	5	33	391	8	0	5	0	10429		

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Read Po (M
										Private	Public					
95	801	Muree	132	kWh	27293	1595	0	0	316	0	0	0	0	29205	0.90	3.
				kW	6924	506	0	0	14	0	0	0	0	6327		
				kWh	0	0	0	0	0	0	0	408661	0	408661		
				kW	0	0	0	0	0	0	0	67157	0	63799		
				kWh	44236	8717	24	312	5179	20	0	0	0	58487		
				kW	34412	6716	9	163	1478	9	0	0	0	38721		
				kWh	25271	4533	74	14	76	0	0	2855	0	32823		
				kW	7592	1150	28	2	4	0	0	815	0	8152		
				kWh	51008	5413	53	1003	2923	1051	0	0	0	61451		
				kW	13541	1584	20	142	834	280	0	0	0	15583		
				kWh	73849	9800	410	395	998	1573	0	13058	0	100082		
				kW	18327	1998	156	44	273	279	0	3724	0	22321		
				kWh	25330	12081	0	71	761	1457	0	0	0	39700		
				kW	14458	4925	0	10	217	388	0	0	0	16999		
				kWh	0	0	0	0	0	0	0	56980	0	56980		
				kW	0	0	0	0	17	0	0	11289	0	10176		
				kWh	221783	26524	404	2484	125684	6623	0	53660	0	437160		
				kW	34213	4092	154	353	34043	1764	0	15313	0	85435		
				kWh	106759	16436	110	1147	22511	5052	0	24239	0	176255		
				kW	32938	5071	42	147	4851	1346	0	6917	0	48745		
				kWh	76571	6243	0	197	779	0	0	339	0	84128		
				kW	19866	1188	0	28	222	0	0	98	0	20332		
				kWh	197144	35445	0	3227	16538	2406	0	8807	0	263568		
				kW	68197	11561	0	458	4721	641	0	2515	0	79284		

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Read Po (M
										Private	Public					
107	919	Panyala	132	kWh	23949	2890	0	296	3197	35	0	1018	0	31385	0.90	5.
				kW	8041	825	0	56	913	9	0	291	0	9627		
				kWh	10921	586	0	0	0	0	0	0	0	11506		
				kW	4617	334	0	0	0	0	0	0	0	4456		
				kWh	164201	77796	2680	861	177	126	0	57059	0	302900		
				kW	52068	18895	1020	145	48	34	0	16282	0	84068		
				kWh	338506	78452	1278	2481	22340	116	0	2734	0	445905		
				kW	82218	21323	486	317	6375	21	0	781	0	105944		
				kWh	161629	90486	1886	4176	2401	72	0	35790	0	296438		
				kW	37655	19864	718	636	685	13	0	10211	0	66293		
				kWh	320018	39600	1868	5739	47042	0	0	16171	0	430438		
				kW	117844	11896	711	815	13269	0	0	4615	0	141693		
				kWh	274041	55476	1162	453	1262	189	0	44326	0	376909		
				kW	107873	26387	442	64	361	50	0	12651	0	140437		
				kWh	28337	2309	0	557	4764	102	0	0	0	36069		
				kW	26956	1014	0	178	1360	33	0	0	0	25110		
				kWh	0	0	0	0	188073	0	0	0	0	188073		
				kW	0	0	0	0	53674	0	0	0	0	53674		
				kWh	40024	2639	0	1207	2551	346	0	0	0	46766		
				kW	20768	1205	0	171	728	92	0	0	0	21817		
				kWh	140519	13680	63	1769	44859	1652	0	15657	0	218198		
				kW	26735	2603	24	251	11008	330	0	4468	0	40877		
				kWh	50269	3325	0	379	1897	24	0	0	0	55894		

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Read Pot (M)
										Private	Public					
				kW	28692	1460	0	54	542	7	0	0	0	29217		
				kWh	0	0	0	0	0	0	0	156811	0	156811		
				kW	0	0	0	0	0	0	0	36693	0	31189		
				kWh	0	0	0	0	592428	0	0	0	0	592428		
				kW	0	0	0	0	225429	0	0	0	0	225429		
				kWh	92150	13325	270	591	15051	65	0	6096	0	127547		
				kW	29959	3959	103	82	3526	19	0	1716	0	34809		
				kWh	204086	40033	411	1723	6940	123	0	0	0	253317		
				kW	93190	17577	156	245	1980	28	0	0	0	107518		
				kWh	9935	15	0	0	0	0	0	0	0	9949		
				kW	10310	17	0	0	0	0	0	0	0	9294		
				kWh	0	0	0	0	44733	0	0	0	0	44733		
				kW	0	0	0	0	12767	0	0	0	0	12767		
				kWh	76771	6292	0	6437	35586	87	0	53	0	125227		
				kW	54774	3591	0	2058	10156	23	0	13	0	60022		
				kWh	33973	2469	0	578	16601	77	0	0	0	53698		
				kW	9019	742	0	82	4737	20	0	0	0	12410		
				kWh	82299	5995	0	2098	7335	8768	0	0	0	106495		
				kW	58718	3802	0	447	2093	2336	0	0	0	60656		
				kWh	83592	1292	0	943	28110	47	0	0	0	113985		
				kW	73404	1054	0	603	8021	25	0	0	0	74796		
				kWh	236920	55105	698	1472	17572	101	0	0	0	311868		
				kW	90152	13979	266	336	5015	18	0	0	0	104278		
				kWh	38747	1932	0	266	784	79	0	0	0	41809		

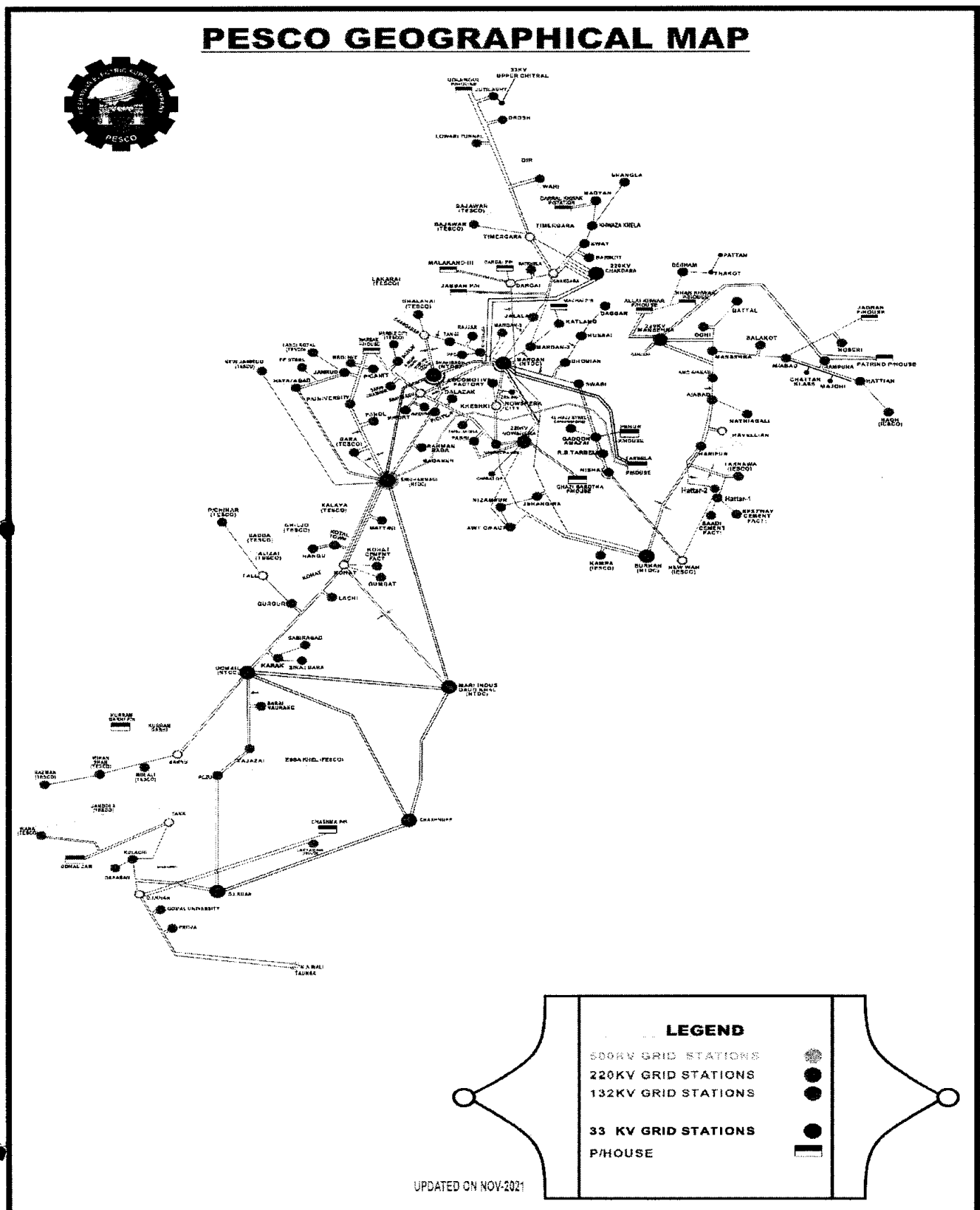
SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Reactive Power (MVA)
										Private	Public					
				kW	29488	919	0	113	897	53	0	0	0	26749		
				kWh	47202	7509	69	428	3651	1107	0	1938	0	61904		
				kW	16839	2256	26	68	1015	295	0	551	0	19998		
				kWh	47753	1896	0	2	30	0	0	0	0	49681		
				kW	22713	866	0	0	9	0	0	0	0	20050		
				kWh	38609	1533	38	81	416	612	0	0	0	41288		
				kW	36728	2500	14	57	118	407	0	0	0	37834		
				kWh	51925	9741	37	788	3917	18	0	813	0	67239		
				kW	9879	1885	14	168	1117	4	0	232	0	12634		
				kWh	2130	62	0	7	34	19	0	0	0	2252		
				kW	811	24	0	1	20807	5	0	0	0	19483		
				kWh	232935	24719	244	4579	13350	4801	0	0	0	280628		
				kW	61839	7235	93	650	3810	1279	0	0	0	71161		
				kWh	440118	77745	388	6873	49553	609	0	744	0	576029		
				kW	88144	15302	148	676	14142	81	0	212	0	106833		
				kWh	14033	728	0	237	343	1934	0	0	0	17275		
				kW	16020	519	0	303	99	343	0	0	0	14691		
				kWh	74588	3646	0	1261	1835	6062	0	0	0	87391		
				kW	38703	1665	0	179	524	1615	0	0	0	38417		
				kWh	37098	3146	0	159	589	319	0	9673	0	50984		
				kW	30249	3990	0	102	169	170	0	2762	0	33697		
				kWh	105990	9653	79	805	2541	2319	0	0	0	121386		
				kW	120993	7346	30	429	725	1544	0	0	0	111407		
				kWh	116529	4849	0	799	1332	161	0	373	0	124042		

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Read Po (M
										Private	Public					
				kW	66512	3954	0	196	380	48	0	107	0	64077		
				kWh	15892	355	588	0	0	0	0	0	0	16835		
				kW	3299	74	224	0	0	0	0	0	0	3236		
				kWh	0	0	0	0	0	0	0	16033	0	16033		
				kW	0	0	0	0	0	0	0	4576	0	4576		
				kWh	6693	604	0	0	0	0	0	0	0	7297		
				kW	2183	197	0	0	14350	0	0	12472	0	26282		
				kWh	24354	1167	0	7	928	0	0	0	0	26456		
				kW	12088	666	0	1	265	0	0	0	0	11067		
				kWh	60675	2424	0	669	1127	41	0	0	0	64937		
				kW	12369	692	0	95	321	11	0	0	0	12139		
				kWh	229317	21138	81	940	8343	191	0	110	0	260119		
				kW	65444	6703	31	200	2380	51	0	27	0	63611		
				kWh	48853	8500	150	329	107	0	0	10	0	57949		
				kW	50699	6064	57	47	30	0	0	2	0	48364		
				kWh	17416	1591	0	165	4791	269	0	0	0	24233		
				kW	4230	404	0	23	1367	72	0	0	0	5181		
				kWh	113541	3748	0	289	2370	14	0	0	0	119961		
				kW	38122	1070	0	37	676	2	0	0	0	33921		
				kWh	43151	612	45	143	2246	82	0	12805	0	59085		
				kW	61574	998	17	92	734	66	0	3342	0	56798		
				kWh	28985	9041	322	179	453	29	0	8794	0	47803		
				kW	18019	2353	123	43	129	16	0	2456	0	20749		

PESCO

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Reac Pow (M
										Private	Public					
154	875	ZRK	132	kWh	0	0	0	0	103836	0	0	0	0	103836	0.93	11
				kW	0	0	0	0	29634	0	0	0	0	28152		
			132	kWh	177620	36389	217	1477	12562	25	0	17784	0	246074		
				kW	36866	6923	83	157	3586	3	0	5074	0	50057		
				kWh	0	0	0	0	132588	0	0	0	0	132588		
				kW	0	0	0	0	31252	0	0	0	0	31252		
				kWh	178068	40422	505	963	7331	15	0	34498	0	261803		
				kW	32266	7443	192	137	2091	3	0	9848	0	49380		

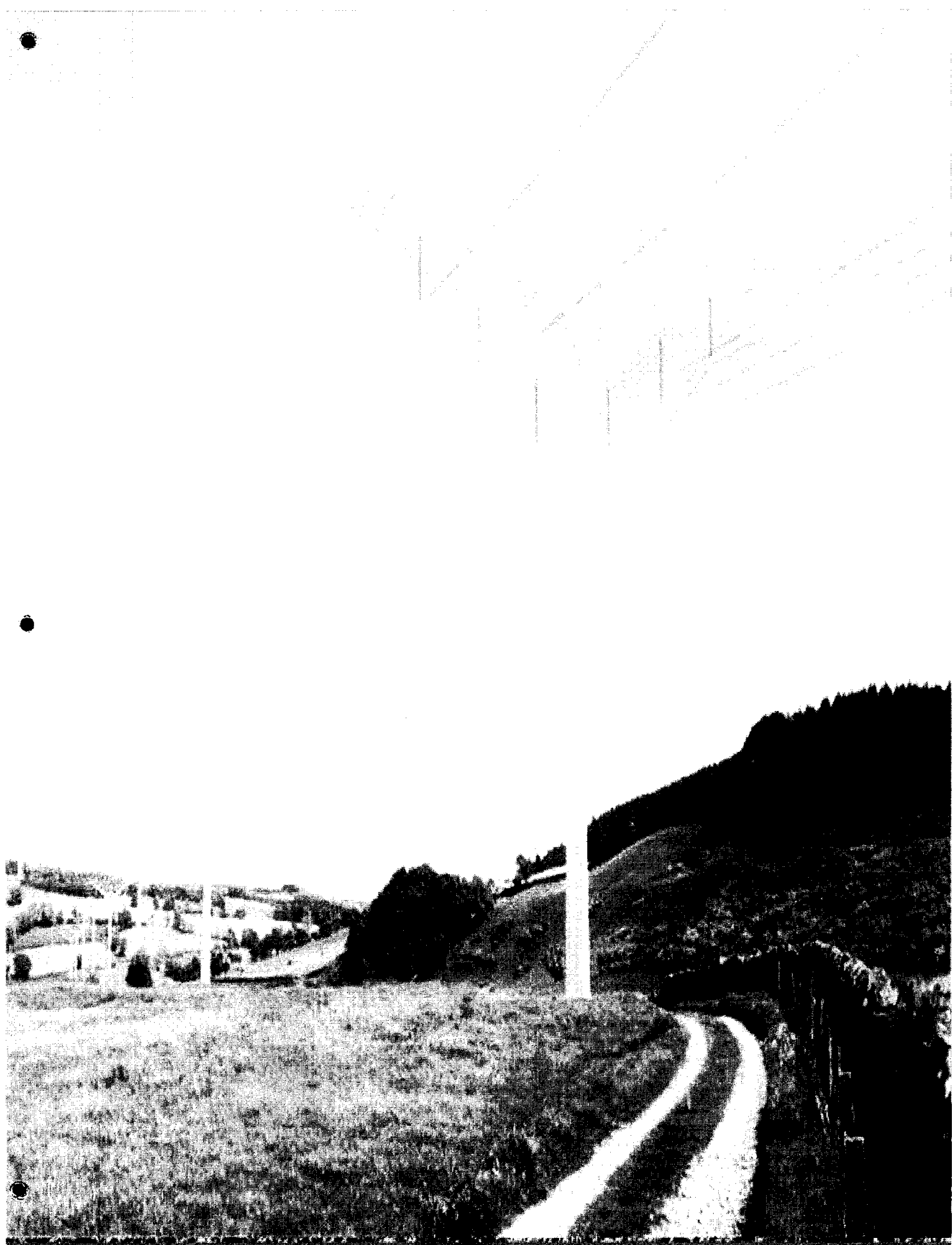
Figure 1-9: Distribution Network Map (PESCO)



Disclaimer

The data for this report has been prepared on the basis of information provided by all concerned departments of PESCO. So, the responsibility of accuracy of data is on allied departments involved during preparation. It is also important to mention here that CPPA-G only facilitated in the preparation of this forecast as it is the prime responsibility of the PESCO to prepare their own forecast and PESCO prepared the same.

Further, a transition plan has been prepared by CPPA-G to help build the overall capacity of the PESCO MIRAD Team in-terms of people, processes and technology so that PESCO start doing this forecast without any assistance.



ENERGY AND DEMAND FORECAST

Proposed Generation Expansion Plan (Annex-IV)

D-4. List of Projects uptill 2030 (Committed + Candidate)

#	Name of Project	Fuel Type	Installed Capacity	Nominal Capacity	Agency	Status	Schedule of Commissioning
			(MW)				
2021							
1	Jhing	Hydro	14.4	14.4	AJK	Committed	May-21
Generation Additions in 2021 (MW)			14.4	14.4			
Cumulative Addition uptill 2021 (MW)			14.4	14.4			
2022							
1	Master_Green	Wind	50	50	AEDB	Committed	Jul-21
2	Ranolia	Hydro	17	17	PEDO	Committed	Jul-21
3	Lucky	Local Coal	660	607	PPIB	Committed	Sep-21
4	Tricom	Wind	50	50	AEDB	Committed	Oct-21
5	Jabori	Hydro	10.2	10.2	PEDO	Committed	Dec-21
6	Karora	Hydro	11.8	11.8	PEDO	Committed	Dec-21
7	Metro_Wind	Wind	60	60	AEDB	Committed	Dec-21
8	Lakeside	Wind	50	50	AEDB	Committed	Dec-21
9	NASDA	Wind	50	50	AEDB	Committed	Dec-21
10	Artistic_Wind_2	Wind	50	50	AEDB	Committed	Dec-21
11	Din	Wind	50	50	AEDB	Committed	Dec-21
12	Gul_Electric	Wind	50	50	AEDB	Committed	Dec-21
13	Act_2	Wind	50	50	AEDB	Committed	Dec-21
14	Liberty_Wind_1	Wind	50	50	AEDB	Committed	Dec-21
15	Liberty_Wind_2	Wind	50	50	AEDB	Committed	Dec-21
16	Indus_Energy	Wind	50	50	AEDB	Committed	Dec-21
17	Zhenfa	Solar	100	100	AEDB	Committed	Dec-21
18	Trimmu	RLNG	1,263	1,243	PPIB	Committed	Jan-22
19	K-3	Nuclear	1,145	1,059	PAEC	Committed	Jan-22
20	Jagran-II	Hydro	48	48	AJK	Committed	May-22

Proposed Generation Expansion Plan (Annex-IV)

#	Name of Project	Fuel Type	Installed Capacity	Nominal Capacity	Agency	Status	Schedule of Commissioning
			(MW)				
21	Thar TEL	Local Coal	330	300	PPIB	Committed	Mar-22
22	Helios	Solar	50	50	AEDB	Committed	Mar-22
23	HNDS	Solar	50	50	AEDB	Committed	Mar-22
24	Meridian	Solar	50	50	AEDB	Committed	Mar-22
25	Thar-I (SSRL)	Local Coal	1,320	1,214	PPIB	Committed	May-22
26	Thal Nova	Local Coal	330	300	PPIB	Committed	Jun-22
Generation Additions in 2022 (MW)			5,995	5,670			
Cumulative Addition uptill 2022 (MW)			6,009	5,684			
2023							
1	Karot	Hydro	720	720	PPIB	Committed	Jul-22
2	Access_Electric	Solar	10.52	10.52	AEDB	Committed	Aug-22
3	Access_Solar	Solar	12	12	AEDB	Committed	Aug-22
4	Jamshoro Coal (Unit-I)	Imp.Coal	660	629	GENCO	Committed	Oct-22
5	Lawi	Hydro	69	69	PEDO	Committed	Nov-22
6	Gorkin Matiltan	Hydro	84	84	PEDO	Committed	Nov-22
7	Zorlu	Solar	100	100	AEDB	Committed	Jun-23
8	Siachen	Solar	100	100	AEDB	Committed	Jun-23
9	Gwadar	Imp.Coal	300	273	PPIB	Committed	Jun-23
Generation Additions in 2023 (MW)			2,056	1,998			
Cumulative Addition uptill 2023 (MW)			8,065	7,682			
2024							
1	Siddiqsons	Local Coal	330	304	PPIB	Committed	Jul-23
2	Suki Kinari	Hydro	884	884	PPIB	Committed	Jul-23
3	Riali-II	Hydro	7	7	PPIB	Committed	Jul-23
4	Safe	Solar	10	10	AEDB	Committed	Sep-23
5	Western	Wind	50	50	AEDB	Committed	Nov-23

Proposed Generation Expansion Plan (Annex-IV)

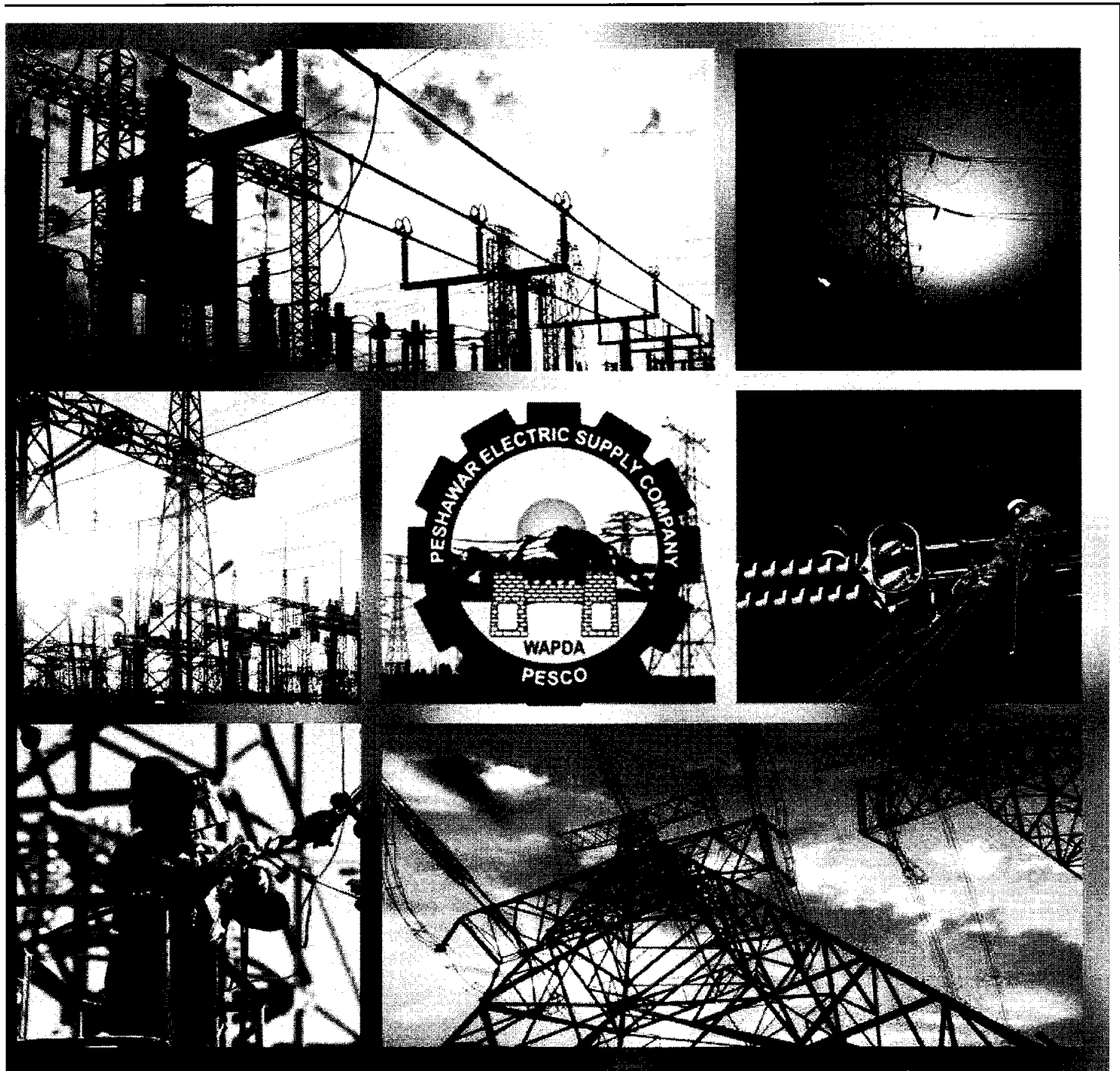
#	Name of Project	Fuel Type	Installed Capacity	Nominal Capacity	Agency	Status	Schedule of Commissioning
			(MW)				
6	Trans_Atlantic	Wind	48	48	AEDB	Committed	Dec-23
7	Alliance	Bagasse	30	30	AEDB	Committed	Dec-23
8	Bahawalpur	Bagasse	31	31	AEDB	Committed	Dec-23
9	Faran	Bagasse	27	27	AEDB	Committed	Dec-23
10	Hamza-II	Bagasse	30	30	AEDB	Committed	Dec-23
11	HSM	Bagasse	27	27	AEDB	Committed	Dec-23
12	Hunza	Bagasse	50	50	AEDB	Committed	Dec-23
13	Indus	Bagasse	31	31	AEDB	Committed	Dec-23
14	Ittefaq	Bagasse	31	31	AEDB	Committed	Dec-23
15	Kashmir	Bagasse	40	40	AEDB	Committed	Dec-23
16	Mehran	Bagasse	27	27	AEDB	Committed	Dec-23
17	RYK_Energy	Bagasse	25	25	AEDB	Committed	Dec-23
18	Shahtaj	Bagasse	32	32	AEDB	Committed	Dec-23
19	Sheikhoo	Bagasse	30	30	AEDB	Committed	Dec-23
20	TAY	Bagasse	30	30	AEDB	Committed	Dec-23
21	Two_Star	Bagasse	50	50	AEDB	Committed	Dec-23
22	Tarbela_Ext_5	Hydro	1,530	1,530	WAPDA	Committed	Feb-24
23	Chapari Charkhel	Hydro	11	11	PEDO	Committed	Jun-24
24	Candidate_Solar	Solar	407	407	To be decided	Candidate	2024
25	Candidate_Wind	Wind	1,000	1,000	To be decided	Candidate	2024
Generation Additions in 2024 (MW)			4,768	4,742			
Cumulative Addition uptill 2024 (MW)			12,833	12,424			
2025							
1	CASA	Import	1,000	1,000	GOP	Committed	Aug-24
2	Kathai-II	Hydro	8	8	PPIB	Committed	Dec-24
3	Dasu_1 Unit 1-3	Hydro	1,080	1,080	WAPDA	Committed	Apr-25

Proposed Generation Expansion Plan (Annex-IV)

#	Name of Project	Fuel Type	Installed Capacity	Nominal Capacity	Agency	Status	Schedule of Commissioning
			(MW)				
4	Candidate_Wind	Wind	1,000	1,000	To be decided	Candidate	2025
Generation Additions in 2025 (MW)			3,088	3,088			
Cumulative Addition uptill 2025 (MW)			15,921	15,512			
2026							
1	Harpo	Hydro	35	35	WAPDA	Committed	Oct-25
2	Dasu_1 Unit 4-6	Hydro	1,080	1,080	WAPDA	Committed	Nov-25
3	Mohmand	Hydro	800	800	WAPDA	Committed	Apr-26
4	Keyal Khwar Unit 1	Hydro	64	64	WAPDA	Committed	May-26
5	Candidate_Wind	Wind	899	899	To be decided	Candidate	2026
Generation Additions in 2026 (MW)			2,878	2,878			
Cumulative Addition uptill 2026 (MW)			18,799	18,390			
2027							
1	Keyal Khwar Unit 2	Hydro	64	64	WAPDA	Committed	Aug-26
2	Balakot	Hydro	300	300	PEDO	Committed	Mar-27
3	Candidate_Solar	Solar	666	666	To be decided	Candidate	2027
Generation Additions in 2027 (MW)			1030	1030			
Cumulative Addition uptill 2027 (MW)			19,829	19,420			
2028							
1	Azad Pattan	Hydro	701	701	PPIB	Committed	Sep-27
2	Candidate_Solar	Solar	1,000	1,000	To be decided	Candidate	2028
Generation Additions in 2028 (MW)			1,701	1,701			
Cumulative Addition uptill 2028 (MW)			21,530	21,121			
2029							
1	Kohala	Hydro	1,124	1,124	PPIB	Committed	Jul-28
2	Diamer Bhasha	Hydro	4,500	4,500	WAPDA	Committed	Feb-29
3	Candidate_Solar	Solar	1,000	1,000	To be decided	Candidate	2029

Proposed Generation Expansion Plan (Annex-IV)

#	Name of Project	Fuel Type	Installed Capacity	Nominal Capacity	Agency	Status	Schedule of Commissioning
			(MW)				
Generation Additions in 2029 (MW)			6,624	6,624			
Cumulative Addition uptill 2029 (MW)			28,154	27,745			
2030							
1	Candidate_Solar	Solar	1,000	1,000	To be decided	Candidate	2030
Generation Additions in 2030 (MW)			1,000	1,000			
Cumulative Addition uptill 2030 (MW)			29,154	28,745			



PESCO TRANSMISSION SYSTEM EXPANSION PLAN

2025-2026

2027-2028



LIST OF ABBREVIATIONS AND DEFINITIONS

Abbreviations:

AEDB	Alternative Energy Development Board
cct-km	Circuit-kilometer
DISCO	Distribution Company
DSM	Demand Side Management
GENCO	Generation Company
HPP	Hydel (or Hydro) Power Project
HVAC	High Voltage Alternating Current
kA	Kilo-ampere
km	Kilometer
kV	Kilovolt
MOU	Memorandum of Understanding
MVA	Mega volt-amperes
MWh	Megawatt-hour or 1,000 kilowatt-hours NEPRA
	National Electric Power Regulatory Authority
NTDC	National Transmission and Dispatch Company
P.P.	Power Project
PAEC	Pakistan Atomic Energy Commission
PEPCO	Pakistan Electric Power Company
PPIB	Private Power and Infrastructure Board
PSS/E	Power System Simulation
WAPDA	Water and Power Development Authority

TABLE OF CONTENTS

PESCO Transmission System Expansion Plan

1. Objectives	4
2. Study Cases.....	5
3. Input Data	5
4. Load Forecast	6
5. DISCO-Wise Demand- MW Forecast Summary.....	7
6. Secondary Transmission Planning Criteria	7
7. Methodology	8
8. Load Flow Study Results	10
9. PESCO distribution system for the year-2025(july).....	11
10. PESCO distribution system for the year-2026(june).....	13
11. PESCO distribution system for the year-2027-2028.....	14
12. Load forecast study for the year 2025, 2026 & 2028 (appendix-1)	22
13. PESCO system SLD's of year 2025 (with out system Reinforcement (appendix 2)).....	29
14. New grid station upto 2025-26.....	38
15. New transmission line for system stability upto 2025-26.....	39
16. PESCO Augmentation and extension ongoing projects upto 2025-26.....	40
17. Installation of 11kv capacitor banks upto 2025-26.....	42
18. Installation of proposed 11kv (fixed shunts) capacitor banks.....	43
19. Single line diagram (with system reinforcement) Appendix-3.....	45
20. Single line diagram with system reinforcement for the year 2026 (appendix 4).....	54
21. PESCO new grid station along with transmission lines coming upto 2028.....	63
22. New T/L for system stability upto 2028	64
23. Evacuation of power from NTDC 220KV GRIDS.....	65
24. SLD's for the year 2028 (without system reinforcement (appendix-5)	66
25. SLD's for the year 2028 (with system reinforcement (appendix-6)).....	75
26. Short circuit calculations for the years 2028	84
27. Short circuit SLD's for the year 2028.....	90
28. Cost estimate.....	99
29. Geographical maps (2025 and 2028).....	103

1. OBJECTIVES:

- Main objective of the Transmission System Expansion Plan (TSEP) was to carry out system studies in coordination with NTDC Planning to determine the justification of the proposed sub-projects in DISCOs area under 5-year investment plan (up to 2026-27) utilizing Power Market Survey latest load forecast and Generation Plan to assess their impact on the system transmission network.
- The other objective of the studies was identification of any reinforcements required with the proposed sub-projects in terms of new lines, new substations transformer addition/augmentation, reactive power compensation and switchgear addition/replacement at the substations, in addition to the already planned/under execution projects in PESCO.
- To determine benefits of the proposed sub-projects in PESCO network through system studies.
- To identify the additional reinforcements required at the secondary voltage levels for the years 2027-28 for PESCO.

This was accomplished through the following activities:

- Load flow analysis was performed for each PESCO network based on the load forecast at each study year and the expansion plans using agreed upon planning criteria. The proposed system reinforcements requirement were selected to alleviate the bus voltage and/or line overloading problems in the most technically and cost-effective way.
- The short circuit calculations were performed only for the last developed year (Year 2028) to check the value of the fault current at each bus. Any recorded short circuit problems encountered would be solved by reconfiguring the system at these specific locations.

The specific tasks of the Transmission System Expansion Plan were to:

- Assess adequacy of the network as per planning criteria to feed the proposed sub-projects.
- Determine any additional transmission reinforcement and/or reactive power compensation requirement for the scope of work of sub-projects.

and augmentations of Power transformers at existing 132/11 kV Grid System.

- Justification of proposed projects.
- Determine the benefits of the above proposed works at substations and transmission lines in terms of reduction in transmission losses, improvement in voltage profile, reduction in loading of transmission lines or transformers, spare capacity margin in the transmission system.
- Verify that the short circuit levels at the 132 kV and 66 kV systems are within the permissible limits.

2. STUDY CASES:

In the context of the master plan, the PESCO secondary transmission system expansion plan was to identify requirements for system upgradation for the spot years 2025-26 and 2027-28 that will allow the planned generation to serve the forecasted load under both normal and contingency conditions.

Load flow analysis were performed for the following three peak load study years while short circuit calculations were performed only for the year 2028 peak load case:

- a. July 2025 peak load case
- b. June 2026 peak load case
- c. June 2028 peak load case

Each case has been analyzed under both normal and contingency conditions. System reinforcements including new sub stations, extension / augmentation of Power transformers, transmission lines and reactive power compensations were defined as appropriate.

3. INPUT DATA:

The following input data utilized for the studies:

- a. PESCO Planned/committed system expansions up to the year 2024-25.
- b. Approved 7th STG / PSDP/World Bank Projects.
- c. Proposed Special PSDP Projects.
- d. Existing system data.

- e. Latest load forecasts, individual grid stations and DISCO peaks (diversified), up to theyear 2030-31
- f. NTDC updated base cases for year 2024-25, 2026 and 2028.

The above data / information was used for building the base cases for the future years of 2025-26 & 2027-28.

4. LOAD FORECAST:

Load forecast for each grid station was developed as summarized in the following steps (more details are presented in the Load Forecast Report):

- a) 1 kV feeder-wise and tariff category-wise sales including maximum demand of medium and large industries for the base year.
- b) These sales are converted into peak demand using the load factors and diversity factors.
- c) Growth rate on each category is applied and spot/planned load are added.

DISCO-Wise Demand- MW Forecast Summary

Name	2020- 21	2021- 22	2022- 23	2023- 24	2024- 25	2025- 26	2026- 27	2027- 28	2028- 29	2029- 30	2030- 31	Growth (%)
LESCO	4818	5082	5373	5637	5888	6164	6449	6755	7070	7402	7736	4.8
GEPCO	2977	3054	3161	3269	3380	3494	3679	3871	4069	4276	4491	4.2
FESCO	3380	3558	3870	4105	4313	4559	4815	5072	5382	5713	6062	6.0
IESCO	2434	2576	2735	2934	3193	3436	3693	3905	4080	4254	4431	6.2
MEPCO	4559	4847	5146	5451	5749	6055	6369	6684	7001	7331	7658	5.3
PESCO	2487	2540	2661	2925	3117	3306	3485	3732	3984	4281	4582	6.3
HESCO	1187	1282	1329	1392	1455	1531	1605	1696	1788	1895	2003	5.4
QESCO	1074	1125	1180	1273	1366	1511	1658	1850	2044	2285	2528	8.9
TESCO	471	494	516	556	623	679	751	784	859	949	1040	8.2
SEPCO	1033	1043	1073	1131	1189	1276	1363	1478	1593	1736	1881	6.2
DISCOs Demand (undiversified)	24420	25602	27044	28672	30273	32012	33867	35826	37869	40123	42413	5.7
DISCOs Demand (Diversified)	22430	23592	25002	26594	28170	29883	31717	33659	35693	37937	40229	6.0
T & T Losses (500 & 220kV)	684	718	759	832	878	928	981	1038	1097	1162	1229	
Auxiliary Consumption	0	0	0	0	0	0	0	0	0	0	0	
% Auxiliary Consumption*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
System Demand w/o Export to K Electric	23114	24310	25761	27426	29048	30811	32699	34697	36789	39099	41458	6.0
Growth Rate (%)		5.17	5.97	6.47	5.91	6.07	6.12	6.11	6.03	6.28	6.03	
Export to K- Electric (MW)	1090	1100	1100	2050	2050	2050	2050	2050	2050	2050	2050	
Systmen Demand With Export to K- Electric	24204	25410	26861	29476	31098	32861	34749	36747	38839	41149	43508	6.0
Growth Rate (%)		5.0	5.7	9.7	5.5	5.7	5.7	5.8	5.7	5.9	5.7	

5. SECONDARY TRANSMISSION PLANNING CRITERIA

The planning of Secondary Transmission System considers the operation of a power system under two possible situations, that is:

Normal operating conditions (N-0): The Secondary Transmission System (66-132 kV) infrastructure is entirely available (no equipment has been considered out of service).

Contingency operating conditions (N-1): one of the Secondary Transmission System equipment (line or transformer) is out of service. In this study, only outage of transmission lines rated at 132 kV (or 66 kV) within each DISCO was considered.

For each of these operating conditions, the following criteria were applied to the analyses;

System Voltage Criteria

The acceptable voltage limit for system operating based on factors such as equipment limitations under normal and contingency conditions is as follows:

Condition	Acceptable Voltage Range
Normal System Conditions	95% - 105% ($\pm 5\%$)
Contingency Conditions	90% - 110% ($\pm 10\%$)

It is important to note that from an operational standpoint, healthy systems usually target a voltage close to 1.0 pu at 132 kV (or 66 kV) voltage levels.

Power Factor

Condition	Power Factor
Load Power Factor	85%
Maintenance of Power Factor at Bus Bar	95%

Equipment Thermal Loading Criteria

The Secondary Transmission System shall be planned to allow all transmission lines and equipment to operate within the following limits for the following defined conditions:

Condition	Thermal Loading Limit
Normal System Conditions	Defined Normal Load Capacity 80% of rated capacity of PTF 90% of rated capacity of Transmission Lines

System Design Contingencies of Long Duration (i.e. an outage involving the failure of a transformer)	Defined Normal Load Capacity 110% of rated capacity of PTF 100% of rated capacity of Transmission Lines
System Design Contingencies of Short Duration (i.e. not involving a transformer)	Defined Emergency Load Capacity (100%)

However; as per discussion with the NTDC Planning Engineers, the line loading under contingency conditions (N-1 analysis) will be based on the normal rating (Rating A).

6. **METHODOLOGY**

The methodology followed to accomplish the objectives of this project is summarized in the following steps;

1. The complete system model of the National Grid has been simulated, i.e., system network of not only the PESCO but also of NTDC and the neighboring DISCOs have been simulated for the purpose of analysis.
2. The existing base case has been modeled for year 2024-25 including 132/11 kV transformers, 11 kV bus system and approved projects to be completed. Forecasted load as per PMS have been placed at 11 kV bus along with the reactive Power compensation, if any. The actual measured values of bus voltages, power factors, active and reactive power, loadings on lines and transformers were matched with the simulated solutions to determine the actual power factors of loads at different substations. These calibrated power factors were used for modelling of loads (MW/MVAR) while developing the simulation cases of each spot year.
3. The 2024-25 base case has been updated for modeling the base case for 2025-26, to identify PESCO network constraints and requirement of the system.
4. Loads were updated based on the latest load forecast values including addition of new grid stations. All the sub-projects approved under 7th STG, PSDP, World Bank and anticipated cost deposit works as well as proposed under special PSDP are made part of the interconnected network in the year 2025-26 base case. (**List of sub-Projects is attached**).
5. The latest generation plan also made incorporated in the studies for simulation of base case year 2025-26.
6. PESCO base case for year 2025-26, the 132 and 66 kV systems were analysed

under both normal (N-0) and contingency (N-1) conditions. As a result of this analysis, system reinforcements were added as necessary. Then the new year 2025-26 case with reinforcements was re-analysed under (N-0) and (N-1) conditions to make sure that the system satisfies the planning criteria.

7. PESCO base cases for June-2026 were modeled from the base cases 2025-26. Then steps 3-5 described above were followed. The process continues for the other two cases for years 2027-28.
8. Short circuit calculations were performed only for the last study year; by combining all DISCO cases in one composite simulation case for year 2028.

The maximum short circuit levels have been computed with the following assumptions under IEC 909 standard by setting:

- a. Transformers tap ratio to unity
- b. Line charging to zero
- c. Shunt elements to zero under in positive sequence
- d. Voltage at 1.1 p.u

As per above short circuit study results, following rating of switchgear is recommended while keeping margin for future network expansion:

- a. 40 kA for 132 kV
- b. 40 kA for 11 kV, especially for power transformers.

9. State of art software PSS/E of Siemens-PTI was used for all simulation analysis of load flow and short circuit analysis.

7. LOAD FLOW STUDY RESULTS

The results are provided in Appendices 1-5 which shows the reinforcements required for each of the years. PESCO base case was developed using the existing 2025-26 system data, the starting NTDC base case for 2025, and planned/ committed system expansions of PESCO up to 2024-25.

The load flow results are given in three main activities:

- a. Analyzing the developed case under both normal (N-0) and contingency (N-1) conditions.
- b. identifying appropriate system reinforcements; and

- c. Re-analyzing the system under (N-0) and (N-1) with system reinforcements.

7.1 Year-2025 Study Base Cases

The load flow results are given in three main activities.

- a) Analyzing the developed case under both normal (N-0) and contingency (N-1) conditions.
- b) Identifying appropriate system reinforcements.
- c) Re-analyzing the system under (N-0) and (N-1) with system reinforcements.

“PESCO” Distribution System for Year-2025 (July)

The year 2025-26 base case was studied based on the planning criteria described above. The total diversified load of PESCO by July-2025 is 3273 MW as per PMS report. The load flow single line diagrams of the PESCO system are shown in Appendix-2 (spread over 08 Sheets) along with the projects to be completed up to year-2025.

a) Summary for (N-0) Results

2025-26-WITHOUT REINFORCEMENT + N-0

i. OUT-OF-LIMITS BUS VOLTAGES:

As per the system voltage criteria [0.95-1.05 pu], no marginal voltage problems were recorded within the PESCO system.

BUSES WITH VOLTAGE GREATER THAN 1.0500:

BUS#-SCT	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)	BUS#-SCT	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)
* NONE *															

BUSES WITH VOLTAGE LESS THAN 0.9500:

BUS#-SCT	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)	BUS#-SCT	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)
* NONE *															

PESCO Transmission System Expansion Plan (TSEP)

ii. BRANCH LIMIT CHECK REPORT :

OUTPUT FOR AREA 1 [PESCO]

SUBSYSTEM LOADING CHECK (INCLUDED: LINES; BREAKERS AND SWITCHES; TRANSFORMERS) (EXCLUDED: NONE)

LOADINGS ABOVE 100.0 % OF RATING SET 1 (MVA FOR TRANSFORMERS, CURRENT FOR NON-TRANSFORMER BRANCHES):

X----- FROM BUS -----X X----- TO BUS -----X

BUS#-SCT	X-- NAME	--X BASKV	AREA	BUS#-SCT	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATE1	PERCENT
1435	MUZF ABAD-II	132.00*	1	1457	HATTIAN	132.00	1	1	113.1	112.0	101.0

b) Summary for (N-1) Results :

2025-26-WITH REINFORCEMENT + N-1

i. OUT-OF-LIMITS BUS VOLTAGES:

BUSES WITH VOLTAGE GREATER THAN 1.0500:

BUS#-SCT X--	NAME --X	BASKV AREA	V(PU)	V(KV)	BUS#-SCT X--	NAME --X	BASKV AREA	V(PU)	V(KV)
* NONE *									

BUSES WITH VOLTAGE LESS THAN 0.9500:

BUS#-SCT X--	NAME --X	BASKV AREA	V(PU)	V(KV)	BUS#-SCT X--	NAME --X	BASKV AREA	V(PU)	V(KV)
* NONE *									

ii. BRANCH LIMIT CHECK REPORT:

OUTPUT FOR AREA 1 [PESCO]

SUBSYSTEM LOADING CHECK (INCLUDED: LINES; BREAKERS AND SWITCHES; TRANSFORMERS) (EXCLUDED: NONE)

LOADINGS ABOVE 100.0 % OF RATING SET 1 (MVA FOR TRANSFORMERS, CURRENT FOR NON-TRANSFORMER BRANCHES):

X----- FROM BUS -----X X----- TO BUS -----X

BUS#-SCT X--	NAME --X	BASKV AREA	BUS#-SCT X--	NAME --X	BASKV AREA	CKT LOADING	RATE1 PERCENT
--------------	----------	------------	--------------	----------	------------	-------------	---------------

* NONE *

iii. **PESCO SYSTEM LOADING & LOSS :**

Overall loading of the system was as follows:

FROM ---ASSIGNED TO THE AREA---				TO				-NET INTERCHANGE-				
		GENE- FROM IND	TO IND	TO	TO BUS	GNE BUS	TO LINE	FROM	TO	TO TIE	TO TIES	DESIRED
X-- AREA --X	RATION	GENERATN	MOTORS	LOAD	SHUNT	DEVICES	SHUNT	CHARGING	LOSSES	LINES	+ LOADS	NET INT
1	1227.3	0.0	0.0	3210.1	0.0	0.0	1.1	0.0	63.0	-2074.5	-2046.9	
PESCO	40.9	0.0	0.0	1784.0	-955.6	0.0	-0.0	302.3	525.4	-1027.4	-1010.6	
COLUMN	1227.3	0.0	0.0	3210.1	0.0	0.0	1.1	0.0	63.0	-2074.5	-2046.9	
TOTALS	40.9	0.0	0.0	1784.0	-955.6	0.0	0.0	302.3	525.4	-1027.4	-1010.6	

7.2 PESCO Distribution System for June-2026

The Year-2026 base case was studied based on the planning criteria described above. The total load of PESCO by June-2026 is 3306 MW.

a) Summary for (N-1) Results:

(June 2026)

i. OUT-OF-LIMITS BUS VOLTAGES:

BUSES WITH VOLTAGE GREATER THAN 1.0500:

BUS#-SCT X--	NAME	--X BASKV AREA	V(PU)	V(KV)	BUS#-SCT X--	NAME	--X BASKV AREA
V(PU)	V(KV)						

* NONE *

BUSES WITH VOLTAGE LESS THAN 0.9500:

BUS#-SCT X--	NAME	--X BASKV AREA	V(PU)	V(KV)	BUS#-SCT X--	NAME	--X BASKV AREA
V(PU)	V(KV)						

* NONE *

ii. BRANCH LIMIT CHECK REPORT:

OUTPUT FOR AREA 1 [PESCO]

SUBSYSTEM LOADING CHECK (INCLUDED: LINES; BREAKERS AND SWITCHES; TRANSFORMERS) (EXCLUDED: NONE)

LOADINGS ABOVE 100.0 % OF RATING SET 1 (MVA FOR TRANSFORMERS, CURRENT FOR NON-TRANSFORMER BRANCHES):

X----- FROM BUS -----X X----- TO BUS -----X

BUS#-SCT X--	NAME	--X BASKV AREA	BUS#-SCT X--	NAME	--X BASKV AREA	CKT LOADING	RATE1 PERCENT
--------------	------	----------------	--------------	------	----------------	-------------	---------------

* NONE *

iii. **PESCO SYSTEM LOADING & LOSS:**

Overall loading of the system was as follows:

FROM ---ASSIGNED TO THE AREA---					TO				-NET INTERCHANGE-				
		GENE-	FROM IND	TO IND	TO	TO BUS	GNE BUS	TO LINE	FROM	TO	TO TIE	TO TIES	DESIRED
X--	AREA --X	RATION	GENERATN	MOTORS	LOAD	SHUNT	DEVICES	SHUNT	CHARGING	LOSSES	LINES	+ LOADS	NET INT
	1	1227.3	0.0	0.0	3242.6	0.0	0.0	1.1	0.0	63.6	-2107.9	-2079.9	0.0
	PESCO	64.9	0.0	0.0	1804.1	-953.7	0.0	-0.0	301.7	534.7	-1035.6	-1018.6	
	COLUMN	1227.3	0.0	0.0	3242.6	0.0	0.0	1.1	0.0	63.6	-2107.9	-2079.9	0.0
	TOTALS	64.9	0.0	0.0	1804.1	-953.7	0.0	0.0	301.7	534.7	-1035.6	-1018.6	

7.3 PESCO Distribution System for Year 2027-2028 :

The June-2028 case was studied based on the planning criteria described above. The forecasted total load of PESCO by June-2028 is 3732 MW.

i. OUT-OF-LIMITS BUS VOLTAGES: Year 2027-28

BUSES WITH VOLTAGE GREATER THAN 1.0500:

BUS#-SCT	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)
* NONE *							

* NONE *

BUSES WITH VOLTAGE LESS THAN 0.9500:

BUS#-SCT	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)	BUS#-SCT	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)
1277		MEDAN TERA		132.00	10	0.9047	119.42	1301		KOHAT-SP		132.00	1	0.9473	125.04
1306		K.T SHIP		132.00	1	0.9369	123.67	1309		GHILJO		132.00	10	0.9186	121.25
1310		DOABA		132.00	1	0.9340	123.29	1312		HANGU		132.00	1	0.9244	122.03
1315		TALL		132.00	1	0.9395	124.02	1720		KALAYA		132.00	10	0.9075	119.79
1755		SADDA TESCO		132.00	10	0.9138	120.62	1760		ALIZAI		132.00	10	0.9219	121.69
1775		PARACINA		132.00	10	0.9119	120.37	12771		T1		11.000	10	0.9190	10.109
12772		T2		11.000	10	0.9190	10.109	13091		T1		11.000	10	0.9367	10.303
13092		T2		11.000	10	0.9367	10.303	17201		T1		11.000	10	0.9306	10.237
17202		T2		11.000	10	0.9306	10.237	17551		T1		11.000	10	0.9369	10.306
17552		T2		11.000	10	0.9369	10.306	17554		T4		11.000	10	0.9036	9.939
17601		T1		11.000	10	0.9249	10.174	17602		T2		11.000	10	0.9249	10.174
17751		T1		11.000	10	0.9040	9.944	17752		T2		11.000	10	0.9073	9.980
17753		T3		11.000	10	0.9040	9.944								

ii. Branch limit check Report:

OUTPUT FOR AREA 1 [PESCO]

SUBSYSTEM LOADING CHECK (INCLUDED: LINES; BREAKERS AND SWITCHES; TRANSFORMERS) (EXCLUDED: NONE)

LOADINGS ABOVE 95.0 % OF RATING SET 1 (MVA FOR TRANSFORMERS, CURRENT FOR NON-TRANSFORMER BRANCHES):

X----- FROM BUS -----X X----- TO BUS -----X

BUS#-SCT	X--	NAME	--X	BASKV	AREA	BUS#-SCT	X--	NAME	--X	BASKV	AREA	CKT	LOADING	RATE1	PERCENT
1291		SHMUHDI-1		132.00	1	1306		K.T SHIP		132.00*	1	1	109.0	114.0	95.6

iii. **PESCO SYSTEM LOADING & LOSS :**

Overall loading of the system was as follows:

PESCO BASE CASE 2027-28

AREA TOTALS

IN MW/MVAR

FROM ---ASSIGNED TO THE AREA---				TO				-NET INTERCHANGE-				
GENE-	FROM IND	TO IND	TO	TO BUS	GNE BUS	TO LINE	FROM	TO	TO TIE	TO TIES	DESIRED	
X-- AREA --X	RATION GENERATN	MOTORS	LOAD	SHUNT	DEVICES	SHUNT	CHARGING	LOSSES	LINES	+ LOADS	NET INT	
1	1231.6	0.0	0.0	3654.4	0.0	0.0	1.1	0.0	77.5	-2435.7	-2501.4	0.0
PESCO	172.1	0.0	0.0	2046.8	-1063.3	0.0	-0.0	306.1	660.4	-1135.4	-1165.8	
COLUMN	1231.6	0.0	0.0	3654.4	0.0	0.0	1.1	0.0	77.5	-2435.7	-2501.4	0.0
TOTALS	172.1	0.0	0.0	2046.8	-1063.3	0.0	0.0	306.1	660.4	-1135.4	-1165.8	

PESCO Transmission System Expansion Plan (TSEP)

b) **Summary for (N-1) Results:**

2027-28-WITH REINFORCEMENT + N-1

i. **OUT-OF-LIMITS BUS VOLTAGES:**

PESCO BASE CASE 2027-28-WITH REINFORCEMENT + N-1

BUSES WITH VOLTAGE GREATER THAN 1.0500:

BUS#-SCT	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)	BUS#-SCT	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)
----------	-----	------	-----	-------	------	-------	-------	----------	-----	------	-----	-------	------	-------	-------

* NONE *

BUSES WITH VOLTAGE LESS THAN 0.9500:

BUS#-SCT	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)	BUS#-SCT	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)
----------	-----	------	-----	-------	------	-------	-------	----------	-----	------	-----	-------	------	-------	-------

* NONE *

ii. **BRANCH LIMIT CHECK REPORT:**

PESCO BASE CASE 2027-28-WITH REINFORCEMENT + N-1

OUTPUT FOR AREA 1 [PESCO]

SUBSYSTEM LOADING CHECK (INCLUDED: LINES; BREAKERS AND SWITCHES; TRANSFORMERS) (EXCLUDED: NONE)

LOADINGS ABOVE 95.0 % OF RATING SET 1 (MVA FOR TRANSFORMERS, CURRENT FOR NON-TRANSFORMER BRANCHES):

X----- FROM BUS -----X X----- TO BUS -----X

BUS#-SCT	X--	NAME	--X	BASKV	AREA	BUS#-SCT	X--	NAME	--X	BASKV	AREA	CKT	LOADING	RATE1	PERCENT
----------	-----	------	-----	-------	------	----------	-----	------	-----	-------	------	-----	---------	-------	---------

* NONE *

iii. **PESCO SYSTEM LOADING & LOSS :**

Overall loading of the system was as follows:

PESCO BASE CASE 2027-28-WITH REINFORCEMENT + N-1												
AREA TOTALS												
IN MW/MVAR												
FROM ---ASSIGNED TO THE AREA---												
TO												
-NET INTERCHANGE-												
GENE- FROM IND TO IND TO TO BUS GNE BUS TO LINE FROM TO TO TIE TO TIES DESIRED												
X-- AREA --	RATION GENERATN	MOTORS	LOAD	SHUNT	DEVICES	SHUNT	CHARGING	LOSSES	LINES	+ LOADS	NET INT	
1	1231.6	0.0	0.0	3664.4	0.0	0.0	1.1	0.0	67.5	-2435.6	-2501.4	0.0
PESCO	143.0	0.0	0.0	2053.0	-1079.7	0.0	-0.0	313.3	617.4	-1104.0	-1134.4	
COLUMN	1231.6	0.0	0.0	3664.4	0.0	0.0	1.1	0.0	67.5	-2435.6	-2501.4	0.0
TOTALS	143.0	0.0	0.0	2053.0	-1079.7	0.0	0.0	313.3	617.4	-1104.0	-1134.4	

Appendix-1

Load Forecast for the Study Years 2025,
2026, 2028

PESCO

Diversified DISCO Grid Station Peak Loads

PESCO Transmission System Expansion Plan (TSEP)

PESCO Maximum Demand (MW) of Substations						
S.No	Grid No	Name of Grid Station	KV	PESCO (Diversified Grid Load, MW), F = 0.5732		
				2025-26	2026-27	2027-28
1	4	Abbottabad	132	25.28	25.85	26.60
2	11	Bannu	132	48.15	49.98	52.28
3	14	Battal	132	17.71	18.17	18.80
4	24	Chakdara	132	48.72	50.50	52.68
5	26	Charsadda	132	45.63	47.35	49.47
6	34	D.I KHAN	132	44.65	45.80	47.23
7	59	Haripur	132	29.23	30.21	31.35
8	68	Jehangira	132	43.96	45.34	46.95
9	70	Jamrud	132	47.75	48.95	50.27
10	98	Karak	132	37.09	38.81	40.87
11	111	Kohat	132	56.75	58.92	61.56
12	128	Mansehra	132	38.46	39.72	41.33
13	129	Mardan-1	220	37.83	39.21	40.81
14	137	Muree	132	3.38	3.50	3.61
15	145	Nizampur	132	9.11	9.69	10.37
16	146	Wah	132	2.75	2.87	2.98
17	150	Nowshera City	132	45.74	46.89	48.38
18	151	Nowshera Indust	132	26.08	27.00	28.09
19	156	Prova	132	11.69	12.15	12.73
20	162	Peshawar Indust	132	71.94	74.57	77.90
21	193	Shahi Bagh	132	52.45	54.45	56.92
22	211	R.B Tarbela	132	21.90	22.64	23.50
23	225	AMC Abbottabad	132	25.62	26.20	27.00
24	235	Badaber	66	0.00	0.00	0.00
25	239	Bandkuri	66	0.00	0.00	0.00
26	258	Daggar	132	37.77	39.03	40.53
27	262	Dargai	132	44.77	46.09	47.58

PESCO Transmission System Expansion Plan (TSEP)

28	282	Hangu	132	15.02	15.59	16.34
29	283	Haripur	66	0.00	0.00	0.00
30	286	Havelian	66	1.66	1.72	1.83
31	311	Kohat	66	1.43	1.49	1.55
32	312	Kuram Garhi	66	0.00	0.00	0.00
33	340	Pabbi	132	33.13	34.62	36.46
34	344	Peshawar City	132	56.75	58.81	61.33
35	346	Peshawar Cantt	132	45.00	46.60	48.55
36	347	Peshawar Fort	132	35.48	36.80	38.29
37	365	Shabqadar	132	41.67	43.28	45.23
38	384	Swabi	132	38.12	39.55	41.39
39	386	Tajazai	66	0.00	0.00	0.00
40	389	Timergara	66	6.19	6.42	6.76
41	393	Tank	132	34.33	35.65	37.37
42	394	Tall	132	18.06	18.74	19.55
43	460	Lachi	132	11.35	11.75	12.27
44	461	Swat	132	56.46	58.58	61.16
45	462	Nishat Tarbela	132	11.58	12.04	12.55
46	463	Chitral H/P	11	0.52	0.57	0.57
47	464	Draban	132	8.66	9.00	9.40
48	466	Kulachi	132	9.57	9.92	10.37
49	473	Muzafar Abad	132	34.16	34.97	35.77
50	514	Peshawar Univer	132	56.06	57.61	62.82
51	518	Hattian	132	6.94	7.11	7.28
52	567	Tangi	132	59.67	62.02	64.89
53	580	Balakot	132	8.83	9.06	9.34
54	596	Pezu	132	13.47	13.99	14.62
55	625	Dir	66	0.00	0.00	0.00
56	627	Gadoon Amazai	132	37.89	38.86	39.95
57	638	Hattar	132	45.45	46.54	47.75
58	657	Kheshki	66	1.49	1.49	1.55
59	671	Sheikh Muhammad	500	19.89	20.64	21.61
60	678	Garam Chashma P	11	0.34	0.40	0.40

PESCO Transmission System Expansion Plan (TSEP)

61	693	Mardan-2	132	28.49	29.12	30.04
62	694	Gumbat	132	14.56	15.08	15.76
63	699	Kurram Garhi P/	11	0.57	0.63	0.63
64	709	Nouser	132	5.45	5.56	5.73
65	714	Kohat Cement	132	21.04	21.04	21.04
66	716	Locomotive	132	0.29	0.29	0.29
67	717	Consumer GS	132	23.62	23.62	23.62
68	718	Tarbela P/H	11	1.72	1.78	1.89
69	736	Timergara	132	34.05	35.37	37.03
70	744	Chashma	132	2.24	2.35	2.46
71	757	Jalala	132	49.35	51.07	53.19
72	783	Gurguri	132	4.53	4.70	4.93
73	784	AWT Nizampur	132	16.34	16.34	16.34
74	786	Tarnawa	132	2.46	2.46	2.46
75	799	Best Way Cement	132	34.22	34.22	34.22
76	801	Mattani	132	37.95	39.44	41.21
77	804	Domail	220	28.49	29.58	30.90
78	819	Sakhi Chashma	132	32.16	33.30	34.79
79	829	Thakot	33	0.00	0.00	0.00
80	830	Darosh	132	2.24	2.35	2.46
81	831	Jutilasht	132	7.74	8.14	8.54
82	834	Hayatabad	132	49.70	51.82	54.40
83	857	Nathia Gali	132	4.36	4.53	4.70
84	861	Sadi Cement	132	6.82	6.82	6.82
85	865	Dalazak	132	29.00	29.81	30.90
86	875	Wari	66	0.00	0.00	0.00
87	876	Rehman Baba	132	57.61	59.78	62.54
88	877	Khwaza Khela	132	26.08	27.11	28.37
89	896	Madyan	132	7.68	7.97	8.31
90	901	Hussai	132	38.63	40.07	41.90
91	903	Sarai Naurang	132	32.50	33.76	35.31
92	906	Katlang	132	20.23	21.38	22.70
93	910	Warsak	132	30.32	31.47	32.96

PESCO Transmission System Expansion Plan (TSEP)

94	919	Oghi	132	10.89	11.29	11.87
95	940	Rajar	132	15.65	16.28	17.02
96	942	Shahi Bagh	220	13.70	14.22	14.90
97	955	Pattan	33	0.00	0.00	0.00
98	956	Shangla	132	10.72	11.18	11.69
99	992	Tajazai	132	27.40	28.49	29.81
100	1006	Cattar Class	33	0.00	0.00	0.00
101	1054	Kotal Town Koha	132	30.49	31.53	32.79
102	1092	Gomal Universit	132	10.15	10.55	11.01
103	1100	Dobian	132	17.14	17.60	18.17
104	1149	Rampura	132	16.68	17.08	17.48
105	1153	Barikot	132	16.39	17.02	17.77
106	1172	Kholian Bala Ha	132	18.17	18.63	19.26
107	1173	Mardan-3	132	41.44	44.82	50.27
108	1178	ZRK	132	14.33	14.33	14.33
109	1181	WAPDA House Col	132	24.88	25.85	27.06
110	1191	Batkheela	132	9.86	10.20	10.66
111	1195	Besham	132	6.65	6.94	7.22
112	1200	Taru Jabba	132	22.13	22.81	23.67
113	1207	FF Steel Mill H	132	7.91	7.91	7.91
114	1209	Alhaj Asia Star	132	18.23	18.23	18.23
115	1221	Sabir Abad	132	8.43	8.83	9.23
116	1228	Cherat Cement	132	8.60	8.60	8.60
117	1235	Siraj Baba	132	14.73	15.19	15.71
118	1300	RashakaiEconomi	132	120.37	120.37	120.37
119	1301	Hattar Economic	132	68.78	68.78	68.78
120	1302	Hazara Steel Mi	132	11.46	11.46	11.46
121	1305	DHA Peshawar	132	20.06	20.06	20.06
122	1306	Jalozai Housing	132	20.06	20.06	20.06
123	1307	Premier Cement	132	28.66	28.66	28.66
124	1308	Marble City	132	8.60	8.60	8.60
125	6668	Pattan132	132	2.41	2.46	2.58
126	6670	Thakot132	132	5.67	5.90	6.19

PESCO Transmission System Expansion Plan (TSEP)

127	6672	Chota Lahor	132	5.56	5.79	6.02
128	6673	Kaka Sahib	132	5.45	5.62	5.85
129	6674	Warsak Road	132	11.12	11.52	12.04
130	6675	Hassan Zai	132	5.56	5.73	6.02
131	6677	Bannu-2	132	17.43	18.06	18.92
132	6678	Chirat Industri	132	10.20	10.66	11.18
133	6679	Behram Killi	132	6.76	6.99	7.28
134	6680	Munda-Jandol	132	5.56	5.79	6.08
135	6681	Lal Qilla	132	5.56	5.79	6.08
136	6682	D.I Khan-2	132	21.27	21.78	22.53
137	6683	Naguman	132	19.43	20.18	21.09
138	6684	Baja Bam Khel	132	7.62	7.91	8.25
139	6686	Lund Khwar	132	6.82	7.05	7.34
140	6687	Manga Dargai	132	5.45	5.62	5.90
141	6688	Nawan Killi	132	8.37	8.66	9.06
142	6689	Mardan-4	132	9.11	9.34	9.63
143	6690	Doaba	132	8.37	8.66	9.06
144	6691	Shakardara	132	5.04	5.22	5.45
145	6692	Bara Road	132	25.45	26.25	27.86
146	6693	Panyala	132	5.16	5.27	5.45
147	6694	Salar Zai	132	6.65	6.88	7.17
148	6695	Kabal	132	8.25	8.54	8.94
149	6696	Khan pur	132	7.39	7.62	7.97
150	6697	Lora	132	5.39	5.56	5.79
151	6698	Kala Dakha	132	3.38	3.50	3.67
152	6699	Lakkk-2	132	7.22	7.45	7.80
153	6700	Haripur-2	132	9.63	10.09	10.55
154	6701	Kuram Garhi132	132	10.03	10.37	10.83
155	6702	Badaber132	132	9.40	9.74	10.20
156	6703	Bandkuri132	132	19.32	20.06	20.98
157	6704	Dir132	132	7.11	7.34	7.62
158	6705	Dargai-2	132	6.42	6.59	6.82
159	6706	Rustam	132	5.56	5.79	6.02

PESCO Transmission System Expansion Plan (TSEP)

160	6707	Hattar-2	132	22.13	22.70	23.27
161	6708	Jamrud-2	132	12.44	12.78	13.13
162	6709	Shinkiari	132	6.76	6.99	7.28
163	6801	Regi Model Town	132	19.43	19.95	21.44
164	6802	wari132	132	18.17	18.86	19.78
165	6803	Matta	132	8.02	8.31	8.71
		TOTAL PESCO:	0	3272.63	3373.57	3503.57

Appendix-2

Single Line Diagrams

YEAR-2025 **PESCO** Systems

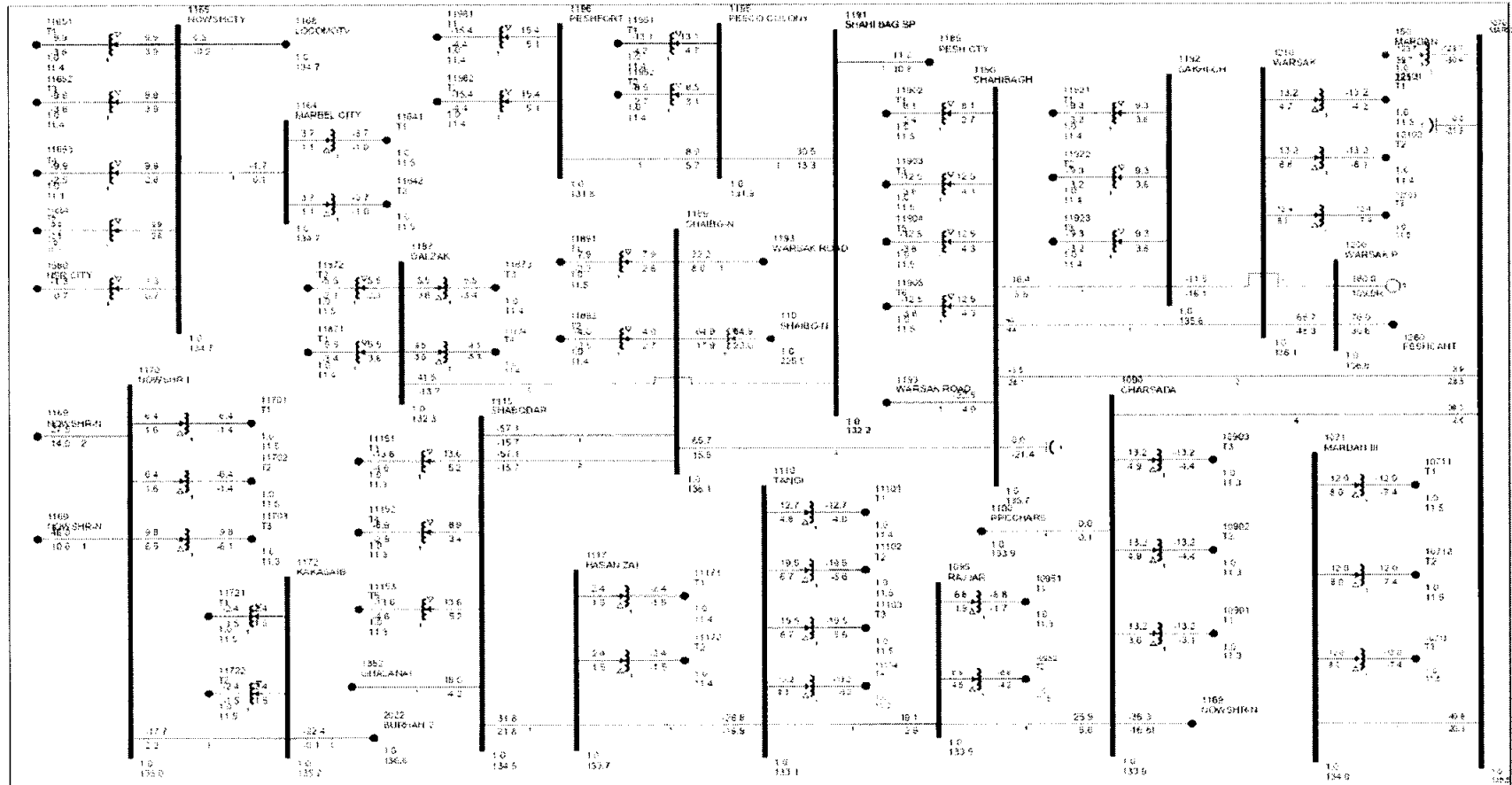
Without System Reinforcements

And

Scope of Work of the Period 2025-2026

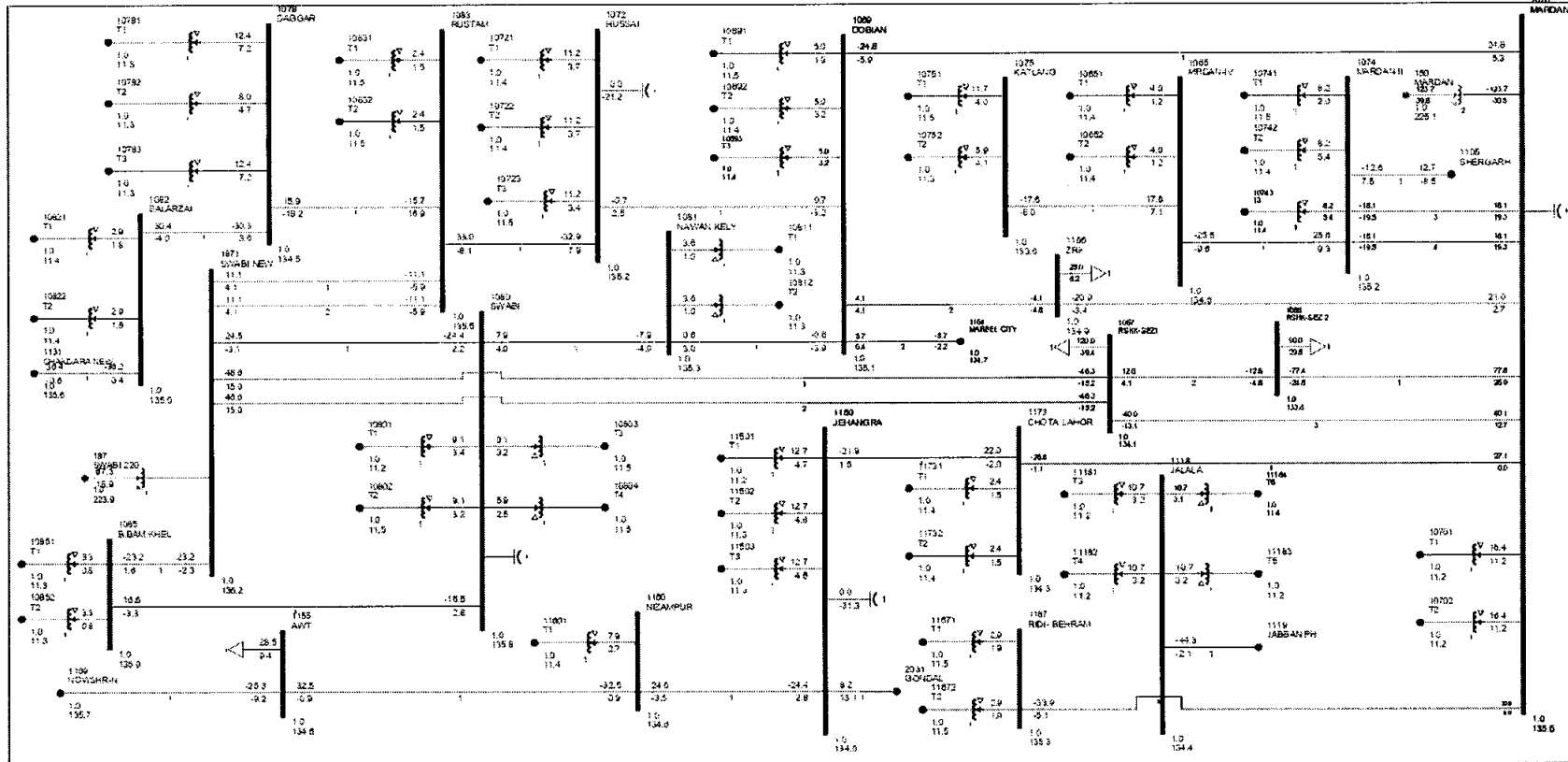
**PESCO LOAD FLOW STUDY
YEAR 2025-26: BASE CASE - N-0**

Exhibit-1-2025-1.1



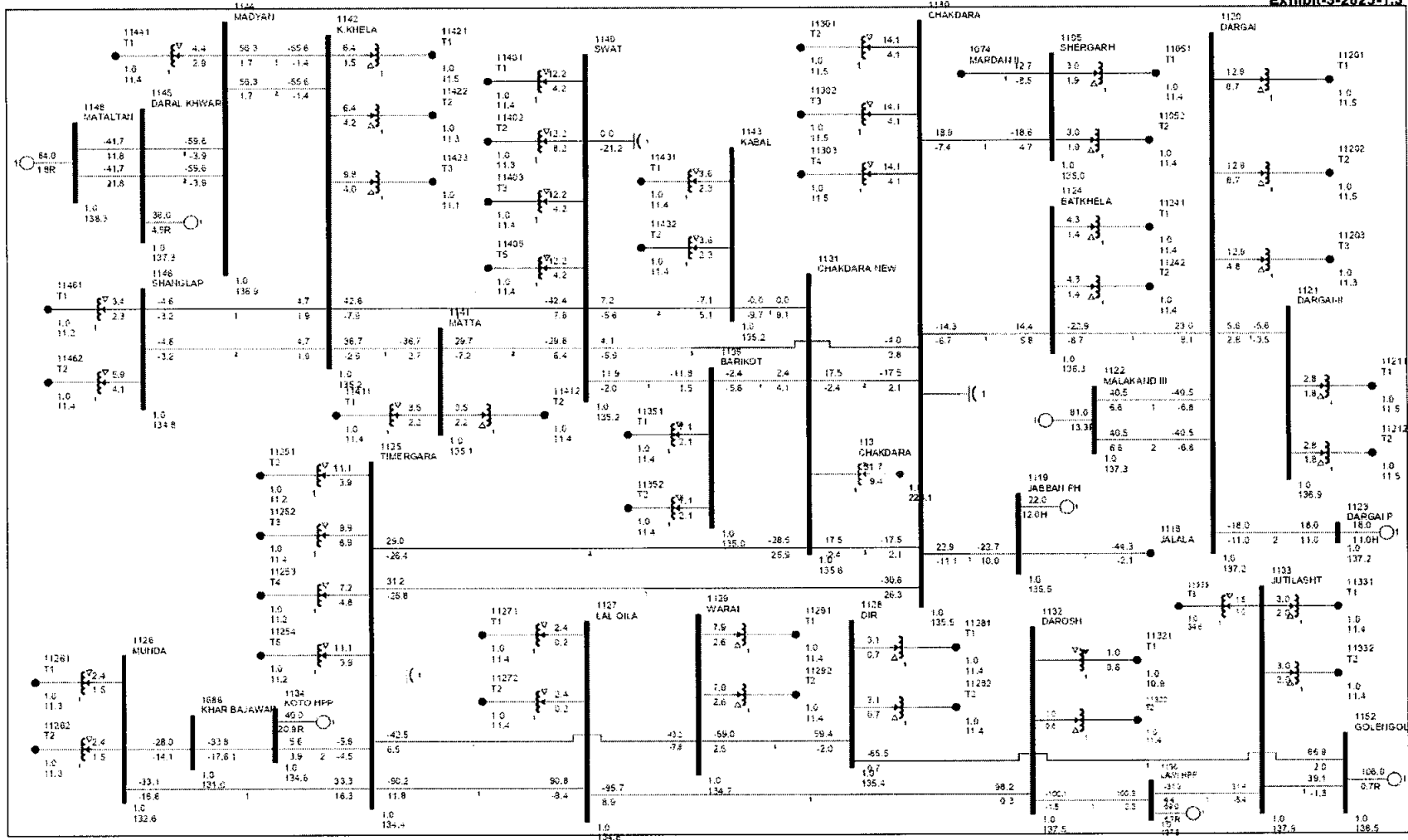
**PESCO LOAD FLOW STUDY
YEAR 2025-26: BASE CASE - N-0**

Exhibit-2-2025-1.2



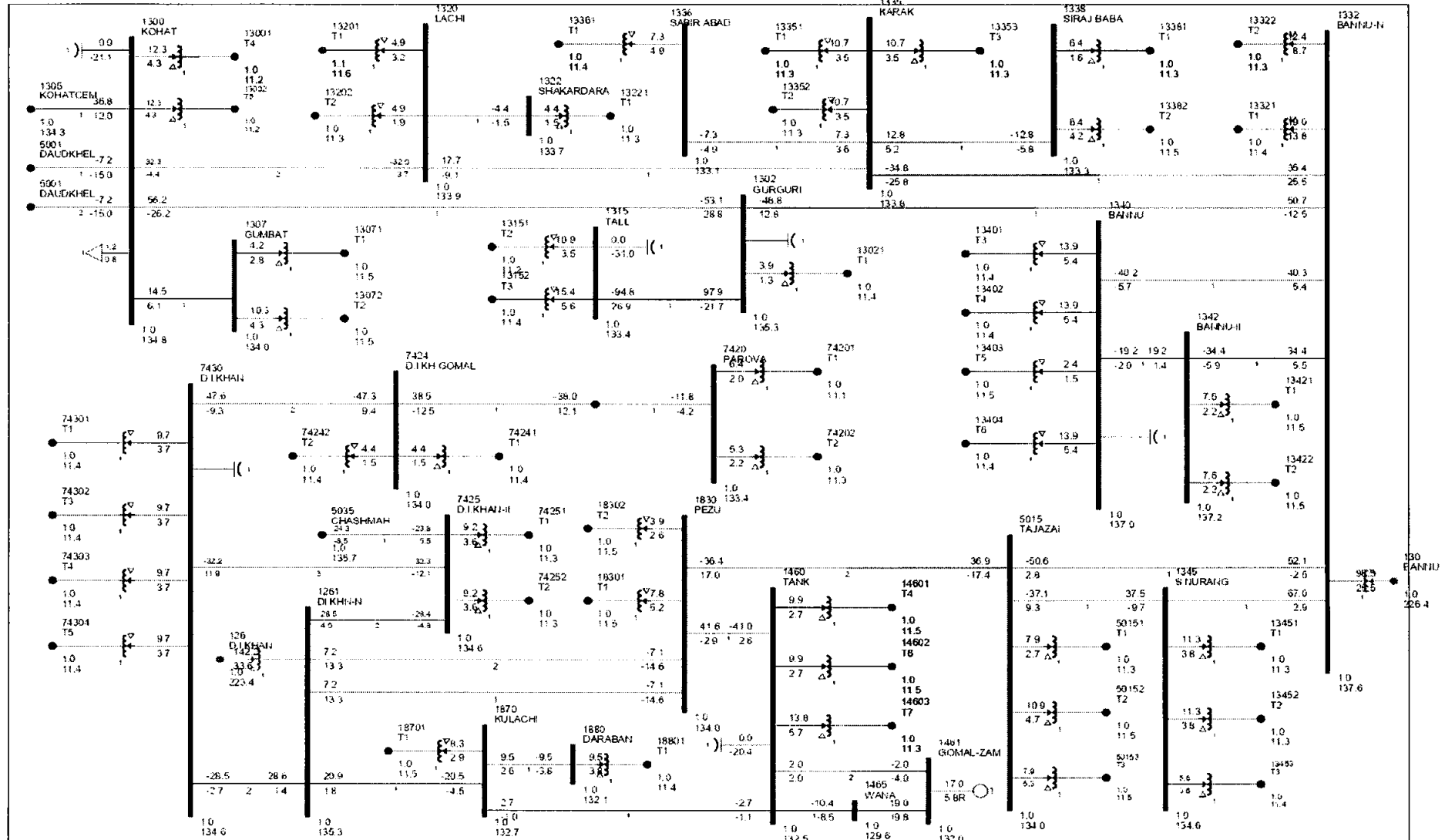
**PESCO LOAD FLOW STUDY
YEAR 2025-26: BASE CASE - N-0**

Exhibit-3-2025-1.3



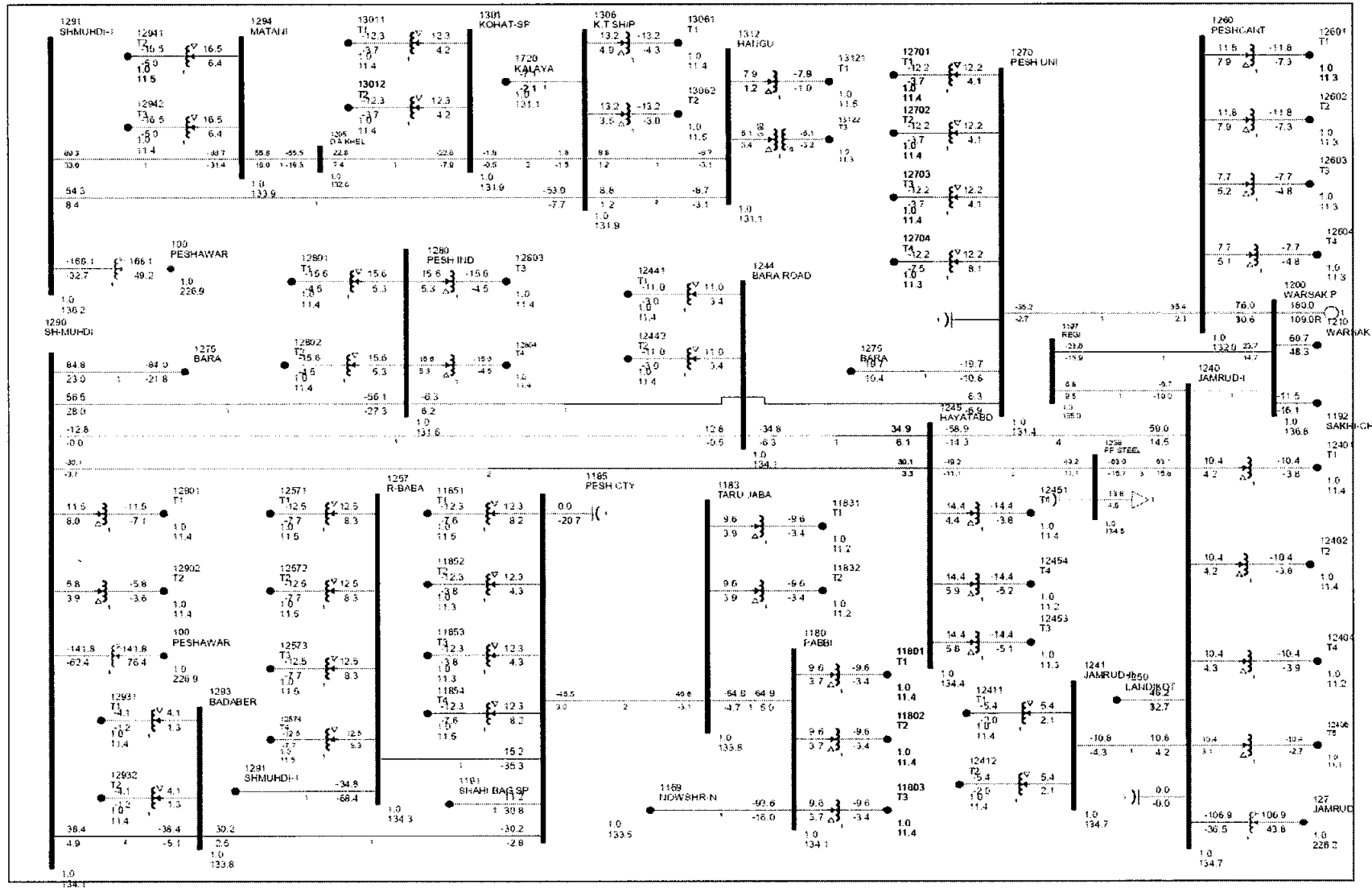
PESCO LOAD FLOW STUDY YEAR 2025-26: BASE CASE

Exhibit-1-2025-1.4



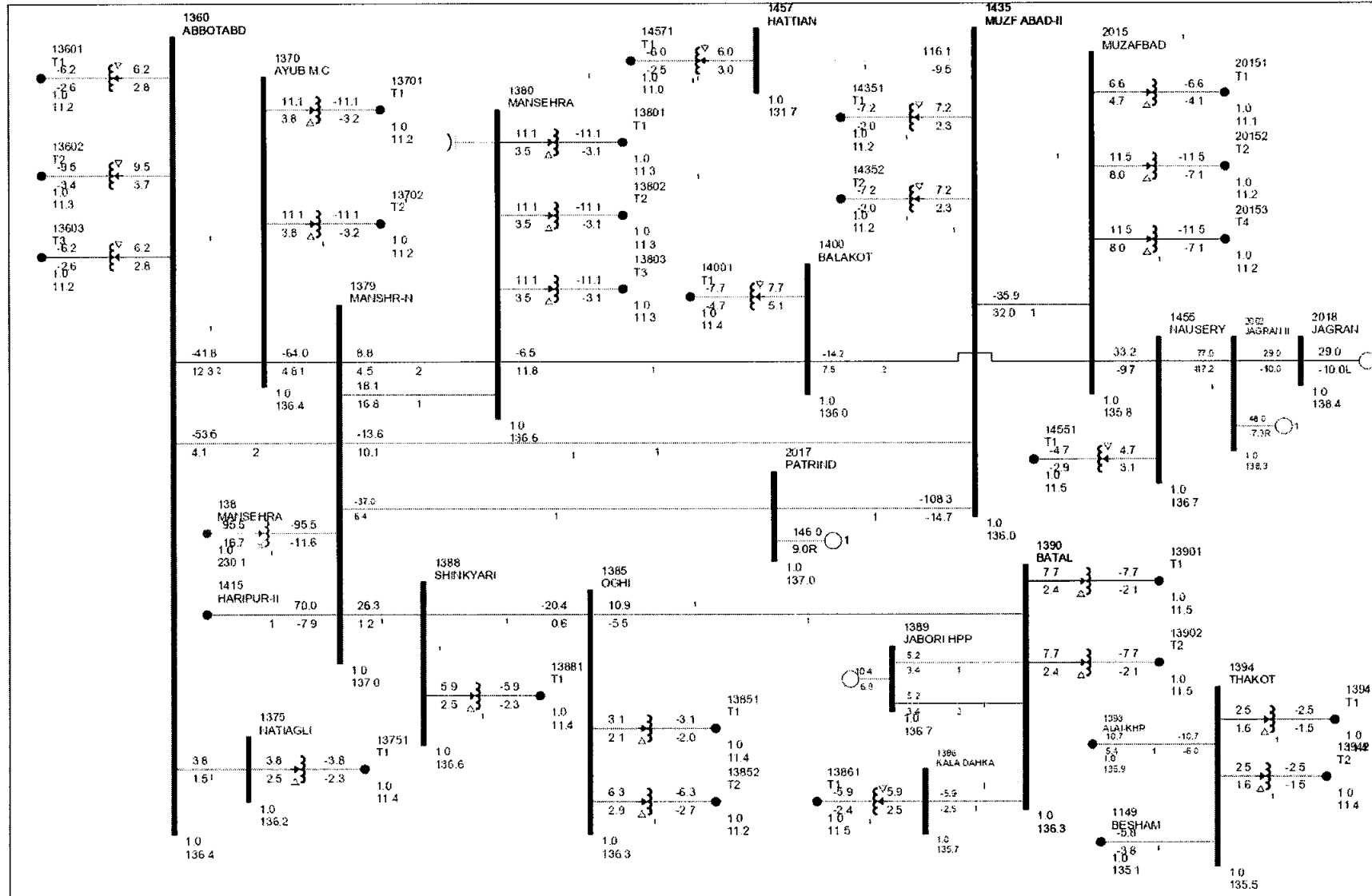
PESCO LOAD FLOW STUDY YEAR 2025-26: BASE CASE

Exhibit-1-2025-1.5



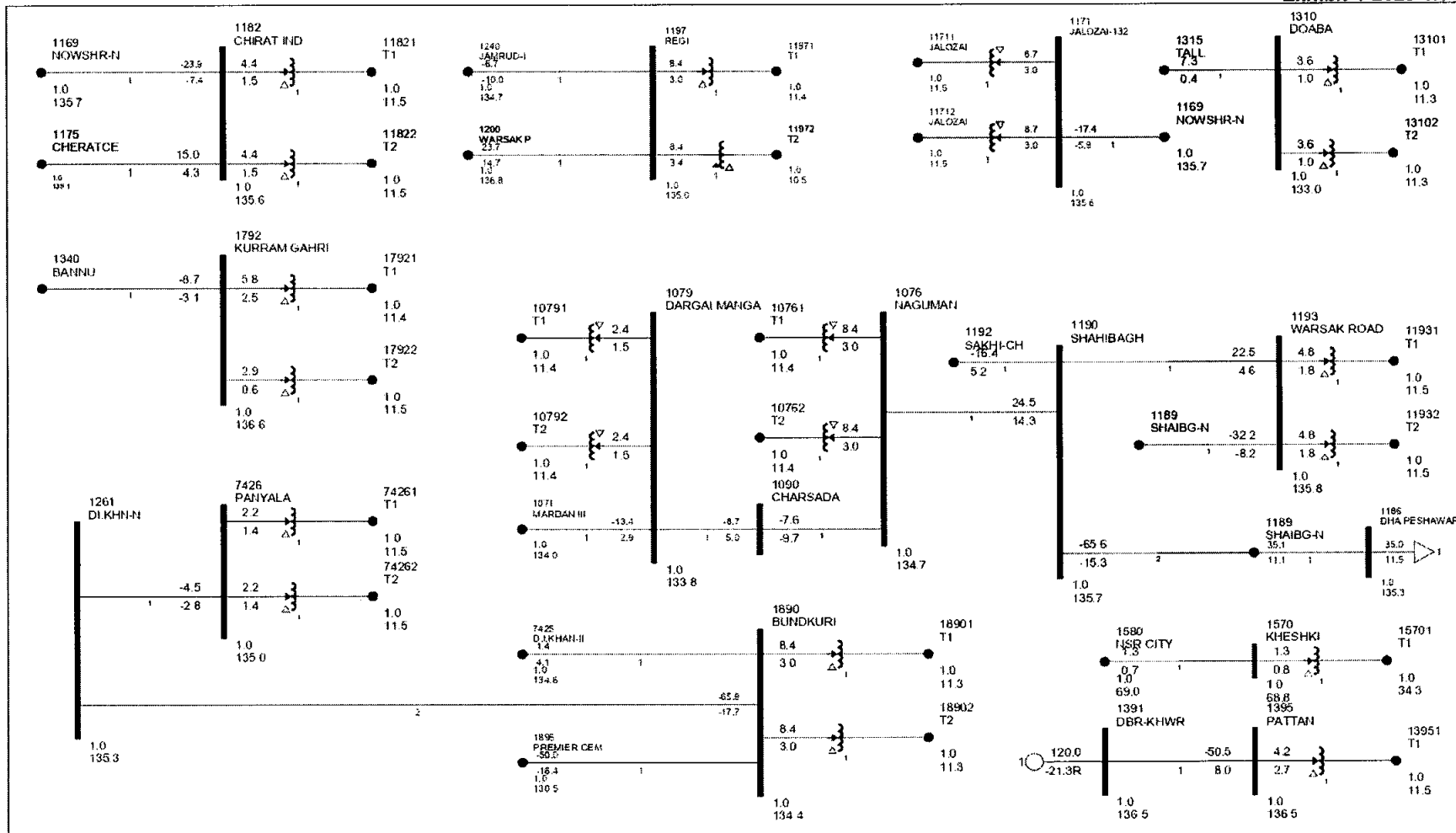
PESCO LOAD FLOW STUDY YEAR 2025-26: BASE CASE

Exhibit-1-2025-1.6



PESCO LOAD FLOW STUDY YEAR 2025-26: BASE CASE

Exhibit-1-2025-1.8



PESCO NEW GRID STATIONS UPTO 2025-2026

			Transformer					
			31.5/40 MVA	20/26 MVA	10/13 MVA			
1	132 KV Siraj Baba	New		1		SDT	Lynx	9
2	132 KV Chota Lahore, Swabi	New		2		D/C	Lynx	15
3	132 KV Lal Qilla, Maidan, Lower Dir	New		2		SDT	Lynx	20
4	132 KV Hattar-II	New	2			SDT	Lynx	2
5	132 KV Warsak Road, Peshawar	New		2		D/C	Lynx	7
6	132 KV Dir	Con:		2		D/C	Rail	1
7	132 KV Thakot	Con:		1		SDT	Lynx	20
8	132 KV Nawan Kili, Swabi	New		2		D/C	Lynx	9
9	132 KV Khanpur, Haripur	New		2		D/C	Lynx	15
10	132KV Salarzai, Buner	New		2		D/C	Rail	42
11	132 KV Munda-Jandol, Lower Dir	New		2		SDT	Lynx	2
12	132 KV D.I Khan-II	New	2			SDT	Lynx	7
13	132 KV Matta	New		2		D/C	Lynx	10
14	132 KV Dargai-II, Malakand	New		2		D/C	Lynx	5
15	132KV Panyala, D.I.Khan	New		2		SDT	Lynx	20
16	132 KV Shakardara, Kohat	New		2		D/C	Lynx	5
17	132 KV Kabal, Swat	New		2		D/C	Lynx	5
18	132 KV Baja Bam Khel, Swabi	New		2		D/C	Lynx	5
19	132KV Akora Khattak, Nowshera	New	2			D/C	Lynx	5
20	132KV Tajori, Lakki Marwat	New		2		D/C	Lynx	10
21	132 KV Sarai Salih, (Haripur)	Con:		2		D/C	Lynx	2
22	132 KV Badaber,	Con:		2		D/C	Rail	1
23	132 KV Jamrud-II	New	2			SDT	Rail	3
24	132 KV Shinkyari, Mansehra	New		2		D/C	Lynx	5
25	132 KV Bara Road near Ring road Peshawar	New	2			D/C	Rail	4
26	132 KV Hassan Zai, Shabqadar	New		2		D/C	Lynx	5
27	132 KV Behram Kaley Mardan	New		2		D/C	Lynx	5
28	132 KV Doaba, Hangu	New		2		D/C	Lynx	8
29	132 KV Kala Dahka	New		1		SDT	Lynx	25
30	132 KV Band Kurai, D.I.Khan	Con:		2		SDT	Lynx	25
31	132 KV Naguman, Charsadda	New		2		D/C	Lynx	7
32	132 KV Lund Khwar, Shergarh	New		2		D/C	Lynx	4
33	132 KV Manga Dargai, Charsadda Road	New		2		D/C	Lynx	15
34	132 KV Mardan-IV, Katlang Road	New		2		D/C	Lynx	5
35	132 KV Rustam	New		2		D/C	Lynx	3
36	132 KV Lakki	New		2		SDT	Lynx	30
37	132KV Kuram Ghari	Con:		2		SDT	Lynx	16

NEW TRANSMISSION LINES FOR SYSTEM STABILITY UPTO 2025-2026			
Sr#	Name of Grid Station	Scope	Length of Line (KM)
1	Besham – Shangla a/w Line.Bays	SDT Rail	30
2	Mansehra – AMC A/Abad a/w Line.Bays	SDT Lynx	16
3	Mardan-Jalala Line In/Out at Mardan-II a/w Line.Bays	SDT Lynx	0.2
4	220/132 kV Chakdara – Salar Zai - Daggar a/w Line.Bays	D/C Rail	55
5	New Shahi Bagh-Shabqadar	D/C Recond: Rail	20
6	Khwaza Khela-Shangla a/w Line.Bays	Add: Ckt Lynx	26
7	Gurgurai-Tail a/w Line.Bays	SDT Lynx	30
8	220 KV Mansehra - Abbottabad	D/C Rail	32
9	220/132 KV Nowshera – Pabbi - Charsadda	D/C Rail	28
10	In/Out arrangement for 132 kV Swabi- Gadoon T/Line	D/C Rail	12
11	In/Out arrangement for 132 kV B.B Khel - Gadoon T/Line	D/C Rail	12
12	220/132 kV Swabi – Rustam D/C Line	D/C Rail	35
13	132 KV Haripur –Hattar SEZ D/C T/Line	D/C Rail	15
14	220/132 kV Haripur – Hattar SEZ D/C T/Line	D/C Rail	5
15	220/132 KV G/S Mardan – Rashakai SEZ D/C Transmission Line with Rail	D/C Rail	24.23
16	Reconductoring of 132 kV New Wah - Hattar T/Line	reconducting with Rail/HTLS	28
17	Reconductoring of 220/132 kV Shahibagh – 132 kV Shahibagh old T/Line	reconducting with Rail/HTLS	6
18	Re conductoring of 132 kV AMC Abbottabad – Murree Road Abbottabad T/Line	reconducting with Rail/HTLS	6
19	Re conductoring of 132 kV Jamrud – Peshawar University T/Line	reconducting with Rail/HTLS	9
20	132KV D.I.Khan – 132KV D.I.Khan T/Line Upgradation of remaining portion	Lynx with Rail/Greeley	10
21	132KV Peshawar University – Pesh: Cantt T/Line Upgradation	Lynx with Rail/Greeley	9
22	220/132KV Mansehra – 132KV AMC Abbottabad Line Upgradation	Lynx with Rail/Greeley	22
23	220Chakdara -132kV Chakdara T/Line (Ckt-1 & 2) Upgradation of remaining portion	Lynx with Rail/Greeley	16
24	132KV Pesh: City – Taru Jabba – Pabbi T/Line Upgradation	Lynx with Rail/Greeley	20
25	132KV Charsadda – Rajar – Tangi T/Line Upgradation a/w additional circuit	Lynx with Rail/Greeley	33
26	500/132KV Sheikh Muhammadi – Pesh: Industrial line Upgradation	Lynx with Rail/Greeley	22
27	132KV Swat – Khwaza Khela T/Line up gradation a/w additional Line	Lynx with Rail/Greeley	28

PESCO ON GOING PROJECTS UPTO 2025-26 (Aug: and Ext:)

			TRANSFORMER		
1	132 KV Nizam Pur	Aug:		1	
2	132 KV Jehangira	Aug:	1		
3	132 KV Gadoon Amazai	Aug:	1		
4	132 KV Abbottabad	Aug:	1		
5	132 KV Haripur	Aug:	1		
6	132 kV Shabqadar	Aug:	1		
7	132 KV Hussai	Aug:	1		
8	132 KV Rahman Baba	Aug:	1		
9	132 KV R.B Tarbela	Aug:	1		
10	132 KV Chakdara	Aug:	1		
11	132 KV Swat	Aug:	1		
12	132 KV Hayatabad	Ext:	1		
13	132 KV Peshawar Industrial	Ext:	1		
14	132 KV Nowshera Industrial	Ext:	1		
15	132 KV Katlang	Ext:			1
16	132 KV Rajar	Ext:			1
17	132 KV Dargai	Ext:		1	
18	132 kV Jutilasht	Ext:		1	
19	132 KV Havelian	Ext:	1		
20	132 KV Jalala	Ext:	1		
21	132 KV Darosh	Ext:		1	
22	132 KV Golan Gol HPP	Ext:			1
23	132 KV Dobian	Ext:		1	
24	132KV GS Pabbi	Ext:	1		
25	132KV GS KDA Kohat	Ext:	1		
26	66 KV Bandkori	Aug:			1
27	132 KV Warsak	Aug:	1		
28	132KV Peshawar Cant	Aug:	2		
29	132 kV Sakhi Chashma Peshawar	Aug:	2		
30	132KV Nowshera Industrial	Aug:	2		
31	132KV Swabi	Aug:	2		
32	132KV Shabqadar	Aug:	1		
33	132KV R.B Tarbela	Aug:	1		
34	132 KV Shahi Bagh	Ext:	1		
35	132 KV Tall	Ext:		1	
36	132 KV Tajazai	Ext:			

PESCO Transmission System Expansion Plan (TSEP)

37	132 KV Tangi	Aug:	1		
38	132 KV Charsadda	Aug:	1		
39	132 KV Gadoon Amazi	Aug:	1		
40	132 kV Haripur	Aug:	1		
41	132 kV Jalala	Aug:	1		
42	132 kV Dargai	Aug:	1		
43	132 kV Nowsehra City	Aug:	1		
44	132 kV Timergara	Aug:	1		
45	132 kV Pabbi	Aug:	1		
46	132 kV Kohat	Aug:	1		
47	132 kV Jehangira	Aug:	1		
48	132 kV KDA Kohat	Aug:	1		
49	132 kV Tangi	Aug:	1		
50	132 kV Hangu	Aug:	1		
51	132 kV Warsak	Aug:	1		
52	132 kV Rahman Baba, Peshawar	Ext:	1		
53	132 kV Mardan-II	Ext:	1		
54	132 kV Kohat	Ext:	1		
55	132 kV Jamrud	Ext:	1		

INSTALLATION OF 11KV CAPACITOR BANKS UPTO 2025-26

Sr.NO	Name of GSS	P/TF	P/TF MVA	Capacitor (MVAR)	Type
1	132kV Hayatabad	T3	31.5/40	12	Switch Shunt Capacitor Bank
2	132kV Hayatabad	T4	31.5/40	12	Switch Shunt Capacitor Bank
3	132kV Peshawar Industrial	T4	31.5/40	12	Switch Shunt Capacitor Bank
4	132kV Jamrud	T4	31.5/40	12	Switch Shunt Capacitor Bank
5	132kV Jamrud	T5	31.5/40	12	Switch Shunt Capacitor Bank
6	132kV Kotal	T4	31.5/40	12	Switch Shunt Capacitor Bank
7	132kV Kotal	T5	31.5/40	12	Switch Shunt Capacitor Bank
8	132kV Kotal Town Kohat	T1	31.5/40	12	Switch Shunt Capacitor Bank
9	132kV Pabbi	T3	31.5/40	12	Switch Shunt Capacitor Bank
10	132kV Nowshera City	T4	31.5/40	12	Switch Shunt Capacitor Bank
11	132kV Nowshera City	T5	31.5/40	12	Switch Shunt Capacitor Bank
12	132kV Jehangira	T2	31.5/40	12	Switch Shunt Capacitor Bank
13	132kV Jehangira	T3	31.5/40	12	Switch Shunt Capacitor Bank
14	132kV Jalala	T3	31.5/40	12	Switch Shunt Capacitor Bank
15	132kV Jalala	T4	31.5/40	12	Switch Shunt Capacitor Bank
16	132kV Jalala	T5	31.5/40	12	Switch Shunt Capacitor Bank
17	132kV Dargai	T3	31.5/40	12	Switch Shunt Capacitor Bank
18	132kV Timergara	T3	31.5/40	12	Switch Shunt Capacitor Bank
19	132kV Timergara	T4	31.5/40	12	Switch Shunt Capacitor Bank
20	132kV Haripur	T4	31.5/40	12	Switch Shunt Capacitor Bank
21	132kV Hattar	T3	31.5/40	12	Switch Shunt Capacitor Bank
22	132kV Hattar	T4	31.5/40	12	Switch Shunt Capacitor Bank
23	132kV Hattar-II	T1	31.5/40	12	Switch Shunt Capacitor Bank
24	132kV Hattar-II	T2	31.5/40	12	Switch Shunt Capacitor Bank
25	132kV Havelian	T1	31.5/40	12	Switch Shunt Capacitor Bank
26	132kV Khwaza Khela	T3	31.5/40	12	Switch Shunt Capacitor Bank
27	132KV D.I.Khan	T5	31.5/40	12	Switch Shunt Capacitor Bank

INSTALLATION OF 11KV (FIXED SHUNT) CAPACITOR BANKS			
Name of Grid	Transformer	2025-26	Remarks
WARSAK	T-2	3.6	PROPOSED
	T-3	4.8	PROPOSED
MARDAN III	T-1	3.6	PROPOSED
	T-2	3.6	PROPOSED
	T-3	3.6	PROPOSED
DALAZAK	T-1	1.2	PROPOSED
	T-3	1.2	PROPOSED
	T-4	2.4	PROPOSED
SHAHI BAGH-N	T-2	1.2	PROPOSED
MARBEL CITY	T-1	1.2	PROPOSED
	T-2	1.2	PROPOSED
RAJJAR	T-2	2.4	PROPOSED
NOWAHWHRA INDUTRIAL	T-3	2.4	PROPOSED
MARDAN II	T2	2.4	PROPOSED
	T3	2.4	PROPOSED
KATLANG	T-2	2.4	PROPOSED
DOBIAN	T-2	1.2	PROPOSED
	T-3	1.2	PROPOSED
DAGGAR	T-1	2.4	PROPOSED
	T2	2.4	PROPOSED
	T3	2.4	PROPOSED
MARDAN-I	T1	4.8	PROPOSED
	T2	4.8	PROPOSED
DARGAI	T1	4.8	PROPOSED
	T2	4.8	PROPOSED
KABAL	T1	1.2	PROPOSED
	T2	1.2	PROPOSED
SWAT	T2	3.6	PROPOSED
KHWAZAKHELA	T2	2.4	PROPOSED
MADYAN	T1	1.2	PROPOSED
SHANGLA	T1	1.2	PROPOSED
	T2	2.4	PROPOSED
	T3	3.6	PROPOSED
	T4	2.4	PROPOSED
MUNDA	T1	1.2	PROPOSED
	T2	1.2	PROPOSED
TIMERGARA	T3	3.6	PROPOSED
	T4	2.4	PROPOSED
JUTILASHT	T1	1.2	PROPOSED
	T2	1.2	PROPOSED

PESCO Transmission System Expansion Plan (TSEP)

BANNU-N	T1	4.8	PROPOSED
	T2	4.8	PROPOSED
SIRAJ BABA	T2	2.4	PROPOSED
SABIR ABAD	T1	2.4	PROPOSED
LACHI	T1	1.2	PROPOSED
GUMBAT	T1	1.2	PROPOSED
SARAI NAURANG	T3	1.2	PROPOSED
TAJAZAI	T3	2.4	PROPOSED
PEZU	T1	2.4	PROPOSED
		1.2	PROPOSED
PESHAWAR CANTT	T1	3.6	PROPOSED
	T2	3.6	PROPOSED
	T3	2.4	PROPOSED
	T4	2.4	PROPOSED
HANGU	T3	1.2	PROPOSED
PESHAWAR CITY	T4	3.6	PROPOSED
REHMAN BABA	T1	3.6	PROPOSED
	T2	3.6	PROPOSED
	T3	3.6	PROPOSED
	T4	3.6	PROPOSED
SHEIKH MUHAMADI	T1	3.6	PROPOSED
	T2	1.2	PROPOSED
PESHAWAR UNIVERSITY	T4	3.6	PROPOSED
MUZAFARABAD	T1	2.4	PROPOSED
	T2	3.6	PROPOSED
	T4	3.6	PROPOSED
BALAKOT	T1	2.4	PROPOSED
NAOSERI	T1	2.4	PROPOSED
NATHIAGALI	T1	1.2	PROPOSED
GADOON AMAZAI	T4	2.4	PROPOSED

Appendix-3

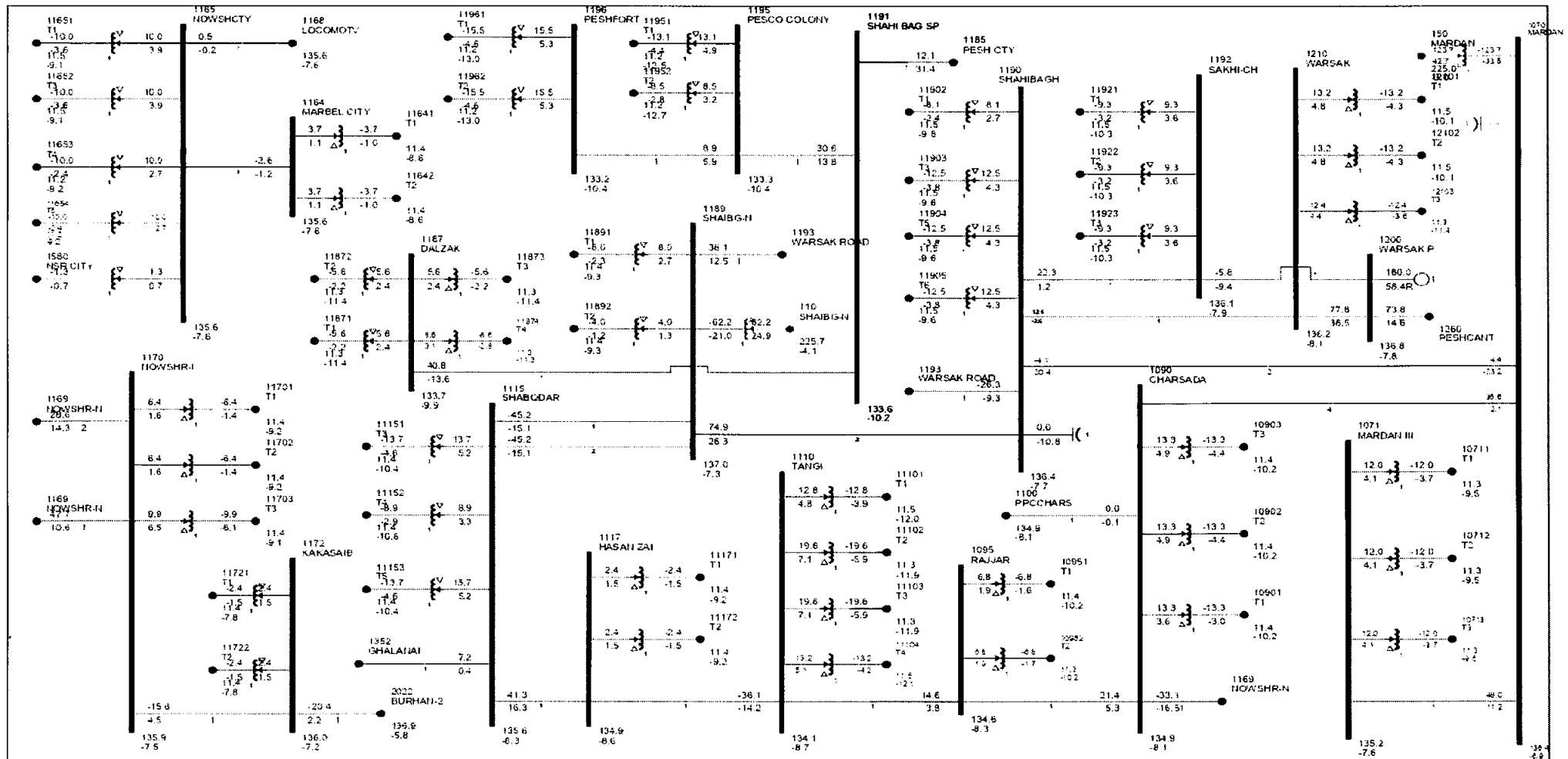
Single Line Diagram With System Reinforcements

PESCO

Year-2025-2026

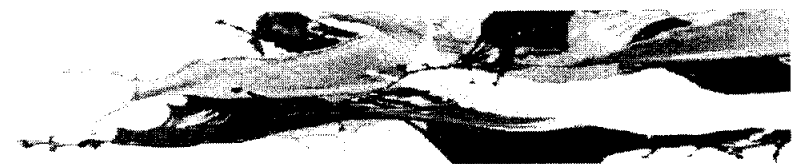
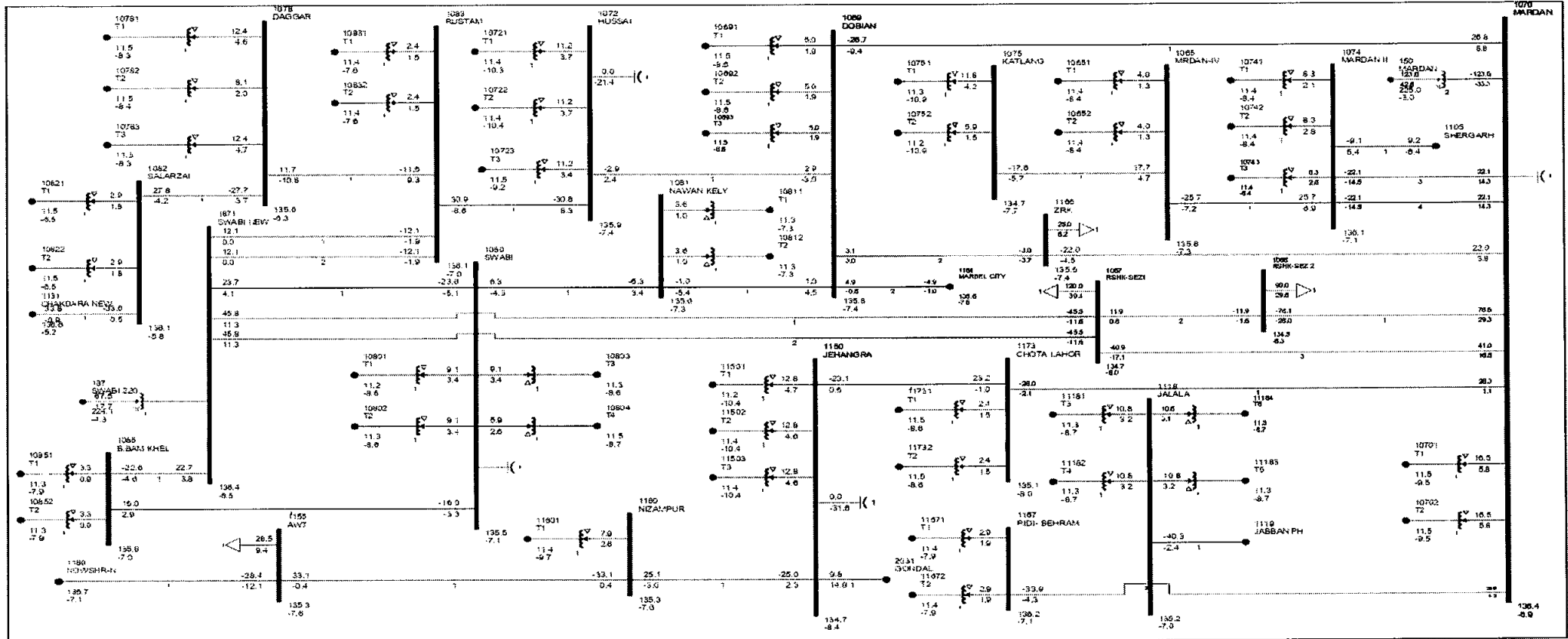
**PESCO LOAD FLOW STUDY
YEAR 2025-26: BASE CASE - N-1**

Exhibit-2-2025-2.1



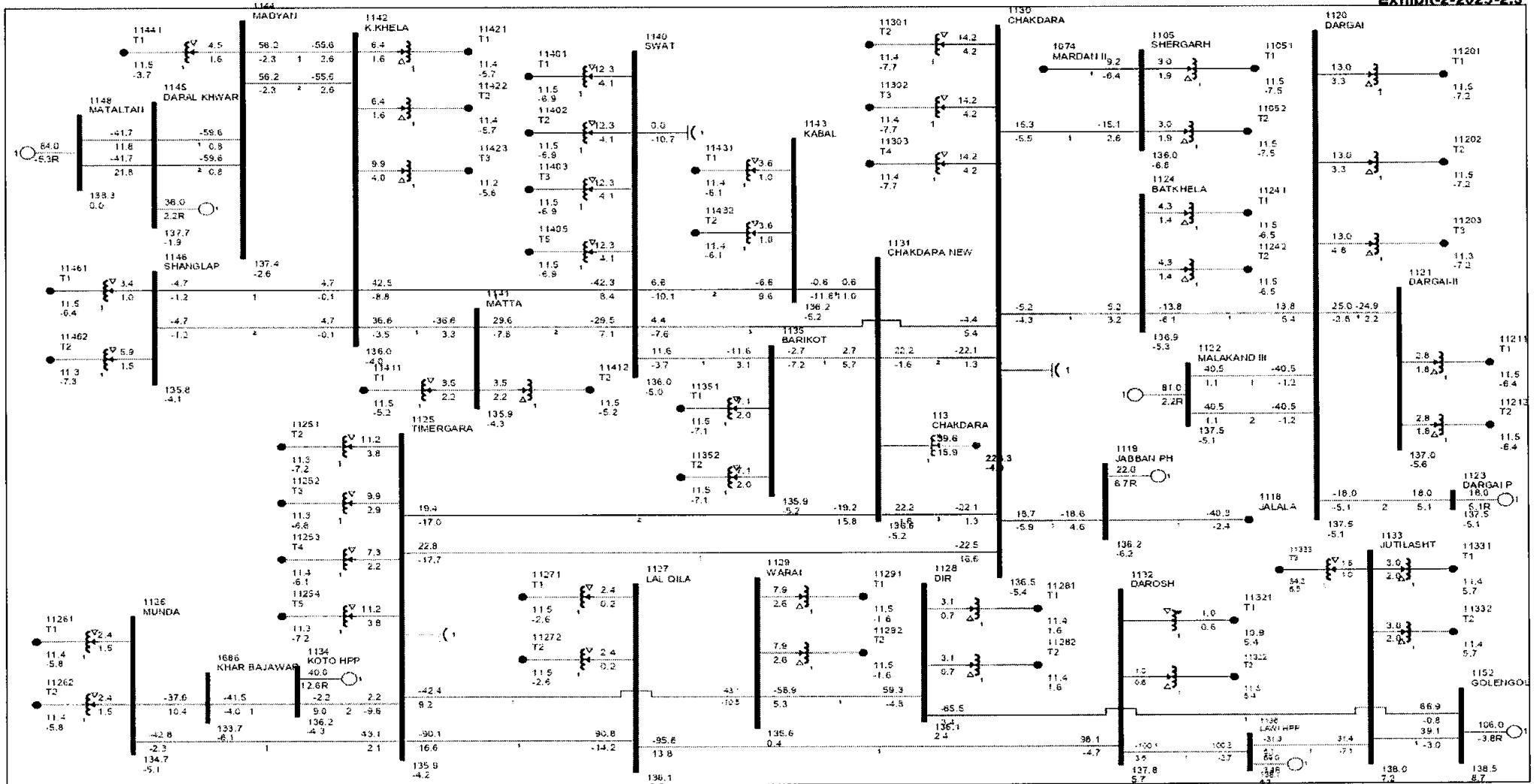
**PESCO LOAD FLOW STUDY
YEAR 2025-26: BASE CASE - N-1**

Exhibit-2-2025-2.2



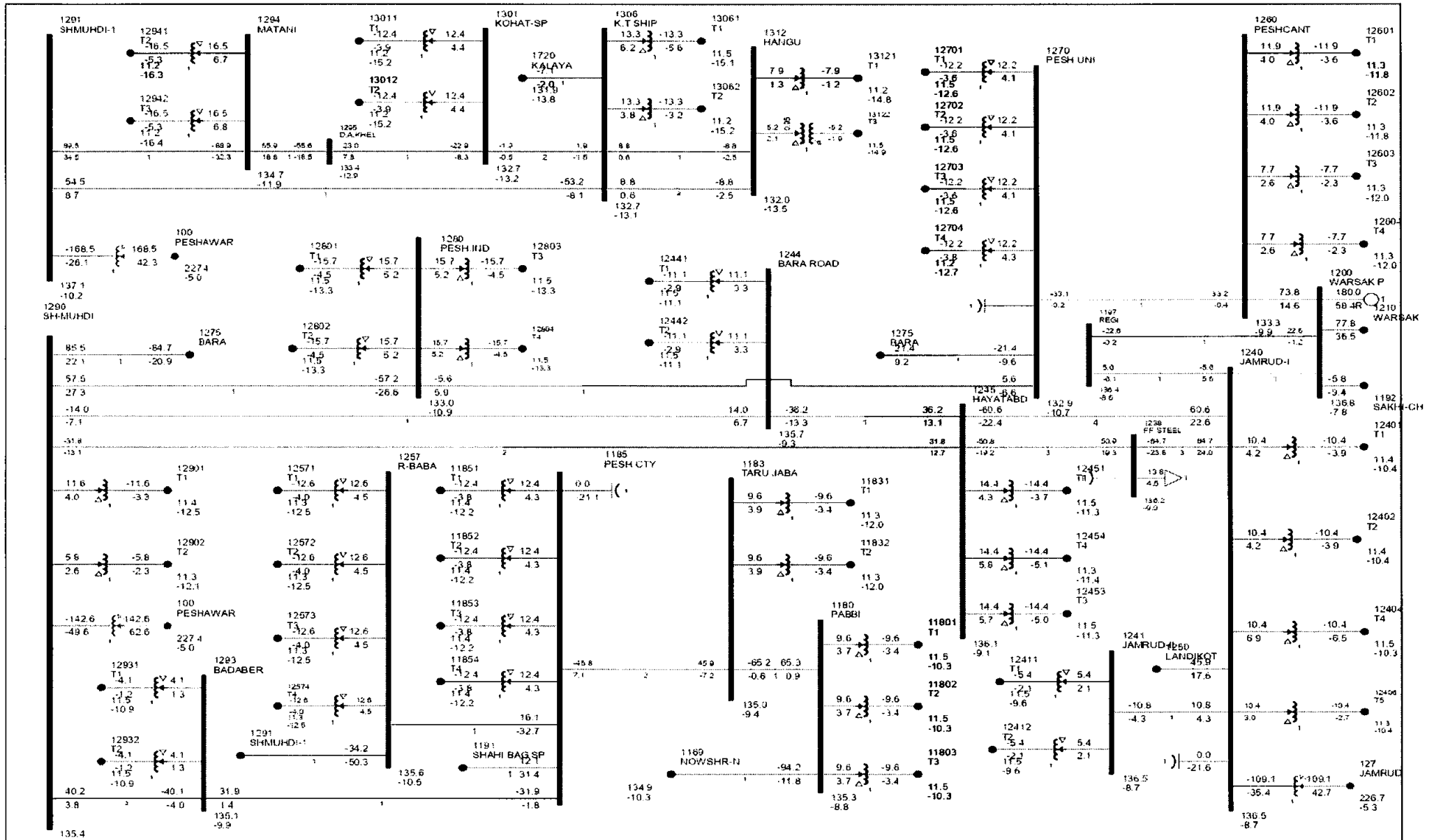
PESCO LOAD FLOW STUDY YEAR 2025-26: BASE CASE - N-1

Exhibit-2-2025-2.3



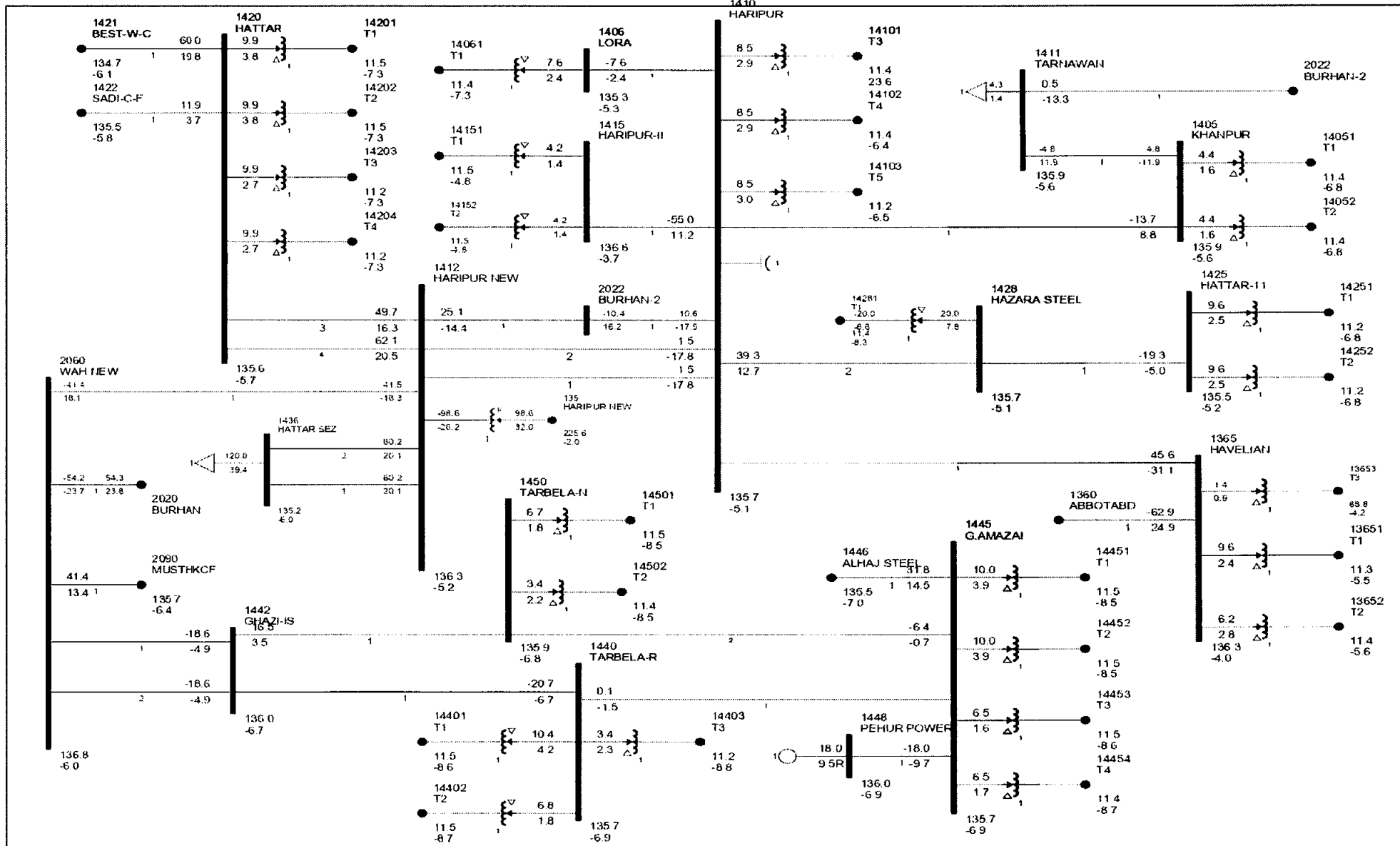
PESCO LOAD FLOW STUDY YEAR 2025-26: BASE CASE-N-1

Exhibit-2-2025-2.5



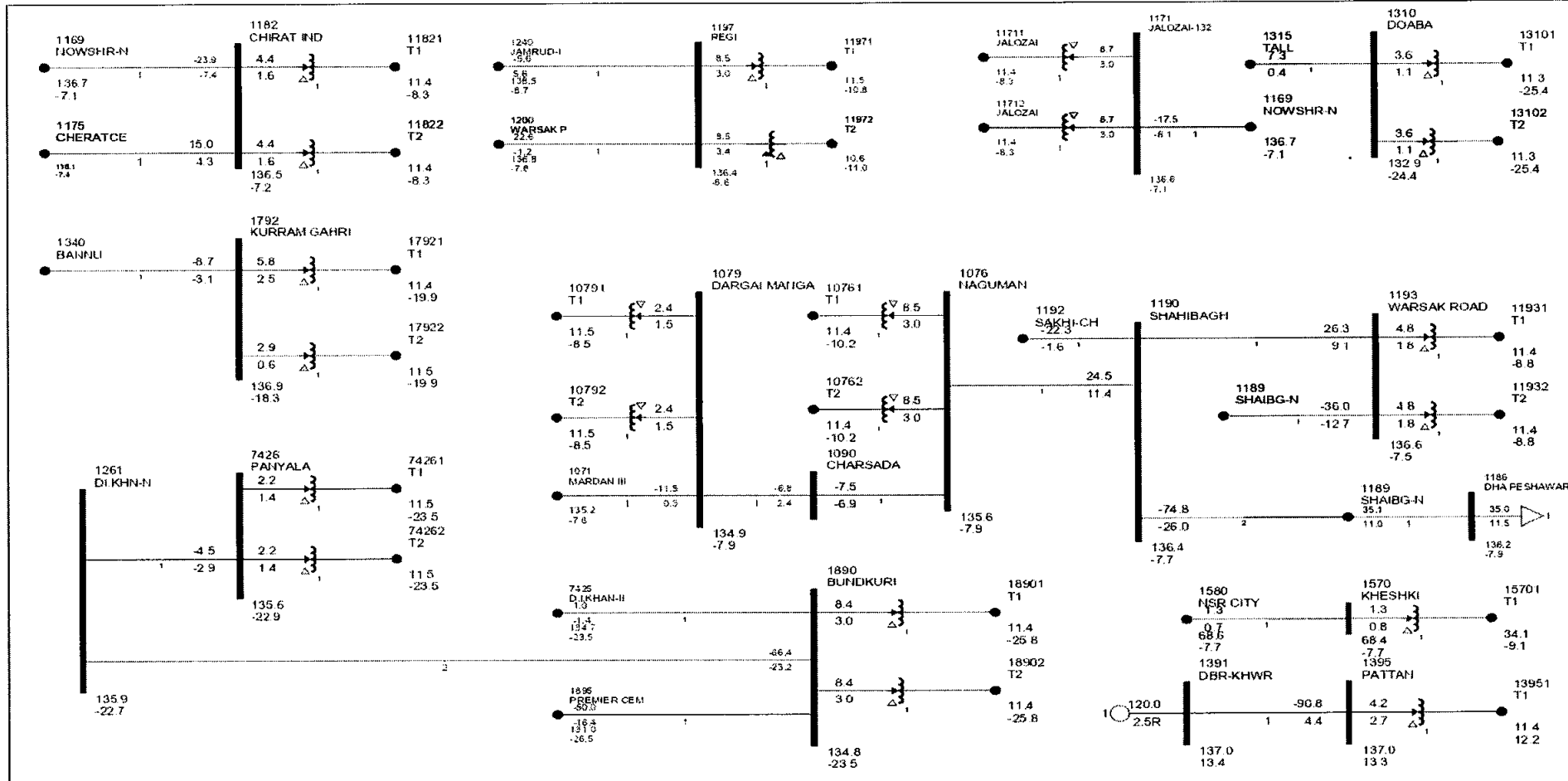
PESCO LOAD FLOW STUDY YEAR 2025-26: BASE CASE-N-1

Exhibit-2-2025-2.7



PESCO LOAD FLOW STUDY YEAR 2025-26: BASE CASE-N-1

Exhibit-2-2025-2.8



Appendix-4

Single Line Diagram

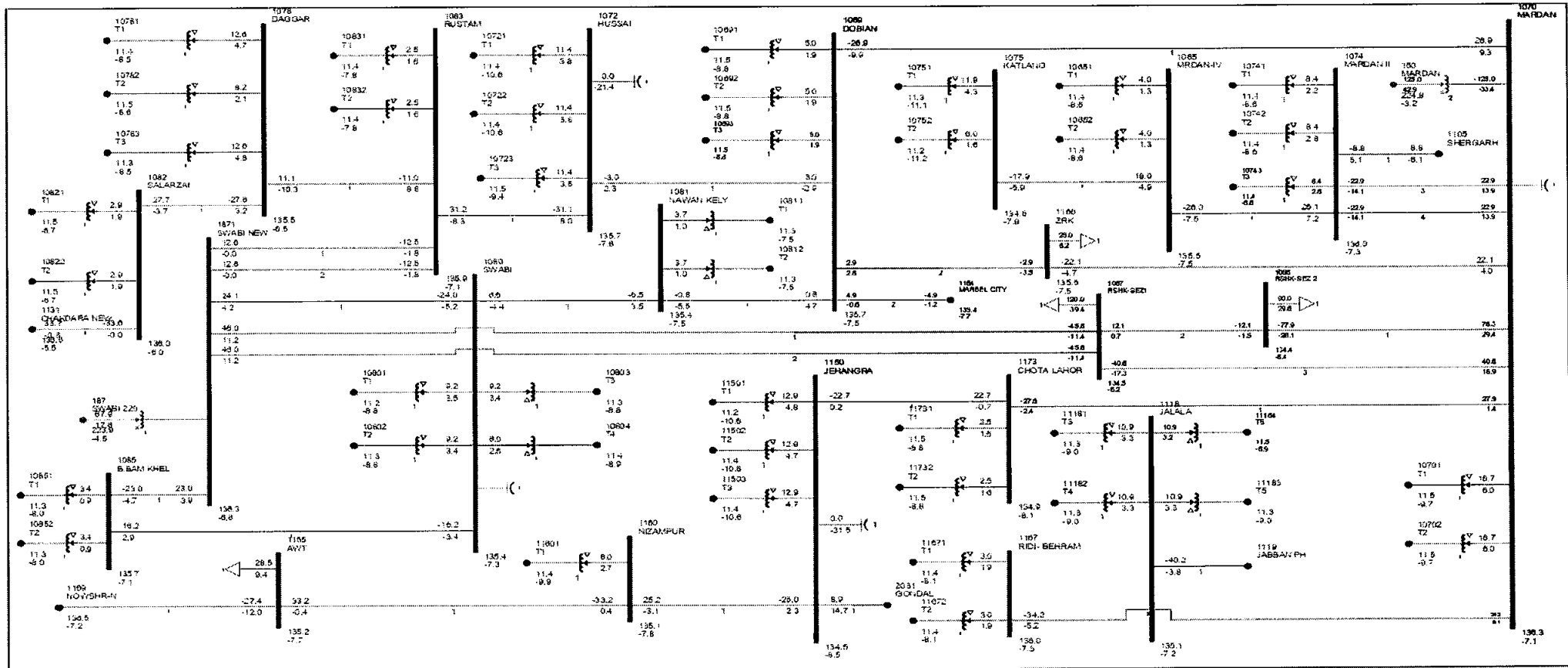
With System Reinforcements

PESCO

Year-2026

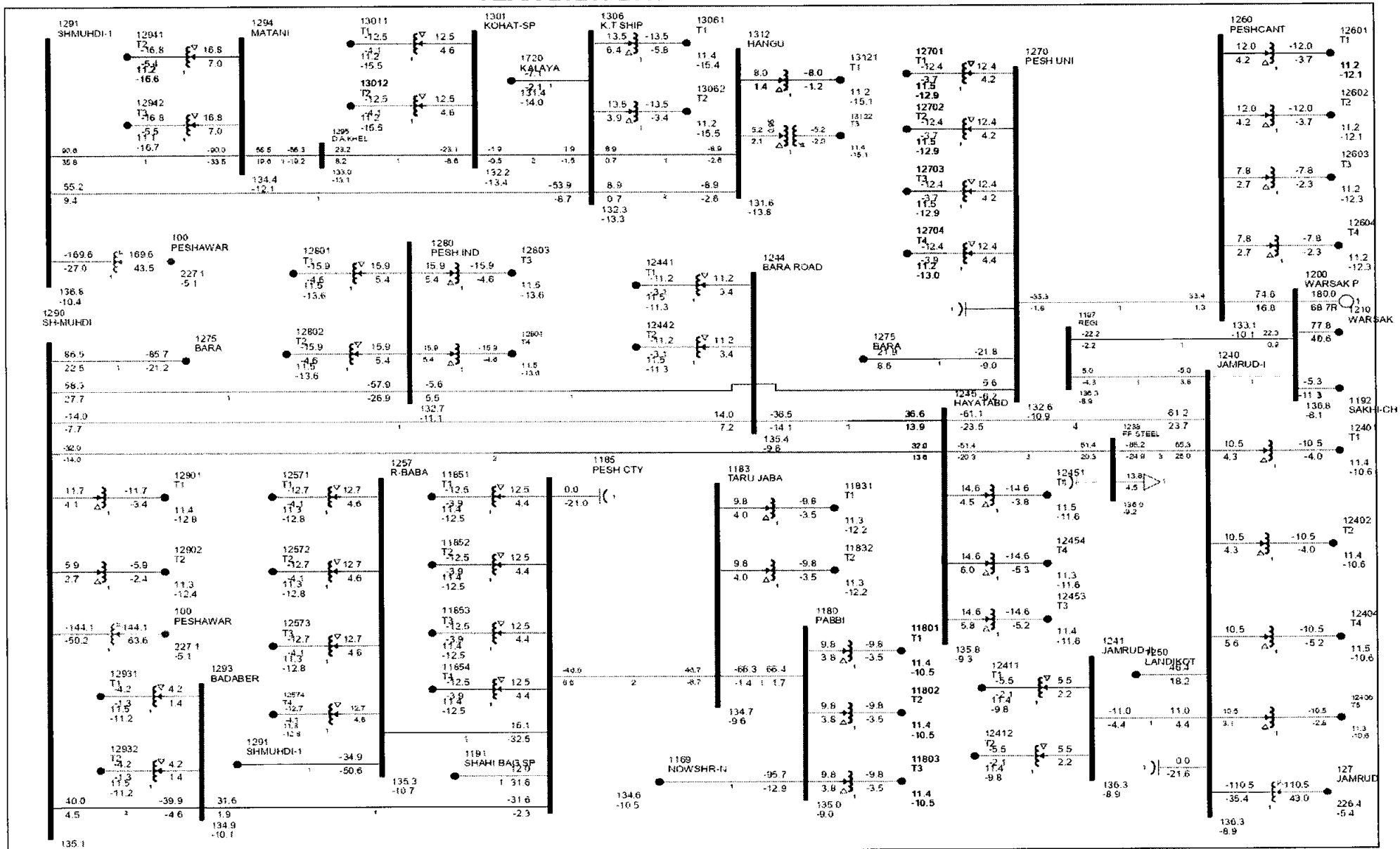
**PESCO LOAD FLOW STUDY
YEAR 2026: BASE CASE - N-1**

Exhibit-2-2026-2.2



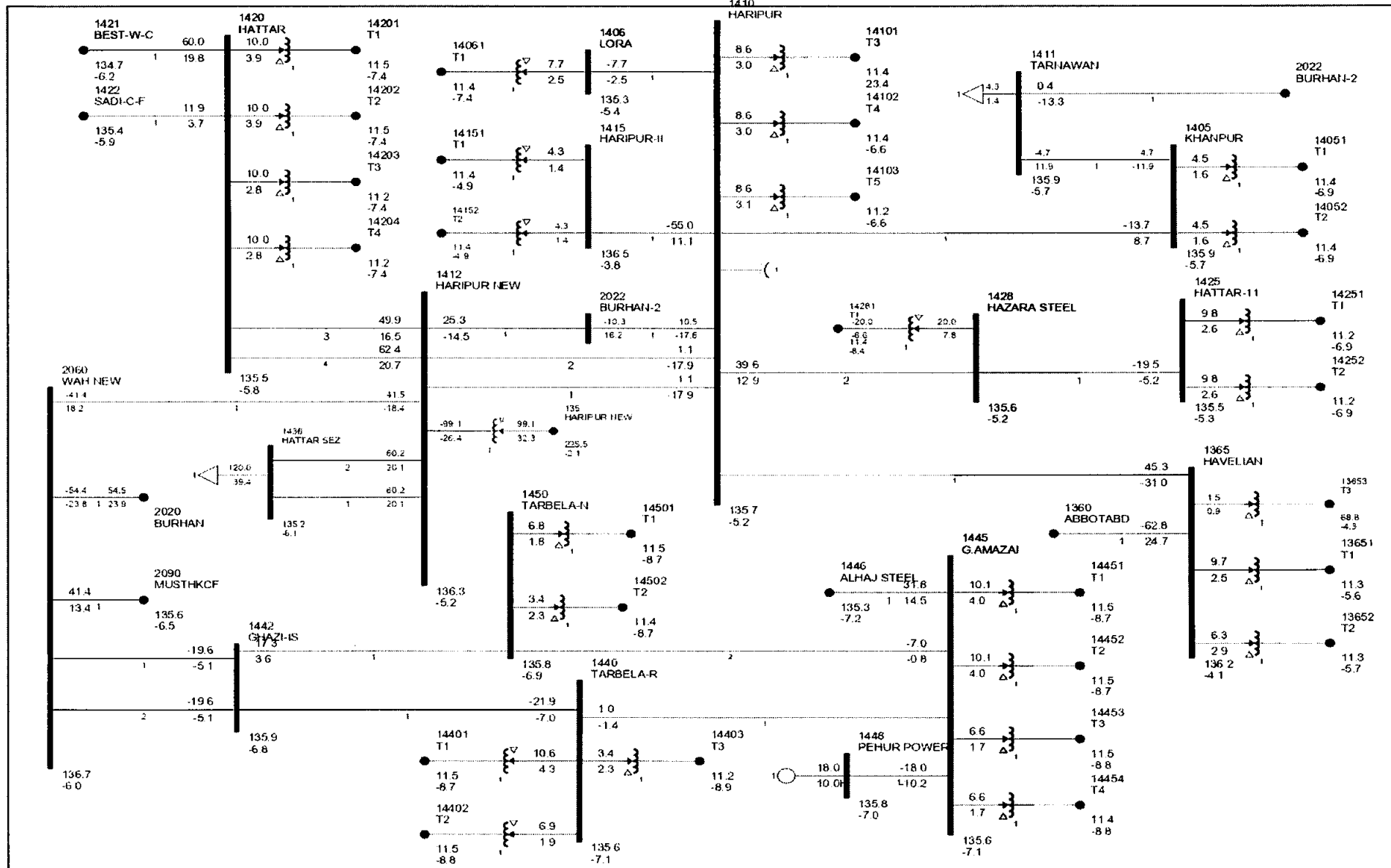
PESCO LOAD FLOW STUDY YEAR 2026: BASE CASE-N-1

Exhibit-2-2026-2.5



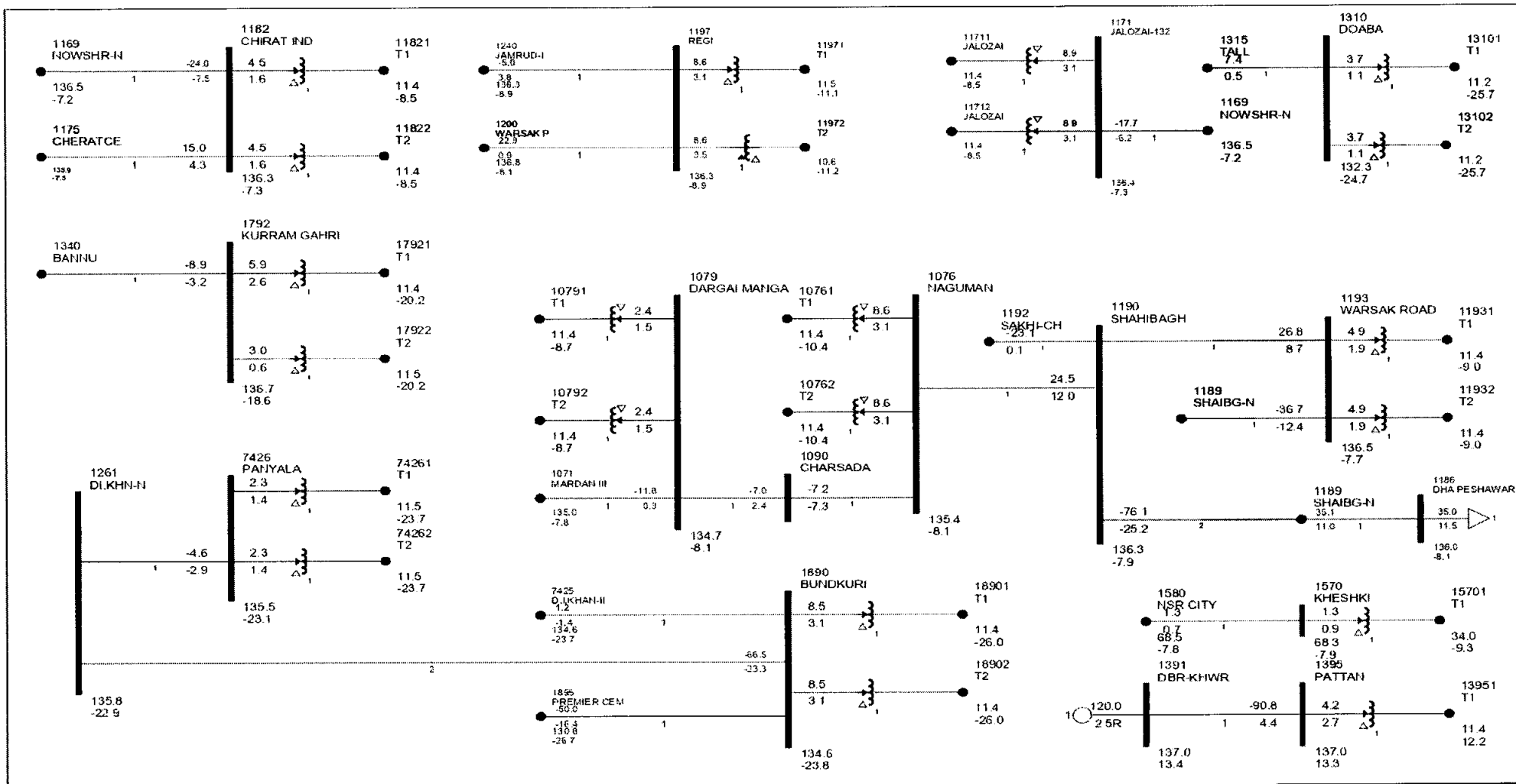
PESCO LOAD FLOW STUDY YEAR 2026: BASE CASE-N-1

Exhibit-2-2026-2.7



PESCO LOAD FLOW STUDY YEAR 2026: BASE CASE-N-1

Exhibit-2-2026-2.8



PESCO NEW GRID ALONG WITH TRANSMISSION LINES COMING UPTO 2028

SR.NO	NAME OF GRID STATION	TYPE	TRANSFORMER			T/LINE		LENGTH (KM)
			31.5/40 MVA	20/26 MVA	10/13 MVA			
1	132KV Abbottabad-II	New	2			D/C	Lynx	2
2	132 kV Gandaf, Haripur	New		1		SDT	Lynx	35
3	132KV Umarzai, Charsadda	New	2			D/C	Lynx	10
4	132KV Thana, Malakand	New		2		SDT	Lynx	2
5	132KV Talash Lower Dir	New	2			D/C	Lynx	3
6	132KV Chamkani, Peshawar	New	2			D/C	Lynx	8
7	132KV Rahat Abad, Peshawar	New	2			D/C	Lynx	4
8	132KV Banda Daud Shah, Karak	New		1		SDT	Lynx	20
9	132KV Swat-II at Mingora	New	2			D/C	Lynx	8
10	132KV Hattar-III near Bilal Masjid	New	2			D/C	Lynx	1
11	132KV Jarmah, Bannu Road Kohat	New		2		D/C	Lynx	6

NEW TRANSMISSION LINES FOR SYSTEM STABILITY UPTO 2028

SR#	NAME OF T/LINE	SCOPE	LENGTH OF LINE (KM)
1	220/132 kV Nowshera – Nowshera Industrial T/Line Upgradation of remaining portion (Ckt #1 & 2)	Lynx with Rail/Greeley	16
2	132kV New Wah – Nishat – Right Bank – Gadoon T/Line Upgradation	Lynx with Rail/Greeley	48

REINFORCEMENT FOR N-1 CONTINGENCY 2028

SR#	SCOPE OF WORK	SCOPE	LENGTH /QTY
1	132 KV Kohat to KT-SHIP T/Line Upgradation	Lynx with Rail/Greeley	2 KM
2	132KV GSS Karak	132kV Capacitor Bank	24MVR
3	220/132 kV Bannu-sarai Naurang T/line	Re-conducting Lynx with Rail	30 KM

EVACUATION OF POWER FROM 220KV NTDC GRIDS

SR#	SCOPE OF WORK	SCOPE	LENGTH (KM)
1.	Kohat - Gurgurai in/out at 220 kV GS Kohat	D/C Rail	10
2.	kohat - Jarmah-lachi in/out at 220kV GS Kohat	D/C Rail	7
3.	K.T.Ship - Hangu In/Out at 220 kV GS Kohat	D/C Rail	9
4.	132 kV Haripur - Hattar SEZ In/Out at 220 kV GS Haripur	D/C Rail	5

DETAIL OF TRANSMISSION LINE IN NUMBERS AND LENGTH

SR#	SCOPE OF WORK	NUMBERS OF T/LINES	LENGTH OF T/LINES in KM
1.	No's of T/Lines associated with new grid stations (For Feeding) upto 2025-2026	37	377
2.	No's of T/Lines for system stability upto 2025-2026	27	549.43
3.	No's of T/Lines associated with new grids (For Feeding) upto 2028	11	99
4.	New T/Lines for system stability upto 2028	02	64
5.	Proposed T/Lines for Reinforcement under (N-1 contingency) for the year 2028	02	32
6.	Evacuation of power from 220kv NTDC grids	04	31
TOTAL		83	1152.43

Appendix-5

Single Line Diagrams

YEAR-2028 PESCO Systems

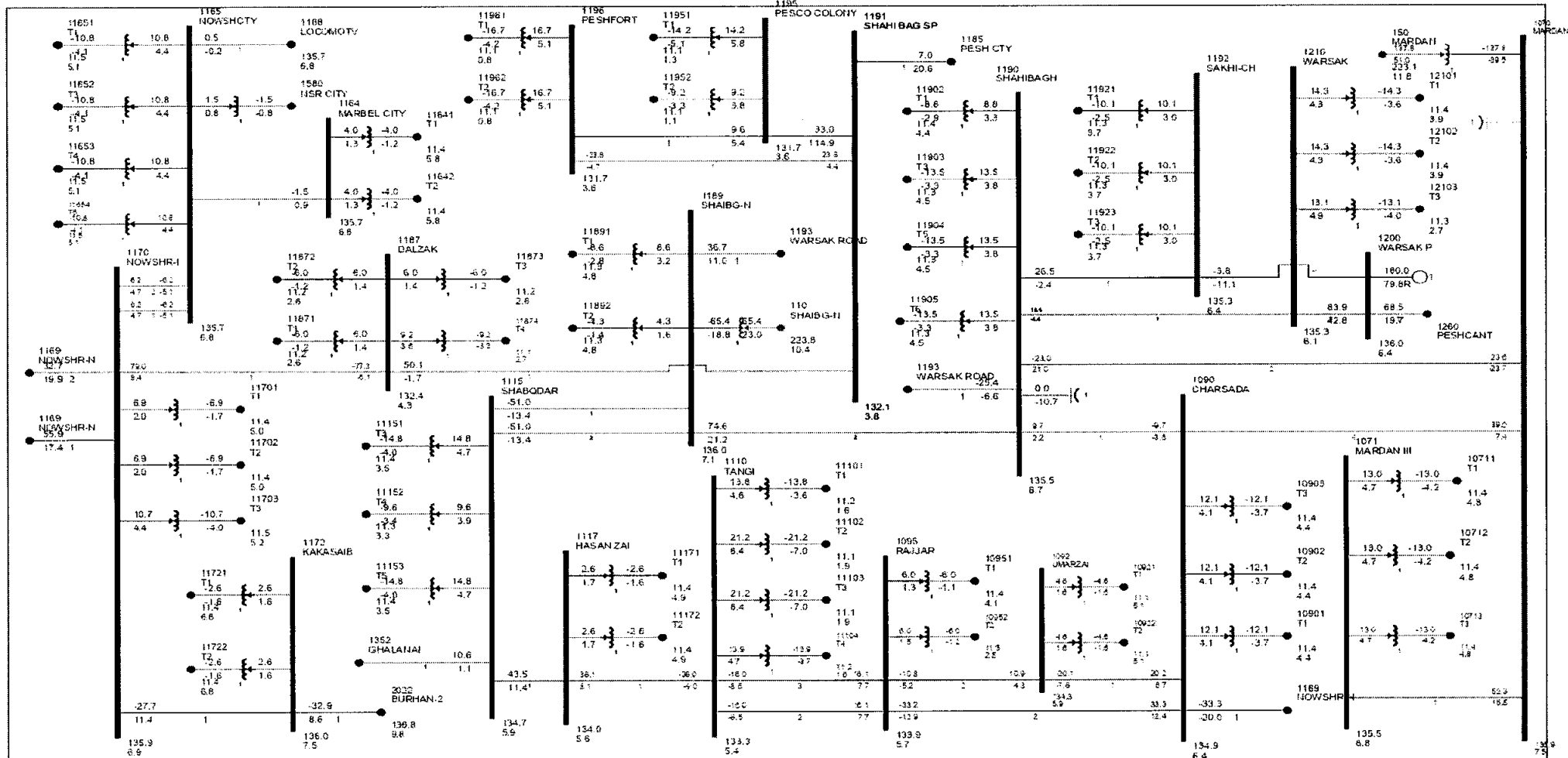
Without System Reinforcements

And

Scope of Work of the Period 2028

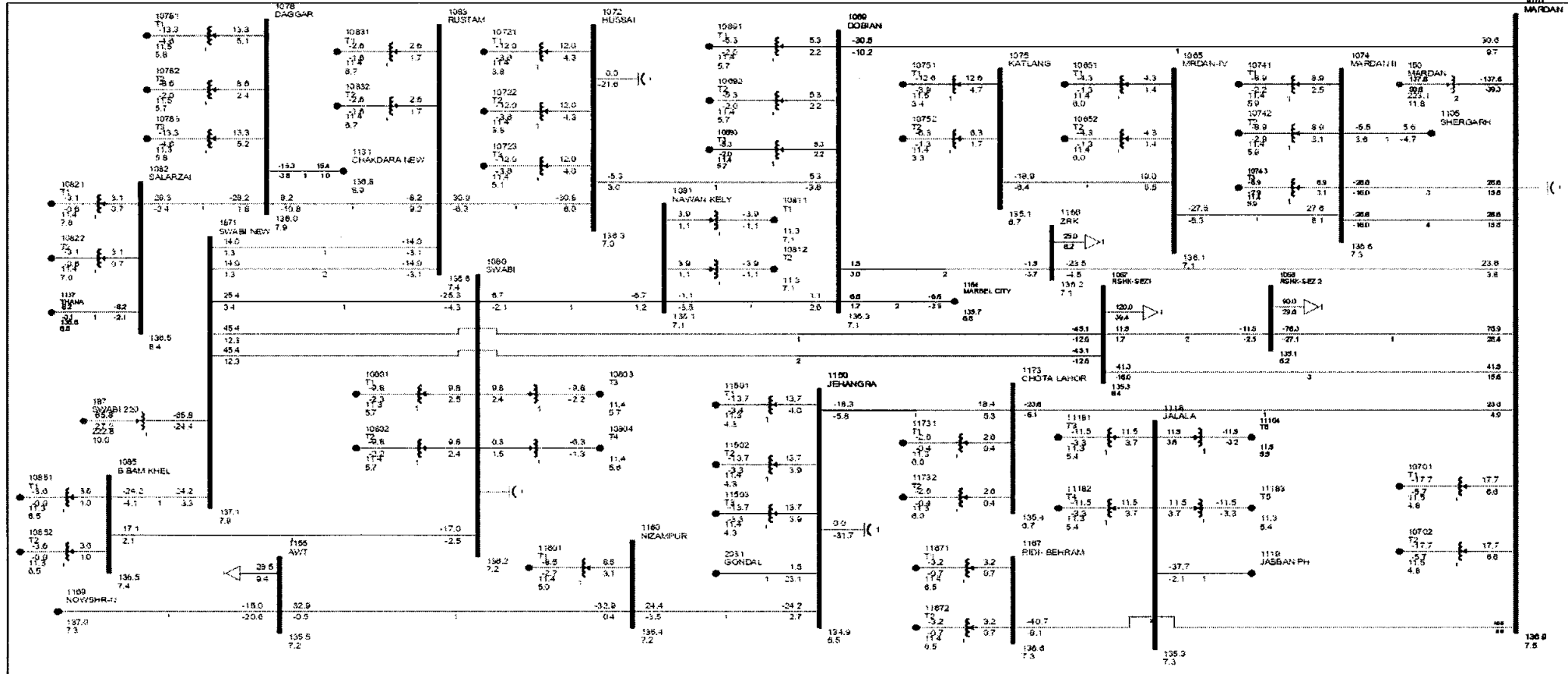
PESCO LOAD FLOW STUDY YEAR 2027-28: BASE CASE

Exhibit-1-2028-1.1



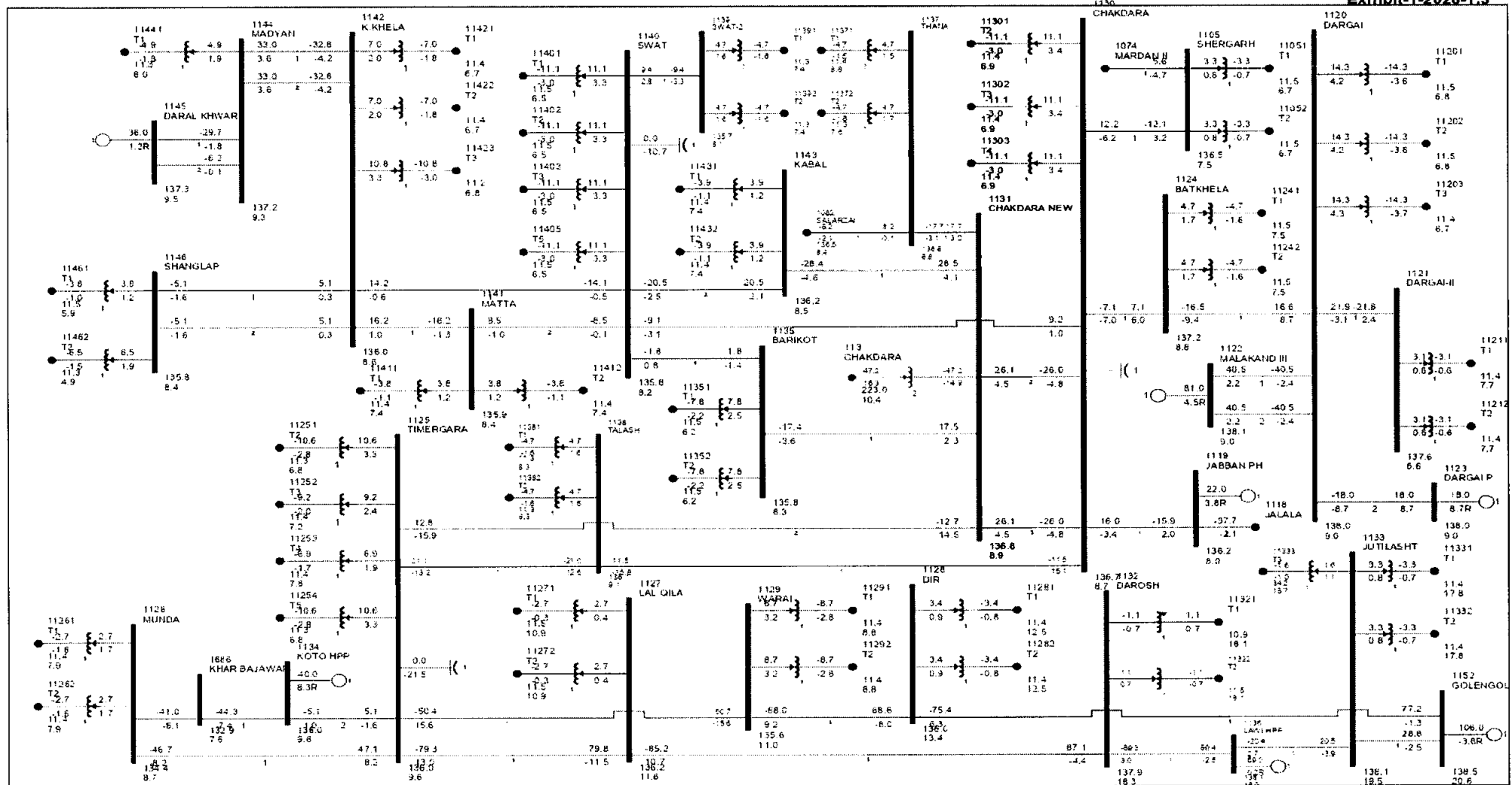
**PESCO LOAD FLOW STUDY
YEAR 2027-28: BASE CASE**

Exhibit-1-2028-1.2



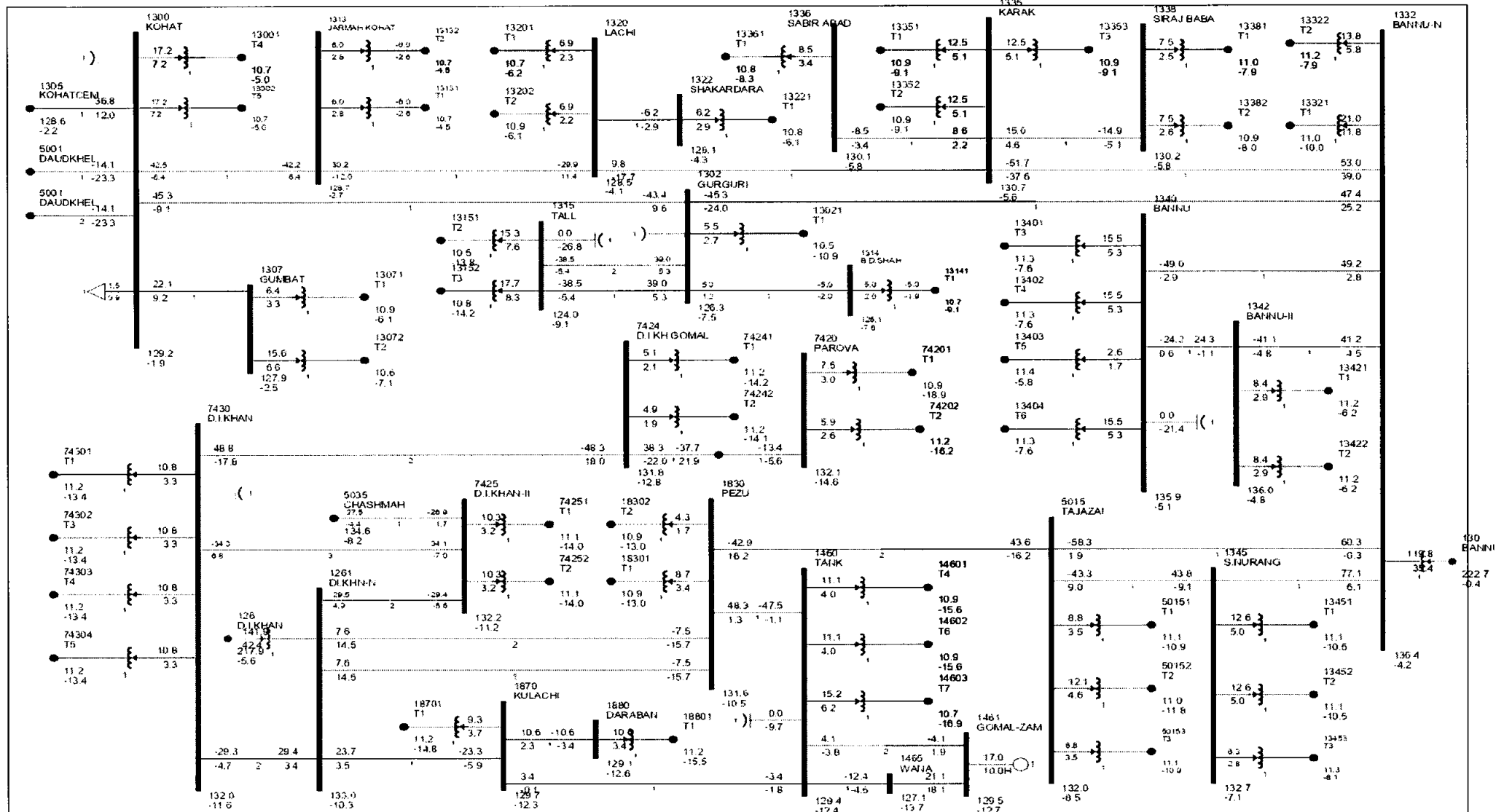
PESCO LOAD FLOW STUDY YEAR 2027-28: BASE CASE

Exhibit-1-2028-1.3



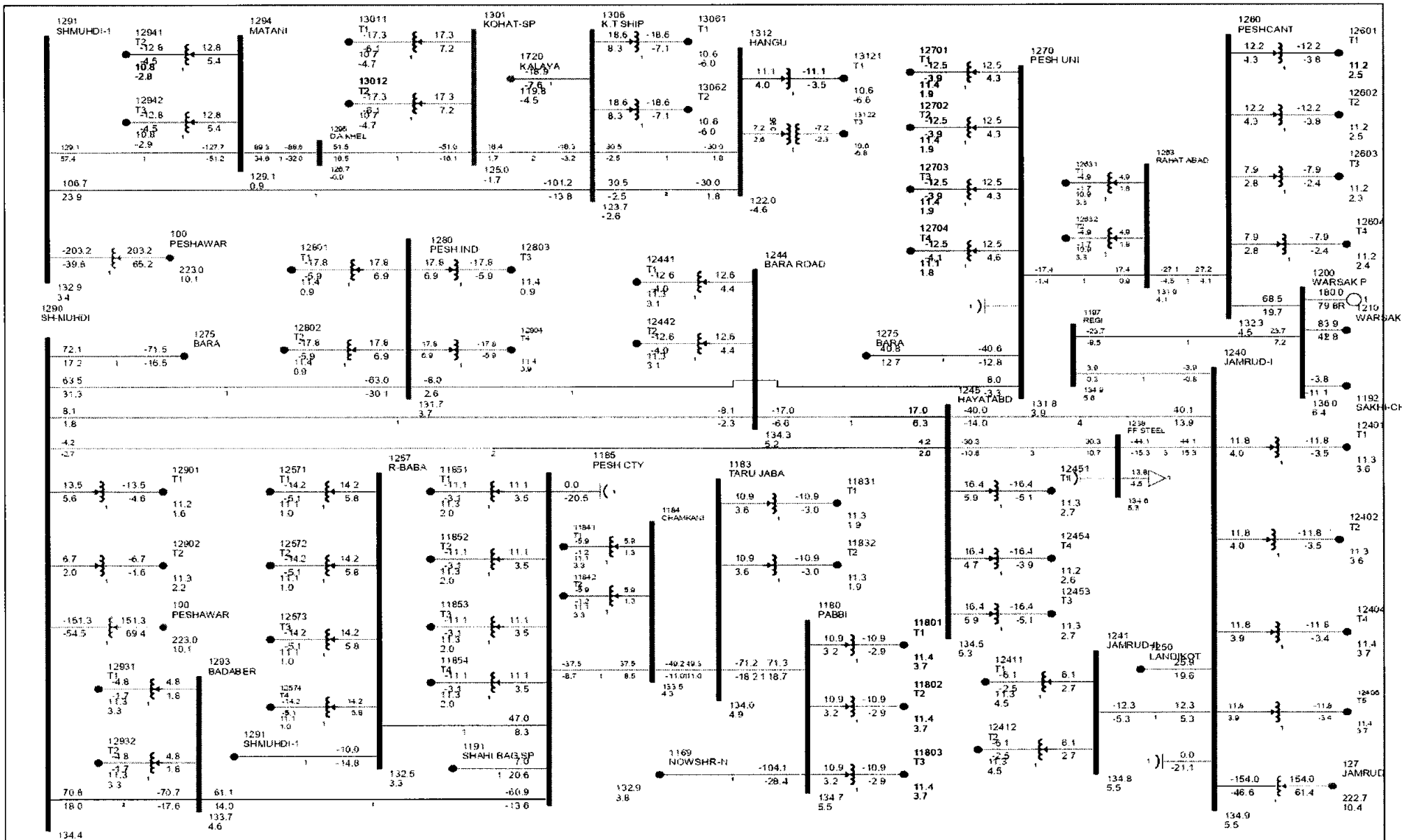
PESCO LOAD FLOW STUDY YEAR 2027-28: BASE CASE

Exhibit-1-2028-1.4



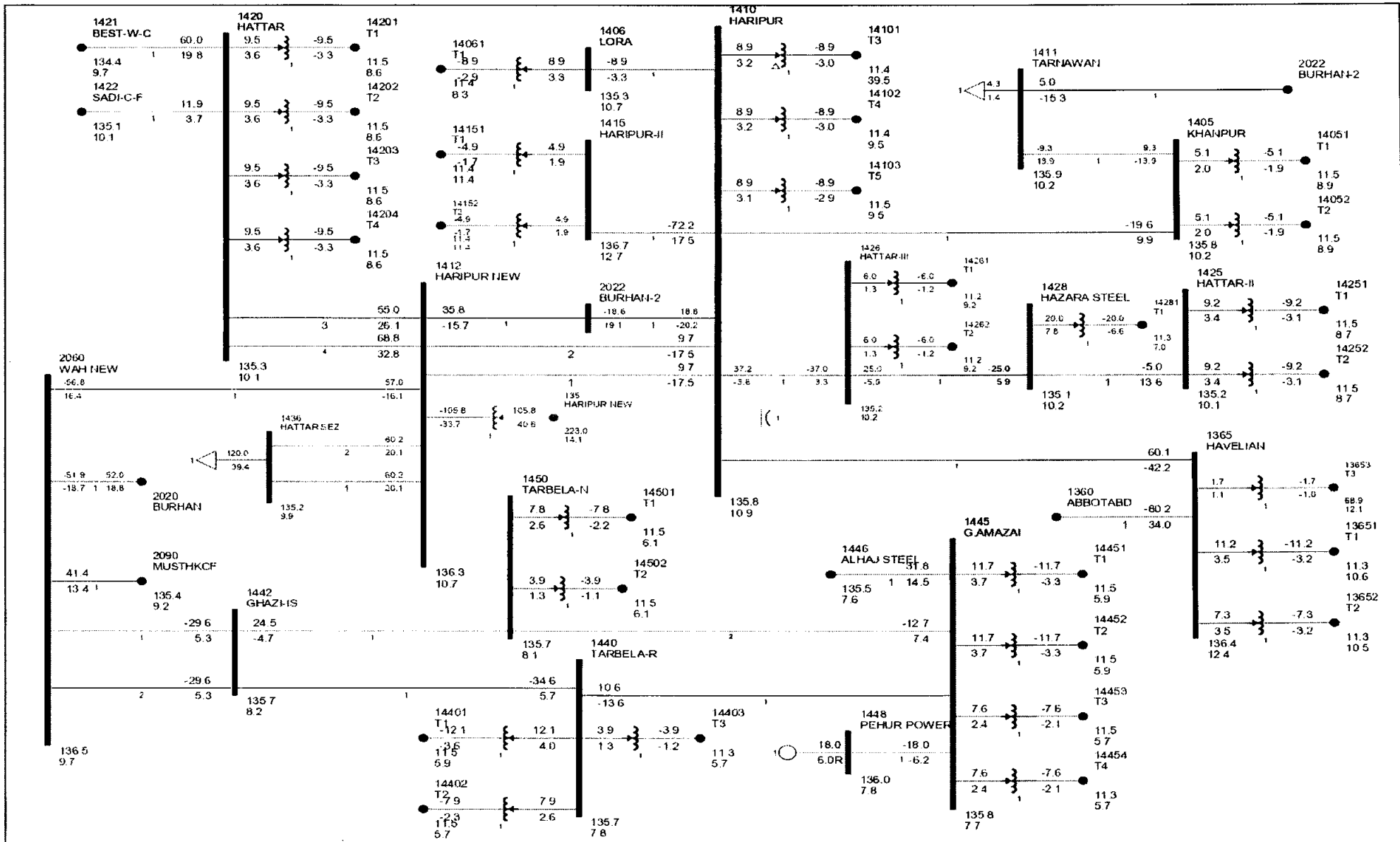
PESCO LOAD FLOW STUDY YEAR 2027-28: BASE CASE

Exhibit-1-2028-1.5



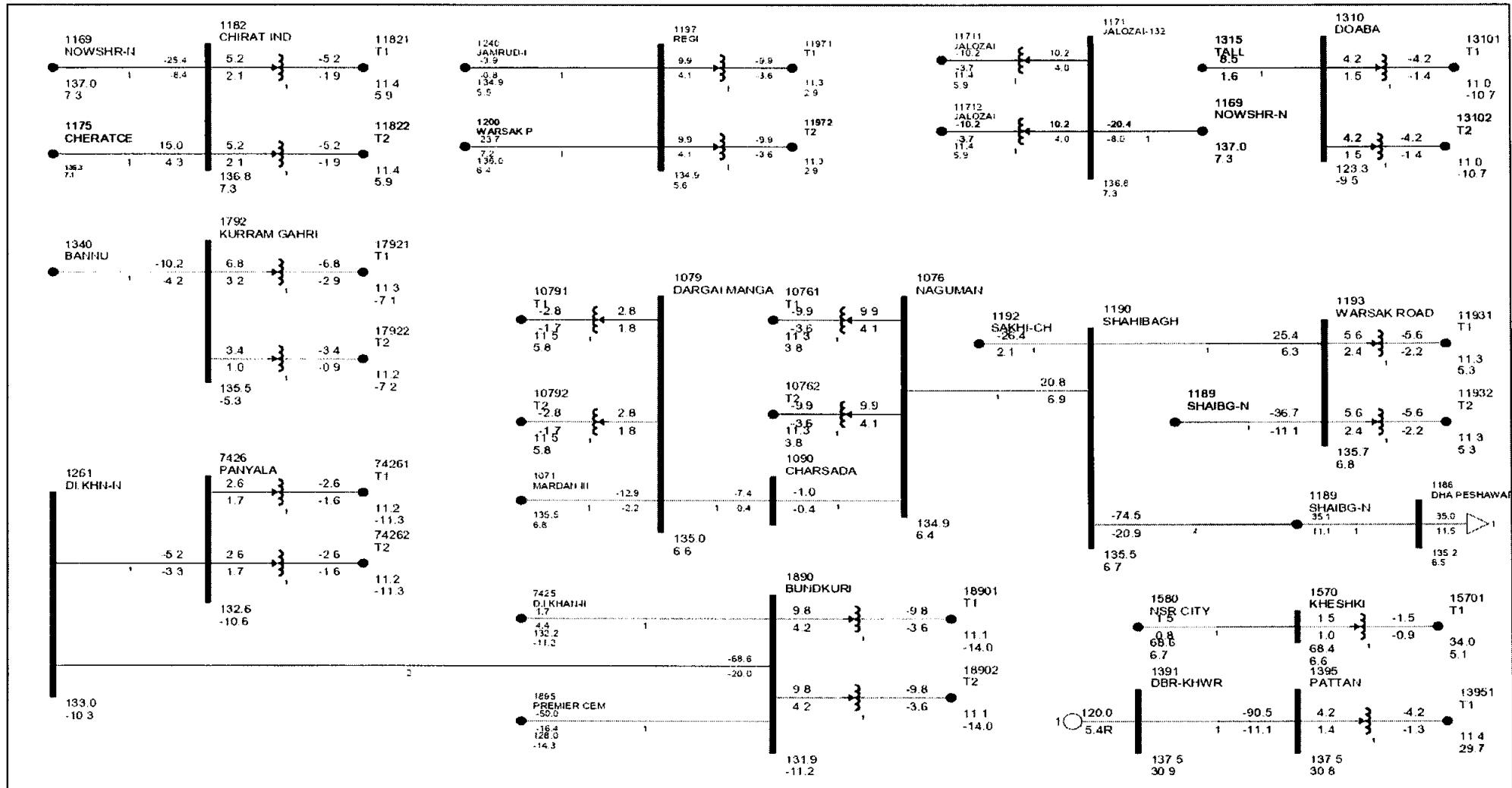
PESCO LOAD FLOW STUDY YEAR 2027-28: BASE CASE

Exhibit-1-2028-1.7



PESCO LOAD FLOW STUDY YEAR 2027-28: BASE CASE

Exhibit-1-2028-1.8



Appendix-6

Single Line Diagrams

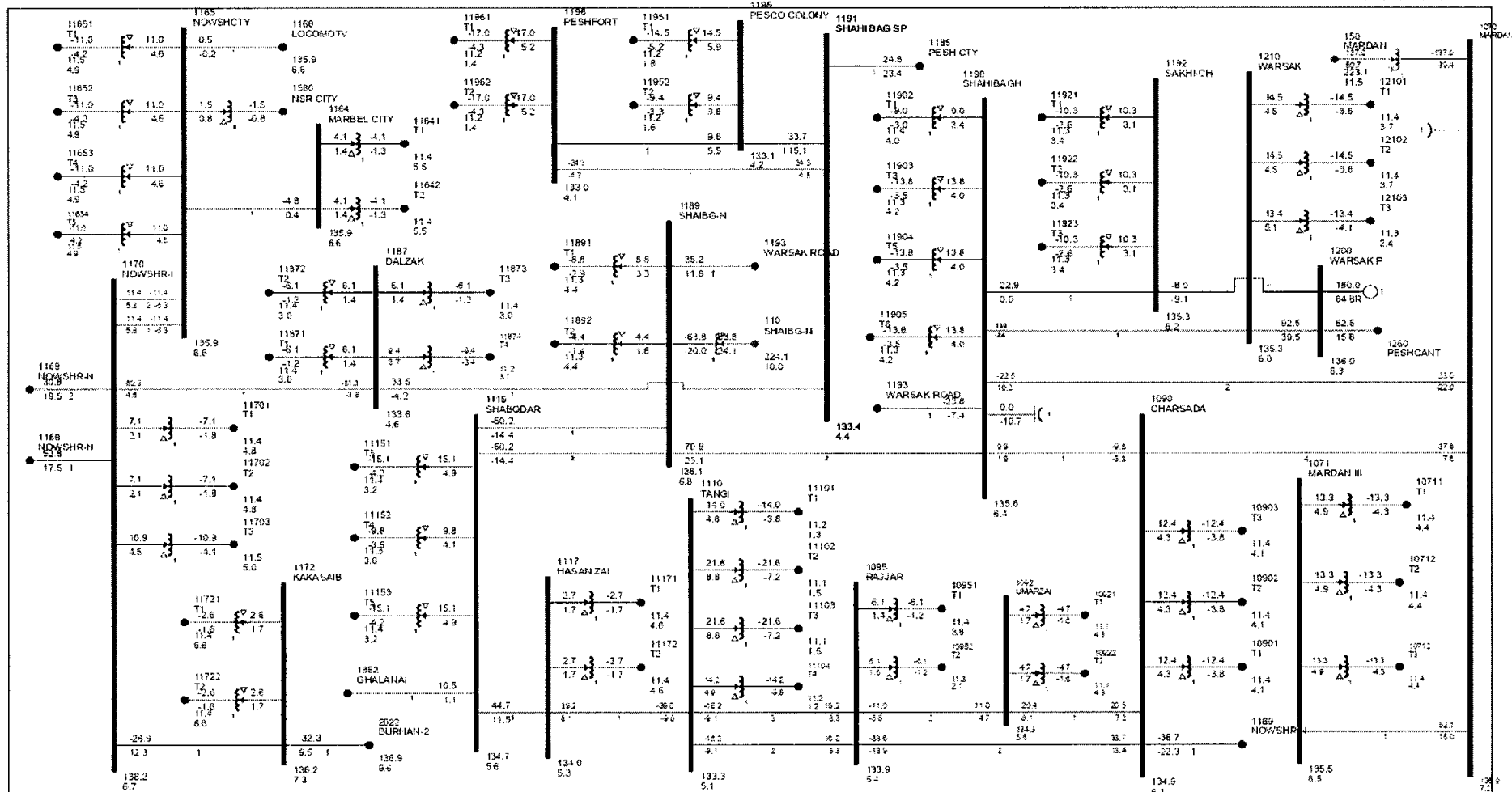
YEAR-2028 PESCO Systems

With System Reinforcements

Scope of Work of the Period 2028

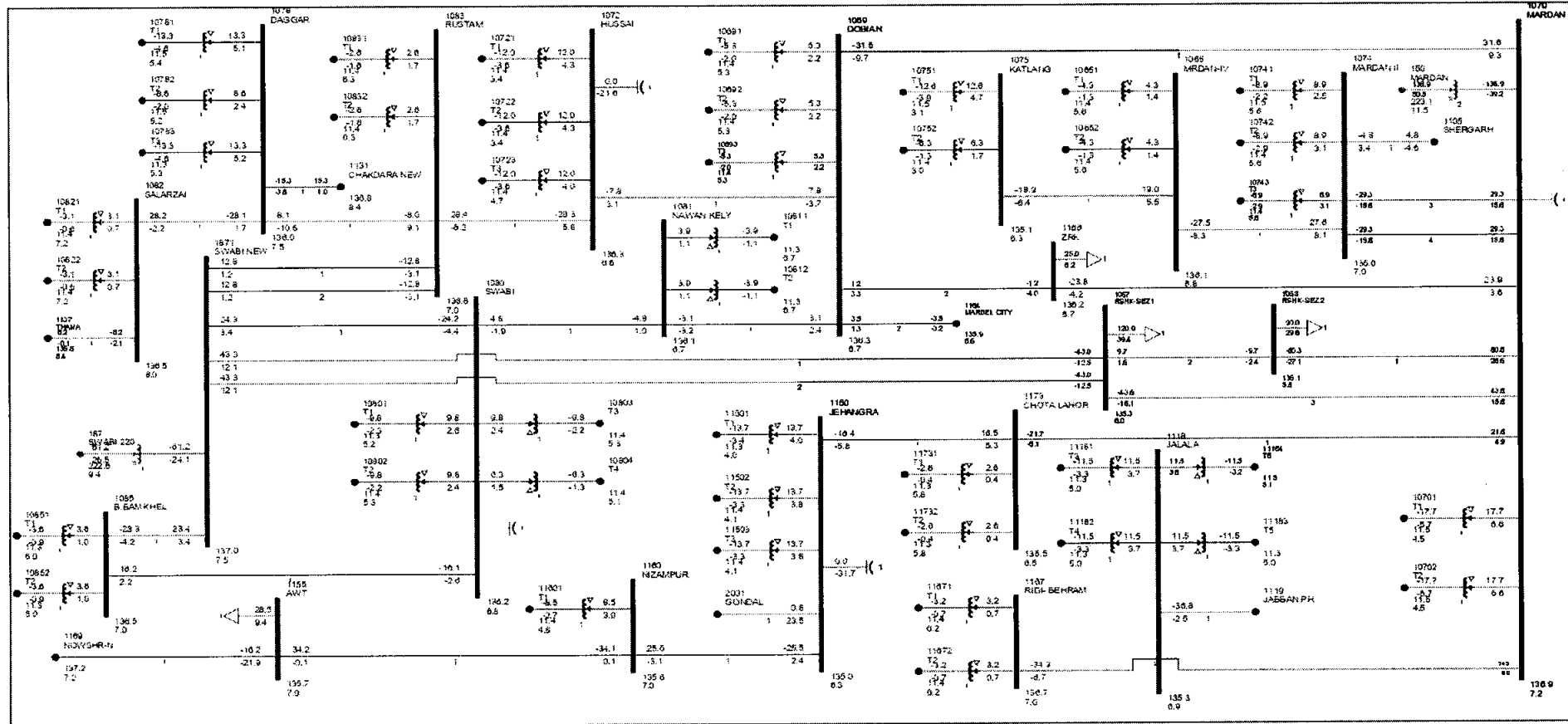
PESCO LOAD FLOW STUDY
YEAR 2027-28: BASE CASE-WITH REINFORCEMENT + N-1

Exhibit-2-2028-2.1



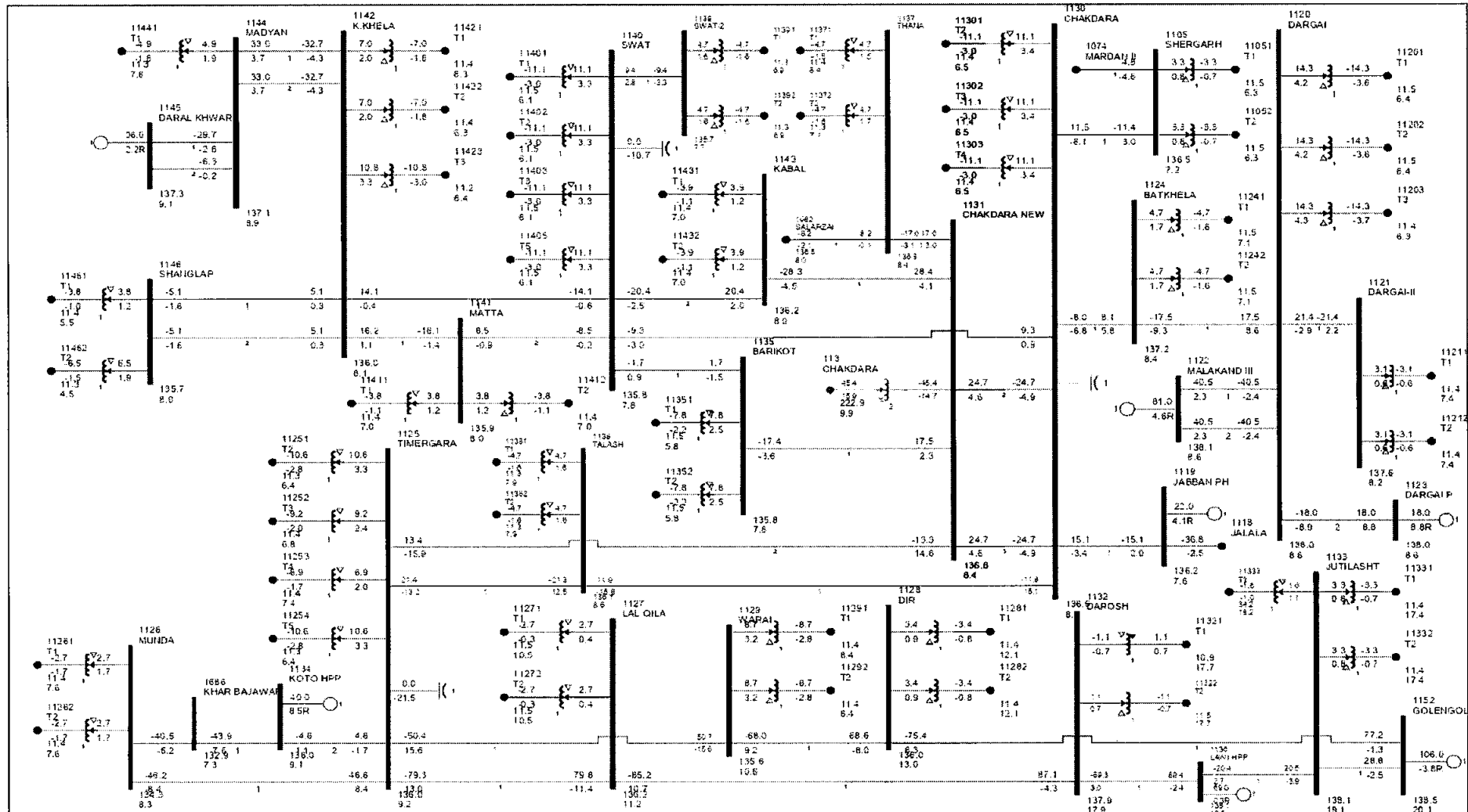
**PESCO LOAD FLOW STUDY
YEAR 2027-28: BASE CASE-WITH REINFORCEMENT + N-1**

Exhibit-2-2028-2.2



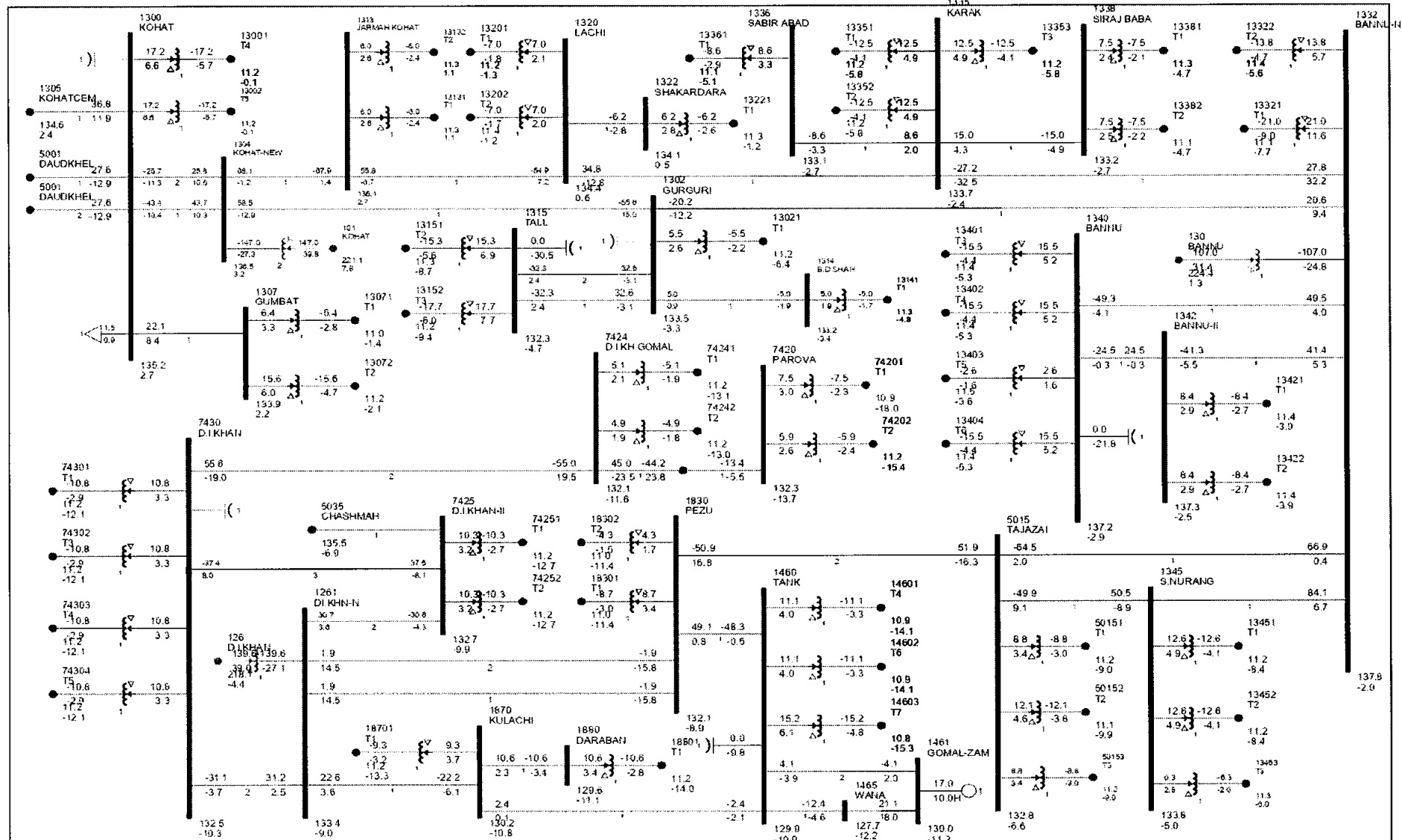
PESCO LOAD FLOW STUDY YEAR 2027-28: BASE CASE-WITH REINFORCEMENT + N-1

Exhibit-2-2028-2.3



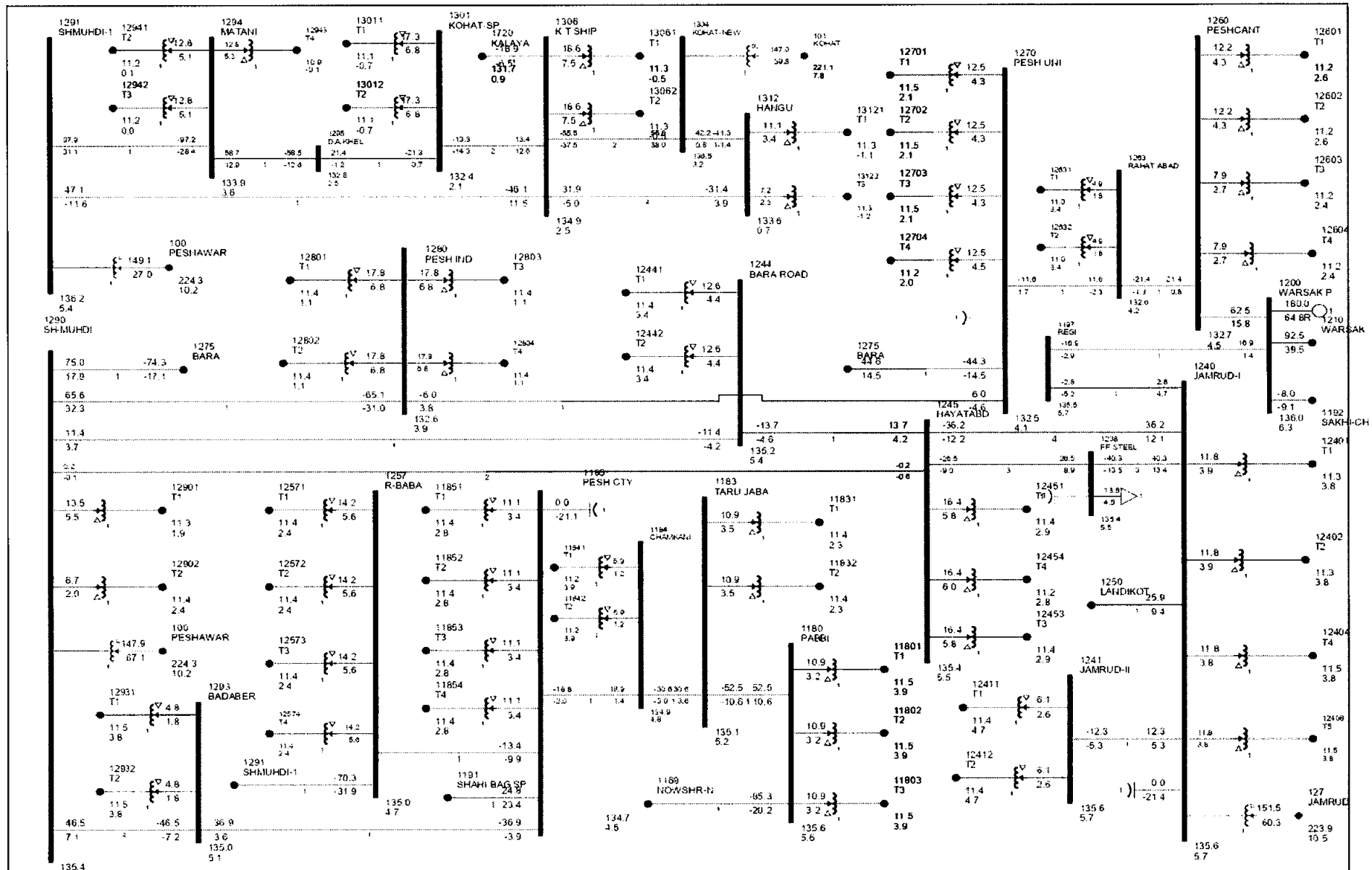
PESCO LOAD FLOW STUDY
YEAR 2027-28: BASE CASE-WITH REINFORCEMENT + N-1

Exhibit-2-2028-2.4



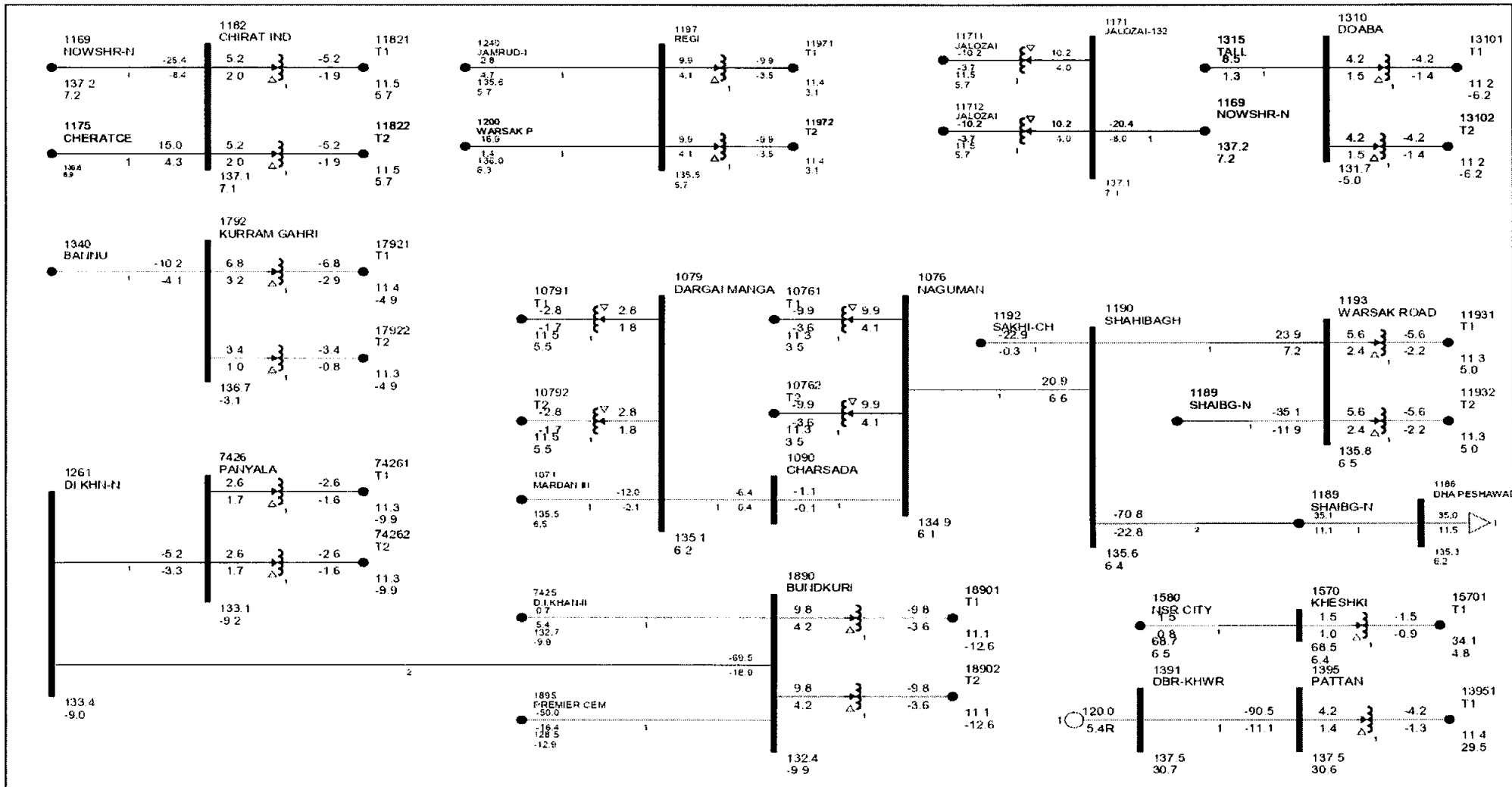
PESCO LOAD FLOW STUDY **YEAR 2027-28: BASE CASE-WITH REINFORCEMENT + N-1**

Exhibit-2-2028-2.5



PESCO LOAD FLOW STUDY YEAR 2027-28: BASE CASE-WITH REINFORCEMENT + N-1

Exhibit-2-2028-2.8



Appendix-7

Short Circuit Calculations

PESCO

YEAR-2028

PESCO Transmission System Expansion Plan (TSEP)

Bus Number	Bus Name	Voltage	Short Circuit Current (KA)	
			3-PH	1-PH
1067	RSHK-SEZ1	132	17.23	7.34
1069	DOBIAN	132	19.97	8.54
1070	MARDAN	132	35.19	12.14
1074	MARDAN II	132	25.02	10.09
1090	CHARSADA	132	20.28	9.04
1115	SHABQDAR	132	17.30	7.88
1130	CHAKDARA	132	17.30	8.61
1131	CHAKDARA NEW	132	18.42	8.44
1137	THANA	132	15.92	7.54
1164	MARBEL CITY	132	17.63	7.47
1165	NOWSHCTY	132	21.03	8.30
1167	RIDI- BEHRAM	132	24.03	9.52
1169	NOWSHR-N	132	27.97	8.98
1170	NOWSHR-I	132	24.04	8.91
1171	JALOZAI-132	132	19.57	7.28
1182	CHIRAT IND	132	19.45	7.31
1185	PESH CTY	132	18.99	6.99
1189	SHAIBG-N	132	25.07	9.28
1190	SHAHIBAGH	132	23.94	10.05
1192	SAKHI-CH	132	15.03	8.12
1193	WARSAK ROAD	132	19.48	8.25
1200	WARSAK P	132	17.64	12.26
1210	WARSAK	132	17.06	7.90
1238	FF STEEL	132	20.79	6.50
1240	JAMRUD-I	132	23.34	7.13
1241	JAMRUD-II	132	22.14	6.94
1244	BARA ROAD	132	17.50	5.67
1245	HAYATABD	132	21.55	6.85
1257	R-BABA	132	17.49	6.30
1290	SH-MUHDI	132	25.10	7.72
1291	SHMUHDI-1	132	22.90	6.99
1293	BADABER	132	18.21	6.56
1300	KOHAT	132	17.55	4.95
1304	KOHAT-NEW	132	19.33	5.14
1379	MANSHR-N	132	23.11	8.20
1380	MANSEHRA	132	17.29	6.90
1410	HARIPUR	132	24.55	6.64
1412	HARIPUR NEW	132	30.64	6.78
1420	HATTAR	132	20.58	5.81
1425	HATTAR-II	132	19.99	5.74

PESCO Transmission System Expansion Plan (TSEP)

1426	HATTAR-III	132	16.92	5.36
1428	HAZARA STEEL	132	17.42	5.42
1435	MUZF ABAD-II	132	15.03	9.81
1436	HATTAR SEZ	132	16.21	5.08
1445	G.AMAZAI	132	16.04	6.59
1871	SWABI NEW	132	24.26	8.21
10341	GM-1	11	28.60	18.83
10342	GM-2	11	28.60	18.83
10701	T1	11	18.42	18.69
10702	T2	11	18.42	18.69
10711	T1	11	17.30	17.90
10712	T2	11	17.30	17.90
10713	T3	11	17.30	17.90
10723	T3	11	17.26	17.88
10741	T1	11	18.11	18.47
10742	T2	11	18.11	18.47
10743	T3	11	18.11	18.47
10801	T1	11	17.08	17.75
10802	T2	11	17.08	17.75
10803	T3	11	17.08	17.75
10901	T1	11	17.88	18.31
10902	T2	11	17.88	18.31
10903	T3	11	17.88	18.31
10921	T1	11	16.70	25.05
10922	T2	11	16.70	25.05
11102	T2	11	17.10	17.76
11103	T3	11	17.10	17.76
11151	T3	11	17.65	18.15
11153	T5	11	17.65	18.15
11181	T3	11	16.34	17.21
11182	T4	11	16.34	17.21
11183	T5	11	16.34	17.21
11184	T6	11	16.34	17.21
11201	T1	11	16.81	17.56
11202	T2	11	16.81	17.56
11203	T3	11	16.81	17.56
11301	T2	11	17.64	18.15
11302	T3	11	17.64	18.15
11303	T4	11	17.64	18.15
11381	T1	11	16.55	17.36
11382	T2	11	16.55	17.36
11391	T1	11	15.93	16.90
11392	T2	11	15.93	16.90
11401	T1	11	16.86	17.59

PESCO Transmission System Expansion Plan (TSEP)

11402	T2	11	16.86	17.59
11403	T3	11	16.86	17.59
11405	T5	11	16.86	17.59
11423	T3	11	16.69	17.47
11501	T1	11	16.98	17.67
11502	T2	11	16.98	17.67
11503	T3	11	16.98	17.67
11651	T1	11	17.93	18.35
11652	T3	11	17.93	18.35
11653	T4	11	17.93	18.35
11654	T5	11	17.93	18.35
11703	T3	11	18.08	18.45
11711	JALOZAI	11	20.14	20.72
11712	JALOZAI	11	20.14	20.72
11801	T1	11	17.16	17.80
11802	T2	11	17.16	17.80
11803	T3	11	17.16	17.80
11841	T1	11	17.13	17.78
11842	T2	11	17.13	17.78
11851	T1	11	17.77	18.23
11852	T2	11	17.77	18.23
11853	T3	11	17.77	18.23
11854	T4	11	17.77	18.23
11874	T4	11	16.90	17.62
11903	T3	11	18.09	18.46
11904	T5	11	18.09	18.46
11905	T6	11	18.09	18.46
11951	T1	11	16.65	17.44
11961	T1	11	16.59	17.39
11962	T2	11	16.59	17.39
12101	T1	11	17.65	18.15
12102	T2	11	17.65	18.15
12401	T1	11	18.01	18.41
12402	T2	11	18.01	18.41
12404	T4	11	18.01	18.41
12406	T5	11	18.01	18.41
12411	T1	11	17.95	18.36
12412	T2	11	17.95	18.36
12441	T1	11	17.64	18.15
12442	T2	11	17.64	18.15
12451	T1	11	17.92	18.34
12453	T3	11	17.92	18.34
12454	T4	11	17.92	18.34
12571	T1	11	17.65	18.15

PESCO Transmission System Expansion Plan (TSEP)

12572	T2	11	17.65	18.15
12573	T3	11	17.65	18.15
12574	T4	11	17.65	18.15
12601	T1	11	16.51	17.33
12602	T2		16.51	17.33
12631	T1	11	16.63	17.42
12632	T2	11	16.63	17.42
12701	T1	11	17.16	17.81
12702	T2	11	17.16	17.81
12703	T3	11	17.16	17.81
12704	T4	11	17.16	17.81
12801	T1	11	16.76	17.52
12802	T2	11	16.76	17.52
12803	T3	11	16.76	17.52
12804	T4	11	16.76	17.52
13001	T4	11	17.68	18.17
13002	T5	11	17.68	18.17
13011	T1	11	17.14	17.79
13012	T2	11	17.14	17.79
13061	T1	11	17.27	17.88
13062	T2	11	17.27	17.88
13121	T1	11	15.67	16.72
13401	T3	11	16.42	17.27
13402	T4	11	16.42	17.27
13404	T6	11	16.42	17.27
13421	T1	11	16.46	17.29
13422	T2	11	16.46	17.29
13453	T3	11	15.83	16.83
13602	T2	11	16.98	17.67
13651	T1	11	17.13	17.79
13801	T1	11	17.63	18.14
13802	T2	11	17.63	18.14
13803	T3	11	17.63	18.14
14101	T3	11	18.09	18.46
14102	T4	11	18.09	18.46
14103	T5	11	18.09	18.46
14171	T1	11	16.84	25.26
14172	T2	11	16.84	25.26
14201	T1	11	17.87	18.31
14202	T2	11	17.87	18.31
14203	T3	11	17.87	18.31
14204	T4	11	17.87	18.31
14251	T1	11	17.84	18.28
14252	T2	11	17.84	18.28

PESCO Transmission System Expansion Plan (TSEP)

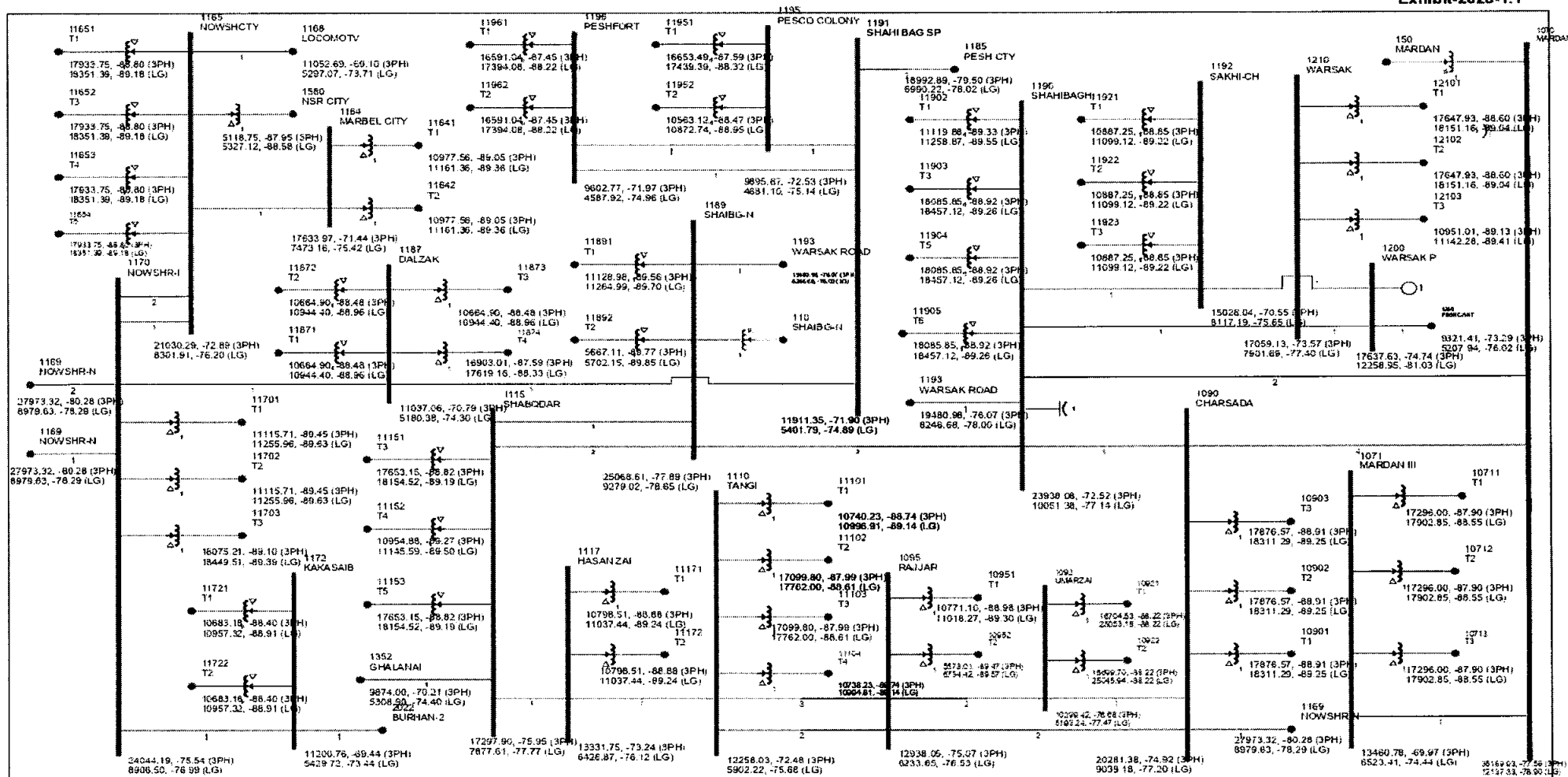
14261	T1	11	17.62	26.42
14262	T2	11	17.62	26.42
14281	T1	11	17.66	18.16
14401	T1	11	17.28	17.89
14451	T1	11	17.53	18.07
14452	T2	11	17.53	18.07
14461	T1	11	17.14	17.79
74301	T1	11	16.63	17.42
74302	T3	11	16.63	17.42
74303	T4	11	16.63	17.42
74304	T5	11	16.63	17.42

PESCO SHORT CIRCUIT STUDY

Single Line Diagrams
YEAR 2027-2028 : BASE CASE

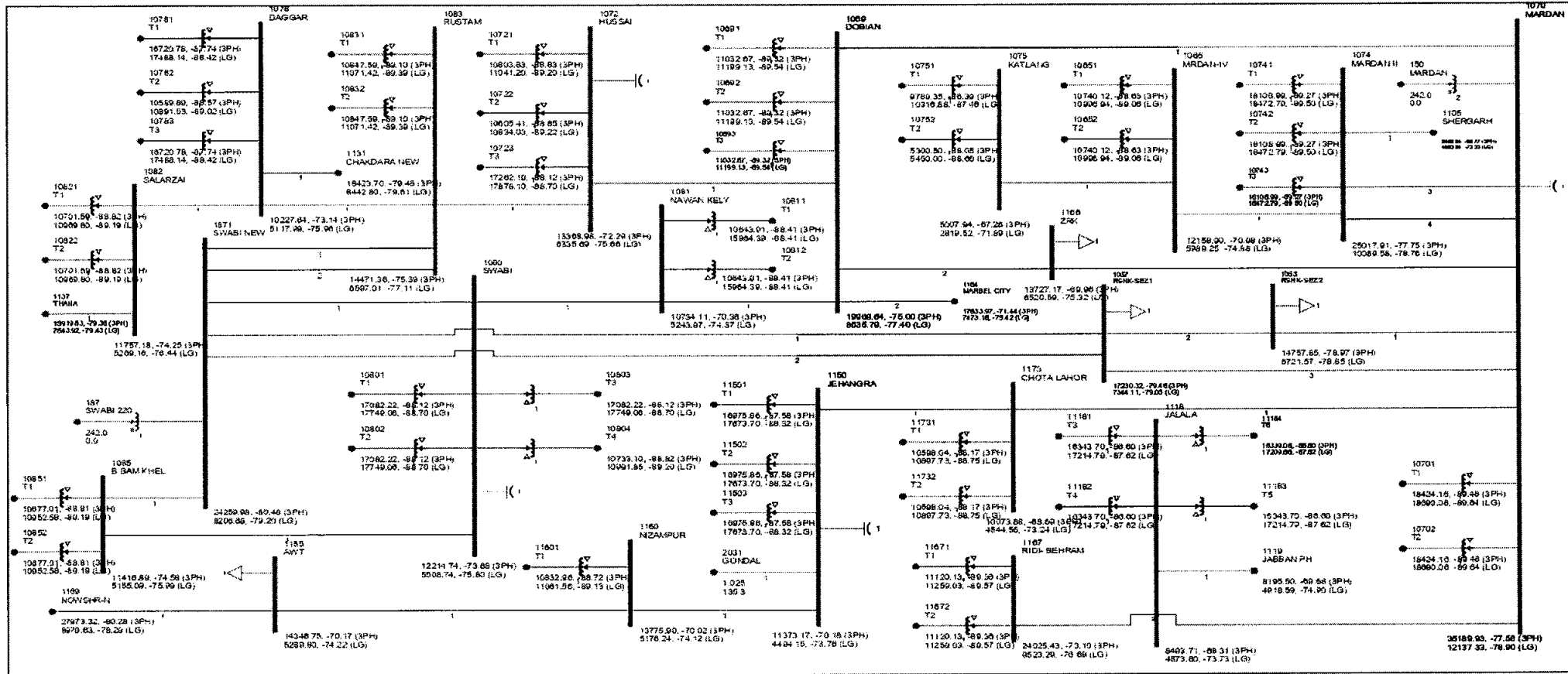
PESCO SHORT CIRCUIT STUDY YEAR 2027-28: BASE CASE

Exhibit-2028-1.1



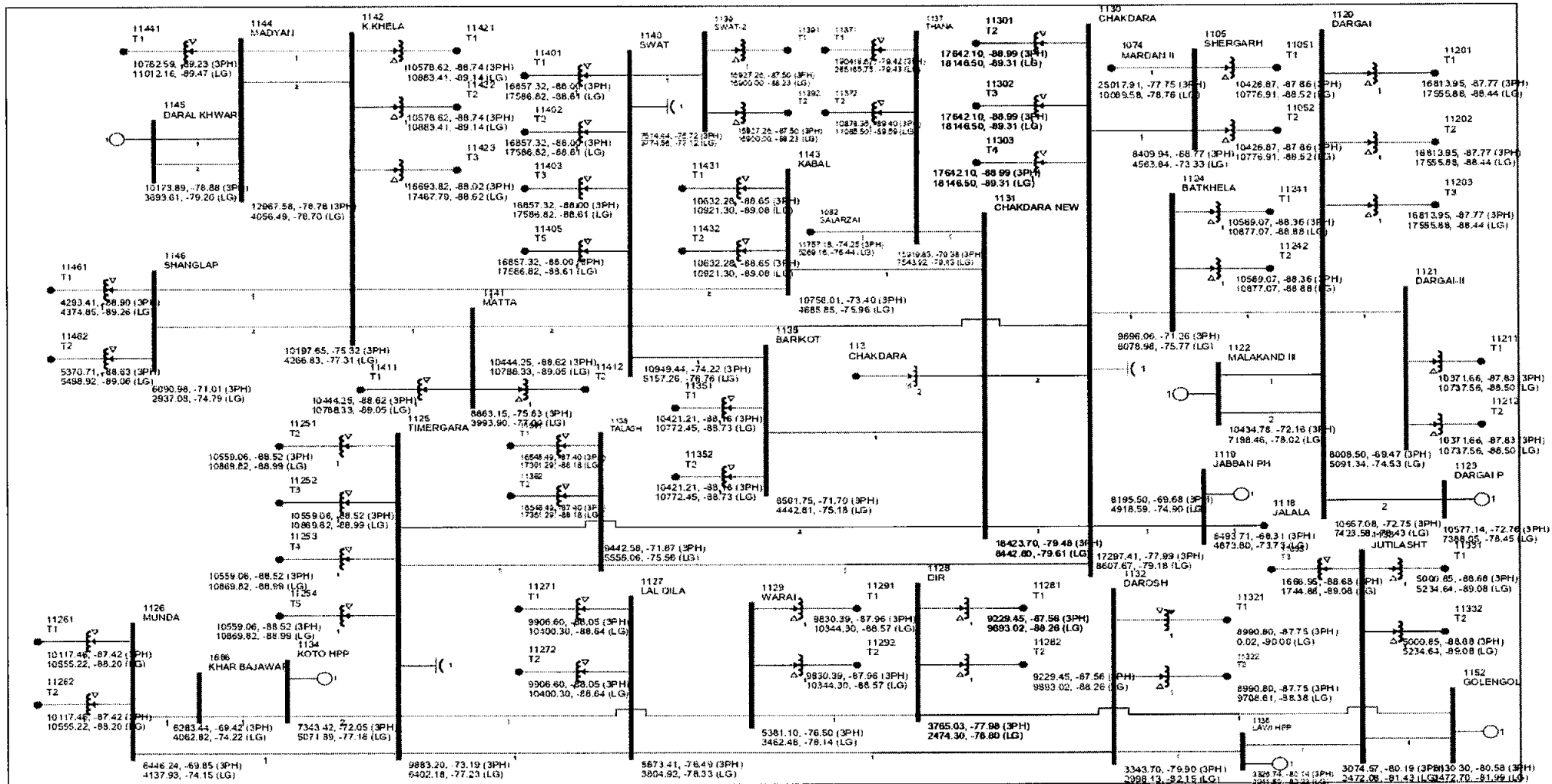
**PESCO SHORT CIRCUIT STUDY
YEAR 2027-28: BASE CASE**

Exhibit-2028-1.2



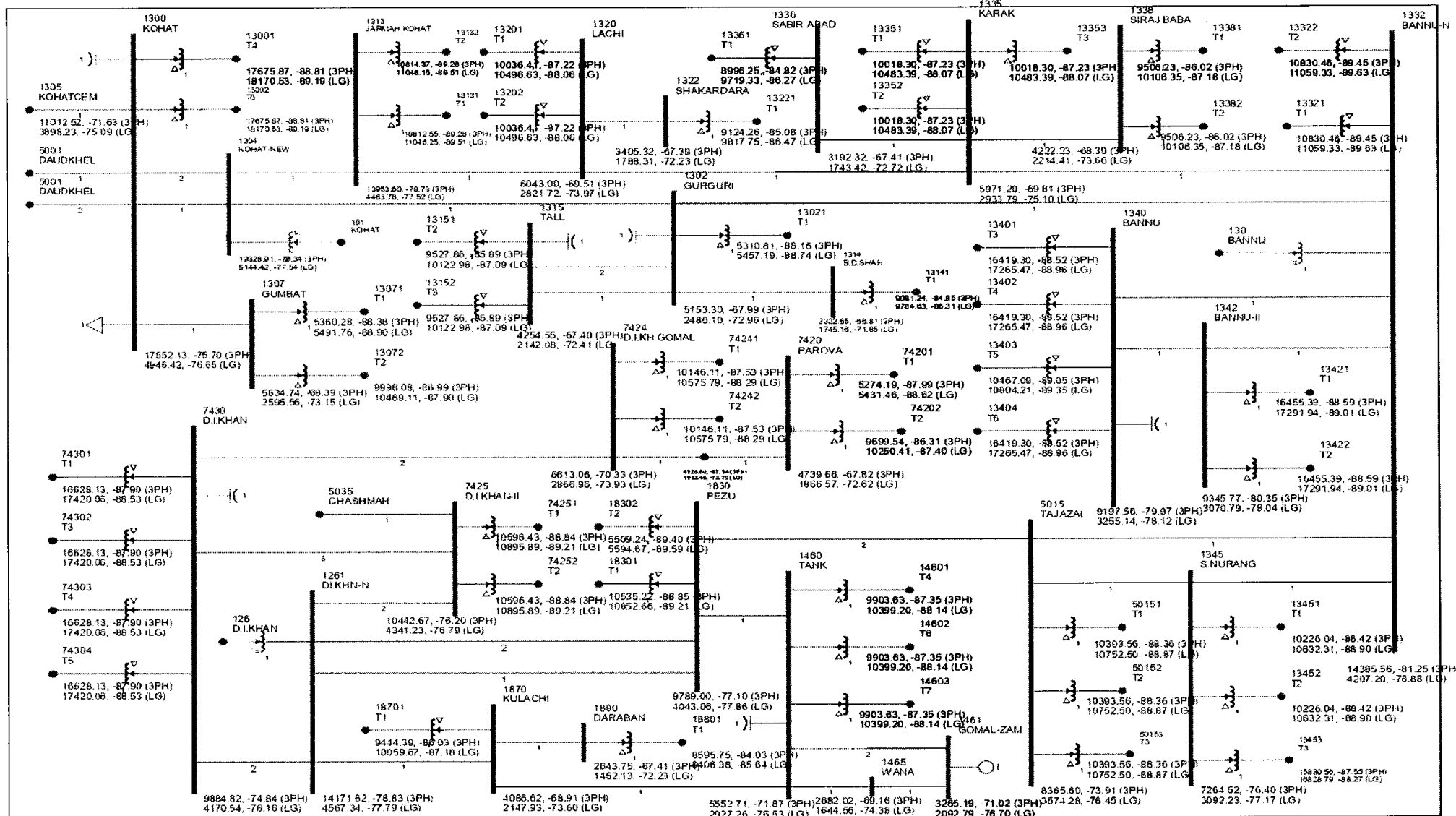
PESCO SHORT CIRCUIT STUDY YEAR 2027-28: BASE CASE

Exhibit-2028-1.3



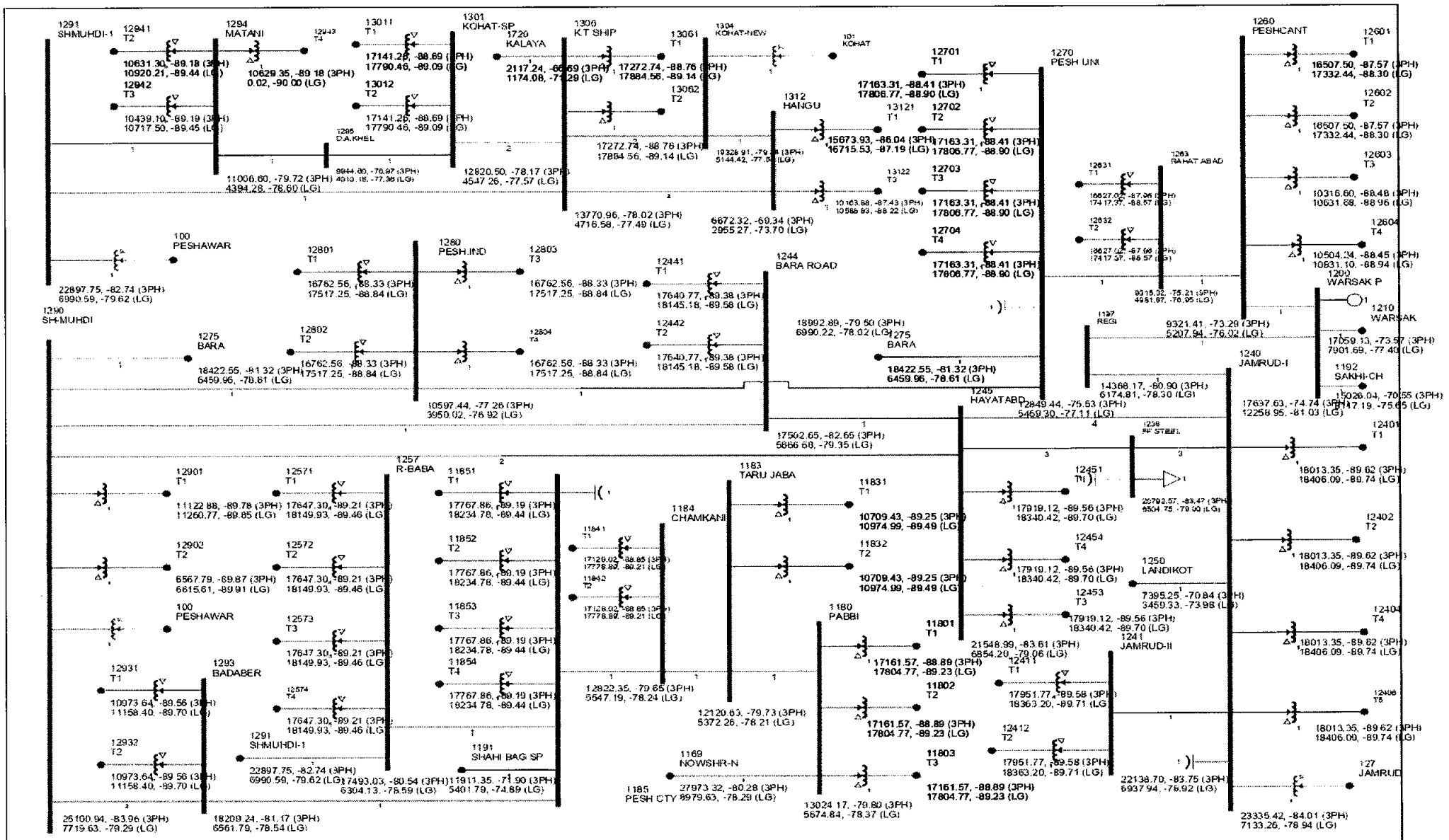
**PESCO SHORT CIRCUIT STUDY
YEAR 2027-28: BASE CASE**

Exhibit-2028-1.4



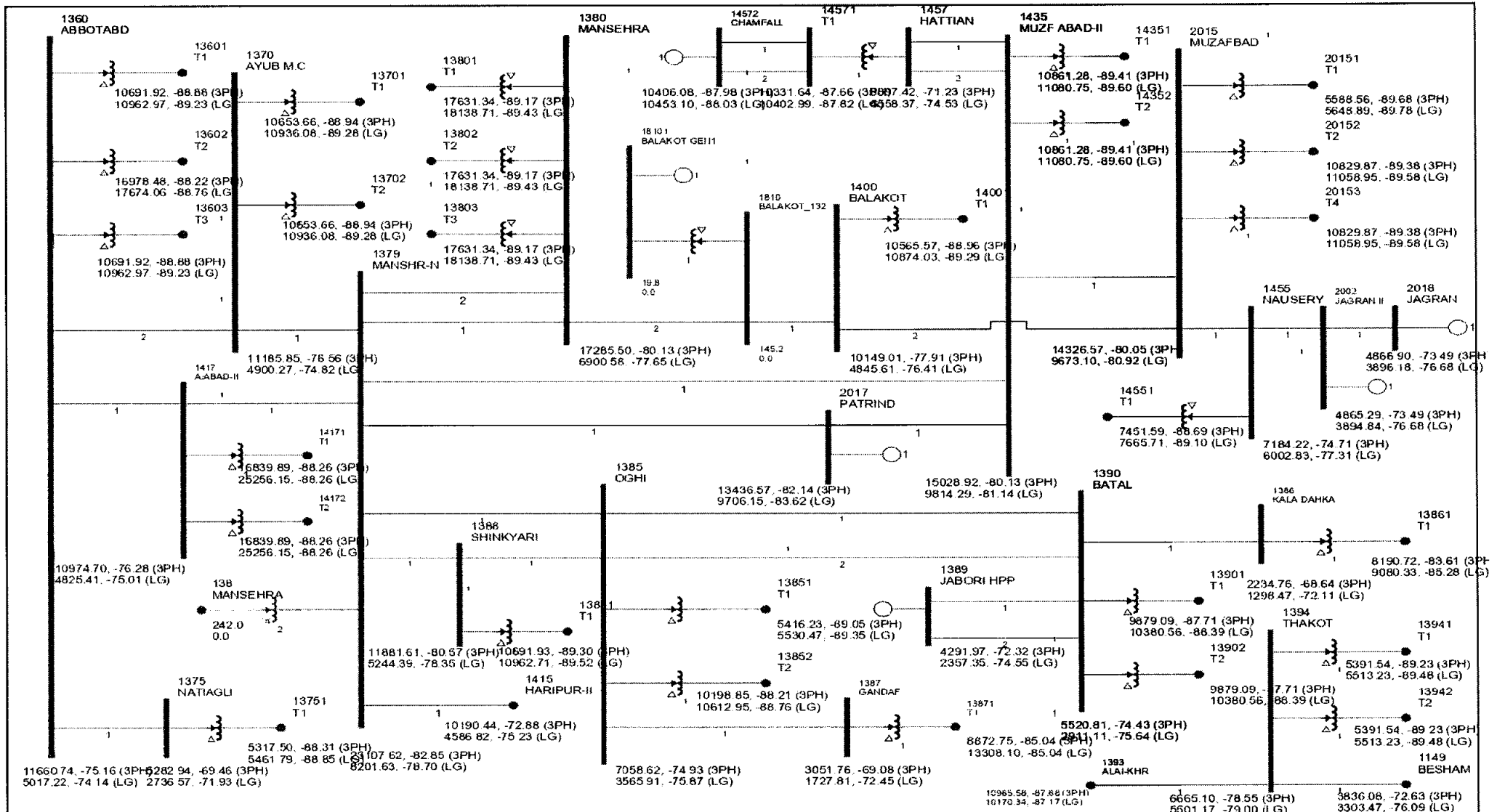
PESCO SHORT CIRCUIT STUDY YEAR 2027-28: BASE CASE

Exhibit-2028-1.5



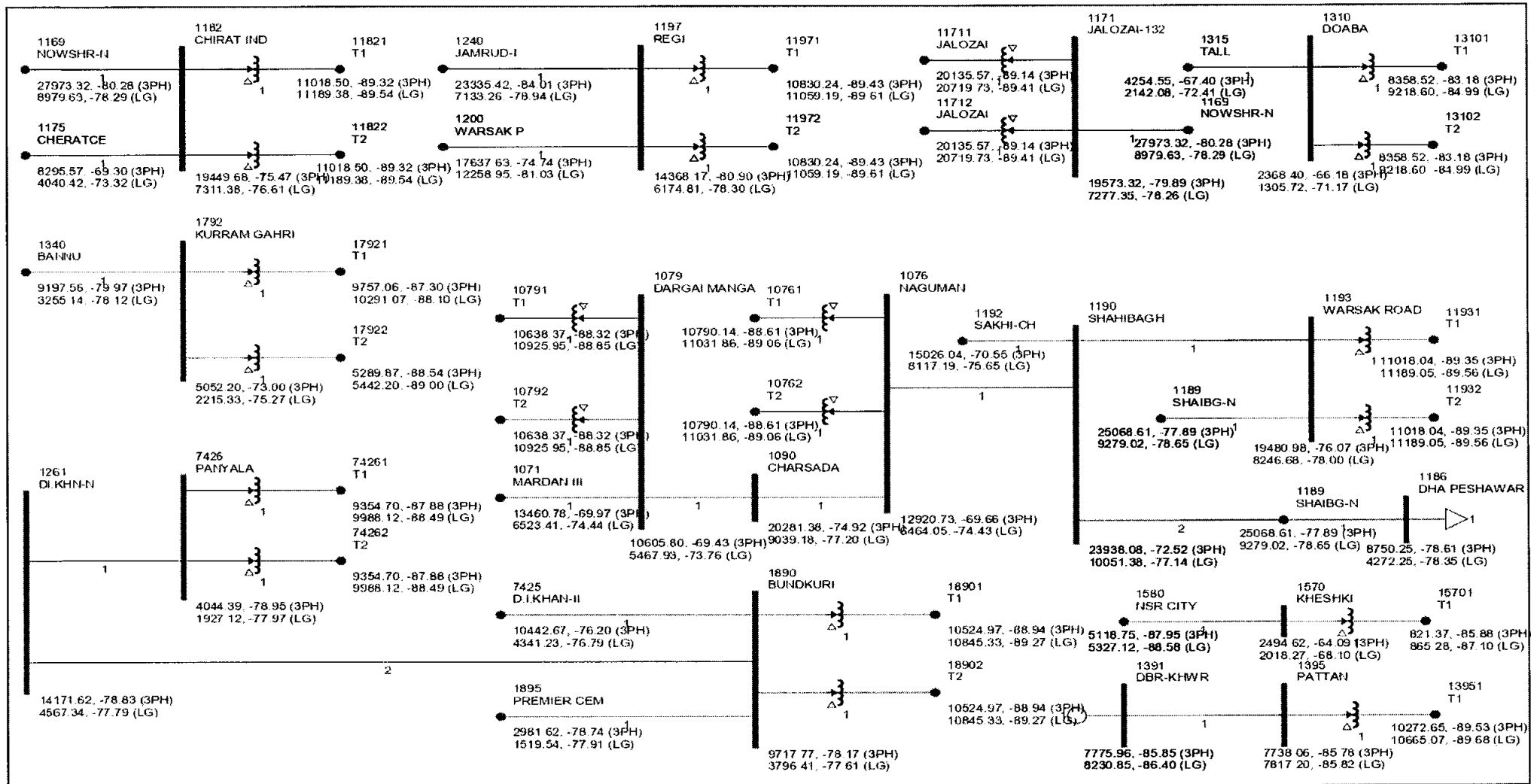
PESCO SHORT CIRCUIT STUDY YEAR 2027-28: BASE CASE

Exhibit-2028-1.6



PESCO SHORT CIRCUIT STUDY YEAR 2027-28: BASE CASE

Exhibit-2028-1.8



PESCO
Cost Estimate
from 2022-23 & 2026-27
in Million (PKR)

▪ **PESCO STG Projects Approved / Proposed for Expansion and Rehabilitation**

The scope of Work is Elaborates the Quantity in tabulated below:

a. Grid Stations

Sr. No	Description	Total No.	Total Capacity (MVA)	2022-23	2023-24	2024-25	2025-26	2026-27
1	New 132 KV Grid Station	41	2308	8	10	11	6	6
2	Upgradation of 33 & 66 kV GS to 132 KV	6	286	1	3	1	1	
3	Augmentation of Power T/Fs	24	336	10	12	2		
4	Extension of Power T/Fs	11	371	4	7			
5	Rehabilitation of existing Grid Station	2		2				
	Total	84	3301	25	32	14	7	6

b. Transmission Lines

Sr. No.	Description	Total Length (km)	2022-23	2023-24	2024-25	2025-26	2026-27
1	132 KV D/C	493	170	127	63	35	98
2	132 KV SDT	387	133	93	42	16	103

c. Rehabilitation/Reconductoring/Up-gradation/Rerouting

Sr. No.	Description	Total Length (KM)	2022-23	2023-24	2024-25	2025-26	2026-27
1	132 KV SDT	61		20	61		
2	132 KV Addl: CKT	235	56	30	87	70	73

d. Capacitor

Sr. No.	Description	Total (MVAR)	2022-23	2023-24	2024-25	2025-26	2026-27
1	132 KV Capacitor						
2	11 KV Capacitor	926	120	204	300	216	86

▪ Cost of World Bank Project (Best Case)

Rs. Million					
Comp:	Description	2022-23	2023-24	2024-25	Total Cost
1	11 kV Capacitors, 132 kV Bus Bars, Extension / Augmentation of PTF & Reconductoring of 132 kV T/Lines	769.84	2092.03	1322.20	4184.06
2	IT Infrastructure, APMS, GIS Mapping, AMI Meters & ABC installation	912.07	2478.55	1566.48	4957.10
3	Technical Assistance (Equipment for M&T, T/Fs Workshops, T&P, PPE, IT, vehicles Consultancy, etc.)	549.09	1408.05	652.57	2609.72
Total		2231.00	5978.62	3341.25	11750.88

TOTAL COST OF INVESTMENT (Rs. Million)						
DESCRIPTION	2022-23	2023-24	2024-25	2025-26	2026-27	TOTAL
Transmission 7 th STG	3100	5343	2928	1508	2142	15021
Transmission PSDP & SPSPD others	4282.36	1588.18	4721.35	1952.14	2760.99	15305.02
World Bank	2231	5978.62	3341.25	0	0	11750.88
Capacitor	0	0	261	201	85	547
Total Cost	9613.36	12909.8	11251.6	3661.14	4987.99	42623.9
O&M COST						
DESCRIPTION	2022-23	2023-24	2024-25	2025-26	2026-27	TOTAL
Total O&M Cost	196.15	258.20	225.15	73.22	99.76	852.48

PESCO Transmission System Expansion Plan (TSEP)

