

**BEFORE THE
NATIONAL ELECTRIC POWER REGULATORY AUTHORITY**

**PETITION FOR THE GRANT OF
SPECIAL PURPOSE TRANSMISSION LICENSE**

**ON BEHALF OF
FATIMA TRANSMISSION COMPANY LIMITED**

Dated: 14 January 2015

Legal Consultants

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12 January 2015

The Registrar
National Electric Power Regulatory Authority,
NEPRA Tower Attaturk Avenue (East)
Sector G-5/1, Islamabad, 44000

APPLICATION FOR THE GRANT OF THE SPECIAL PURPOSE TRANSMISSION LICENCE

Dear Sir,

I, Fawad Ahmed Mukhtar, Director Fatima Transmission Company Limited (the "FTCL"), being the duly authorized representative of FTCL by virtue of Board Resolution dated 30 December 2014, hereby apply to National Electric Power Regulatory Authority for the grant of a Special Purpose Transmission License pursuant to Section-19 read with other enabling provisions of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of) 1997 and its Rules, Regulations, Codes and Applicable Laws.

I certify that the documents-in-support attached with this application are prepared and submitted in conformity with the provisions of, *inter alia*, the National Electric Power Regulatory Authority Licensing (Application and Modification Procedure) Regulations 1999, and undertake to abide by the terms and provisions of the above-said regulations. I further undertake and confirm that the information provided in the attached documents-in-support is true and correct to the best of my knowledge and belief.

A Cross cheque no 2755109 dated 9 Jan 2015 in the sum of Pakistan Rupee Five Hundred Forty Six Thousand Four Hundred and Ninety Six only (PKR. 546,496/-), being the non-refundable license application fee calculated in accordance with Schedule II to the National Electric Power Regulatory Authority Licensing (Application and Modification Procedure) Regulations 1999 as modified *vide* S.R.O.# 603(I)/2010 dated 29 June 2010, is also attached herewith.

Sincerely,

Fawad Ahmed Mukhtar
Chief Executive Officer

Fatima Transmission Company

l i m i t e d

A Fatima Group Company

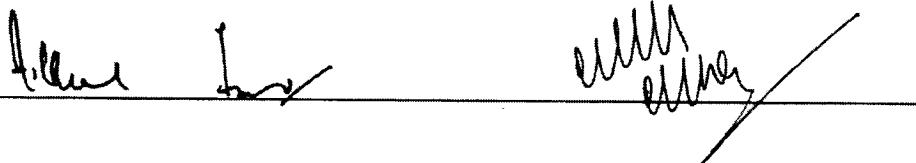


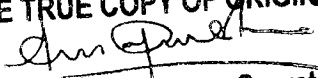
**RESOLUTION THROUGH CIRCULATION PASSED BY THE BOARD OF DIRECTORS OF M/S
FATIMA TRANSMISSION COMPANY LIMITED (THE "COMPANY") ON DECEMBER 30, 2014.**

We, the undersigned, being the Directors of the Company, do hereby pass the following resolution(s):

Resolved, that each of Mr Fawad Ahmed Mukhtar and Mr Fazal Ahmed Sheikh are hereby jointly and severally authorized to file (i) an application for the ~~special purpose transmission line~~ (including any review petitions); and (ii) any documents in support thereof and/or to make any oral/written representations on behalf of Fatima Transmission Company Limited, before the National Electric Power Regulatory Authority in relation to proposed development of 132 KV transmission line connecting Fatima Energy Limited 120 MW power plant 132 KV grid Sanawan to 220/132 KV New Muzafargarh NTDC grid, Tehsil Kot Addu, District Muzaffargarh, Pakistan and to undertake any matter(s) necessary or incidental thereto and to delegate any of the powers conferred hereunder.

DIRECTOR(S):



**ATTESTED
TO BE TRUE COPY OF ORIGINAL**

Company Secretary

VAKALATNAMA

We, **Fatima Transmission Company Limited** (the "**Company**"), hereby appoint and constitute jointly and severally **MR. NADIR ALTAF** and **MR. WASEE-UL-HASNAIN NAQVEE** to appear and act for us as our advocates in connection with the processing and presentation of the Company's Application for Special Purpose Transmission License (the "**Petition**"), in relation to the Company's proposed development of 132 KV transmission line connecting Fatima Energy Limited 120 MW power plant 132 KV grid Sanawan to 220/132 KV New Muzafargarh NTDC grid, Tehsil Kot Addu, District Muzaffargarh, Pakistan, with the National Electric Power Regulatory Authority ("**NEPRA**").

We also authorize the said advocates or anyone of them to do all other acts and things necessary for the processing, completion and finalization of the Petition with NEPRA.

ACCEPTED

Signature: _____ 

Received by us: _____

From: _____

RIAALAW

ADVOCATES & CORPORATE COUNSELLORS
68 NAZIMUDDIN ROAD, F-8/4,
ISLAMABAD
UAN: 111-LAWYER

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PETITION: For the grant of Special Purpose Transmission License on behalf of Fatima Transmission Company Limited (the "FTCL")

A. LEGAL REGIME

1. Under the Regulation of Generation, Transmission and Distribution of Electric Power Act (Act No. XL of) 1997 (the "**NEPRA Act**"), the Authority is mandated to, *inter alia*, grant licenses for generation, transmission and distribution of electric power and perform such functions which are consequential or incidental thereto.
2. Fatima Transmission Company Limited (the "**FTCL**") has filed this petition for the grant of Special Purpose Transmission License (the "**SPTL Petition**") before National Electric Power Regulatory Authority (the "**NEPRA**" or the "**Authority**") pursuant to Section-19 read with Sections-16 and 17 of the NEPRA Act and other enabling provisions of NEPRA Rules, Regulations, Codes and Applicable Documents.
3. More specifically, the Petitioner is located within the territory of National Grid Company, as defined under the Section-17 of the NEPRA Act. The National Grid Company pursuant to the transmission license granted under the Section 16 and 17 of the NEPRA Act enjoys "*exclusive right to provide transmission service in the territory specified in such licence*". Section-19 of NEPRA Act, *inter alia*, permits a company interested in transmission of electric power within the territory of National Grid Company to seek and obtain a special purpose transmission license (the "**SPTL**").

B. FTCL (THE "PETITIONER")

4. Transmission of electric power in Pakistan is a regulated activity. In order to undertake transport and delivery the electric power generated by Fatima Energy Limited (the "**FEL**") to its bulk power consumers (involving MEPCO lines) located within the territory of National Grid Company, the Petitioner company has been incorporated as a special purpose vehicle (SPV), *inter alia*, in compliance with Section-24 of the NEPRA Act and requires a permission from NEPRA.
5. The objective of the Petitioner company will, *inter alia*, engaging in the activities relating to the business of construction, ownership, management, control, operation and maintenance of the transmission lines, electrical transmission facilities, electrical circuits, transformers and sub- stations as well as the movement and delivery of electric power on transmission lines, undertaking transmission activities and transmission business, interconnection services and facilities and the matters connected therewith and incidental thereto.
6. The sponsors of FTCL are entities of Fatima Group comprising of Fatima Holding Company, Reliance Weaving Mills Limited and Fazal Cloth Mills Limited (the "**FCML**").

The FTCL is a private limited company established under the laws of Pakistan. Copies of the Certificate of Incorporation and the Memorandum and Articles of Association are appended herewith as **Annex "A"** hereto.

C. BACKGROUND - FATIMA GROUP

7. Fatima Group (or the Group) was established in 1936 with trading of commodities and gradually entered into the manufacturing of various products. The Group has a success story spread over seven decades, expanding its horizon from trading to manufacturing. Today, the Group is engaged in trading of commodities, manufacturing of fertilizers, textiles, sugar, mining and energy.
8. Remaining true to its founding principle of striving for excellence, the Group combined the vision of an entrepreneur, the knowledge of experts, the commitment and business expertise of three generations to develop its core strengths, vision and mission. With the commitment and effort of its employees, professional management and vision of its sponsors, the Group has achieved the standing of being the most progressive and fast growing conglomerate in Pakistan.
9. The Group has made exceptional progress in the last two decades and diversified into manufacturing of sugar and fertilizers. The Group has a distinction of being the largest exporter of molasses and importer of di-ammonium phosphate (DAP).
10. In its endeavor to reduce dependency on imports, the Group is engaged in quarry mining of rock phosphate which is used as production input in phosphate fertilizers.
11. The Group's future plans and growth matrix are strategically designed for further portfolio diversification in the energy sector, focusing on green energy.
12. The commitment to corporate social responsibility at Fatima Group is evident in a wide variety of areas including the quality and safety of products, environmental, health and safety initiatives, ethical manufacturing programs, philanthropy initiatives, community relations, human resources, corporate governance and the code of conduct. Fatima Group assures that all its businesses are managed in compliance with business ethics as defined through its policies.
13. Realizing its responsibilities as a good corporate citizen, the Group contributes substantially to the economic development of Pakistan through taxation, exports and by with over 10,000 people associated with business operations, in various capacities.
14. The diversified operations are carried out from the following Group companies:
 - Fatima Holding Company
 - Fatima Fertilizer Company Limited
 - Pakarab Fertilizers Limited
 - Reliance Weaving Mills Limited

- Fazal Cloth Mills Limited
- Fatima Sugar Mills Limited
- Reliance Commodities (Private) Limited
- Fatima Energy Limited
- Pakistan Mining Company Limited
- Air One (Private) Limited

D. ESTABLISHMENT OF FATIMA ENERGY LIMITED

15. The Fatima Energy Limited (the "**FEL**") is a public limited company incorporated under the laws of Pakistan and is constructing a 120 MW co-generation power project which will utilize (a) bagasse produced by sugar mill(s); (b) biomass from agriculture waste; and (c) imported coal as fuel.
16. FEL is located on an area of 62 acres adjacent to Fatima Sugar Mills Limited located along the G.T. Road Kot Addu (towards north) at Sanawan (a city of Punjab located at about 425 km Westside of Lahore), Tehsil Kot Addu, District Muzaffargarh, Punjab, Pakistan.
17. FEL holds a generation license from NEPRA no. SGC/96/2013 dated 31 December 2013, which, inter alia, authorizes FEL to engage in the Second-tier Supply Business (as defined in the NEPRA Distribution (Licensing) Rules 1999) and sell the electric power to the bulk power consumers.
18. FEL is now in construction phase and has passed critical milestones, including but not limited to:-
 - Execution of EPC Contract(s) with firm cost of USD 95.75 million and Euro 59.9 million executed and signed on 4 May 2013, as further amended on December 10, 2013;
 - Generation License issued by NEPRA on 31 December 2013;
 - Approval from State Bank of Pakistan (SBP) to remit advance payment to EPC Contractor received on 7 January 2014 and advance remitted on 30 January 2014;
 - Mandate for arranging financing as Mandated Lead Arranger awarded to Habib Bank Limited on 31 July 2013 and Financing Documents signed on 8 May 2014; and
 - Financial Close achieved and Letters of Credit ("LC") with firm delivery timeline established on 29 May 2014

E. FEL/MEPCO WHEELING ARRANGEMENT

19. In line with its long term goal of introducing competition to improve quality of service, NEPRA successfully initiated Private-to-Private (the "P2P") power supply regime which is a landmark step towards establishing a competitive market structure by the regulator. This initiative will in due course bring revolution in Pakistan energy sector and significantly contribute in reducing the current supply/demand gap in the country and also enable the government to overcome the acute power crisis by allowing private sector players and entrepreneurs to participate and play their role more effectively in the development of Pakistan energy sector.
20. FEL encouraged by NEPRA's initiative of P2P power supply regime, embarked upon setting up a wheeling arrangement to transport electricity output from FEL to its bulk power consumers. Under the wheeling arrangement, the electricity generated from FEL will be supplied to the grid and withdrawn at exit points agreed with relevant DISCO/NTDC and bulk power consumers. This Wheeling Agreement has been later adopted by NEPRA as a model agreement to encourage other interested parties and defines a regulatory framework enabling industrial consumers to purchase low costs electric power from remote generation source. This Wheeling Agreement has been placed on the anvil and based on the input from the stakeholders further appropriate modifications and improvements are being introduced.
21. FEL is proud to be a part of this landmark initiative of NEPRA which provides open access to the generating companies to deliver and sell their electricity output directly to bulk power consumers through national grid and distribution lines across the country. The wheeling agreement is part of FEL's financing documents and guarantees the flow of revenue stream to satisfy the debt obligations of FEL.
22. Pursuant to the Wheeling Agreement, NEPRA has approved Multan Electric Power Company Limited (the "**MEPCO**"), a public sector distribution company holding distribution license no. NEPRA/Lic-208/MEPCO/3122-26 dated 25 April 2002 to enter into a binding agreement with FEL for making its distribution system available for the transport of the electric power generated from FEL to its designated bulk power consumers in accordance with the instructions issued by FEL in pursuance of the Energy Wheeling Agreement (the "**EWA**") dated 16 May 2014 and subject to the terms and conditions provided in the EWA and Applicable Laws. Copy of the EWA is attached herewith as **Annex "B"** hereto.
23. The EWA provided FEL to notify MEPCO within a period of six (6) months following its execution, of the date by which MEPCO is required to complete its Interconnection Works (as defined in the Wheeling Agreement), comprising of activities including procurement of equipment and materials, required to connect the physical point(s) from where the electrical energy generated by FEL will be delivered to MEPCO for onward transport to FEL's bulk power consumers and a metering system to be installed at the input and output points to measure the delivery of electric power. The EWA provided

that the date by which MEPCO is required to complete its Interconnection Works shall not be earlier than twelve (12) months from the execution of the EWA.

24. The FEL in pursuance of the aforesaid, issued a notice to MEPCO to commence the Interconnection Works and complete the same by the Required MEPCO Interconnection Date (as defined in the Wheeling Agreement), appended herewith are the exchange of correspondences between MEPCO and FEL as **Annex "C"** hereto. The EWA very clearly provided that all costs and expenses relating to the Interconnection Works shall be solely and exclusively be borne by MEPCO and in the event of any delay or default in completing the Interconnection Work on or before the Required MEPCO Interconnection Date, it shall be liable to pay FEL liquidated damages for such default.
25. Notwithstanding the terms of EWA requiring MEPCO in unequivocal terms to construct and complete the interconnection facility at its costs and expenses, however, on different occasions and finally through its letter # 328/MT/FSML/60225 dated 16 June 2014 MEPCO in response to FEL's letter # FEL/LETTER/0506/1492 dated 5 June 2014 expressed its inability to undertake the Interconnection Works claiming lack of available funds and sought from FEL an 'interest free loan' to undertake the construction of Interconnection Works.
26. Needless to say that the aforesaid tantamount to non-compliance of the terms of EWA and as a result the instant petition has been filed before this Honorable Authority to undertake the construction and operations of SPTL for that portion of Interconnection Works, albeit with necessary changes including the construction of dedicated grid adjacent to the premises of one of the bulk power consumer of FEL namely FCML.

F. PURPOSE OF SPTL

27. FEL is developing a USD 250 million power project and timely power evacuation of electrical energy from the generation plant to National Grid is critical for success of the project, failing which serious damage will be faced by FEL. Needless to say that the timely and proper evacuation of power will guarantee the flow of revenues which will be utilized inter alia to fulfill the debt obligations and ensure smooth and uninterrupted operation of the power plant. Any default or disruption in the revenue stream will create a doom's day scenario for the project. Therefore, a workable and robust power evacuation scheme is mandatory to be put in place which inspires confidence to project developers and lenders.
28. In this backdrop, after extensive deliberations, involving all the key stakeholders, the aforesaid EWA was executed with an expectation that the project would be able to operate seamlessly. However MEPCO's inability to construct interconnection works requires an alternate solution. The establishment of FTCL will mitigate and solve this risk and facilitate FEL to sell its power to designated bulk power consumers as per power purchase agreements to avoid imposition of any liquidated damages. The territory, in which the license is sought under Section-17 of NEPRA Act, falls within the exclusive territory of National Grid which has also refused to provide interconnection works to

enable FEL to deliver and sell its output to bulk power consumers. Consequently, with the grant of SPTL to the FTCL the electricity generated by FEL will be transported and delivered to the bulk power consumers as per committed time lines.

29. It is specifically relevant to mention that given the quantum of installed capacity of FEL which comprises of 120 MW, it is fair to assume that FEL's potential consumers may be located in the territory outside the MEPCO service territory. In fact, on a regular basis, FEL is receiving expression of interests from potential entities outside the MEPCO's services territory who have indicated their preference to have a bilateral arrangement with FEL for the sale and delivery of power.
30. In light thereof, FTCL hereby seeks the permission of the learned Authority to favorably consider its request for grant of SPTL which will enable it to move and deliver the electric power from FEL on transmission voltage covering not only MEPCO service territory but also the jurisdictions which fall outside MEPCO. The grant of statutory license to FTCL will pave the way towards sustainability, and reliable supply of electric power from FEL to its bulk power consumers and National Grid.
31. FTCL has constituted and collaborated with the team of experts and consultants to undertake the proposed transmission activities. The profiles and experience of the FTCL, its management staff and its members in the electricity industry is appended with this Petition, as per the requirement of NEPRA, which include:
 - a. The curriculum vitae of the FTCL's senior management, technical and professional staff;
 - b. Evidence, satisfactory to the Authority, of the availability of adequate technical resources to the FTCL to carry out the transmission activities and such evidence may consist of:
 - employment records of engineering and technical staff of the applicant proposed to be employed;
 - profile of sub-contractors, if any, along with expressions of interest of such sub-contractors; and
 - verifiable references in respect of the experience of the applicant and its proposed sub-contractors

G. FTCL SPTL

32. The proposed SPTL transmission infrastructure and the line route of SPTL to be constructed by FTCL are fully explained in the annexes including the Load Flow Study. FTCL intends to construct, own and operate a 132kV, double circuit transmission line of approx. 37 km (with approx. 150 towers) using rail conductor to be laid from FEL up to the boundary of FCML including the development of 132 kV Grid (substations) at FEL and FCML and a 132 kV double circuit of about 2 km using Rail conductor to be laid from

FCML to 220/132 kV New Muzaffargarh Grid (substation). The aforesaid transmission line is required to be constructed by 1st September 2015 i.e. six (6) months prior to the planned commercial operations date of the FEL, for the testing and commissioning etc. The system conditions of normal and N-1 contingency have been incorporated to meet the reliability criteria of NEPRA Grid Code.

33. The development of 132 kV Grid (substations) at FEL and FCML will, *inter alia*, comprise of OHL bays with associated control protection and metering system, transformer bays, power transformers, overhead single busbar arrangement, incomers, SCADA System, power line carrier and telecommunication system, grid station AC/DC auxiliary supply etc.
34. All the material and equipment to be used and procured by FTCL will be in accordance with WAPDA specifications and where feasible, the material will be procured from WAPDA approved supplier/manufacturers.
35. The electricity generated from FEL, after meeting the requirement of the FCML facility is going to be embedded in the transmission network of 220/132 kV New Muzaffargarh Grid available.
36. As submitted, FTCL seeks a SPTL, *inter alia*, to construct, own, manage and operate the transmission lines, electrical transmission facilities to connect the interconnection point of FEL with the National Grid and to deliver the electric output directly to one of approved bulk power consumers situated within its vicinity.

H. PUBLIC INTEREST

37. Section 19 of NEPRA Act mandates NEPRA to grant SPTL where it is demonstrated to be in public interest. The transmission of electricity by FTCL will play a vital role in the economic activity and growth of industrial sector of Pakistan. Approving the SPTL Petition will contribute towards public policy and will be regarded as a sound financial decision taken in the interest of long term development of a vibrant energy sector. The instant petition has been filed in the spirit of public interest.
38. The transmission business carried out by FTCL will not only ensure the bankability and viability of FEL but also will ensure reliable and uninterrupted supply to industrial units located within the territory of National Grid Company. Reliable supply of electric power is considered to be one of the fundamental raw materials for economic activity. The provision of power through SPTL will contribute to bring industrial revolution, alleviate poverty and bring growth in various business sectors.
39. As per interconnection scheme, an independent transmission line will be constructed to connect FEL 120 MW power generation to 220/132 KV New Muzafargarh NTDC grid and a 132/11 KV grid station will also be constructed en route by FTCL adjacent to FCML. This grid station will supply power to FCML on 11 KV circuit. There are number of other industrial consumers available in the region of this grid station and these can also be connected economically to obtain electric energy directly through 11 KV circuit being

close in distance. This will not only serve the industrial consumers with good supply of electrical energy but will also ease any overload on MEPCO 132 KV Muzafargarh grid station

40. As explained above, FTCL 132 KV grid station will be available for supply of electrical energy in near vicinity. Any new industrial consumers would be able to avail this opportunity in public interest to set up new units and get electrical supply from FTCL grid. This expansion in industrial units will lead to more jobs for manpower and also enhance production capacity in the region for overall effect on GDP.

J. FINANCIAL STRENGTH

41. FTCL and Fatima Group has a strong financial capability to fund the proposed SPTL. FTCL being a new company incorporated does not have financial strength of its own due to obvious reasons. For the initial period of commencement, the company funds have been boosted by its share holding companies namely Fatima Holding, Reliance Weaving Mills Limited and FCML. Updated Annual Reports of share holding companies and evidence of financial strength is appended herewith as **Annex "D"**.

K. DETAILS OF THE CONTRACTORS

42. The relevant details of the Contractors are appended herewith as **Annex "E"**.

L. SYSTEM STUDIES & SPECIFICATION OF EQUIPMENT

43. The FTCL, in order to finalize the 'Interconnection Studies for Power Dispersal of FEL power project to the national grid system' hired a reputable consultant to finalize the most appropriate connectivity options with the transmission network. The copy of the load flow study together with its appendices including description of the line lengths, starting point, termination point etc. is appended herewith as **Annex "F"**. FTCL has reviewed the relevant technical details of the transmission infrastructure to be established with necessary specifications including the control and protection system.
44. Upon the request of FTCL, the NTDC Power Planning Division will evaluate the load flow study to ascertain the interconnection of FTCL. Copy of request letter to NTDC along with a fee of Rs 350,000 is appended herewith as **Annex "G"**. It is expected that NTDC will conclude that the interconnection schemes proposed in the load flow study is adequate to evacuate the power of FEL and meet the load demand of the network and the same will be submitted to NEPRA for consideration without any delay.
45. The necessary load flow studies have been carried out for the peak load conditions of January and Aug/Sept corresponding to the typical winter and summer seasons respectively. In this regard, system scenarios for peak load condition of January 2014 and Aug/Sept. 2014 have been simulated to analyze the proposed interconnection

option for its adequacy for dispersal of power from FEL power project and also to assess the impact of the proposed generation of FEL power plant on the power system network in its vicinity.

46. The objective of the interconnection study is to propose a transmission scheme for dispersal of power from FEL to the grid system in a technically reliable manner under both normal and single line contingency conditions. The load flow study includes the review of latest load forecast, latest generation expansion plan, latest transmission expansion plans of NTDC and DISCOs (especially, the expansion plans of MEPCO).
47. A base case used in the load flow study has been developed for the anticipated peak load of January 2016 using the network data of NTDC and MEPCO, after updating with latest load forecast and expansion plan of NTDC and MEPCO. The peak load of the year 2016 for MEPCO has been modeled as per the latest power market survey demand forecast obtained from NTDC which would be 2,926 MW in January. The load flow results show that the power flows on all the circuits are within their normal rating. The voltage profile of these surrounding substations is also within normal limits. N-1 contingency analysis has been carried out and the results plotted.
48. The details and specifications and equipment are attached herewith as **Annex "H"**.
49. (The Load Flow Study and the Equipment Specifications, inter alia, covers the following:
 - Structures: type, number/km
 - Line characteristics
 - Conductor, type, current carrying capacity, circuit power transfer
 - Insulators
 - Shield-wire: number, size
 - Compensation employed: series, Shunt, SVC
 - Communication system: PLC, fibre optics, microwave
 - Grid station(s) involved: number, existing/new and details of the following:
 - Scope, size, number of transmission circuits, in and out
 - Type: indoor/outdoor, transformation/switching
 - Arrangement scheme: breaker and a half, double bus
 - Basic insulation level: kV
 - Control and protection system
 - Specification of equipment: breakers-type, re-closing mechanism, duty Cycle etc. isolators, transformers-type, size, cooling system, tap-changer, And protection
 - Lightning arresters, shunt reactors, metering and instrumentation
 - SCADA and communication

M. EIA

50. The transmission infrastructure established by FTCL will be compliant with the requirements of the applicable environmental laws, policy, the infrastructure and routing alternatives of the FTCL will be based on such environmental considerations including construction activities, right-of-way clearing and impacts of construction and operation of towers, access roads, substations and related facilities. The line would help to ensure reliability and increase capacity for the overall transmission grid and support local and regional needs.
51. EIA Application has been submitted to the relevant Environmental Protection Agency for their review and approval. Copy acknowledging the receiving of EIA Application by Punjab Environmental Protection Agency is appended herewith as **Annex "J"** hereto. Once the aforesaid is approved, FTCL will submit the same to NEPRA for consideration without further delay.

N. SAFETY

52. FTCL has developed protocols, procedures and NEPRA's power safety codes to ensure that its networks are planned, developed, operated and maintained in an efficient and safe way without compromising on safety of the systems, personnel & others. FTCL shall promote a healthy and safe culture and provide all employees, contractors and the people concerned and the public with a safe & healthy place to work. FTCL shall ensure that safe working is integrated into every aspect and area of business. Moreover safety culture shall be based on personal leadership, collaboration and involvement.
53. FTCL shall adhere to the highest standards in all work practices. This includes high engineering and maintenance standards, so that the equipment is fit for purpose, prepared and documented standard operating procedure and training, involvement and other programs to help people contribute to safety, security, health and environment.
54. The copy of the Safety Protocols and SOPs is appended herewith as **Annex "K"**.

O. METERING & TESTING FACILITIES

55. The details relating to metering and testing etc. constitute integral part of Load Flow Study and Operations and Maintenance Protocols which is appended with this Petition.

P. SCADA AND COMMUNICATION

56. The details relating to SCADA and communications etc. constitute integral part of Load Flow Study and Operations and Maintenance Protocols which is appended with this Petition.

Q. TRAINING & DEVELOPMENT

57. The training and development etc. will be developed before the commencements of operations of SPTL.

R. ADDITIONAL INFORMATION

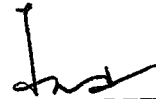
58. FTCL shall provide NEPRA such further or additional information, clarification or explanation as it may require from time to time. Respectfully submitted that the FTCL also request the Authority to allow it to supplement and submit such information and supporting material that it may deem appropriate.

S. PRAYER

58. In light of the forgoing, FTCL respectfully prays that the learned Authority to kindly:

- (a) accept the instant Petition and grant SPTL to FTCL to undertake the transmission activities within the territory of National Grid Company;
- (b) allow the FTCL to engage in the activities relating to the business of construction, ownership, management, control, operation and maintenance of the transmission lines, electrical transmission facilities, electrical circuits, transformers and sub- stations, the movement and delivery of electric power, transmission activities and transmission business, interconnection services and facilities and the matters connected therewith and incidental thereto;
- (c) allow such other reliefs which is just, fair, proper, better and necessary in these circumstances.

Dated: 12th of January, 2015



PETITIONER

Fatima Transmission Company Limited

Through



RIAALAW

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A005109

SECURITIES AND EXCHANGE COMMISSION OF PAKISTAN
COMPANY REGISTRATION OFFICE, LAHORE

CERTIFICATE OF INCORPORATION

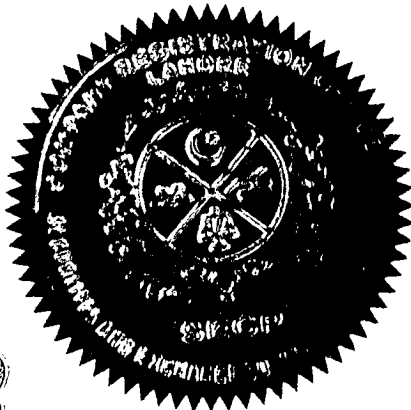
[Under section 32 of the Companies Ordinance, 1984 (XLVII of 1984)]


Corporate Universal Identification No. 0091244

I hereby certify that FATIMA TRANSMISSION COMPANY LIMITED 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 Twenty Sixth day of December, Two Thousand and Fourteen.

Fee Rs. 14,000/-




(LIAQAT ALI DOLLA)
Additional Registrar

No.ARL/ 12104

DATED: 24/12/11

THE COMPANIES ORDINANCE, 1984
(COMPANY LIMITED BY SHARES)

ARTICLES OF ASSOCIATION
O F
FATIMA TRANSMISSION COMPANY LIMITED

PRELIMINARY

1. The regulations contained in Table 'A' in the First Schedule to the Ordinance shall not apply to the Company except in so far as the same are repeated mutatis mutandis or contained in these Articles.

DEFINITION

2. In these Articles, unless there is something in the context or subject matter inconsistent therewith:
 - (a) Words importing the singular shall include the plural and vice versa, words importing masculine gender shall include feminine gender and words importing persons shall include companies.
 - (b) "The Ordinance" or "the said Ordinance" means the Companies Ordinance, 1984, or any modification or reenactment thereof for the time being in force.
 - (c) "The Company" or "this Company" means **FATIMA TRANSMISSION COMPANY LIMITED**
 - (d) The "Office" means the registered office for the time being of the Company.
 - (e) "Members and Shareholders" mean the duly registered holders from time to time of shares of the Company.
 - (f) "The Register" means, the Register of Members to be kept pursuant to Section 147.
 - (g) The "Directors" means the Directors for the time being of the Company.
 - (h) "Dividend" includes bonus.
 - (i) "Special Resolution" has the meanings assigned thereto by clause (36) of sub-section (1) of Section 2.
 - (j) "Month" and "Year" mean calendar month and calendar year respectively.
 - (k) "In writing" or "Written" mean and include words printed, typed, lithographed, or represented in any mode in a visible form.
 - (l) "Person" Includes a body, firm, association, company as well as an individual.
 - (m) The "Registrar" means the Registrar as defined in Clause (31) of Sub Section (1) Section 2 of the Ordinance.
 - (n) The "Seal" means the common seal of the Company.
 - (o) "Board" means the Board of Directors of the Company for the time being.

- (p) "FTCL" means FATIMA TRANSMISSION COMPANY LIMITED, a company duly formed under the Laws of Pakistan.
- (q) "Preference Shares" not being Ordinary Shares, means Preference Shares whether redeemable in accordance with the provisions of these Articles subject to section 85 of the Ordinance including but not limited to, by way of conversion into shares with such right, restrictions and privileges as determined by the Company in the manner and mode provided in these Articles or irredeemable, cumulative or otherwise with the rights, privileges and conditions attaching thereto, within the scope and purview as are provided by the Articles, in the manner and mode provided in the Articles.
- (r) "Preference Shareholders" not being Ordinary Shareholders mean, in relation to the Company, every person to whom the Company has allotted, or who becomes the holder of Preference Shares and whose name is entered in the register of preference shareholder or any such document as prescribed by the Ordinance.
- (s) Unless the context otherwise requires words or expressions contained in these Articles shall bear the same meaning as in the Ordinance or any statutory modification thereof in force at the date at which these Articles become binding on the Company.

PUBLIC COMPANY

- 3. The Company shall be a public company within the meaning of section 2(1)(30) of the Ordinance and no business of the company shall be commenced unless the requirement of Section 146 of the Ordinance including payment of the minimum subscription amounting to Rs. 350,000/- (Rupees three hundred fifty thousand only) are fulfilled and the certificate of commencement of business in this regard is obtained. Moreover, the business of the company shall include all or any of the objects enumerated in the Memorandum of Association which shall be carried out at such place or places any wherein in Pakistan or elsewhere as the directors may deem proper or advisable from time to time

CAPITAL

- 4. The Authorised Capital of the Company is Rs. 1,000,000 (Rupees One Million) divided into 100,000 shares of Rs.10/- each.
- 5. Subject to section 90 of the Ordinance and any rules in that regard made under the Ordinance, and without prejudice to any special rights previously conferred on the holders of any existing shares, any share in the Company may be issued with different rights, restrictions and privileges, including but not limited to the following, namely:
 - a) Different voting rights; voting rights disproportionate to the paid-up value of shares held; voting rights for specific purposes only; or no voting rights at all;
 - b) Different rights for entitlement of dividend, right shares or bonus shares or entitlement to receive the notices and to attend the general meeting;
 - c) Rights and privileges for indefinite period, for a limited specified period or for such periods as may from time to time be determined by the members through special resolution; and

- d) Different manner and mode of redemption, including redemption in accordance with the provisions of these Articles subject to section 85 of the Ordinance, including but not limited to, by way of conversion into shares with such right and privileges as determined by the Company in the manner and mode provided in these Articles.
 - e) Different manner, mechanism and mode for conversion of Preference Shares into shares with such right and privileges as determined by the Company in the manner and mode provided in the Ordinance and these Articles, including but not limited to by conversion of Preference Shares into Non-Voting Ordinary Shares.
6. Subject to section nos. 85 and 95(4)(a) of the Ordinance, and any rules in that regard made under the Ordinance, the Company may issue shares or any other redeemable security, which are to be redeemed in the manner and mode provided by these Articles, including but not limited to, by way of conversion into shares with such rights and privileges as determined by the Company in the manner and mode provided in these Articles and/or in the offering document pursuant to which the same were issued/allotted or under the Ordinance.

SHARES AND ISSUE OF SHARES

7. Subject to the provisions of the Ordinance the shares shall be under the control of the Board who may allot or otherwise dispose of the same or any of them to such persons, on such terms and conditions, and at such times as the Board thinks fit, and at a premium or at par or (subject to the provisions of the Ordinance) at a discount and for such consideration as the Board thinks fit.
8. The Board shall, as regards any allotment of shares, duly comply with such provisions of Sections 68 to 73 of the Ordinance as may be applicable.
9. Subject to Section 86 of the Ordinance, where at any time the Board decides to increase the issued capital of the Company by issuing any further shares, then subject to any direction to the contrary that may be given by the Company in General Meeting, such shares shall be offered to the members in proportion to the existing shares held by each member, and such offer shall be made by notice specifying the number of shares to which the member is entitled, and limiting a time within which the offer, if not accepted, will be deemed to be declined and after the expiration of such time, or on receipt of information from the member to whom such notice is given that he declines to accept the shares offered, the Board may, subject to sub-section (7) of Section 87 of the Ordinance, dispose of the same in such manner as it may consider most beneficial to the Company.
10. If and when ever as a result of an issue of new shares or any consolidation or subdivision of shares any member becomes entitled to hold shares in fractions, the Board shall not be required to issue such fractional shares and shall be entitled to sell such whole shares at a reasonable price and pay and distribute to and amongst the members entitled to such fractional shares in due proportion the net proceeds of the sale thereof. For the purpose of giving effect to any such sale the Board may authorize any person to transfer the shares to the purchaser thereof, and the purchaser shall be registered as the holder of the shares comprised in such transfer.

11. Subject to the provisions of the Ordinance and the Articles, the Board may allot and issue shares in the capital of the Company as payment or part payment for any property sold or transferred, goods or machinery supplied, or for services rendered to the Company in the conduct of its business or affairs.
12. Any application or subscription signed by or on behalf of an applicant or subscriber for shares in the Company, followed by an allotment of any shares therein, shall be an acceptance of shares with in the meaning of the Articles, and every person who thus or other wise accepts any shares and whose name is entered on the register shall for the purposes of the Articles be a member.
13. The Company shall be entitled to treat the person whose name appears in the Register as the holder of any shares as the absolute owner thereof, and accordingly shall not (except as ordered by a Court of competent jurisdiction or as by law required) be bound to recognise any trust or entity or benami, equitable, contingent or other claim to or interest in such shares, on the part of any person whether or not it shall have express or implied or constructive notice thereof.
14. Subject to Section 82 of the Ordinance, 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 or debentures or procuring or agreeing to procure subscription whether absolutely or conditionally for any shares or debentures of the Company, so that the amount or rate of commission shall not exceed such percentage/rate as may be agreed by the company of the price at which the shares are issued or of the nominal value of the debentures in each case subscribed or to be subscribed. The Company may also pay brokerage not exceeding 1% (one percent) (or such other rate as may be prescribed by the SECP) in respect of any subscription for shares or debentures. Provided that no brokerage to a broker not commission to Bankers shall be payable in respect of shares taken up by underwriters by virtue of underwriting commitments not shall such brokerage or Banker's or underwriting commission be payable in respect of shares subscribed by National Investment Trust Limited may have. All brokerage and commission shall be payable in cash.

CERTIFICATES

15. Every person whose name is entered as a Member in the register of Members shall, without payment, be entitled to receive, within two months after allotment or within forty-five days of the application for registration of transfer, a certificate under the seal specifying the share or shares held by him and the amount paid up thereon: provided that, in respect of a 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.
16. The shares in the capital shall be numbered progressively according to their denomination and except in the manner therein mentioned no share shall be sub divided.
17. Subject to the provisions of Section 75 of the Ordinance, if any certificate be worn out, defaced, destroyed or lost or if there is no further space on the back thereof for endorsements of transfer, it may be renewed or replaced on payment of such sum, not exceeding one rupee as the Directors may from time to time prescribe: provided,

however, that such new certificate shall not be granted except upon delivery of the worn out or defaced or used up certificate for the purpose of cancellation or upon proof of destruction or loss to the satisfaction of the Directors and on such indemnity and payment of the expenses of such inquiry in this connection as the Directors may deem adequate in case of the certificate having been lost or destroyed. Any renewed certificate shall be marked as such.

18. The certificate of shares registered in the name of two or more persons shall be delivered to the person first named on the Register and delivery of a certificate to one of the several joint holders shall be sufficient delivery to all.
19. If any Shares stand in the name of two or more persons, the person first named in the Register shall, as regards receipt of dividend or bonus or service of notices and all or any other matters connected with the Company except voting at the meeting and the transfer of shares, be deemed the sole holder thereof.
20. In the case of the death of any one or more of the persons named in the Register as the joint-holders of any share, the survivor or survivors shall be the only person or persons recognized by the Company as having any title to or interest in such Share.

TRANSFER AND TRANSMISSION OF SHARES

21. The Directors shall not refuse to transfer any fully paid shares unless the transfer deed is for any reason defective or invalid, provided that the Company shall within thirty days from the date on which the instrument of transfer was lodged with it notify the defect or invalidity to the transferee who shall after removal of such defect or invalidity be entitled to re-lodge the transfer deed with the Company. The Directors may also suspend the registration of transfers during the fourteen days immediately preceding the Annual General Meeting in each year. The Directors may decline to recognize any instrument of transfer unless the 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 prove the right of the transferor to make the transfer.
22. Every instrument of transfer shall be left at the office of the Company for registration, accompanied by the certificate of the Shares to be transferred and such other evidence as the Directors may require to prove the title of the transferor or his right to transfer the shares and upon payment of the proper fee the transferee shall, subject to the Director's right to decline to register the transfer as hereinafter mentioned, be registered as a shareholder in respect of such shares. The Directors may waive the production of any certificate upon evidence satisfactory to them of its loss or destruction.
23. If the Directors refuse to register a transfer of any shares they shall within thirty days after the date on which the instrument of transfer was lodged with the Company, send to the transferee and the transferor notice of refusal, indicating reasons for such refusal.
24. Shares in the Company shall be transferred in the following form, or in any usual or common form which the Directors shall approve:-

I, _____ of _____ in consideration of the sum of Rs. _____ paid to me by of _____ (hereinafter called "the said transferee") do hereby transfer to the said transferee the share (or shares) numbered _____ to

_____ (inclusive) in the undertaking called FATIMA TRANSMISSION COMPANY LIMITED to hold unto the said transferee his executors, administrators and assigns, subject to the several conditions on which I held the same immediately before the execution hereof, and I, the said transferee, do hereby agree to take the said share (or shares) subject to the conditions aforesaid.

As witness our hand this _____ day of _____ 20_____.
Transferor _____ Transferee _____

Signature

Witness:

(1) _____

Full Name _____

Father's/Husband's

Signature

Full Address:

Signature

Name

Occupation _____

Full Address of

Transferee

(2) _____

Signature

Full Address:

25. The instrument of transfer shall, after registration be retained by the Company and shall remain in its custody. All instruments of transfer which the Directors may decline to register shall on demand be returned to persons depositing the same. The Directors may cause to be destroyed all transfer deeds lying with the Company after such period as they may determine.
26. The Directors shall have power on giving seven days prior notice by advertisement as required by Section 151 of the Ordinance, to close the transfer books of the Company for such period or periods of time not exceeding on the whole 45 days in each year but not exceeding 30 days at a time, as they may deem fit.
27. The registration of a transfer shall be conclusive evidence of approval of the Directors in respect of the transferee.
28. No transfer shall be made to a person of unsound mind.
29. The executor, administrator or nominee appointed under Section 80 of the Ordinance as the case may be of a deceased Member shall be the only person recognized by the Company as having any title to his Share except in cases of joint holders, in which case the surviving holders or holder, or executor or administrator of the last surviving holders or holder, shall be the only person entitled to be so recognized. The Company shall not be

bound to recognize such executor or administrator unless he shall have obtained probate or Letters of Administration or other legal representation, as the case may be, from a competent Court in Pakistan or from any Court authorized by any enactment for the time being in force or by any order or notification of the President to grant such probate or letters of Administration provided, nevertheless, that in special cases, it shall be lawful for the Directors to dispense with the production of probate or letters of Administration or such other legal representation upon such terms of indemnity or otherwise as the Directors may deem fit.

30. Any person becoming entitled to any shares in consequence of the death, lunacy, bankruptcy or insolvency of any Member or by any lawful means other than by a transfer in accordance with these presents, may, with the consent of the Directors (which they shall not be under any obligation to give) upon producing such evidence as the Directors shall require, either be registered as a Member in respect of such Shares or elect to have some person nominated by him and approved by the Directors registered as Member in respect of such Shares provided nevertheless that if such person shall elect to have his nominee registered, he shall testify his election by executing in favour of his nominee an instrument of transfer in accordance with the provision herein contained and until he does so he shall not be freed from any liability in respect of such Shares. This Clause is herein referred to as the "Transmission Clause"
31. A person becoming entitled to a share by reason of the death or insolvency of the holder, shall be entitled to all rights and privileges if he were the registered holder of the share, except that he shall not, before being registered as a shareholder in respect of the share, be entitled in respect of such share to exercise any right conferred by holding of such Share in relation to any meeting of the Company.
32. Every transmission of shares shall be verified in such manner as the Directors may require and the Company may refuse to register any such transmission until the same be verified or unless indemnity be given to the Company with regard to such registration which the Directors, at their discretion, shall consider sufficient, provided nevertheless that there shall not be any obligation on the Company or the Directors to accept any indemnity.
33. The Company shall incur no liability or responsibility whatsoever in consequence of its registering or giving effect to any transfer of shares, made, or purporting to be made, by any apparent legal owner thereof (as shown or appearing in the Register) to the prejudice of persons having or claiming any equitable right, title or interest to or in the same shares, notwithstanding that the Company may have had notice of such equitable right, title or interest or of notice prohibiting registration of such transfer, and may have entered such notice or referred thereto in any book of the Company, and the Company shall not be bound or required to regard or attend or give effect to any notice which may be given to it of any equitable right title or interest or be under any liability whatsoever for refusing or neglecting to do so, though it may have been entered or referred to in some book of the Company, but the Company shall, nevertheless, be at liberty to regard and attend to any such notice and give effect thereto, if the Directors shall think fit.

ALTERATION OF CAPITAL

34. The Company may from time to time increase its authorised share capital by such sum to be divided into shares of such amount as the resolution shall prescribe.
35. Any capital raised by the creation of new shares shall be considered part of the authorised capital and shall be subject to the provisions herein contained with reference to transfer and transmission, voting and otherwise.
36. The Company may by Special Resolution of the shareholders reduce its share capital in any manner and with and subject to any incident authorised and consent required by law.
37. Subject to the provisos appearing after clause (d) of sub-section 1 of Section 92 of the Ordinance, the Company may in General Meeting alter the conditions of its Memorandum as follows:
 - (a) consolidate and divide all and any of its share capital into shares of larger amount than its existing share;
 - (b) subdivide shares or any of them into shares of smaller amounts that originally fixed by the Memorandum, subject nevertheless to the provisions of the Ordinance in that behalf;
 - (c) cancel shares which at the date of such General Meeting have not been taken or agreed to be taken by any person, and diminish the amount of its share capital by the amount of the shares so cancelled.

BORROWING POWERS

38. The Directors may from time to time at their discretion obtain finance or otherwise raise or borrow money/term capital through, participatory redeemable capital from Banks, financial Institutions, export credit agencies, suppliers' credits, venture capital companies or from any other institution and secure the payment of any such sum or sums of money borrowed and to mortgage or charge its undertaking and property and to issue Participation Term Certificate, Term Finance Certificate Modarba/Musharika, Debenture, Debenture Stock, Bonds or any other type of security permitted by law and may themselves lend to the Company on security or otherwise.
39. The Directors may raise or secure the payment or repayment or any sum or sums in such manner and upon such terms and conditions in all respect as they think fit, and in particular by the creation of any mortgage or charge on the undertaking of the whole or any part of the property of the Company (both present or future) or by the issue of bonds, perpetual or redeemable, debenture, debenture-stock or any mortgage or charge or other security on the undertaking of whole or any part of the property of the Company (both present or future).
40. Debentures, debenture-stocks, bonds and other securities may be made assignable, free from any equities between the Company and the persons to whom the same may be issued.
41. Any debentures debenture-stocks, bonds or other securities may be issued at a discount, premium or otherwise, and with any special privileges as to redemption, surrender,

drawings, allotment of shares, attending and voting at General Meeting of the Company, appointment of Directors and otherwise.

42. The Directors shall cause a proper register to be kept in accordance with Section 135 of the Ordinance of all mortgages, debentures and charges specifically affecting the Property of the Company, and shall duly comply with the requirements of Section 121, 122 and 129 of the Ordinance in regard to the registration of mortgages and charges therein specified and shall duly comply with the requirements of Section 130 of the Ordinance as to keeping a copy of every instrument creating any mortgage or charge by the Company at its office, and the requirements of Section 132 of the Ordinance as to giving intimation of the payment or satisfaction of any charge, mortgage created by the Company.
43. Every register of holders of debentures of the Company may be closed for any periods not exceeding on the whole 30 days in any year, subject as aforesaid every such register shall be open to the inspection of the registered holder of any such debentures of any Member, but the Company may in a General Meeting impose any reasonable restrictions so that at least two hours in each day, when such register is open, are appointed for inspection.
44. Subject to the provisions of the Section 76 to 81 of the Ordinance no transfer of registered debentures shall be registered unless a proper instrument of transfer duly stamped and executed by the transferor and transferee has been delivered to the Company together with the certificate of the debentures.

GENERAL MEETINGS

45. All General Meetings, whether ordinary or extraordinary, shall be held at the registered office of the Company or such other premises of the Company as the Directors may think fit.
46. A General Meeting of the Company shall be held within eighteen months from the date of incorporation of the Company and thereafter once at least in every calendar year within a period of four months following the close of its financial year and not more than fifteen months after the holding of its last preceding Annual General Meeting.
47. The Directors may, whenever they think fit, and shall, on the requisition of the holders of not less than one-tenth of the voting power of the Company on the date of deposit of requisition, forthwith proceed to convene an extraordinary general meeting of the company and in case of requisition the following provisions shall have effect:-
 - (a) The requisition shall state the objects of the meeting and shall be signed by the requisitionists and deposited at the office of the Company and may consist of several documents in like form, each signed by one or more requisitionists.
 - (b) If the Directors of the Company do not proceed to convene a meeting within 21 days from the date of the requisition being so deposited, the requisitionists, or a majority of them in value, may themselves convene the meeting, but any meeting so convened shall not be held after 3 months from the date of deposit.
 - (c) Any meeting convened by the requisitionists as aforesaid shall be convened in the same manner as nearly as possible as that in which meetings are to be called by the Directors.

- (d) A requisition by joint holder of Shares shall be signed by all such holders.

PROCEEDINGS AT GENERAL MEETINGS

48. At least twenty-one days' notice (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 day and the hour of meeting and, in case of special business, the general nature of that business, shall be given in manner provided by the Ordinance, to such persons as are, under the Ordinance or the regulations of the Company, entitled to receive such notice from the Company.
49. The accidental omission to give any such notice to or the non-receipt of notice by any of the members shall not invalidate the proceedings at any such meetings.
50. The business of any ordinary meeting shall be to receive and consider the financial statements including profit and loss account, the balance sheet and Report of the Directors, and of the Auditors; to elect Directors, to appoint Auditors, and other officers in place of those retiring; to declare dividends and to transact any other business which under these presents ought to be transacted at any ordinary General meeting and any business which is brought under consideration by the report of the Directors issued with the notice for convening the meeting. All other business transacted at an ordinary meeting and all business transacted at an extraordinary meeting shall be deemed special.
51. For all purposes the quorum for a General Meeting shall be two members present personally who represent not less than twenty five percent of the total voting power, either on their own account or as proxies.
52. No business shall be transacted at any general meeting unless the quorum requisite shall be present at the time when the meeting proceeds to business.
53. If within half an hour from the time appointed for the meeting the requisite quorum be not present at the meeting, if called upon the requisition of Share holders, 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 as was appointed for holding the General Meeting 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 not being less than two shall be a quorum and they may transact the business for which the meeting was called.
54. The Chairman, if any, of the Board of Directors shall preside as Chairman at every general meeting of the Company.
55. If there be no such Chairman or if at any meeting he shall not be present within 15 minutes after the time appointed for holding such meeting, or is unwilling to act as Chairman the Members present shall choose one of the Directors present, or if no Director is present or if he is unwilling to act as Chairman, then the Members present shall choose one of the Members entitled to vote, to be the Chairman of the meeting.
56. The Chairman, may, with the consent of any meeting at which quorum is present (and shall, if so directed by the meeting) adjourn the meeting from time to time and from place to place 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 10 days or more notice 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.

57. Except where otherwise provided by the Ordinance, or by these presents, every question is to be decided by any General Meeting shall be, in the first instance decided by a show of hands and a poll. The Chairman shall have a casting vote in addition to the vote or votes to which he may be entitled as a Member, provided always that the election and removal of Directors shall take place in accordance with the provisions of the Ordinance.
58. Subject to the provisions of the preceding Article, at any General Meeting, resolutions put to the vote of the Members shall be decided on the show of hands unless a poll is (before or on the declaration of the results of the show of hands) demanded by the Chairman or by at least two members present in person or by proxy or by any Members holding not less than 1/10th of the issued capital which carries voting rights, and unless poll is so demanded a declaration, by the Chairman that a resolution has, on a show of hands been carried unanimously or by a particular majority or lost, and an entry to that effect in the book of the proceedings of the company shall be conclusive of the fact, without proof of the number or proportion of the votes recorded in favour of or against the resolution.
59. If a poll is demanded as aforesaid it shall be taken in such manner and at such time and place as the Chairman of the meeting directs and either at once or after an interval or an adjournment or otherwise, and the result of the poll shall be deemed to be the resolution of the meeting at which the poll was demanded. The demand of a poll may be withdrawn. In case of any dispute as to the admission or rejection of a vote the Chairman shall determine the same and such determination shall be final and binding.
60. Any poll duly demanded on the election of a Chairman of meeting or any question of adjournment shall be taken at the meeting forthwith. A poll demanded on any other questions shall be taken at such time not more than fourteen days from the day on which it is demanded as the Chairman of the meeting directs.
61. The demand of a poll shall not prevent the continuance of a meeting for the transaction of any business other than the question on which a poll has been demanded.

VOTES OF MEMBERS

62. On a show of hands every Member present in person shall have one vote, and upon a poll every Member present in person or by proxy shall have one vote for every share held by him. Provided always that for purposes of election of Directors every member shall have such number of votes as is equal to the product of the number of voting shares held by him and the number of Directors to be elected.
63. No member not personally present shall be entitled to vote on a show of hands, unless such Member is a corporation present by a proxy or a company present by a representative duly authorized under Section 162(1) of the Ordinance in which case such proxy or representative may vote on the show of hands as if he was a Member of the Company.
64. If any Member is deemed to be lacking sufficient mental capacity, the vote in respect of his Share or Shares shall be by his committee or other legal guardian, provided that such evidence of the authority of the person claiming to vote as shall be accepted by the Directors shall have been deposited at the Office not later than forty eight hours before the time of holding a meeting.

65. Any person entitled under the Transmission Clause to transfer any Share may vote at any general meeting in respect thereof in the same manner as if he were the registered holder of such shares, provided that at least 48 hours before the time of holding the meeting or adjourned meeting as the case may be, at which he proposes to vote, he shall satisfy the Directors of his right to transfer such shares unless the Directors shall have previously admitted him to vote at such meeting in respect thereof.
66. Where there are joint registered holders of any Share, any one of such persons may vote at any meeting either personally or by proxy in respect of such Share as if they were solely entitled thereto and if more than one of such joint-holders be present at any meeting personally or by proxy then one of the said persons so present whose name stands first on the register in respect of such share shall alone be entitled to vote in respect thereof. Several executors or administrators of a deceased member in whose sole name any shares stand shall for the purpose of this clause be deemed joint holders thereof.
67. On a poll, votes may be given either personally or by proxy or in the case of a company by a representative duly authorized as aforesaid.
68. The instrument appointing a proxy shall be in writing under the hand of the appointer or of his attorney duly authorized in writing or if such appointer is a corporation under its common seal certified under the hand of an officer or attorney so authorized and shall be attested by one or more witnesses. No person shall be appointed a proxy who is not a Member of the Company and qualified to vote save that a corporation being a Member of the Company may appoint as its representative one of the officers of such corporation or any other person whether a Member of the Company or not.
69. 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 of authority shall be deposited at the registered Office of the Company not less than 48 hours before the time for holding the meeting at which the person named in such instrument proposes to vote and in default instrument of proxy shall not be treated as valid.
70. A proxy need not be a Member at the time of the appointment but he must be a member and qualified to vote as such at the time of his being present at any meeting or tendering his vote as proxy.
71. Subject to the provisions of Sub-Section (4) of section 161 of the Ordinance an instrument appointing a proxy may be in the following form, or in any other form which the Directors shall approve:

FATIMA TRANSMISSION COMPANY LIMITED

I _____ of _____ in the district of _____ being a member of the Company and a holder of _____ shares hereby appoint _____ of _____ failing him _____ of _____ in the district of _____ as my proxy to vote for me and on my behalf at the (Ordinary or Extraordinary, as the case may be) General Meeting of the Company to be held on the _____ day of _____ and at any adjournment thereof.

Signed this _____ day of _____

Signature _____

72. 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 the 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 the Office before the commencement of the meeting or adjourned meeting at which the proxy is used.
73. Subject to the provisions of sub-section (8) of Section 161 of the Ordinance no objection shall be made to the validity of any vote except at the meeting or the poll at which such vote shall be tendered, and every vote whether given personally or by any means hereby authorized and not disallowed at such meeting or poll, shall be deemed valid for all purposes of such meeting or poll whatsoever.
74. The Chairman of any meeting shall be the sole judge of the validity of every vote tendered at such meeting. The Chairman present at the taking of a poll shall be the sole judge of the validity of every vote tendered at such poll.

DIRECTORS

75. Unless otherwise determined by the company in General Meeting the number of Directors shall be three as required by section(s) 174 and 178 of the Ordinance.
76. The Directors shall, subject to Article 78, fix the number of directors to be elected not later than thirty-five days before the convening of the General Meeting at which directors are to be elected and the number so fixed shall not be changed except with the prior approval of a General Meeting of the Company.
77. The following will be the first Directors of the Company who shall, unless they earlier resign or otherwise cease to be Directors, hold office till the first Annual General Meeting:
 1. Mr. Fawad Ahmed Mukhtar
 2. Mr. Fazal Ahmed Sheikh; and
 3. Mr. Rehman Naseem
78. The Directors shall unless the number of persons who offer themselves to be elected is not more than the number of directors fixed under Article 79, be elected by the Members of the Company in General Meeting in the following manner namely:-
 - (a) Each Member shall have such number of votes as is equal to the product of the number of voting Shares held by him and the number of Directors to be elected.
 - (b) a Member may give all his votes to a single candidate or divide them between more than one of the candidates in such manner as he may choose; and
 - (c) the candidate who gets the highest number of votes shall be declared elected as Director, then the candidate who gets the next highest number shall be so declared and so on until the total number of Directors to be elected have been so elected.

79. Any person who seeks election to the office of Director shall, whether he is a retiring Director or otherwise, file with the Company not later than fourteen days before the meeting at which elections are to be held, a notice of his intention to offer himself for election as a Director. However, any such person may at any time before the holding of election withdraw such a notice.
80. The Directors may subject to the provisions of sections 198 to 200 appoint any person including an elected Director to be chief executive of the Company.

The remuneration of a chief executive shall from time to time be fixed by the Directors and may be by way of salary or commission or participation in profits or by any or all of these modes, within such limits as may be prescribed by any law or regulation for the time being in force.

Subject to the provision of the Ordinance the Directors may from time to time entrust to and confer upon a chief executive for the time being such of the powers exercisable under these presents by the Directors as they think fit and may confer such powers for such time and to be exercised for such objects and purposes and upon such terms and conditions and with such restrictions as they think expedient, and they may confer such powers either collaterally with or to the exclusion of, and in substitution for all or any of the powers of the Directors in this behalf and may from time to time revoke, withdraw, alter or vary all or any of such powers.

81. The qualification of a Director shall be his holding one share of the Company in case of individuals. There shall be no qualification share in the case of any Director appointed as representative of the Government or other autonomous bodies/limited companies so long as he continues to act as the authorized representative of the Government or other autonomous bodies/limited companies.
82. The remuneration of a Director, unless otherwise determined in a General Meeting shall be Rs.1,000- as meeting fee attended by him. The payment of daily allowance and actual traveling expenses shall be restricted only to the Directors coming from outstations solely for the purpose of attending the meeting of the Board of Directors.
83. The remuneration of a Director for performing extra services shall be determined by the directors, from time to time.
84. The Directors shall have powers at any one time or from time to time to appoint a person as a Director to fill up casual vacancy and the Director so appointed shall hold office for the remainder of the term of the Director in whose place he is appointed.
85. The Directors may act notwithstanding any vacancy in their number, but so that if the number falls below the minimum number fixed, the Directors shall not except for the purpose of filling up vacancies, act as long as the number is below the minimum and they may so act notwithstanding the absence of a necessary quorum under the provisions of these presents.
86. Each Director shall have power to nominate any other Director or any person approved for that purpose by a Resolution of the Board to act as an Alternate Director in his place during his absence for a period of not less than three months from Pakistan and at his discretion to revoke such nomination, and on such appointment being made, each

alternate Director, whilst so acting, shall exercise and discharge all the functions, powers and duties and undertake all liabilities and obligations of the Directors he represents, but shall not be entitled to receive any remuneration from the Company. A nomination as an alternate Director shall *ipso facto* be revoked if the appointer returns to Pakistan or ceases for any reason to be Director.

87. With consent of a majority of the Directors present at a Board meeting and entitled to vote on the Resolution, a Director may enter into any contract for the sale, purchase or supply of goods and materials or for rendering services with the Company.
88. Every Director who is directly or indirectly concerned or interested in any contract or arrangement entered into by or on behalf of the Company shall disclose the nature of his interest in the manner laid down in sub section (2) of section 214 of the Ordinance provided that a general notice that a Director is a Director or a Member of any specified company or firm and is to be regarded as interested in any subsequent transaction with such company or firm shall, as regards any such transaction, be sufficient disclosure within the meaning of this Article until the end of the financial year of the Company in which it was given and after such general notice it shall not be necessary to give any special notice relating to any particular transaction with such company or firm.
89. A register shall be kept by the Company in which shall be entered particulars of all contracts or arrangements to which section 219 of the Ordinance applies.
90. Subject to the provisions of the Ordinance no Director shall be disqualified by his office from contracting with the Company either as vendor, purchaser, agent broker or otherwise, nor, shall any such contract or any contract arrangement entered into by or on behalf of the Company in which any Director shall be in any way interested, be voided nor shall any Director so contracting or being so interested be liable to account to the company for any profit realized by any such contract or arrangement by reason of such Director holding that office, or of the fiduciary relation thereby established, provided that he declares his interest and it shall be the duty of every Director who shall be so interested or who shall be in any way, whether directly or indirectly interested in a proposed contract with the Company, to declare the nature of his interest at the meeting of the Directors at which the question of entering into the contract or arrangement is first taken into consideration, or if he was not at the date of that meeting interested in the proposed contract or arrangement at the next meeting of the Directors held after he became so interested and in a case where a Director becomes interested in a contract or arrangement after it is made the said declaration shall be made at the first meeting of the Directors held after he becomes so interested. Provided that no Directors shall as a Director, vote in respect of any contract or arrangement in which he is so interested as aforesaid, and if he does so vote, his vote shall not be counted, but this prohibition as to voting shall be subject to the provisions of sub section (2) of Section 216 of the Ordinance. A general notice in writing given to the Directors by a Director to the effect that he is a member or employee of any specified company or firm, and is to be regarded as interested in any contract or arrangement which may after the date of the notice be made with such company or firm shall be deemed to be a sufficient declaration of interest in relation to any contract or arrangement so made, until the end of the financial year in which it was given, but it may be revised if necessary in the manner provided in subsection (4) of Section 214 of the Ordinance.

91. A Director of the Company may be, or become a Director of any company promoted by this company or in which he may be interested as a vendor, member or otherwise, and no such Director shall be accountable for any benefits received as Director or member of such company.
92. The provisions of election, removal and retirement etc, contained in these presents shall not apply to Directors representing special interests as provided in Section 183 of the Ordinance.

DISQUALIFICATIONS OF A DIRECTOR

93. The office of a Director shall be vacated if:-
- (a) he fails to obtain within the time specified or at any time thereafter ceases to hold the share qualifications, if any, necessary for his appointment; or
 - (b) he is found to be of unsound mind by a Court of competent jurisdiction; or
 - (c) he is adjudged as an insolvent or suspends payment or compounds with his creditors; or
 - (d) he absents himself from three consecutive meetings of the Directors or from all meetings of the Directors for a continuous period of three months whichever is the longer, without leave of absence from the Board of Directors; or
 - (e) he acts in contravention of Section 188 of the Ordinance; or
 - (f) he resigns office by notice in writing addressed to the Company or to the Directors; or
 - (g) he is removed from office in the manner laid down in Section 181 of the Ordinance; or
 - (h) he or any firm of which he is a partner or any private company of which he is a director without the sanction of the Company in a General Meeting accepts or holds any office of profit under the Company other than that of a managing director or manager or a legal or technical adviser or a banker; or
 - (i) he or any firm of which he is a partner or any private company of which he is a director accepts a loan or guarantee from the Company in contravention of section 195 of the Ordinance; or
 - (j) he or any firm of which he is a partner of such firm or a private company of which he is a member or director without the sanction of the Directors by way of a resolution passed at their meeting enters into any contract with the Company for the sale, purchase or supply of goods or for rendering services; or
 - (k) he has been convicted of any offence involving moral turpitude; or
 - (l) he becomes liable to vacate his office under any of the provisions of the Ordinance.

PROCEEDINGS OF DIRECTORS

94. The Directors may meet together for the dispatch of business, adjourn, and otherwise regulate their meetings, as they think fit, provided that they shall meet at least twice in a year. A Director may, and the Secretary on the requisition of a Director shall, at any time, summon a meeting of Directors. A meeting of the Directors shall be called by not less

than seven days' notice (exclusive of the day on which it is served or deemed to be served and of the day on which it is given) given in the manner provided in these regulations and setting out the specific nature of the business to be transacted, to all Directors and Alternate Directors of the Company.

95. The Directors may at any time and shall upon the request of a Director convene a meeting of the Directors. A meeting of the Directors may be held in person or via videoconferencing or via telephonic or other conferencing, with the Directors being present in different locations, cities or countries.
96. The quorum necessary for the transaction of the business of Directors shall be two, or one third of the Directors, whichever is greater.
97. Questions arising at any meeting shall be decided by a majority of votes, and in case of an equality of votes, the Chairman shall have a second or casting vote.
98. The Chairman of the Board of Directors shall preside at the meetings of the Board, and if, at any meeting the Chairman is not present within fifteen minutes after the time appointed for holding the same, the Directors present may choose one of their members to be the Chairman of the meeting.
99. The Directors may delegate any of their powers not required to be exercised in their meeting to committees consisting of such member or members of their body as they think fit. The meetings and proceedings for any such Committee shall be governed by the provisions herein contained for regulating the meetings and proceedings of the Directors so far as the same are applicable thereto.
100. Subject to the provisions of section 196, a resolution in writing circulated through telex, telegram, facsimile or any other form of Electronic transmission to all of the Directors for the time being entitled to receive notice of a meeting of the Directors, and signed or affirmed by a majority through telex, telegram, facsimile or any other form of Electronic transmission, shall be as valid and effectual as if it had been passed at a meeting of the Directors duly convened and held.

The resolution in writing of the Company may consist of:

- a) several copies of a document signed by one or more Director(s), which takes effect at the date and time on which the last Director, necessary for the resolution to be passed, signs a copy of the resolution; or
 - b) a record of several signed Electronic messages each indicating the identity of the sender, the text of the resolution and the sender's agreement or disagreement to the resolution, as the case may be, which takes effect on the date on which the last Director's message, necessary for the resolution to be passed, is received.
101. All acts done by any meeting of the Directors or by any person acting as a Director shall, notwithstanding that it shall afterwards be discovered that there was some defect in the appointment of such Directors or persons acting, as aforesaid, 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, provided that nothing in this Articles shall be deemed to give validity to act done by a Director after the appointment of such Director has been shown to be invalid.

102. The Directors shall cause minutes to be duly entered in the book or books provided for such purpose and particularly:-
- (a) the names of the Directors present at each meeting of Directors, and at any meeting of the Committee of Directors;
 - (b) all orders made by the Directors and/or Committee of Directors; and
 - (c) all resolutions and proceedings of General Meetings and of meetings of the Directors and Committees.
103. All minutes shall be signed by the Chairman of the meeting at which the same were recorded or in case of inability of the Chairman to sign the same, by the person who shall preside as Chairman at the next ensuing meeting, and all minutes purporting to be so signed shall, for all purposes whatsoever, be *prima facie* evidence of the actual passing of the resolutions recorded and all matters stated therein and the actual regular transaction or occurrence of the proceedings so recorded and of the regularity of the meeting at which the same had taken place.
104. Any Director not present at a meeting shall receive a copy of the minutes of such meeting.

RETIREMENT ELECTION AND REMOVAL OF DIRECTORS

105. All the Directors including the Chief Executive shall hold office for a period of three years unless he earlier resigns, becomes disqualified for being a Director or otherwise ceases to hold office, provided always that the Chief Executive and all the Directors shall continue to exercise the functions of their respective offices until the Ordinary General Meeting in that year at which their places are filled up by the election in accordance with the preceding Article.
106. A Director may resign from his office upon giving one month's notice in writing to the company of his intention to do so and such resignation shall take effect upon the expiration of such notice or its earlier acceptance.
107. A retiring Director shall be eligible for re-election.
108. The Company may by resolution in General Meeting remove a Director in the manner prescribed under Section 181 of the Ordinance.
109. Without prejudice to the general powers conferred by these Articles on the Directors, it is hereby expressly declared that the Directors shall have the following powers:
- (a) To reimburse the cost, charges and expenses preliminary and incidental to the promotion, establishment and registration of the Company.
 - (b) to purchase or otherwise acquire for the Company any property, rights or privileges, which the Company is authorized to acquire at such price and generally on such terms and conditions as they think fit, and subject to the provisions of Section 196(3) of the Ordinance to sell, let, exchange or otherwise dispose of absolutely or conditionally any part of the property, privileges and undertakings of the Company upon such terms and conditions, and for such consideration as they may think fit.
 - (c) At their discretion to pay for any property, rights, privileges acquired by or services rendered to the Company either wholly or partially in cash or in shares

(Subject to applicable law) bonds, debentures, PTC's or other securities of the Company and any such shares may be issued either as fully paid up and with such amount credited as paid up thereon as may be agreed upon.

- (d) To secure the fulfillment of any contracts, agreements, or engagements entered into by the Company by mortgage or charge of all or any of the property of the Company and its unpaid capital for the time being or such other manner as they may think fit.
- (e) To appoint at their discretion, remove or suspend agents, managers, secretaries, officers, clerks and servants from permanent, temporary or special services as they may from time to time, think fit, and to determine their powers and duties and fix their salaries or emoluments and to require security in such instances and of such amount as they think fit.
- (f) Subject to the provision of Section 196(3)(b) of the Ordinance, to institute, conduct, defend, compound or abandon any legal proceedings by or against the Company and also to compound and allow time for payment or satisfaction of any debts due and of any claims or demands by or against the Company.
- (g) To refer any claims or demands against the Company to arbitration and observe and perform the awards.
- (h) To make and give receipts, release and other discharges for money payable to the Company and for the claims and demands of the Company.
- (i) To determine who shall be entitled to sign on the Company's behalf such things as bills, notes, receipts, acceptances, endorsements, cheques releases, contracts and documents.
- (j) To open current, deposit and cash credit accounts with any Bank as may be necessary and to pay into and to draw out money from such accounts.
- (k) To make draw, endorse, sign, accept, negotiate and give all cheques, bills of lading, drafts, orders, bills of exchange, PTC's, Musharika Certificates, Term Finance Certificates, Government of Pakistan Securities and other Promissory notes and other negotiable instruments required in the business of the Company.
- (l) From time to time, provide for the management of the affairs of the Company either in different parts of Pakistan or elsewhere in such manner as they think fit, and, in particular to establish branch offices and to appoint any person to be attorneys or agents of the Company with such powers (including power to sub-delegated) and upon such terms as they think fit.
- (m) To borrow or secure the payment of any sum or sums of money for the purpose of the Company's business from any persons, firms or companies (expressly including any member of the Company) and may themselves lend any such sum or sums.
- (n) Subject to the provision of Section 208 and 209 of the Ordinance, to invest and deal with any of the moneys of the Company not immediately required for the purposes thereof upon such securities (not being shared in this Company) in such manner as they think fit, and from time to time to vary or realize such investments.

- (o) To give to any person employed by the Company as remuneration for his services such commission on the profits of any particular business or transaction or a share in the general profit of the Company and such commission or share of profit shall be treated as part of the working expenses of the Company.
- (p) From time to time to make, vary, and repeal bye-laws for the regulation of the business of the Company, its officers and servants.
- (q) To enter into all such negotiations and contracts and rescind and vary all such contracts and execute and do all such acts, deeds and things in the name and on behalf of the Company as they may consider expedient for or in relation to any of the matters aforesaid or otherwise for the purpose of the Company.
- (r) To establish maintain, support and subscribe to any charitable or public object and any institution, society or club which may be for the benefit of the Company or its employee, or otherwise, or may be connected with any town or place, where the Company carries on business, to give, pension, gratuities or charitable aid to any person or persons, who have served the Company, or to the wives, children or dependents of such person or persons, that may appear to the Directors just or proper whether any such person, his widow, children or dependents have or have not a legal claim against the Company.
- (s) Subject to the provisions of Section 227 of the Ordinance, before recommending any dividends, to set aside portion of the profits of the Company, to form or supplement a fund to provide for such pension, gratuities or compensation, or to create or supplement any provident benefit fund in such manner as the Directors may deem fit.
- (t) To buy, sell, import or procure the supply of all plant, machinery, materials, stores, stock-in-trade and immovable property and things required for the purpose of the Company.
- (u) To enter into, carry out, rescind or vary all financial arrangements with any bank, person or corporation or in connection with such arrangements to deposit, pledge, hypothecate any property of the Company or the documents representing or relating to the same.
- (v) To insure any moveable or immovable property of the Company.
- (w) To make advances, deposits or loan of any money of the Company to such persons upon such security or without security as they may think fit and generally to direct, manage and control the moneys and funds of the Company and the keeping of accounts of the Company.
- (x) To institute file, prosecute and defend any suit, appeal, revision, review or any other legal proceedings and appear for and on behalf of the Company in any court of Justice, Civil, Criminal or Revenue, before any executive, judicial, municipal, provincial, revenue, police, postal, excise, transport, income tax, or other officers in any action or proceedings or matters in which the Company is interested and to promote and to safeguard or defend its interest.
- (y) To appoint any person or persons to be attorney or attorneys of the Company for such purposes and with such powers, authorities and discretions and for such

periods and subject to such conditions as they may from time to time think fit and to revoke such powers at pleasure.

MANAGEMENT

110. The whole business and undertaking of the Company shall be under the supervision and control of the Board of Directors.

THE SEAL

111. (a) The Directors shall provide a common seal for the purposes of the Company and shall have powers from time to time to destroy the same and substitute a new seal in lieu thereof and the directors shall provide for the safe custody of the seal which shall not be affixed to any instrument except by the authority of a resolution of the Directors or by a committee of Directors authorized in that behalf by the Directors, and such person as may be authorized by the Directors for the purpose, shall sign every instrument to which the common seal of the Company is so affixed in their presence.

(b) 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 official seal shall not be affixed to any instrument except by the authority of a resolution of the Directors or by a committee of Directors authorized in that behalf by the Directors, and such person as may be authorized by the Directors for the purpose, shall sign every instrument to which the official seal is affixed. The provisions of section 213 shall apply to the use of the official seal.

DIVIDENDS

112. The Company in a General Meeting may declare a dividend to be paid to the Members according to their rights and interest in the profits and may fix a time for payment but no dividend shall exceed the amount recommended by the Directors.
113. No dividends shall be payable otherwise than out of the profits of the Company of the year or period for which the dividend is proposed to be given or any other undistributed profits of the Company and no dividends shall carry interest as against the Company.
114. The Directors may, before recommending any dividend, set aside out of the profits 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 any other purpose to which the profits of the Company may be properly applied.

BOOKS AND DOCUMENTS

115. The Directors shall cause to be kept proper books of account with respect to:-
- (a) all sums of money received and expended by the Company and the matters in respect of which the receipts and expenditure take place;
 - (b) all sales and purchases of goods by the Company;
 - (c) the assets and liabilities of the Company.

116. The books of account shall be kept at the Office or at such other place at the Directors shall think fit and shall be open to inspection by the Directors during business hours.
117. Directors shall from time to time, determine, whether to what extent at what times and places and under what condition or regulations, the accounts and books of the Company, or any of them shall be open to the inspection of Members not being a Director, and no member (not being a Director) shall have any right of inspecting any account book or document of the Company except as conferred by laws or as authorized by the Directors or by the Company in general meeting.

ACCOUNTS

118. The Directors shall as required by Section 233 & 236 of the Ordinance cause to be prepared and to be laid before the Company in general meeting such profit and loss accounts, balance sheets and reports as are referred to in the said sections.
119. A balance sheet shall be made out in every year and laid before the Company in General Meeting made up to a date not more than four months before such meeting, subject to the right of the Registrar to extend the period under Section 233 of the Ordinance. The balance sheet shall be accompanied by a report of the Directors as to the state of the Company's affairs and the amount, which they recommend to be paid by way of dividend, and amount, if any, which, they propose to, carry to reserve fund, and other matters required under Section 236 of the Ordinance.
120. The Directors shall in all respects comply with such of the provisions of Section 230 to 247 of the Ordinance, or any statutory modifications thereof for the time being in force as may be applicable.

AUDIT

121. Auditors shall be appointed and their duties regulated in accordance with Section 252 to 255 of the Ordinance, or any statutory modification thereof for the time being in force.

NOTICES

122. A notice may be given by the Company to any Member either personally or by post to his registered address or (if he has no registered address in Pakistan) to the address, if any, within Pakistan supplied by him to the Company for giving notices to him.
123. Where a notice is sent by post, service of the notice shall be deemed to be effected upon properly addressing, prepaying, and posting a letter containing the notice and unless the contrary is proved, to have been effected at the time at which the letter would be delivered in the ordinary course of post.
124. If a member has no registered address in Pakistan and has not supplied to the Company an address in Pakistan for giving of notice to him, a notice addressed to him and advertised in a newspaper circulating in the neighborhood of the Office shall be deemed to be duly given to him on the day on which the advertisement appears.
125. A notice may be given by the Company to the joint holders of Shares by giving the notice to the joint holder named first in the register in respect of the Shares and a notice so given shall be sufficient notice to all the holders of such Shares.
126. A notice may be given by the Company to the person entitled to a Share in consequence of the death or insolvency of a Member by sending it through the post in a prepaid letter

addressed to him by name or by the title of representative of the deceased person or the assignee of the insolvent or by any like description, at the address, if any, in Pakistan supplied for the purpose by the person claiming to be so entitled, or (until such an address had been so supplied) by giving the same as if the death or insolvency has not occurred.

127. Notice of every General Meeting shall be given in the same manner as hereinbefore authorized to (a) every Member of the Company except those Members who (having no registered address within Pakistan) have not supplied any address within Pakistan for the giving of notices to them and also to (b) every person entitled to Shares in consequence of the death or insolvency of a Member, who, but for this death or insolvency, would be entitled to receive notice of the meeting.
128. Any notice given by advertisement shall be deemed to have been given on the day which the advertisement shall first appear.
129. Every person who, by operation of law, transfer, or any other means whatsoever shall become entitled to any Share, shall be bound by every notice in respect of such Share which prior to his name and address being entered on the register shall be duly given to the person from whom he derives his title to such Share.
130. Any notice or document delivered or sent by post or left at the registered address of any Member in pursuance of these presents, shall notwithstanding that such Member by then be dead and whether or not the Company has notice of his death, be deemed to have been duly served in respect of any registered Share, whether held solely or jointly with other persons by such Member until some other person be registered in his stead as the holder or joint holder thereof and such service shall for the purpose of these presents, be deemed a sufficient service of such notice or document on his heirs, executors or administrators, and on all persons if any, jointly interested with him in any such Share.
131. Any notice to be given by the Company shall be signed by such officer as the Directors may appoint and the signature thereto may be written, typed, printed or lithographed.

SECRECY

132. Every Director, Chief Executive or Auditor, Trustee, member of a Committee, officer, servant, agent, accountant or other person employed in the business of the Company shall, if so required by the Director before entering upon his duties, sign, a declaration pledging himself to observe a strict secrecy respecting all transactions of the Company, with its customers and the state of accounts with individuals and in matters relating thereto, and shall by such declaration pledge himself not to reveal any of the matters which may come to his knowledge in the discharge of his duties except when required so to do by Directors or by any meeting or by a court of law and except so far as may be necessary in order to comply with any of the provisions in these presents.

WINDING UP

133. If the Company shall be wound up and the assets available for distributing among the Members as such shall be insufficient to repay the whole of the paid up capital, such assets shall be distributed so that as nearly as may be, the losses shall be borne by the Members in proportion to their shareholding, and if in a winding up the assets available for distribution among the Members shall be more than sufficient to repay the whole of

the paid-up capital at the commencement of the winding up, the excess amount shall be distributed amongst the Members in proportion to their shareholding in the Company.

134. If the Company shall be wound up whether voluntarily or otherwise the Liquidator may with the sanction of a Special Resolution divide among the Members in specie or in kind any part of the assets of the Company, and may with the like sanction rest any part of the Company, in trustees upon such terms for the benefit of the Members or any of them as the Liquidator with the like sanction shall think fit.

INDEMNITY

135. Every Director, manager, or officer of the Company or any person employed by the Company as Auditor shall be indemnified out of the funds of the Company against all liability incurred by him as such Director, manager, officer or auditor in defending any proceedings, whether civil or criminal in which judgment is given in his favour, or in which he is acquitted, or in connection with any application under Section 188 of the Ordinance in which relief is granted to him by the Court.

ARBITRATION

136. Whenever any difference arises between the Company on the one hand and any of the Members, their executors, administrator and assigns on the other hand touching the true intent or construction or the incidents or consequence of these presents or of the statutes or anything then or thereafter done, executed, omitted or suffered in pursuance of these presents, or any of the statutes, or touching any breach or alleged breach of these presents or any claim on account of any such breach, or statute affecting the Company, every such difference, shall as a condition present to any other action at law, be referred in conformity with the Arbitration Act 1940 or any statutory modification thereof or any rules made there under to the decision of an Arbitrator to be appointed by the parties in difference, 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 difference or in the event of the two arbitrators not agreeing thereto, an umpire to be appointed by the two arbitrators in writing before proceeding on the reference and such decision shall be final and binding on the parties.

We, the several persons whose names and addresses are subscribed below, desire to form 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 before our respective names:

Name & Surname (Present & Former) in Full (In Block Letters)	Father's Name in Full	Nationality With any Former Nationality	Occupation	Residential Address	No. of Shares taken by each Subscriber	Signature of subscribers
Fawad Ahmed Mukhtar NIC: 36302-2741274-7	Mian Mukhtar Ahmed Sheikh	Pakistani	Business	43-A Qasim Road, Multan Cantt.	1 One	
Fazal Ahmed Sheikh NIC: 36302-0543241-9	Mian Mukhtar Ahmed Sheikh	Pakistani	Business	43-A Qasim Road, Multan Cantt.	1 One	
Rehman Naseem NIC: 36302-5348796-1	Sheikh Naseem Ahmed	Pakistani	Business	59-C, Abdali Road, Multan.	1 One	

TOTAL 3 (Three)

Dated: The 29th day of December 2014.

Witness to above signatures:

Signatures

Name: National Institutional Facilitation Technologies Pvt. Ltd.

Father's name

NIC No.

Occupation:

Address: 5th Floor, AWT Plaza

I.I. Chundrigar Road, Karachi.

FORM 1

THE COMPANIES ORDINANCE, 1984
[SECTION 30(2) and rule 4]

DECLARATION OF APPLICANT FOR INCORPORATION

1 Name of the Company	FATIMA TRANSMISSION COMPANY LIMITED		
2 Presented By	Mr Fazal Ahmed Sheikh		
3 Fee Paid (Rs)	600.00	Name & Branch of the Bank	LAHORE MCB - Cavallary Ground [1508]
4 Receipt No	E-2014-291162	Date (DD/MM/YYYY)	26/12/2014
5 Declarant's Name & Designation	Mr Fazal Ahmed Sheikh[Director of the proposed company]		
6 Declarant's Father Name	Mr Mian Mukhtar Ahmed Sheikh		
7 Profession/Designation	Director of the proposed company		
8 Declaration	<p>I do hereby solemnly and sincerely declare that:</p> <p>a) I am the above named declarant;</p> <p>b) all the requirements of the Companies Ordinance, 1984, and the rules made there under in respect of matters precedent to the registration of the said Company and incidental thereto have been complied with and</p> <p>c) I make this solemn declaration consciently believing same to be true</p>		
9 Signature of Declarant			
10 N.I.C No. of Declarant	35302-0543241-9		
11 Signature of Witness			
12 Name and Father's Name of Witness	National Institutional Facilitation Technologies (Pvt) Ltd		
13 N.I.C No. of the witness			
14 Address of the witness	5th Floor AWT Plaza I. I. Chundrigar Road Karachi		
15 Date (DD/MM/YYYY)	26/12/2014		

FORM 21

THE COMPANIES ORDINANCE, 1984
[SECTION 142]

NOTICE OF SITUATION OF REGISTERED OFFICE OR ANY CHANGE THEREIN

1. Incorporation Number		
2. Name of the Company	FATIMA TRANSMISSION COMPANY LIMITED	
3. Fee Paid (Rs.)	600.00	Name & Branch of the Bank LAHORE, MCB - Cavalary Ground [1508]
4. Receipt No.	E-2014-291162	
5. The situation of registered office of the company was changed from (previous address)		
6. The Registered Office of the company is now situated at	E-110 KHAYABAN E JINNAH LAHORE CANTT LAHORE Punjab 54000	
6.1. Telephone Nos	35909576, 03334034503	
6.2. Fax No. if any	04236621389	
6.3. Email Address	anil.zia@fatima-group.com	
7. With Effect from (date)	Since Incorporation	
8. Signature of Chief Executive/Secretary		
9. Name of Signatory	FAZAL AHMED SHEIKH	
10. Designation	Director	
11. NIC Number of Signatory	36302-0543241-9	
12. Date (DD/MM/YYYY)	26/12/2014	

[illegible]

10. Date {DD/MM/YYYY}

28/12/2014

THE COMPANIES ORDINANCE, 1984
[SECTION 184]

FORM 27

1. Incorporation Number

2. Name of the Company

FATIMA TRANSMISSION COMPANY LIMITED

3. Fee Paid (Rs.)

600.00

Name & Branch of the Bank

LAHORE, MCB - Cavalry Ground (1508)

4 Receipt No.

E-2014-291162

5. We, the undersigned, give you notice, pursuant to section 184(2) of the Companies Ordinance, 1984 that the following persons have consented to act as Director of the above named company: -

Name in Full

Father's/Husband's Name

Address

Occupation

NIC No. or Passport No.
 (in case of Foreign
 National)

[illegible]

Name in Full	Father's/Husband's Name	Address	Occupation	NIC No. or Passport No. (in case of Foreign National)	Signature
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[illegible]

THE COMPANIES ORDINANCE, 1984
[SECTION 184]

FORM 28

CONSENT TO ACT AS DIRECTOR/CHIEF EXECUTIVE

1. Incorporation Number

2. Name of the Company

3. Fee Paid (Rs.)

4 Receipt No

5. I/We, the undersigned, have consented to act as Director(s), Chief Executive of the above named company pursuant to section 184 of the Companies Ordinance 1984, and certify that I / We am / are not ineligible to become Director(s)/Chief Executive under section 187 or 190 of the Companies Ordinance. 1984

[illegible]

6. Signature

7 Name of Signatory

8. Designation

9. NIC Number

10 Date (DD/MM/YYYY)

PARTICULARS OF DIRECTORS AND OFFICERS, INCLUDING THE CHIEF EXECUTIVE, MANAGING AGENT, SECRETARY, CHIEF ACCOUNTANT, AUDITORS AND LEGAL ADVISERS, OR OF ANY CHANGE THEREIN

THE COMPANIES ORDINANCE, 1984

[SECTION 205]

FORM 29

1. Incorporation Number		
2. Name of Company	FATIMA TRANSMISSION COMPANY LIMITED	
3. Fee Paid (Rs.)	600.0	Name and Branch of Bank
		LAHORE, MCB - Cavalry Ground [1508]
4. Receipt No.	E-2014-291162	26/12/2014
5. Mode of Payment (Indicate)	Bank Challan	

6. Particulars:

6.1 New Appointment/Election

Present Name in Full (a)	NIC No. or Passport No. in case of Foreign National (b)	Father / Husband Name (c)	Usual Residential Address (d)	Designation (e)	Nationality** (f)	Business Occupation*** (if any) (g)	Date of Present Appointment or Change (h)	Mode of Appointment / change / any other remarks (i)
FAWAD AHMED MUKHTAR	36302-2741274-7	S/O MIAN MUKHTAR AHMED SHEIKH	43 A QASIM ROAD MULTAN CANTT MULTAN Punjab Pakistan 60000	Director	Pakistan	INDUSTRIALIST	Since Incorporation	
FAZAL AHMED SHEIKH	36302-0543241-9	S/O MIAN MUKHTAR AHMED SHEIKH	43 A QASIM ROAD MULTAN CANTT MULTAN Punjab Pakistan 60000	Director	Pakistan	INDUSTRIALIST	Since Incorporation.	
REHMAN NASEEM	36302-5348795-1	S/O SHEIKH NASEEM AHMED	59 C ABDALI ROAD MULTAN MULTAN Punjab Pakistan 60000	Director	Pakistan	INDUSTRIALIST	Since Incorporation	

6.2 Ceasing of Officer/Retirement/Resignation

Present Name in Full (a)	NIC No. or Passport No. in case of Foreign National (b)	Father / Husband Name (c)	Usual Residential Address (d)	Designation (e)	Nationality** (f)	Business Occupation*** (if any) (g)	Date of Present Appointment or Change (h)	Mode of Appointment / change / any other remarks (i)

6.3 Any other change in particulars relating to columns (a) to (g) above

Present Name in Full (a)	NIC No. or Passport No. in case of Foreign National (b)	Father / Husband Name (c)	Usual Residential Address (d)	Designation (e)	Nationality** (f)	Business Occupation*** (if any) (g)	Date of Present Appointment or Change (h)	Mode of Appointment / change / any other remarks (i)

Name of Signatory	FAZAL AHMED SHEIKH	Designation	Director
Signature of Chief Executive/Secretary		Date (DD/MM/YYYY)	26/12/2014

THE COMPANIES ORDINANCE, 1984

(COMPANY LIMITED BY SHARES)

**Memorandum of Association
of**

FATIMA TRANSMISSION COMPANY LIMITED

I. The name of the Company is "FATIMA TRANSMISSION COMPANY LIMITED".

II. The Registered Office of the Company will be situated in the Province of the Punjab.

The objects for which the Company is established are all or any of the following:-

1. To carry on in Pakistan or abroad the business of construction, ownership, management, control, operation and maintenance of distribution and transmission lines, electrical transmission facilities, electrical circuits, transformers and sub-stations, the movement and delivery of electric power, distribution and transmission activities and distribution and transmission business, interconnection services and facilities and the matters connected therewith and incidental thereto subject to permission from NEPRA/other regulatory authorities.
2. To carry on, manage, supervise and control the business of transmitting, manufacturing, supplying, generating, distributing and dealing in electricity and all forms of energy and power generated by any source including but not limited to coal, bagasse, biomass, hydel or tidal, water, wind, solar, hydrocarbon fuel or any other form, kind or description of renewable or non renewable resources. after obtaining approval from relevant authorities.
3. To carry on in Pakistan or abroad the business of establishing, commissioning, setting up, operating and maintaining electric power transmission systems/networks, power systems, generating stations based on conventional/ non-conventional resources for transmission, distribution, trading or supply of power through establishing or using stations, tie-lines, sub-stations and transmission or distribution lines in any manner including build, own and transfer (BOT), and/or build, own and operate (BOO) and/or build, own, lease and transfer (BOLT) and/or build, own, operate and transfer (BOOT) basis or otherwise and to acquire in any manner power transmission systems/networks, power systems, generation stations, tie-lines, sub-stations and transmission or distribution systems from relevant regulator including NEPRA , Distribution Companies and Transmission Companies Utilities, Generating Companies, Federal Government or Provincial Government Undertakings, Licensees, other local authorities or statutory bodies, other captive power producers, new-captive power producers, small power producers, isolated generating companies, independent distribution companies, and/or independent power producers and distributors and to do all the ancillary , related or connected activities as may be considered necessary or beneficial or desirable for or along with any or all of the aforesaid purposes which can be conveniently carried on these systems, networks or platforms after obtaining approval from relevant authorities.
4. To plan, develop, establish, erect, construct, acquire , operate, run, manage, hire, lease, buy, sell, maintain, enlarge, alter, renovate, modernize, work and use power system networks of all types including ultra-high voltage (UHV), extra-high voltage (EHV), high voltage (HV), high voltage direct current (HVDC), medium voltage (MV) and

low voltage (LV) lines and associated stations, substations, transmission and distribution centers, systems and networks and to lay cables, wires, accumulators, plants, motors, meters, apparatus, computers, telecommunication and telemetering equipment and other materials connected with generation, transmission, distribution, supply and other ancillary activities relating to the electrical power and to undertake for and on behalf of others all these activities in any manner after obtaining approval from relevant authorities.

5. To carry on all or any of the businesses of generating, 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 to perform all other acts which are necessary or incidental to the business of electricity generation, transmission, distribution and supply after obtaining approval from relevant authorities.
6. To locate, establish, construct, equip, operate, use, manage and maintain thermal power plants and coal fired power plants, power grid station, transforming, switching, conversion, and transmission facilities, grid stations, cables, overhead lines, substations, switching stations, tunnels, cable bridges, link boxes, heat pumps, plant and equipment for combined heat and power schemes, offices, computer centres, shops, dispensing machines for pre-payment cards and other devices, showrooms, depots, factories, workshops, plants, printing facilities, warehouses and other storage facilities after obtaining approval from relevant authorities.
7. To carry on all or any of the businesses of wholesalers, retailers, traders, importers, exporters, suppliers, distributors, designers, developers, manufacturers, installer, filters, testers, repairers, maintainers, contractors, constructors, operators, users, inspectors, reconditioners, improvers, alterers, protectors, removers, hirers, replacers, importers and exporters of and dealers in, electrical appliances, systems, products and services used for energy conservation, equipments, 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 generation, procurement, transformation, supply and distribution of electricity.
8. To ascertain the tariff for bulk supply 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, expansion projects, payment of taxes, and reasonable return on investment, to quote the tariff to bulk purchasers of electrical power, and to prefer petition to the appropriate authority for approval of the schedule of tariff and of adjustments or increases in its bulk supply tariff, where desirable or necessary.
9. To carry on or undertake in Pakistan and/or elsewhere the business to market, import, export, buy, sell, resale, research and to act as agent, broker, stockist, supplier, contractor, consultant, engineer, collaborator or otherwise to deal in all types of plants, machineries, equipments, components, instruments, parts, fittings, accessories, implements systems, devices used in electrical and electronics industry.
10. For the purposes of achieving the above objects, the company is authorized:-
 - i. to purchase/import raw materials and allied items required in connection thereto in any manner the company may think fit;
 - ii. to do and perform all other acts and things as are incidental or conducive to the attainment of the objects of the company;

- iii. to own, establish or have and maintain shops, branches and agencies all over Pakistan or elsewhere for sale and distribution of cables, wires, meters, pylons, tracks, rails, pipelines and any other plant, apparatus equipment, systems and things incidental to the efficient generation, procurement, transformation, supply and distribution of electricity;
 - iv. to make known and give publicity to the business and products of the company by such means as the company may think fit;
 - v. to purchase, acquire, protect, renew, improve, use and sell, whether in Pakistan or elsewhere any patent, right, invention, license, protection or concession which may appear advantageous or useful to the company for running the business;
 - vi. to pay all costs, charges and expenses, if any, incidental to the promotion, formation, registration and establishment of the company;
 - vii. to borrow and arrange the repayment of money from banks/financial institutions or any lawful sources whether in Pakistan or elsewhere and in such manner as the company may think fit, including the issue of debentures, preference shares, bonds, perpetual or otherwise charged upon the whole or any part of the company's property or assets, whether present or future, and to purchase, redeem or payoff such securities;
 - viii. to purchase, hold and get redeemed shares, debentures, bonds of any business, company, financial institution or any Government institutions but not to act as an investment company;
 - ix. to guarantee the performance of contracts, agreements, obligations or discharge of any debt of the company in relation to the payment of any financial facility including but not limited to loans, advances, letters of credit or other obligations through creation of any or all types of mortgages, charges, pledges, hypothecations, on execution of the usual banking documents or instruments or otherwise encumbrance on any or all of the movable and immovable properties of the company, either present or future or both and issuance of any other securities or sureties by any other means in favour of banks, Non-Banking Finance Companies (NBFCs) or any financial institutions and to borrow money for purpose of the company on such terms and conditions as may be considered proper.
11. To purchase or otherwise acquire, become interested in, deal in and with, invest in, hold, sell, mortgage, pledge, or otherwise dispose of, turn to account or realize, all forms of securities, including shares, bonds, debentures, notes, evidence of indebtedness, securities of any nature of form convertible into or exchangeable for other securities of any nature or form, certificates of interest, participation certificates, and certificates evidencing shares of or interest in trusts and trusts estates or associations, certificates of trust of beneficial interests in trusts, mortgages and other instruments, securities and rights but not to act as banking or investment company.
12. To apply for, obtain, register, purchase, lease or otherwise to acquire, and to hold, use, own, operate and introduce and to sell, assign or otherwise dispose of, any trade-marks, trade-names, copyrights, patents, inventions, improvements and secret processes used in connection with or secured under entry of any certificate of trade-marks or otherwise, and to use, exercise, develop and grant licenses in respect of, or otherwise turn to account any such trade-marks, copyrights, patents, licenses, processes and the like or any such property or rights, necessary or incidental thereto.

13. To construct, erect and build structures and buildings including, but without prejudice to the generality of the foregoing, factories, warehouses, workshops, offices, sheds, dwellings, stores and any other works or convenience which may seem directly or indirectly conducive to any of the objects of the Company.
14. To buy, sell, manufacture, store, repair, alter, improve, exchange, hire, import, export and deal in all factories, works, plant, machinery, tools, utensils, aircraft, vehicles, appliances, apparatus, products, materials, substances, articles and things capable of being used in any business which the Company is competent to carry on or required by any customers of or persons dealing with the Company or commonly dealt with by persons engaged in any such business or which may seem capable of being profitably dealt with in connection therewith and to manufacture, experiment with, render marketable and deal in all products of residue and by-products incidental to or obtained in any of the business carried on by the Company.
15. To sell, exchange, mortgage or let on lease or royalty all or any of the property of the Company and to grant licenses, easements, options or other rights over the same and to accept such consideration as may be thought fit for the same.
16. To construct and provide or otherwise acquire, whether by purchase, lease or otherwise, residential accommodation for persons engaged in the business of the Company.
17. To manage, improve, farm, cultivate, maintain, lease, underlet, exchange, sell or otherwise deal with and dispose of all or any part of the lands and buildings or other real property of the Company, not required for the purposes of the Company.
18. To purchase, import or otherwise deal with any raw material and machinery, from any market whether in Pakistan or any part of the world.
19. To appropriate any part or parts of the property of the Company for the purposes of, and to build and let or sell, shops, offices and other places of business.
20. To purchase or otherwise acquire and undertake the whole or any part of the business, property, assets and liabilities of any person, firm, body or company carrying on any business which the company is authorized to carry on, or possessed of property suitable for the purpose of this Company.
21. To support and subscribe to any charitable or public object, and any institution, society or club which may be for the benefit of the Company or its employees or may be connected with any town or place where the Company carries on business; to give pensions, gratuities or charitable aid to any persons who may have been Directors of or may have served the Company, or to the wives, children, or other relatives or dependents of such persons; to make payments towards insurance, and to form and contribute to provide and benefit funds for the benefit of any such persons, or of their wives, children, or other relatives or dependents.
22. To enter into any arrangement and to take all necessary or proper steps with the Government of Pakistan, and, with the approval of the Government of Pakistan, with any provincial government or foreign government or public authority, local, municipal or otherwise or with any corporation or private persons or all or any of these for the purposes of directly or indirectly carrying out the objects of the Company or effecting any modification in the constitution of the Company or furthering the interests of the Company and to oppose any such steps taken by any other authority, firm or person which the Company considers likely, directly or indirectly, to prejudice its interests, and to obtain from any such governmental or

other public authority any charters, contracts, decrees, rights, grants, loans, subsidies, privileges, concessions, indemnities, sanctions or consents as the Company may think proper.

23. To enter into partnership or into any arrangement for sharing profits, union of interest, co-operation, joint venture, reciprocal concession or amalgamation with any person or Company carrying on or engaged in , or about to carry on or engaged in any business or transaction which this Company is authorized to carry on or engaged in , or any business or transaction capable of being conducted which may, directly or indirectly, benefit this Company, and to guarantee the contracts of , or otherwise assist, any such person or company, and to take or otherwise acquire shares and securities of any such Company, and to sell, hold, re-issue with or without guarantee, or otherwise deal with the same.
24. To open bank Accounts either in local or foreign currency with any local, foreign banks and financial institutions and deposit, withdraw money from such account or accounts and accept, discount, endorse, execute or negotiate and issue cheques, promissory notes, bills of exchange, bills of lading and other negotiable instruments as required by the bank(s) and financial institutions for the benefit of business
25. To expend money in experimenting on and testing and in improving or seeking to improve any patents, rights, inventions, discoveries, processes or information of the Company or which the Company may acquire or propose to acquire.
26. To form, incorporate or promote any company or companies whether in Pakistan or in any foreign country, having amongst its or their objects the acquisition of all or any of the assets or control, management or development of the Company or any other objects or object which in the opinion of the Company could or might directly or indirectly assist the Company in the management of its business or the development of its properties or otherwise prove advantageous to the Company and to pay all or any of the costs and expenses incurred in connection with any such promotion or incorporation and to remunerate any person or company in any manner it shall think fit for services rendered or to be rendered in obtaining subscriptions for or placing or assisting to place or to obtain subscription for or for guaranteeing the subscription of or the placing of any share in the capital of the Company or any bonds, debentures, obligations or securities of any other company held or owned by the Company or in which the Company may have an interest or the promotion or formation of any other company in which the Company may have an interest subject to prior permission of the Federal Government.
27. To take or otherwise acquire and hold shares, stock, debentures, debenture-stock and other securities whether convertible into shares, to acquire and undertake the whole or any part of the shares, business, property or liabilities of any other company having objects altogether or in part similar to those of the Company or carrying on any business capable of being conducted so as directly or indirectly to benefit the Company.
28. To grant pensions, gratuity, retirement benefits, allowances and bonuses to employees (including Directors) or ex-employees of the Company including payment of premiums on life policies on employees or their dependents, to establish and operate Provident Funds for the same and to establish and support or aid any schools and any educational, scientific, literary, religious or charitable institutions or trade societies whether such societies be solely connected with the trade carried on by the Company or not, an any club or other establishment calculated to advance the interests of the Company or its employees.

29. To pay any premiums or salaries and to pay for any property rights or privilege acquired by the Company or for services rendered in connection with the promotion of the objects or the business of the Company or in connection with the acquisition of any property, rights or privileges for the Company or otherwise howsoever, either wholly or partially in cash or in shares, bonds, debentures or other securities of the Company and to issue any shares, bonds, debentures or other securities, and to charge any such bonds, debentures or any part of the property of the Company.
30. To subscribe or guarantee money for any national, charitable, benevolent, public, general or useful object or for any exhibition.
31. To aid, pecuniarily or otherwise, any association, body or movement having for an object the solution, settlement or surmounting of industrial or labour problems or troubles or the promotion of industry or trade.
32. To pay all costs, charges and expenses which the Company may lawfully pay with respect to the formation and registration of the Company.
33. To do all or any of the things herein in any part of the world either as principals, agents, trustees, contractors or otherwise, and either alone or in conjunction with others.
34. To do all and everything necessary, suitable or proper or incidental or conducive to the accomplishment of any of the purposes or the attainment of any of the objects or the furtherance of any of the powers hereinbefore set forth, either alone or in association with other corporate bodies, firms or individuals and to do every other act or thing incidental or appurtenant to or arising out of or connected with the business or powers of the Company or part thereof, provided the same be lawful.
35. To do all such other things as are incidental or conducive to the attainment of the above objectives, this general statement of objectives being deemed as enabling and not in any restrictive of the foregoing objects.
36. It is declared that notwithstanding anything contained in the foregoing object clauses of this Memorandum of Association, nothing contained therein shall be construed as empowering the company to undertake or to indulge in business of Security Services, Payment Systems, Electronic Funds Transfers in and outside Pakistan, deposit from taking from general public, network marketing and referral marketing and direct selling banking company, leasing, investment, managing agency or insurance business, any of the NBFC business, multi-level marketing (MLM), pyramid and Ponzi schemes commodity, share trading business locally or internationally, directly or indirectly as restricted under the law, or any unlawful operation.
37. Notwithstanding anything stated in any object clause, the Company shall obtain such other approval or license from the competent authority, as may be required under any law for the time being in force, to undertake a particular business.

IV. The liability of the members is limited.

V. The Authorised Capital of the Company is Rs. 1,000,000 (Rupees one million) divided into 100,000 shares of Rs.10/- each with the rights, privileges and conditions attaching thereto as are provided by the regulations of the Company for the time being, with power to enhance, reduce or consolidate the share capital and to divide the shares of the company into different classes and kinds subject to the provisions of the Companies Ordinance, 1984.

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 as set opposite our respective names:

Name & Surname (Present & Former) in Full (In Block Letters)	Father's Name in Full	Nationality With any Former Nationality	Occupation	Residential Address	No. of Shares taken by each Subscriber	Signature of subscribers
Fawad Ahmed Mukhtar NIC: 36302-2741274-7	Mian Mukhtar Ahmed Sheikh	Pakistani	Business	43-A Qasim Road, Multan Cantt.	1 One	
Fazal Ahmed Sheikh NIC: 36302-0543241-9	Mian Mukhtar Ahmed Sheikh	Pakistani	Business	43-A Qasim Road, Multan Cantt.	1 One	
Rehman Naseem NIC: 36302-5348796-1	Sheikh Naseem Ahmed	Pakistani	Business	59-C, Abdali Road, Multan.	1 One	

TOTAL 3 (Three)

Dated: The 29th day of December 2014.

Witness to above signatures:

<p>Signatures Name: National Institutional Facilitation Technologies Pvt. Ltd. Father's name NIC No. Occupation: Address: 5th Floor, AWT Plaza I.I. Chundrigar Road, Karachi.</p>

COMPANY PROFILE

1. Incorporation Number

2. Company Name

FATIMA TRANSMISSION COMPANY LIMITED

3. Company Kind

Public Limited Company

4. Company Objects

1 To carry on in Pakistan or abroad the business of construction, ownership, management, control, operation and maintenance of distribution and transmission lines, electrical transmission facilities, electrical circuits, transformers and sub- stations, the movement and delivery of electric power, distribution and transmission activities and distribution and transmission business, interconnection services and facilities and the matters connected therewith and incidental thereto

5. Sectoral Classification

--POWER GENERATION - ALLIED (OTHER)

6. Holding Company (Name)

7. Per Share Value

10.00

8. Authorized Capital

1,000,000.00

Total Shares

100,000

9. Paid Up Capital

30.00

Total Shares

3

10. Information Related to Subscribers

Name

FAWAD AHMED MUKHTAR

Address

43 A QASIM ROAD MULTAN CANTT MULTAN Punjab Pakistan 60000

NIC No. or Passport No.

36302-2741274-7

Nationality

Pakistan

Father's/Husband's Name

S/O MIAN MUKHTAR AHMED SHEIKH

No. of Shares Held

1

Incorporation Number

Company Name

Company Address

Additional Particulars

10 Information Related to Subscribers

Name	FAZAL AHMED SHEIKH
Address	43 A QASIM ROAD MULTAN CANTT MULTAN Punjab Pakistan 60000
NIC No. or Passport No	36302-0543241-9
Nationality	Pakistan
Father's/Husband's Name	S/O MIAN MUKHTAR AHMED SHEIKH
No. of Shares Held	1
Incorporation Number	
Company Name	
Company Address	

Name	REHMAN NASEEM
Address	59 C ABDALI ROAD MULTAN MULTAN Punjab Pakistan 60000
NIC No. or Passport No.	36302-5348796-1
Nationality	Pakistan
Father's/Husband's Name	S/O SHEIKH NASEEM AHMED
No. of Shares Held	1
Incorporation Number	
Company Name	
Company Address	

Name	
Address	
NIC No. or Passport No.	
Nationality	
Father's/Husband's Name	
No. of Shares Held	
Incorporation Number	
Company Name	
Company Address	

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10 Information Related to Subscribers

Name

Address

NIC No. or Passport No.

Nationality

Father's/Husband's Name

No. of Shares Held

Incorporation Number

Company Name

Company Address

Name

Address

NIC No. or Passport No.

Nationality

Father's/Husband's Name

No. of Shares Held

Incorporation Number

Company Name

Company Address

Name

Address

NIC No. or Passport No.

Nationality

Father's/Husband's Name

No. of Shares Held

Incorporation Number

Company Name

Company Address

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10 Information Related to Subscribers

Name

Address

NIC No. or Passport No.

Nationality

Father's/Husband's Name

No. of Shares Held

Incorporation Number

Company Name

Company Address

Name

Address

NIC No. or Passport No.

Nationality

Father's/Husband's Name

No. of Shares Held

Incorporation Number

Company Name

Company Address

Name

Address

NIC No. or Passport No.

Nationality

Father's/Husband's Name

No. of Shares Held

Incorporation Number

Company Name

Company Address

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10. Information Related to Subscribers

Name	<input type="text"/>
Address	<input type="text"/>
NIC No. or Passport No.	<input type="text"/>
Nationality	<input type="text"/>
Father's/Husband's Name	<input type="text"/>
No. of Shares Held	<input type="text"/>
Incorporation Number	<input type="text"/>
Company Name	<input type="text"/>
Company Address	<input type="text"/>

Name	<input type="text"/>
Address	<input type="text"/>
NIC No. or Passport No.	<input type="text"/>
Nationality	<input type="text"/>
Father's/Husband's Name	<input type="text"/>
No. of Shares Held	<input type="text"/>
Incorporation Number	<input type="text"/>
Company Name	<input type="text"/>
Company Address	<input type="text"/>

Name	<input type="text"/>
Address	<input type="text"/>
NIC No. or Passport No.	<input type="text"/>
Nationality	<input type="text"/>
Father's/Husband's Name	<input type="text"/>
No. of Shares Held	<input type="text"/>
Incorporation Number	<input type="text"/>
Company Name	<input type="text"/>
Company Address	<input type="text"/>

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10. Information Related to Subscribers

Name

Address

NIC No. or Passport No.

Nationality

Father's/Husband's Name

No. of Shares Held

Incorporation Number

Company Name

Company Address

Name

Address

NIC No. or Passport No.

Nationality

Father's/Husband's Name

No. of Shares Held

Incorporation Number

Company Name

Company Address

Name

Address

NIC No. or Passport No.

Nationality

Father's/Husband's Name

No. of Shares Held

Incorporation Number

Company Name

Company Address

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10 Information Related to Subscribers

Name

Address

NIC No. or Passport No.

Nationality

Father's/Husband's Name

No. of Shares Held

Incorporation Number

Company Name

Company Address

Name

Address

NIC No. or Passport No.

Nationality

Father's/Husband's Name

No. of Shares Held

Incorporation Number

Company Name

Company Address

Name

Address

NIC No. or Passport No.

Nationality

Father's/Husband's Name

No. of Shares Held

Incorporation Number

Company Name

Company Address

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10. Information Related to Subscribers

Name

Address

NIC No. or Passport No.

Nationality

Father's/Husband's Name

No. of Shares Held

Incorporation Number

Company Name

Company Address

Name

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10 Information Related to Subscribers

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Father's/Husband's Name

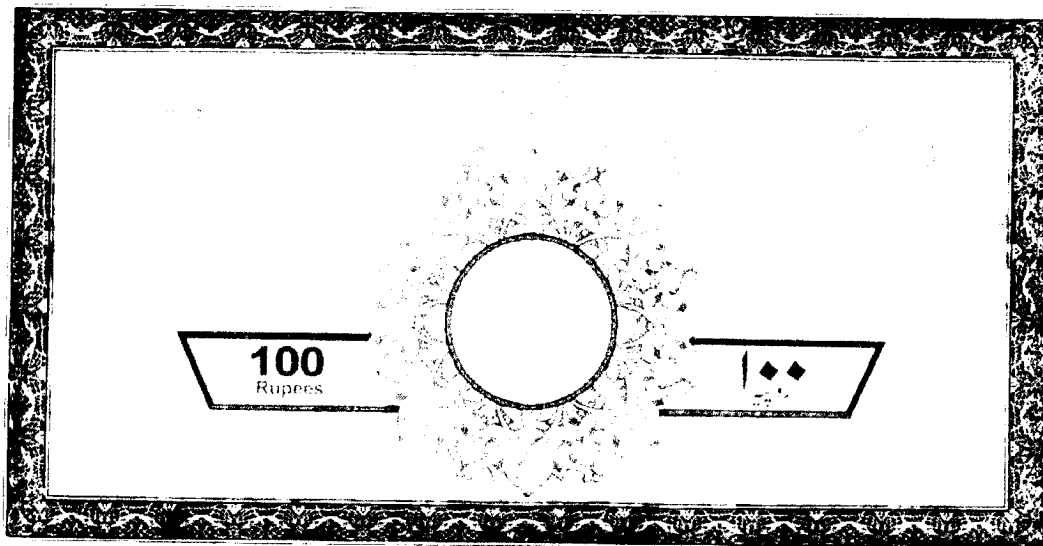
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Incorporation Number

Company Name

Company Address

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ENERGY WHEELING AGREEMENT

THIS ENERGY WHEELING AGREEMENT is made at Multan, Province of Punjab, Pakistan on the 5th of May 2013 (this "Agreement")

AMONGST

- (1) **FATIMA ENERGY LIMITED**, a public limited company incorporated under the laws of Pakistan, with its office located at E-110, Khayaban-e-Jinnah, Lahore Cantt., Lahore (the "**Supplier**"); and
- (2) **MULTAN ELECTRIC POWER COMPANY LIMITED**, a company incorporated under the laws of Pakistan, with its office located at Khanewal Road, Multan ("MEPCO")

RECITALS:

- (A) The Supplier is establishing a bagasse and imported coal based thermal generation facility with an installed capacity of 120 MW (Gross) located at Fazal Garh Sanawan, KotAddu, District Muzaffargarh, Punjab (the "**Facility**").
- (B) NEPRA has granted the Supplier a generation license no. [x] dated [x], which, *inter alia*, authorizes the Supplier to engage in the Second-tier Supply Business (the "**License and Authorization**").
- (C) The Supplier, pursuant to the terms of the License and Authorization, is authorized to supply up to the Committed Capacity to the BPCs.
- (D) NEPRA granted MEPCO a distribution license no. NEPRA Lic-208 MEPCO 3122-26 dated April 25, 2002, which permits MEPCO to enter into an agreement with the Supplier for use of the Distribution System (the "**MEPCO License**") and charge for the same in terms of MEPCO's tariff determination No. NEPRA TRI-220 MEPCO-2012-4321-4323 dated April 29, 2013, as amended from time to time by NEPRA (the "**MEPCO Tariff Determination**").
- (E) The Supplier is desirous of using the Distribution System for transport of the Input Energy to the BPCs, subject to the terms and condition provided for herein.
- (F) NEPRA has approved the execution of this Agreement.



NOW, THEREFORE, IN CONSIDERATION OF THE MUTUAL BENEFITS, SUFFICIENCY OF WHICH IS HEREBY ACKNOWLEDGED, THE PARTIES HEREBY AGREE AS FOLLOWS:

1. DEFINITIONS AND INTERPRETATION

1.1 Definitions

In this Agreement, unless the context otherwise requires

“**Actual Output Energy**” means the electrical energy, expressed in kwh, that is transported by MEPCO to each Exit Point, as measured by the Exit Meter or the relevant Exit Point Check Meter, as the case may be.

“**Agent**” has the meaning given to that term in Section 16.3(b) (*Termination for Default*).

“**Agreement**” means this Energy Wheeling Agreement, including the recitals and schedules attached hereto (including the Connectivity Protocol).

“**Agreement Year**” means a period of twelve (12) consecutive months, with the first Agreement Year commencing on the Commencement Date.

“**Applicable Laws**” means the federal, provincial and local laws of Pakistan and all orders, rules, regulations, statutory regulatory orders, executive orders, decrees, judicial decisions, notifications or other similar directives issued pursuant thereto by any public sector entity having jurisdiction over MEPCO, the Supplier or any part of their respective businesses, including the MEPCO License, the MEPCO Land Determination, the License and Authorisation and any new authorisation that enhances the scope of the Supplier's Second-tier Business.

“**Banked Energy**” has the meaning given to that term in Section 11.1 (*Banked Energy*).

“**BPC(s)**” means

- (a) the bulk power consumers as specified in Schedule 2 (*Bulk Power Consumers*); and
- (b) any other bulk power consumer which NEPRA, where necessary, authorizes the Supplier to engage with in the Second-tier Supply Business using the Distribution System, as notified by the Supplier to MEPCO, from time to time.

provided that, a person shall cease to be a BPC, for the purposes of this Agreement, on notification by the Supplier to MEPCO.

“**Business Day**” means a Day that the banks in Pakistan are open for business.

“**Check Meters**” means the Entry Point Check Meter and the Exit Point Check Meter together and “**Check Meter**” means either the Entry Point Check Meter or any Exit Point Check Meter, as the case may be.

“**Commencement Date**” means the date on which the Supplier shall commence delivery of the Input Energy to the Entry Point, which date shall be notified in writing by the Supplier to MEPCO seven (7) Days in advance.

“**Committed Capacity**” means, as of the Signing Date, upto 120MW of electric power to be generated by the Facility or such other capacity, as notified from time to time by the Supplier to MEPCO, that the Supplier is authorized by NEPRA to disperse to MEPCO as part of the Supplier's Second-tier Supply Business.

“**Connectivity Protocol**” means the protocol to be drafted by the Coordination Committee as specified in Section 13.2(a) (*Start Functions*), which protocol, shall deem to be an integral part of this Agreement.

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"**Coordination Committee**" means the committee described in Section 13.4 (*Coordination Committee*).

"**Day**" means a period of twenty-four (24) hours, commencing at 12:00 midnight of each day.

"**Delayed Payment Rate**" means KIBOR plus three (3) percent per annum compounded semi-annually, calculated for the actual number of Days which the relevant amount remains unpaid on the basis of a three hundred and sixty-five (365) Day year.

"**Distribution Licensing Rules**" means the NEPRA Distribution Licensing Rules, 1999, notified through SRO 476(I)/99 dated April 10, 1999.

"**Distribution System**" means the distribution system of MEPCO to be used to transport the Input Energy from the Entry Point to the Exit Point(s) as specified in the License and Authorization.

"**Due Date**" has the meaning given to that term in Section 8.2 (*Payment*).

"**Election Notice**" has the meaning given to that term in Section 16.3(b) (*Termination for Default*).

"**Entry Meter**" means the meter to be procured and installed by the Supplier, at its expenses, at the Entry Point to measure the Input Energy from the Facility delivered by the Supplier to the Entry Point.

"**Entry Meter Reading Confirmation**" has the meaning given to that term in Section 6.2(a) (*Reading*).

"**Entry Point**" means the physical point where Input Energy from the Facility is delivered by the Supplier, as specified in the site plan in Schedule 3 (*Entry Points*) or such other point as may be agreed by the Parties.

"**Entry Point Check Meter**" means the back-up meter to be procured and installed by the Supplier, at its expenses, at the Entry Point.

"**Evaluation Period**" has the meaning given to that term in Section 16.3(b) (*Termination for Default*).

"**Excusable Event**" means a Force Majeure Event, a Scheduled Outage (not exceeding the Scheduled Outage Allowance) or an Unscheduled Outage (not exceeding the Unscheduled Outage Allowance).

"**Exit Meter(s)**" means the separate meters to be procured and installed by the relevant BPC, at its expenses, at each Exit Point to measure the Actual Output Energy.

"**Exit Meter Reading Confirmation**" has the meaning given to that term in Section 6.2(b) (*Reading*) and "**Exit Meter Reading Confirmations**" means the Exit Meter Reading Confirmations, for any given month, for all the Exit Meters.

"**Exit Point(s)**" means the physical point or points where the Actual Output Energy exits the Distribution System, as agreed by the Parties and the relevant BPC.

"**Exit Point Check Meter(s)**" means the separate back-up meter(s) to be procured and installed by the relevant BPC, at its expenses at the relevant Exit Point.

"**Facility**" has the meaning given to that term in the recitals.

"**Financiers**" mean the financial institutions and investment vehicles, agencies and funds

extending financing (including any refinancing) to the Supplier in relation to the Facility (or any part thereof), together with their respective successors and assigns.

"Financiers' Cure Period" has the meaning given to that term in Section 16.3(b) (*Termination for Default*).

"Force Majeure Event" has the meaning given to that term in Section 14 (*Force Majeure Definition*).

"Initial Cure Period" has the meaning given to that term in Section 16.3(b) (*Termination for Default*).

"Input Energy" means the electrical energy, expressed in kwh, that is generated by the Facility and delivered to the Entry Point for purposes of onward transport by MEPCO to the Exit Points, as measured by the Entry Meter or the Entry Point Check Meter, as the case may be.

"Invoice Dispute Notice" has the meaning given to that term in Section 10 (*Payment Disputes*).

"KIBOR" means the average "ask side" Karachi Inter-Bank Offer Rate for Rupee deposits for a period equal to three (3) months.

"License and Authorization" has the meaning given to that term in the recitals and includes any new authorization issued by NEPRA with respect to a new BPC.

"MEPCO" has the meaning given to that term in the preamble.

"MEPCO Interconnection Works" means all the works and activities, to be undertaken by MEPCO (including procurement of equipment and materials), required to connect the Entry Point to the Distribution System, to be defined in detail in the Connectivity Protocol.

"MEPCO License" has the meaning given to that term in the recitals.

"MEPCO Tariff Determination" has the meaning given to that term in the recitals.

"NEPRA" means the National Electric Power Regulatory Authority established by the NEPRA Act and any successor or substitute regulatory agency with authority and jurisdiction over the electricity sector in Pakistan.

"NEPRA Act" means the Regulation of Generation, Transmission and Distribution Act, 1997 (Act XL of 1997).

"Notice of Intent to Terminate" has the meaning given to that term in Section 16.3(a) (*Termination for Default*).


"Output Energy" means the electrical energy, expressed in kwh, that MEPCO is obliged to transport to each Exit Point, as stated in the Wheeling Notice or the Revised Wheeling Notice, as the case may be.

"Party" means each of the Supplier and MEPCO and **"Parties"** means both of them.

"Revised Wheeling Notice" has the meaning given to that term in Section 13.1(c) (*Wheeling Notice and Revised Wheeling Notice*).

"Required MEPCO Interconnection Date" means the date by which MEPCO is required to complete the MEPCO Interconnection Works, as notified and, if applicable, revised by the Supplier to MEPCO in accordance with Section 3 (*MEPCO Interconnection Work*).

"Rupees" means the lawful currency of Pakistan.



"Scheduled Outage" means a planned interruption of MEPCO's ability to accept delivery of electrical energy generated by the Facility at the Entry Point or its ability to transport the same to any Exit Point, due to inspection, testing, preventive maintenance, corrective maintenance, repairs, replacement or improvement of the Distribution System (or any part thereof), in each case, undertaken in accordance with the Scheduled Outage Notification.

"Scheduled Outage Allowance" means one hundred twenty (120) hours in any Agreement Year.

"Scheduled Outage Notification" has the meaning given to that term in Section 12 (*Outages*).

"Second-tier Supply Business" has the meaning given to that term in the Distribution Licensing Rules.

"Signing Date" means the date on which both Parties have signed this Agreement.

"Supplier" has the meaning given to that term in the preamble.

"Term" means the period commencing from the Signing Date and ending on the last Day of the Wheeling Period.

"Termination Date" has the meaning given to that term in Section 16.4 (*Termination Notice*). **"Termination Notice"** has the meaning given to that term in Section 16.4 (*Termination Notice*).

"Unscheduled Outage Allowance" means one hundred twenty (120) hours in any Agreement Year.

"Unscheduled Outage" means an interruption or delay in MEPCO accepting delivery of electrical energy generated by the Facility at the Entry Point or MEPCO transporting the same to any Exit Point in accordance with any Wheeling Notice and Revised Wheeling Notice, submitted by the Supplier, pursuant to Section 13.1 that is not a result of a Schedule Outage or a Force Majeure Event.

"Use of System Charge" means the charge, expressed in Rupees Kwh, to be levied by MEPCO for use of the Distribution System on behalf of the Supplier as specified in Schedule 1 (*Use of System Charge*).

"Use of System Payment" means, for any given month, following the Commencement Date, the amount to be paid by the Supplier to MEPCO, in terms of Section 8 (*Invoicing and Payment*), calculated by multiplying the Use of System Charge by the lower of: (a) the Input Energy, as stated in the Entry Meter Reading Confirmations; and (b) the aggregate Actual Output Energy (for all the Exit Meters), as stated in the Exit Meter Reading Confirmations.

"Wheeling Meters" means the Entry Meter and the Exit Meter(s).

"Wheeling Notice" means the notice submitted by the Supplier, pursuant to Section 13.1 (*Wheeling Notice and Revised Wheeling Notice*), to MEPCO stating the electrical energy to be delivered, in that month, at each Exit Point.

"Wheeling Period" means the period commencing from the Commencement Date and ending on the earlier of: twenty (20) Agreement Years from the Commencement Date as such period may be extended by written agreement of the Parties) or the date of termination of this Agreement in terms hereof.

1.2 Interpretation

In this Agreement, except where the context requires otherwise:

(a) words indicating the singular also include the plural and words indicating the plural also

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include the singular.

- (b) provisions including the word "agree", "agreed" or "agreement" require the agreement to be recorded in writing;
- (c) "written" or "in writing" means hand-written, type-written, printed or electronically made, and resulting in a permanent record;
- (d) references to recitals, Sections and Schedules are, unless the context otherwise requires, references to recitals, sections of, and schedules to, this Agreement;
- (e) a reference to any legislation or legislative provision includes any statutory modification, amendment, or re-enactment of or legislative provision substituted for, and any subordinate legislation under that legislation or legislative provision;
- (f) unless otherwise provided herein, whenever a consent or approval is required by one Party from the other Party, such consent or approval shall not be unreasonably withheld or delayed;
- (g) headings shall not be taken into consideration in the interpretation of this Agreement; and
- (h) unless otherwise specifically provided in this Agreement, a reference to an agreement, license, determination, authorisation or permission shall be a reference to that agreement, license, determination, authorisation or permission as amended, re-stated, supplemented, modified or novated from time to time in accordance with the terms thereof

In this Agreement the following abbreviations shall have the following meanings:

MW means megawatt or 1,000,000 Watts

KWh means kilowatt hour

Kv means kilovolt or 1,000 volt

1.3 Priority

In case of any conflict between the terms of this Agreement and the Applicable Laws, the Applicable Laws will prevail

2. EFFECTIVE DATE AND TERM

2.1 Effectiveness

This Agreement shall become effective on the Signing Date

2.2 Term

This Agreement shall continue in full force and effect for the Term. Subject to obtaining any necessary consent, the Parties may extend the Term for such additional period as they deem appropriate.

3. MEPCO INTERCONNECTION WORK

3.1 Completion of MEPCO Interconnection Work

Within six (6) months following the Signing Date, the Supplier shall notify MEPCO of the Required MEPCO Interconnection Date, provided however, the Required MEPCO Interconnection Date notified by the Supplier shall not be earlier than twelve (12) months from the Signing Date. Following the receipt of such notice, MEPCO shall commence the MEPCO Interconnection Works. Thereafter, MEPCO shall give the Supplier monthly reports on the progress of the MEPCO Interconnection Works until the same are completed. MEPCO shall

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complete the MEPCO Interconnection Works by the Required MEPCO Interconnection Date. All costs and expenses relating to the MEPCO Interconnection Works shall be borne by MEPCO.

At any time after issuance of the notice referred to in this Section 3.1 (*Completion of MEPCO Interconnection Works*), the Supplier may elect by notice to MEPCO to revise the Required MEPCO Interconnection Date, provided however, the revised Required MEPCO Interconnection Date shall not be earlier than the original Required MEPCO Interconnection Date unless MEPCO has consented to such a revised earlier date. In the event the revised Required MEPCO Interconnection Date is later than the originally notified Required MEPCO Interconnection Date or MEPCO has consented to an earlier Required MEPCO Interconnection Date, then such revised Required MEPCO Interconnection Date shall be the Required MEPCO Interconnection Date.

3.2 Failure to Achieve MEPCO Interconnection Work by Required MEPCO Interconnection Date

Where MEPCO has failed to achieve the MEPCO Interconnection Work on or before the Required MEPCO Interconnection Date, MEPCO shall pay the Supplier as liquidated damages an amount equal to Schedule 4.

4. USE OF SYSTEM

4.1 Use of System

Subject to the terms and conditions set out in this Agreement, during the Wheeling Period:

- (a) MEPCO agrees that it will use, on behalf of the Supplier, the Distribution System to transport the Input Energy from the Entry Point to each Exit Point, in accordance with the Wheeling Notice or the Revised Wheeling Notice, as the case may be; and
- (b) in consideration thereof, the Supplier agrees to pay to MEPCO, the Use of System Payment.

4.2 Transport

MEPCO undertakes that it shall transport the Output Energy to each Exit Point, in accordance with the Wheeling Notice or the Revised Wheeling Notice, as the case may be, without any interruption or delay, unless an Exusable Event occurs.

4.3 Shortfall

In the event of any shortfall in the Committed Capacity, MEPCO shall supply to the relevant BPC as stated in the Wheeling Notice or Revised Wheeling Notice (as the case may be), any such shortfall in the electrical energy that the Supplier is unable to deliver to the Entry Point. For such shortfall, MEPCO shall directly invoice the BPC at the tariff approved by NEPRA. Such an invoice shall take account of measurements stated in the Entry Meter Reading Confirmation and the applicable Exit Meter Reading Confirmation.

5. TRANSFER OF TITLE

The title and ownership of the Input Energy shall vest in the Supplier until transferred to a BPC in terms of the relevant power purchase agreement signed between the Supplier and the relevant BPC.

6. METERING

6.1 Meters

- (a) The Supplier shall, at its expense, procure and install the Entry Meter and the Entry Point Check Meter as close to the Entry Point as reasonably practicable and as agreed by the Parties. The Entry Meter and the Entry Point Check Meter shall each have an accuracy

class of zero point two percent (0.2%). The testing, commissioning and calibration (or recalibration, if necessary) of:

- (i) the Entry Meter shall be coordinated by the Coordination Committee; and
 - (ii) the Entry Point Check Meter shall be coordinated by the Coordination Committee together with the BPCs.
- (b) The relevant BPC shall, at its expense, procure and install the Exit Meter and the Exit Point Check Meter, as close to the Exit Point as reasonably practicable and as agreed by the Parties. The Exit Meter and the Exit Point Check Meter shall each have an accuracy class of zero point two percent (0.2%). The testing, commissioning and calibration (or recalibration, if necessary) of:
- (i) the Exit Meter shall be coordinated by the Coordination Committee; and
 - (ii) the Exit Point Check Meter shall be coordinated by the Coordination Committee together with the relevant BPC.
- (c) The Supplier shall include necessary provisions in the power purchase agreements signed between the Supplier and the BPCs, to ensure by each BPC comply with Section 6.1 (b) (Meters).

6.2 Reading

- (a) On the Commencement Date and thereafter on the last Business Day of each month (during normal business hours and at a time agreed by the Parties), the Entry Meter shall be read jointly by representatives of both the Parties and results thereof signed by the representative of the Parties (the "**Entry Meter Reading Confirmation**").
- (b) On the Commencement Date and thereafter on the last Business Day of each month (during normal business hours and at a time agreed by the Parties), the Exit Meter shall be read by representatives of both the Parties and the relevant BPC (being the BPC to whom the Output Energy is intended to be delivered) and results thereof signed by the representative of the Parties and the relevant BPC (the "**Exit Meter Reading Confirmation**").

6.3 Attendance

Where a Party, and if applicable the relevant BPC fails to attend any meter reading, the representative of the attending Party shall read the Entry Meter and/or the Exit Meter and such reading shall be binding on the Parties and the relevant BPC, provided that, the attending Party shall deliver the readings to the non-attending Party, and, if applicable, the relevant BPC, within two (2) Business Days after the reading is taken.

6.4 Tampering

The Parties shall ensure that their respective contractors, employees, agents and invitees shall not tamper with any of the meters.

6.5 Testing

The Parties may test the accuracy of the Wheeling Meters (and where necessary recalibrate the same) at any time the reading between any Wheeling Meter and its corresponding Check Meter differ by more than zero decimal point five percent (0.5%). Wheeling Meters shall have an accuracy class of zero point two percent (0.2%).

6.6 Use of Check Meters

The Wheeling Meters shall be used to measure the Input Energy at the Entry Point and the Actual Output Energy at the Exit Point. Where any Wheeling Meter is out of service due to repair,

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maintenance or testing, the relevant Check Meter shall be used to record the electrical energy transported between Entry Point and the Exit Point

6.7 Inaccuracies

Where any Wheeling Meter is found to be inaccurate by more than zero decimal point five percent (0.5%) (in terms of Section 6.5 (*Testing*)), or is otherwise unavailable or functioning improperly, then the correct amount of electrical energy delivered to the Entry Point and amount of electrical energy, exiting at the Exit Point, for the period when inaccurate measurements were made shall be determined, as follows:

- (a) the readings of the relevant Check Meters shall be used, unless a test of the Check Meter reveals that the Check Meter is inaccurate by more than zero decimal point five percent (0.5%) or is otherwise unavailable or functioning improperly;
- (b) if the Check Meter is found to be inaccurate by more than zero decimal point five percent (0.5%), or is otherwise unavailable or functioning improperly, then the Parties shall jointly prepare an estimate of the correct reading on the basis of all available information and such guidelines as may be determined by the Coordination Committee;
- (c) if the Parties fail to agree upon an estimate for the correct reading, the dispute shall be referred by either Party for resolution in accordance with Section 28 (*Dispute Resolution*); and
- (d) the difference between the previous payments by the Supplier for the period of inaccuracy and the recalculated amount shall be offset against or added to the next payment to MEPCO under this Agreement, as appropriate. If the period of inaccuracy cannot be accurately determined, it shall be deemed to have begun on the date which is midway between the date the meter was found to be inaccurate and the date of the last meter reading accepted by the Parties as accurate

6.8 Costs

All costs and expenses associated with the repair, testing, commissioning, calibration and recalibration of (i) the Entry Point Check Meter shall be borne by all the BPCs, (ii) the Exit Points Check Meters shall be borne by the relevant BPC, and (iii) for the Wheeling Meters, by the Supplier

6.9 Sealing

The Wheeling Meters and the Check Meters will be jointly sealed by the Parties. Seals shall only be broken in the presence of representatives of both the Parties.

6.10 BPC Presence

Subject to Section 6.5 (*Attendance*), any repair, testing, commissioning, reading, sealing, calibration and recalibration of (a) the Exit Meters and the Exit Point Check Meter, shall be done in the presence of the relevant BPC, and (b) the Entry Point Check Meter in the presence of all the BPCs.

7. USE OF SYSTEM PAYMENT

For using the Distribution System on behalf of the Supplier, the Supplier shall pay MEPCO the Use of System Payment calculated in accordance with Schedule 1 (*Use of System Charge*) and invoiced in accordance with Section 8 (*Invoicing and Payment*).

8. INVOICING AND PAYMENT

8.1 Invoicing

Handwritten signature/initials

Following the Commencement Date, on the tenth (10th) Day of each month, MEPCO shall submit an invoice to the Supplier for the Use of System Payment calculated in accordance with Schedule 1 (*Use of System Charge*) applicable for the previous month.

8.2 Payment

Subject to Section 10 (*Payment Disputes*), the Supplier shall pay the Use of System Payment thirty (30) Days following the Day the invoice was received by the Supplier (the "**Due Date**"), provided that, if such date is not a Business Day, the Due Date shall be the next following Business Day.

9. FAILURE TO TRANSPORT

9.1 Failure to Transport

Notwithstanding any other provision of this Agreement, if, from and after the Commencement Date, MEPCO cannot, or fails to accept delivery of electrical energy from the Facility, at the Entry Point or fails to transport Input Energy to any Exit Point (in terms of the Wheeling Notice or the Revised Wheeling Notice, as the case may be), for reasons other than an Excusable Event, then MEPCO shall pay liquidated damages to the Supplier calculated in terms of Schedule 4 (*Liquidated Damages*).

9.2 Payment

The Supplier shall be entitled to submit an invoice to MEPCO, stated in Rupees, on the 1st Business Day of every month for the amount of liquidated damages due to the Supplier (calculated in terms of Section 9.1 (*Failure to Transport*)) for the previous month (or part-month). Subject to Section 10 (*Payment Disputes*), within 15 Days of receipt of such invoice, MEPCO shall pay the Supplier the amount shown thereon.

10. PAYMENT DISPUTES

At any time within two (2) months after receipt of an invoice, a Party may dispute the amount of such invoice (or any part thereof) by notice on the other Party (the "**Invoice Dispute Notice**"). The Invoice Dispute Notice shall specify the invoice concerned, the amount disputed and the reasons for disputing the invoice. Within five (5) Business Days of receiving the Invoice Dispute Notice, the Parties shall meet to resolve the dispute. If the Parties cannot resolve the dispute within twenty (20) Days of receipt of the Invoice Dispute Notice, the matter will be settled in terms of Section 28 (*Dispute Settlement*).

11. BANKED ENERGY

11.1 Banked Energy

- (i) Where a BPC is unable, for whatsoever reason, to accept delivery of the Output Energy at the Exit Point, or where MEPCO fails to transport Input Energy to an Exit Point (unless an Excusable Event occurs), in terms of the Wheeling Notice or the Revised Wheeling Notice, as the case may be (the "**Banked Energy**"), such banked

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electrical energy or any part thereof, shall be delivered to the Exit Point, requested by the Supplier, within thirty (30) Days of such request (regardless of whether MEPCO has paid liquidated damages for such failure, pursuant to Section 9.1 (*Failure to Transport*)).

- (ii) If MEPCO fails to deliver the Banked Energy within the aforesaid thirty (30) Days, it shall pay liquidated damages to the Supplier calculated in terms of Schedule 4 (*Liquidated Damages*). Such liquidated damages shall be in addition to the liquidated damages payable by MEPCO pursuant to Section 9.1 (*Failure to Transport*).
- (iii) MEPCO shall, in accordance with the MEPCO Tariff Determination, separately bank energy as "peak-hours energy" and "off-peak-hours energy".

11.2 Optional Sale

The Supplier shall have the option (but not the obligation) to sell the Banked Energy (or any part thereof) to MEPCO. From the date of exercise of this option by the Supplier, MEPCO shall have thirty (30) Days to pay for such Banked Energy at such rate approved by NEPRA, based on the 'peak' and 'off-peak' hourly rates. Use of System Payment shall not be applicable for sale of any Banked Energy to MEPCO. In case the Supplier has already paid the Use of System Payment for the Banked Energy, such amount of Use of System Payment corresponding to the Banked Energy, shall be deducted by MEPCO from the next invoice delivered in terms of Section 8.1 (*Invoicing*).

11.3 Approval

For the purposes of implementing the transaction contemplated in Section 11.2 (*Optional Sale*), MEPCO shall (if necessary), prior to the Commencement Date, obtain NEPRA's permission for power acquisition from the Supplier.

12. OUTAGES

In any given Agreement Year, MEPCO may undertake Scheduled Outages for an aggregate period not exceeding the Scheduled Outage Allowance, provided that, MEPCO has given ninety (90) Days prior written notice of the Scheduled Outage to the Supplier (the "**Scheduled Outage Notification**"). The Scheduled Outage Notification shall state the time, date, duration of the Scheduled Outage, which Exit Points will be affected and shall detail the duration of previous Scheduled Outages in the same Agreement Year.

13. OPERATIONS

13.1 Wheeling Notice and Revised Wheeling Notice

- (a) No later than 06:00 hours on the Commencement Date, the Supplier shall issue a Wheeling Notice to MEPCO.
- (b) No later than twenty four (24) hours prior to the beginning of each month, following the Commencement Date, the Supplier shall issue a Wheeling Notice to MEPCO.
- (c) The Supplier may revise any instructions contained in the Wheeling Notice referred to in Sections 13.1(a) and (b) (*Wheeling Notice and Revised Wheeling Notice*) at any time, prior to the start of each Day by issuing a revised wheeling notice to MEPCO (the "**Revised Wheeling Notice**"). The Revised Wheeling Notice may revise upwards or downwards the electrical energy stated in the Wheeling Notice. If the Supplier fails to issue a Revised Wheeling Notice, the electrical energy to be transported to each Exit Point shall be the same as stated in the relevant Wheeling Notice.

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13.2 Compliance

The Parties shall operate and maintain their respective facilities and systems in accordance with the Applicable Laws.

13.3 Protection

Each Party shall install and maintain such equipment necessary (as detailed in the Connectivity Protocol) to automatically isolate their respective facilities and systems in case of any fault occurring such that the other Party's facilities and systems are not damaged in any way.

13.4 Coordination Committee

The Parties shall, within [30] Days of the Signing Date, constitute the Coordination Committee by designating one (1) member to represent it on the Coordination Committee. Any Party may remove or replace its designee from the Coordination Committee upon notice to the other Party.

13.5 Functions

(a) Within [30] Days of its constitution, the Coordination Committee shall finalize the Connectivity Protocol. The Connectivity Protocol shall include the following:

- (i) details and specifications of the equipment required to be used to connect the Facility to the Distribution System;
- (ii) details of the works and activities, to be undertaken by MEPCO, required to connect the Entry Point to the Distribution System;
- (iii) test and procedures to be followed to connect the Facility to the Distribution System and maintain such connection throughout the Wheeling Period; and
- (iv) such other matters which the Parties may jointly agree should be part of the Connectivity Protocol.

If the Parties fail to finalize the Connectivity Protocol within the aforesaid 30 Day period, then either Party may refer the matter for resolution in accordance with Section 28 (*Dispute Resolution*).

The Connectivity Protocol, upon finalization, shall be deemed to be an integral part of this Agreement, as Schedule 5 hereto.

(b) The Coordination Committee shall coordinate the following activities:

- (i) Scheduled Outages;
- (ii) reading, testing, commissioning, sealing, calibration and recalibration of the Wheeling Meters and the Check Meters;
- (iii) development of safety and emergency provisions;
- (iv) invoicing and payments; and
- (v) such other matters as the Parties may jointly agree to refer to the Coordination Committee from time to time.

13.6 Meetings

All decisions taken by the Coordination Committee shall be recorded in writing and signed by the designees of the Parties. Where either Party deems it necessary for the Coordination Committee to better understand a matter under discussion, a representative of the BPC may also be invited to attend the meeting of the Coordination Committee.

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14. FORCE MAJEURE

14.1 Definition

A "Force Majeure Event" shall mean any event or circumstance or a combination of events or circumstances (including the effects thereof) that is beyond the reasonable control of a Party and materially and adversely affects the performance by such affected Party of its obligations under or pursuant to this Agreement, provided that such material and adverse effect could not have been prevented, overcome or remedied in whole or in part by the affected Party by exercise of care and diligence. Force Majeure Events shall not include

- (a) breakdown of (i) machinery or equipment, (ii) the Distribution System or (iii) any part of the transmission facilities (as defined in the NLRA Act) on which MEPCO relies for uninterrupted distribution and transport of electrical energy to a BPC or accepting of electrical energy at the Entry Point;
- (b) events or circumstances that arose due to a breach of any obligation of the affected Party under this Agreement or otherwise due to non-compliance with any Applicable Law; or
- (c) Scheduled Outages or Unscheduled Outages.

14.2 Notice

On occurrence of a Force Majeure Event, the affected Party shall immediately give the other Party written notice of the Force Majeure Event (including reasonable details thereof). Such notice shall include a reasonable estimate by the affected Party of when it expects the Force Majeure Event to end and allow the affected Party to resume its obligations under this Agreement.

14.3 Effect of Force Majeure

So long as the Party affected by the Force Majeure Event complies with the requirements of Section 14.2 (Notice) and has taken reasonable steps to mitigate the effects of a Force Majeure Event, then the affected Party shall not be liable for any failure or delay in performing its obligations (other than payment obligations) under or pursuant to this Agreement during the pendency of the Force Majeure Event, provided however, that no relief shall be granted to the affected Party pursuant to this Section 14.3 (Effect of Force Majeure) to the extent that such failure or delay would have nevertheless been experienced by the affected Party had the Force Majeure Event not occurred.

14.4 Cessation

On cessation of the Force Majeure Event, the affected Party shall immediately notify in writing to the other Party of its ability to recommence performance of its affected obligations under this Agreement.

15. REPRESENTATIONS AND WARRANTIES

15.1 Representations and Warranties

Each Party hereby represents and warrants to the other Party that:

- (a) it is a public limited company, duly organized, validly existing and in good standing under the laws of Pakistan, and has, so far as it is material to it, complied fully with all requirements of the Companies Ordinance (XLVIII) of 1984 and all other Applicable Laws.

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- (b) it has full corporate power and authority to execute and deliver this Agreement, and to own its properties and to execute, to deliver and to perform its obligations under this Agreement. Execution, delivery and performance of this Agreement by it:
 - (i) has been duly authorized by all requisite corporate action on its part, and no other proceedings or any other person are necessary for such authorization; and
 - (ii) will not: (A) violate: (1) the Applicable Laws; and (2) any provision of its memorandum and articles of association; or (B) violate, be in conflict with, result in a breach of or constitute (with due notice or lapse of time or both) a default under any indenture, agreement for borrowed money, bond, note, instrument or other agreement to which it is a party or by which it or its property is bound, excluding defaults or violations that would not, individually or in the aggregate, have a material adverse effect on its business, properties, financial condition or results of operation or on its ability to perform its obligations hereunder;
- (c) this Agreement constitutes a legal, valid and binding obligation, enforceable against it in accordance with its terms, subject to:
 - (i) bankruptcy, insolvency, reorganization, moratorium, or other similar laws now or hereafter in effect relating to creditors' rights; and
 - (ii) to general principles of equity;
- (d) to the best of its knowledge after reasonable inquiry, no filing or registration with, no notice to and no permit, authorization, consent or approval of any person is required for the execution, delivery or performance of this Agreement;
- (e) it is not in default under any agreement or instrument of any nature whatsoever to which it is a party or by which it is bound, in any manner that would have a material adverse effect on its ability to perform its obligations hereunder, or the validity or enforceability of this Agreement;
- (f) there is no action, suit, proceeding or investigation pending or, to its knowledge, threatened, (i) for its dissolution, or (ii) against it which, if adversely determined, would have a material adverse effect on its ability to perform its obligations hereunder, or the validity or enforceability of this Agreement.

15.2 Repeating of Representations and Warranties

The representations and warranties set out in this Agreement shall stand repeated on the Commencement Date.

16. EVENT OF DEFAULT AND TERMINATION

16.1 Supplier Event of Default

The following events shall be events of default by the Supplier (each a "Supplier Event of Default"):

- (a) the Supplier's failure to pay any undisputed amount of the Use of System Payment due from it by the Due Date for the relevant invoice, that is not remedied within one hundred and twenty (120) Days following notice from MEPCO to the Supplier stating that a payment default has occurred and is continuing and describing such payment default in reasonable detail;
- (b) except for the purpose of amalgamation or reconstruction that does not affect the ability of the amalgamated or reconstructed entity, as the case may be, to perform its obligations under this Agreement, the occurrence of any of the following events: ✓ *h2*

- (ii) any proceeding being validly instituted under the Applicable Laws for the dissolution of the Supplier that is not stayed or suspended in one hundred and eighty (180) Days;
- (iii) the passing of a resolution for the dissolution or winding up of the Supplier;
- (iii) the voluntary filing by the Supplier of a winding up petition;
- (iv) the making by a court with jurisdiction over the Supplier of an order for winding up the Supplier which order is not stayed or reversed by a court of competent jurisdiction within one hundred and eighty (180) Days;
- (e) any statement, representation or warranty by the Supplier in this Agreement proving to have been incorrect, in any material respect, when made or when reaffirmed and such incorrect statement, representation or warranty having a material adverse effect on the Supplier's ability to perform its obligations under this Agreement or having a material adverse effect on the rights or obligations of MEPCO under this Agreement;
- (d) any material breach or material default by the Supplier of this Agreement (other than any breach or default referred to in the other sub-sections of this Section 16.1) (*Supplier Event of Default*), which is not remedied within ninety (90) Days after notice to the Supplier from MEPCO, stating that a material breach or default under this Agreement has occurred and is continuing, and identifying the material breach or default in question in reasonable detail;
- (e) tampering on three (3) or more separate occasions by the Supplier (or its employees acting in the course of their employment) with the Wheeling Meters or the Check Meters.

16.2 MEPCO Event of Default

The following events shall be events of default by MEPCO (each a "**MEPCO Event of Default**"):

- (a) MEPCO's failure to pay any amount due from it under the provisions of this Agreement by the due date thereof for the relevant invoice or to make any other payment when required to be made, in each case, that is not remedied within thirty (30) Days following notice from the Supplier to MEPCO stating that a payment default has occurred and is continuing and describing such payment default in reasonable detail;
- (b) except for the purpose of amalgamation or reconstruction that does not affect the ability of the amalgamated or reconstructed entity, as the case may be, to perform its obligations under this Agreement, the occurrence of any of the following events:
 - (i) any proceeding being validly instituted under the laws of Pakistan for the dissolution of MEPCO that is not stayed or suspended within one hundred and eighty (180) Days;
 - (ii) the passing of a resolution for the dissolution or winding up of MEPCO;
 - (iii) the voluntary filing by MEPCO of a winding up petition;
 - (iv) the making by a court with jurisdiction over MEPCO of an order for winding up MEPCO that is not stayed or reversed by a court of competent jurisdiction within one hundred and eighty (180) Days;
- (c) any statement, representation or warranty made by MEPCO in this Agreement proving to have been incorrect, in any material respect, when made or when reaffirmed and such incorrect statement, representation or warranty having a material adverse effect on

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MEPCO's ability to perform its obligations under this Agreement or having a material adverse effect on the rights or obligations of the Supplier under this Agreement:

- (d) any material breach or material default by MEPCO of this Agreement (other than any breach or default referred to in the other sub-sections of this Section 16.2 (*MEPCO Event of Default*) which is not remedied within ninety (90) Days after notice from the Supplier to MEPCO, stating that a material breach or default has occurred under this Agreement and is continuing, and identifying the material breach or default in question in reasonable detail;
- (e) tampering, on three (3) or more separate occasions by MEPCO (or its employees acting in the course of their employment) with the Wheeling Meters or the Check Meters.

16.3 Termination for Default

- (a) Upon the occurrence of an event of default by either Party that is not cured within the applicable period, if any, the non-defaulting Party may, at its option, pursuant to Section 16.1 (*Supplier Event of Default*) or Section 16.2 (*MEPCO Event of Default*), as the case may be, initiate termination of this Agreement by delivering a notice (each a "**Notice of Intent to Terminate**") of its intention to terminate this Agreement to the Party in default provided, however, that no Notice of Intent to Terminate may be delivered where, and so long as, the matter giving rise to Supplier Event of Default or the MEPCO Event of Default, as the case may be, involves a dispute that is the subject of expert determination or arbitration in accordance with the provisions of this Agreement. The Notice of Intent to Terminate shall specify in reasonable detail the Supplier Event of Default or the MEPCO Event of Default (as the case may be) giving rise to such notice.
- (b) Anything in this Agreement notwithstanding, from and after the Signing Date, where the Supplier has notified MEPCO of the names and details of the Financiers, MEPCO shall not seek to terminate this Agreement as the result of any Supplier Event of Default without first giving a copy of any notice required to be given to the Supplier by MEPCO under Section 16.1 (*Supplier Event of Default*) or Section 16.3(a) (*Termination for Default*) to the Financiers. The Financiers shall be entitled to cure or procure the cure of any such default within the cure period, if any, allowed to the Supplier under Section 16.3 (*Supplier Event of Default*) (the "**Initial Cure Period**") which period shall commence upon delivery of such notice to the Financiers.

If there is more than one Financier, the Financiers will designate in writing to MEPCO an agent (the "**Agent**") and any notice required hereunder shall be delivered only to the Agent and such notice shall be effective upon delivery to the Agent as if delivered to each of the Financiers. Each such notice shall be in writing and shall be deemed to have been delivered (i) when presented personally to the Financiers or the Agent, (ii) when transmitted by facsimile to the number specified in accordance with the procedure set forth below, or (iii) five (5) Days after being deposited in a regularly maintained receptacle for the postal service in Pakistan, registered acknowledgment due, addressed to the Financiers or the Agent at the address notified by the Supplier (or such other address or to the Agent at such address as the Financiers may have specified by written notice delivered in accordance herewith). Any notice given by facsimile under this Section 16.3 (*Termination for Default*) shall be confirmed in writing delivered personally or sent by prepaid post, but failure to so confirm shall not void or invalidate the original notice if it is in fact received by the Financiers or the Agent.

No rescission or termination of this Agreement by MEPCO shall be valid or binding upon the Supplier and its Financiers without such notice and the expiration of such Initial Cure Period. The Financiers may make, but shall be under no obligation to make, any payment or perform any act required to be made or performed by the Supplier with the same effect as if made or performed by the Supplier. If the Financiers fail to cure or are

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unable or unwilling to cure the relevant default or defaults within the Initial Cure Period the Supplier shall have all its rights and remedies with respect to such default or defaults as set forth in this Agreement (without further reference to the Financiers). Notwithstanding the foregoing if the cure by the Financiers of the Suppliers' Event of Default requires the Financiers to take control of and occupy the Facility, the Financiers, upon the expiration of the Initial Cure Period may request a further period of ninety (90) Days (the "**Evaluation Period**") during which the Financiers shall evaluate such default, the condition of the Facility, and other matters relevant to the actions of the Financiers concerning such default and which Evaluation Period shall end on the sooner to occur of: (i) the Financiers' delivery to MEPCO with a copy to the Supplier of a notice that the Financiers have elected to pursue their remedies under the financing documents and assume the rights and obligations of the Supplier under the Agreement ("**Election Notice**"), or (ii) the lapse of the Evaluation Period. Upon the delivery of an Election Notice, the Financiers shall be granted an additional period of thirty (30) Days to cure the Supplier Event(s) of Default (the "**Financiers' Cure Period**"). In the event that the Financiers fail to cure any Supplier Event of Default as required to be cured on or before the expiration of the Financiers' Cure Period, MEPCO may exercise its rights and remedies with respect to such default set forth in this Agreement.

16.4 Termination Notice

In the event that a defaulting Party has not, following its receipt of a Notice of Intent to Terminate, remedied the Supplier Event of Default or MEPCO Event of Default, as the case may be, described therein before the expiry of the relevant cure period, the non-defaulting Party may terminate this Agreement by delivering a notice of termination (the "**Termination Notice**") to the defaulting Party. This Agreement shall terminate on the date specified in the Termination Notice (the "**Termination Date**"), which date shall not be earlier than the date that is ten (10) Business Days following the date on which the Termination Notice is delivered to the other Party or later than thirty (30) Days following the date of such delivery.

16.5 Obligations upon Termination

Upon expiration or termination of this Agreement, the Parties shall have no further obligations or liabilities hereunder except for those obligations and liabilities that:

- (a) arise prior to such termination, and
- (b) expressly survive such termination, including without limitation, the obligation to pay amounts due under this Agreement (including damages and liquidated damages).

16.6 Non Default Termination

Notwithstanding any provision of this Agreement, the Supplier shall have the right to terminate this Agreement, without cause, subject to ten (10) Day prior written notice to MEPCO. The provisions of Section 16.5 (*Obligations upon Termination*) shall apply to such termination.

16.7 Other Remedies

The rights of the Parties provided herein to terminate this Agreement do not preclude Parties from exercising other remedies that are provided herein or may be available by law. Remedies are cumulative, and the exercise, or failure to exercise, one or some of them shall not operate or be construed as a waiver of such remedy or any other remedy available.

17. LIQUIDATED DAMAGES

The Parties acknowledge and admit that

- (a) the amount of liquidated damages payable under Section 3.2 (*Failure to Achieve Required MEPCO Interconnection Date*), Section 9 (*Failure to Transport*), and Section

11 (*Banked Energy*), are not by way of a fine or penalty and constitute the actual loss suffered by the Supplier.

- (b) it is entirely possible to predetermine the actual loss that may be suffered by the Supplier; and
- (c) the liquidated damages payable under Section 9 (*Failure to Transport*) and Section 11 (*Banked Energy*) are reasonable compensation and are without prejudice to the other remedies that may be available to the Supplier.

18. LATE PAYMENTS

Late payments by either Party of amounts due or payable under this Agreement shall bear interest at a rate per annum equal to the Delayed Payment Rate.

19. SET-OFF

Each Party shall have the right to set off any amounts due and payable by it to the other Party under this Agreement against any and all amounts then due and payable to it by the other Party under this Agreement. Such rights of set-off shall relate only to amounts that are then due and payable to and by a Party and are undisputed or have been determined to be payable in terms of Section 28 (*Dispute Resolution*).

20. DIRECT AGREEMENT WITH FINANCIERS

MEPCO acknowledges that the Supplier may finance the development of the Facility by way of project financing techniques or otherwise supported by various Financiers. If required, MEPCO shall consent to the assignment of the Supplier's rights under this Agreement and MEPCO shall enter into a direct agreement with the Financiers and the Supplier (within fifteen (15) Days of MEPCO's receipt of a notice of such requirements from the Financiers), which agreement will include cure, step-in and novation rights and any other provisions reasonably required by any financier in relation to a transaction of this type.

21. ASSIGNMENT

21.1 Assignment Restriction

Neither this Agreement nor any right, privilege or delegation hereunder may be assigned or transferred in whole or in part by either Party without the prior written consent of the other Party and any attempted assignment or transfer without such written consent shall be void.

21.2 Assignment to Financiers

Notwithstanding the provisions of Section 21.1 (*Assignment Restriction*), MEPCO's written consent of the Supplier's assignment or transference shall not be required for assignment or transference in favor of the Financiers or any further assignment or transference by the party providing such financing. MEPCO agrees, if required by the parties providing such financing, to enter into agreements evidencing its consent to assignment of this Agreement, to make any payments due to the Supplier pursuant to this Agreement directly into a collateral security account maintained by or on behalf of the Financiers and to provide notice to such parties and a reasonable opportunity for such parties to remedy the event giving rise to a right of termination prior to exercising any such right.

22. NOTICES

22.1 Addresses etc.

All notices and other communications required or permitted to be given by a Party shall be in writing and either delivered personally or by courier or sent by facsimile to the address or number

of the other Party specified below:

(a) If to the MEPCO:

Attention: Chief Executive Officer

Facsimile: +92 61 922 0204

(b) If to the Supplier:

Attention: Chief Executive Officer

Facsimile No: +92 42 3662 2460

provided that a Party may change the address to which notices are to be sent to it by giving not less than thirty (30) Days' prior written notice to the other Party in accordance with this Section 22.1 (*Addresses etc.*).

22.2 Effective Notice

No notice or other communication shall be effective until received or deemed received. Notices or other communications shall be deemed to have been received by the receiving Party:

- (a) when delivered if personally delivered;
- (b) two (2) Business Days after sending, if sent by courier;
- (c) five (5) Business Days after sending, if sent by registered post; or
- (d) upon sending if sent by facsimile, subject to confirmation of an uninterrupted transmission report and provided that a hard copy is despatched not later than the following Business Day to the recipient by courier or personal delivery.

23. AMENDMENT

An amendment or modification of this Agreement shall be effective or binding on a Party only if made in writing and signed by a duly authorized representative of each of the Parties, provided that, where necessary, the prior approval of NEPRA has been obtained.

24. THIRD PARTIES

Except for the rights expressly granted to the Financiers herein, this Agreement is intended solely for the benefit of the Parties and nothing in this Agreement shall be construed to create any rights in, duty to, standard of care to, or any liability to, any person not a Party.

25. NO WAIVER

No default by either Party in the performance of or compliance with any provision of this Agreement shall be waived or discharged except with the express written consent of the other Party. No waiver by either Party of any default by the other in the performance of or compliance with any of the provisions of this Agreement (including payment due for liquidated damages) shall operate or be construed as a waiver of any other or further default whether of a like or different character.

26. RELATIONSHIP OF THE PARTIES

- (a) This Agreement shall not be interpreted or construed to create an association, joint venture or partnership between the Parties or to impose any partnership obligation or liability upon either Party.

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- (b) Neither Party shall have any right, power, or authority to enter into any agreement or undertaking for, to act on behalf of, or be an agent or representative of, or to otherwise bind, the other Party and neither Party shall hold itself out to any third-party as having such right, power, or authority.

27. GOVERNING LAW

This Agreement shall be governed by and construed in accordance with the laws of Pakistan.

28. DISPUTE RESOLUTION

In the event a dispute arises between the Parties, the Parties shall attempt in good faith to settle such dispute by mutual discussions within thirty (30) days from the date that the Party arising the dispute delivers written notice of the dispute to the other Party. If the dispute is not resolved within the aforesaid thirty (30) day period, the dispute shall be referred to NEPRA for its resolution.

29. ENTIRETY

This Agreement shall be the full and final expression of the agreement between the Parties on the matters contained herein. All written or oral representations, understandings, offers or other communications of every kind between the Parties in relation to the matters contained herein prior to this Agreement are hereby abrogated and withdrawn.

30. SUCCESSORS AND ASSIGNS

This Agreement shall be binding upon, and inure to the benefit of, the Parties and their respective permitted successors and permitted assigns.

31. SEVERABILITY

If any term or provision of this Agreement is determined by a court or other authority of competent jurisdiction to be invalid, void, illegal, unenforceable or against public policy, the remaining provisions of this Agreement shall remain in full force and effect and will not be affected by such determination in any way.

32. COUNTERPARTS

This Agreement may be executed in two (2) or more original copies and each such copy may be executed by each of the Parties in separate counterparts, each of which copies when executed and delivered by the Parties shall be an original, but all of which shall together constitute one and the same instrument.

**For and on behalf of:
Fatima Energy Limited**

**For and on behalf of:
MEPCO**

Name: **Fazal Ahmed Sheikh**
Designation: Chief Executive Officer

Name: **Abdul Rashid Tariq**
Designation: Chief Executive Officer

WITNESSES:

Name: *[Signature]*

Name: *[Signature]*

SCHEDULE 1 (USE OF SYSTEM CHARGE)

$$U.SOC = DM \times (1 - \text{Overall Losses}) \\ (1 - \text{Technical Losses})$$

Where:

U.SOC = the Use of System Charge, expressed in paisa / kwh

DM = the Distribution Margin as stated in the MEPCO Tariff Determination

Overall Losses = the Overall Losses (%) as stated in the MEPCO Tariff Determination

Technical Losses = the Technical Losses as stated in the MEPCO Tariff Determination applicable where both the 132 kv system and the 11 kv system are involved

As of the Signing Date: DM = Rs 0.8 per KWh; Overall Losses = 15%, and Technical Losses = 8.5%

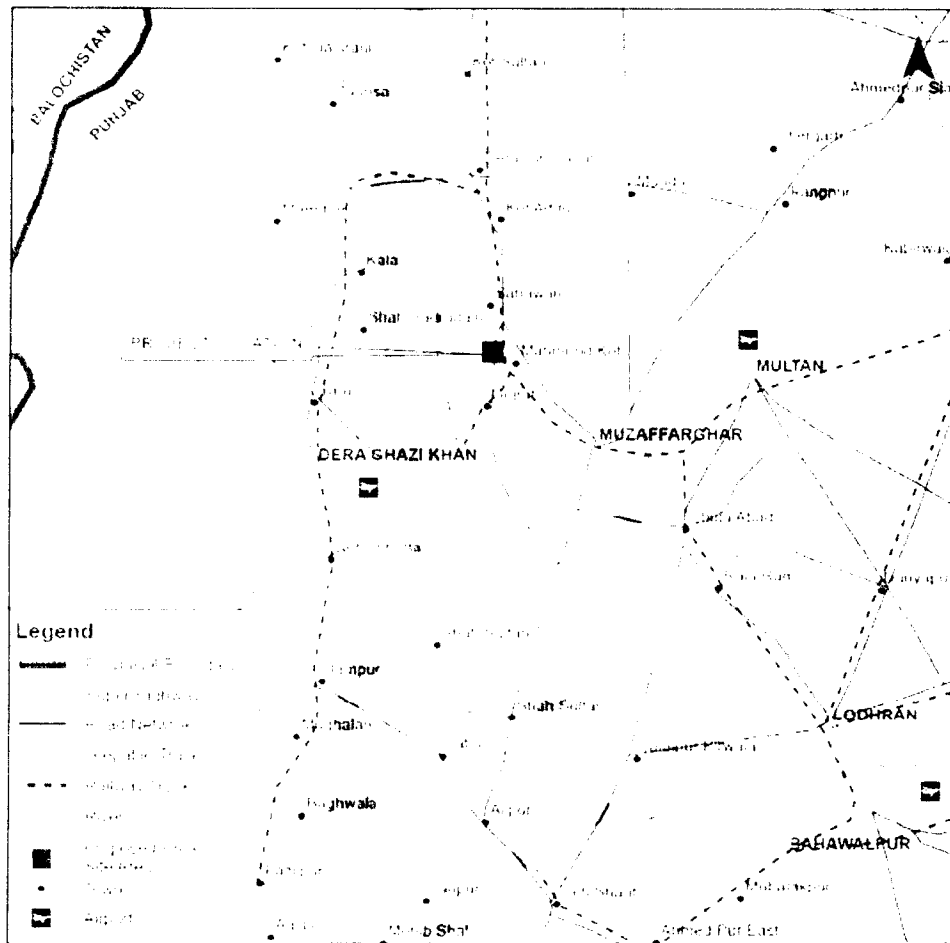
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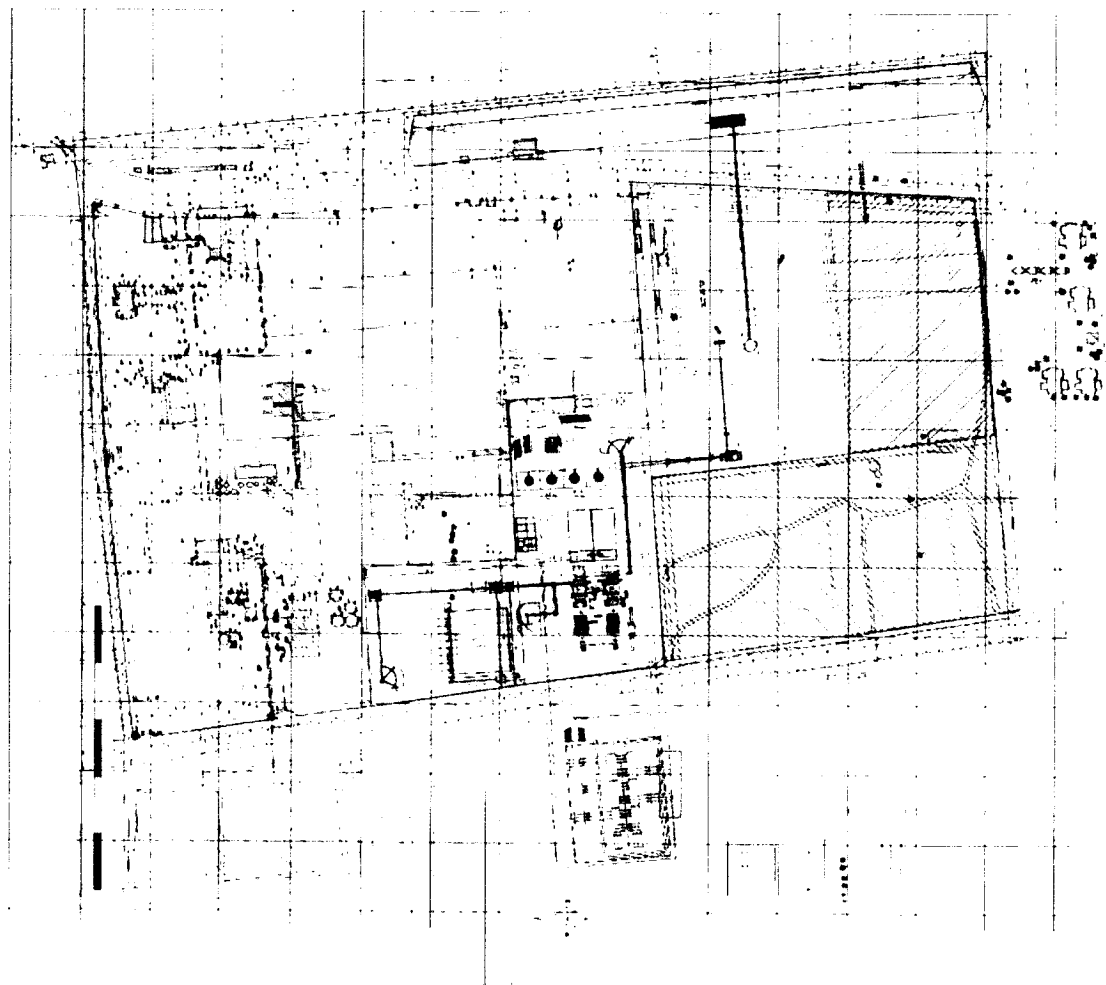
SCHEDULE 2 (BULK POWER CONSUMERS)

- (1) Fatima Sugar Mills Limited, located at Sanawan, Mehmood Kot, Tehsil Kot Adda, District Muzaffargarh, Punjab
- (2) Reliance Weaving Mills Limited Fazalpur, Khanewal Road, Multan, Punjab
- (3) Fazal Cloth Mills Limited, located at Fazal Nagar, Jhang Road, Muzaffargarh and Qadirpur Kawan Bypass, Khanewal Road, Multan, Punjab
- (4) Pak Arab Fertilizer Limited, located at Khanewal Road, Multan, Punjab.

Note: Additional BPC(s) shall be notified by the Supplier to MEPCO in terms of this Agreement.

SCHEDULE 3 (ENTRY POINT)





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SCHEDULE 4(LIQUIDATED DAMAGES)

LD = (Monthly average fuel cost component of RFO based plant as determined by NEPRA -
Prevalent fuel cost component of FEL + Prevalent Capacity Payment Price of FEL)

Where:

- Monthly average fuel cost component of RFO based plant determined by NEPRA for month of Jun 2013 is Rs[.] per KWh
- Prevalent fuel cost component of FEL is Rs[.] per KWh
- Prevalent Capacity Payment Price of FEL Rs[.] per KWh

SCHEDULE 5

CONNECTIVITY PROTOCOL

1. MEPCO Interconnection Works

The physical connection between the Facility and the Distribution System shall be at the Entry Point.

MEPCO shall design, construct, procure, install, commission, operate and maintain, a 132kV transmission line terminating at the bushings located in substation of the Facility. Supplier will provide MEPCO with bushings and an earth connection from the earthing system of the Facility.

Electrical energy generated by the Facility will be delivered to the Entry Point for purposes of onward transport by MEPCO to the Exit Points in accordance with this Agreement.

Within three (3) Months after the execution of this Agreement, the Supplier shall provide to MEPCO the information required for completion of its interconnection facilities. Based upon this information, MEPCO shall be responsible for design/construction of its interconnection Facilities on or prior to the Required MEPCO Interconnection Date. Within fourteen (14) Days of a request by MEPCO, the Supplier shall provide all additional information reasonably requested by MEPCO in connection with its completion of the MEPCO Interconnection Works. MEPCO shall use such supplemented information in its final design of the MEPCO Interconnection Works. The timely provision by the Supplier of such supplemental or additional information shall not modify the obligation of MEPCO to complete MEPCO Interconnection Works by the Required MEPCO Interconnection Date.

A carrier inter tripping circuit for each transmission line shall be provided between the line circuit breakers at the Facility owned by the Supplier and the line circuit breakers at 220/132 kV Grid Station owned by MEPCO/NTDC. The carrier inter tripping circuit shall be provided by the Supplier.

MEPCO shall coordinate with the NTDC / NPCC for all approval permissions which may be required for execution/operation of the MEPCO Interconnection Works.

2. Supplier Interconnection Works

The Supplier shall be responsible, at its own expense, for designing, constructing, installing and maintaining all auxiliary and interconnecting equipment on the Supplier's side of the Entry Point and the Supplier shall own all such auxiliary and interconnection equipment. The Supplier will be responsible for the provision of current and voltage transformers for the Entry Meter and the Entry Point Check Meter. All such works and activities hereinafter referred to as the "Supplier Interconnection Works".

As part of the Supplier Interconnection Works, the Supplier shall at its own cost and expense procure, install and commission the following equipment:

- (a) telecommunications and tele-protection equipment (power line carrier or, at the Supplier's option, power line carrier and/or microwave system) reasonably acceptable to MEPCO at the Facility and compatible with similar equipment at MEPCO's grid station;
- (b) a communications unit in the control room of the Facility compatible with the NPCC's PBX system to permit voice communications between the Facility and NPCC;
- (c) equipment in the Facility to transmit and receive facsimiles or other communication protocol as mutually agreed; and
- (d) tele-metering and data interface (or interface with MEPCO's microwave system adjacent to the Facility) for MEPCO's SCADA.

3. Granting of Easements and Right-of-Way

If required, the Supplier shall grant to MEPCO permanent easements and right of way across the Facility necessary to carry out and complete, operate, maintain, replace and/or remove the MEPCO Interconnection Works. When on Facility, MEPCO shall comply with all reasonable instructions of the Supplier relating to the carrying out of any work in the Facility and, notwithstanding any other provision in this Agreement to the contrary, shall indemnify and hold the Supplier harmless from any loss or damage sustained by virtue of MEPCO negligence or willful misconduct in the exercise of rights pursuant to this Section.

MEPCO shall be responsible for obtaining all right-of-way, easements and other real or personal property interests necessary to construct, operate and maintain the MEPCO Interconnection Works during the Term.

N E

4. Protective Devices

The Supplier shall maintain the settings of all relays in the Facility at the levels agreed by the Supplier and MEPCO. Each Party shall notify the other Party in advance of any changes to either the Facility or the Distribution System that may affect the proper co-ordination of protective devices between the two systems, and neither Party shall make any such changes to either the Facility or the Distribution System, as the case may be, without the other Party's approval.

The Supplier and MEPCO shall verify the operation of the protection devices in accordance with the testing programme set out herein.

5. Appointment of Engineer for Testing

- (a) No later than two hundred and seventy (270) Days prior to the Commencement Date, as notified by the Supplier, the Supplier shall appoint an engineer (hereinafter referred to as the "Engineer"), with the approval of MEPCO, to finalise the procedure for testing and to confirm that the tests envisaged in this Schedule have been successfully carried out
- (b) The terms and conditions of appointment of the Engineer shall oblige the Engineer to act independently and impartially, on the basis of its expertise, experience and knowledge in relation to all matters.
- (c) The decisions made by Engineer shall be final and binding on each Party.

6. Tests Prior to Commencement Date

The Supplier shall carry out or cause to be carried out the following tests prior to the Commencement Date, in the presence of the Engineer:

- (a) functional testing and timing of high voltage switchgear in the switchyard of the Facility;
- (b) the Supplier and MEPCO shall verify that the protection level settings for the following:
 - (i) stator earth fault;
 - (ii) negative phase sequence;
 - (iii) generator transformer over-current and earth fault; and
 - (iv) high voltage bus-bar protection.
- (c) voltage phasing checks will be carried out between the sub-station of the Facility and the Grid System; and
- (d) all inter-tripping circuit checks between the Facility and the MEPCO's equipment.

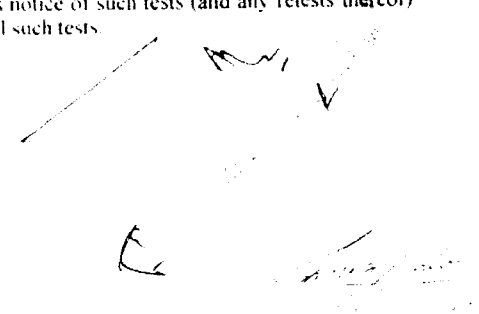
MEPCO shall be given not less than twenty-four (24) hours notice of such tests (and any retests thereof) and shall have an opportunity to be present at and observe all such tests.

7. Tests Following the Commencement Date

Immediately following the Commencement Date, initial operational testing of the Facility shall be conducted by the Supplier, in the presence of the Engineer:

- (a) reactive capability;
- (b) response of Facility to step load changes; and
- (c) full load rejection.

MEPCO shall be given not less than twenty-four (24) hours notice of such tests (and any retests thereof) and shall have an opportunity to be present at and observe all such tests.





FEL/LETTER/0506/1492
June 05, 2014

Chief Executive Officer,
Multan Electric Power Company,
Multan.

Subject: Energy Wheeling Agreement – Notice for Required MEPCO Interconnection Date


Dear Sir,

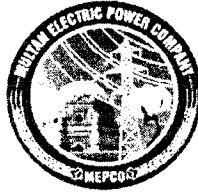
Energy Wheeling Agreement between Fatima Energy Limited and MEPCO dated May 16, 2014 refers.

As per Energy Wheeling Agreement section 3, the Supplier hereby issues notice for Required MEPCO Interconnection Date to be June 30, 2015. Commencement of MEPCO Interconnection Works may please be initiated accordingly as per terms of the Agreement.

Kind regards,

Yours sincerely,
For and on behalf of
FATIMA ENERGY LIMITED


Toseef Ijaz Rana
Project Director



MULTAN ELECTRIC POWER COMPANY (WAPDA)

T/Ph. No. 061-9230798

Office of the
Chief Executive Officer
MEPCO Ltd: Multan.

No. 318/MT/FSML/60225

Dated 16/06/2014

Mr. Toseef Ijaz Rana,
Project Director,
Fatima Sugar Mills,
E-110, Khayaban-e-Jinnh,
Lahore Cantt

Subject: **120MW ENERGY WHEELING AGREEMENT – NOTICE TO
MEPCO FOR CONSTRUCTION OF INTERCONNECTION**

Ref: Your letter No.FEL/LETTER/0506/1492 dated June, 05, 2014

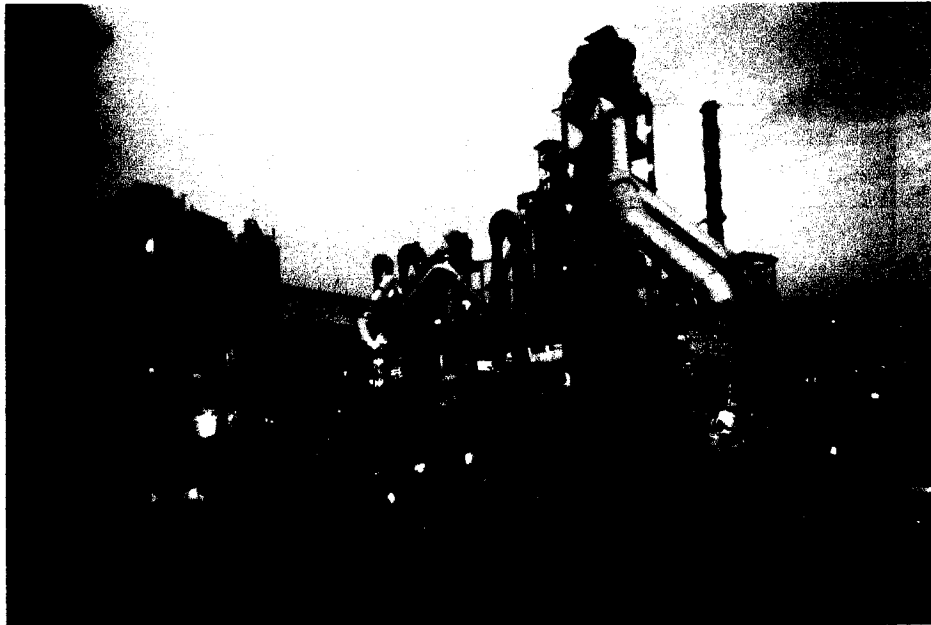
As per Clause 3 of the Energy Wheeling Agreement signed on 16.05.2014 between MEPCO & Fatima Energy Limited (FEL), all costs and expenses of interconnection work shall be borne by MEPCO. It is intimated that presently, MEPCO has no budget for construction of interconnection. Moreover it has principally been agreed between MEPCO & FEL that FEL will provide an interest free loan to MEPCO for construction of interconnection. You are requested to arrange the interest free/soft loan as early as possible. Moreover a meeting with MEPCO Authority may also be arranged to set terms and conditions of the loan, procedure of pay back and to sign agreement between FEL and MEPCO about interest free loan. Therefore, the notice period for construction of interconnection will start after realization of loan in MEPCO account.


Chief Engineer (CS)
MEPCO Ltd: Multan
16/6/14



INTERCONNECTION STUDY

For
**120 MW Power Plant by Fatima Energy
Limited, Sanawan, Muzaffargarh, Punjab**



*Final Report
(December 2014)*

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Executive Summary

- ❖ The Draft Report of Interconnection of Power Plant by Fatima Energy Limited (FEL) at Sanawan with MEPCO/NTDC grid system is submitted herewith.
- ❖ The study objective, approach and methodology have been described and the plant's data received from the Client is validated.
- ❖ The updated MEPCO/NTDC system data as available with PPI for other studies have been used with latest load forecast and system expansion plans of NTDC and MEPCO.
- ❖ Fatima Group is considering supplying power to its facilities of FEL, FCML-Muzaffargarh as well as exporting any surplus power to the MEPCO network.
- ❖ We have proposed two interconnection schemes of 132 kV for FEL, FCML-Muzaffargarh and Muzaffargarh-New 132 kV substation. The proposed Interconnection Schemes of 132 kV is as follows:

Option – I:

- Development of 132 kV Substations at FEL and FCML-Muzaffargarh.
- A 132 kV double circuit of 35 km using Rail conductor to be laid from FEL to FCML-Muzaffargarh.
- A 132 kV double circuit of about 2 km using Rail conductor to be laid from FCML-Muzaffargarh to Muzaffargarh-New 132 kV Substation.

Option – II:

- Development of 132 kV Substations at FEL and FCML-Muzaffargarh.
 - A 132 kV single circuit of 35 km using Rail conductor to be laid from FEL to Muzaffargarh-New 132 kV Substation.
 - A second 132 kV single circuit using Rail conductor to be laid from FEL to Muzaffargarh-New 132 kV looping in-out at FCML-Muzaffargarh. The length of this complete circuit will be 38 km.
- ❖ In view of planned COD of the FEL-PP, the above proposed interconnection scheme has been tested for steady state conditions through detailed load flow studies for the peak load conditions of January 2016 for maximum load conditions. The system conditions of normal and N-1 contingency have been studied to meet the reliability criteria of NEPRA Grid Code.



- ❖ Steady state analysis by load flow for peak load of January 2016 reveals that the proposed schemes are adequate to evacuate the maximum power of the Plant under normal conditions and contingency conditions with the operational arrangements discussed in the report.
- ❖ The preliminary short circuit analysis has been carried out to calculate maximum fault levels at FEL-PP and the substations of 132 kV developed as part of this project as well as the existing 220 kV and 132 kV substations in the project's vicinity.
- ❖ The maximum short circuit levels of FEL-PP 132 kV and the 132 kV substations developed as part of the project for interconnectivity at 132 kV are as follows:

For Option - I

Substation	3-Phase fault current, kA	1-Phase fault current, kA
FEL 132 kV	10.42	8.03
FCML-M.Garh 132 kV	22.99	18.30

For Option - II

Substation	3-Phase fault current, kA	1-Phase fault current, kA
FEL 132 kV	10.50	8.11
FCML-M.Garh 132 kV	20.93	16.16

Therefore industry standard switchgear of the short circuit rating of 40 kA would be fine to be installed at 132 kV switchyard of FEL-PP taking care of any future generation additions and system reinforcements in its electrical vicinity.

- ❖ The proposed schemes of interconnection fulfill all the criteria of reliability and stability under steady state load flow and contingency load flows within the network developed by Fatima Energy.



Report Contents

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Appendices

Appendix –A: Sketches for Chapter-4

Appendix –B: Plotted Results of Load Flow for Chapter – 5

Appendix –C: Plotted Results of Short Circuit Analysis for Chapter – 6



1. Introduction

1.1 Background

Fatima Energy Limited is going to construct a thermal power plant at Sanawan, Muzaffargarh in Punjab. The installed capacity of the project would be 120 MW and the gross mean capacity would be 118.8 MW. The site of proposed project is located at a distance of 35 km from the 132 kV substation of Muzaffargarh-New.

The electricity generated from this project, after meeting the requirement of the FCML facility of Fatima Group will be supplied to the grid system of MEPCO/NTDC through Muzaffargarh-New 132 kV grid available in the vicinity of this project. Keeping in mind the objectives of the project the most feasible interconnection of FEL with the NTDC and/or MEPCO network will be studied as part of this project.

1.2 Objectives

The overall objective of the Study is to devise an interconnection scheme for Fatima Group to meet the power requirements of its facility in the vicinity of its FEL plant as well as exporting power to the grid. The technical feasibility of this objective will be assessed by detailed study of the interconnection scheme for evacuating power from the FEL facility and its interconnection with the MEPCO network, for stable and reliable evacuation of electrical power generated from this plant, fulfilling N-1 reliability criteria. The specific objectives of this report are:

1. To develop a scheme of interconnections at 132 kV for which right of way (ROW) and space at the terminal substations would be available.
2. To determine the performance of interconnection scheme during steady state conditions of system, normal and N-1 contingency, through load-flow and short circuit analysis.
3. To check if the contribution of fault current from this new plant increases the fault levels at the adjoining substations at 132 kV voltage levels to be within the rating of equipment of these substations, and also determine the short circuit ratings of the proposed equipment of the substations proposed.



1.3 Planning Criteria

The planning criteria required to be fulfilled by the proposed interconnection is as follows:

Steady State:

Voltage	$\pm 5 \%$, Normal Operating Condition $\pm 10 \%$, Contingency Conditions
Frequency	50 Hz Nominal 49.8 Hz to 50.2 Hz variation in steady state 49.4 - 50.5Hz, Min/Max Contingency Freq. Band
Power Factor	0.8 Lagging; 0.9 Leading

Short Circuit:

Substation Equipment Rating for 132 kV should be 31.5 kA or 40 kA; and for 11 kV it should be 25 kA.



2. Assumptions of Data

The following assumptions have been made:

2.1 FEL-PP data

Generator data:

Installed capacity of power plant	= 120 MW
Gross Power at Mean Site Conditions	= 118.8 MW
Auxiliary Power Requirements	= 11.26 MW
Net Power during Off-Season	= 107.54 MW
Net Power during Season	= 88.78 MW
Power factor	= 0.80 lagging, 0.9 leading
Lump sum MVA capacity	= 150 MVA

2.2 Network data

The 220 kV and 132 kV network in the area near FEL Power Project are as shown in Sketches in Appendix-A. The system data of NTDC and MEPCO has been used as available with PPI for the interconnection studies of similar projects. The latest Generation Expansion Plan, Transmission Expansion Plan and Load Forecast has been used as developed by NTDC/MEPCO. Furthermore the data for Fatima Group facilities has been collected by PPI's team during an on-site visit.



3. Study Approach and Methodology

3.1 Understanding of the Problem

Fatima Energy Limited is going to construct a thermal power plant at Sanawan, Muzaffargarh in Punjab. The installed capacity of the project would be 120 MW and the gross mean capacity would be 118.8 MW. The site of proposed project is located at a distance of 35 km from the 132 kV substation of Muzaffargarh-New.

Currently, FCML Muzaffargarh facility with 20 MW demand of Fatima Group is being supplied by FEL PP. In addition Fatima Group would also like to consider the option of exporting any surplus power to the MECPO/NTDC network through MEPCO facilities in the area.

The site of project is located at a distance of 35 km from the existing Muzaffargarh-New 132 kV Substation. The proposed Power Project is going to be embedded in the transmission network of MEPCO/NTDC through the most feasible 132 kV network option available in the vicinity of the project.

The interconnection scheme will be developed by evaluating the location of FEL-Sanawan and the neighboring facilities of Fatima Group.

Any export of power from the proposed power plant, which is embedded in local network in this area, shall provide relief to the source substations such as TPS Muzaffargarh and KAPCO which are feeding the local network, such as Kot Addu and Muzaffargarh and the 132 kV circuits emanating from these substations that feed good load centers with significant load demand.

The adequacy of MEPCO network of 132 kV and NTDC Network of 220 kV around the proposed site of FEL- PP has been investigated in this study for absorbing and transmitting this power fulfilling the reliability criteria.



3.2 Approach to the problem

The consultant has applied the following approaches to the problem:

- A base case network model has been prepared for January 2016, in which the peak load scenario will occur after the commissioning of 120 MW FEL Power Plant, comprising all 500kV, 220kV and 132 kV system, envisaging the load forecast, the generation additions and transmission expansions for that year particularly in MEPCO.
- Month of January 2016 has been selected for the study because it represents the maximum load conditions after the COD of FEL-Sanawan Power Project. The thermal power projects in the vicinity of FEL would be operating at their maximum and consequently the loading on lines in the vicinity of FEL will be maximum, allowing us to judge the maximum impact of the plant on the transmission system in its vicinity.
- Development of an interconnection Scheme which would allow safe and reliable evacuation of power from FEL-PP.
- Interconnection scheme without any physical constraints, like right of way or availability of space in the terminal substations, have been identified.
- Perform technical system studies for peak load conditions to confirm technical feasibility of the interconnections. The scheme will be subjected to standard analysis of load flow and short circuit analysis at this point to check the proposed interconnection scheme under normal and N-1 contingency conditions.
- Recommend the technically most feasible scheme of interconnection.

4. Development of Scheme of Interconnection

4.1 The Existing and Ongoing Network

The existing 132 kV network available around FEL is shown in Sketch-1 in Appendix-A. Considering the location of the FEL facility and other neighboring facilities of Fatima group the most feasible point of interconnection at 132 kV with the MEPCO/NTDC Network will be with 132 kV Muzaffargarh-New substation which is located at a distance of about 35 km away from the FEL Sanawan site.

The sketch shows that there is a strong 220 kV and 500 kV network in the vicinity connecting KAPCO and Muzaffargarh-New 220/132 kV substations with Multan 500/220 kV substations. A strong system helps in stable operation of a power plant.

4.2 The Scheme of Interconnection of FEL-PP

The interconnection scheme involves the development of two 132 kV substations, one at FEL-PP - Sanawan and at FCML-Muzaffargarh each. FCML-Muzaffargarh facility of Fatima Group is located in the vicinity of the Muzaffargarh-New 132 kV substation. The peak load at this facility is about 20 MW. As the client wants to supply power to this facility and export the net surplus to the grid, we have proposed two schemes of interconnection, after the development of 132 kV Substations at FEL and FCML-Muzaffargarh, which are as follows:

Option – I:

- A 132 kV double circuit of 35 km using Rail conductor to be laid from FEL to FCML-Muzaffargarh.
- A 132 kV double circuit of about 2 km using Rail conductor to be laid from FCML-Muzaffargarh to Muzaffargarh-New 132 kV Substation.

Option – II:

- A 132 kV single circuit of 35 km using Rail conductor to be laid from FEL to Muzaffargarh-New 132 kV Substation.



- A second 132 kV single circuit using Rail conductor to be laid from FEL to Muzaffargarh-New 132 kV looping in-out at FCML-Muzaffargarh. The length of this complete circuit will be 38 km.

Both these schemes have been shown in Sketch-2 in Appendix-A

It is important to note that Rail conductor has an MVA capacity of 202 MVA. Even though one circuit would be enough to evacuate the entire power of 120 MW from FEL-PP under normal conditions, a double circuit has been proposed in order to fulfill the N-1 contingency criteria.

The availability of two line bays at Muzaffargarh-New 132 kV substation for interconnection from an incoming double circuit has been confirmed by MEPCO.



5. Detailed Load Flow Studies

5.1 Base Case Load Flow January Peak 2016 without FEL-PP

A base case has been developed for the peak load of January 2016 using the network data of NTDC and MEPCO available with PPI, after updating with latest load forecast and expansion plan of NTDC and MEPCO. The peak load of the year 2016 for MEPCO have been modeled as per the latest PMS Demand forecast obtained from NTDC which would be 2926 MW in January.

The results of load flow for this base case are plotted in Exhibit 0.0 of Appendix-B. The system plotted in this Exhibit comprises of 132 kV network feeding Muzaffargarh and Kot Addu and their surrounding substations including Gujrat-South and D. G. Khan.

The load flow results show that the power flows on all the circuits are within their normal rating. The voltage profile of these surrounding substations is also within normal limits.

N-1 contingency analysis has been carried out and the plotted results are attached in Appendix – B as follows:

Exhibit 0.1.1	Muzaffargarh-New to Muzaffargarh 132 kV Single Circuit Out
Exhibit 0.1.2	M.Garh-New to M.Garh Single Circuit and M.Garh to Multan Industrial 132 kV Double Circuit Out
Exhibit 0.2	Dera Ghazi Khan to Muzaffargarh-New 132 kV Single Circuit Out
Exhibit 0.3	Muzaffargarh-New to Khangarh 132 kV Single Circuit Out
Exhibit 0.4	KAPCO to Muzaffargarh 132 kV Single Circuit Out
Exhibit 0.5	Gujrat South to Muzaffargarh 132 kV Single Circuit Out
Exhibit 0.6	KAPCO to Gujrat South 132 kV Single Circuit Out



Under N-1 contingency conditions during the peak load conditions of January 2016 any outage of the 132 kV circuits from Muzaffargarh to Muzaffargarh-New leads to overloading of the intact parallel 132 kV circuit from Muzaffargarh to Muzaffargarh-New. A cross-tripping scheme leading to the outage of the Muzaffargarh to Multan-Industrial 132 kV double circuit can be deployed to overcome this outage situation and avoid any cascaded outages. This is clearly shown in Exhibit 0.1.1 and Exhibit 0.1.2. These are existing issues within the MEPCO network and will have to be addressed by MEPCO as part of their own expansion plans.

We see that in all the other contingency cases the intact circuits remain within the rated capacity. Also the bus bar voltages are well within the permissible limits in all the contingency events.

5.2 Load Flow January with Peak 2016 with FEL-PP – Option I

The scheme of interconnection modeled in the load flow for Option-I of FEL-PP and FCML-Muzaffargarh is as follows:

- Development of a 132 kV Substation at FEL and FCML-Muzaffargarh
- A 132 kV double circuit of 35 km using Rail conductor to be laid from FEL to FCML-Muzaffargarh.
- A 132 kV double circuit of about 2 km using Rail conductor to be lain from FCML-Muzaffargarh to Muzaffargarh-New 132 kV Substation.

The results of load flow as per proposed scheme are shown in Appendix-B.

The results of Normal case of Peak January 2016 for Option are plotted in Exhibit 1.0. It can be seen that after meeting the 11.3 MW demand at FEL, 53.8 MW/circuit flow towards FCML-Muzaffargarh from FEL. After meeting the 20 MW demand at FCML Muzaffargarh, 43.4 MW/circuit flow towards Muzaffargarh-New from FCML-Muzaffargarh. Hence the total export to MEPCO is 86.8 MW.

The power flows on the circuits are seen well within the rated capacities and the voltages on the bus bars are also within the permissible operating range of ± 5 % off the nominal.

We find no capacity constraints on 132 kV circuits under normal conditions i.e. without any outages of circuits.



N-1 contingency analysis has been carried out and the plotted results are attached in Appendix – B as follows:

Exhibit 1.1	FEL to FCML-Muzaffargarh 132 kV Single Circuit Out
Exhibit 1.2	FCML-Muzaffargarh to Muzaffargarh-New 132 kV Single Circuit Out
Exhibit 1.3.1	Muzaffargarh-New to Muzaffargarh 132 kV Single Circuit Out
Exhibit 1.3.2	M.Garh-New to M.Garh Single Circuit Out and M.Garh to Multan Industrial 132 kV Double Circuit Out
Exhibit 1.4	Dera Ghazi Khan to Muzaffargarh-New 132 kV Single Circuit Out
Exhibit 1.5.1	Muzaffargarh-New to Khangarh 132 kV Single Circuit Out
Exhibit 1.5.2	M.Garh-New to K.Garh 132 kV Single Circuit and M.Garh to M.Industrial 132 kV Double Circuit Out
Exhibit 1.6	KAPCO to Muzaffargarh 132 kV Single Circuit Out
Exhibit 1.7	Gujrat South to Muzaffargarh 132 kV Single Circuit Out
Exhibit 1.8	KAPCO to Gujrat South 132 kV Single Circuit Out

Under N-1 contingency conditions during the peak load conditions of January 2016 any outage of the 132 kV circuits from Muzaffargarh to Muzaffargarh-New leads to overloading of the intact parallel 132 kV circuit from Muzaffargarh to Muzaffargarh-New. A cross-tripping scheme leading to the outage of the Muzaffargarh to Multan-Industrial 132 kV double circuit can be deployed to overcome this outage situation and avoid any cascaded outages. This is clearly shown in Exhibit 1.5.1 and Exhibit 1.5.2. These are existing issues within the MEPCO network and will have to be addressed by MEPCO as part of their own expansion plans.

We see that in all the other contingency cases the intact circuits remain within the rated capacity. Also the bus bar voltages are well within the permissible limits in all the contingency events.

5.3 Load Flow January with Peak 2016 with FEL-PP – Option II

The scheme of interconnection modeled in the load flow for Option-II of FEL-PP and FCML-Muzaffargarh is as follows:



- Development of a 132 kV Substation at FEL and FCML-Muzaffargarh
- A 132 kV single circuit of 35 km using Rail conductor to be laid from FEL to Muzaffargarh-New 132 kV Substation.
- A second 132 kV single circuit using Rail conductor to be laid from FEL to Muzaffargarh-New 132 kV looping in-out at FCML-Muzaffargarh. The length of this complete circuit will be 38 km.

The results of load flow as per proposed scheme are shown in Appendix-B.

The results of Normal case of Peak January 2016 for Option II are plotted in Exhibit 2.0. It can be seen that after meeting the 11.3 MW demand at FEL, 55.4 MW flow on the direct circuit to Muzaffargarh 132 kV Substations and 52.1 MW towards FCML-Muzaffargarh from FEL. After meeting the 20 MW demand at FCML-Muzaffargarh, 31.7 MW flow towards Muzaffargarh-New from FCML-Muzaffargarh. Hence the total export to MEPCO is 86.7 MW.

The power flows on the circuits are seen well within the rated capacities and the voltages on the bus bars are also within the permissible operating range of $\pm 5\%$ off the nominal.

We find no capacity constraints on 132 kV circuits under normal conditions i.e. without any outages of circuits.

N-1 contingency analysis has been carried out and the plotted results are attached in Appendix – B as follows:

Exhibit 2.1	FEL to Muzaffargarh-New 132kV Single Circuit Out
Exhibit 2.2	FEL to FCML-Muzaffargarh 132kV Single Circuit Out
Exhibit 2.3	FCML-Muzaffargarh to Muzaffargarh-New 132 kV Single Circuit Out
Exhibit 2.4.1	Muzaffargarh-New to Muzaffargarh 132 kV Single Circuit Out
Exhibit 2.4.2	M.Garh-New to M.Garh Single Circuit Out and M.Garh to Multan Industrial 132 kV Double Circuit Out
Exhibit 2.5	Dera Ghazi Khan to Muzaffargarh-New 132 kV Single Circuit Out
Exhibit 2.6.1	Muzaffargarh-New to Khangarh 132 kV Single Circuit Out



Exhibit 2.6.2	M.Garh-New to K.Garh 132 kV Single Circuit and M.Garh to M.Industrial 132 kV Double Circuit Out
Exhibit 2.7	KAPCO to Muzaffargarh 132 kV Single Circuit Out
Exhibit 2.8	Gujrat South to Muzaffargarh 132 kV Single Circuit Out
Exhibit 2.9	KAPCO to Gujrat South 132 kV Single Circuit Out

Under N-1 contingency conditions during the peak load conditions of January 2016 any outage of the 132 kV circuits from Muzaffargarh to Muzaffargarh-New leads to overloading of the intact parallel 132 kV circuit from Muzaffargarh to Muzaffargarh-New. A cross-tripping scheme leading to the outage of the Muzaffargarh to Multan-Industrial 132 kV double circuit can be deployed to overcome this outage situation and avoid any cascaded outages. This is clearly shown in Exhibit 2.6.1 and Exhibit 2.6.2. These are existing issues within the MEPCO network and will have to be addressed by MEPCO as part of their own expansion plans.

We see that in all the other contingency cases the intact circuits remain within the rated capacity. Also the bus bar voltages are well within the permissible limits in all the contingency events.

5.4 Conclusion of Load Flow Analysis

We conclude that both the proposed interconnection schemes are adequate to evacuate the 118.8 MW power of FEL-PP and meet the load demand of the network developed under normal conditions within the network developed and tested for peak load conditions of January.

Under N-1 contingency conditions during the peak load conditions of January 2016 any outage of the 132 kV circuits from Muzaffargarh to Muzaffargarh-New leads to overloading of the intact parallel 132 kV circuit from Muzaffargarh to Muzaffargarh-New. A cross-tripping scheme leading to the outage of the Muzaffargarh to Multan-Industrial 132 kV double circuit can be deployed to overcome this outage situation and avoid any cascaded outages. These are existing issues within the MEPCO network and will have to be addressed by MEPCO as part of their own expansion plans.



We see that in all the other contingency cases the intact circuits remain within the rated capacity. Also the bus bar voltages are well within the permissible limits in all the contingency events.



6. Short Circuit Analysis

6.1 Methodology and Assumptions

The methodology of IEC 909 has been applied in all short circuit analyses in this report for which provision is available in the PSS/E software used for these studies.

The maximum fault currents have been calculated with the following assumptions under IEC 909:

- Set tap ratios to unity
- Set line charging to zero
- Set shunts to zero in positive sequence
- Desired voltage magnitude at bus bars set equal to 1.10 P.U. i.e. 10 % higher than nominal, which is the maximum permissible voltage under contingency condition.

For evaluation of maximum short circuit levels we have assumed contribution in the fault currents from all the installed generation capacity of hydel, thermal and nuclear plants in the system in the year 2016 i.e. all the generating units have been assumed on-bar in fault calculation's simulations.

The assumptions about the generator and the transformers data are the same as mentioned in Ch.2 of this report.

6.2 Fault Current Calculations without FEL-PP

In order to assess the short circuit strength of the network of 132 kV without FEL-PP for the grid of MEPCO in the vicinity of the site of the Plant near Muzaffargarh and KAPCO fault currents have been calculated for balanced three-phase and unbalanced single-phase short circuit conditions. These levels will give us the idea of the fault levels without FEL-PP and later on how much the contribution of fault current from FEL-PP may add to the existing levels,.

The results are attached in Appendix – C.

The short circuit levels have been calculated and plotted on the bus bars of 132 kV of substations lying in the electrical vicinity of our area of interest i.e. Muzaffargarh-New area, and are shown plotted in the Exhibit 3.0 attached in Appendix-C. Both 3-phase and 1-phase fault currents are indicated in the Exhibit which are given in polar



coordinates i.e. the magnitude and the angle of the current. The total fault currents are shown below the bus bar.

The tabular output of the short circuit calculations is also attached in Appendix-C for the 132 kV bus bars of our interest i.e. the substations connecting in the 132 kV circuits lying close to Muzaffargarh-New. The total maximum fault currents for 3-phase and 1-phase short circuit at these substations are summarized in Table 6.1. We see that the maximum fault currents do not exceed the short circuit ratings of the equipment at these 132 kV substations which normally are 20 kA, 25 kA or 31.5 kA for older substations and 40 kA for new substations.

Table-6.1
Maximum Short Circuit Levels without FEL-PP

Substation	3-Phase fault current, kA	1-Phase fault current, kA
Muzaffargarh New 132 kV	23.01	18.67
Muzaffargarh 132 kV	23.16	18.43
KAPCO 132 kV	35.47	38.29
Kot Adu Old 132 kV	31.01	31.48
Khangarh 132 kV	11.66	8.18
Sadiqabad 132 kV	10.98	8.30
Guddu 2 132 kV	13.41	12.31
D.G. Khan 132 kV	16.03	12.80
Muzffargarh 220 kV	36.63	34.18
Muzaffargarh - New 220 kV	33.92	29.19

6.3 Fault Current Calculations with FEL-PP interconnected–Option I

Fault currents have been calculated for the electrical interconnection of proposed scheme of 132 kV of Option - I. Fault types applied are three phase and single-phase at 132 kV bus bars of FEL-PP and the 132 kV facilities developed as part of the project and other bus bars of the 132 kV substations in the electrical vicinity of Muzaffargarh-New. The graphic results showing maximum 3-phase and 1-phase fault levels are indicated in Exhibit 3.1. Both 3-phase and 1-phase fault currents are

indicated in the Exhibit which are given in polar coordinates i.e. the magnitude and the angle of the current. The total fault currents are shown below the bus bar.

The tabulated results of short circuit analysis showing all the fault current contributions with short circuit impedances on 132 kV bus bars of the network in the electrical vicinity of FEL-PP are placed in Appendix-C. Brief summary of fault currents at significant bus bars of our interest are tabulated in Table 6.2

Table-6.2
Maximum Short Circuit Levels with FEL-PP – Option - I

Substation	3-Phase fault current, kA	1-Phase fault current, kA
FEL 132 kV	10.42	8.03
FCML-M.Garh 132 kV	22.99	18.30
Muzaffargarh New 132 kV	25.15	20.60
Muzaffargarh 132 kV	25.08	20.07
KAPCO 132 kV	35.78	38.56
Kot Adu Old 132kV	31.26	31.67
Gujrat South	10.03	7.31
Khangarh 132kV	12.19	8.53
Sadiqabad 132kV	10.99	8.30
Guddu 2 132kV	13.42	12.32
D.G. Khan 132 kV	16.19	12.89
Muzffargarh-220 kV	36.96	34.54
Muzaffargrah - New 220 kV	34.26	29.56

Comparison of Tables 6.1 and 6.2 show slight increase in short circuit levels for three-phase and single – phase faults due to connection of FEL-PP on the 132 kV bus bars in its vicinity.

Therefore industry standard switchgear of the short circuit rating of 40 kA would be fine to be installed at 132 kV switchyard of FEL-PP taking care of any future generation additions and system reinforcements in its electrical vicinity and also fulfill the NEPRA Grid Code requirements specified for 132 kV switchgear.

6.4 Fault Current Calculations with FEL-PP interconnected–Option

II

Similarly, fault currents have been calculated for the electrical interconnection of proposed scheme of 132 kV of Option - II. The graphic results showing maximum 3-phase and 1-phase fault levels are indicated in Exhibit 3.2. Both 3-phase and 1-phase fault currents are indicated in the Exhibit which are given in polar coordinates i.e. the magnitude and the angle of the current. The total fault currents are shown below the bus bar.

The tabulated results of short circuit analysis showing all the fault current contributions with short circuit impedances on 132 kV bus bars of the network in the electrical vicinity of FEL-PP are placed in Appendix-C. Brief summary of fault currents at significant bus bars of our interest are tabulated in Table 6.2

Table-6.3
Maximum Short Circuit Levels with FEL-PP – Option - II

Substation	3-Phase fault current, kA	1-Phase fault current, kA
FEL 132 kV	10.50	8.11
FCML-M.Garh 132 kV	20.93	16.16
Muzaffargarh New 132 kV	25.15	20.61
Muzaffargarh 132 kV	25.08	20.07
KAPCO 132 kV	35.78	38.56
Kot Adu Old 132kV	31.26	31.67
Gujrat South	10.03	7.31
Khangarh 132kV	12.19	8.54
Sadiqabad 132kV	10.99	8.30
Guddu 2 132kV	13.42	12.32
D.G. Khan 132 kV	16.19	12.89
Muzffargarh-220 kV	36.96	34.54
Muzaffargrah - New 220 kV	34.26	29.56

Comparison of Tables 6.1 and 6.3 show slight increase in short circuit levels for three-phase and single – phase faults due to connection of FEL-PP on the 132 kV bus bars in its vicinity.

Therefore industry standard switchgear of the short circuit rating of 40 kA would be fine to be installed at 132 kV switchyard of FEL-PP taking care of any future generation additions and system reinforcements in its electrical vicinity and also fulfill the NEPRA Grid Code requirements specified for 132 kV switchgear.

6.4 Conclusion of Short Circuit Analysis

The short circuit analysis results show that for both the proposed scheme of interconnection of FEL-PP there is no problem of violations of short circuit ratings of the already installed equipment on the 132 kV equipment of substations in the vicinity of FEL-PP due to fault current contributions from this power house under three-phase faults as well as single phase faults.

- ❖ The maximum short circuit levels of FEL-PP 132 kV and the 132 kV substations developed as part of the project for interconnectivity of Option – I at 132 kV are as follows:

Substation	3-Phase fault current, kA	1-Phase fault current, kA
FEL 132 kV	10.42	8.03
FCML-M.Garh 132 kV	22.99	18.30

Therefore industry standard switchgear of the short circuit rating of 40 kA would be fine to be installed at 132 kV switchyard of FEL-PP taking care of any future generation additions and system reinforcements in its electrical vicinity and also fulfill the NEPRA Grid Code requirements specified for 132 kV switchgear.

- ❖ The maximum short circuit levels of FEL-PP 132 kV and the 132 kV substations developed as part of the project for interconnectivity of Option – II at 132 kV are as follows:



Substation	3-Phase fault current, kA	1-Phase fault current, kA
FEL 132 kV	10.50	8.11
FCML-M.Garh 132 kV	20.93	16.16

Therefore industry standard switchgear of the short circuit rating of 40 kA would be fine to be installed at 132 kV switchyard of FEL-PP taking care of any future generation additions and system reinforcements in its electrical vicinity and also fulfill the NEPRA Grid Code requirements specified for 132 kV switchgear.



7. Conclusions

- ❖ The Draft Report of Interconnection of Power Plant by Fatima Energy Limited (FEL) at Sanawan with MEPCO/NTDC grid system is submitted herewith.
- ❖ The study objective, approach and methodology have been described and the plant's data received from the Client is validated.
- ❖ The updated MEPCO/NTDC system data as available with PPI for other studies have been used with latest load forecast and system expansion plans of NTDC and MEPCO.
- ❖ Fatima Group is considering supplying power to its facilities of FEL, FCML-Muzaffargarh as well as exporting any surplus power to the MEPCO network.
- ❖ We have proposed two interconnection schemes of 132 kV for FEL, FCML-Muzaffargarh and Muzaffargarh-New 132 kV substation. The proposed Interconnection Schemes of 132 kV is as follows:

Option – I:

- Development of 132 kV Substations at FEL and FCML-Muzaffargarh.
- A 132 kV double circuit of 35 km using Rail conductor to be laid from FEL to FCML-Muzaffargarh.
- A 132 kV double circuit of about 2 km using Rail conductor to be laid from FCML-Muzaffargarh to Muzaffargarh-New 132 kV Substation.

Option – II:

- Development of 132 kV Substations at FEL and FCML-Muzaffargarh.
 - A 132 kV single circuit of 35 km using Rail conductor to be laid from FEL to Muzaffargarh-New 132 kV Substation.
 - A second 132 kV single circuit using Rail conductor to be laid from FEL to Muzaffargarh-New 132 kV looping in-out at FCML-Muzaffargarh. The length of this complete circuit will be 38 km.
- ❖ In view of planned COD of the FEL-PP, the above proposed interconnection scheme has been tested for steady state conditions through detailed load flow studies for the peak load conditions of January 2016 for maximum load conditions. The system conditions of normal and N-1 contingency have been studied to meet the reliability criteria of NEPRA Grid Code.



- ❖ Steady state analysis by load flow for peak load of January 2016 reveals that the proposed schemes are adequate to evacuate the maximum power of the Plant under normal conditions and contingency conditions with the operational arrangements discussed in the report.
- ❖ The preliminary short circuit analysis has been carried out to calculate maximum fault levels at FEL-PP and the substations of 132 kV developed as part of this project as well as the existing 220 kV and 132 kV substations in the project's vicinity.
- ❖ The maximum short circuit levels of FEL-PP 132 kV and the 132 kV substations developed as part of the project for interconnectivity at 132 kV are as follows:

For Option - I

Substation	3-Phase fault current, kA	1-Phase fault current, kA
FEL 132 kV	10.42	8.03
FCML-M.Garh 132 kV	22.99	18.30

For Option - II

Substation	3-Phase fault current, kA	1-Phase fault current, kA
FEL 132 kV	10.50	8.11
FCML-M.Garh 132 kV	20.93	16.16

Therefore industry standard switchgear of the short circuit rating of 40 kA would be fine to be installed at 132 kV switchyard of FEL-PP taking care of any future generation additions and system reinforcements in its electrical vicinity.

- ❖ The proposed schemes of interconnection fulfill all the criteria of reliability and stability under steady state load flow and contingency load flows within the network developed by Fatima Energy.



Summary of 11/132 kV Grid at Fazal Cloth Mills Limited

M/s Fazal Cloth Mills is planning to install a 132kv Grid Station at their facility located at Muzaffargarh

The Grid comprises of:

- 1- Two Nos. 132kv OHL bays with associated control protection and metering system
- 2- Two Nos. Transformer bays with 20/26MVA , 132/11kv Power Transformers with associated control Protection and metering system
- 3- An overhead Single busbar arrangement with associated metering and protection System
- 4- 11kv system comprising of two Incomers
- 5- Station Supervisory Control and Data Acquisition (SCADA) System
- 6- Power Line carrier and Telecommunication system at the proposed station
- 7- Grid station AC/ DC auxillary supply and yard lighting system
- 8- Engineering and design
- 9- Installation testing and commissioning.

Activities:

The Grid station project shall be comprised of following major activities in different stages.

Design stage:

- 1- Preparation and submission of the Project schedule with complete detail activities.
- 2- Site survey and soil investigation
- 3- Yard layouts and structure design
- 4- Switchyard Earthing system design
- 5- Control Protection metering system design
- 6- SCADA & telecom architecture
- 7- Technical data of the High Voltage equipment

The above shall be prepared submitted for the review/ approval of the concerned authorities

Supply Stage :

Based on the technical approvals of the design, equipment, systems shall manufactured and a

Factory Acceptance Test readiness will be intimated to M/s FCML at a suitable time offering

Pre-Shipment Inspection of the major equipment / panels . After the inspection clearance or /

waiver to Inspection the equipment shall be transported to site store.

Installation stage:

The Installation activities include

- 1- Erection of steel support structures, Gentries and overhead busbar works
- 2- Hauling of High Voltage equipment on the support structures / foundations
- 3- Overhead shield work
- 4- HV connection work
- 5- Control and Power cable laying, termination and connection

Testing & commissioning stage:

At this stage below activities shall be performed

- 1- Pre commissioning checks/ test on individual equipment and protection devices
- 2- Pre-commissioning checks/ tests on the complete system function
- 3- Statutory witnessing of the Grid station testing by Independent engineer/ agency

Completion stage:

- 1- Preparation and submission of Final as built drawings
- 2- Handing over the spare parts
- 3- Signing of handing/ Taking over certificate

132 KV GRID STATION - BOQ EQUIPMENT

	Fazal Cloth Mills, Sanawan, Muzaffargarh		
S/No.	Items	Unit	Qty
	132KV Switch Yard Equipment		
1	132/11.5 KV, 20/26 MVA Transformers	No.	2
2	120 KV Metal Oxide (Gapless) Surge Arresters	No.	6
3	145 KV, 40 ka 2000 Amps, 110 v DC SF6 Circuit Breakers	set	4
4	145 KV, 40 ka 2000 Amps, three pole single throw bus Disconnectors	set	4
5	145 KV,40 KA, 2000Amps, single throw Line Disconnectors with Earthing Switch	set	2
6	145 KV Single Phase Current Transformers ratio 1200:600:300/5-5-5A	Nos.	6
7	145 KV Single Phase Current Transformers ratio 200:100/5-5-5A	Nos.	6
8	145 KV, Voltage Transformers Ratio 132/V3/0.11/V3 single phase	Nos.	9
9	12 KV Surge Arresters	Nos.	6
10	132 KV Tension String Assembly complete as per		
11	NTDC Specifications	set	6
	132KV Steel Gantries as follows:		
	i) Beams (2 Nos. Low Level Bus Bar Gantries & 2 Nos. High Level Line Gantries)	Nos.	2+2
	ii) Column (4 Nos. for Low Level Bus Bar & 4 Nos. High Level Line Gantries)	Nos.	4+4
	iii) Earth Mast	Nos.	1
	132 KV Substation Connectors as follows:		
12	i) TMRH	Nos.	6
	ii) TMHH	Nos.	15
	iii) 90BH30	Nos.	6
	Earth Wire Tension assembly with G-clamp	sets	4
13	11 KV Post Insulators with clamp	Nos.	0
14	Disc Insulators 100KN	sets	6
15	11 KV Structures	Nos.	2
16	Earthing System Cartridges of following types		
17	i) Type A	Nos.	150
	ii) Type B	Nos.	100
	iii) Type C	Nos.	45
	Moulds with holding clamps of following types		
18	i) Type A	Nos.	8
	ii) Type B	Nos.	2
	iii) Type C	Nos.	2
	Grounding Connectors of following Types		
19	i) Type I	lot	1
	ii) Type II	lot	1
	iii)Type III	lot	1
	11 KV SWITCHGEAR PANELS		
20	11 Kv, Metalclad indoor type switchgear, incoming panel		
	specially upgraded for 31.5/40 MVA power transformer,		
	2500 amps, 25 KA breaking capacity, 11 KV CTs for metering		
	and protection ratio2400:1200/5-5 A and for differential		
	protection ratio2400:1200/5A. The design of CT compartment		

	should accommodate 05 Nos. I-core 11 kv 1000mcm power		
	cables per phase as per NTDC specifications P-44:96 and		
	P-202:2012	Nos.	2
	11 KV Metalclad indoor type switchgear Bus Coupler Panel with		
	630 A, 25 KA breaking capacity, 11 kv CTs ratio 400:200/5-5A		
	as per NTDC specifications P-44:96	Nos.	1
	Battery, Battery Chargers		
21	Battery 110 V DC, 150 AH	set	1
	Battery Charger 110v DC	No.	1
	AC/DC Auxilary Panel	Nos.	1
	11/0.415 V, 200 kva Station Transformers	Nos.	1
	Control & Relay Panels		
22	i) Line Control Panel type CP-30(110v DC,5 amps) as		
	per NTDC Specifications P-151:2008	Nos.	2
	ii)Transformer Control Panel type CP-50 (110v DC, 5amps)		
	as per NYDC Specifications P-151:2008	Nos.	2
	iii) Line Relay Panel type RP-3 (110v DC, 5 amps) as		
	per NTDC Specifications P-151:2008		2
	iv) Transformer Relay Panel type RP-4 (110v DC, 5A)		
	asper NTDC specifications P-151:2008	Nos.	2
	XLPE 11 KV POWER CABLE as per NTDC Specifications P-29:2010		
23	with Termination Kits as per NTDC Specs: P-184:86		
	i) 1 Core 1000 MCM	m	2500
	ii) 3 Core 4/0 AWG	m	100
	iii) Indoor Termination Kits for 1000 MCM	No.	6
	iv) Indoor termination kits for 3 Core 4/0 AWG	set	1
	v) Outdoor termination kit for 3 Core 4/0 AWG	set	1
	Control Cables asper NTDC Specifications P-100:2005 as follows		
24	i) Control Cable 4x2.5 mm sq	m	2500
	ii) Control Cable 8x2.5 mm sq	m	1500
	iii) Control Cable 16x2.5 mm sq	m	2500
	iv) Control Cable 4x6 mm sq	m	2500
	v) Cable trays, racks,supports,conduits	lot	1
	vi) LT Cable19/0.083 4-core	m	70
	Earthing System		
25	Grounding Conductor 95 mm sq	m	2000
	Earthing Rod16mm diax 3m long	No.	36
	Earthing Platforms	No.	9
	Overhead Line + Grid Bus Bar		
27	All Aluminium Conductor 600 mm sq	m	350
	Earth Wire 9 mm	m	200
	Fire Fighting System		

28	i) Mobile Fire Extinguishers for switchyard area	Nos	5
	ii) Fire Extinguishers for Control Building (Wall Mounted)	Nos.	12
29	Engineering Design & Specifications of Electrical/Mechanical Equip't	lot	

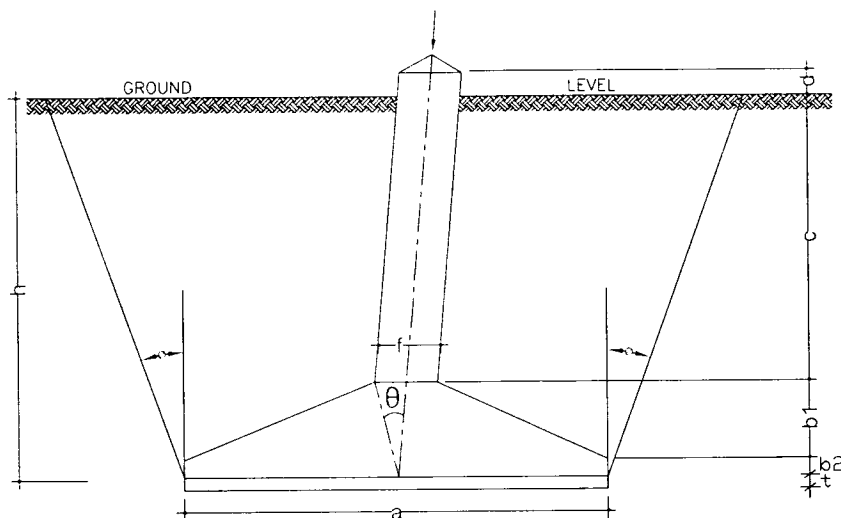
NOTE: The conductor & cable lengths can vary on actual measurements

**Connectivity of FEL Grid To 132 KV Grid Station Fazal Textile Mill and
220 KV Grid Station Muzaffar Garh.
Length of Line = 37 Km Double Circuit**

(A) Transmission Line Material			
S. #	Description	Unit	Qty
1	2	3	4
1	TOWERS		
i	Tower Type ZM 1	No	112
ii	3-meter leg Extension for ZM 1	No	4
iii	6-Meter leg Extension for ZM-1	No	4
iv	Tower type ZM 30	No	8
v	3-meter leg extension for ZM 30	No	2
vi	Tower type ZM 60	No	10
vii	3-meter leg extension for ZM 60	No	2
viii	Tower Grounding set	No	130
2	CONDUCTOR		
	ACSR Rail Conductor	K.M	228.66
3	EARTH WIRE		
	Earth wire 9 mm	K.M	38.11
4	DISC INSULATOR		
	Disc Insulator Log type 80 K.N	No	9119
5	HARD WARE		
i	Single Suspension fitting for Rail	Set	672
ii	Single Tension Fitting for Rail	Set	216
iii	Mid Span joint for Rail	No	70
iv	Repair sleeve for Rail	No	35
v	SB Damper for Rail	No	1560
vi	S.S Fitting for earth wire	Set	112
vii	S.T Fitting for earth wire	Set	36
viii	SB Damper for earth wire	No	260
ix	Mid Span joint for earth wire	No	30
x	PG Clamps for Rail	No	264

(B)Transmission Line Civil/Electrical Work			
S. #	Description	Unit	Qty
1	2	3	4
B(1)	Construction survey and sub-soil investigation		
i	Profile Preparation Design approval	Job	1/Sum
ii	Route Clearing	Km	37
iii	Construction survey including pegging out and layout of tower locations, spotting / staking of towers	Km	37
iv	Cross compensation (37 KM) ***	Tower	130
	Sub soil investigation & Boring (As per standard)		1
B(2)	Tower Foundation at 20/15 degree		
	Construction of the tower foundation of the following type of tower in water logged normal soil area using S.R cement crush stone size 1/2" to 3/4" fill sand concreting complete i.e excavation in varied type of soil, open dewatering if required, stub setting, providing steel former as per approved design concrete mix ratio with mixture machine, concrete mix ratio 1:2:4 curing back filling compacting and also cylinder cube test up to the strength 21N/mm ² (3000 PSI) at 28 days curing.		
i	Tower Type ZM1, ZM1+3+6 at 20 degree angle of repose as per drawing No. PDW/TC-198	footing	444
ii	Tower Type ZM30, ZM30+3 at 20 degree angle of repose as per drawing No. PDW/TC-199	footing	28
iii	Tower type ZM60, ZM60+3 at 20 degree angle repose as per drawing No. PDW/TC-200	footing	36
iv	Tower type ZM1, ZM1+3, ZM1+6 at 15 degree angle of repose as per drawing no. PDW/TC-440	footing	4
v	Tower type ZM30, ZM30+3, at 15 degree angle of repose as per drawing no. PDW/TC-441	footing	4
vi	Tower type ZM60, ZM60+3, at 15 degree angle of repose as per drawing no. PDW/TC-442	footing	4
B(3)	Installation of grounding set	sets	130
B(4)	Tower Type Pile Foundation		
	Rein forced concrete pile foundation (cast in situ installation) complete in all type of soil with supply of materials ect using portland cement type-v conforming to ASTM C-150 including installaion of tower stubes and tower ground for all tower type.		
i	Rein forced concrete pile caps with chimney grade and stub setting	Each	4
ii	Rein forced conerete single pile per footing 600mm dia without pile cap pile shaft upto depth of 15 meter.	Lin.MTR	60

B(5)	Tower Erection		
	Transportation of material from site store to location and erection of D/C type tower installation of ACD. Sign plate barbed wire and complete in all respect for following type of towers:		
i	Tower Type ZM1	Nos.	104
ii	Tower Type ZM1+3	Nos.	4
iii	Tower Type ZM1+6	Nos.	4
iv	Tower Type ZM30	Nos.	6
v	Tower Type ZM30+3	Nos.	2
vi	Tower Type ZM60	Nos.	8
vii	Tower Type ZM60+3	Nos.	2
viii	Anti climbing devices & Danger Signs installation		
B(6)	Electric Welding		
	Electric welding nuts & bolts on erected towers up to 6-meters and applying paint on welded nuts & bolts:		
i	Tower Type ZM1 104 /160 /tower	Nos.	28800
ii	Tower Type ZM1+3 4 /260 /tower	Nos.	3900
iii	Tower Type ZM1+6 4 /310 /tower	Nos.	2170
iv	Tower Type ZM30 6 /370 /tower	Nos.	10730
v	Tower Type ZM30+3 2 /450 /tower	Nos.	2700
vi	Tower Type ZM60 8 /545 /tower	Nos.	9810
vii	Tower Type ZM60+3 2 /585 /tower	Nos.	2340
B(7)	Stringing Work		
i	The stringing/sagging according to Wapda standard 06-No. conductor type ACSR Rail conductor i/c installation of assemblies, hardware, insulator, joints, dead end bodies and jumpering	KM	37
ii	Stringing/sagging according to WAPDA standard 1No; shield wire i/c installation of assemblies, hardware jointing, dead end and jumpering.	KM	37
iii	Installation of S.B Dampers for Rail conductor	Each	1560
iv	Installation of S.B Dampers for shield wire	Each	260
v	Other installation charges		0
B(8)	Commissioning and testing of 132Kv T/Line 37 KM	KM	1/Sum



NOTES

- 1 UNLESS OTHERWISE SHOWN, ALL DIMENSIONS ARE IN MILLIMETERS.
- 2 CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE CYLINDER STRENGTH OF 3000 PSI (210kg/sq cm) AT 28 DAYS.
- 3 PORTLAND CEMENT CONFORMING TO ASTM DESIGNATION C-150 TYPE-1 SHALL BE USED FOR ALL FOUNDATIONS.
- 4 MAXIMUM SIZE OF COARSE AGGREGATE SHALL NOT EXCEED 40mm.
- 5 UNLESS OTHERWISE SPECIFIED ALL CORNERS IN CONCRETE SHALL BE CHAMFERED BY 20mm.
- 6 CONCRETE SLUMP SHALL NOT EXCEED 75mm.
- 7 EXCAVATION SHALL BE MADE TO THE LINES AND GRADE AS SHOWN.
- 8 BACKFILL SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH CONTRACT SPECIFICATIONS.
- 9 PORTLAND CEMENT CONFORMING TO ASTM DESIGNATION C-150 TYPE-V SHALL BE USED WHERE REQUIRED.
- 10 THIS DRAWING IS BASED ON WAPDA DRAWING NO PDW/TC.198. Rev-1 (Foundation of ZM-1 type tower with 10'x20' extension).

TOWER TYPE	ANGLE OF UPLIFT θ	STUB ANGLE θ	DIMENSIONS OF FOOTINGS IN mm							VOLUME OF CUT m ³	CONCRETE		SOIL		UPLIFT FACTOR	BEARING PRESSURE kg
			a	b1	b2	c	d	t	f		VOLUME m ³	WEIGHT kg	VOLUME m ³	WEIGHT kg		
ZM-1 WITH 10' EXT	20	10.1	1800	400	100	1900	150	80	400	17.50	1.46	3270.06	16.06	25687.15	1.0137	1.3430
ZM-1 WITH 20' EXT	20	10.1	1900	400	100	1900	150	80	400	18.84	1.58	3541.65	17.28	27630.88	1.0263	1.2913

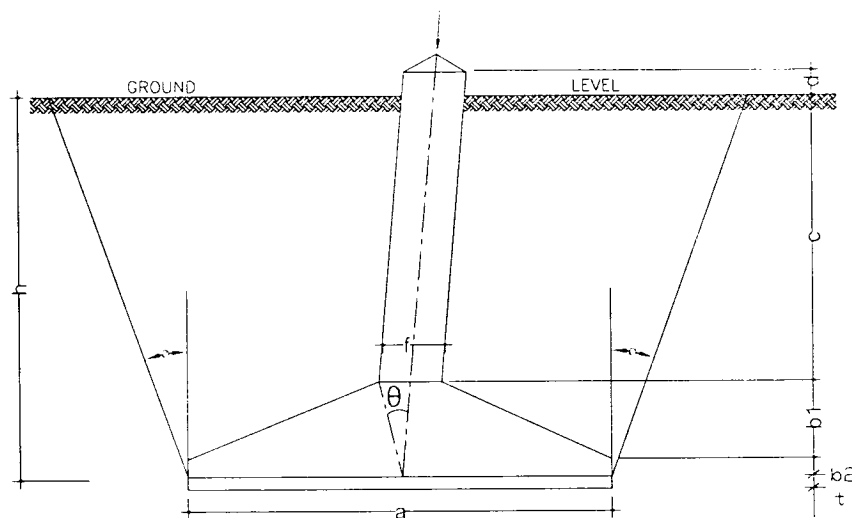
WITH 10' EXTENTION.

MAX UPLIFT/leg = 28566 kg
MAX COMPRESSION/leg = 40242 kg

WITH 20' EXTENTION.

MAX UPLIFT/Leg = 30375 kg
MAX COMPRESSION/Leg = 43075 kg

FOUNDATION OF ZM-1



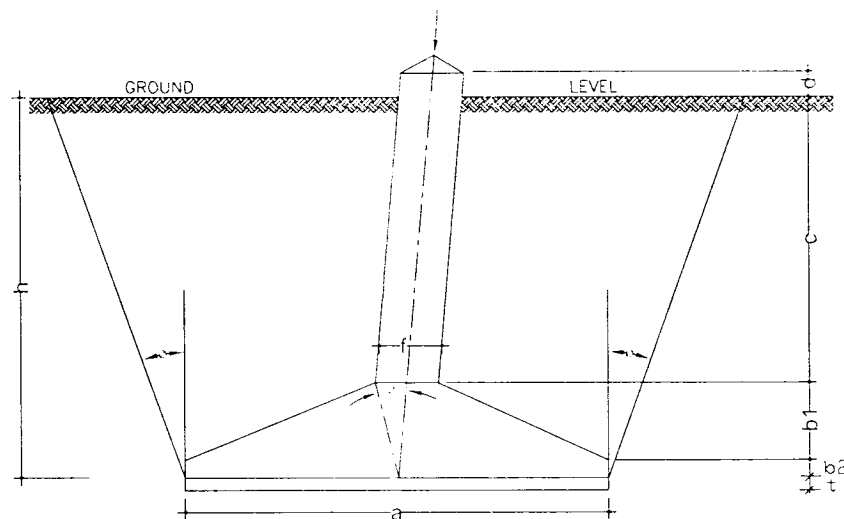
NOTES

- 1 UNLESS OTHERWISE SHOWN, ALL DIMENSIONS ARE IN MILLIMETERS.
- 2 CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE CYLINDER STRENGTH OF 3000 PSI (210kg/sq.cm) AT 28 DAYS.
- 3 PORTLAND CEMENT CONFORMING TO ASTM DESIGNATION C-150 TYPE-1 SHALL BE USED FOR ALL FOUNDATIONS.
- 4 MAXIMUM SIZE OF COARSE AGGREGATE SHALL NOT EXCEED 40mm.
- 5 UNLESS OTHERWISE SPECIFIED ALL CORNERS IN CONCRETE SHALL BE CHAMFERED BY 20mm.
- 6 CONCRETE SLUMP SHALL NOT EXCEED 75mm.
- 7 EXCAVATION SHALL BE MADE TO THE LINES AND GRADE AS SHOWN.
- 8 BACKFILL SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH CONTRACT SPECIFICATIONS.
- 9 PORTLAND CEMENT CONFORMING TO ASTM DESIGNATION C-150 TYPE-V SHALL BE USED WHERE REQUIRED.
- 10 THIS DRAWING IS BASED ON WAPDA DRAWING NO. PDW/TC.199. Rev-1(Foundation of ZM-30 type tower with 10' extension).

TOWER TYPE	ANGLE OF UPLIFT θ	STUB ANGLE θ	DIMENSIONS OF FOOTINGS IN mm							VOLUME OF CUT m	CONCRETE		SOIL		UPLIFT FACTOR	BEARING PRESSURE kg/cm ²
			a	b1	b2	c	d	t	f		VOLUME m ³	WEIGHT kg	VOLUME m ³	WEIGHT kg		
ZM-30 WITH 10 EXT	20	14.95	2500	600	100	2140	150	80	400	36.11	2.97	6657.44	33.16	53019.28	1.0448	1.1836

MAX UPLIFT/Leg = 57115.4kg
MAX COMPRESSION/Leg = 67320.6kg

FOUNDATION OF ZM-30



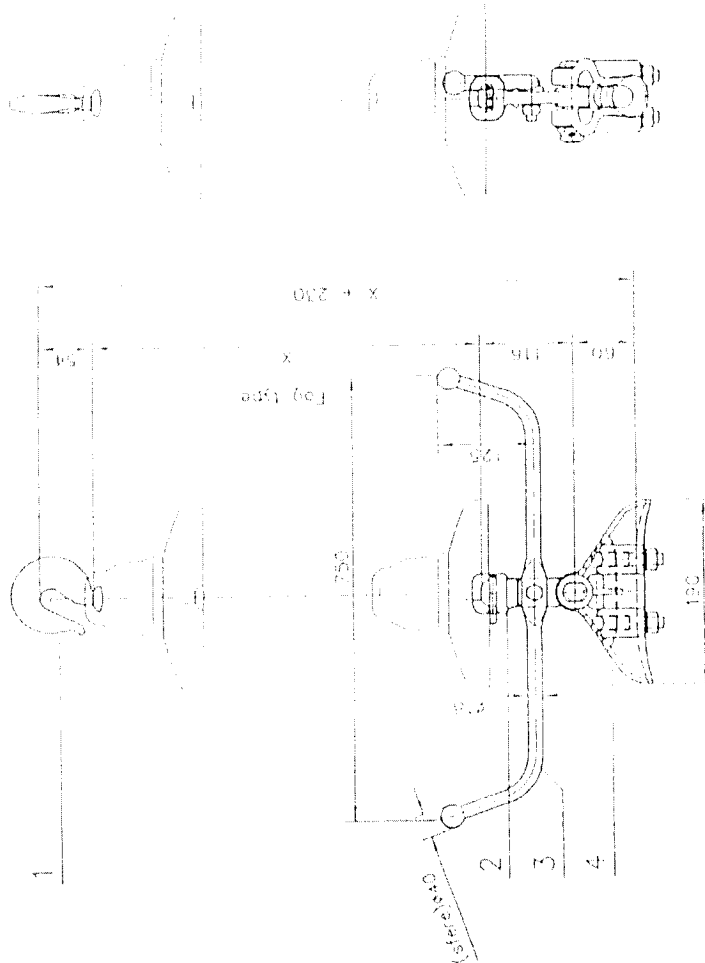
NOTES

- 1 UNLESS OTHERWISE SHOWN, ALL DIMENSIONS ARE IN MILLIMETERS.
- 2 CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE CYLINDER STRENGTH OF 3000 PSI (210kg/sq cm) AT 28 DAYS
- 3 PORTLAND CEMENT CONFORMING TO ASTM DESIGNATION C-150 TYPE-1 SHALL BE USED FOR ALL FOUNDATIONS.
- 4 MAXIMUM SIZE OF COARSE AGGREGATE SHALL NOT EXCEED 40mm
- 5 UNLESS OTHERWISE SPECIFIED ALL CORNERS IN CONCRETE SHALL BE CHAMFERED BY 20mm
- 6 CONCRETE SLUMP SHALL NOT EXCEED 75mm
- 7 EXCAVATION SHALL BE MADE TO THE LINES AND GRADE AS SHOWN
- 8 BACKFILL SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH CONTRACT SPECIFICATIONS.
- 9 PORTLAND CEMENT CONFORMING TO ASTM DESIGNATION C-150 TYPE-V SHALL BE USED WHERE REQUIRED.
- 10 THIS DRAWING IS BASED ON WAPDA DRAWING NO. PDM/TC.200. Rev-1(Foundation of ZM-60 type tower with 10' extension).

TOWER TYPE	ANGLE OF UPLIFT θ	STUB ANGLE θ	DIMENSIONS OF FOOTINGS IN mm							VOLUME OF CUT m ³	CONCRETE		SOIL		UPLIFT FACTOR	BEARING PRESSURE kg
			a	b1	b2	c	d	t	f		VOLUME m ³	WEIGHT kg	VOLUME m ³	WEIGHT kg		
ZM-60 WITH 10' EXT	20	17.9	2400	800	100	2160	150	80	400	38.42	3.24	7256.75	35.20	56292.03	0.0302	1.4926

MAX UPLIFT/Leg = 61684 kg
MAX COMPRESSION/Leg = 78715 kg

FOUNDATION OF ZM-60



Mass: 5.15 kg (without insulators)

For Stamp
See overhead

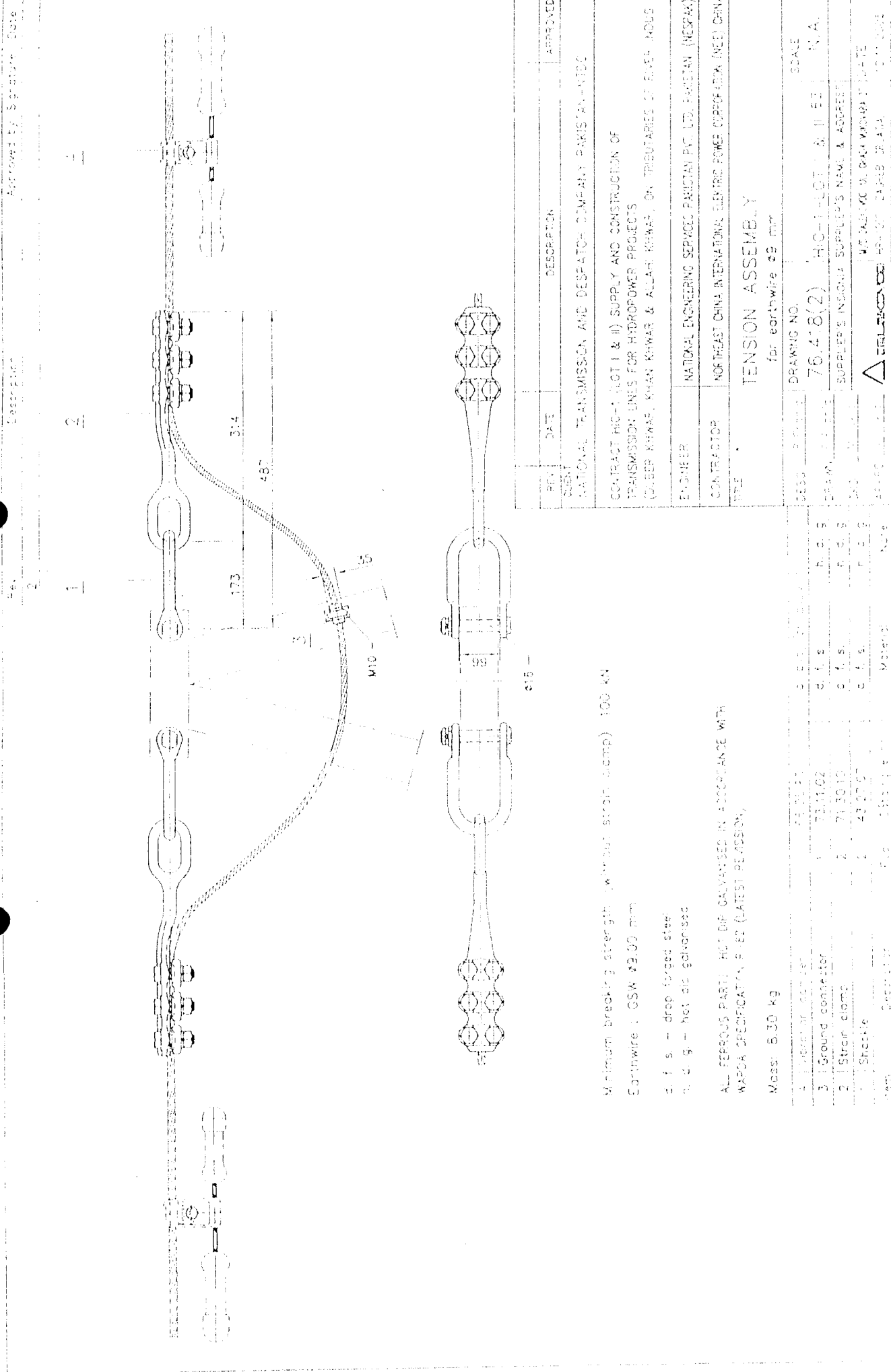
Item	Description	QTY	Unit	Material	Remarks
1	Suspension clamp	1	PC	1018 10	
2	Arching horn	1	PC	4111 40 4	
3	Socket tongue	1	PC	24 40 20	
4	Bolt hook	1	PC	22 30 12	

Minimum breaking strength 10.15
Line voltage 132 kV
Conductor 2 x SP 7/19/107 7/10.63 mm
S.F. 2. = steel strand steel
R.D. 9 = hot dip galvanized
Standard loading 10.15 kN (ED 12) 10A

NO ARCHE AND VOLTAGE AT 100KV 10.15 kN
ALL FERROUS PARTS SHALL BE GALVANIZED IN ACCORDANCE WITH
WAPDA SPECIFICATION 3.10 LATEST REVISION

B	18.01.06	Change section of insulator	M. J. Ali
A	17.11.05	Change date (blue book)	M. J. Ali
REV	DATE	DESCRIPTION	APPROVED
CLIENT			
NATIONAL TRANSMISSION AND DESPATCH COMPANY PAKISTAN LTD			
CONTRACT HIC-1 (LOT 1 & 2) SUPPLY AND INSTALLATION OF TRANSMISSION LINES FOR HIC-1 POWER PROJECT (QUBER KHWAR, KHAN, KHAN & ALLAH KHAN) ON THE LINES OF RIVER INDUS			
ENGINEER			
NATIONAL ENGINEERING SERVICES PVT LTD, PAKISTAN (INDIA)			
CONTRACTOR			
NORTHWEST CHINA INTERNATIONAL ELECTRIC POWER CORPORATION, N.C. CHINA			
TITLE			
SINGLE SUSPENSION STRING - SSL			

DESIGN NO	75.132.332	HIC-1-107	W. H. 50	SCALE
DESIGN BY				
CHECKED BY				
APPROVED BY				
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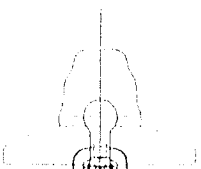
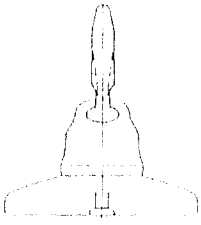
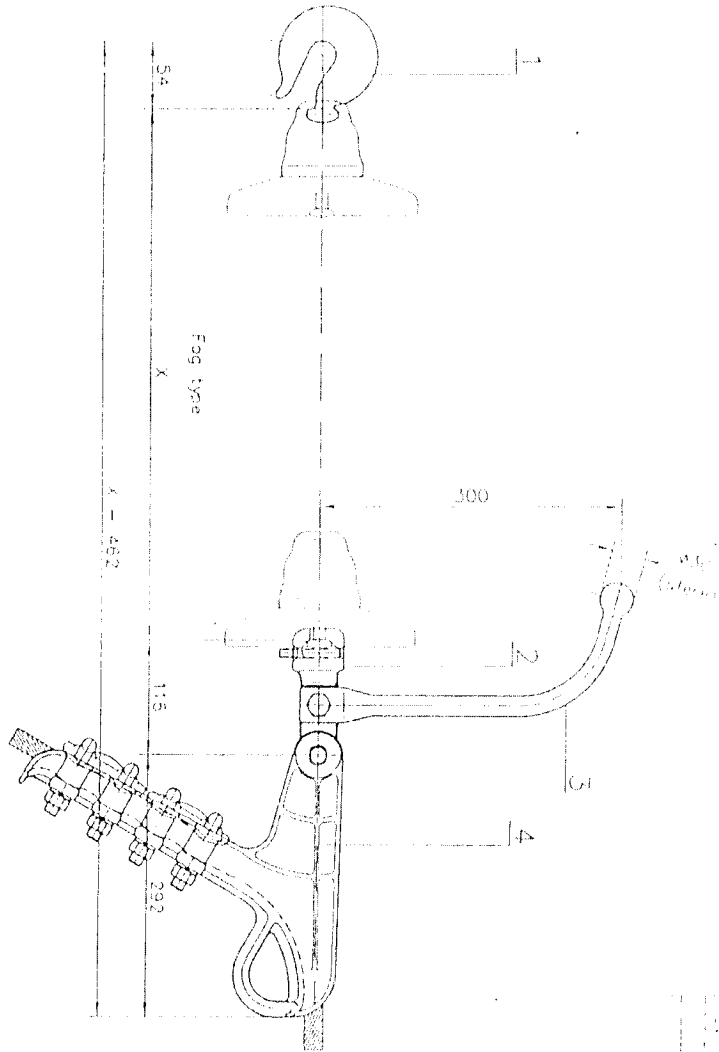
- U. S. - drop forged steel.
U. S. - no die casting.

501-15

[illegible]

0556 - R F 0556	DRAWING NO	75-306A	HC-1-LOT 1 & 1-62	N.A.	SCALE
DRAWN BY 0556	SUPPLIER'S DESIGN &	SUPPLIER'S NAME & ADDRESS		DATE	
CHECKED BY 0556	DATE		APPROVED BY		DATE

REV	DATE	DESCRIPTION	APPROVED
<p>CUSTOMER NATIONAL TRANSMISSION AND DESPATCH COMPANY PAKISTAN-NTDC</p> <p>CONTRACT HIC-1 (LOT I & II) SUPPLY AND CONSTRUCTION OF TRANSMISSION LINES FOR HYDROPOWER PROJECTS (DUBEE KHWAR, KHAN KHWAR & ALLAH KHWAR) ON TRIBUTARIES OF RIVER INDUS</p>			
ENGINEER			NATIONAL ENGINEERING SERVICES PAKISTAN PVT. LTD. PAKISTAN (NESPAK)
CONTRACTOR			NORTHEAST CHINA INTERNATIONAL ELECTRIC POWER CORPORATION (NEC) CHINA
TITLE			SUSPENSION SET - for shieldwire -



For Stamp
See overleaf

Mass 5.30 kg (without insulator)

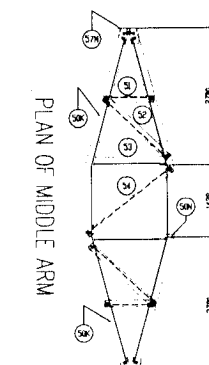
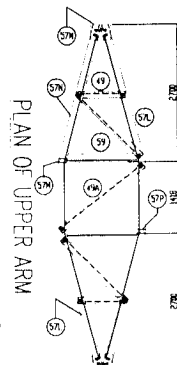
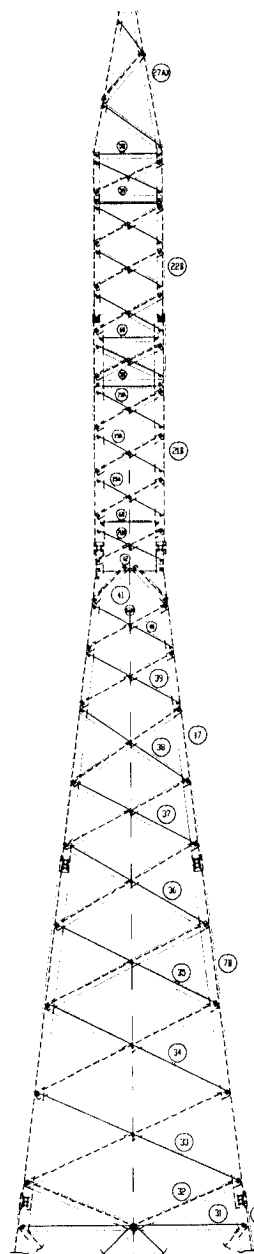
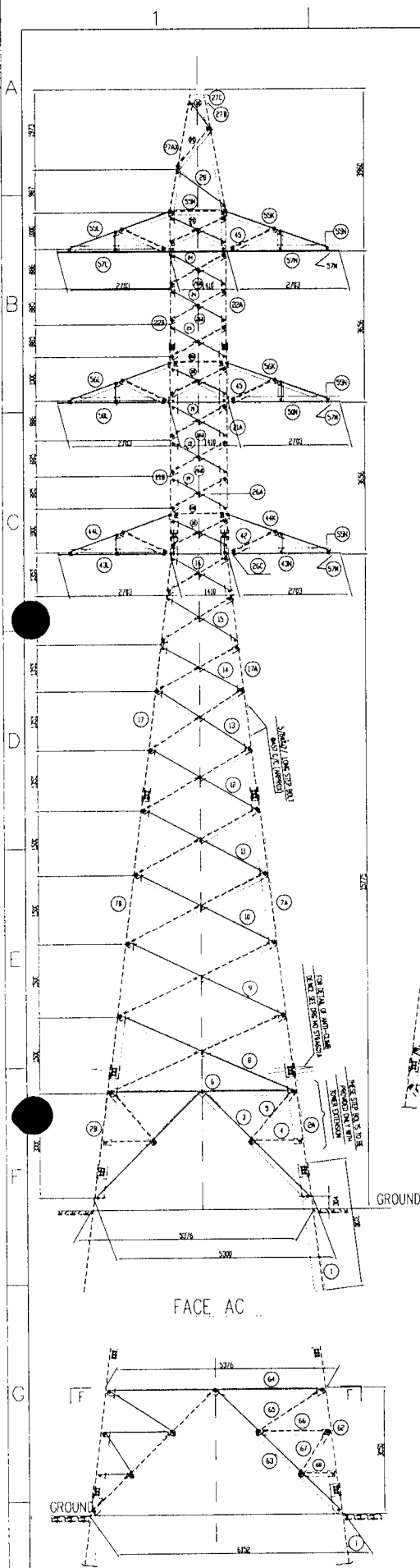
Item	Description	Pos	Quantity no.	Version	Unit
4	Stitch clamp	1	16.21.30	01.000	
3	Arising horn	1	4113.28.2	01.01.5	
2	Socket tongue	1	24.42.20	01.01.5	
1	Ball hook	1	20.30.10	01.01.5	

80 KVA 10/10 mm

Minimum breaking strength (without tension clamp) 50 kN
Line voltage 102 kV
Conductor ACSR "LVN" 67.5/53 mm
d 1.5 - steel forged steel
to d. 9 - hot dip galvanised
Structure coupling according to IEC 120/15A

NO ADJUSTABLE AND VISIBLE CORONA AT 100KV (LINE TO GROUND)
ALL FERROUS PARTS HOT DIP GALVANISED IN ACCORDANCE WITH
WAPDA SPECIFICATION P-82 (LATEST REVISION)

3	18.01.06	Change sketch of insulator	W. A. A. B.
4	17.11.05	Change size (see block)	W. A. A. B.
REV	DATE	DESCRIPTION	APPROVED
CLIENT NATIONAL TRANSMISSION AND DISPATCH COMPANY PAKISTAN LTD.			
CONTACT H/O-1 (LOT 1 & II) SUPPLY AND CONSTRUCTION OF TRANSMISSION LINES FOR HYDROPOWER PROJECTS (DUBER KHAN, KHAN KHAN, & ALI KHAN) ON BEHALF OF P. E. INDUS			
ENGINEER NATIONAL ENGINEERING SERVICES PAKISTAN PVT. LTD. PAFKOT (NEPRA)			
CONTRACTOR NORTHEAST CHINA INTERNATIONAL ECONOMIC POWER CORPORATION (NEC) CHINA			
TITLE SINGLE TENSION SET ST-1			
DRESSING NO. 76.152.217		H/O-1-LOT 1 & II ST	
DRAWING NO. 76.152.217		H/O-1-LOT 1 & II ST	
SUPERVISOR'S SIGNATURE AND ADDRESS		DATE	
APPROVED BY		DATE	



?		b		?		i	
g	h	e	n	l	h	l	e
1	2	3	4	5	6	7	8
1	125X10	3100	4	59.31	237.24		
2	125X10	3100	1+3	60.84	243.76		
3	180X6	3627	8	26.75	214.00		
4	145X5	3100	8	4.00	32.00		
5	145X5	1634	8	5.50	44.00		
6	170X5	4589	2	24.77	49.54		
7	180X6	6540	1+3	80.90	254.00		
8	180X6	4736	4	34.93	139.72		
9	180X6	4283	4	31.59	126.36		
10	170X5	3861	4	30.84	123.36		
11	170X5	3464	4	18.70	74.80		
12	156X5	3091	4	33.14	132.56		
13	156X5	2745	4	16.67	46.68		
14	156X5	2396	4	18.19	46.76		
15	156X5	2104	4	8.94	35.76		
16	156X5	1818	4	7.73	30.92		
17	190X8	6453	1+3	71.07	224.28		
18	180X6	5549	4+4	6.58	26.64		
19	156X5	1610	12	126.84	364.16		
20	156X5	1548	8	6.58	26.64		
21	180X6	4540	1+3	61.44	245.76		
22	170X5	3894	1+3	11.02	44.08		
23	156X5	1610	8	6.84	27.12		
24	156X5	1608	16	8.84	35.44		
25	145X5	1546	8	8.21	41.68		
26	180X6	1140X14 PLATES	-	-	-		
27	163X6	3796	1	21.72	43.72		
28	163X6	3796	1+2	21.72	43.76		
29	145X5	1089	4	7.17	28.68		
30	145X5	870	4	2.93	11.72		
31	170X5	4589	2	24.77	49.54		
32	170X5	2380	4	22.84	91.28		
33	170X5	4506	4	24.32	97.28		
34	180X6	4078	4	20.02	80.08		
35	170X5	3659	4	19.75	79.08		
36	170X5	3277	4	17.63	70.76		
37	156X5	2592	4	22.41	43.64		
38	156X5	2582	4	10.98	43.92		
39	156X5	2258	4	7.60	30.40		
40	156X5	1998	4	8.32	33.28		
41	156X5	978	4	2.99	15.96		
42	180X6	1386	2	10.22	20.44		
43	180X6	1140X14 PLATES	-	-	-		
44	156X5	-	-	-	-		
45	145X5	1450	12	4.07	20.68		
46	145X5	445	12	2.50	18.00		
47	145X5	772	4	2.68	10.48		
48	145X5	1746	4	1.88	7.52		
49	180X6	1998	1+1	14.02	28.02		
50	180X6	1140X14 PLATES	-	-	-		
51	145X5	1778	2	5.99	11.98		
52	145X5	1749	2	5.89	11.78		
53	180X6	1382	2	10.15	20.30		
54	156X5	1975	1	8.48	8.48		
55	156X5	-	-	-	-		
56	156X5	-	-	-	-		
57	156X5	-	-	-	-		
58	156X5	1300	2	5.07	11.74		
59	180X6	1300	2	10.18	20.36		
60	156X5	1382	4	5.87	23.48		
61	156X5	2017	4	15.57	62.28		
62	125X10	3266	4	62.49	249.96		
63	180X6	4076	8	20.86	240.48		
64	180X6	5346	8	29.43	235.72		
65	156X5	1878	8	7.98	63.84		
66	156X5	1753	8	7.45	59.60		
67	145X5	1231	8	4.15	33.28		
68	145X5	764	8	2.57	20.56		
69	170X5	2201	4	32.42	43.68		
70	125X10	6364	1+3	221.76	487.84		
71	180X6	4362	8	20.17	177.36		
72	180X6	6104	8	45.32	362.16		
73	170X5	2807	8	11.06	76.08		
74	170X5	1996	8	10.77	86.16		
75	145X5	1284	8	4.33	34.64		
76	145X5	865	8	2.71	21.68		
77	180X6	1070	8	7.29	58.32		
78	145X5	976	8	5.29	42.32		
79	145X5	1520	8	6.12	48.96		
80	145X5	2805	8	10.82	86.56		
81	170X5	2360	8	12.74	101.92		

NOTE:

1. PHASE PLATE, DANGER PLATE NUMBER PLATE 1 ANTENNA DEVICE SHALL BE INSTALLED ON EACH TOWER APPROX. 10 ABOVE FOUNDATION.

2. TOLERANCE IN DIMENSIONS

① OVER ALL LENGTH OF MEMBER ± 3/16" ± 1/16"

② EDGE DISTANCE OF HOLES ± 1MM

③ CENTERS BETWEEN HOLES ± 1MM

④ CENTERS BETWEEN END HOLES ± 1.5MM

⑤ CENTERS OF HOLES IN A CAROUP OF HOLES ± 1MM

3. ALL 5/8" BOLTS WITH ONE STUD, ONE HOOK NUT AND ONE PLAIN ROUND WASHER.

REV	DATE	DESCRIPTION	APPROVED
NATIONAL TRANSMISSION LINE DESPATCH COMPANY LIMITED (NDPCL)			
DESIGN AND CONSTRUCTION OF SUBSTATION TRANSFORMER UNIT (SUBSTATION TRANSFORMER UNIT) DOUBLE CIRCUIT 11KV/0.4KV/0.2KV/0.1KV/0.05KV/0.025KV/0.0125KV/0.00625KV/0.003125KV/0.0015625KV/0.00078125KV/0.000390625KV/0.0001953125KV/0.00009765625KV/0.000048828125KV/0.0000244140625KV/0.00001220703125KV/0.000006103515625KV/0.0000030517578125KV/0.00000152587890625KV/0.000000762939453125KV/0.0000003814697265625KV/0.00000019073486328125KV/0.000000095367431640625KV/0.0000000476837158203125KV/0.00000002384185791015625KV/0.000000011920928955078125KV/0.0000000059604644775390625KV/0.00000000298023223876953125KV/0.000000001490116119384765625KV/0.0000000007450580596923828125KV/0.00000000037252902984619140625KV/0.0000000001862645149230595703125KV/0.00000000009313225746302978515625KV/0.00000000004656612873151489289578125KV/0.00000000002328306436575744896447895938125KV/0.000000000011641532182877244896447895938125KV/0.00000000000582076609143862244896447895938125KV/0.00000000000291038304571918112244896447895938125KV/0.000000000001455191522859556112244896447895938125KV/0.0000000000007275957614287778056112244896447895938125KV/0.0000000000003637978807143889028056112244896447895938125KV/0.000000000000181898940357143889028056112244896447895938125KV/0.000000000000090949470178694014044028056112244896447895938125KV/0.000000000000045474735089347007022014044028056112244896447895938125KV/0.000000000000022737367544673503511007022014044028056112244896447895938125KV/0.000000000000011368683772326751752503511007022014044028056112244896447895938125KV/0.0000000000000056843418861363751752503511007022014044028056112244896447895938125KV/0.0000000000000028421709430683751752503511007022014044028056112244896447895938125KV/0.00000000000000142108547153418861363751752503511007022014044028056112244896447895938125KV/0.00000000000000071054273576689430683751752503511007022014044028056112244896447895938125KV/0.00000000000000035527136788347153418861363751752503511007022014044028056112244896447895938125KV/0.0000000000000001776356839418861363751752503511007022014044028056112244896447895938125KV/0.0000000000000000888178419709430683751752503511007022014044028056112244896447895938125KV/0.00000000000000004440892098547153418861363751752503511007022014044028056112244896447895938125KV/0.00000000000000002220446049273576689430683751752503511007022014044028056112244896447895938125KV/0.0000000000000000111022302463689430683751752503511007022014044028056112244896447895938125KV/0.00000000000000000555111512318447153418861363751752503511007022014044028056112244896447895938125KV/0.00000000000000000277555756119223689430683751752503511007022014044028056112244896447895938125KV/0.000000000000000001387778780596119223689430683751752503511007022014044028056112244896447895938125KV/0.0000000000000000006938893902980596119223689430683751752503511007022014044028056112244896447895938125KV/0.00000000000000000034694469514902980596119223689430683751752503511007022014044028056112244896447895938125KV/0.000000000000000000173472347574514902980596119223689430683751752503511007022014044028056112244896447895938125KV/0.0000000000000000000867361737872574514902980596119223689430683751752503511007022014044028056112244896447895938125KV/0.0000000000000000000433680868937872574514902980596119223689430683751752503511007022014044028056112244896447895938125KV/0.0000000000000000000216840434468937872574514902980596119223689430683751752503511007022014044028056112244896447895938125KV/0.0000000000000000000108420217234468937872574514902980596119223689430683751752503511007022014044028056112244896447895938125KV/0.0000000000000000000054210108617234468937872574514902980596119223689430683751752503511007022014044028056112244896447895938125KV/0.0000000000000000000027105054308617234468937872574514902980596119223689430683751752503511007022014044028056112244896447895938125KV/0.0000000000000000000013552527154308617234468937872574514902980596119223689430683751752503511007022014044028056112244896447895938125KV/0.0000000000000000000006776263577154308617234468937872574514902980596119223689430683751752503511007022014044028056112244896447895938125KV/0.000000000000000000000338813178877154308617234468937872574514902980596119223689430683751752503511007022014044028056112244896447895938125KV/0.000000000000000000000169406589438877154308617234468937872574514902980596119223689430683751752503511007022014044028056112244896447895938125KV/0.0000000000000000000000847032947194438877154308617234468937872574514902980596119223689430683751752503511007022014044028056112244896447895938125KV/0.0000000000000000000000423516473597222194438877154308617234468937872574514902980596119223689430683751752503511007022014044028056112244896447895938125KV/0.000000000000000000000021175823679861194438877154308617234468937872574514902980596119223689430683751752503511007022014044028056112244896447895938125KV/0.00000000000000000000001058791183993097222194438877154308617234468937872574514902980596119223689430683751752503511007022014044028056112244896447895938125KV/0.0000000000000000000000052939559199654861194438877154308617234468937872574514902980596119223689430683751752503511007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Assumed Requirements of the Project:-

Note: The Quantities calculated is based on the following assumptions:-

Length of Line	= 37 Km
Average Span	= 260 m ✓
Nos. of Towers	= 142 Towers ✓
Nos. of ZM-1	= 120 x 4 = 480 Footings
Nos. of ZM-30	= 10 x 4 = 40 Footings
Nos. of ZM-60	= 12 x 4 = 48 Footings
Conductor to be used	= Rail ✓
Shield Wire to be used	= 9 mm ✓
Type of Insulators to be used	= 80KN for Suspension & Angle Tower ✓

All the Material to be used for the Project is according to WAPDA specifications which have already been submitted. Material will be arranged from WAPDA Approved supplier / Manufacturer. Foundation calculation is based with angle of Friction of 20°. The Quantities will vary according to the Foundation Type Design based on the Soil Investigation Report. Detail for different type of Foundations have been submitted with Drawings.

FATIMA ENERGY LIMITED

**DOUBLE CIRCUIT 132KV TRANSMISSION LINE
TO CONNECT 120 MW COAL BASED IPP AT
SANANWA TO NEW MUZZAFFARGARH WAPDA GRID**

TRANSMISSION LINE ROUTE IDENTIFICATION

January 2015



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1 TRANSMISSION LINE ROUTE SELECTION

1.1 GENERAL

Fatima Energy Limited (FEL) is constructing a Thermal Power Plant of 120 MW capacity near Sananwan, Mehmood Kot, Tehsil Kot Addu, District Muzaffargarh. Considering de-rated capacity of Steam Turbines and auxiliary consumption of generation facility, net installed capacity will be 107.5 MW at the power plant. Power of 12 MW will be used at Fatima Sugar Mills Limited (FSML) located at Sananwan while about 90 MW is intended to be supplied to MEPCO / NTDC at 220/132 kV New Muzaffargarh Grid Station at a distance of about 35km from FEL Power Plant site. Remaining power of about 6 MW will be supplied to Fazal Cloth Mills Ltd., owned by Fatima Group, at a distance of 3km from New Muzaffargarh Grid Station.

1.2 TRANSMISSION LINE ROUTE

For the preliminary line route of the proposed 132kV transmission line, the following physical coordinates have been considered:

Site	Latitude (N)	Longitude (E)
FEL Grid Station	30° 17' 41.38"	70° 58' 6.01"
220/132 kV NTDC New Muzaffargarh Grid Station	30° 05' 49"	71° 09' 46"
Fazal Cloth Mill Grid Station	30° 05' 26"	71° 10' 56"

The proposed 132kV transmission line route based on the above coordinates has been marked on Google Maps expanded to 1:15,000 scale showing all topographical features quite clearly and an initial walkover survey was carried out to check the suitability of route and Angle positions.

Transmission line route selection is generally constrained due to various physical factors. It is therefore essential to consider these constraints while developing the line route to mitigate adverse effect on the line.

The main criteria kept in view while establishing the preliminary line route are:

1. The line route is as short as possible keeping physical constraints on ground in view.

2. To keep the line as near as possible to roads, pathways etc. for ease of access for construction and maintenance, without infringing any future developments in the area.
3. Effort to be made to have minimum numbers of Angle locations particularly heavier Angle locations.
4. Avoidance of possible tower locations from human settlements by avoiding populated areas, factories, commercial development, religious places, graveyards, water poundage, plantations/ forests etc.
5. Minimize major road, railways and power line crossings. In case of unavoidable crossings, the same is carried out as close to right angle as physically possible. All crossings shall be in accordance with NTDC/MEPCO standards and shall ensure safety of human life and infrastructure in the vicinity.

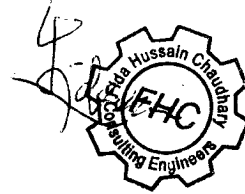
At the Fatima Power Plant site, there are no space constraints in taking the transmission line out of switchyard because of large empty space available and owned by Fatima Group. However, a crossing of Muzaffargarh – Kot Addu railway line is involved which will be crossed with Angle Towers of adequate height to ensure specified clearance from the Railway Line. Necessary permission from Pakistan Railways will be obtained at the time of construction of the line.

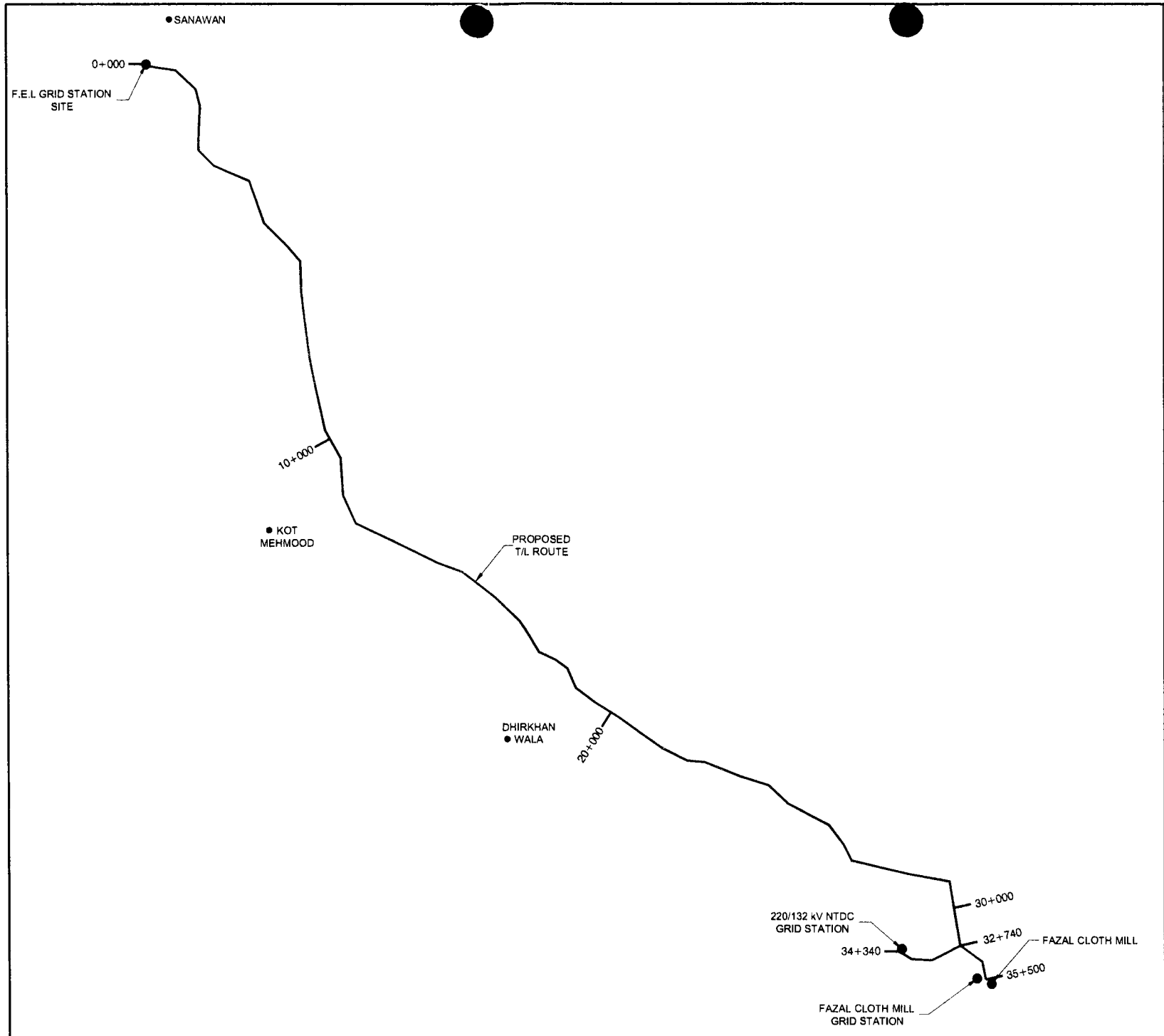
A number of 500KV, 220kV and 132kV incoming and outgoing transmission lines exist at 220/132kV New Muzaffargarh Grid Station. Presently the preliminary line route has been marked on the Map keeping the Grid station coordinates in view. However, based on the bays to be designated by MEPCO for the proposed line, the final line entries will be developed with specific focus on avoiding/minimizing any line crossing as far as possible. Where crossing is unavoidable, most suitable and cost effective crossings will be determined to ensure adequate clearance between the crossing lines, and ensuring required ground clearances as specified in NTDC/MEPCO Standards. All relevant information will be catered for during detailed survey, line design and construction.

At Fazal Cloth Mills, the line will be routed such that there is no difficulty in entry of 132 kV line into the proposed 132/11kV grid station. Presently the line termination has been marked on the Map based on the Grid Coordinates stated herein above.

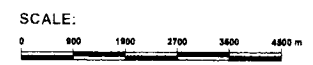
A team of Transmission Line Experts shall visit the site for physical verification of the marked route and for proposing any amendments in the route, keeping in view suitable tower locations, environmental considerations, constructability, maintainability and safety of the proposed 132kV Transmission Line. Consequently, important changes noted during physical verification shall be reviewed and incorporated in the route layout to develop a final route map.


Detailed survey including field observations, level readings, measuring distances, level differences, deflection angles, noting important features within the Right of way width of 30 to 35 meters etc. will be carried out by the line construction contractor. Based on this detailed survey, longitudinal profile and strip plan drawings will be developed on a scale of 1:2000 horizontal and 1:200 vertical as per NTDC/MEPCO Standards. Standard NTDC double circuit towers (ZM1, ZM30 and ZM60) will be spotted on the plan and profile drawings with sag tension data of Rail Conductor. Final quantities and type of towers and associated hardware, insulators conductor and shield wire will be calculated for construction.





LEGEND:
TRANSMISSION LINE ROUTE ———
CHAINAGE 1000m ———10
LOCATION POINT ●



CLIENT	Fatima Energy Limited A Fatima Group Company		
PROJECT	DOUBLE CIRCUIT 132 KV TRANSMISSION LINE FROM FATIMA ENERGY LIMITED 132 KV GRID SANAWAN TO FAZAL CLOTH MILS LTD. 132/11 KV GRID FURTHER TO 220/132 KV NEW MUZAFARGAH NTDC GRID		
TITLE	TRANSMISSION LINE ROUTE - PRELIMINARY		
<div> Fida Hussain Chaudhary - FHC Consulting Engineers 148-K Model Town Lahore - 54700, Pakistan</div>			
JOB NO. 15-01	SCALE 1:90,000	TYPE	DWG NO. PEL/TL-01