

July 9, 2015

**The Registrar**

National Electric Power Regulatory Authority  
NEPRA Tower, Attaturk Avenue (East),  
Sector G – 5/ 1, Islamabad

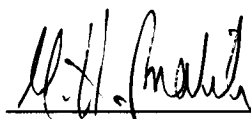
**APPLICATION FOR A GENERATION LICENSE**

I, Usman Hamid Malik, Chief Executive Officer, being the duly authorized representative of Shams Power (Private) Limited, by virtue of Board Resolution dated 24<sup>th</sup> June 2015 hereby apply to the National Electric Power Regulatory Authority for the grant of a Generation License to the **Shams Power (Private) Limited** pursuant to Section 15 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997.

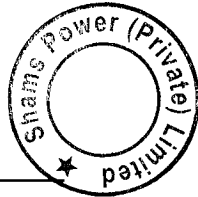
I certify that the documents – in – support attached with this application are prepared and submitted in conformity with the provisions of the National Electric Power Regulatory Authority Licensing (Application and Modification Procedure) Regulations, 1999, and undertake to abide by the terms and provisions 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 Bank Draft in the sum of Rupees Two Hundred and Seventy Five Thousand and Forty Only (Rs. 275,040) 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, is also attached herewith.

**Date:**



**Signature**



**Usman Hamid Malik**  
**Chief Executive Officer**

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**TRUE COPY OF THE RESOLUTION OF BOARD OF DIRECTORS  
SHAMSPower (PRIVATE) LIMITED**

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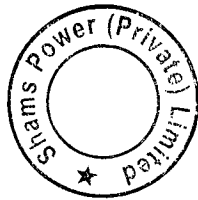
**Board of Directors of Shams Power Private Limited, by the resolution in circulation dated 24<sup>th</sup>  
of June 2015, has passed to resolve as under:**

*“Resolved, that the Company shall proceed with all acts necessary to comply with the legal and Regulatory requirements in relation to its business objectives and activities, inter alia, of the sale of electricity through the Generation Facilities to be provided by the Company at site of Buyer.*

*Further Resolved, that in order to obtain the Generation License from National Electric Power Regulatory Authority (NEPRA), the Chief Executive Officer of the Company (Usman H. Malik) shall be authorized to submit the application and / or to seek or submit any details, documents, evidence, clarification, or request as well as to represent the Company for the purposes of soliciting Generation License, either before NEPRA or any other appropriate forum and to do all or any other act that an man ordinary prudence will do for the purposes mentioned above including appearance before any department or forum or body, whether judicial or quasi-judicial, and to obtain the permission or no objection certificate where and when required.*

*It is also resolved that Usman H. Malik, the Chief Executive Officer named above, may further delegate the powers so vested in him, in writing to one or more persons to the extent of the purposes as shall be mentioned in the deed of delegation.*

*Moreover, it is resolved that Usman H. Malik, the Chief Executive Officer named above, is authorized and empowered for and on behalf of the Company to sign, execute and file the Petition for grant of Generation License to NEPRA/ other appropriate forum along with the documents essential to be filed, through the representatives of Legal Advisors of Shams Power (M/s RASIKH CONSILIUM) namely Sheikh Muhammad Ali & Sayyed Mubashar Masood Advocates High Courts.*



Stamp of the Company



**Company Secretary**  
*Certified to be a true copy*

**CERTIFICATION**

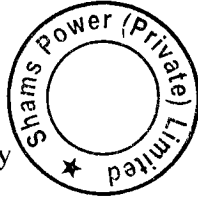
I hereby certify that the above resolution was duly passed on 24-06-2015 in circulation by the Board of Directors of Shams Power Company comprising of:

1. Usman H. Malik
2. Omar M. Malik

3. Zainul Abideen
4. Faisal Islam

I also certify that the Resolution has been entered in the minute's book of the company in accordance with the Articles of Association of the company.

Stamp of the Company



  
**Company Secretary**

## THE GENERATION PETITION

### 1. APPLICANT COMPANY'S PROFILE

- 1.1. Shams Power (Private) Limited (the "Applicant Company"), is registered vide Registration No. 00901515 dated January 15, 2015 under the Companies Ordinance, 1984. The copy of certificate of incorporation is **Annexure – A**. The copy of Memorandum & Articles is **Annexure – B**.
- 1.2. The registered office of the Applicant Company is situated at "Al Maalik, 2<sup>nd</sup> Floor, 19 - Davis Road, Lahore, Pakistan".
- 1.3. The Applicant Company is since not required to submit the annual return to the Registrar of Companies pursuant to Section 156 of the Companies Ordinance, 1984, therefore the information, in as close a form and content as possible, laid down in the third schedule to the Ordinance is being provided. The information, in lieu of annual return, is **Annexure –C**.
- 1.4. The Applicant Company has financial strength to meet with the requirements of the Project.
- 1.5. The Applicant Company has four Directors, besides the Auditor and Legal Advisor named below:

#### 1.5.1. Directors

- 1.5.1.1. Usman H. Malik
- 1.5.1.2. Omar M. Malik
- 1.5.1.3. Zain-ul-Abideen
- 1.5.1.4. Faisal Islam

#### 1.5.2. Auditors

Riaz Ahmed & Company  
10-B, Saint Mary Park, Main Boulevard Gulberg -III,  
Lahore - 54660, Pakistan

#### 1.5.3. Legal Advisor

RASIKH CONSILIUM  
Advocates & Corporate Consultants  
1 - C, LDA Apartments, Lawrence Road, Lahore

The copy of Form – 29 is **Annexure – D**

- 1.6. The list of the directors, senior management, key technical and professional staff of the Applicant Company is provided as under:-

Name	Designation
Usman H. Malik	Chief Executive Officer
Omar M. Malik	Director Business Development
Rana Muhammad Amjad	Regulatory Affairs Advisor
Raza Bashir	General Manager Operations
Eric Ma	International Solar Power Expert

- 1.7. Brief introduction of the above named personal is as follows:

**1.7.1. Usman H. Malik:**

Usman Malik has over 16 years of project management experience in development and infrastructure projects in Pakistan. He leads PITCO's Power Plant Engineering and Design Team, and has been actively involved in the design, development, and project management of over 1,600 MW of new power plant construction in Pakistan. He also leads PITCO's Transmission and Distribution Consulting practice. Usman has a Bachelors and Masters in Electrical and Electronic Engineering from the University of Cambridge in the United Kingdom.

**1.7.2. Omar M. Malik**

Omar Malik has over 17 years of management experience in energy and energy consulting. He also leads PITCO's Demand Side Management and Renewable Energy Practices, managing the design and implementation of energy efficiency, sustainable production, and carbon emission reduction projects. Omar has Bachelors in Finance from Georgetown University in the US, and an MBA from INSEAD in France.

**1.7.3. Rana Muhammad Amjad**

Rana Muhammad Amjad brings over 44 years of experience as a specialist in regulatory framework analysis of power sector of Pakistan. He is a senior professional and has remained as the head of government

organizations and has assisted them in preparation of policies. Mr. Amjad has a deep understanding of power sector of Pakistan and is specialist in undertaking regulatory analysis of power generation projects. He also has served as general manager of PEPCO. Mr. Amjad holds a B.Sc. in Electrical Engineering from University of Engineering and Technology, Lahore Pakistan.

#### **1.7.4. Raza Bashir:**

Raza has over 11 years of experience in public and private organizations. As Electrical Engineer professional, he has expertise in project management, instrumentation & control electrical systems, Solar PV system design, complex multi-site automated metering projects and also has ability to deliver substantial progress, productivity and quality improvements through on-time project execution and well managed operations. Mr. Bashir possesses sound understanding in PV system designing, Distributed Control systems, Programmable Logic Controllers, Field Instruments, metering services including AMRs, Head End & MDM. He has a BE (Electrical Engineering) from University of Engineering and Technology, Lahore, Pakistan.

#### **1.7.5. Dr. Eric Ma:**

Dr. Eric Ma has extensive experiences in the development, sales and engineering of Solar PV solutions, with a track record to turn around a product concept or business plan to real performance quickly. He has a unique background and experience combination of solar Photovoltaic (PV) technology, solar power plant system engineering, business development & partnership, sales & marketing planning, new product development, utility scale project development and financing. He has sourced and developed over 300MW PV project pipeline in USA and South America, negotiated and executed acquisitions of 135 MW PV projects in California, completed 2MW project sale, and 18MW in sale pipeline, structured nonrecourse financing for 30MW projects, and Cash Grant financing for 200MW+ projects, and developed and successfully launched the first AC-PV Kit for the USA residential market.

- 1.8. The curricular vitae of key personnel are **Annexure – E** while the profile showing experience of the Applicant Company, its management staff and its members in the electricity industry is attached as **Annexure – F**.

## **2. RATIONALE & BUSINESS MODEL**

### **2.1. Rationale**

- 2.1.1. It is a common knowledge that availability of electricity in any country has direct affect on its economic and social factors and therefore, in order to measure the affluence of a society, the per capita energy consumption is used as an index.
- 2.1.2. Pakistan's per capita energy consumption, 3,894 kWh as against the world average of 17,620 kWh, gives it a ranking of 100 amongst the nations of the world. There is dearth of electricity. As per NEPRA's State of Industry Report 2014, gap between the estimated peak demand and the recorded peak supply of electricity was around 4,406 MW.
- 2.1.3. Generation of electricity in Pakistan is largely on furnace oil whose substantial quantity is imported, prices whereof adversely affect the generation in the country. Although natural gas is a cheaper fuel however its reserves are depleting rapidly. In these circumstances, the use of solar power in Pakistan appears to be quite an attractive mode of generation of electric power. Further, its use does not require refining, transporting and conveying fuels and power over long distances. Moreover, solar power does not create pollution.
- 2.1.4. Naturally, Pakistan is located in the Sunny Belt and can take advantage of its ideal situation for utilization of solar energy. The country potential for solar generation is beyond doubt as it has high solar irradiation and enough space for installation of generation system those are ideal for PV and other solar energy applications.

2.1.5. Villages and other areas which are away from grid or distribution system of utilities can also benefit from solar power generation which will also save the extra cost of laying the system and the losses.

## 2.2. **Business Model**

2.2.1. The Applicant Company intends to sell electricity to residential, commercial, industrial and agricultural entities (**Buyers**) through its owned complete off-grid solution of electricity based on solar power (**Generating Facilities**) under the long term Energy Purchase Agreements (**EPAs**).

2.2.2. In this regard, the Applicant Company has conducted financial analysis and found this model to be financially workable if there is at least a long term contract. The Company will therefore, plan, design, procure material, construct, install, operate and maintain Generating Facilities at sites of the Buyers.

2.2.3. The Applicant Company shall provide product of the Generation Facilities to the Buyers on terms and conditions as agreed between the Parties so as to recover the cost of investment, working capital, operation and maintenance cost with reasonable rate of return on basis of actual delivery of electricity while taking the risk of shortfall in generation on account of reduction in solar irradiation at its own.

2.2.4. The Applicant Company shall install various Generation Facilities at the sites of the Buyers and understands that the activity of generation and sale of electricity shall take place within the same premises without crossing any other property or requiring the use of transmission or distribution lines.

2.2.5. The electricity generated through the Generation Facilities of the Applicant Company shall be fed directly into the Distribution Panel of the Buyer and in no case shall be fed or exported to the distribution system of the utility.



- 2.2.6. The electricity generated through the Generation Facilities of the Applicant Company shall be less than the total demand of the Buyer hence it will not be a replacement for the utility company but only a partial augmentation.

### **3. TECHNICAL OVERVIEW**

#### **3.1. Technology**

- 3.1.1. The electricity shall be generated by use of PV Panels to be installed at the premises of the Buyer and will be injected to the Distribution Panel of the Buyer(s).
- 3.1.2. The Solar PV system will operate in grid interactive / grid tied mode. The grid-tie inverter will be used that will convert direct current **(DC)** electricity into alternating current **(AC)** with built in ability to synchronize with a utility line to supplement the electricity required by the buyer from the distribution company.
- 3.1.3. Grid-tie inverters are also designed to quickly disconnect from the grid if the utility grid will go down and it will ensure that in the event of interruption of electricity from utility, the grid tie inverter will shut down to prevent the energy flow back in the distribution system of the utility. Grid interactive system will supplement utility supplied energy to building or facility.
- 3.1.4. The PV System output will be designed in a manner that it will always be less than the premises load and there will be no export to the utility grid.
- 3.1.5. In case the Buyer, subject to NEPRA's permission and agreement with utility, opts to export excess electricity to the distribution system through net metering arrangement, then the Applicant Company, on behalf of the Buyer, may provide requisite services.
- 3.1.6. The PV Panels shall convert the solar irradiation into DC electricity and by using inverters; DC supply will be converted into AC supply of 220 Volts. In the process, the Applicant will use equipment including:
- PV Modules including structure for their installation;

- Invertors;
- Surge arrestors;
- Junction Boxes;
- PV / AC Electrical Board;
- Main Distribution Panel;
- Safety & Protection devices (Automatic with manual override)
- Fuses;
- Wires;
- Breakers;
- Meters;
- Online monitoring devices/ data loggers for remote sensing and monitoring;
- Internet access devices/ connects;
- Water taps for panels washing
- Steel Structure,
- Screws, Nuts/Bolts

List of Equipment with Technical details & the Single Line Diagram is **Annexure – G & Annexure – H**

**3.1.7.** The configuration, technology, model, technical details and design of the Generation Facilities to be acquired, constructed, developed and installed at the premises of Buyers shall be on a standard module but may have slight variations in installation on case to case basis. However, a general overview (on the basis of a model site) has been provided in Annexure G (Equipment and Technical Details) and supplemented by the Annexure H (Single Line Diagram). Grid interconnection and protections required for grid interconnection are in compliance with "NEPRA ARE (Alternative & Renewable Energy) Distributed Generation / Net Metering Rules"

**3.1.8.** Before the Distribution Panel and after the PV AC Electrical Board there shall be installed the Meter for reading of the actual energy delivered through Generation Facilities of the Applicant Company to the Buyer.

### **3.2. Capacity**

**3.2.1.** The Applicant shall provide the Generation Facilities of a maximum of up to 950 kW at premises of the Buyer which can yield a peak supply of approximately 80% of the same at a point in time (i.e. approximately 760KWp supply). As is typical, the annual production of energy is expected to be around 16%.

**3.2.2.** As there will be multiple sites of varying capacities therefore the overall capacity (Combined Capacity) for purposes of this Application is 50 MW.

**3.2.3.** This shall be split up into two phases:

- a.** Phase 1: 1.2 MW
- b.** Phase 2: 48.8 MW

### **3.3. Site (s)**

The Generation Facilities to be offered by the Applicant Company shall be at the premises of the Buyer(s) and therefore the Applicant Company does not require purchasing or acquiring a particular site. Moreover, since the electricity generated by the Generation Facilities of the Applicant will not be sold to any electricity utility i.e. DISCO hence it would not require any evacuation by the national grid company (NTDC) therefore the mentioning of a particular site as required under the provisions of NEPRA Licensing (Application and Modification Procedure) Regulations, 1999 is not essential and can be condoned by the Authority. However the initial site (the **Model Site**) is at Al-Maalik Building Roof Top, Davis Road Lahore (Latitude: 31° 33' 30.53" N and Longitude: 74° 20' 57.99" E).

### **3.4. Interconnection**

Since the Generation Facilities of the Applicant Company shall be installed at the site of the Buyer and shall provide electricity to that premises in order to supplement the electricity requirement of the Buyer therefore, the interconnection point shall also be within the premises of the Buyer at the point as identified by the Buyer. The Applicant Company shall deliver electricity to the Buyer's distribution box/panel at 220V level.

### **3.5. Commissioning & Expected Life**

The Generation Facilities by the Applicant shall vary from case to case, as mentioned above therefore the terms as to commissioning shall be as per terms of EPA. However, the expected life of the Generation Facilities shall be 20 Years.

### **3.6. Operation and Maintenance**

The Applicant Company shall be responsible for the operation and maintenance, including periodical washing of the PV Modules, of the Generation Facilities installed at the site of the Buyer.

### **3.7. Environmental**

The Generation Facilities by the Applicant, as visualized, will be without emissions and chemical usages; rather, shall be close to natural environment therefore may not involve environmental hazards. The Applicant Company shall use limited quantity of the tap water available at the premises of Buyer for the purposes of washing the PV modules and shall use the available sewerage for disposal to avoid any negative impact on the environment.

### **3.8. Monitoring Facilities**

The Applicant shall develop, install and maintain a remote monitoring facility at its premises for overall monitoring of the Generation Facilities to be installed at various sites. The Applicant will hire trained staff to carry out maintenance activities on the installed facilities at the Buyer's sites. The Applicant also has a team of qualified engineers to plan and supervise the routine / regular maintenance needs.

### **3.9. Eligible Sites/Buyers**

The Applicant Company requests and proposes that the Authority may kindly allow inclusion of sites and Buyers (the **Eligible Sites/Buyers**) in a schedule, under intimation to NEPRA as and when a Generation Facility is commissioned at any new site, of the generation license to be granted who fulfill the following criteria and parameters:

- i. Generation Facility to be setup should be within the site of the buyer;

- ii. Electricity generated through the Generation Facility should not be provided to any premises other than the buyer's premises/site where the Generation Facility is installed;
- iii. Electricity from the Generation Facility should be in addition and supplemental to the electricity being obtained from the electric utility;
- iv. Capacity of Generation Facility per site should not exceed 950-kW;
- v. Interconnection point should be within the premises/site where the Generation Facility is installed;
- vi. Generation Facility installed should ensure no back flow of electricity to the distribution system of the utility;
- vii. The delivery of electricity from the PV Modules to the distribution box/panel of the buyer should not require crossing of any public road/area and the distribution network of the electric utility;
- viii. The buyer should not be a defaulter of dues of electricity obtained from electric utility.

The Applicant Company undertakes to update the record of NEPRA with reference to increase in the number of Generation Facilities with relevant details of site/buyer as and when the new Generation Facilities are commissioned.

### 3.10. Model Site Description

<b>1</b>	<b>Name of Licensee</b>	Shams Solar Pvt. Ltd.
<b>2</b>	<b>Registered/Business Office</b>	2 <sup>nd</sup> Floor Al-Maalik Building Davis Road Lahore
<b>3</b>	<b>Plant Location</b>	Al-Maalik Building Roof Top, Davis Road Lahore Latitude: 31° 33' 30.53" N Longitude: 74° 20' 57.99" E Field Type: Fixed Tilted Plane Field Parameters: Tilt 15° & Azimuth 32°
<b>4</b>	<b>Type of Generation</b>	Solar Photovoltaic (PV)

5	Type of Technology	Photovoltaic (PV) Cell
6	System Type	Grid Tied
7	Installed Capacity of Al-Maalik Building Roof Top	79.56 W Peak

### 3.11. Google image of the site



**Al-Maalik Building Roof Top, Davis Road Lahore**

#### 4. FINANCIAL OVERVIEW

##### 4.1. Capital Cost

**4.1.1.** The Capital cost shall include the cost borne by the Applicant Company on feasibility studies, planning, designing, material, construction and installation of the Generation Facilities.

**4.1.2.** The cost of land, step-up transformer, interconnection with distribution system of utility are not included being not required.

**4.1.3.** The Applicant Company aims to provide the Generation Facilities up to 50 MW in a period of about 3 years, with 1.2 MW being implemented under Phase 1 and Phase 2 will be implemented stepwise. The estimated cost on per Watt basis is worked out by the Applicant Company as below:

**4.1.3.1.** The expected cost of the installations under Phase 1 of 1.2MW has been estimated to be US\$ 1.5608/Wp. This cost does not include any the cost of land, and also does not include any interest since the 1.2MW is being is being funded exclusively through equity.

Description	US\$/Wp
EPC Cost: <ul style="list-style-type: none"><li>• Panels / Inverters / JBs / DC Cables / Freight / Clearing Charge</li><li>• Steel Structure</li><li>• Installation Cost</li></ul>	1.5285
Insurance during construction	0.0108
Administrative and Development costs	0.0215
<b>Total Costs</b>	<b>1.5608</b>

**4.1.3.2.** While making investments in the projects for subsequent phases, The Applicant Company would maintain an 80:20 (debt : equity) ratio as approved for such generation projects.

#### **4.2. Source of funding**

**4.2.1. For Phase 1:** 1.2MW, the Applicant shall arrange the required funding through 100% Equity

**4.2.2. For Phase 2:** 48.8MW, the Applicant shall arrange the required funding through 20% Equity, 80% Debt

#### **5. EXECUTIVE SUMMARY & PRAYER**

**5.1.** To supplement the supply of electricity by utilities, the Applicant Company intends to set up small scale solar PV modules (Generation Facilities) at various sites to be provided by the buyers for which the Application for grant of Generation License is being submitted before the Authority in terms of Section 15 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 read with the relevant Rules and Regulations.

**5.2.** The Applicant sought guidelines from NEPRA vide its letter dated 10.03.2015 that was replied by the letter bearing No.NEPRA/LAG-30/Misc/4779 dated 02.04.2015 wherein NEPRA has clarified that Generation License is compulsory legal requirement for sale of power. Copy of letter of NEPRA is **Annexure – I.**

**5.3.** For the reasons mentioned above, it is prayed that Application in hand may please be admitted and a Generation License be granted in name of Shams Power (Private) Limited for generation of 50 MW (gross combined capacity of various Generation Facilities to be installed at the sites of various buyers) through Solar PV Modules, with Phase 1 comprising of 1.2MW and Phase 2 comprising of 48.8MW by gradually increasing the number of Generation Facilities at various sites of the prospective buyers who are eligible in terms of the criteria and parameters mentioned above in this application.



- 5.4. It is further prayed that it may also be allowed that the description of eligible sites and buyers shall stand incorporated in the relevant schedule of the generation license as and when the new site is commissioned. The Applicant Company undertakes to update the Authority, for its official record, any such increase in the number of Generation Facilities with relevant details.

## Annexure F: (Applicant Company's Profile)

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Shams Power (Private) Limited is a private limited company, incorporated under the laws of Pakistan on 15 Jan 2015 vide registration number 0091515.

In order to provide the supplementary services in the power sector, and to contribute in the national growth by provision of a cheaper source of electricity, Shams Power has been formed as a Joint Venture for the purposes as detailed in the Memorandum of Association.

The affairs of Applicant are governed pursuant to its Articles of Association. The Applicant has 4 Directors, who are nominees of the following Joint Venture Partners:

1. Saba Power Limited, a company existing under the laws of Pakistan having an office at 10 Ali Block, New Garden Town, Lahore, Pakistan. Saba owns a 134MW power generating facility in Pakistan
2. Orient Operating Company (Private) Limited, a company existing under the laws of Pakistan, having an office at 10 Ali Block, New Garden Town, Lahore, Pakistan. Orient provides, inter alia, operation and maintenance services to power generation companies in Pakistan.
3. PITCO (Private) Limited, a company existing under the laws of Pakistan, having an office at 2<sup>nd</sup> Floor, Al-Maalik Building, 19 Davis Road, Lahore, Pakistan. PITCO is carrying on the business of engineering consulting services in the areas of power generation, transmission and distribution in Pakistan.

The Joint Venture Partners have extensive experience and exposure, both in the power sector, and the commercial oriented business, which is evidenced by the following brief introduction:

### Saba Power's Profile and Role

Saba Power (Private) Limited (hereafter: Saba) is a company active in power generation, and owns the 134 MW Saba Power Project in Pakistan. The principal activity is to invest in power plants and to generate and supply electric power through these plants. Saba owns a power plant in Farouqabad in the Province of Punjab, Pakistan. This entity is a single RFO (residual fuel oil) fired high efficiency boiler with a single re-heat steam turbine generator with a generating capacity of 134 MW of power.

Apart from being active in the convention fossil fuels, Saba is investing in renewable energy power projects as well. To that end it is involved in several initiatives for creating a market for renewable energies.

The company currently employs 5 people, while some 75 people at the power plant are provided for the operations and maintenance of the plant.

Saba Power is represented in the Applicant Company by Director Zain ul Abideen

#### Orient Operating's Profile and Role

Orient Operating Company (Pvt). Ltd. (hereafter: Orient) was established in 2007. Having its office in Lahore, The Company primarily undertakes the operations and maintenance of power plants. Orient is responsible for running and servicing generating equipment and providing services that maintain the lifetime productivity of the customer's investment. It undertakes the complete operations of large scale (thermal) power plants, including the hiring, training and development of O&M Personnel, and the development and preparation of training manuals for staff engaged in plant operations. Performance Monitoring, and Plant Performance and Efficiency Enhancements are also provided by Orient.

The Company is providing services to various power plants in Pakistan working under an IPP (Independent Power Producer) mode dispatching power to the national grid. It is also responsible for preparing, implementing and maintaining health and safety procedures, and preparing, implementing and maintaining site operating procedures for these plants. It also undertakes complete stores and inventory management, as well as budget preparation. Orient currently employs 75 people.

By using its expertise and experience in the field of operation and maintenance services of power generation units, Orient will, inter alia, focus more towards these services, including developing the business of The Applicant Company.

Orient Operating is represented in the Applicant Company by Director Faisal Islam

#### PITCO's Profile and Role

PITCO (Pvt) Limited (hereafter: PITCO) is one of Pakistan's leading energy, engineering and environmental consulting companies. PITCO provides services in a broad variety of fields, including energy sector reforms, utility performance improvement, conventional power generation, renewable and alternative energy, sustainable production and consumption, energy efficiency and resource recovery, engineering & plant design and carbon emissions trading. Based in Lahore, it is working with Pakistans' power sector regulatory authorities, electricity utilities and distribution companies, industries and industrial associations, and service sector organisations in both the public and private sectors.

PITCO has undertaken several large projects in Pakistan on behalf of USAID, the European Commission, ADB, the World Bank, and other international organizations. These include the US\$220 million USAID Power Distribution Program, the \$38 million USAID Energy Efficiency and Capacity Program, the € 4

million EU funded Trade Related Technical Assistance Program, and several others. Private sector players include Fichtner GmbH, International Resources Group Inc. (IRG), First Climate AG Switzerland, Multan Electric Power Company, Shakarganj Mills, DG Khan Cement Company Ltd, PEPCO (Pakistan Electric Power Company) and many more.

PITCO was established in 2003 and currently employs 180 people. The Applicant Company is owned and managed by the two brothers Mr. Usman H. Malik (Director) and Mr. Omar M. Malik (Director),.

By using its expertise and experience of working with small captive power generation scenarios and advising them about reductions in their energy costs and carbon footprints, PITCO will, inter alia, handle sales and business development and build the image of the Company by providing innovative solutions to the power market in the country.

PITCO is represented in The Applicant Company by Directors Usman H. Malik and Omar M. Malik. Additionally, Usman H. Malik serves as the Chief Executive Officer of The Applicant Company

## Annexure G: (Equipment and Technical Details)

### 1. PV Modules:

S. No	Specification	Data
1	Type of Module	CS6P-260P
2	Type of Cell	Polycrystalline
3	Dimensions of each module	1638*982*40 mm (64.5*38.7*1.57 in)
4	Weight	18Kg
5	No of Modules	306
6	Module Area	1.605240 m <sup>2</sup>
7	Total Land Area Used	Roof Top
8	Module Frame	Anodized aluminum alloy
9	Nominal Max. Power (Pmax)	260W
10	Opt. Operating Voltage (Vmp)	30.4V
11	Opt. Operating Current (Imp)	8.56
12	Open Circuit Voltage (Voc)	37.5
13	Short Circuit Current (Isc)	9.12
14	Module Efficiency	16.16%
15	Operating Temperature	-40°C ~ +85°C
16	Max. System Voltage	1000 V (IEC) or 1000 V (UL) or 600 V (UL)
17	Module Fire Performance	TYPE 1 (UL 1703) or CLASS C (IEC 61730)

### 2. PV Array

S. No	Specification	Data
1	No of Strings	17
2	Modules in String	18

### 3. PV Capacity

S. No	Specification	Data
1	Total Site	79.56 KW Peak
2	Net Capacity Factor	16.78% (as per NEPRA's Upfront Tariff Determination dated 20.02.2015)

### 4. Inverters

S. No	Specification	Data	
1	Manufacturer	SMA	SMA
2	Capacity of each Unit	25 KW	20 KW
3	No of Inverters	2	1
4	MPP Input Voltage Range	390 V to 800 V	320 V to 800 v
5	Rated Input Voltage	600 V	600 V
6	Max Input Voltage	1000 V	1000 V
7	Total Power	50 KW	20 KW

8	Max Input Current Input A/Input B	33A/33A	33A/33A
9	Max Output Current	36.2 A	29 A
10	Output Electrical System	3 Phase AC	3 Phase AC
11	AC Nominal Voltage	230/400 V	230/400 V
12	Rated Power Frequency	50 Hz	50 Hz
13	Efficiency	98.3%	98.4%
14	Relative Humidity (Non-Condensing)	100%	100%
15	Noise Emission	51 dB(A)	51 dB(A)
16	Degree of Protection	IP65	IP65

#### 5. Junction Boxes

S. No	Specification	Data
1	Number of J/Box units	3
2	Input circuits in each box	5 to 6
3	Max. input current for each circuit	15A
4	Protection Level	IP 54
5	Over current protection	Fuse
6	Surge protection	1000V

#### 6. PV Mounting Structure

S. No	Specification	Data
1	Structure	Galvanized Steel
2	Tilt of Array Frame	15°

#### 7. Foundation Pillars

S. No	Specification	Data
1	Foundation Structure	Reinforced Concrete

#### 8. Data Collecting System

S. No	Specification	Data
1	System Data	Continuous on-line logging and monitoring over web portal

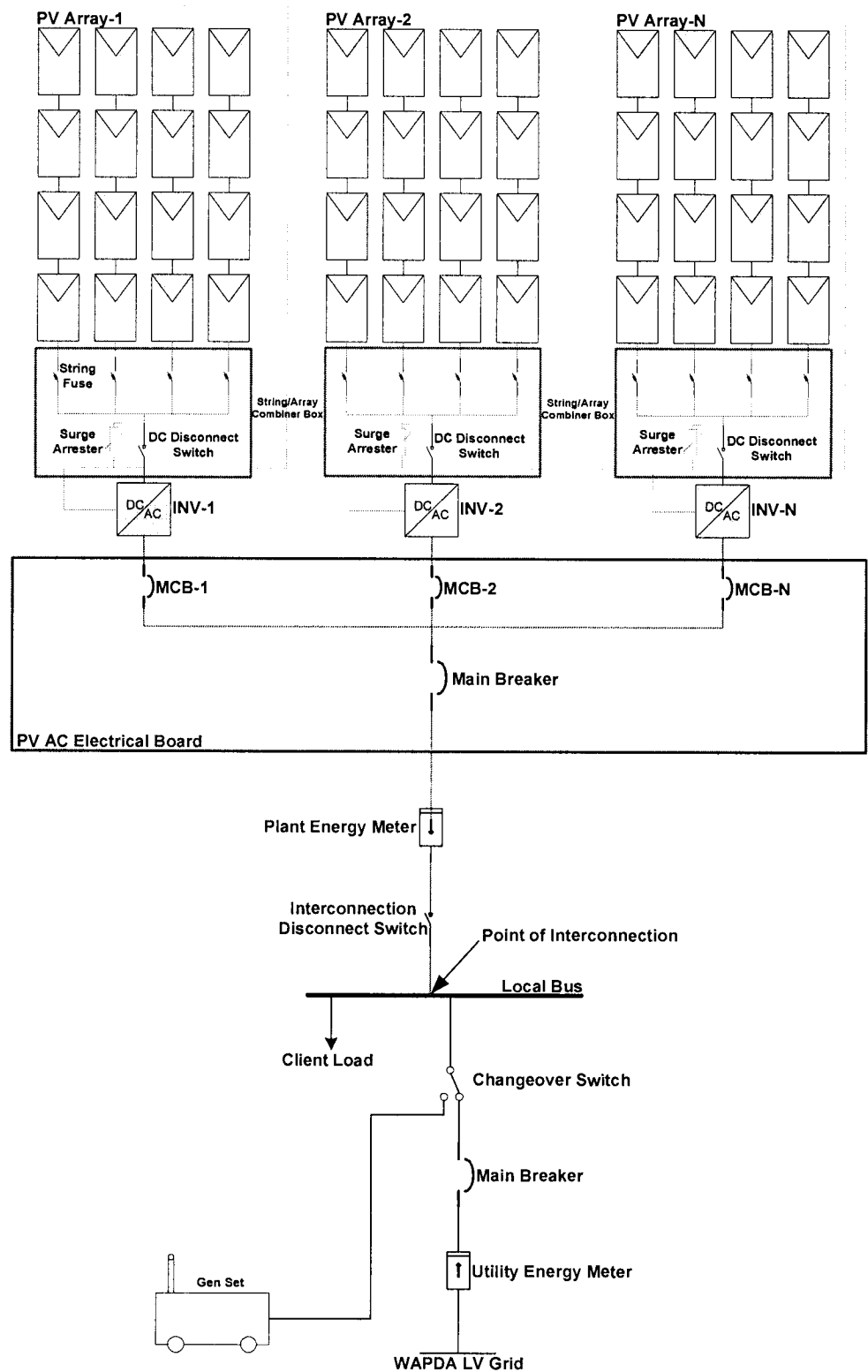
#### 9. Solar PV Yield Estimation and Simulation of Model Site

The aim of yield estimation is to predict the average annual energy output of the site. PV Syst software is used for simulation and near shading analysis.

#### 10. Working Conditions: Zero Grid Export

The solar system will have automatic mechanism to ensure that PV power currently generated by the inverters always matches the current power consumption of the site load. A closed loop control system of inverter AC output is implemented in reference to energy flow at grid connection point which will reduce inverter AC output of the inverter if site load will be less than the solar production.

## Annexure H: (Single Line Diagram)



iii.	Cash balance held in reserve along with the bank certificates as required pursuant to Regulation 3(5)(d)(i) of the Regulations.	The copy of statement of bank account of the Applicant, showing cash balance, is attached as <b>Annex-1</b> to this letter.
iv.	Expression of Interest to provide credit or financing along with sources and details thereof as required pursuant to Regulation 3(5)(d)(ii).	<p>As already submitted in the application for grant of Generation License, the Phase-1 (1.2-MW) will be funded by the Applicant through 100% Equity therefore expression of interest to provide credit/finance is not applicable.</p> <p>As far as the expression of interest regarding provision of finance for the remaining 48.8 MW is concerned it is stated that in view of the business model of the Applicant this requirement is not applicable. The Applicant will neither sell the electricity generated through its facilities to the national grid nor the concerned DISCO nor does it seeks any sovereign guarantee etc. This requirement may kindly be waived being not applicable.</p>
v.	Latest Financial Statement of the company as required pursuant to Regulation 3(5)(d)(iii).	Latest Financial Statement of the Applicant is attached as <b>Annex-2</b> to this letter. Since the Applicant was incorporated in January 2015 therefore the Financial Statement is unaudited.
vi.	Profile of Sub-contractors, if any, along with expression of interest of such sub-contractors as required pursuant to Regulation	The applicant will have no Sub-contractor for the purposes of installation, operation and maintenance



	3(5)(d)(v).	of its small-scale solar (PV) generation units therefore the profile of Sub-contractors is not applicable in the instant case.
vii.	Verifiable references with reference to experience of the Applicant and its Sub-contractors as required pursuant to Regulation 3(5)(d)(vi).	<p>The verifiable references with reference to the experience of Applicant has already been provided in shape of CVs of its key personnel and attached as <b>Annex-E</b> of the application for grant of Generation License.</p> <p>Since the applicant will not have Sub-contractor(s) for the purposes of installation, operation and maintenance of its small-scale solar (PV) generation units therefore the profile of Sub-contractors is not applicable in the instant case.</p>
viii.	Feasibility study of the project as required pursuant to Regulation 3(5)(h) and 3(6)(A)(a)(16) of the Regulations.	The feasibility study pertaining to the phase-1 (1.2 MW) is attached as <b>Annex-3</b> to this letter. As per our business model the phase-2 (48.8 MW) will be installed on a case-to-case basis over a period of three (3) years for which the same study is relied upon with only some site specific changes.
ix.	Information regarding Infrastructure (roads, rail, staff colony, amenities) as required pursuant to Regulation 3(6)(A)(a)(7) of the Regulations.	Not applicable as our business model is based on small-scale solar (PV) generation units to be installed various sited of the consumers.
x.	Project cost, information regarding sources and amounts of equity and debt as required pursuant to Regulation 3(6)(A)(a)(8) of the Regulations.	Already provided in <b>paragraph 4</b> of the application for grant of Generation License.

xi.	ESSA (Environmental and Social Soundness Assessment) as required pursuant to Regulation 3(6)(A)(a)(10) of the Regulations.	Not applicable because our business model is based on small-scale (up to 950 KW) solar (PV) generation units to be installed at consumer premises. Solar (PV) generation is considered as clean energy therefore does not create any environmental hazard.
xii.	Safety plans, emergency plans as required pursuant to Regulation 3(6)(A)(a)(11) of the Regulations.	Attached as <b>Annex-4</b> to this letter.
xiii.	Plant characteristics: generation voltage, power factor, frequency, automatic generation control, ramping rate, control metering and instrumentation as required pursuant to Regulation 3(6)(A)(a)(13) of the Regulations.	The technical details, to the extent applicable to our business model, have already been provided as <b>Annexure-G &amp; H</b> of the application for grant of Generation License. Other details such as ramping rate etc. are not applicable to our case.
xiv.	Control, metering, instrumentation and protection as required pursuant to Regulation 3(6)(A)(a)(14) of the Regulations.	Already provided as <b>Annexure- G &amp; H</b> of the application for grant of Generation License. Further details with respect to metering and protection are attached as <b>Annex-5</b> to this letter.
xv.	Training and development as required pursuant to Regulation 3(6)(A)(a)(15) of the Regulations.	Not applicable. Our proposed solar (PV) generation units will be automatic and will be operated and maintained by our properly trained and experience staff therefore training etc. to the buyer/consumer is not applicable.

III. You have also required us to submit the approval of Feasibility and Environmental Studies of the project by the concerned agency. In this regard it is stated that since our business model is **not** based on sale of electricity to the grid (CPPA-G, NTDC or any DISCO) therefore the approval of feasibility study is not required. However, feasibility for the phase-1 of the project (1.2 MW) is attached with this letter, which is

relied upon for the phase-2 (48.8 MW) with only some site-specific changes.

- IV. Since our requested generation license is for small-scale solar (PV) generation on various sites of the consumers therefore we understand that this does not have any adverse effect on the environment therefore will not require the approval of Environmental Study by the concerned agency (Environmental Protection Department of Punjab). We have also written to the Environmental Protection Department for advice. Copy of our letter to the said department is attached as **Annex-6** to this letter. In case the Environment Protection Department is of the view that we require approval of Environmental Study then we undertake to conduct the same and submit to NEPRA.

In view of above it is requested that the application of Shams Power (Pvt.) Ltd may very kindly be processed and placed before the Authority for admission.

However, in case the office of the Registrar is of the view that still the documents/information referred in your letter under reference are required then it is requested that pursuant to our meeting with the worthy Registrar, our case may kindly be placed before the Authority for consideration with respect to the information sought and we may kindly be invited to give a detail presentation to the Authority on our business model and the requirement of information/documents as mentioned in your said letter.

Yours truly,

*Rasikh Consilium*

**Rasikh Consilium**

CC:

1. The Registrar, NEPRA, Islamabad.
2. The Chief Executive Officer Shams Power (Pvt.) Ltd., Lahore.
3. Office File.



0049-S D VAULT LAHORE

SHAMS POWER PVT LTD

2ND FLOOR AL MAALIK PLAZA 19-DAVIS  
ROAD LAHORE

Reg Cell No :

IBAN No: PK52 UNIL 0109 0002 2084 2275 CIF#: 34785590

## Account Statement

Statement Period :	From 25-MAY-2015 To 26-AUG-2015
Account No :	000220842275
Account Type :	SAVING
Product Type :	UNIZAR SAVING - FE25
Currency :	EU EURO
Balance:	288,056.52 Cr
As of :	26-AUG-2015

Date	Particulars	Inst No.	Debit	Credit	Balance
25-MAY-2015	** OPENING BALANCE **				494.52 Cr
29-JUN-2015	0049/IFTT/04/2015 (Ref # 201500062005)			251,617.00	252,111.52 Cr
23-JUL-2015	0049/IFTT/05/15 (Ref # 201500070857)			35,945.00	288,056.52 Cr
26-AUG-2015	** CLOSING BALANCE **				288,056.52 Cr
Total Withdrawals & Total Deposits			0.00	287,562.00	
Total number of Transactions			2		



## SHAMS POWER PRIVATE LIMITED

## Balance Sheet

as on 31st August, 2015

	<u>Note</u>	<u>31st August, 2015</u>	<u>30th June, 2015</u>		<u>Note</u>	<u>31st August, 2015</u>	<u>30th June, 2015</u>
		<u>Rupees</u>				<u>Rupees</u>	
<b>EQUITY AND LIABILITIES</b>				<b>ASSETS</b>			
<b>Capital and Reserves</b>				<b>Non Currency Assets</b>			
Share Capital		33,291,249	29,299,557	Property, Plant and Equipment		-	-
Reserves		(1,006,707)	(201,692)	Intangibles		-	-
		<u>32,284,542</u>	<u>29,097,865</u>	Long Term Investments		-	-
				Long Term Loans		-	-
				Long Term Deposits and Prepayments		-	-
<b>Non Current Liabilities</b>		-	-			-	-
<b>Current Liabilities</b>				<b>Current Assets</b>			
Trade and Other Payables				Stores and Spares		-	-
Accrued Interest/Markup			20,000	Stock in Trade		-	-
Short term Borrowings			-	Trade Debts		-	-
Provisions			-	Loans and Advances		-	-
				Other Receivables		-	-
				Cash and Bank Balances		32,284,542	29,117,865
		<u>-</u>	<u>20,000</u>			<u>32,284,542</u>	<u>29,117,865</u>
<b>TOTAL EQUITY AND LIABILITIES</b>		<u>32,284,542</u>	<u>29,117,865</u>	<b>TOTAL ASSETS</b>		<u>32,284,542</u>	<u>29,117,865</u>
						(0)	(0)

U.H. Malik

Usman Hamid Malik  
Chief Executive

D. M. Malik

Director

# SHAMS POWER PRIVATE LIMITED

## Profit and Loss Account

for the period ended 01st July, 2015 to 31st August, 2015

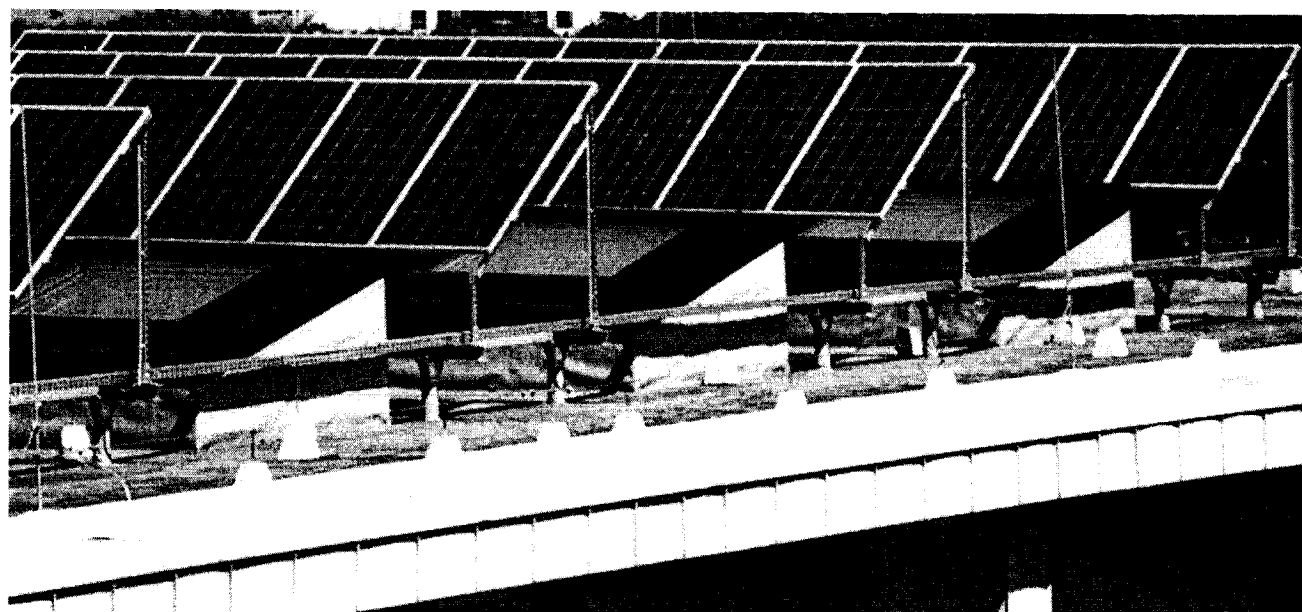
	<u>01st July, 2015</u> <u>to</u> <u>31st August, 2015</u>	<u>01st July, 2014</u> <u>to</u> <u>30th June, 2015</u>
<u>Note</u>		<u>Rupees</u>
Sales		-
Cost of Sales		-
<b>Gross Profit</b>	-	-
Distribution Cost		-
Administrative Expenses	(6,000)	-
Other Operating Costs	(797,529)	(200,000)
Other Operating Income	-	230
<b>Profit/(Loss) from Operations</b>	<b>(803,529)</b>	<b>(199,770)</b>
Finance Costs	(1,486)	(1,922)
<b>Profit before Taxation</b>	<b>(805,015)</b>	<b>(201,692)</b>
Taxation		-
<b>Profit After Taxation</b>	<b>(805,015)</b>	<b>(201,692)</b>

*U.H. Malik*

Usman Hamid Malik  
Chief Executive

*D. M. Malik*

Director



**FEASIBILITY STUDY FOR ROOFTOP SOLAR INSTALLATION  
AT AL-MAALIK BUILDING DAVIS ROAD LAHORE**

**Shams Power (Private) Limited**

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## EXECUTIVE SUMMARY

The feasibility study examines the costs, practicality, and likely outcome of a solar photovoltaic (PV) installation on the rooftop of Al-Maalik Building, 19-Davis Road, Lahore.

The main outcomes of the feasibility report are given below:

**Technical Site Analysis:** The project site is suitable for a solar PV energy system. For the purpose of estimation of power generation potential, solar insolation is assumed to be "good" (1,613 kWh/square meter/ year). Panel azimuth (32 degree), panel tilt (8 degrees) and satisfactory roof condition and structure are also assumed.

**Anticipated System Information:** The project will accommodate a 70 kW solar PV system with a projected annual production of 97,986 kWh/ year. Use of a Canadian Solar Inc. CS6P – 260P (260 watt) PV panel as a basis for design will result in an acceptable system weight density of 2.48 lbs/SF. The system will offset approximately 55 tons of carbon annually.

**Financial Analysis:** The project will be financed on a 100% equity model. The total estimated project cost is \$109,252.

Based on the technical and financial analysis, the installation of a 70kW Solar PV System on the rooftop of Al-Maalik building is deemed to be feasible.

## 1. Introduction

The project site is the rooftop of Al-Maalik Building, 19-Davis Road, Lahore. Pakistan. Al-Maalik building is a 6 storied business complex house to various private and government sector firms. The exact coordinates of the project site are:

Latitude: 31.558492 North

Longitude: 74.339338 East

A bird's eye view of the project site is given in the figure below:

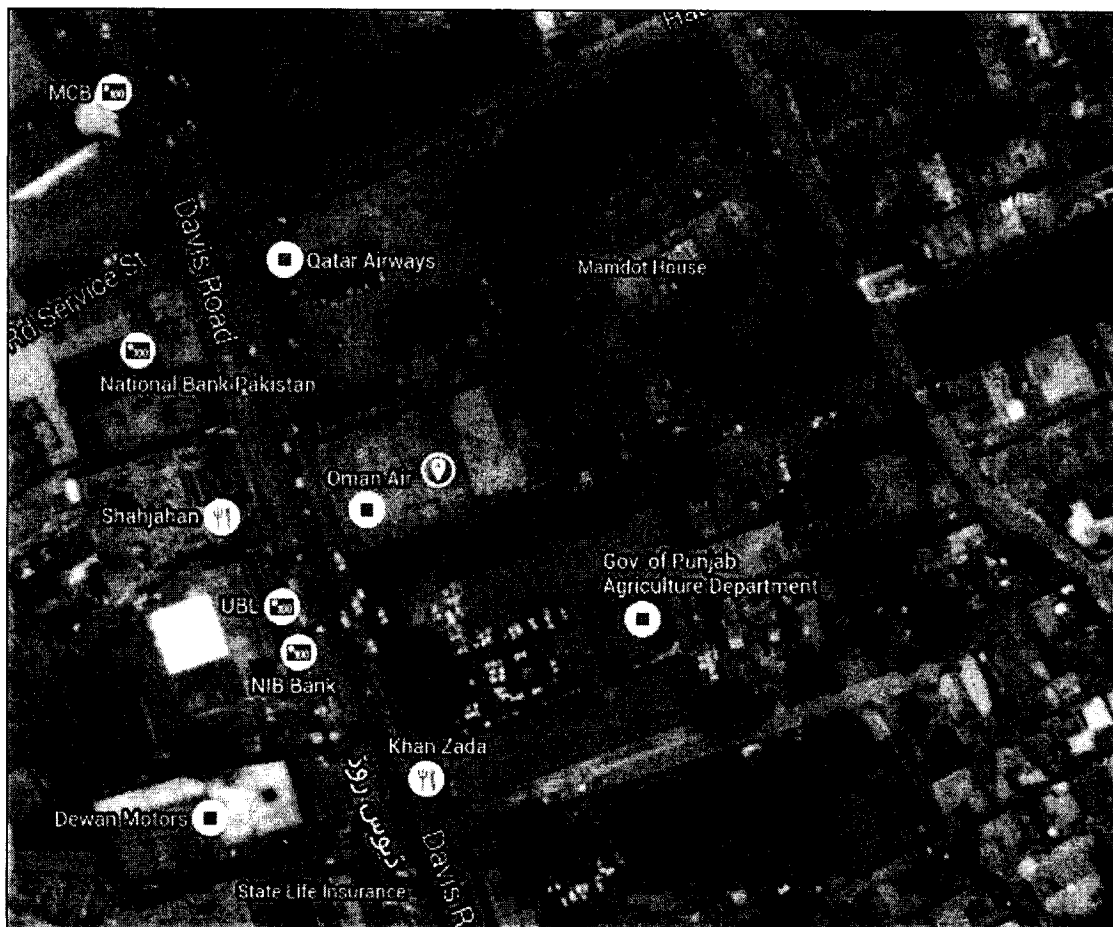


Figure 1: Overview of Project Site

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## 2. Current Energy Demand and Supply Situation

As per the historical consumption data, the total electricity consumption during 2014 was 105,000 kWh.

Details of electricity generation/supply sources during this period are given below:

- Electricity imported from the national grid is 75,000 kWh
- In-house power generation from Diesel Generators is 35,000 kWh

### 3. Technical Analysis

#### 3.1. Site Conditions

The following tasks were carried out:

- Global Horizontal Irradiation, annual and inter-annual variation was assessed.
- Near shading objects were taken into account for placement of PV modules.
- Area required for selected module technology was calculated. Keeping in view available area and minimum inter row shading, tilt angle and appropriate spacing was calculated from near shading objects.

Details of the finalized parameters are given under section 3.5.1

#### 3.2. Technology Review and Selection

##### 3.2.1. Technology Selection

###### PV Modules:

S. No	Specification	Data
1	Type of Module	CS6P-260P
2	Type of Cell	Polycrystalline
3	Dimensions of each module	1638*982*40 mm (64.5*38.7*1.57 in)
4	Weight	18Kg
5	No of Modules	306
6	Module Area	1.605240 m <sup>2</sup>
7	Total Land Area Used	Roof Top
8	Module Frame	Anodized aluminum alloy
9	Nominal Max. Power (Pmax)	260W
10	Opt. Operating Voltage (Vmp)	30.4V
11	Opt. Operating Current (Imp)	8.56
12	Open Circuit Voltage (Voc)	37.5
13	Short Circuit Current (Isc)	9.12
14	Module Efficiency	16.16%
15	Operating Temperature	-40°C ~ +85°C
16	Max. System Voltage	1000 V (IEC) or 1000 V (UL) or 600 V (UL)
17	Module Fire Performance	TYPE 1 (UL 1703) or CLASS C (IEC 61730)

###### PV Array

S. No	Specification	Data
1	No of Strings	17
2	Modules in String	18

**PV Capacity**

S. No	Specification	Data
1	Total Site	79.56 KW Peak
2	Net Capacity Factor	16.78% (as per NEPRA's Upfront Tariff Determination dated 20.02.2015)

**Inverters**

S. No	Specification	Data	
1	Manufacturer	SMA	SMA
2	Capacity of each Unit	25 KW	20 KW
3	No of Inverters	2	1
4	MPP Input Voltage Range	390 V to 800 V	320 V to 800 V
5	Rated Input Voltage	600 V	600 V
6	Max Input Voltage	1000 V	1000 V
7	Total Power	50 KW	20 KW
8	Max Input Current Input A/Input B	33A/33A	33A/33A
9	Max Output Current	36.2 A	29 A
10	Output Electrical System	3 Phase AC	3 Phase AC
11	AC Nominal Voltage	230/400 V	230/400 V
12	Rated Power Frequency	50 Hz	50 Hz
13	Efficiency	98.3%	98.4%
14	Relative Humidity (Non-Condensing)	100%	100%
15	Noise Emission	51 dB(A)	51 dB(A)
16	Degree of Protection	IP65	IP65

**1. Junction Boxes**

S. No	Specification	Data
1	Number of J/Box units	3
2	Input circuits in each box	5 to 6
3	Max. input current for each circuit	15A
4	Protection Level	IP 54
5	Over current protection	Fuse
6	Surge protection	1000V

**PV Mounting Structure**

S. No	Specification	Data
1	Structure	Galvanized Steel
2	Tilt of Array Frame	15°

#### Foundation Pillars

S. No	Specification	Data
1	Foundation Structure	Reinforced Concrete

#### Data Collecting System

S. No	Specification	Data
1	System Data	Continuous on-line logging and monitoring over web portal

#### Solar PV Yield Estimation and Simulation of Model Site

The aim of yield estimation is to predict the average annual energy output of the site. PV Syst software is used for simulation and near shading analysis.

#### Working Conditions: Zero Grid Export

The solar system will have automatic mechanism to ensure that PV power currently generated by the inverters always matches the current power consumption of the site load. A closed loop control system of inverter AC output is implemented in reference to energy flow at grid connection point which will reduce inverter AC output of the inverter if site load will be less than the solar production.

#### 3.2.2. Plant Characteristics

Generation Voltage: 230/400 V three phase four wire system

Power Factor at rated power: 1

Frequency: 50 Hz

Generation characteristic: Inverter has built-in features of controllable active power ramp following grid disturbance or normal connection, voltage regulation and frequency response. There are no additional control metering and instrumentations.

#### 3.2.3. Design Parameters

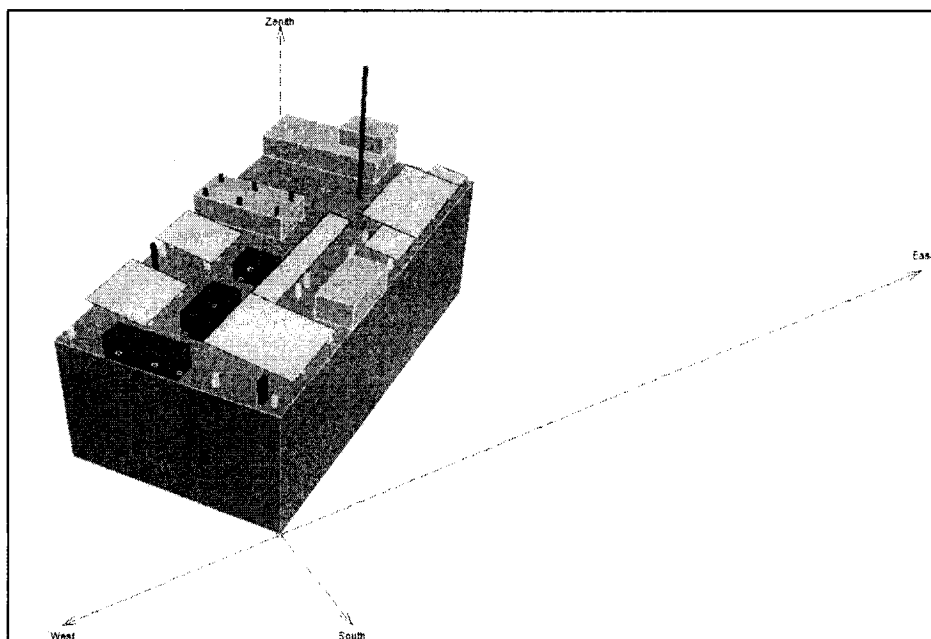
The following tasks were carried out for PV layout and shading.

- Assessment of shading (horizon and nearby building)
- Outline layout of area suitable for PV development
- Designing row spacing to reduce inter-row shading and associated shading losses.
- Designing the layout to minimize cable runs and associated electrical losses

- Creating access routes and sufficient space to allow movement for maintenance purposes
- Choosing a tilt angle that optimizes the annual energy yield according to the latitude of the site and the annual distribution of solar resource
- Module cleaning strategy
- Simulating the annual energy losses associated with various configurations of tilt angle, orientation and row spacing. The optimized configuration and simulation results are given in section "Energy Yield Prediction"
- PV layouts of the site are given in 3D and 2D view in the following section.

### 3.3. Layout

The detailed layout (2D and 3D) of the solar panels is given below:



*Figure 2: 3D Layout of rooftop of Al-Maalik Building*

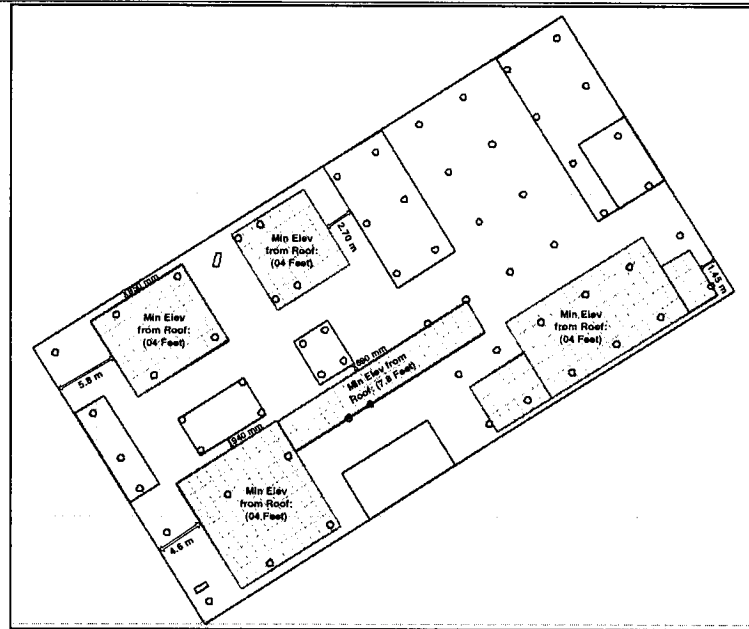


Figure 3: 2D Layout of rooftop of Al-Maalik building showing solar panel locations



### 3.4. Electrical Design

The electrical system comprises the following components:

- Array(s) of PV modules
- DC/AC cabling (module, string and main cable)
- DC connectors (plugs and sockets)
- Junction boxes and combiners
- Disconnects/switches
- Protection devices e.g. fuses, surge protective devices, breakers
- Energy Metering
- Earthing

The single line diagrams of DC and AC sides are given below. The single line diagram includes the protection devices that will be used for safe and smooth operation of the system.

Protections DC Side: String Fuses, Surge Protective Device and DC Disconnect Switches

Protections AC Side: MCBs, Main Breaker

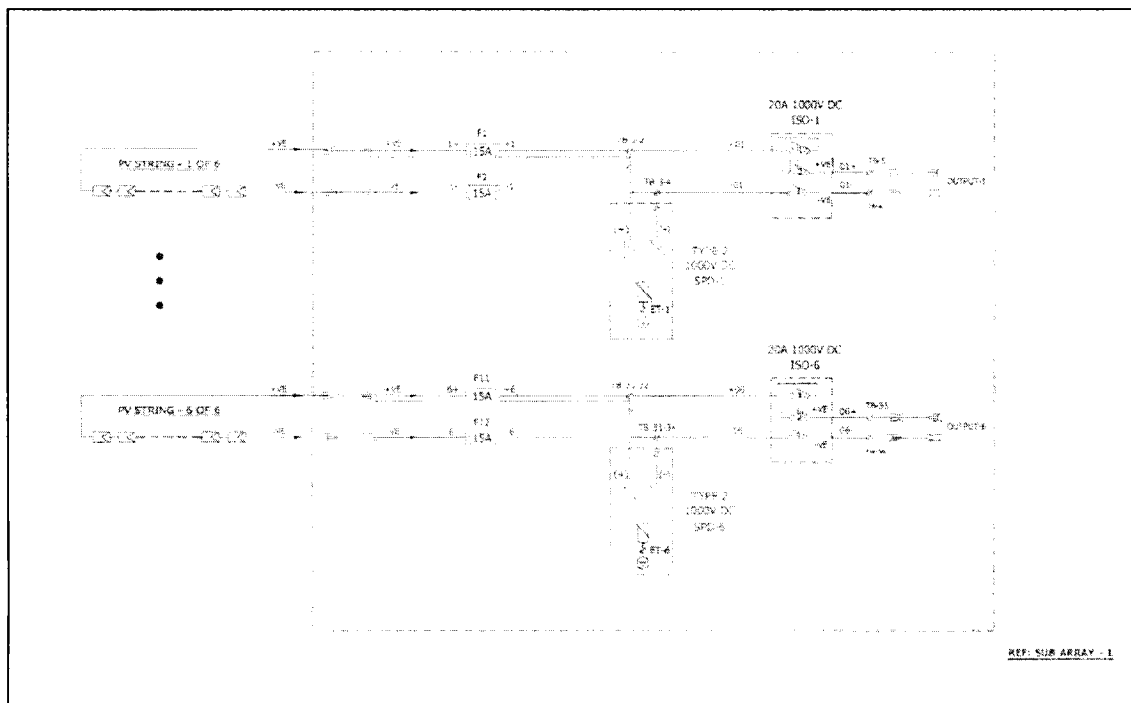


Figure 4: Sub-Array 1

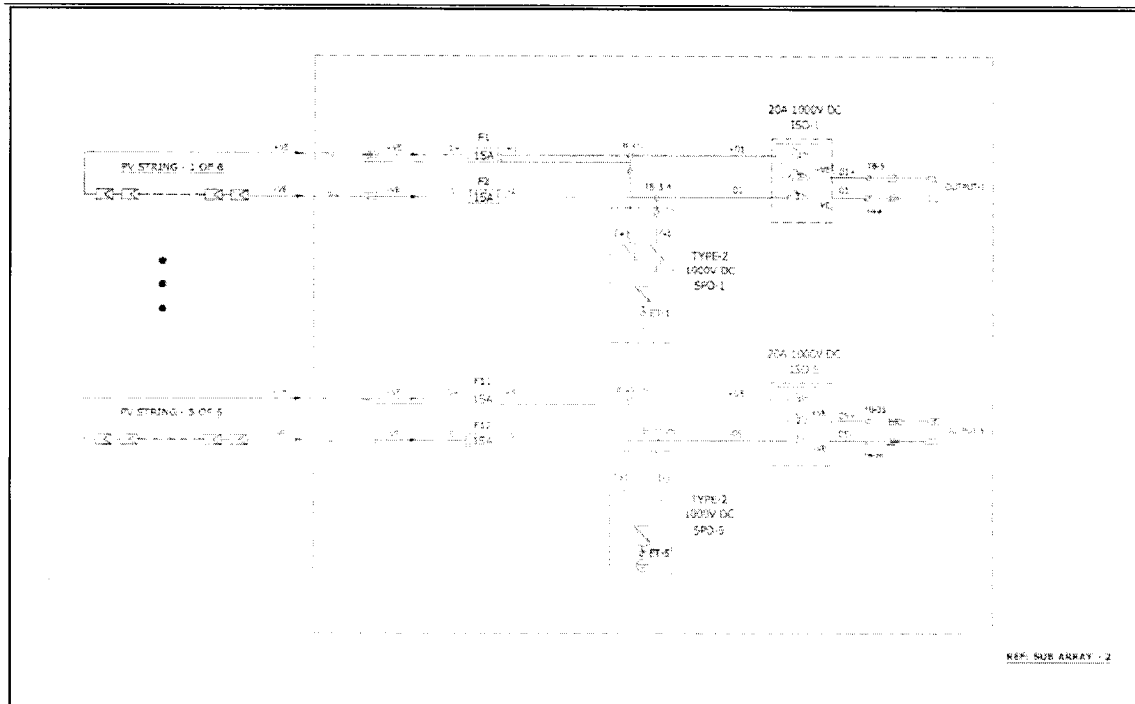


Figure 5: Sub-Array 2

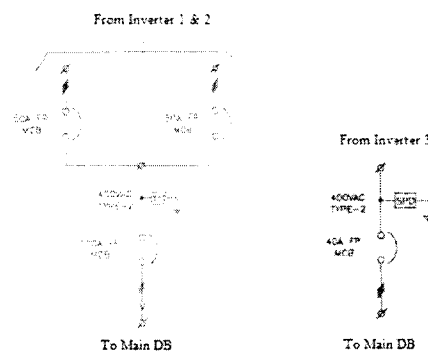


Figure 6: Single Line Diagram of AC Side

### 3.5. Energy Yield Estimation

The energy yield prediction provides the basis for calculating project revenues. The aim is to predict the average annual energy output for the lifetime of the proposed power plant.

To estimate accurately the energy produced from a PV power plant, information is needed on the solar resource and temperature conditions of the site. Also required are the layout and technical specifications of the plant components.

A number of solar energy yield prediction software packages are available in the market. These packages use time step simulation to model the performance of a project over the course of a year. PVSyst software has been used for energy yield prediction for this site and its results are given below.

Details of the simulation steps are presented in the following sections:

### 3.5.1. Simulation Parameters

PVSYST V6.39	Shams Power (Private) Limited			20/08/15	Page 1/5
Grid-Connected System: Simulation parameters					
Project :		Al-Maalik Building Davis Road Lahore			
Geographical Site		Lahore	Country	Pakistan	
Situation		Latitude	31.5°N	Longitude	74.3°E
Time defined as		Legal Time	Time zone UT+5	Altitude	219 m
		Albedo	0.20		
Meteo data:		Lahore	Synthetic - Meteonorm 6.1		
Simulation variant :		Al Maalik- 70 KWp, tilt 8, high elevation, 3rd LO			
		Simulation date	15/07/15 12h24		
Simulation parameters					
Collector Plane Orientation		Tilt	8°	Azimuth	-32°
Models used		Transposition	Perez	Diffuse	Erbs, Meteonorm
Horizon		Free Horizon			
Near Shadings		According to strings	Electrical effect	100 %	
PV Arrays Characteristics (2 kinds of array defined)					
PV module		Si-poly	Model	CS6P - 260P	
Original PVsyst database		Manufacturer	Canadian Solar Inc.		
Sub-array "Sub-array #1"					
Number of PV modules		In series	18 modules	In parallel	12 strings
Total number of PV modules		Nb. modules	216	Unit Nom. Power	260 Wp
Array global power		Nominal (STC)	56.2 kWp	At operating cond.	50.1 kWp (50°C)
Array operating characteristics (50°C)		U mpp	484 V	I mpp	104 A
Sub-array "Sub-array #2"					
Number of PV modules		In series	18 modules	In parallel	5 strings
Total number of PV modules		Nb. modules	90	Unit Nom. Power	260 Wp
Array global power		Nominal (STC)	23.40 kWp	At operating cond.	20.89 kWp (50°C)
Array operating characteristics (50°C)		U mpp	484 V	I mpp	43 A
Total Arrays global power		Nominal (STC)	80 kWp	Total	306 modules
		Module area	492 m²	Cell area	447 m²
Sub-array "Sub-array #1" : Inverter					
		Model	Sunny Tripower 25000TL-30		
		Manufacturer	SMA		
Characteristics		Operating Voltage	390-800 V	Unit Nom. Power	25.0 kWac
Inverter pack		Nb. of inverters	2 units	Total Power	50 kWac
Sub-array "Sub-array #2" : Inverter					
		Model	Sunny Tripower 20000TL-30		
		Manufacturer	SMA		
Characteristics		Operating Voltage	320-800 V	Unit Nom. Power	20.0 kWac
Inverter pack		Nb. of inverters	1 units	Total Power	20 kWac
Total		Nb. of inverters	3	Total Power	70 kWac
PV Array loss factors					
Array Soiling Losses			Loss Fraction	3.0 %	
Thermal Loss factor		Uc (const)	29.0 W/m²K	Uv (wind)	0.0 W/m²K / m/s

### Grid-Connected System: Simulation parameters (continued)

Wiring Ohmic Loss	Array#1 82 mOhm	Loss Fraction	1.5 % at STC
	Array#2 82 mOhm	Loss Fraction	0.6 % at STC
	Global	Loss Fraction	1.1 % at STC
LID - Light Induced Degradation		Loss Fraction	2.0 %
Module Quality Loss		Loss Fraction	1.5 %
Module Mismatch Losses		Loss Fraction	1.0 % at MPP
Incidence effect, user defined profile			

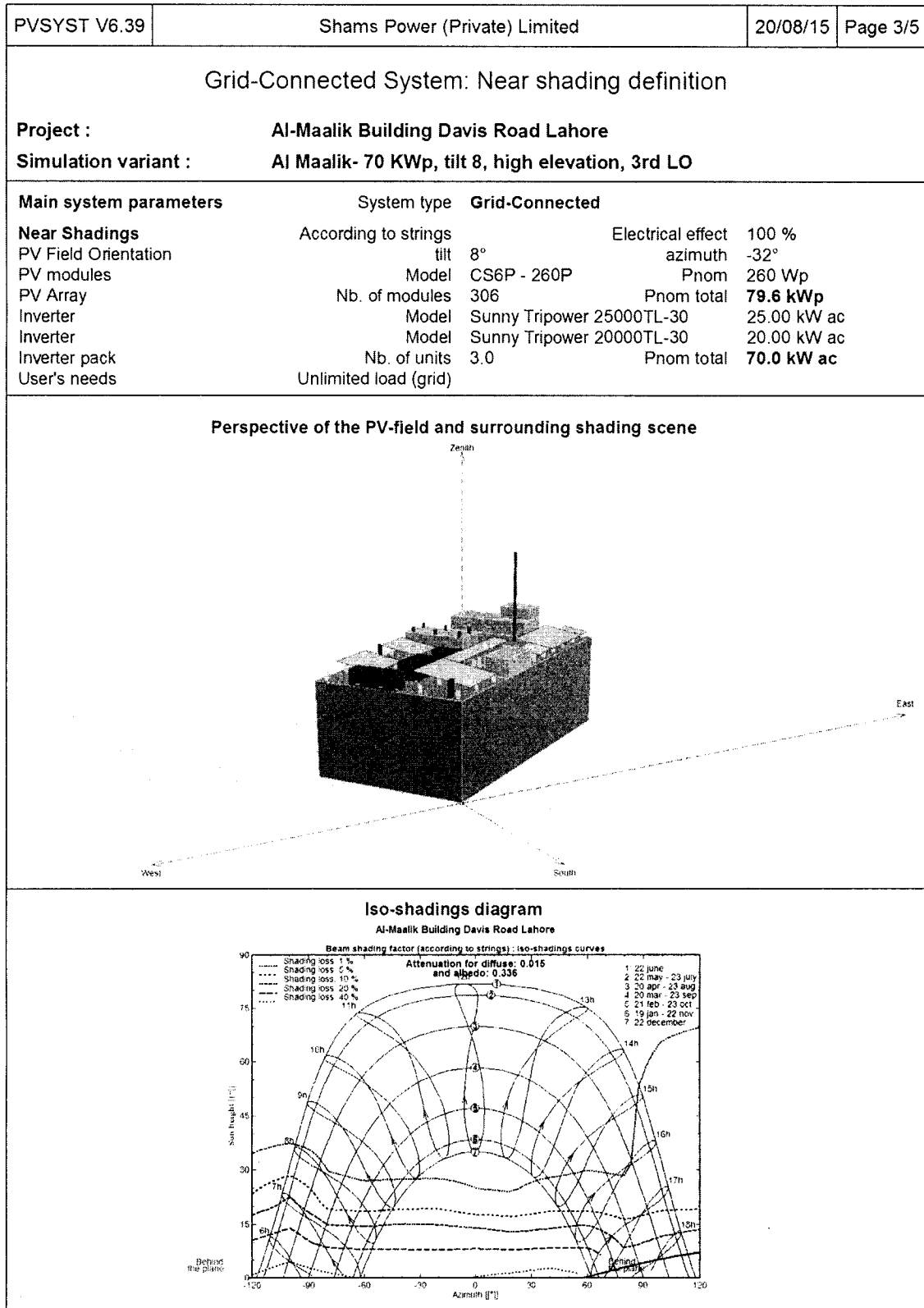
10°	20°	30°	40°	50°	60°	70°	80°	90°
1.00	1.00	1.00	1.00	1.00	0.99	0.92	0.73	0.00

**System loss factors**

Wires: 3x35.0 mm <sup>2</sup> 36 m	Loss Fraction	0.9 % at STC
Unavailability of the system 45.0 days, 2 periods	Time fraction	12.3 %

**User's needs :** Unlimited load (grid)

### 3.5.2. Near Shading Definition



### 3.5.3. Losses

PVSYST V6.39	Shams Power (Private) Limited	20/08/15	Page 5/5
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Grid-Connected System: Loss diagram

Project :

Simulation variant :

Al-Maalik Building Davis Road Lahore

Al Maalik- 70 KWp, tilt 8, high elevation, 3rd LO

Main system parameters	System type	Grid-Connected	
Near Shadings	According to strings	Electrical effect	100 %
PV Field Orientation	tilt	azimuth	-32°
PV modules	Model	Pnom	260 Wp
PV Array	Nb. of modules	Pnom total	79.6 kWp
Inverter	Model		25.00 kW ac
Inverter	Model		20.00 kW ac
Inverter pack	Nb. of units	Pnom total	70.0 kW ac
User's needs	Unlimited load (grid)		

Loss diagram over the whole year

1640 kWh/m²

1614 kWh/m² \* 492 m² coll.

efficiency at STC = 16.18%

128481 kWh

111601 kWh

109068 kWh

97986 kWh

+4.3%

-1.0%

-1.8%

-3.0%

-0.4%

-7.8%

-0.2%

-1.5%

-2.0%

-1.0%

-0.8%

-2.3%

0.0%

0.0%

0.0%

0.0%

-9.8%

-0.4%

Horizontal global irradiation

Global incident in coll. plane

Near Shadings: irradiance loss

IAM factor on global

Soiling loss factor

Effective irradiance on collectors

PV conversion

Array nominal energy (at STC effic.)

PV loss due to irradiance level

PV loss due to temperature

Shadings: Electrical Loss acc. to strings

Module quality loss

LID - Light induced degradation

Module array mismatch loss

Ohmic wiring loss

Array virtual energy at MPP

Inverter Loss during operation (efficiency)

Inverter Loss over nominal inv. power

Inverter Loss due to power threshold

Inverter Loss over nominal inv. voltage

Inverter Loss due to voltage threshold

Available Energy at Inverter Output

System unavailability

AC ohmic loss

Energy injected into grid

### 3.6. Simulation Results

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Grid-Connected System: Main results

Project :

Simulation variant :

Al-Maalik Building Davis Road Lahore

Al Maalik- 70 KWp, tilt 8, high elevation, 3rd LO

Main system parameters

System type

Grid-Connected

Near Shadings

According to strings

Electrical effect

100 %

PV Field Orientation

tilt

azimuth

-32°

PV modules

Model

Pnom

260 Wp

PV Array

Nb. of modules

Pnom total

79.6 kWp

Inverter

Model

Sunny Tripower 25000TL-30

25.00 kW ac

Inverter

Model

Sunny Tripower 20000TL-30

20.00 kW ac

Inverter pack

Nb. of units

Pnom total

70.0 kW ac

User's needs

Unlimited load (grid)

Main simulation results

System Production

Produced Energy

97986 kWh/year

Specific prod.

1232 kWh/kWp/year

Performance Ratio PR

72.0 %

Normalized productions (per installed kWp): Nominal power 79.6 kWp

LC Collection Loss (PV-array losses)

LS System Loss (inverter)

Yf Produced useful energy (inverter output)

0.84 kWh-kWp/day

0.47 kWh-kWp/day

7.37 kWh/kWp/day

Performance Ratio PR

PR Performance Ratio (Yf / Yp) 0.720

Al Maalik- 70 KWp, tilt 8, high elevation, 3rd LO

Balances and main results

	GlobHor kWh/m²	T Amb °C	GlobInc kWh/m²	GlobEff kWh/m²	EArray kWh	E_Grid kWh	EffArrR %	EffSysR %
January	84.1	11.97	93.4	87.7	6512	1738	14.16	3.78
February	102.8	15.87	111.7	105.2	7635	1446	13.89	2.63
March	142.9	21.17	150.4	141.9	9991	9724	13.50	13.14
April	161.3	26.99	165.6	156.4	10626	10330	13.04	12.68
May	184.5	31.99	185.6	175.2	11656	11323	12.76	12.39
June	180.0	32.58	180.0	169.6	11310	10988	12.77	12.41
July	163.7	30.98	163.5	154.0	10438	10147	12.97	12.61
August	157.7	30.48	160.4	151.3	10241	9958	12.97	12.62
September	146.3	29.08	154.4	145.9	9927	9655	13.06	12.71
October	130.9	24.69	141.1	133.4	9273	9026	13.35	12.99
November	100.1	18.49	110.8	104.5	7496	7312	13.74	13.40
December	84.1	13.77	94.0	88.2	6496	6338	14.04	13.70
Year	1640.4	24.04	1710.9	1613.5	111601	97986	13.25	11.64

Legends:

GlobHor

T Amb

GlobInc

GlobEff

Horizontal global irradiation

Ambient Temperature

Global incident in coll. plane

Effective Global, corr. for IAM and shadings

EArray

E\_Grid

EffArrR

EffSysR

Effective energy at the output of the array

Energy injected into grid

Effic. Eout array / rough area

Effic. Eout system / rough area



#### 4. Financial Analysis

Cost/watt: **USD 1.5608**

Total Project Cost for 70 KWp Solar PV System: **USD 109,265**

Equity: **100%**

Debt: **0%**

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## 5. Safety and Emergency Plans

- Only qualified and authorized electricians will be allowed to undertake servicing or maintenance tasks.
- The authorized personnel will wear appropriate equipment, including a safety harness to restrain from falling off the roof, sturdy shoes that will have thick rubber soles to provide electrical insulation and good grip and appropriate clothing for personal protection, including a hat, sunglasses, gloves and long pants and sleeves
- Lock out and tag out procedures will be used before commencement of maintenance tasks.
- On-going operation and maintenance concerns for solar power systems will be addressed properly. These systems are exposed to outdoor weather conditions that enhance the aging process, and the infrastructure needs to be in place for the on-going maintenance of these systems to assure their safe operation.
- Properly grounded or double insulated power tools will be used for maintenance tasks. Tools will be maintained in good condition.
- Working on electrical equipment and circuits will be carried out in de energized state.
- Proper pathways will be available for operation, maintenance and firefighting.
- Fire protection and suppression will be placed at site

## 6. Training and Capacity Development

Trained and qualified personnel will be available at site 24/7 with proper safety and fire fighting training. Training program will focus on but not limited to Solar Resource Assessment, Site Survey, Technology, Engineering Design, Regulation, Policy, Metering & Billing, and Project Management of Rooftop Solar System. The following components will include in training and development program.

- a. Collection of Resource Data
- b. Variability and uncertainty of resource data
- c. Site evaluation
- d. Crystalline and Thin film technology comparison
- e. Rooftop solar system components
- f. Module mounting structure selection
- g. Inverter selection
- h. Design of PV Array
- i. Shadow Analysis
- j. DC cable sizing
- k. DC cable layout
- l. Protection and Metering
- m. Installation and testing standards for solar PV plants
- n. Solar Module testing standards
- o. Economy of Roof top Solar System
- p. Detailed Project Report
- q. Operation and maintenance of rooftop solar system
- r. Safety and fire fighting training

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## 7. Environmental Aspects

Every energy generation and transmission method affects the environment. Conventional generating options can damage air, climate, water, land and wildlife, landscape as well as raise the levels of harmful radiation. PV technology is substantially safer offering a solution to many environmental and social problems associated with fossil and nuclear fuels. Solar PV energy technology provides obvious environmental advantages in comparison to the conventional energy sources thus contributing to the sustainable development of human activities. Not counting the depletion of the exhausted natural resources, their main advantage is related to the reduced CO<sub>2</sub> emissions and normally absence of any air emissions or waste products during their operation.

The use of solar power has additional positive implications such as:

- Reduction of the emissions of the greenhouse gases (mainly CO<sub>2</sub>, NO<sub>x</sub>) and prevention of toxic gas emissions (SO<sub>2</sub>, particulates)
- Reduction of the required transmission lines of the electricity grids

## 8. Socio-Economic Aspects

In regard to the socio-economic viewpoint, the benefits of exploitation of solar PV system comprise of:

- Increase of the regional/national energy independency
- Provision of significant work opportunities
- Diversification and security of energy supply
- Support of the deregulation of energy markets

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## 9. Conclusion

This feasibility study is conducted to ascertain the technical feasibility and commercial viability of installation of 70kW rooftop PV system installation at Al-Maalik Building, 19-Davis Road, Lahore.

Installation of the PV system will result in annual power generation of 97,986 kWh.

The results of the financial analysis indicate that the project is feasible.

Based on the outcomes of both the technical and financial analysis, the project is deemed to be viable.

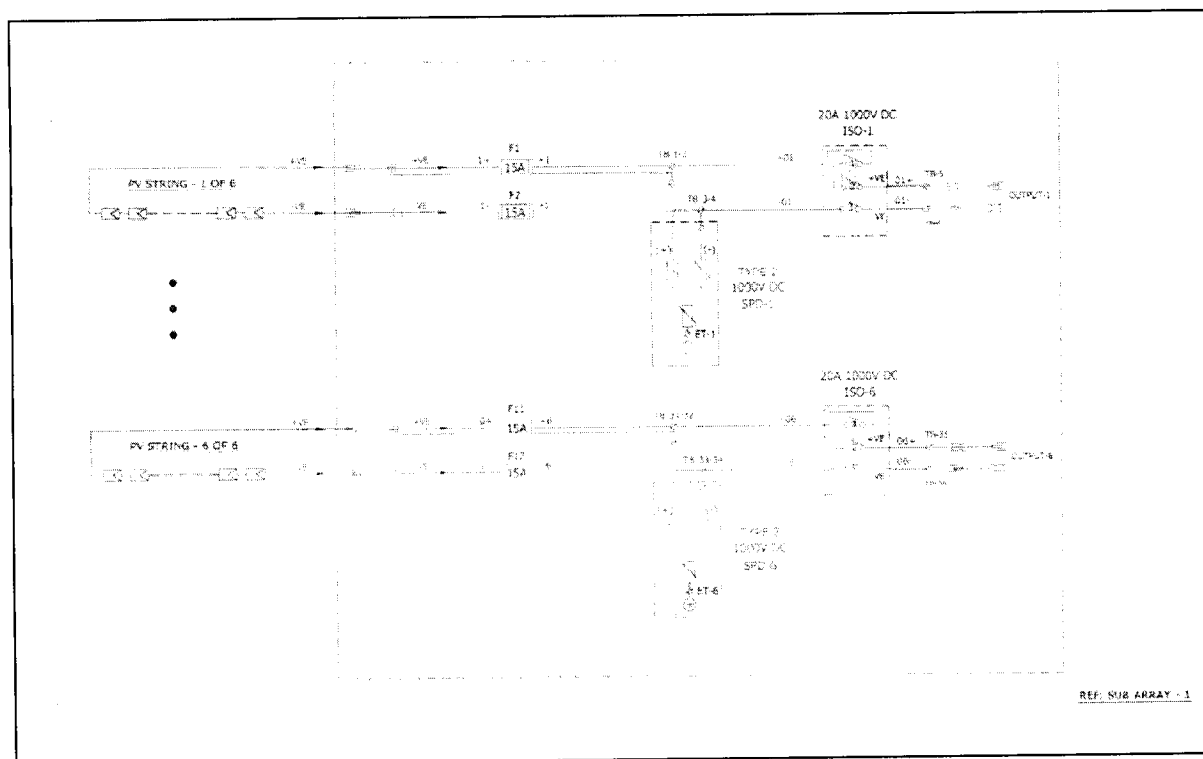
### Protection and Metering

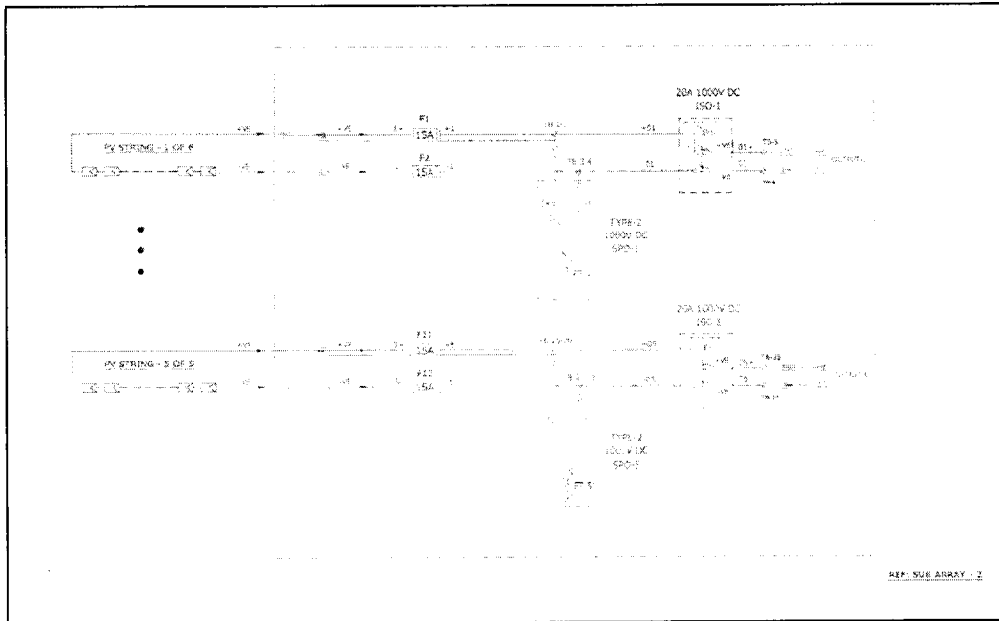
The single line diagrams of DC and AC sides are given below. The single line diagram includes the protection devices that will be used for safe and smooth operation of the system.

Protections DC Side: String Fuses, Surge Protective Device and DC Disconnect Switches

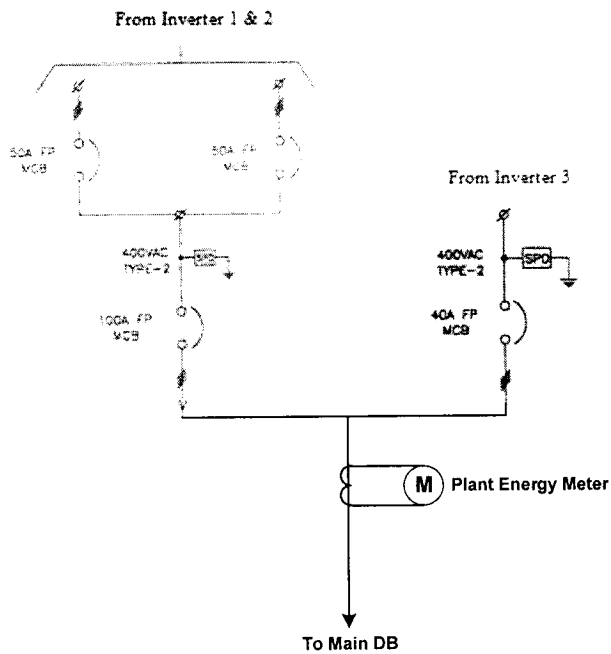
Protections AC Side: Surge Protective Device, MCBs, Main Breaker

CT operated energy meter will be installed at the combined output of inverters.





Single Line Diagram AC Side





A005199

SECURITIES AND EXCHANGE COMMISSION OF PAKISTAN  
COMPANY REGISTRATION OFFICE, LAHORE

CERTIFICATE OF INCORPORATION

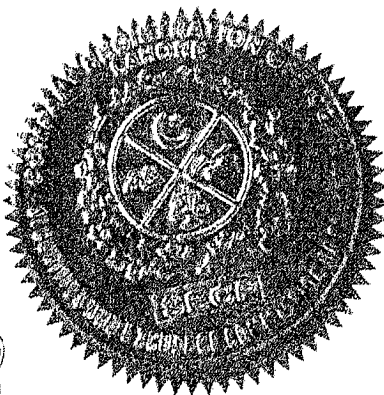
[Under section 32 of the Companies Ordinance, 1984 (XLVII of 1984)]

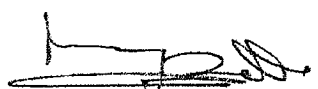
Corporate Universal Identification No. 0091515

I hereby certify that SHAMS POWER (PRIVATE) 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 Fifteenth day of January, Two  
Thousand and Fifteen.

Fee Rs. 54,000/-



  
(LIAQAT ALI DOLLA)  
Additional Registrar

No. ARL/ 15410

DATED: 15/1/2015

THE COMPANIES ORDINANCE, 1984

(COMPANY LIMITED BY SHARES)

MEMORANDUM AND ARTICLES OF ASSOCIATION

OF

SHAMS POWER (PRIVATE) LIMITED

**FAISAL & PARTNERS**

ADVOCATES & LEGAL ADVISERS

115/7 Sarwar Road

Lahore Cantt., Pakistan

Telephone: +92-42-36673345-6



THE COMPANIES ORDINANCE, 1984

(COMPANY LIMITED BY SHARES)

MEMORANDUM OF ASSOCIATION

OF

SHAMS POWER (PRIVATE) LIMITED

I. NAME

The name of the Company is Shams Power (Private) Limited.

II. REGISTERED OFFICE

The registered office of the Company will be situated in the Province of Punjab.

III. OBJECT

The objects for which the Company is established are:

1. To develop, design, construct, complete, own, possess, manage, operate and maintain solar electric power generation plant(s) in Pakistan at such location(s) as the applicable laws/policies permit, and in connection therewith to engage in the business of rental or sale of solar and other power generation equipment, generation, transmission, sale, supply and distribution of electricity within Pakistan and to do all and everything necessary, suitable, proper, incidental or conducive to the accomplishment of this object and to do every other act or thing incidental or appurtenant to or arising out of or connected with this object subject to the permission (if any) of the relevant authorities.
2. To carry on and undertake the business of construction and development of solar power plants in all its forms and perspectives and for that purpose to take on lease, own or acquire all types of land, building and requisite facilities and to do all such acts, deeds or things as would be required for the effective discharge of this object.
3. To acquire or purchase machinery, plant, equipment, spare parts, raw materials, supplies and related goods and services necessary and/or incidental to the development, ownership, construction, management, operation and maintenance of solar power plant(s).

4. To establish and maintain housing, transportation, communication and utility lines and other requisite logistic facilities for the construction, operation and maintenance of power plant(s).
5. To secure, subject to applicable laws, foreign equity and technical collaboration for the development, ownership, construction, operation and management of power plant(s).
6. To obtain loans, credit and financial facilities in local and/or foreign currency from banks and other financial institutions operating in Pakistan, and subject to necessary approvals under the applicable laws/policies, financing from international sources, proceeds of which can be used for the objects of the Company including for the development, ownership, construction, operation and maintenance of power plant(s).
7. To mortgage, hypothecate, create charges and other encumbrances on the properties and assets of the Company in such manner and on such terms and conditions as the Company may determine.
8. To enter into any arrangement or agreement with purchasers of power from the power plant(s).
9. To enter into contracts for the purchase of fuel for the power plant(s), for construction of the power plant(s), for operation and maintenance of the same and other agreements as may be necessary in the conduct and furtherance of business of the Company and to take all actions before competent forums for the enforcement of such agreements and contracts.
10. To take out any insurance that the Company deems necessary or appropriate in connection with its business, including the ownership, construction, operation and maintenance of power plant(s), and to pay the premium thereof.
11. To enter into any arrangement with, obtain consents and approvals of, secure interim and final orders from the Government of Pakistan, and any other governmental agency or body and to undertake efforts to promote or modify laws, regulations and policies, and where required, to seek like dispensation from any government or public authority or any corporation or private persons, or any foreign government, authority or person for the business of the Company, including the development, ownership, construction, management, operation or maintenance of power plant(s), and to oppose by legal means within or outside Pakistan any actions or measures as are taken by any-governmental or other authority which the Company considers likely to adversely affect its business, including the development, ownership, construction, management, operation or maintenance of power plant(s), and to obtain or endeavor to obtain from any governmental or other public authority any charters, contracts, rights, grants, loans, subsidies, privileges, concessions, indemnities, sanctions or consents as the

Company may think proper for its business, including the development, ownership, construction, operation or maintenance of power plant(s).

12. To guarantee the performance of contracts and obligations (including payment of loans) of any person providing goods or services in connection with the business of the Company, including construction, operation or maintenance of power plant(s) or purchasing electricity generated by power plant(s), but not in any event to carry on the business of banking.
13. To operate, maintain and manage power generation facilities, power stations, power houses and grid stations together with all machinery, equipment and works ancillary thereto and plan, survey, design, supply equipment and to do all such acts, deeds and things, without limitation whatsoever, as may be necessary or desirable in furtherance of this object.
14. To carry on the business as engineers, designers, architects, operators, concessionaries, surveyors, builders, masonry and general construction contractors, erectors and to establish, operate, manage, maintain, equip, construct, repair, renovate, improve, work on, industrial, commercial and residential buildings, parks, clubs, roads, motorways, highways, playlands, stadiums, gymnasiums, railways, roadways, airports, runways, docks, harbors, wharves, canals, water courses, reservoirs, embankments, irrigations, reclamations, sewerages, drainage and other sanitary works and systems, water, gas, electric and other supply works, godowns, mills, factories, installation and related or other works of all kinds and description and to equip the same or any part thereof with all or any conveniences and utilities which include, but are not limited to, electricity, gas, telephone, internet, drainage and sewage facilities and to do all such acts, deeds or things as would be required for effective discharge of these objects.
15. To carry on the business of estimation, drawing up of specifications and contracts, quantity surveying, supervision and execution of construction works and all installation and maintenance thereof.
16. To equip and furnish any property for the purpose of letting or hiring the same to visitors as guests whether in single or double rooms, suites, chalets, cottages or otherwise.
17. To carry on and undertake trading business of all sorts and to act as indentors, importers, exporters, traders, suppliers and commission agents of products, commodities and materials in any form or shape manufactured or supplied by any company, firm, association of person body, whether incorporated or not, individuals, government, semi-government or any local authority.
18. To apply for, tender, offer, accept, purchase or otherwise acquire any contracts and concessions for or in relation to the projection, execution, carryout out, improvements, management, administrations or control of works and conveniences

and to undertake, execute, carry out, dispose of or otherwise turn to account the same.

19. To carry on all or any of the business as manufacturers, buyers, sellers, indentors, importers, exporters, distributors, agents, factors, stockists, commission agents and dealers of engineering goods, machine tools, hand tools, small tools, metals, alloys, iron pipe fittings, nuts and bolts, bicycles and accessories, automobile parts, steel and stainless steel and iron products, cutleries, ores, and scraps.
20. To carry on agency business (except managing agency) and to acquire and hold selling agencies and to act as general agents, selling agents, mercantile agents, commission agents, carrier's agents, shipping agents, clearing and forwarding agents, indenting agents, managers, advertisers, stockists, manufacturers' representative and distributing agents of and for the distribution of all kinds of local and foreign merchandise, goods, commodities, products, materials, substances, articles and things whether finished, semi-finished, raw, under process, refined, treated or otherwise pertaining to trade and commerce and for that purpose to remunerate them and to open and maintain depots and branches.
21. To purchase, take on lease or in exchange, hire, apply for or otherwise acquire and hold for any interest, any rights, privileges, lands, building, easements, trade marks, patents, patent rights, copyrights, licenses, machinery, plants, stock-in-trade and any movable and immovable property of any kind necessary or convenient for the purposes of or in connection with the Company's business or any branch or department thereof and to use, exercise, develop, grant licenses in respect of or otherwise turn to account any property, rights and information so acquired, subject to any permission required under the law.
22. To build, construct, alter, maintain, enlarge, pull down, remove or replace; to work, manage and control; to develop any property acquired, purchased or owned by the Company or any other company including buildings, offices, mills, ware-houses, shops, stores, machineries, roads, railways, bridges, reservoirs, watercourses, wharves, electric works, industrial and commercial concerns and other works and conveniences in furtherance of its objects and to perform professional engineering work or enter into agreements with the companies performing professional engineering work.
23. To act as representatives, for any local or foreign person, firm or company and to undertake and perform sub-contracts, and also act in the business of the Company through or by means of agents, sub-contractors and to do all or any of the things mentioned herein in any part of the world and either alone or in collaboration with others and by or through agents, sub-contractors or otherwise.
24. To enter into agreement(s) with any government or authority (foreign, supreme, municipal, local or otherwise) or any corporation, company or persons that may seem conducive to the Company's objects or any of them and to obtain from any such

government, authority, corporation, company or person any charters, contracts, rights, privileges and commission which the Company may think desirable and to carry on exercise and comply with any such charters, contracts, decrees, rights, privileges and concessions.

25. To apply for and obtain necessary consents, permissions and licences, rights, privileges and concessions from any local or foreign Government, State, Municipal, Local and other authorities or persons for enabling the Company to carry on its objects and to oppose any proceedings or application which may seem calculated directly or indirectly to prejudice the interests of the Company.
26. To, subject to the approval of the competent authority, make, amend and modify Articles of Association and rules and regulations not inconsistent with this Memorandum of Association to provide for all matters for which provision is necessary or expedient for the purpose of giving effect to the provisions of this Memorandum of Association and the efficient conduct of its objects.
27. To adopt such means of making known the Company as may seem expedient and in particular by advertising in the media, by circulars, by purchase and exhibition of works of art or interests, by publication of books and periodicals and by granting prizes, rewards and donations.
28. To appoint agents, sub-agents, attorneys, consultants, and contractors or to act as agent, sub-agent, attorney, consultant, and contractor in connection with the objects of the Company but not to act as managing agents.
29. To open, close and operate bank accounts of the Company with any bank or banks, financial institutions or co-operative societies and to draw, make, accept, endorse, discount, execute and issue promissory notes, bills of exchange, bills of lading, warrants, debentures and other negotiable or transferable instruments, but not to act as a finance or banking company.
30. To borrow or raise money in such manner as the Company shall think fit in pursuance of its objects, and in particular by the issue of debentures, or debenture stock (perpetual or otherwise), Modaraba Certificates, Participation Term Certificates (PTCs), Term Finance Certificates (TFCs) or otherwise and by issue of all securities including securities not based on interest for raising redeemable capital, resource funds from banks or financial institutions and by issue of shares in lieu of outstanding balance of any loan and by issue of securities as required by the rules and regulations of the banks, financial institutions and loan giving agencies and to secure the repayment of any money borrowed, raised or owing by mortgage, charge or lien upon all or any of the property or assets of the Company (both present and future).
31. To sell, improve, manage, develop, exchange, mortgage, enfranchise, dispose of or otherwise deal with, all or any part of the property, assets or undertaking of the Company for such consideration as the Company may think fit and to distribute

among the members in specie any property of the Company, or any proceeds of sale or disposal of any property of the Company, but so that no distribution amounting to a reduction in capital may be made without the sanction of the Court, if required, in the event of winding up of the Company.

32. Subject to the applicable laws, give any guarantee or provide any security (including but not limited to charge, lien or mortgage) in order to secure the repayment of any loan, finance or advance.
33. To accept or give security, including but not limited to promissory notes, indemnity bonds, guarantees, assignments, receipts, bailments, pledges, hypothecations, liens, mortgages and charges, against the credit extended or moneys borrowed in connection with its objects.
34. To employ and remunerate managers and other officers, employees and servants of the Company or any person or firm or company rendering services to the Company upon such terms as the Company may determine.
35. To establish and maintain or procure the establishment and maintenance of any contributory or non-contributory pension, superannuation funds for the benefit of, and give or procure the giving of donations, gratuities, pensions, allowances or emoluments to any person who are or were at any time in the employment or service of the Company, or who are or were at any time directors or officers of the Company and the wives, widows, families and dependents of any such persons, and also to establish and subsidise and subscribe to any institutions, associations, clubs or funds calculated to be for the benefit of or to advance the interest and well-being of the Company.
36. To enter into a joint venture or a partnership or cooperation with any person or company or other legal entity, local or foreign, or otherwise assist any such person or company or legal entity in furtherance of its objects.
37. To pay out of the funds of the Company all expenses of and incidental to the formation, registration, advertisement of the Company and the issue and subscription of the share or loan capital or placing or guaranteeing the placing of shares or any debentures, debenture-stock and other securities of this Company and also all expenses relating to the issue of any circular or notice and the printing, stamping, circulating of proxies and forms to be filled up by the members of the Company.
38. To insure the property, assets, and employees of the Company in any manner deemed fit by the Company, and to create any reserve funds, sinking fund, insurance fund or any other special fund whether for depreciation or for repairing, insuring, improving, extending or maintaining any of the property of the Company or for any other purpose conducive to its objects but not to act as an insurance company.

39. To subscribe for, take or otherwise acquire and hold shares, debentures or securities of any other company having objects altogether or in part similar to those of this Company or carrying on any business capable of being conducted so as directly or indirectly to benefit this Company and to invest the moneys not immediately required for the business of the Company in, and to hold, sell and deal with the stocks, shares, bonds, debentures, debenture stocks, PTCs, TFCs, mutual fund certificates, NIT units, Modaraba certificates or certificates of investment obligations, notes and securities of any Government, Province, company, Corporation, Municipal or Local or other Body or Authority and to deal with the monies of the Company for such purposes conducive to the interest of the Company and to vary investments from time to time but not to act as an investment company.
40. To receive, declare and distribute profits and to capitalize such portion of the profits of the Company as are not distributed among shareholders of the Company in the form of dividends, and as the Directors of the Company may think fit, and to issue bonus shares, as fully paid up, in favour of the shareholders of the Company.
41. To subscribe or contribute or otherwise to assist or to guarantee money to charitable, benevolent, religious, literary, scientific, technical, national, public or any other institutions or for any exhibition or purpose.
42. To file or register any document required to be filed or registered under law, and to pay any fees, charges, expenses, rents, taxes, duties and other dues payable in connection with its objects.
43. To settle disputes by negotiation, reconciliation, arbitration, litigation or other means and to enter into compromise with creditors, members and any other persons in respect of any difference or dispute with them.
44. To establish laboratories, research and development centres to perform such research and development as the Company may deem advisable or feasible, and to expend money on experimenting upon and testing and improving or securing any process, or processes, patent or protecting any invention or inventions which the Company may acquire or propose to acquire or deal with in furtherance of its objects.
45. To develop and/or transfer technology and to acquire or pass on technical know-how incidental or conducive to the attainment of its objects.
46. To train personnel and workers, both in Pakistan and abroad to obtain technical proficiency in various specialties connected with its objects.
47. To undertake and execute any trust or trusts which the Company may deem to be desirable, expedient or necessary and to act as trustees of any deeds constituting or securing any debentures, debenture stock, or other securities or obligations and to undertake and execute any other trust and also to undertake the office of executor or administrator and to keep for any company, Government, authority or body, any

register relating to any stocks, funds, shares or securities, to undertake any duties in relation to the registration of transfers, the issue of certificates or otherwise.

48. To do all such other things as may be deemed incidental or conducive to the attainment of the main objects or any of them in any part of the world, and as principals, agents, contractors, trustees or otherwise, and by or through trustees, agents or otherwise and either alone or in conjunction with others.

49. It is hereby declared that:

- (a) The Company shall have full authority, power and competence to do any and all other things and acts to further the activities specified in sub-Clauses 1 to 48 in support of and in relation to (directly or indirectly) of the objects of the Company.
- (b) Notwithstanding anything contained in the foregoing Object Clause of this Memorandum of Association, nothing contained therein shall be construed as empowering the Company to undertake or indulge in the business of banking company, banking, leasing, investment, managing agency or insurance business directly or indirectly as restricted under law or in any lawful operation.
- (c) The Company would not indulge in any sort of real estate business, housing colonies/purchase and sale of plots and developments of land and housing finance company business as required by the applicable laws.
- (d) The Company undertakes that the Company shall not, by advertisement, pamphlets, or by any other means or through negotiation offer for sale or take advance money for further sale of plots, houses, flats etc. to the general public or individuals unless such plots, houses flats etc are owned and/or have been developed by the Company.
- (e) Notwithstanding any thing stated in the foregoing Object Clause of this Memorandum of Association, the Company shall obtain such other approval or license from competent authority, as may be required under any law for the time being in force, to undertake a particular business.

#### IV. LIABILITY

The liability of the members is limited.

#### V. SHARE CAPITAL

The authorized share capital of the Company is Rs. 5,000,000 (Rupees five million only) divided into 500,000 (five hundred thousand) ordinary shares of Rs 10.00 (Rupees ten only) 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 increase or reduce the capital and to divide the shares in the capital for the time being into several kinds and classes and to attach thereto respectively such special rights, privileges or conditions as may be determined by or in accordance with the regulations of the Company, and to vary, modify or abrogate any such rights, privileges or conditions in such manner as may for the time being be provided by the regulations of the Company in accordance with law provided, however, that rights as between various classes of ordinary shares, if any, as to profits, votes and other benefits shall be strictly proportionate to the paid up value of shares.

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

Sr. No.	Name and Surname (present & former) in full (in Block Letters)	CNIC No.(in case of foreigner, Passport No.)	Father's/ Husband's Name in full	Nationality (ies) with any former Nationality	Occupation	Residential Address (in full)	Number of shares taken by each subscriber	Signatures
1.	ZAIN-UL-ABDIN	42201-0622607-1	Fazal Hussain Amin	Pakistani	Business Executive	House No.537 Street No.11 Sector A Township, Lahore	One (1)	
2.	OMAR MOHYUDDIN MALIK	35202-4257987-7	Saleem Hamid Malik	Pakistani	Business Executive	House No.15-A Denpur Road GOR I, Lahore	One (1)	
3.	USMAN HAMID MALIK	35202-9452021-3	Saleem Hamid Malik	Pakistani	Business Executive	House No.15-A Denpur Road GOR I, Lahore	One (1)	
4.	FAISAL ISLAM	35201-6640002-1	Muhammad Islam	Pakistani	Business Executive	97/16-B, Nisar Colony, Lahore Cantt.	One (1)	
Total number of shares to be taken							Four (4)	

Dated the \_\_\_\_\_ day of January 2015

Witness to the above signatures	
Signature	
Full Name	Saleem Akhtar
CNIC No.	32304-1586952-1
Father's Name	Ghulam Qasim
Full Address	115/7A, Sarwar Road, Lahore Cantt.
Occupation	Advocate High Court

THE COMPANIES ORDINANCE, 1984

(COMPANY LIMITED BY SHARES)

ARTICLES OF ASSOCIATION

OF

SHAMS POWER (PRIVATE) LIMITED

1. The regulations of table "A" contained in First Schedule to the Companies Ordinance, 1984, as amended, shall not apply to the Company, except so far as the same are repeated or contained or deemed to be contained in these Articles.

INTERPRETATION

2. In the interpretation of These Presents, unless contrary to the context, words signifying the singular number shall include the plural, and vice versa, and words signifying the masculine shall include the feminine, and the following words and expression shall have the following meanings unless excluded by the subject or context, namely:-

- (a) "Board" means a meeting of Directors duly called and constituted or as the case may be the Directors assembled at a meeting.
- (b) "Capital", "Shares" and "debentures" mean respectively the capital (including authorized capital), shares into which the capital is divided and the interest corresponding to such shares and debentures from time to time of the Company. "Shares" include stock and "debentures" include debenture stock, bonds, participation term certificates, term financing certificates and other securities,

other than a share, whether constituting a charge on the assets of the Company or not.

- (c) "Commission" means the Securities and Exchange Commission of Pakistan established under Section 3 of the Securities and Exchange Commission of Pakistan Act, 1997.
- (d) "Company" when used with reference to the Company means Shams Power (Private) Limited.
- (e) "Directors" means the Directors for the time being of the Company and the Alternate Directors appointed by them, or as the case may be the Directors assembled at a Board.
- (f) "Dividend" includes a bonus.
- (g) "General Meeting" means an ordinary general meeting or an extraordinary general meeting.
- (h) "MOA" means the Memorandum of Association of the Company as amended from time to time.
- (i) "Office" means the registered office for the time being of the Company.
- (j) "Ordinance" means the Companies Ordinance, 1984 and shall include any amendments, modifications or reenactments thereof.
- (k) "Ordinary Meeting" and "Extraordinary Meeting" means respectively an ordinary general meeting or an extraordinary general meeting of the Company duly called and constituted or any adjournment thereof.
- (l) "Person" includes a corporation or a company.
- (m) "Proxy" means an instrument in writing whereby a person as defined herein authorizes another to vote for him at a meeting or meetings and includes Attorney duly constituted under a power of attorney.
- (n) "Register" means the register of the members of the Company kept at the registered office of the Company pursuant to Section 147 of the Ordinance and under Article 107.
- (o) "Secretary" means the Secretary of the Company for the time being or any duly authorized person acting in the place of such Secretary (if any).
- (p) "Section" means a Section of the Ordinance and all amendments thereof.

- (q) "Share Warrants" means warrants issued in respect of shares or stock of the Company in pursuance of the Statutes and These Presents.
- (r) "Shareholder" or "Member" means the registered holder of any share, scrip or other security which gives him voting rights in the Company.
- (s) "Special Resolution" shall have the same meaning as in the Ordinance.
- (t) "Statutes" include the Ordinance and any and every other Act or Ordinance from time to time in force, as may be applicable to it.
- (u) "Stock" means stock into which any moneys of the Company may have been converted.
- (v) "These Presents" means and includes the Articles of Association of the Company and the regulations of the Company from time to time in force.
- (w) "Writing" includes printing, typewriting, electronic transmission, or lithography or any other mechanical or electronic process, or partly one and partly the other.
- (x) "Year" means a calendar year, and "month" means a calendar month according to English Calendar.

Unless the context otherwise requires, words or expressions contained in these Articles shall bear the same meaning as in the Ordinance.

#### CAPITAL

3. The Capital of the Company shall be as per Clause V of the MOA as may be altered from time to time divided into Shares of the nominal value of Rs. 10 (Rupees ten) each, unless the Shares are issued at a discount or a premium subject to the applicable laws.
4. Save as provided by Section 95 and Section 95A, no part of the funds of the Company shall, directly or indirectly be employed in the purchase or in loans on the security of shares in the Company or of any company of which it is a subsidiary company or in loans to any company of which it is a subsidiary company.
5. Subject to the provisions of the Ordinance and these Articles, the shares of the Company shall be under the control of the directors, who may allot or otherwise dispose of the same to such persons, on such terms and conditions, and at such times and for such consideration as the directors think fit.
6. No shares shall be offered to the public for subscription except upon the term that the amount payable on application shall be the full amount of the nominal amount of the share.

present in person shall have priority over a person present by an agent duly authorized under power of attorney or by proxy although the name of such person present by an agent or proxy stands first or higher in the Register in respect of such shares.

(f) Several executors or administrators of a deceased member in whose (deceased member's) sole name any share stands shall for the purpose of this sub-clause be deemed joint-holders.

12. Every member shall name a place to be registered as his address and such address shall for all purposes be deemed his place of residence.

13. Any shareholder who shall change his name or place of abode, or who being a female, shall marry, and the husband of any such last mentioned shareholder, respectively shall not be entitled to recover any dividend or to vote until notice of change of name, or abode, or marriage be given to the Company in order that the same may be registered.

14. Subject to the provisions of the Ordinance, in particular, Sections 82 and 85, shares shall be issued on such terms and conditions, and with such rights and privileges attached thereto, as a General Meeting may determine, provided that the Company may, by resolution, direct that the shares shall be issued by the Directors on such terms and conditions and with such rights and privileges attached thereto as the Directors may determine.

15. Rights attached to shares may be modified, affected or abrogated but only in accordance with the Ordinance.

16. Subject to the provisions of the Ordinance, any preference share may with the sanction of a Special Resolution, be issued on the terms that it is, or at the option of the Company is, liable to be redeemed as provided in Section 85 of the Ordinance.

17. 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 in the Company, or procuring or agreeing to procure subscriptions (whether absolute or conditional) for any shares in the Company, and any such commission may be paid or agreed to be paid out of capital or out of profits, whether current or standing to reserve or carried forward, or out of both capital and profits, but so that the commission shall not exceed as required by the applicable law on the shares in each case subscribed or to be subscribed, and statutory conditions and requirements, with particular reference to Section 82 of the Ordinance, shall be observed and complied with in respect thereof. Any such commission shall be calculated on the price on which the shares are issued, and may be satisfied in whole or in part in fully paid up shares in the company, provided that no such commission nor any portion thereof shall be paid in shares without the sanction of the Company in General Meeting first having been obtained.

18. Save as herein otherwise provided, the Company shall be entitled to treat the registered holder of any shares as the absolute owner thereof, and accordingly shall not be bound (except as ordered by a court of competent jurisdiction, or as required by Statute) to recognize any equitable or other claim to or interest in such share on the part of any other person.

## CERTIFICATES

19. Subject to Section 74 of the Ordinance, the certificates of title to shares shall be issued under the authority of the Directors, or of a local committee or board when authorised thereto by the Directors in such manner and form as the directors may from time to time prescribe, and shall bear the autographic signature of two or more Directors or one Director and of the Secretary or of some other person appointed for the purpose by the Directors.

20. Every member shall be entitled to one certificate for the shares registered in his name, or to several certificates each for a part of such shares. Every certificate of shares shall specify the number and distinctive numbers of the shares in respect of which it is issued and the amount paid up thereon. Every member shall be entitled to one certificate of shares gratis, but for every subsequent certificate issued, the Directors shall be at liberty to make such charge, not exceeding Rupees one (Rs. 1), as they may from time to time see fit.

21. Subject to Section 75 of the Ordinance, if any certificate be worn and or defaced, then, upon production thereof to the Directors, they may order the same to be cancelled and may issue a new certificate in lieu thereof, and if any certificate be lost or destroyed then, upon proof thereof to the satisfaction of the Directors, and on such indemnity being given, and after such advertisement (if any) of the loss or destruction as the Directors deem adequate, at the expense of the party claiming the new certificate, a new certificate in lieu thereof may be given to the party entitled to such lost or destroyed certificate. In case of loss or destruction the member to whom the new certificate is given shall repay to the Company all expense incidental to the investigation by the Company of the evidence of such destruction or loss and to such indemnity.

22. Where any shares under the powers in that behalf herein contained are sold by the Directors and the certificate thereof has not been delivered upto the Company by the former holder of the said shares, the Directors may issue a new certificate for such shares distinguishing it in such manner as they may think fit from the certificate not so delivered up.

23. Every endorsement upon the certificate of any share in favour of any transferee thereof shall be signed by the person for the time being duly authorized by the Directors in that behalf. In case, any holder or transferee of shares applies for a new certificate in lieu of the old or existing certificate or applies for the splitting up of the existing certificates on payment by him in addition to the transfer fee such sum as the Directors may determine, and upon his delivering up every old or existing certificate which is to be cancelled. In event of a certificate being filled up with endorsements and a further transfer of shares to which it refers being made or required, a new certificate shall be issued on payment of a fee to be fixed from time to time by the Directors.

24. The certificate of shares registered in the names of two or more persons shall be delivered to the person first named in the Register in respect thereof, or to his authorised agent, and in case of the death of any one or more of the joint registered holders of any shares the survivor then first named in the Register shall be the only person recognized by the Company as being entitled to such certificate or any new certificate which may be issued in place thereof.

## TRANSFER AND TRANSMISSION

25. The Directors shall not refuse to transfer any fully paid shares unless the transfer deed is defective or invalid. The Directors may decline to recognize any instrument of transfer unless:

(a) a fee not exceeding Rupees two (Rs. 2) as may be determined by the Directors is paid to the Company in respect thereof; and

(b) the duly stamped instrument of transfer is accompanied by the certificate of the shares to which it relates, and such other evidence as the Directors may reasonably require to show the right of the transferor to make the transfer.

If the Directors refuse to register a transfer of shares, they shall within one (1) month, or when the transferee is a central depository, within five (5) days, after the date on which the transfer deed was lodged with the Company send to the transferee and the transferor notice of the refusal indicating 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.

26. Application for the registration of the transfer of a share may be made either by the transferor or the transferee.

27. The Directors shall not incur any liability for registering or acting upon a transfer of shares apparently made by sufficient parties, although the same may, by reason of any fraud or other cause not known to the Directors, be legally inoperative or insufficient to pass the property in the shares proposed or professed to be transferred, and although the transfer may, as between the transferor and transferee be liable to be set aside, and notwithstanding that the Directors may have notice that such instrument of transfer was signed or executed and delivered by the transferor in blank as to the name of the transferee or the particulars of the share transferred, or otherwise in defective manner.

28. Instrument of transfer of Shares:

(a) The instrument of transfer of any Share shall be in writing in the usual common form.

(b) Shares of different classes shall not be comprised in the same instrument of transfer.

29. No transfer shall be made to an infant or person of unsound mind.

30. Every instrument of transfer shall be left at the office for registration, accompanied by the certificate of the share 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 Directors' right to decline to register hereinbefore mentioned) be registered as a member in respect of such shares. The Directors may waive the production of any certificate upon evidence satisfactory to them of its loss or destruction. The transferor shall be deemed to remain the holder of the shares until the name of the transferee is entered in the Register in respect thereof.



31. All instruments of transfer which shall be registered shall be retained by the Company.

32. A fee not exceeding Rupees two (Rs. 2) may be charged for each transfer, and shall, if required by the Directors, be paid before the registration thereof. This shall also be paid to the Company in respect of the registration of any Probate, Letters of Administration, Certificate of Marriage or Death, Power of Attorney or other documents relating to or affecting the title of any shares or for making any entry in the Register affecting the title of any shares such fee not exceeding Rupees two (Rs. 2) as the Directors may from time to time require or prescribe.

33. On giving seven (7) days previous notice by a newspaper circulating in the province in which the Company is situated and by a newspaper circulating in the province in which the Stock Exchange on which the Company is listed is situated, the Transfer Books and Register may be closed during such time as the Directors, think fit, not exceeding in the whole forty-five (45) days in each year, but not exceeding thirty (30) days at a time.

34. The executors, administrators or nominees under Section 80 of the Ordinance of a deceased member (not being one of several joint-holders) shall be the only persons recognized by the Company as having any title to the shares registered in the name of such member, and in case of the death of any one or more of the joint-holders of any registered share the survivors shall be the only persons recognized by the Company as having any title to or interest in such shares, but nothing herein contained shall be taken to release the estate of a deceased joint-holder from any liability on shares held by him jointly with any other person. Before recognizing any executor or administrator the Directors may require him to obtain a Grant of Probate or Letters of Administration or other legal representation as the case may be from some competent Court, having effect in Lahore: Provided nevertheless that in any case where the Board in their absolute discretion think fit 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 as to indemnity or otherwise as the Directors, in their absolute discretion, may consider necessary.

35. Any committee or guardian of a lunatic or infant member or any person becoming entitled to or to transfer shares in consequence of the death or bankruptcy or insolvency of any members, upon producing such evidence that he sustains the character in respect of which he proposes to act under this Article, or of his title as the Directors think sufficient, may with the consent of the Directors (which they shall not be under any obligation to give), be registered as a member in respect of such shares, or may subject to the regulations as to transfer hereinbefore contained, transfer such shares. This Article is hereinafter referred to as "the Transmission Article".

36. A person so becoming entitled shall have the right to receive and give a discharge for any dividends or other moneys payable or other advantages arising in respect of the share, but he shall have no right to receive notice of or to attend or vote at meetings of the Company, or (save as aforesaid) to any one of the rights or privileges of members in respect of the share, unless and until he shall be registered as the holder thereof.

## INCREASE AND REDUCTION OF CAPITAL

37. The Company may, from time to time by Ordinary resolution, increase the capital of the Company by the creation of new shares of such amount as may be deemed expedient.

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

39. Except in so far as otherwise provided by the Ordinance or by the conditions of issue or by These Presents, any capital raised by the creation of new shares shall be considered part of the original capital, and shall be subject to the provisions herein contained with reference to transfer and transmission or otherwise.

40. The Company may from time to time, by Special Resolution, but subject to the provisions of Sections 96 to 106 of the Ordinance, reduce its share capital in any way, and in particular, without prejudice to the generality of the powers hereby conferred may extinguish or reduce the liability on any of its share capital not paid up, or either with or without extinguishing or reducing liability on any of its shares, cancel any paid up share capital which is lost, or unrepresented by available assets, or either with or without extinguishing or reducing the liability on any of its shares, pay off any paid up share capital which is in excess of the wants of the Company.

41. The Company in General Meeting may, subject to Section 92 (1) (d) of the Ordinance, cancel shares which, at the date of the passing of the resolution in that behalf, 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.

## CONSOLIDATION AND SUBDIVISION OF SHARES

42. In accordance with the provisions of Sections 92 (1) (d), 92 (3) and 93 of the Ordinance, the Company may, by Ordinary resolution:

(a) consolidate and divide its share capital into shares of larger amount than its existing shares;

(b) sub-divide its existing shares or any of them into shares of smaller amount than is fixed by the Company's Memorandum of Association;

(c) cancel any shares which, at the date of the passing of the resolution, have not been taken or agreed to be taken by any person.

43. Subject to the prior approval of the Government, debentures, debenture stock, and other securities may be made assignable free from any equities between the Company and the person to whom the same may be issued.

44. Subject to the provisions of the Ordinance, particularly Section 114, any debentures, debenture-stock, bonds or other securities may be issued at a discount, premium or otherwise with any special privileges as to redemption, surrender, drawings, allotment of shares, attending and voting at General Meetings of the Company, appointment of Directors and otherwise.

45. Holders of debentures shall have the same right to receive and inspect the Balance Sheet of the Company and the Report of the auditors and other reports as are possessed by members of the Company.

#### **MODIFYING RIGHTS**

46. If at any time the capital is divided into different classes of shares, all or any of the rights and privileges attached to each class may be varied by agreement between the Company and any person purporting to contract on behalf of that class, provided such agreement is either (a) ratified in writing by holders of at least three fourth (3/4) of the nominal amount of the issued shares of that class, or is (b) confirmed by a resolution passed at a separate Extraordinary Meeting of the holders of shares of that class, and all the provisions hereinafter contained as to General Meeting shall mutatis mutandis, apply to every such Meeting, except that the quorum thereof shall be members holding or representing by proxy one-third (1/3) of the nominal amount of the issued shares of that class. This clause is not by implication to curtail the power of modification which the Company would have if the clause were omitted.

#### **BORROWING POWERS**

47. Without prejudice to the General Powers conferred on the Board by These Presents, the Directors shall have power from time to time at their discretion to raise, borrow or secure the payment of any sum or sums of money for the purposes of the Company. The payment or repayment of such moneys may be raised or secured in such manner and upon such terms and conditions as the Directors may think fit and to mortgage or charge its undertaking, property and assets (both present and future) and to issue debentures, debenture stock and other securities, including but not limited to, participation term certificates, term finance certificates, Modaraba certificates and other modes of financing whether on mark-up basis or otherwise and whether outright or as collateral security for any debt, liability or obligation of the Company or of any third party.

48. The Directors shall, in accordance with the Statutes, particularly Section 135 of the Ordinance, cause a proper register to be kept of all mortgages and charges specifically affecting the property of the Company.

#### **GENERAL MEETINGS**

49. A General Meeting, shall be held within eighteen (18) months from the date of incorporation of the Company and thereafter once at least in every calendar year, within a period of four (4) months from the close of its financial year and not more than fifteen (15) months after the holding of the last preceding General Meeting, at such place and at such time as the Directors

may from time to time determine, in accordance with Section 158 of the Ordinance or other relevant statutory provisions for the time being in force.

50. The above mentioned General Meetings shall be called "Ordinary Meeting", and all other meetings of the Company shall be called "Extraordinary Meeting".

51. The Directors, may whenever they think fit, convene an Extraordinary Meeting, and the Directors shall forthwith proceed to convene an Extraordinary Meeting if and when required so to do in accordance with the provisions of Section 159 or other statutory provisions for the time being in force relating to requisitions for Extraordinary Meetings by members.

52. Twenty one (21) clear days notice at least shall be given to the members of all meetings, but an Extraordinary Meeting may be held on shorter notice in accordance with the provisions of Section 159 of the Ordinance. The notice shall specify the place, day and hour of meeting, and, in the case of special business, the general nature of such business.

53. The accidental omission to give any such notice to any of the members, or the non-receipt of such notice by any member shall not invalidate any resolution passed at any such meeting.

#### PROCEEDINGS AT GENERAL MEETINGS

54. The business of Ordinary Meeting shall be to receive and consider the profit and loss account, the balance sheet, the report of the Directors and of the Auditors, to elect Directors, Auditors and other officers in the place of those retiring or otherwise, to declare dividends, fix the remuneration of the Auditors, and to transact any other business which, under These Presents, ought to be transacted at an Ordinary Meeting, and any business, which is brought under consideration by the report of the Directors laid before such meeting.

55. Two (2) members of the Company present in person who represent not less than twenty five percent (25%) of the total voting powers, either of their own account or by proxy shall be a quorum for a General Meeting and no business shall be transacted by a General Meeting unless the quorum requisite be present at the commencement of the business. A company being a member of this Company and present by a representative duly appointed in pursuance of Section 162 shall be deemed to be a member personally present for the purpose of this Article.

56. The Chairperson of the Directors shall be entitled to take the chair at every General Meeting, or if there be no Chairperson, or if at any meeting he shall not be present within fifteen (15) minutes of the time appointed for holding such meeting, or if he shall have notified his inability to be present at the meeting, the members personally present, shall choose another Director as Chairperson; and if no Director be present, or if all the Directors present decline to take the chair, then the members personally present shall choose one of their number to be Chairperson.

57. If within half an hour from the time appointed for the meeting a quorum is not present, the meeting, if convened upon such requisition as aforesaid, shall be dissolved, but in any other case it shall stand adjourned to the same day in the next week at the same time and place, or if such

place be not available, to such other place as the Directors may appoint, but should such day be a public holiday, then it shall be adjourned to the first business day next following such public holiday, at the same time, and if at such adjourned meeting a quorum is not present, the meeting shall be dissolved.

58. At any General Meeting a resolution put to the vote of the meeting shall unless a poll is demanded be decided, in the first instance, by a show of hands, and in the case of an equality of votes the Chairperson shall, both on the show of hands and at the poll, have a casting vote in addition to the vote or votes to which he may be entitled as a member.

59. At any General Meeting, unless a poll is demanded (before or on the declaration of the result of the show of hands) in accordance with the provision of Section 167, a declaration by the Chairperson that a resolution has been carried by a particular majority, or lost or not carried by a particular majority, and an entry to that effect in the book of proceedings of the Company, shall be conclusive evidence of the fact without proof of number or proportion of the votes recorded in favour of or against such resolution.

60. No resolution shall be carried as being passed unless the said resolution receives the affirmative vote of a majority on a show of hands, or if a poll is demanded, a majority vote of shares outstanding and entitled to vote on the resolution at the time it is taken.

61. If a poll is demanded as aforesaid, it shall be taken in accordance with the provisions of Section 168 and the result of the poll shall be deemed to be the resolution of the meeting at which the poll was demanded.

62. The Chairperson of a General Meeting may, with the consent of the Meeting, adjourn the same 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.

63. 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.

64. Any minutes of resolutions and proceedings at General Meeting made in the Minute Book of the Company, to be maintained and made available for inspection in accordance with Section 173 of the Ordinance, if signed by any person purporting to be the Chairperson of the meeting to which it relates, or by any person present there at and appointed by the Directors to sign the same in his place, or by the Chairperson of the next succeeding meeting, shall be receivable as evidence of the facts therein stated without further proof.

#### VOTES OF MEMBERS

65. Subject to Section 178 and any special terms as to voting upon which any share may be issued, 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 attorney or proxy shall have one vote for every share held by him. A corporation (whether a company within the meaning of the Act or not) who is

represented in accordance with Section 162 or by proxy or attorney shall be deemed to be member present in person for the purpose of this Article.

66. Any person entitled under the Transmission Article to transfer shares may vote, at General Meetings in respect thereof in the same manner as if he were the registered holder of such shares, provided that at least forty-eight (48) hours before the time of holding the meeting 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 his right to vote at such meeting in respect thereof.

67. No member who is 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 authorised under Section 162 in which case such proxy or representative may vote on the show of hands as if he were a member of the Company.

68. When there are joint registered holders of shares, any one of such persons may vote at any meeting, either personally or by proxy, in respect of such shares, as if he were solely entitled thereto; but if more than one of such joint holders be present at any meeting, personally or by proxy, that one of the said persons whose name stands first in the Register in respect of such shares shall alone be entitled to vote in respect thereof. Several executors or administrators of a deceased member, in whose name any shares stand, shall, for the purpose of this Article, be deemed joint holder thereof.

69. Subject to the provisions of These Presents, votes may be given either personally or by proxy. In accordance with Section 161 of the Ordinance, the instrument appointing a proxy shall be in writing under the hand of the person granting such proxy, or his duly authorised attorney. A person may be appointed proxy who is not a member of the Company. A company which is a member of the Company may authorise any of its officers or any other person, not necessarily a member, to act as its representative at any meeting of the Company. The holder of a power of attorney may if so authorized vote for and represent such member at any meeting of the Company.

70. Where a corporation, whether incorporated in Pakistan or not, or a local body or any other official or semi-official institution is a member of the company a person duly appointed to represent such corporation, local body or institution at a meeting of the Company in accordance with the provisions of Section 162 shall be deemed to be a proxy and the production at the meeting of a copy of a resolution or a letter of authority duly signed by a Director, Secretary or an officer of such Corporation or local body or institution be accepted by the Company as sufficient evidence of the validity of his appointment and such representative shall be entitled to vote as if he were a share-holder of the Company including voting on a show of hands.

71. The instrument appointing a proxy and the power of attorney or other authority (if any) under which it is signed shall be deposited at the office not less than forty eight (48) hours before the time for holding the meeting or adjourned meeting (as the case may be) at which the person named in such instrument proposes to vote, but no instrument appointing a proxy shall be valid after the expiration of twelve (12) months from the date of its execution unless specifically so stated on the proxy itself. An instrument appointing a proxy may be cancelled at any time by the

appointer or by his attorney duly authorized in writing and a new proxy issued in the name of the same appointee or a new appointee, otherwise the proxy shall be valid until cancelled or modified by the appointer, subject to the above expiration period of twelve (12) months.

72. A vote given in accordance with the terms of an instrument of proxy shall be valid, notwithstanding the previous death of the principal, or revocation of the proxy, or transfer of the shares in respect of which the vote was given, unless an intimation in writing of the death, revocation or transfer shall have been received at the office of the Company before the meeting.

73. The instrument appointing a proxy shall be either (a) Special Proxy to vote at particular Annual or Extraordinary General Meeting or (b) General Proxy to vote at every Annual or Extraordinary General Meeting during a certain period. A member shall not be entitled to appoint more than one (1) proxy to attend any one (1) meeting. If a member appoints more than one (1) proxy and such instruments of proxy are deposited with the Company all such instruments of proxy shall be deemed invalid.

74. All instruments of proxy if in the form distinguished by the letter (a) mentioned in the last preceding clause shall remain in the custody of the Company permanently or for such time as the Directors may determine, or if in the form distinguished by the letter (b) shall be duly registered and returned after the business of the meeting at which it is used is over to the person by whom they are delivered. A vote given in accordance with the terms of an instrument of proxy shall be valid notwithstanding the previous death of the principal or revocation of the proxy or transfer of the share in respect of which the vote was given, provided no intimation in writing of the death, revocation or transfer shall have been received at the Office of the Company before the meeting.

75. Every instrument of proxy, whether for a specified meeting or otherwise, shall, as nearly as circumstances will admit, be in the form or to the effect following:

"I \_\_\_\_\_ being a member of the Shams Power (Private) Limited  
\_\_\_\_\_ and entitled to \_\_\_\_\_ votes, do hereby appoint  
\_\_\_\_\_ of \_\_\_\_\_ failing  
him \_\_\_\_\_ 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 \_\_\_\_\_ 20\_\_\_\_ and at  
any adjournment thereof.

Singed by me this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_ or in such other  
form as the Directors shall from time to time approve."

76. No member shall be entitled to be present or to vote on any question either personally or by proxy, or as proxy for another member, at any General Meeting, or upon a poll, or to be reckoned in a quorum, whilst any sum shall be due and payable to the Company in respect of any of the shares of such member.

77. No objections shall be made to the validity of any vote except at the meeting or poll at which such vote shall be rendered, and every vote whether given personally or by proxy and not disallowed at such meeting or poll, shall be deemed valid for all purposes of such meeting or poll whatsoever.

#### **CHIEF EXECUTIVE OFFICER AND OTHER PRINCIPAL OFFICERS OF THE COMPANY**

78. The Directors shall elect a Chief Executive Officer from amongst their body or from outside it and give such Chief Executive Officer the designation of Managing Director or such other designation as the Directors may determine from time to time. The Chief Executive Officer shall be appointed for a period of three (3) years, extendable by the Directors. The Directors shall vest in the Chief Executive Officer, such powers and functions as they deem fit in relation to the management and administration of the affairs of the Company subject to their general supervision and control. If the Chief Executive Officer is not already a Director he shall be deemed to be a Director of the Company and be entitled to all the rights and privileges and subject to all the liabilities of that office.

81. The Directors may appoint other principal officers of the Company including the Chief Financial Officer (by whatever designation called) and the Secretary on such terms and conditions and with such responsibilities as they may determine.

#### **DIRECTORS**

82. Directors' number and powers:

(a) Until otherwise determined by the Board of Directors, the number of directors shall be not less than three (3) including Debenture/Creditor Directors.

(b) The Directors shall have the power at any time and from time to time to appoint any other qualified person or persons as officer(s) of the Company for a period and terms as may be determined by the Board.

83. Save as provided by Section 187 or otherwise required by law or determined by the Directors, Directors need not have any qualification shares. When the Directors are required as aforesaid to hold any qualification shares, they shall do so within the time presented by law. In the case of Directors representing interest holding shares of the requisite value, no such share qualification shall be required provided intimation in writing as to such representation is lodged with the Company within two (2) months of the appointment of such directors.

84. Each Director including alternate or substitute Directors but excluding regularly paid Chief Executive Officer and full time working Directors shall be paid out of the funds of the Company a fee, as may be determined and approved by the Directors, for every meeting of the Board attended by him.



85. The Directors may pay to any Director who for the time being is resident out of the place at which any Meeting of the Directors may be held and who shall come to that place for the purpose of attending such Meeting such sum as the Directors may consider fair and reasonable for his expenses and loss of time in connection with his attending at the Meeting in addition to his remuneration as above specified.

86. If any Director is called upon to perform extra services or to make special exertions for any of the purposes of the Company, or to give any special attendance to the business of the Company, the Directors may remunerate the Directors so doing, which remuneration, if required by law, shall be subject to the approval of the Company in General Meeting, and/or the prior approval of the Controller of Capital Issues.

87. The continuing Directors may act, notwithstanding any vacancy in their body, but if their number falls below the minimum fixed the remaining Directors shall fill up such vacancy and except for the purpose of filling such vacancy or of calling a General Meeting the continuing Directors shall not act so long as their number is below the minimum.

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

(a) if removed by a resolution of members as hereinafter provided; or

(b) if by notice in writing given to the Company he resigns his office; or

(c) if he fails to acquire his qualification shares within two (2) months of his appointment.

Provided, however, that no Director shall vacate his office by reason only of his being a member of any company which has entered into contracts with, or done any work for, the Company but such Director shall not vote in respect of any such contract or work, and if he does so vote, his vote shall not be counted and nor shall his presence count for forming a quorum at the time of any such vote.

89. In accordance with Section 205 of the Ordinance, the Company shall keep at the Office a register, containing the names, addresses and occupations of its Directors and officers, and shall send to the Registrar of Companies a copy of such register, and shall notify to him any change that takes place in such Director or officer within fourteen (14) days of such change taking place.

90. A Director may be removed by passing a resolution at a General Meeting in accordance with Section 181.

91. Any casual vacancy occurring among the Directors may be filled up by the Directors provided that any person so chosen shall remain in office so long as the vacating Director would have retained the same if no vacancy had occurred. The continuing Directors may act notwithstanding any vacancy in their body, but so that if the number falls below the minimum

above fixed, the Directors shall not, except for the purpose of filling vacancies, act so long as the number remains below the minimum.

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

93. The Company may enter into a contract of service with the Chief Executive Officer (Managing Director) for such period and on such terms and conditions as the Directors consider appropriate in the interest of the Company.

94. If so required under law, the remuneration of the Chief Executive Officer (Managing Director) 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 or otherwise.

95. The Directors may, from time to time, entrust to and confer upon the Chief Executive Officer (Managing Director) for the time being such of the powers exercisable under These Presents by the Directors, as they may 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 that behalf, and may from time revoke, withdraw, alter or vary all or any such powers.

96. A Director of this Company may be, or become a director of any company promoted by this Company or in which it may be interested as a vendor, shareholder or otherwise provided written notice has been given to the Board and no such Director shall be accountable for any benefits as a director or member of such company.

#### PROCEEDINGS OF DIRECTORS

97. The Directors may meet for the dispatch of business and may adjourn and otherwise regulate their meetings and proceedings as they think fit, subject to such minimum meetings as may be provided by law. The quorum for such meetings shall be two (2) Directors. A Director may at any time, and the Secretary upon the request of a Director, shall convene a meeting of the Directors. A Director who is not within Pakistan shall not be entitled to notice of any such meeting, but notice shall be given to all duly appointed alternate Directors who may at the time be within Pakistan. Questions arising at any meeting shall be decided by majority of votes except in cases especially provided for in These Presents and in case of an equality of votes, the Chairperson shall have a second or casting vote.

98. The Directors may elect a Chairperson of their meetings and determine the period for which he is to hold office, but if no such Chairperson is elected, or if at any meeting the Chairperson is not present within ten (10) minutes after the time appointed for holding the same or is unwilling to act as Chairperson, the Directors present shall choose some one of their number to be Chairperson of such meeting.

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99. A meeting of the Directors at which a quorum is present shall be competent to exercise all or any of the authorities, powers and discretions by or under These Presents or regulations of the Company for the time being vested in or exercisable by the Directors generally.

100. Subject to Section 196 and in addition to the powers which may be delegated by the Directors, the Directors may delegate any of their powers, other than the powers to borrow, to a committee consisting of such member or members of their body as they think fit, and they may from time to time revoke and discharge any such committees, so formed which shall, in the exercise of the power so delegated conform to any regulations that may from time to time be imposed on it by the Directors. All acts done by any such committee in conformity with such regulations and in fulfillment of the purposes of their appointment but not otherwise shall have the like force and effect as if done by the Board. The Board may from time to time fix the remuneration to be paid to any member or members of their body constituting a committee appointed by the Board in terms of these Articles, and may pay the same.

101. A resolution in writing, signed by Directors for the time being entitled to receive notice of a meeting of Directors, shall be as valid and effectual as if it had been passed at a meeting of the directors duly called and constituted provided that where a Director is not so present in Pakistan but has an alternate who is so present, then such resolution must also be signed by such alternate.

102. The meetings and proceedings of any such committee consisting of two (2) or more members, 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, and are not superceded by any regulations made by the Directors under these Articles.

103. Any Director who serves on any special Committee, or who devotes special attention to the business of the Company, or who otherwise performs services which, in the opinion of the Directors, are outside the scope of the ordinary duties of a Director, may be paid such extra remuneration (in addition to the remuneration he may be entitled to as a Director) by way of salary, percentage of profits, or otherwise as the Directors may determine.

104. All acts done at any meeting of the Directors or of a special committee 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 the 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.

105. Subject to the provisions of Section 191, a Director may be employed by or hold any office of profit under the Company in conjunction with the office of Director other than of an Auditor of the Company, and on such terms as to remuneration and otherwise as the Directors may arrange.

#### MINUTES

106. The Directors shall cause minutes to be duly entered in books provided for the purposes:

- (a) of all appointments of officers made by the Directors.
- (b) of the name of Directors present at each meeting of the Directors and of any committee of Directors.
- (c) of all resolutions and proceedings of General Meetings, and of meeting of the Directors and committee and resolution made in accordance with the provisions of Article 101 hereof.

Any such minutes of any meetings of the Directors, or any committee, or of the Company, or of a resolution in pursuance of these Articles, and any extract therefrom if purporting to be signed by the Chairperson of such meeting or by some person present there at and appointed by the Directors to sign the same in his place, or by the Chairperson of the next succeeding meeting, shall be receivable as evidence of the matters stated in such minutes or extracts.

#### **REGISTER OF MEMBERS**

107. The Directors shall cause to be kept, in one or more books, a Register of Members, in accordance with Section 147.

108. The Register shall be kept at the office of the Company, and except when closed under the provisions of these Articles, shall be open to the inspection of the members during business hours, subject to any reasonable restriction from time to time imposed by the Company in General Meeting. No notice of any trust shall be entered in the Register.

#### **REGISTER OF DIRECTORS' INTERESTS**

109. In accordance with Section 219 of the Ordinance, the Company shall maintain at its office a register in which shall be entered separately particulars of all contracts, arrangements or appointments in which Directors are interested, such register shall be open to inspection in the same manner and on payment of the same fee as specified for the Register of Members.

#### **REGISTER OF DIRECTORS' SHAREHOLDINGS**

110. In accordance with Section 220 of the Ordinance, the Company shall maintain at its office a register of the Directors, Chief Executive, Chief Financial Officer (Chief Accountant), Secretary or Auditor who is or has been the beneficial owner of listed securities and every person who is directly or indirectly the beneficial owner of not less than ten percent (10%) of the beneficial interest in the Company. This register shall be open to inspection during business hours subject to Sections 220 (5) (6) and (7) of the Ordinance.

#### **ALTERNATE DIRECTORS**

111. A Director who is out of Pakistan or about to go out of Pakistan for a period of not less than three (3) months may with the approval of the Directors appoint a person to act as alternate Director in his place, and at his discretion remove such alternate Director and appoint another in his stead, and on such appointment being made and approved the alternate Director shall in all respects be subject to the terms and conditions existing with reference to the other Directors of Company, save and except that he shall not be required to hold any share qualification. Such alternate Director shall be entitled to act at all meetings and in all proceedings in which, and on all occasions when the Director who appointed him shall not act himself. An alternate Director shall look for his remuneration to the Director appointing him, and shall have no claim against the Company for such remuneration.

112. An alternate Director, whilst acting in the place of the Director who appointed him, shall exercise and discharge all the duties and functions of the Director he represents. The appointment of an alternate Director shall be cancelled and the alternate Director shall cease to hold office whenever the Director who appointed him shall return to Pakistan he shall give notice in writing to the Secretary that the alternate Director representing him shall have ceased to do so.

### POWERS OF DIRECTORS

113. The management of the business and the control of the Company shall be vested in the Directors, who in addition to the powers and authorities by These Presents expressly conferred upon them, may exercise all such powers, and do all such acts and things as may be exercised or done by the Company, and are not hereby or by the Statutes expressly directed or required to be exercised or done by the Company in meetings, but subject, nevertheless, to such management not being inconsistent with These Presents nor with any resolution passed by any meeting of the members in accordance therewith; but no resolution passed by the Company in meeting shall invalidate any prior act of the Directors which would have been valid if such resolution had not been passed. The general powers given by this Article shall not be limited or restricted by any special authority or powers given to the Directors by any other Article. It is hereby declared that although the Directors shall have power to enter into provisional contract for the sale or alienation of all or the major portion of the property and assets of the Company and the rights belonging thereto or connected therewith, such provisional contract shall only become binding on the Company in the event of the same being ratified and confirmed by a majority of the votes of the members present in person or by proxy at an Extraordinary Meeting convened for that purpose. All the provisions of These Presents as to General Meetings shall apply mutatis mutandis to meetings convened under this Article.

114. The Directors may at any time and from time to time, by power of attorney, appoint any person or persons to be the attorney or attorneys of the Company for such purposes and with such powers, authorities and discretions (not exceeding those vested in or exercisable by the Directors under These Presents), and for such period and subject to such conditions as the Directors may from time to time think fit, and any such appointments may, if the Directors think fit, be made in favour of any company, or the members, directors, nominees or managers of any company or firm, or otherwise in favour of any fluctuating body of persons, whether nominated directly or indirectly by the Directors, and any such power whether nominated directly or

indirectly by the Directors, and any such power of attorney may contain such provisions for the protection or convenience of persons dealing with such attorneys as the Directors may think fit.

115. Subject to such limitations as may be imposed by Section 196 of the Ordinance or by the shareholders in General Meetings, all powers shall vest with the Directors.

### ELECTION OF DIRECTORS

116. The number of Directors determined by the Board pursuant to Article 82 hereof shall be elected to office by the members in General Meeting in the following manner:

- (a) A 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.
- (c) The candidate who gets the highest number of votes shall be declared elected as Director and then the candidate who gets the next highest number of votes shall be so declared and so on until the total number of Directors to be elected has been so elected.

117. A retiring Director shall be eligible for re-election.

118. Any person who seeks to contest an election to the office of Director shall, whether he is a retiring Director or otherwise, file with the Company, not later than fourteen (14) days before the date of the meeting at which elections are to be held, a notice of his intention to offer himself for election as a Director; provided that any such person may, at any time before the holding of elections, withdraw such notice.

119. A Director elected in accordance with these Articles shall hold office for a term of three (3) years unless he earlier resigns, becomes disqualified from becoming a Director or otherwise ceases to hold office.

### SEALS

120. The Directors shall provide a common Seal of the Company which shall not be affixed to any instrument except by the authority of a resolution of the Board or by a committee of Directors authorised in that behalf by the Directors, and two (2) Directors or one (1) Director and the Secretary of the Company or such other person as the Directors may appoint for the purpose shall sign every instrument to which the common Seal is affixed.

121. The Directors may provide for the use in any territory, district or place not situated in Pakistan, of an official Seal which shall be a facsimile of the common Seal of the Company, with

the addition on its face of the name of every territory, district or place where it is to be used. The provisions of Section 213 shall apply to the use of the official Seal.

### DIVIDENDS

122. The Company in General Meeting or the Directors may, from time to time, declare a dividend, such dividend to be paid to the members within forty five (45) days of its declaration, in proportion to the number of their shares and the amount paid up thereon.

123. No larger dividend shall be declared by the Company in General Meeting than is recommended by Directors, but the Company in General Meeting may declare a smaller dividend.

124. No dividend shall be payable except out of the profits of the Company of the year or any other undistributed profits and no dividend shall carry interest as against the Company. Dividends may be declared either free of or subject to the deduction of Zakat, income tax and any other tax or duty in respect of which the Company may be chargeable. All unclaimed dividends may be invested or otherwise made use of by the Directors for the benefit of the Company until claimed.

125. The declaration of the Directors as to the amount of the profits of the Company shall be conclusive.

126. The Directors, may from time to time, pay to the members on account of the next forthcoming dividend such interim dividends as in their judgment the position of the Company justifies.

127. In case several persons are registered as the joint holders of any share, any one of such persons may give effectual receipts for all dividends and payments on account of dividends in respect of such share.

128. Each dividend may be paid by cheque, warrants, coupon, or otherwise, as the Directors may from time to time determine, and may if paid otherwise than by coupon, be sent by post to the last registered address of the member entitled thereto, or any other address requested by him or in the case of joint registered holders to that one of them first named in the register in respect of such joint holdings, and the payment of such cheque or warrant in purporting to be duly endorsed, or the surrender of any coupon shall be a good discharge to the Company in respect thereof.

129. The Company shall not be responsible for the loss in transmission of any cheque, warrant or other document sent through the post to the registered address of any member, whether or not at his request.

130. No dividend shall bear interest against the Company.

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131. The Directors may retain the dividends payable upon shares in respect of which any person is under the transmission clauses entitled to become a member or when any person under the clause is entitled to transfer until such person shall become a member in respect thereof or shall duly transfer the same.

132. All dividends unclaimed for one (1) year after having been declared may be invested or otherwise made use of by the Directors for the benefit of the Company until claimed and all dividends unclaimed for three (3) years after having been declared may be forfeited by the Directors for the benefit of the Company.

### CAPITALISATION

133. The Company in General Meeting may at any time and from time to time pass a resolution that it is expedient to capitalize any sum forming part of the undivided profits standing to the credit of the Company's reserve or reserve fund or in the hands of the Company and available for dividend, or any sum received by way of premium on the issue of any shares, debentures or debenture stock of the Company, and that any such sum or sums be set free for distribution and be appropriated to and amongst the members, either with or without deduction for income tax rateably, according to their shareholding, in such manner as the resolution may direct, provided that no such distribution shall be made unless recommended by the Directors and the Directors shall in accordance with such resolution apply such sum or sums in paying up shares, debentures, or debenture stock of the Company, and appropriate such shares, debenture stock to distribute the same amongst the holders of such shares rateably according to their shareholding thereof respectively as aforesaid, or otherwise deal with such sums as directed by such resolution. Where any difficulty arises in respect of such distribution, the Directors may settle the same as they think expedient, and in particular they may issue fractional certificates, fix the value for distribution of any fully held shares, debentures, or debenture stock, make cash payment to any holders of shares on the footing of the value so fixed in order to adjust rights, and vest any shares or assets in trusts for the persons entitled in the appropriation or distribution as may seem just and expedient to the Directors. When deemed requisite a contract shall be filed in accordance with Section 73 and the Directors may appoint any person to sign such contract on behalf of the persons entitled in the appropriation or distribution, and such appointment shall be effective, and the contract may provide for the acceptance by such holders of the shares to be allotted to them respectively in satisfaction of their claims in respect of the sum so capitalized.

### RESERVES

134. The Directors may, before recommending any dividends, whether preferential or otherwise, carry to reserve out of the profits of the Company such sums as they think proper, and may also carry to reserve any premiums received upon the issue of shares, securities, or obligations of the Company. All sums standing to reserve may be applied from time to time in the discretion of the Directors for meeting depreciation or contingencies or for special dividends or bonuses or for equalizing dividends or for repairing improving or maintaining any of the property of the Company or for such other purposes as the Directors may think conducive to the objects of the Company or any of them, and pending such application may at the like discretion either be employed in the business of the Company or be invested in such investments as the

Directors think fit. The Directors may divide the reserve into such special funds or any parts of any special funds into which the reserve may have been divided as they think fit. The Directors may also, without placing the same to reserve, carry over any profits which they may think it not prudent to divide.

135. The reserve or reserve fund shall, at the discretion of the Directors, be applicable for the equalization of dividends or for making provision for exceptional losses, expenses or contingencies or the extension or development of the Company's business or for writing down the value of any of the assets of the Company, or for repairing, improving and maintaining any buildings, plants, machinery or works connected with the business of the Company or to cover the loss by wear and tear or other depreciation in value of any property of the Company, or for any of the objects of the Company as defined by the Company's Memorandum of Association or for any other purpose to which the profit of the Company may be properly applied, and the Directors may at any time divide among the members by way of bonus or special dividends any part of the reserve funds which they in their discretion may determine not to be required for the purposes aforesaid.

136. All moneys carried to the Reserve Fund and the Depreciation Fund respectively shall nevertheless remain and be profits of the Company applicable, subject to due provisions being made for actual loss or depreciation, for the payment of dividends and such moneys and all the other moneys of the Company not immediately required for the purposes of the Company may be invested by the Directors in or upon such investments or securities as they may select or may be used as working capital or may be kept at any bank on deposit or otherwise as the Directors may from time to time think proper.

## ACCOUNTS

137. The Directors shall cause to be kept such books of account as are prescribed by Section 230. The books of account shall be kept at the office of the Company or at such other place or places as the Directors think fit, and shall always be open to the inspection of Directors.

138. The Directors shall, from time to time determine whether and to what extent, and at what times and places and under what conditions or regulations the accounts and books of the Company, or any of them, shall be open to the inspection of members, and no member (not being a Director) shall have any right of inspecting any account or book or document of the Company, except as conferred by Statute or authorised by the Directors, or by a resolution of the Company in General Meeting.

139. The Directors shall from time to time in accordance with Section 233, 234 and 236 cause to be prepared and to be laid before the Company in General Meeting such profit and loss account, balance sheet and reports as are referred to in these Sections and in accordance with Section 242, within thirty (30) days of such meeting the Directors shall file with the Registrar at least three (3) duly authenticated copies thereof.

140. Every such balance sheet shall be accompanied by a report of the Directors as to the state and condition of the Company, and as to the amount (if any) which has been paid, or which they recommend to be paid, out of the profits by way of dividend to the members, and the amount (if any) which they have carried, or propose to carry, to reserve according to the provisions in that behalf hereinbefore contained; and the report and balance sheet shall be signed by the Chief Executive and one other Director. When the Chief Executive is for the time being not in Pakistan, the report and balance sheet shall be signed by two (2) Directors in accordance with Section 241. The balance sheet and accounts which are to be laid before the Company in General meeting shall contain the particulars prescribed by the Statute.

141. The Company shall within one (1) month of the close of the first, second and third quarter of its year of account, prepare and transmit to its members and any Stock Exchange on which the Company may choose to be listed, a profit and loss account for, and balance sheet as at the end of that quarter, whether audited or otherwise, and simultaneously file with the Registrar and the Commission at least three (3) copies thereof.

#### AUDIT

142. Once at least in every year the accounts of the Company shall be examined and the correctness of the profit and loss account and balance sheet ascertained by one or more auditor or auditors. The auditors shall be appointed at each annual general meeting and hold office from the conclusion of the meeting until the conclusion of next Annual General Meeting.

143. The duly appointed auditor(s) of the Company shall, subject to the provisions of the Statutes, particularly Section 252 of the Ordinance, hold office until another appointment or other appointments to the office shall be made in accordance with the Statutes, the provisions whereof shall apply to and be complied with in connection with any appointment proposed to be made or made of an auditor(s) of the Company. The remuneration of the auditor(s) shall be fixed by the Company at the Annual General Meeting.

144. An auditor may not be a member of the Company but no person shall be eligible as auditor who is interested otherwise than as a member, in any transaction of the Company, in accordance with Section 254 (3) of the Ordinance no person who is, or at any time during the preceding three years, was a Director, Manager, Secretary, employee or other officer of the Company shall be eligible for the post of auditor.

145. Any casual vacancy occurring in the office of auditor may be filled up by the Directors, and any person so appointed shall continue in office until the Ordinary Meeting next after his appointment, but while any such vacancy continues the surviving and continuing auditor(s) (if any) may continue to act.

146. The auditor(s) shall be supplied with copies of the balance sheet and profit and loss account intended to be laid before the Company in General Meeting. The auditor(s) shall make a report to the members upon the balance sheet, profit and loss account or income and expenditure account in terms of the Statutes, with particular reference to Section 255 of the Ordinance. The auditor(s) shall at all reasonable times have access to the books and accounts of the Company, and they may, in relation thereto, examine the Directors' or other officers of the Company.

147. Every account of the Company, when audited and approved by an Ordinary Meeting, shall be deemed conclusively correct, and shall not be reopened, though if any error is discovered therein within three (3) months next after the approval thereof the account shall forthwith be corrected and thenceforth shall be conclusive.

### NOTICE

148. A notice may be given by the Company to any member either personally or by sending it by post to his registered address or (if he has not a registered address in Pakistan) to the address if any within Pakistan supplied by him to the Company for the giving of notices to him.

149. Where a notice is sent by post, service of the notice shall be deemed to be effected by properly addressing, pre-paying 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.

150. If a member has no registered address in Pakistan, and has not supplied to the Company an address within Pakistan for the giving of notice to him, a notice addressed to him and advertised in a newspaper circulating in the neighborhood of the Office of the Company and in addition, a notice published in one issue each of an English and an Urdu daily newspaper with circulation in the province of its registered office or if the Company is listed where the Stock Exchange in which it is listed is situated, shall be deemed to be duly given to him on the day on which the advertisements appear.

151. A notice may be given by the Company to the joint-holders of a share by giving the notice to the joint-holder named first in the Register in respect of the share.

152. A notice may be given by the Company to the persons entitled to a share in consequence of the death or insolvency of a member by sending it through the post in a pre-paid letter addressed to them by name, or by the title of representative of the deceased, or assignees 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 has been so supplied by giving the notice in any manner in which the same might have been given if the death or insolvency had not occurred.

153. Notice of every General Meeting shall be given in some manner hereinbefore authorised to (a) every member of the Company except those members who (having no registered address within Pakistan) have not supplied to the Company an address within Pakistan for the giving of notices to them, to (b) every person entitled to a share in consequence of the death or insolvency of a member, who but for his death or insolvency would be entitled to receive notice of the meeting, and (c) to auditors of the Company for the time being.

154. Every person who by operation of law, transfer, or other means whatsoever shall become entitled to any shares, shall be bound by every notice in respect of such shares which previously to his name and address being entered on the Register shall have been duly given to the person from whom he derived his title to such shares.

155. The signature to any notice to be given by the Company may be written or printed or in the form of an advanced electronic signature as referred to in Article 2 (r).

### WINDING UP

156. If the Company is wound up, the liquidator may, with the sanction of a Special Resolution of the Company and any other sanction required by law, divide amongst the members in specie or kind the whole or any part of the assets of the Company (whether they shall consist of property of same kind or not) and may, for such purpose, set forth value as he deems fair upon any property to be divided as aforesaid and may determine how such division shall be carried out as between the members or different classes of members. The liquidator may, with the like sanction, vest the whole or any part of such assets in trustees upon such trust for the benefit of the contributories, as the liquidator with the like sanction, shall think fit, but so that no member shall be compelled to accept any shares or other securities whereon there is any liability.

### INDEMNITY AND RESPONSIBILITY

157. Subject to the provisions of the Ordinance, every Director, Manager, Secretary and other officer or servant of the Company shall be indemnified by the Company against, and it shall be the duty of the Directors, out of the funds of the Company, to pay all costs, losses and expenses which any such officer or servant may incur or become liable to by reason of any contract entered into or not or deed done by him as such officer or servant, or in any way in the discharge of his duties, including traveling expenses.

158. Subject of the provisions of the Statutes, no Director, Manager, Secretary or other officer or servant of the Company shall be liable for the acts, receipts, neglects, or defaults of any other Director or officer or servant, or for joining in any receipt or other act for conformity, or for loss or expense happening to the Company through the insufficiency or deficiency of title to any property acquired by order of the Director for or on behalf of the Company, for the insufficiency or deficiency of title to any property acquired by order of the Directors for or on behalf of the Company, for the insufficiency or deficiency of any security in or upon which any of the moneys of the Company shall be invested or for any loss or damage arising from the bankruptcy,

insolvency or tortuous act of any person with whom any moneys, securities or effects shall be deposited, or for any loss or damage occasioned by any error of judgment or oversight on his part or of any other loss, damage, or misfortune whatsoever which shall happen in execution of the duties of his office or in relation thereto, unless the same happen through his own dishonesty, negligence, default, breach of duty or breach of trust.

### SECRECY

159. Every Director, auditor, trustee, member of a committee, officer, manager, servant, agent, accountant or other persons employed in the business of the Company shall, if so required by the Directors, before entering upon his duties sign a declaration pledging himself to observe strict secrecy respecting all transactions of the Company with the customers and the state of accounts with individuals and all matters relating thereto, and by such declaration pledge himself not to reveal any of the matter which may come to his knowledge in the discharge of his duties, except when required so to do by the Directors or by a Court of Law or by the person to whom such matters relate, and that too with the permission of the Board except so far as may be necessary in order to comply with any of the provisions in These Presents contained.

160. Any Director or officer of the Company shall be entitled, if he thinks fit, to decline to answer any question concerning the business of the Company which may be put to him on the ground that the answer to such question would disclose or tend to disclose the trade interests of the Company.

161. Any officer or employee of the Company proved to the satisfaction of the Company to have been guilty of disclosing the secrets of the Company shall be liable without prejudice to any other claim of the Company against him, to instant dismissal without notice at the discretion of Directors.

162. No member or other person not being a Director or other officer of the Company shall be entitled to enter upon the property of the Company or to inspect or examine or require discovery of or any information respecting any detail of the Company's trading or any matter which is or may be in the nature of a trade secret, mystery or secret process which may relate to the conduct of the business of the Company, and which in the opinion of the Directors, it will be inexpedient in the interests of the members of the Company to communicate to the public.

### OTHER REGULATIONS

163. The Company shall (if it is listed) comply, in so far as its provisions are applicable to the Company, with the Code of Corporate Governance announced by the Commission, subject to amendment from time to time.

164. The Company shall (if it is listed) comply with the Listing Regulations of the Stock Exchanges on which it may choose to have its shares listed from time to time.

165. The Company shall comply with the Companies (General Provisions and Forms) Rules, 1985, as may be applicable to it.

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

Sr. No.	Name and Surname (present & former) in full (in Block Letters)	CNIC No.(in case of foreigner, Passport No.)	Father's/ Husband's Name in full	Nationality (ies) with any former Nationality	Occupation	Residential Address (in full)	Number of shares taken by each subscriber	Signatures
1.	ZAIN-UL-ABDIN	42201-0622607-1	Fazal Hussain Amin	Pakistani	Business Executive	House No.537 Street No.11 Sector A Township, Lahore	One (1)	
2.	OMAR MOHYUDDIN MALIK	35202-4257987-7	Saleem Hamid Malik	Pakistani	Business Executive	House No.15-A Denpur Road GOR I, Lahore	One (1)	
3.	USMAN HAMID MALIK	35202-9452021-3	Saleem Hamid Malik	Pakistani	Business Executive	House No.15-A Denpur Road GOR I, Lahore	One (1)	
4.	FAISAL ISLAM	35201-6640002-1	Muhammad Islam	Pakistani	Business Executive	97/16-B, Nisar Colony, Lahore Cantt.	One (1)	
Total number of shares to be taken							Four(4)	

Dated the \_\_\_\_\_ day of January 2015

Witness to the above signatures	
Signature	
Full Name	Saleem Akhtar
CNIC No.	32304-1586952-1
Father's Name	Ghulam Qasim
Full Address	115/7A, Sarwar Road, Lahore Cantt.
Occupation	Advocate High Court