

**BEFORE THE  
NATIONAL ELECTRIC POWER REGULATORY AUTHORITY**

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**PETITION FOR THE GRANT OF  
DISTRIBUTION LICENSE**

**ON BEHALF OF  
RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATIONS  
COMPANY (RSEZDOC)**

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Dated: 11 November 2022

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Ref No.: RSEZDOC/HO/2022/086

Date: November 7<sup>th</sup>, 2022

To: Registrar

National Electric Power Regulatory Authority ("NEPRA")

NEPRA Tower, Attaturk Avenue (East)

G-5/1, Islamabad

**SUBJECT: APPLICATION FOR GRANT OF DISTRIBUTION LICENSE**

I, Lyu Ming, Chief Executive Officer, being the duly authorized representative of Rashakai Special Economic Zone Development and Operations Company (Pvt.) Limited ("RSEZDOC" or "Petitioner") by virtue of BOARD MEETING MINUTES dated Aug 2<sup>nd</sup>, 2022, hereby apply to the National Electric Power Regulatory Authority for the grant of a Distribution License to the Petitioner pursuant to Section 20 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997.

I hereby 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, Modification, Extension and Cancellation) Procedure Regulations, 2021, 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 no material omission has been made.

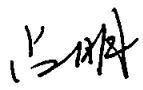
I further certify that the Petitioner has not been denied any license under the applicable laws and rules of NEPRA.

A bank check in the sum of Rupees 3,346,530, being the license application fee calculated in accordance with Schedule II to the National Electric Power Regulatory Authority Licensing (Application, Modification, Extension and Cancellation) Procedure Regulations, 2021 is also attached herewith.

Yours sincerely,

For and on behalf of

**Rashakai Special Economic Zone Development and Operations Company (Pvt.) Limited**

  
\_\_\_\_\_  
Lyu Ming

Authorized Representative / Chief Executive Officer

Rashakai Special Economic Zone Development and Operations Company (Private) Limited



**DISTRIBUTION LICENCE PETITION  
RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATIONS COMPANY**

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**EXTRACTS FROM MINUTES PASSED BY THE BOARD OF DIRECTORS OF  
RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND  
OPERATIONS COMPANY (PVT.) LIMITED DATED AUG 2<sup>nd</sup>, 2022**

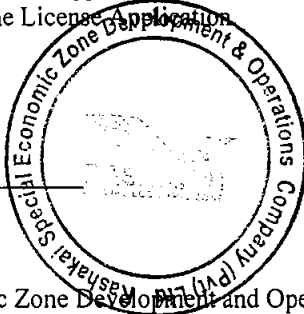
**RESOLVED** that Rashakai Special Economic Zone Development and Operations Company (Pvt.) Limited ("RSEZDOC") shall apply to the National Electric Power Regulatory Authority (NEPRA) for a distribution license in respect of RSEZDOC's distribution in Rashakai Special Economic Zone, and in relation thereto, sign all requisite documentation, pay all applicable fee and undertake all other necessary and ancillary acts and deeds.

**RESOLVED FURTHER** that an application for a distribution license to be made to the NEPRA with regards to the aforesaid distribution project (the "License Application").

**RESOLVED FURTHER** that LYU MING, Chief Executive Officer of RSEZDOC, bearing Passport No. PE1476327, be and hereby singly authorized to sign the License Application and any documentation ancillary thereto, represent before and provide any information required by NEPRA in relation to the License Application, do all lawful acts and deeds necessary and ancillary for the processing, completion and finalization of the License Application, and authorize legal advisors to represent RSEZDOC before the NEPRA in respect of the License Application.

  
\_\_\_\_\_  
Lyu Ming  
DIRECTOR/CEO

Rashakai Special Economic Zone Development and Operations Company (Pvt.) Limited



**CERTIFICATION**

**CERTIFIED**, that, the above resolution was duly passed by circulation to the Board of Directors of RSEZDOC on Aug 2<sup>nd</sup>, 2022

**FURTHER CERTIFIED**, that the said minutes has not been rescinded and is in operation and that this is a true copy thereof.

  
\_\_\_\_\_  
Lyu Ming  
Authorized Representative / Director / Chief Executive Officer

Rashakai Special Economic Zone Development and Operations Company (Pvt.) Limited



**VAKALATNAMA**

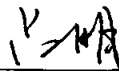
We, Rashakai Special Economic Zone Development and Operations Company (Pvt.) Limited (the "Company"), hereby appoint and constitute Mr Nadir Altaf, Mr. Fahim Khan and Ms Zoya Mohyuddin ("Authorized Persons") to appear and act for and on behalf of the Company as our advocates in connection with the preparation, filing and follow up of the Company's application for grant of a distribution license (the "Licence Application"), in respect of the distribution project in Rashakai Special Economic Zone, to the National Electric Power Regulatory Authority ("NEPRA") and represent us in connection herewith.

We also authorize the said Authorized Persons or any one of them to do all acts and things necessary, incidental to or deemed appropriate for the processing, completion and finalization of the Licence Application with NEPRA, as appropriate.

Dated: November 7<sup>th</sup>, 2022

For and on behalf of

**Rashakai Special Economic Zone Development and Operations Company (Pvt.) Limited**



Lyu Ming

Authorized Representative / Director / Chief Executive Officer

Rashakai Special Economic Zone Development and Operations Company (Pvt.) Limited



ACCEPTED

**RIAA BARKER GILLETTE**

**AFFIDAVIT OF CORRECTNESS**

I, Lyu Ming, Authorized Representative of Rashakai Special Economic Zone Development and Operations Company (Pvt.) Limited, do hereby solemnly affirm & declare on oath as under:

1. That the accompanying application has been filed under my instructions;
2. That whatever has been stated in the accompanying application is true & correct to the best of my knowledge & belief and nothing material has been concealed in respect thereof; and
3. That, I have sought legal advice in the matter from my legal counsels and I believe their advice to be correct and accurate to the best of my knowledge and belief.

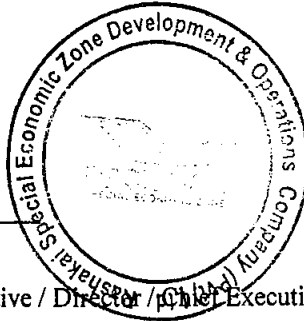
**DEPONENT**



Lyu Ming

Authorized Representative / Director / Chief Executive Officer

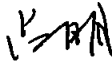
Rashakai Special Economic Zone Development and Operations Company (Pvt.) Limited



**VERIFICATION**

It is verified on oath at Islamabad on 7<sup>th</sup> day of November 2022 that the contents of the affidavit are true & correct to the best of my knowledge.

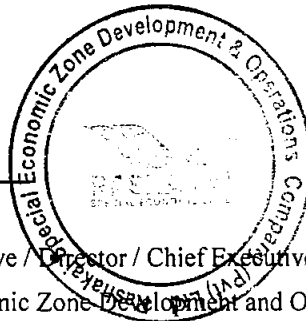
**DEPONENT**



Lyu Ming

Authorized Representative / Director / Chief Executive Officer

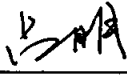
Rashakai Special Economic Zone Development and Operations Company (Pvt.) Limited



**AFFIDAVIT**

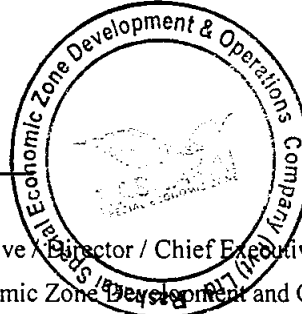
I, Lyu Ming, Authorized Representative of Rashakai Special Economic Zone Development and Operations Company (Pvt.) Limited, do hereby solemnly affirm & declare on oath that Rashakai Special Economic Zone Development and Operations Company (Pvt.) Limited has not been granted any other license under the Regulation of Generation, Transmission and Distribution of Electric Power Act (Act No. XL of) 1997.

**DEPONENT**

  
\_\_\_\_\_  
Lyu Ming

Authorized Representative / Director / Chief Executive Officer

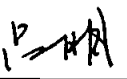
Rashakai Special Economic Zone Development and Operations Company (Pvt.) Limited



**VERIFICATION**

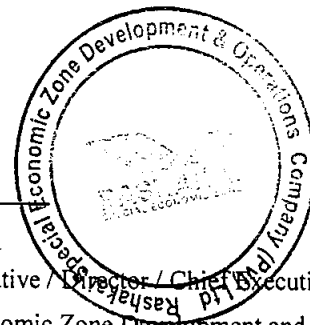
It is verified on oath at Islamabad on 7<sup>th</sup> day of November 2022 that the contents of the affidavit are true & correct to the best of my knowledge.

**DEPONENT**

  
\_\_\_\_\_  
Lyu Ming

Authorized Representative / Director / Chief Executive Officer

Rashakai Special Economic Zone Development and Operations Company (Pvt.) Limited





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DISTRIBUTION LICENCE PETITION  
RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATIONS COMPANY

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DISTRIBUTION LICENCE PETITION  
RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATIONS COMPANY

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PETITION: For the grant of Distribution License on behalf of Rashakai Special Economic Zone Development and Operations Company ( "RSEZDOC" or "Petitioner")

**1 LEGAL REGIME**

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- 1.1 Under the Regulation of Generation, Transmission and Distribution of Electric Power Act (Act No. XL of) 1997 (the "**NEPRA Act**"), the Authority is mandated to, *inter alia*, grant licenses for generation, transmission, distribution and supply of electric power and perform such functions which are consequential or incidental thereto.
- 1.2 The Petitioner has filed this petition for the grant of a distribution license (the "**DL Petition**") before the National Electric Power Regulatory Authority (the "**NEPRA**" or the "**Authority**") pursuant to Section 20 of the NEPRA Act, the NEPRA Licensing (Distribution) Rules 1999 (the "**Licensing Rules**") and other enabling provisions of NEPRA Rules, Regulations, Codes and Applicable Documents.
- 1.3 Specifically, the Petitioner's distribution network will be located at the Rashakai Special Economic Zone ("**RSEZ**"), District Nowshera, Khyber Pakhtunkhwa (KP) for the sole and exclusive distribution of power to the RSEZ.
- 1.4 The intended area falls within the service territory of the Peshawar Electric Supply Company Limited ("**PESCO**") pursuant to its distribution license No. 07/DL/2002 dated 30 April 2002, as provisionally extended. Having stated the foregoing, the RSEZ is not connected to PESCO's distribution and supply network.
- 1.5 PESCO's exclusivity over power distribution in its service territory expired on 29 April 2022 and its distribution license was provisionally extended by NEPRA vide its order dated 31 May 2022 on the following condition:

"PESCO shall not have any exclusivity for the provision of Distribution and/or Electric Power Supply services and the Authority shall reserve its right to issue other licences in its Service/Concessional Territories."

[Emphasis Added]

- 1.6 In light thereof, the Authority is empowered under the NEPRA Act to allow the Petitioner to undertake distribution activities at the RSEZ.
- 1.7 Furthermore, the Petitioner undertakes that it will be in compliance with the NEPRA (Supply of Electric Power) Regulations 2015, especially Regulation 4(3) thereof, as the load of the Petitioner's proposed distribution network shall not be less than 20 MW and shall have its own 132 kV grid station.

## 2 THE PETITIONER - RSEZDOC

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- 2.1 The Petitioner is a 'special purpose vehicle' of the China Road and Bridge Corporation ("CRBC") and Khyber Pakhtunkhwa Economic Zone Development Management Company ("KPEZDMC") (collectively referred to as the "Sponsor"), incorporated and existing under the laws of Pakistan. Copies of the Certificate of Incorporation, the Memorandum of Association and Articles of Association of the Petitioner are appended as **Annex A-1** and **Annex A-2**, respectively.
- 2.2 The Petitioner has an authorised capital of Rs. 10,000,000 (Ten Million Pak Rupees) divided into 1,000,000 (Ten Hundred Thousand) ordinary shares of Rs. 10 (Ten Pak Rupees) each. All of the Petitioner's authorised capital has been paid-up.
- 2.3 The Petitioner has been incorporated by its Sponsor to *inter alia* undertake the development of the RSEZ. By way of background, the Sponsor is the designated developer for RSEZ, an economic zone duly sanctioned and approved under the Special Economic Zone Act 2012 (details of which are provided in Part 3 of this DL Petition). In pursuance thereof, CRBC and KPEZDMC entered into an agreement for jointly undertaking the development of this flagship CPEC project.
- 2.4 To make the RSEZ functional for the industries set-up therein and to provide seamless electric power connectivity, the Petitioner now seeks to develop its own distribution network for the RSEZ and is currently in the process of laying the required distribution infrastructure.
- 2.5 The Petitioner intends to procure power for distribution to the RSEZ from PESCO, initially at a single-point, for which no wheeling will be required. PESCO's commitment to sell power to CRBC for this purpose is evidenced in the letter dated 19 January 2022 and technical sanction dated 3 March 2022, appended as **Annex B**.
- 2.6 The objectives of the Petitioner will include *inter alia* engaging in the activities relating to the business of construction, ownership, management, control, operation and maintenance of the electricity distribution lines, electrical distribution facilities, electrical circuits, transformers and sub-stations as well as the movement and delivery of electric power on distribution lines, undertaking distribution activities and distribution business, interconnection services and facilities and the matters connected therewith and incidental thereto.
- 2.7 As the distribution of electric power in Pakistan is a regulated activity, the Petitioner requires permission from the Authority in the form of a Distribution Licence. Separately, the Petitioner has also applied for a Supply License to undertake supply of electric power in RSEZ.

## 3 THE SPONSOR – CRBC & KPEZDMC

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- 3.1 CRBC is a multi-billion dollar Chinese state-owned company with over 30 years of construction experience in the Pakistani market. CRBC has been primarily involved in the construction and development of key infrastructure projects in Pakistan, including the notable Sukkur Bypass and Karakoram Highway. As one of the leading Chinese investors, CRBC is backed by the China-Pakistan Economic Corridor and has full support of the Government of Pakistan. A company profile of CRBC is appended as **Annex C-6**.



## DISTRIBUTION LICENCE PETITION

### RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION'S COMPANY

- 3.2 KPEZDMC, a company incorporated and existing under the laws of Pakistan, is owned by the Government of Khyber Pakhtunkhwa ("GoKP") and has specialised and regional experience in the development and management of special economic zones in the province of Khyber Pakhtunkhwa ("KP").
- 3.3 The composition of the Petitioner's shareholding is as follows:
- 3.3.a CRBC (through its subsidiary company RB Industrial Investment and Development (Hong Kong) Limited) owns 91% of the paid-up shares;
- 3.3.b KPEZDMC owns the remaining 9% of the paid-up shares.

## 4 THE RASHAKAI SPECIAL ECONOMIC ZONE

- 4.1 The RSEZ is an approved economic zone under the Special Economic Zone Act 2012 ("SEZA") in Rashakai, KP which will house various industrial and commercial enterprises (also referred to as zone enterprises under the SEZA).
- 4.2 The approval of an economic zone is made by a high-level committee, titled as the Board of Approval, comprising of *inter alia* the Prime Minister of Pakistan, Chairman of the Board of Investment and key federal ministers.
- 4.3 An approved special economic zone, which includes the developer of the economic zone and zone enterprises, receive special (federal and provincial) governmental assistance, incentives and tax rebates. The Board of Investment ("BOI") *inter alia* acts as a one-stop facilitating agency between the Federal Government and developers.
- 4.4 BOI has entered into a development agreement with CRBC and KPEZDMC in relation to the RSEZ project and consequently, extended its full support to the Petitioner to undertake distribution and supply of power for RSEZ.
- 4.5 Section 29(5) of the SEZA provides that all federal and provincial authorities, which includes NEPRA, are *inter alia* required to fully cooperate with the BOI and special economic zones authorities in facilitating the activities of developers.
- 4.6 In light of the national interest involved and governmental support extended to the Petitioner, it is imperative that the Authority favourably considers this DL Petition.

## 5 PURPOSE OF THE DISTRIBUTION LICENCE

- 5.1 The RSEZ is being developed to be the first of its kind economic zone under the SEZA with an in-house power distribution and supply network.

- 5.2 As RSEZ is a large-scale industrial estate of an unprecedented size for Pakistan, the reliable distribution and delivery of electric power is critical for the success of the project. CRBC has the financial and technical prowess to set-up a strong distribution network which will meet the needs of the zone enterprises in the RSEZ.
- 5.3 In pursuit of its objective, the Petitioner has already developed approximately eighty percent (80%) of the distribution and supply infrastructure and it is expected that the total load shall be 202.6 MW. The progress report of the RSEZ project and the distribution and supply network is appended as **Annex E-9**.
- 5.4 Needless to say, the provision of a reliable electricity distribution and supply is key to ensuring the viability of the RSEZ as a project. Moreover, RSEZ eventual self-sufficiency may serve to set a precedent for other economic zones, which in turn will serve to reduce the load on the overburdened distribution companies.
- 5.5 In light of the foregoing, the Petitioner requests the learned Authority to favourably consider this DL Petition for the grant of a distribution licence, which will enable the Petitioner to reliably distribute and deliver electric power to the zone enterprises of RSEZ . The grant of a distribution license to the Petitioner will pave the way towards energy sustainability and electrical reliability for other similar economic zones in the country.
- 5.6 The Petitioner has constituted a team of experts and consultants to undertake the proposed distribution activities. The profiles of the Petitioner's management staff is appended with this DL Petition as **Annex C-7** and **Annex C-9** as per the requirement of the NEPRA, which include:
- 5.6.a the curriculum vitae of the Petitioner's senior management, technical and professional staff; and
- 5.6.b evidence of the availability of adequate technical resources to the Petitioner to carry out the distribution activities and such evidence consists of:
- employment records of engineering and technical staff of the Petitioner; and
  - verifiable references in respect of the experience of the applicant and its proposed sub-contractors.

## **6 DETAILS AND SALIENT FEATURES OF THE DISTRIBUTION LICENCE**

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- 6.1 The proposed distribution infrastructure and the line route to be constructed by the Petitioner are fully explained in **Annex E-2**, including the Load Flow Study, etc.
- 6.2 The Petitioner seeks the distribution licence in order to construct, own and operate an MV distribution network with an installed capacity of 210 MW, consisting of two 132kV grid-stations. More specifically the network will comprise of, *inter alia*, bays with associated control protection and metering system, transformer bays, power transformers, single busbar arrangement, incomers, Substation Automation System, grid station AC/DC auxiliary supply, etc.
- 6.3 The majority of the distribution network will be overhead and is designed to be a low loss system, offering improved distribution efficiencies.

**DISTRIBUTION LICENCE PETITION**  
**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATIONS COMPANY**

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- 6.4 All the material and equipment to be used and procured by the Petitioner will be in accordance with NEPRA/NTDC approved specifications.
- 6.5 The land on which the distribution system is to be established is hard, solid ground, suitable for the construction of the distribution infrastructure and for the setting up of other ancillary equipment.

**7 FINANCIAL STRENGTH**

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- 7.1 The Petitioner' primary sponsor, CRBC, has demonstrably strong financial capabilities to fund the development of proposed distribution network. Evidence of the financial strength of the both the Petitioner and CRBC is appended as **Annex C-3**.

**8 FEASIBILITY STUDY, SYSTEM STUDIES & SPECIFICATION OF EQUIPMENT**

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- 8.1 A comprehensive feasibility study for the RSEZ has been undertaken which *inter alia* includes the site layout and plan for construction of various facilities, including the distribution and supply network, estimated investment and the socio-economic impact assessment of the project. The said feasibility study is appended herewith as **Annex E-1**.
- 8.2 Separately, the Petitioner hired reputable consultants to finalize the feasibility study of the electrical system (distribution and supply) of RSEZ. The feasibility study for the electrical system (distribution and supply) specifying the type, technology, model, technical details, operational characteristics, system interconnection and design consists of the following documents, appended herewith as **Annex E-2**:
1. Grid Interconnection Studies, as approved by NTDC vide its letter dated 20 June 2022;
  2. External Electrification Design Book of the 11kv distribution network;
  3. General Layout Plan and Single Line Diagram of GS-I substation, as approved by NTDC vide its letter dated 25 November 2021.
- 8.3 The Petitioner has reviewed the relevant technical details of the distribution infrastructure to be established with necessary specifications including the control and protection system.
- 8.4 The distribution infrastructure established by the Petitioner will be compliant with the requirements of the applicable environmental laws and policy and the infrastructure and routing alternatives of the Petitioner will be based on such environmental considerations including construction activities, right-of-way clearing and impacts of construction and operation of towers, access roads, substations and related facilities.
- 8.5 The details and specifications of the distribution equipment form part of the feasibility study.

## **9 ENVIRONMENTAL IMPACT ASSESSMENT (THE "EIA")**

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- 9.1 The EIA (as approved) for the RSEZ project, which includes the distribution and supply network, is attached herewith as **Annex E-8** hereto.

## **10 METERING & TESTING FACILITIES**

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- 10.1 The details relating to metering and testing etc. are appended with this DL Petition as **Annex F-16** and **Annex F-17**.

## **11 COMMUNICATION**

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- 11.1 The Substation Automation System shall be used to collect data from instruments and relays located at grid station and to transmit data at load dispatch center (LDC), RSEZ for monitoring and controlling purpose. The collected data from relays and instrument shall be viewed on one or more SAS host computers that will be located at LDC, RSEZ. Based on the information received from the grid stations, automated or operator– driven supervisory commands can be pushed to grid station control devices which are then referred to as the field device.
- 11.2 Further details relating to SAS and communications etc. form a part of the Communication System information, which is appended with this DL Petition as **Annex F-18**.

## **12 O&M, TRAINING & DEVELOPMENT**

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- 12.1 The Petitioner shall implement the operation & maintenance, training and development programmes that meet the Authority's approved specifications. These programmes shall be developed before the commencement of operations of the Petitioner. The Petitioner plans to employ, *inter alia*, experienced and trained personnel to carry out the operation and maintenance of the distribution system.

## **13 ADDITIONAL INFORMATION**

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- 13.1 The Petitioner shall provide NEPRA such further or additional information, clarification or explanation as it may require from time to time.
- 13.2 It is respectfully submitted that the Petitioner also requests the Authority to allow it to supplement and submit such information and supporting material that it may deem appropriate.

**DISTRIBUTION LICENCE PETITION**  
**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATIONS COMPANY**

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**14 PRAYER**

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- 14.1 In light of the forgoing, the Petitioner respectfully prays that the learned Authority kindly:
- 14.1.a accept the instant DL Petition and grant the distribution licence to the Petitioner for the purpose of undertaking distribution activities within the area of the RSEZ;
  - 14.1.b allow the Petitioner to engage in the activities relating to the business of construction, ownership, management, control, operation and maintenance of the distribution network, including the distribution lines, electrical distribution facilities, electrical circuits, transformers and sub-stations, the movement and delivery of electric power, distribution activities and distribution business, interconnection services and facilities and the matters connected therewith and incidental thereto;
  - 14.1.c allow such other reliefs which is just, fair, proper, better and necessary in these circumstances.

Dated: 11.11.2022

**PETITIONER**

Rashakai Special Economic Zone  
Development and Operations Company

through

**RIAA Barker Gillette**  
3<sup>rd</sup> Floor, 65-W, Executive Heights,  
Block H, Fazl-ul-Haq Road,  
Blue Area, Islamabad  
Tel: (051) 111-LAWYER  
Fax: (051) 2852427-30  
[www.riaabarkergillette.com](http://www.riaabarkergillette.com)

**CERTIFICATE OF INCORPORATION**

---

RSEZDOC's Certificate of Incorporation is appended herein below.

A078517



SECURITIES AND EXCHANGE COMMISSION OF PAKISTAN  
COMPANY REGISTRATION OFFICE

CERTIFICATE OF INCORPORATION

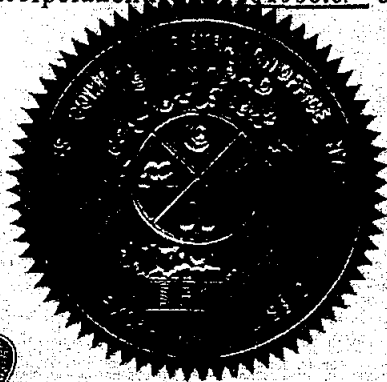
[Under section 16 of the Companies Act, 2017 (XIX of 2017)]

Corporate Universal Identification No. 0154049

I hereby certify that RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT & OPERATIONS COMPANY (PRIVATE) LIMITED is this day incorporated under the Companies Act, 2017 (XIX of 2017) and that the company is limited by shares.

Given under my hand at Islamabad this Seventeenth day of July, Two Thousand and Twenty.

Incorporation fee Rs. 101000.0/= only



(Syed Jamal Ahmed Zaidi)  
Additional Joint Registrar  
Islamabad

No. ADI 36123  
Dated 17/7/20



**SECURITIES AND EXCHANGE COMMISSION OF PAKISTAN**  
**Company Registration Office**  
**ISLAMABAD**

**ACKNOWLEDGEMENT OF FILING**  
[See-regulation-13 (1)]

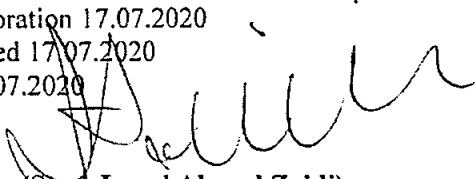
No. ADR-I/0154049

Dated: 17.07.2020

In the matter of **RASHAKAI SPECIAL ECONOMIC ZONE  
DEVELOPMENT & OPERATIONS COMPANY (PRIVATE) LIMITED - PLOT  
NO.3D, STREET 65, MUSLIN MARKET, F-10-3,, ISLAMABAD, ISLAMABAD  
Islamabad Urban Islamabad Capital Territory (I.C.T.) 44000**

The receipt of the under mentioned document(s) filed, registered and recorded pursuant to the provisions of the Companies Act, 2017 (XIX of 2017), is hereby acknowledged.

1. Application for Company Incorporation 17.07.2020
2. Memorandum of Association dated 17.07.2020
3. Articles of Association dated 17.07.2020

  
(Syed Jamal Ahmed Zaidi)  
Additional Joint Registrar  
State Life Building, 7-Blue Area,  
Islamabad

Fee. Rs. 800 /-

Process ID: 3376212



**MEMORANDUM AND ARTICLES OF ASSOCIATION**

---

RSEZDOC's Memorandum and Articles of Association are appended herein below.

A078517



SECURITIES AND EXCHANGE COMMISSION OF PAKISTAN  
COMPANY REGISTRATION OFFICE

CERTIFICATE OF INCORPORATION

[Under section 16 of the Companies Act, 2017 (XIX of 2017)]

Corporate Universal Identification No. 0154049

I hereby certify that RASHKAT SPECIAL ECONOMIC ZONE DEVELOPMENT & OPERATIONS COMPANY (PRIVATE) LIMITED is this day incorporated under the Companies Act, 2017 (XIX of 2017) and that the company is limited by shares.

Given under my hand at Islamabad this Seventeenth day of July, Two Thousand and Twenty.

Incorporation fee Rs. 101000.00 only.

  
(Syed Jamal Ahmed Zaidi)  
Additional Joint Registrar  
Islamabad

No. ADP 36123  
Dated 17/7/20



CERTIFIED TO BE TRUE COPY

  
Deputy Registrar  
Company Registration Office Islamabad

Inc. Form-II

**COMPANIES (INCORPORATION) REGULATIONS, 2017**

[See Section 16 of the Act and Regulation 5]

**APPLICATION FOR COMPANY INCORPORATION**

**PART-I**

*(To be completed by the applicant in block letters)*

1.1 Name of the Company **RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT & OPERATIONS COMPANY (PRIVATE) LIMITED**

1.2 Fee Payment  
Details

1.2.1 Challan No

0183089871000097

1.2.2 Challan Amount  
(Rs.)

101,000.00

**PART-II**

**Section – A - Company Information**

2.1\* Correspondence Address

City

District

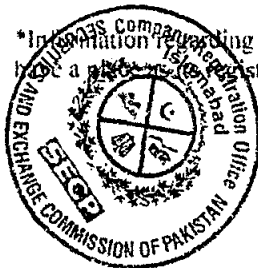
Province

Telephone  
Number

Email  
Address

Mobile Number

\*Information regarding Correspondence address is to be provided only if the company does not have a place of registered office at the time of Incorporation of company.



2.2 Registered office Address, if any PLOT NO. 3d, STREET 65, MUSLIN MARKET, F 10/3, ISLAMABAD, PAKISTAN

City ISLAMABAD District NIL Province NIL

Telephone Number 0092-51-2252086/2252086 Website(if any) NIL

Mobile Number 03155900558 Email Address rashakaisez@yahoo.com

2.3 Principal line of business (Brief objects as per clause 3 (i) of the Memorandum may be mentioned) The principal line of business of the Company is development, financing, construction, marketing, management and operation of Special Economic Zone in Rashakai, Tehsil, District Nowshera, Khyber Pakhtunkhwa along with any ancillary business thereto.

**Section - B - Capital Structure**

	Class/ Kind	Face Value	Number of shares	Total Amount
2.4 Authorized Capital	Ordinary share	PKR10.00	1,000,000/-	PKR10,000,000.00/-

2.5 Paid Up Capital	Ordinary share	PKR10.00	1,000,000/-	PKR10,000,000.00/-
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**Section - C - Special business information\***

(Applicable in case of Banking Company, Non-banking Finance Company, Insurance company, Modaraba management company, Stock Brokerage business, forex, managing agency, business of providing the services of security guards and any other business restricted under any other law or as may be notified by the Commission)

2.6 Nature of business in case of specialized business requiring license / permission / approval (please specify and also attach NOC / approval of the relevant authority)

Nil

\*(Additional documents will be required by the Commission)

**Section - D - Company subscribers, directors, chief executive officer and an authorized signatory**



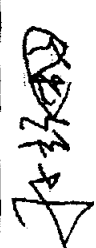
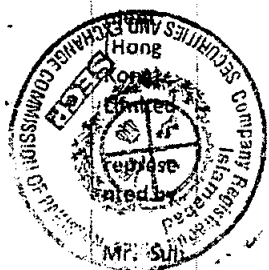
member company, nominee

**2.7 State Number of directors fixed by subscribers:**

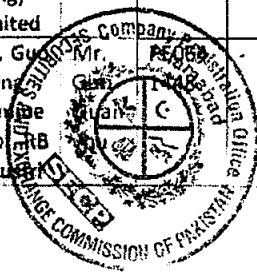
*[Please note that as per law a company must have minimum director as follows:]*

Kind of Company	Minimum number of directors required by law	No. of proposed directors
Single Member Company	01	
Private Limited Company	02	05
Public Limited Company	03	

**2.8 Details of subscribers, directors and chief executive officer \***

Name	Father / Husband Name	NIC/NICOP (in case of Pakistani national) or Passport No (in case of foreigner)	** Incorporation / Registration Number	Nationality (with former nationality and nationality of the origin, if different)	*** Occupation	Residential address/ registered office address or principal office (in case of a subscriber other than a natural person)	NTN (in case of director, where applicable)	Designation (Director/ Subscriber/ CEO) Please specify	No. of shares subscribed (for subscriber)	**** Signatures
RB Industrial Park Investment & Development			71164297-000-09-19-3			Units 06-11, 23A/FKA WAH CTR 191 JAVA RD NORTH POINT, HONG KONG	-		Nine hundred and ten thousand (910,000)	
 MR. Sun Yaoguo		PE1645315		Chinese	Company Employee			Subscriber		
Khyber Pakhtunkhwa			0099947			120, Industrial Estate,	-		Ninety thousand (90,000)	

Econom ic Zones Develop ment & Manage ment Compan y					Hayatab d, Peshawar , Khyber Pakhtunk hwa, Pakistan			
represe nted by								
Mr. Faisal Saleem Rahman	Mr. Saleem Rahman	16101-4770592-5	Pakistan	Compan y Employee		Subscriber		
Mr. Sun Yaoguo Nomine e of RB Industri al Park Investm ent & Develop ment (Hong Kong) Limited	Mr. Sun	PE1645315	Chinese	Compan y Employee	Beijing China Units 06- 11, 23A/F KA WAN CTR 191 JAYA RD NORTH POINT, HONG KONG	Director & CEO		
Mr. Li Zhihui Nomine e of RB Industri al Park Investm ent & Develop ment (Hong Kong) Limited	Mr. Li Lihai	PE0659528	Chinese	Compan y Employee	Beijing China House No. 2 St No. 23 F2/1, Islamabad Pakistan	Director		
Mr. Guo Meng Nomine e of RB Industri al Park Investm ent & Develop ment (Hong Kong) Limited	Mr. Guo Meng	PE0659528	Chinese	Compan y Employee	Beijing China	Director		



*Faisal Saleem Rahman*

*Mr. Sun Yaoguo*

*Mr. Li Zhihui*

al Park Investm ent & Develop ment (Hong Kong) Limited						C88 Anding gate wai Avenue, Dongcheng, Beijing, P.R. China				<i>2/2/2</i>
Mr. Lyu Yan Nomine e of RB Industri al Park Investm ent & Develop ment (Hong Kong) Limited	Mr Lyu Ke	PE201 6010	-	Chinese	Compan y Employee	Beijing China ✓ House #2, St # 33, F-8/1, Islamabad, Pakistan	-	Director		<i>BK</i>
Mr. Faisal Saleem Rahman Nomine e of Khyber Pakhtun khwa Econom ic Zones Develop ment & Manage ment Compan y	Mr Salee m ur Rah man	16101- 47705 92-5	-	Pakistan	Compan y Employee	6 - Park Avenue, University Town, Peshawar	-	Director		<i>Faisal Saleem</i>



Full details as applicable

Not applicable on subscribers other than natural persons

Please also mention names of other companies where directorship is held.

Signature of subscribers and consent to act as director or chief executive as the case may be.

In case of online submission, the document will be signed electronically.

Full details of Nominee (only in case of single member company - Nominee shall not be a person other than relatives of the member- namely, a spouse, father, mother, brother, sister and son or

daughter)

Name of Nominee

NIC of Nominee

Residential address of Nominee

Telephone number of Nominee

Email address of Nominee

Relationship of Nominee with  
subscriber

Signature of Nominee

**Section – E- If the company limited by shares intends to adopt tables contained in First Schedule to the Act, tick the relevant table.**

☐ ☒ Table A- Part I (Articles of association of company limited by shares)

☐ Table A- Part-II (Articles of association of single member company limited by shares)

**Section – F- The company limited by shares in case it has not adopted articles of association contained in First Schedule to the Act, company limited by guarantee and unlimited company shall attach the articles of association.**

**PART-III**

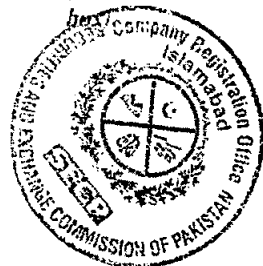
**Declaration under section 16**

3.1 Declarant Name

MR. LYU YAN

3.2 Declarant Profession /  
Designation  
(Please check relevant)

☐ Authorized Intermediary  
☒ a person named in the articles as Director of the  
proposed company





3.3 Declaration

I do hereby solemnly and sincerely declare that:

- a) I have been authorized as declarant by the subscribers;
- b) all the requirements of the Companies Act, 2017, and the regulations made there under in respect of matters precedent to the registration of the said Company and incidental thereto have been complied with
- c) I make this solemn declaration conscientiously believing the same to be true.

3.4 Declarant Signature



3.5 Registration No of authorized intermediary, if applicable

NIL

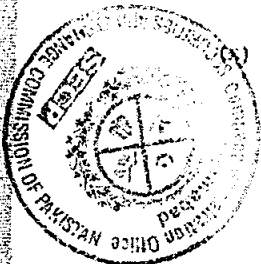
3.6 Date

Day		Month		Year			
1	7	0	7	2	0	2	0

Enclosures:

- (i) Original paid bank challan evidencing payment of fee;
- (ii) Memorandum of Association,
- (iii) Articles of Association, where applicable;
- (iv) Copies of valid NIC/NICOP of the subscribers/directors/chief executive officer or copy of Passport in case of a foreigner;
- (v) Copy of valid NIC/NICOP of Nominee only in case of single member company or copy of Passport in case of a foreigner;
- (vi) Copy of valid NIC of witness in case of physical filing;
- (vii) NOC/Letter of Intent/ License (if any) of the relevant regulatory authority in case of specialized business;
- (viii) Authority letter for filing of documents for the proposed company as per requirement of clause (vi) of sub-regulation (2) of regulation 5.
- (ix) Copy of valid NIC/Passport of person duly authorized by the Board of directors of a body corporate which is a subscriber along with copy of Board resolution and attendance sheet. In case of a subscriber which is a limited liability partnership, copy of valid NIC/ Passport of designated partner empowered to act as such, along with copy of instrument empowering him;

In case the subscriber is a foreign company or a foreign body corporate, the profile of the company, detail of its directors, their nationality and country of origin, certified copy of its charter, statute or memorandum and articles etc.



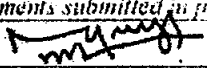
CERTIFIED TO BE TRUE COPY

Deputy Registrar

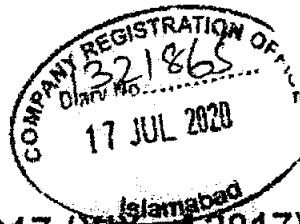
Company Registration Office Islamabad

- (xi) In case of foreign subscriber/ officer, an undertaking on stamp paper of requisite value duly signed, notarized and witnessed to the effect that in case name of subscriber/officer is not security cleared by Mol, the subscriber/officer and the company, shall take immediate steps for replacement and shall transfer shares if any, held by the subscriber.

Witness to above signatures: (For the documents submitted in physical form)

Signatures	
Full Name (in Block Letters)	MR MUHAMMAD KHURRAM KHAN
Father's/ Husband's name	MR AKHTAR ZEB KHAN
Nationality	PAKISTANI
CNIC No.	13503-1941201-1
Usual residential address	HOUSE#312/2, ST#20, SEC-I, AIRPORT HOUSING SOCIETY, RAWALPINDI.





THE COMPANIES ACT, 2017 (XIX of 2017)

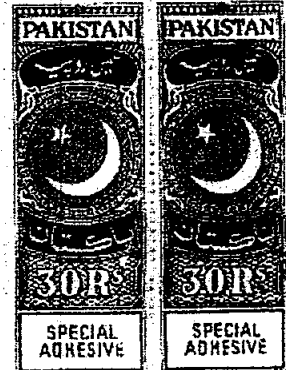
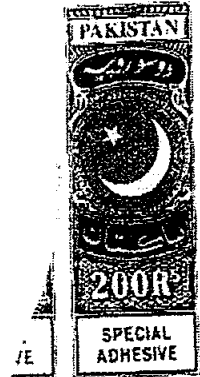
(COMPANY LIMITED BY SHARES)

MEMORANDUM

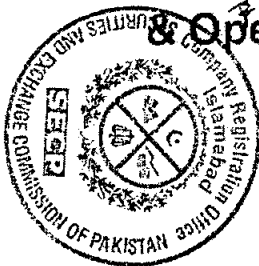
OF

ASSOCIATION

OF



Rashakai Special Economic Zone Development  
& Operations Company (Private) Limited



# THE COMPANIES ACT, 2017 (XIX of 2017)

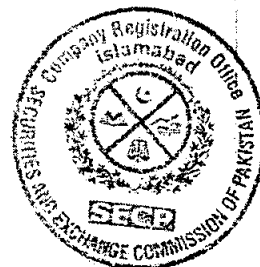
## (COMPANY LIMITED BY SHARES)

### MEMORANDUM OF ASSOCIATION

#### OF

"Rushakai Special Economic Zone Development & Operations Company (Private) Limited"

1. The name of the company is Rashakai Special Economic Zone Development & Operations Company (Private) Limited.
2. The registered office of the Company will be situated in Islamabad Capital Territory
3. (i) The principal line of business of the company shall be to carry on the business of development, financing, construction, marketing, management and operation of Special Economic Zone in Rashakai, Tehsil, District Nowshera, Khyber Pakhtunkhwa along with any ancillary business thereto, under the provisions of the Special Economic Zones Act 2012, Special Economic Zone Rules 2013 and other allied laws. It can deal in all types of developed and non-developed land for various purposes of industrial, commercial and residential properties mainly for the industrial and commercial purposes and allied types of property as well as matters ancillary thereto with the applicable approvals and permissions from the concerned authorities and in compliance with applicable laws and regulations.  
(ii) Except for the businesses mentioned in sub-clause (iii) hereunder, the company may engage in all the lawful businesses and shall be authorized to take all necessary steps and actions in connection therewith and ancillary thereto.  
(iii) Notwithstanding anything contained in the foregoing sub-clauses of this clause nothing contained herein shall be construed as empowering the Company to undertake or indulge, directly or indirectly in the business of a Banking Company, Non-banking Finance Company (Mutual Fund, Leasing, Investment Company, Investment Advisor, Real Estate Investment Trust management company, Housing Finance Company, Venture Capital Company, Discounting Services, Microfinance or Microcredit business), Insurance



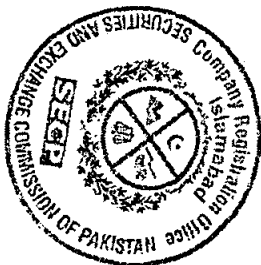
Business, *Modaraba* management company, Stock Brokerage business, forex, managing agency, business of providing the services of security guards or any other business restricted under any law for the time being in force or as may be specified by the Commission.

(iv) It is hereby undertaken that the company shall not:

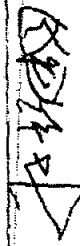
- (a) engage in any of the business mentioned in sub-clause (iii) above or any unlawful operation;
- (b) launch multi-level marketing (MLM), Pyramid and Ponzi Schemes, or other related activities/businesses or any lottery business;
- (c) engage in any of the permissible business unless the requisite approval, permission, consent or licence is obtained from competent authority as may be required under any law for the time being in force.

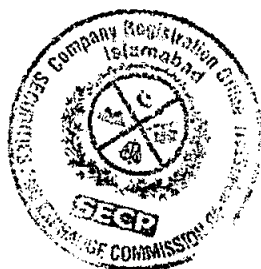
4. The liability of the members is limited.

5. The authorized capital of the company is Rs 10,000,000 (Rupees Ten Million Pak Rupees only) divided into 1,000,000 (ten hundred thousand) ordinary shares of Rs. 10/- (Rupees ten only) each.



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

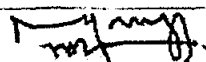
Name and surname (present & former) in full (in Block Letters)	NIC No. (in case of foreigner, Passport No)	Father's/ Husband's Name in full	Nationality (ies) with any former Nationality	Occupation	Usual residential address in full or the registered/ principal office address for a subscriber other than natural person	Number of shares taken by each subscriber (in figures and words)	Signatures
RB Industrial Park Investment & Development (Hong Kong) Limited Represented by Mr Sun Yaoguo	PE1645315		Chinese	Company employee	Units 06-11, 23A/F KA WAH CTR 191 JAVA RD NORTH POINT, HONG KONG, CHINA	Nine hundred and ten thousand (910,000)	

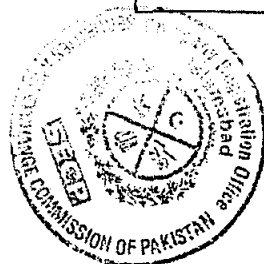


Khyber Pakhtunkhwa Economic Zones Development & Management Company	Represented by Mr. Faisal Saleem Rahaman	16101-4770592-5	Mr. Saleem ur Rahman	Pakistani	Company employee	AT 120, INDUSTRIAL ESTATE, HAYATABAD, PESHAWAR, KHYBER PAKHTUNKHWA, PAKISTAN	Ninety thousand (90,000)	
						Total number of shares taken (in figures and words)	One million (1,000,000) only	

Dated the 17th day of July, 2020

Witness to above signatures: (For the documents submitted in physical form)

Signature	
Full Name (in Block Letters)	MR MUHAMMAD KHURRAM KHAN
Father's/ Husband's name	MR AKHTAR ZEB KHAN
Nationality	PAKISTANI
Occupation	Senior Investment Adviser
NIC No.	13503-1941201-1
Usual residential address	HOUSE#312/2, ST#20, SEC-I, AIRPORT HOUSING SOCIETY, RAWALPINDI.



**CERTIFIED TO BE TRUE COPY**  
Page 5 of 6

17/07/20  
Deputy Registrar  
Company Registration Office Islamabad

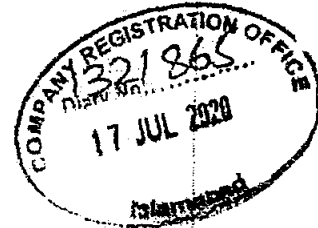
THE COMPANIES ACT, 2017 (XIX of 2017)

(Company Limited by Shares)

ARTICLES OF ASSOCIATION

OF

Rashakai Special Economic Zone Development & Operations Company  
(Private) Limited.



PRELIMINARY

1. (1) In these regulations-

- (a) "section" means section of the Act;
- (b) "the Act" means the Companies Act, 2017; and
- (c) "the seal" means the common seal or official seal of the company as the case may be.

(2) Unless the context otherwise requires, words or expressions contained in these regulations shall have the same meaning as in this Act; and words importing the singular shall include the plural, and *vice versa*, and words importing the masculine gender shall include feminine, and words importing persons shall include bodies corporate.

BUSINESS

2. The directors shall have regard to the restrictions on the commencement of business imposed by section 19 if, and so far as, those restrictions are binding upon the company.

SHARES

3. In case of shares in the physical form, every person whose name is entered as a member in the register of members shall, without payment, be entitled to receive, within thirty days after allotment or within fifteen days of the application for registration of transfer, a certificate under the seal specifying the share or shares held by him and the amount paid up thereon:

Provided that if the shares are in book entry form or in case of conversion of physical shares and other transferable securities into book-entry form, the company shall, within ten days after an application is made for the registration of the transfer of any shares or other securities to a central depository, register such transfer in the name of the central depository.

4. The company shall not be bound to issue more than one certificate in respect of a share or shares in the physical form, held jointly by several persons and delivery of a certificate for a share to one of several joint holders shall be sufficient delivery to all.

5. If a share certificate in physical form is defaced, lost or destroyed, it may be renewed on payment of such fee, if any, not exceeding one hundred rupees, and on such terms, if any, as to evidence and indemnity and payment of expenses incurred by the company in investigating title as the directors think fit.





6. Except to the extent and in the manner allowed by section 86, no part of the funds of the company shall be employed in the purchase of, or in loans upon the security of, the company's shares.

### TRANSFER AND TRANSMISSION OF SHARES

7. The instrument of transfer of any share in physical form in the company shall be executed both by the transferor and transferee, and the transferor shall be deemed to remain holder of the share until the name of the transferee is entered in the register of members in respect thereof.

8. Shares in physical form in the company shall be transferred in the following form, or in any usual or common form which the directors shall approve: -

#### Form for Transfer of Shares (First Schedule to the Companies Act, 2017)

I, ..... s/o ..... c/o ..... (hereinafter called "the transferor") in consideration of the sum of rupees ..... paid to me by ..... s/o ..... r/o ..... (hereinafter called "the transferee"), do hereby transfer to the said transferee ..... the share (or shares) with distinctive numbers from ..... to ..... inclusive, in the ..... Limited, to hold unto the said transferee, his executors, administrators and assigns, subject to the several conditions on which I held the same at the time of the execution hereof, and I, the said transferee, do hereby agree to take the said share (or shares) subject to the conditions aforesaid.  
As witness our hands this ..... day of ..... , 20.....

Signature .....  
**Transferor**  
Full Name, Father's / Husband's Name  
CNIC Number (in case of foreigner,  
Passport Number)  
Nationality  
Occupation and usual Residential Address

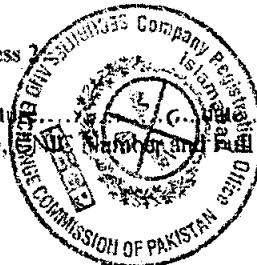
Signature .....  
**Transferee**  
Full Name, Father's / Husband's Name  
CNIC Number (in case of foreigner,  
Passport Number)  
Nationality  
Occupation and usual Residential Address  
Cell number  
Landline number, if any  
Email address

Witness 1:

Signature ..... date .....  
Name, CNIC Number and Full Address

Witness 2:

Signature .....  
Name, CNIC Number and Full Address



**Bank Account Details of Transferee for Payment of Cash Dividend**  
(Mandatory in case of a listed company or optional for any other company)

It is requested that all my cash dividend amounts declared by the company, may be credited into the following bank account:

Title of Bank Account	
Bank Account Number	
Bank's Name	
Branch Name and Address	

It is stated that the above mentioned information is correct and that I will intimate the changes in the above-mentioned information to the company and the concerned Share Registrar as soon as these occur.

.....  
Signature of the Transferee(s)

9. (1) Subject to the restrictions contained in regulation 10 and 11, the directors shall not refuse to transfer any share unless the transfer deed is defective or invalid. The directors may also suspend the registration of transfers during the ten days immediately preceding a general meeting or prior to the determination of entitlement or rights of the shareholders by giving seven days' previous notice in the manner provided in the Act. The directors may, in case of shares in physical form, decline to recognise any instrument of transfer unless—

- a) a fee not exceeding fifty rupees 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.

(2) If the directors refuse to register a transfer of shares, they shall within fifteen 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.

Provided that the company shall, where the transferee is a central depository the refusal shall be conveyed within five days from the date on which the instrument of transfer was lodged with the company. The defect or invalidity to the transferee who shall, after the removal of such defect or invalidity, be entitled to re-lodge the transfer deed with the company.

**TRANSMISSION OF SHARES**

10. The executors, administrators, heirs, or nominees, as the case may be, of a deceased sole holder of a share shall be the only persons recognised by the company to deal with the share in accordance with the law. In the case of a share registered in the names of two or more holders, the survivors or survivor, or the executors or administrators of the deceased survivor, shall be the

only persons recognised by the company to deal with the share in accordance with the law.

11. The shares or other securities of a deceased member shall be transferred on application duly supported by succession certificate or by lawful award, as the case may be, in favour of the successors to the extent of their interests and their names shall be entered to the register of members.

12. A person may on acquiring interest in a company as member, represented by shares, at any time after acquisition of such interest deposit with the company a nomination conferring on a person, being the relatives of the member, namely, a spouse, father, mother, brother, sister and son or daughter, the right to protect the interest of the legal heirs in the shares of the deceased in the event of his death, as a trustee and to facilitate the transfer of shares to the legal heirs of the deceased subject to succession to be determined under the Islamic law of inheritance and in case of non-Muslim members, as per their respective law.

13. The person nominated under regulation 12 shall, after the death of the member, be deemed as a member of company till the shares are transferred to the legal heirs and if the deceased was a director of the company, not being a listed company, the nominee shall also act as director of the company to protect the interest of the legal heirs.

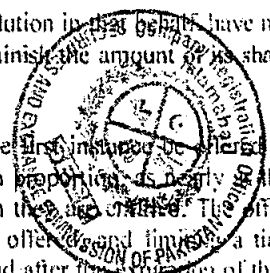
14. A person to be deemed as a member under regulation 11, 12 and 13 to a share by reason of the death or insolvency of the holder shall be entitled to the same dividends and other advantages to which he would be entitled if he were the registered holder of the share and exercise any right conferred by membership in relation to meetings of the company.

#### ALTERATION OF CAPITAL

15. The company may, by special resolution-

- (a) increase its authorised capital by such amount as it thinks expedient;
- (b) consolidate and divide the whole or any part of its share capital into shares of larger amount than its existing shares;
- (c) sub-divide its shares, or any of them, into shares of smaller amount than is fixed by the memorandum;
- (d) 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 share so cancelled.

16. Subject to the provisions of the Act, all new shares shall at the first instance be offered to such persons as at the date of the offer are entitled to such issue in proportion, as nearly as the circumstances admit, to the amount of the existing shares to which they are entitled. The offer shall be made by letter of offer specifying the number of shares offered and limiting a time within which the offer, if not accepted, will deem to be declined, and after the expiration of that time, or on the receipt of an intimation from the person to whom the offer is made that he declines to accept the shares offered, the directors may dispose of the same in such manner as they think most beneficial to the company. The directors may likewise so dispose of any new shares which (by reason of the ratio which the new shares bear to shares held by persons entitled to an offer of new shares) cannot, in the opinion of the directors, be conveniently offered under this regulation.



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

18. The company may, by special 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 memorandum of association, subject, nevertheless, to the provisions of section 85;

(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.

19. The company may, by special resolution, reduce its share capital in any manner and with, and subject to confirmation by the Court and any incident authorised and consent required, by law.

#### GENERAL MEETINGS

20. The statutory general meeting of the company shall be held within the period required by section 131.

21. A general meeting, to be called annual general meeting, shall be held, in accordance with the provisions of section 132, within sixteen months from the date of incorporation of the company and thereafter once at least in every year within a period of one hundred and twenty days following the close of its financial year.

22. All general meetings of a company other than the statutory meeting or an annual general meeting mentioned in sections 131 and 132 respectively shall be called extraordinary general meetings.

23. The directors may, whenever they think fit, call an extraordinary general meeting, and extraordinary general meetings shall also be called on such requisition, or in default, may be called by such requisitionists, as provided by section 133. If at any time there are not within Pakistan sufficient directors capable of acting to form a quorum, any director of the company may call an extraordinary general meeting in the same manner as nearly as possible as that in which meetings may be called by the directors.

24. The company may provide video-link facility to its members for attending general meeting at places other than the town in which general meeting is taking place after considering the geographical dispersal of its members:

Provided that in case of listed companies if the members holding ten percent of the total paid up capital or such other percentage of the paid up capital as may be specified, are resident in any other part of Pakistan, the company shall provide the facility of video-link to such members for attending annual general meeting of the company, if so required by such members in writing to the company at least seven days before the date of the meeting.

## NOTICE AND PROCEEDINGS OF GENERAL MEETINGS

25. Twenty-one days' notice at the least (exclusive of the day on which the notice is served or deemed to be served, but inclusive of the day for which notice is given) specifying the place, the day and the hour of meeting and, in case of special business, the general nature of that business, shall be given in manner provided by the Act for the general meeting, to such persons as are, under the Act or the regulations of the company, entitled to receive such notice from the company; but the accidental omission to give notice to, or the non-receipt of notice by, any member shall not invalidate the proceedings at any general meeting.

26. All the business transacted at a general meeting shall be deemed special other than the business stated in sub-section (2) of section 134 namely: the consideration of financial statements and the reports of the board and auditors, the declaration of any dividend, the election and appointment of directors in place of those retiring, and the appointment of the auditors and fixing of their remuneration.

27. No business shall be transacted at any general meeting unless a quorum of members is present at that time when the meeting proceeds to business. The quorum of the general meeting shall be-

- (a) in the case of a public listed company, not less than ten members present personally, or through video-link who represent not less than twenty-five percent of the total voting power, either of their own account or as proxies;
- (b) in the case of any other company having share capital, two members present personally, or through video-link who represent not less than twenty-five percent of the total voting power, either of their own account or as proxies.

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

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

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

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

(2) At any general meeting, the company shall transact such businesses as may be notified by the Commission, only through postal ballot.

32. A poll may be demanded only in accordance with the provisions of section 143.

33. If a poll is duly demanded, it shall be taken in accordance with the manner laid down in sections 144 and 145 and the result of the poll shall be deemed to be the resolution of the meeting at which the poll was demanded.

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

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

36. Except for the businesses specified under sub-section (2) of section 134 to be conducted in the annual general meeting, the members of a private company or a public unlisted company (having not more than fifty members), may pass a resolution (ordinary or special) by circulation signed by all the members for the time being entitled to receive notice of a meeting. The resolution by circulation shall be deemed to be passed on the date of signing by the last of the signatory member to such resolution.

#### VOTES OF MEMBERS

37. Subject to any rights or restrictions for the time being attached to any class or classes of shares, on a show of hands every member present in person shall have one vote except for election of directors in which case the provisions of section 159 shall apply. On a poll every member shall have voting rights as laid down in section 134.

38. In case of joint holders, the vote of the senior who tenders a vote, whether in person or by proxy or through video-link shall be accepted to the exclusion of the votes of the other joint-holders; and for this purpose seniority shall be determined by the order in which the names stand in the register of members.

39. A member of unsound mind, or in respect of whom an order has been made by any court having jurisdiction in lunacy, may vote, whether on show of hands or on a poll or through video link, by his committee or other legal guardian, and any such committee or guardian may, on a poll, vote by proxy.

40. On a poll votes may be given either personally or through video-link, by proxy or through postal ballot;

Provided that nobody corporate shall vote by proxy as long as a resolution of its directors in accordance with the provisions of section 138 is in force.

41. (1) The instrument appointing a proxy shall be in writing under the hand of the appointer or of his attorney duly authorised in writing.

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

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

#### INSTRUMENT OF PROXY

..... Limited

"I ..... s/o ..... t/o ..... being a member of the ..... Limited, hereby appoint ..... s/o ..... t/o ..... as my proxy to attend and vote on my behalf at the (statutory, annual, extraordinary, as the case may be) general meeting of the company to be held on the ..... day of ..... 20..... and at any adjournment thereof."

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

#### DIRECTORS

44. The following subscribers of the memorandum of association shall be the first directors of the company, so, however, that the number of directors shall not in any case be less than that specified in section 154 and they shall hold office until the election of directors in the first annual general meeting:

- (1). Mr. Sun Yaoguo, son of Mr. SUN, Chinese Nationality, having CNIC/Passport No. PE1645315
- (2). Mr. Li Zhihui, son of Mr. Li Lihai, Chinese Nationality, having CNIC/Passport No. PE0659528
- (3). Mr. Guo Meng, son of Mr. Guo Quanyou, Chinese Nationality, having CNIC/Passport No. PE0641448
- (4). Mr. Lyu Yan, son of Mr. Lyu Ke, Chinese Nationality, having CNIC/Passport No. PE2016010
- (5). Mr. Faisal Saleem Rahman, son of Mr. Saleem ur Rahman, Pakistani Nationality, having CNIC No. 16101-4770592-5

45. The remuneration of the directors shall from time to time be determined by the company in general meeting subject to the provisions of the Act.

46. Save as provided in section 153, no person shall be appointed as a director unless he is a member of the company.

### POWERS AND DUTIES OF DIRECTORS

47. The business of the company shall be managed by the directors, who may pay all expenses incurred in promoting and registering the company, and may exercise all such powers of the company as are not by the Act or any statutory modification thereof for the time being in force, or by these regulations, required to be exercised by the company in general meeting, subject nevertheless to the provisions of the Act or to any of these regulations, and such regulations being not inconsistent with the aforesaid provisions, as may be prescribed by the company in general meeting but no regulation made by the company in general meeting shall invalidate any prior act of the directors which would have been valid if that regulation had not been made.

48. The directors shall appoint a chief executive in accordance with the provisions of sections 186 and 187.

49. The amount for the time being remaining undischarged of moneys borrowed or raised by the directors for the purposes of the company (otherwise than by the issue of share capital) shall not at any time, without the sanction of the company in general meeting, exceed the issued share capital of the company.

50. The directors shall duly comply with the provisions of the Act, or any statutory modification thereof for the time being in force, and in particular with the provisions in regard to the registration of the particulars of mortgages, charges and pledge affecting the property of the company or created by it, to the keeping of a register of the directors, and to the sending to the registrar of an annual list of members, and a summary of particulars relating thereto and notice of any consolidation or increase of share capital, or sub-division of shares, and copies of special resolutions and a copy of the register of directors and notifications of any changes therein.

### MINUTE BOOKS

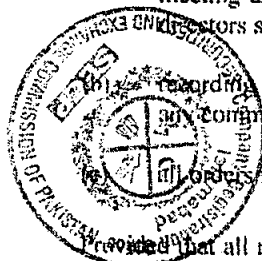
51. The directors shall cause records to be kept and minutes to be made in book or books with regard to

- (a) all resolutions and proceedings of general meeting(s) and the meeting(s) of directors and Committee(s) of directors, and every member present at any general meeting and every director present at any meeting of directors or Committee of directors shall put his signature in a book to be kept for that purpose;

(b) recording the names of the persons present at each meeting of the directors and of any Committee of the directors, and the general meeting; and

(c) all orders made by the directors and Committee(s) of directors;

52. That all records related to proceedings through video-link shall be maintained in accordance with the relevant regulations specified by the Commission which shall be appropriately rendered into writing as part of the minute books according to the said regulations.





## THE SEAL

52. The directors shall provide for the safe custody of the seal and the seal shall not be affixed to any instrument except by the authority of a resolution of the board of directors or by a committee of directors authorized in that behalf by the directors and in the presence of at least two directors and of the secretary or such other person as the directors may appoint for the purpose; and those two directors and secretary or other person as aforesaid shall sign every instrument to which the seal of the company is so affixed in their presence.

## DISQUALIFICATION OF DIRECTORS

53. No person shall become the director of a company if he suffers from any of the disabilities or disqualifications mentioned in section 153 or disqualified or debarred from holding such office under any of the provisions of the Act as the case may be and, if already a director, shall cease to hold such office from the date he so becomes disqualified or disabled:

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 of which he is director, 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.

## PROCEEDINGS OF DIRECTORS

54. The directors may meet together for the dispatch of business, adjourn and otherwise regulate their meetings, as they think fit. A director may, and the secretary on the requisition of a director shall, at any time, summon a meeting of directors. Notice sent to a director through email whether such director is in Pakistan or outside Pakistan shall be a valid notice.

55. The directors may elect a chairman of their meetings and determine the period for which he is to hold office; but, if no such chairman is elected, or if at any meeting the chairman is not present within ten minutes after the time appointed for holding the same or is unwilling to act as chairman, the directors present may choose one of their number to be chairman of the meeting.

56. At least one-third ( $1/3^{\text{rd}}$ ) of the total number of directors or two (2) directors whichever is higher, for the time being of the company, present personally or through video-link, shall constitute a quorum.

57. Save as otherwise expressly provided in the articles of association, at meetings of the board shall be determined by a majority of votes of the directors present in person or through video-link, each director having one vote. In case of an equality of votes, the chairman shall have a casting vote in addition to his original vote as a director.

58. The directors may delegate any of their powers not required to be exercised in their meeting to committees consisting of such member or members of their body as they think fit; any committee so formed shall, in the exercise of the powers so delegated, conform to any restrictions that may be imposed on them by the directors.

59. (1) A committee may elect a chairman of its meetings; but, if no such chairman is elected, or

if at any meeting the chairman is not present within ten minutes after the time appointed for holding the same or is unwilling to act as chairman, the members present may choose one of their number to be chairman of the meeting.

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

60. All acts done by any meeting of the directors or of a committee of directors, or by any person acting as a director, shall, notwithstanding that it be afterwards discovered that there was some defect in the appointment of any such directors or persons acting as aforesaid, or that they or any of them were disqualified, be as valid as if every such person had been duly appointed and was qualified to be a director.

61. A copy of the draft minutes of meeting of the board of directors shall be furnished to every director within seven working days of the date of meeting.

62. A resolution in writing signed by all the directors for the time being entitled to receive notice of a meeting of the directors shall be as valid and effectual as if it had been passed at a meeting of the directors duly convened and held.

#### FILLING OF VACANCIES

63. At the first annual general meeting of the company, all the directors shall stand retired from office, and directors shall be elected in their place in accordance with section 159 for a term of three years.

64. A retiring director shall be eligible for re-election.

65. The directors shall comply with the provisions of sections 154 to 159 and sections 161, 162 and 167 relating to the election of directors and matters ancillary thereto.

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

67. The company may remove a director but only in accordance with the provisions of the Act.

#### DIVIDENDS AND RESERVE

68. The company in general meeting may declare dividends but no dividend shall exceed the amount recommended by the directors.

69. The directors may from time to time pay to the members such interim dividends as appear to the directors to be justified by the profits of the company.

70. Any dividend may be paid by a company either in cash or in kind only out of its profits. The payment of dividend in kind shall only be in the shape of shares of listed company held by the distributing company.

71. Dividend shall not be paid out of unrealized gain on investment property credited to profit

and loss account.

72. Subject to the rights of persons (if any) entitled to shares with special rights as to dividends, all dividends shall be declared and paid according to the amounts paid on the shares.

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

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

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

75. (1) Notice of any dividend that may have been declared shall be given in manner hereinafter mentioned to the persons entitled to share therein but, in the case of a public company, the company may give such notice by advertisement in a newspaper circulating in the Province in which the registered office of the company is situate..

(2) Any dividend declared by the company shall be paid to its registered shareholders or to their order. The dividend payable in cash may be paid by cheque or warrant or in any electronic mode to the shareholders entitled to the payment of the dividend, as per their direction.

(3) In case of a listed company, any dividend payable in cash shall only be paid through electronic mode directly into the bank account designated by the entitled shareholders.

76. The dividend shall be paid within the period laid down under the Act.

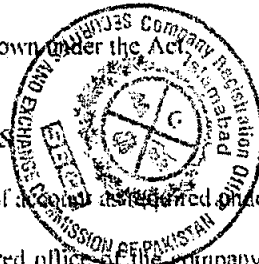
#### ACCOUNTS

77. The directors shall cause to be kept proper books of account as required under section 220.

78. The books of account shall be kept at the registered office of the company or at such other place as the directors shall think fit and shall be open to inspection by the directors during business hours.

79. The directors shall from time to time determine whether and to what extent and at what time and places and under what conditions or regulations the accounts and books or papers of the company or any of them shall be open to the inspection of members not being directors, and no member (not being a director) shall have any right of inspecting any account and book or papers of the company except as conferred by law or authorised by the directors or by the company in general meeting.

80. The directors shall as required by sections 223 and 226 cause to be prepared and to be laid before the company in general meeting the financial statements duly audited and reports as are referred to in those sections.



81. The financial statements and other reports referred to in regulation 80 shall be made out in every year and laid before the company in the annual general meeting in accordance with sections 132 and 223.

82. A copy of the financial statements and reports of directors and auditors shall, at least twenty-one days preceding the meeting, be sent to the persons entitled to receive notices of general meetings in the manner in which notices are to be given hereunder.

83. The directors shall in all respect comply with the provisions of sections 220 to 227.

84. Auditors shall be appointed and their duties regulated in accordance with sections 246 to 249.

### NOTICES

85. (1) A notice may be given by the company to any member to his registered address or if he has no registered address in Pakistan to the address, if any, supplied by him to the company for the giving of notices to him against an acknowledgement or by post or courier service or through electronic means or in any other manner as may be specified by the Commission.

(2) Where a notice is sent by post, service of the notice shall be deemed to be effected by properly addressing, prepaying and posting a letter containing the notice and, unless the contrary is proved, to have been effected at the time at which the letter will be delivered in the ordinary course of post.

86. 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.

87. A notice may be given by the company to the person entitled to a share in consequence of the death or insolvency of a member in the manner provided under regulation 85 addressed to them by name, or by the title or representatives of the deceased, or assignees of the insolvent, or by any like description, at the address supplied for the purpose by the person claiming to be so entitled.

88. Notice of every general meeting shall be given in the manner hereinbefore authorised to (a) every member of the company and also 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 the auditors of the company for the time being and every person who is entitled to receive notice of general meetings.

### WINDING UP

89. (1) In the case of members' voluntary winding up, with the sanction of a special resolution of the company, and, in the case of creditors' voluntary winding up, of a meeting of the creditors, the liquidator shall exercise any of the powers given by sub-section (1) of section 337 of the Act to a liquidator in a winding up by the Court including *inter-alia* divide amongst the members, in specie or kind, the whole or any part of the assets of the company, whether they consist of property of the same kind or not.

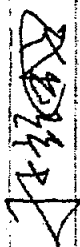

(2) For the purpose aforesaid, the liquidator may set such value as he deems fair upon any property to be divided as aforesaid and may determine how such division shall be carried out as between the members or different classes of members.

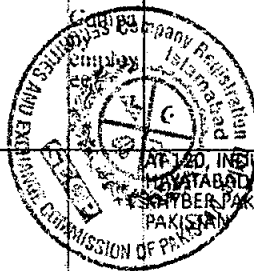
(3) The liquidator may, with the like sanction, vest the whole or any part of such assets in trustees upon such trusts for the benefit of the contributories as the liquidator, with the like sanction, thinks fit, but so that no member shall be compelled to accept any shares or other securities whereon there is any liability.

#### INDEMNITY

90. Every officer or agent for the time being of the company may be indemnified out of the assets of the company against any liability incurred by him in defending any proceedings, whether civil or criminal, arising out of his dealings in relation to the affairs of the company, except those brought by the company against him, in which judgment is given in his favour or in which he is acquitted, or in connection with any application under section 492 in which relief is granted to him by the Court.

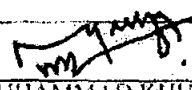
We, the several persons whose names and addresses are subscribed below, are desirous of being formed into a company, in pursuance of these articles of association, and we respectively agree to take the number of shares in the capital of the company set opposite our respective names:

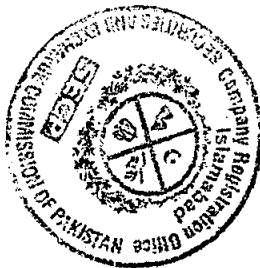
Name and surname (present & former) in full (in Block Letters)	NIC No. (in case of foreigner, Passport No)	Father's/Husband's Name in full	Nationality (ies) with any former Nationality	Occupation	Usual residential address in full or the registered principal office address for a subscriber other than natural person	Number of shares taken by each subscriber (in figures and words)	Signatures
RB Industrial Park Investment & Development (Hong Kong) Limited Represented by Mr Sun Yaoguo	PE1645315	Sun	Chinese	Company employee	Units C6-11, 23A/F KA WAI CTR 191 JAVA RD NORTH POINT, HONG KONG	Nine Hundred and Ten Thousand (910,000)	
Khyber Pakhtunkhwa Economic Zone Development & Management Company Represented by Mr Faisal Saleem Rahmani	16101-4770592-5	Mr. Saleem ur Rahman	Pakistani	Company employee	AP 120, INDUSTRIAL ESTATE, HAYATABAD, PESHAWAR, PAKISTAN	Ninety Thousand (90,000)	
Total number of shares taken (in figures and words)						One Million (1,000,000) only	



Dated the 17<sup>th</sup> day of July, 2020

Witness to above signatures: (For the documents submitted in physical form)

Signature	
Full Name (in Block Letters)	MR MUHAMMAD KHURRAM KHAN
Father's/ Husband's name	MR AKHTAR ZEB KHAN
Nationality	PAKISTANI
Occupation	Senior Investment Adviser
NIC No.	13503-1941201-1
Usual residential address	HOUSE#312/2, ST#20, SEC-1, AIRPORT HOUSING SOCIETY, RAWALPINDI.



17/07/20  
**CERTIFIED TO BE TRUE COPY**

Pos.   
Deputy Registrar  
Company Registration Office Islamabad

**ANNUAL REPORTS**

---

RSEZDOC's audited statements are appended herein below.



**Qasim Adeel & Co.**  
Chartered Accountants



**CHARTERED  
ACCOUNTANTS**

**INDEPENDENT AUDITOR'S REPORT  
TO THE MEMBERS OF  
RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT & OPERATIONS COMPANY  
(PRIVATE) LIMITED  
REPORT ON THE AUDIT OF THE FINANCIAL STATEMENTS**

**Opinion**

We have audited the annexed financial statements of **RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT & OPERATIONS COMPANY (PRIVATE) LIMITED** which comprise the statement of financial position as at June 30, 2021, statement of comprehensive income, statement of cash flows and the statement of changes in equity for the period from July 17, 2020 to June 30, 2021 and notes to the financial statements, including a summary of significant accounting policies and other explanatory information, and we state that we have obtained all the information and explanations which, to the best of our knowledge and belief, were necessary for the purposes of the audit.

In our opinion and to the best of our information and according to the explanations given to us, the statement of financial position, statement of comprehensive income, statement of cash flows and the statement of changes in equity together with the notes forming part thereof conform with the accounting and reporting standards as applicable in Pakistan and give the information required by the Companies Act, 2017 (XIX of 2017), in the manner so required and respectively give a true and fair view of the state of the company's affairs as at June 30, 2021 and of financial performance for the period from July 17, 2020 to June 30, 2021.

**Basis for Opinion**

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

**Responsibilities of Management and Board of Directors for the Financial Statements**

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

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

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

Audit | Tax | Accounting | Advisory | Litigation

📍 16th Floor, State Life Building # 5, Jinnah Avenue, F-6 Islamabad.

✉️ Info@qaco.com.pk 🌐 www.qaco.com.pk 📞 051-8357873 📠 0341-5001000





### **Auditor's Responsibilities for the Audit of the Financial Statements**

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

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

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

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



**Qasim Adeel & Co.**  
Chartered Accountants

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

- a) Proper books of account have been kept by the company as required by the Companies Act, 2017 (XIX of 2017);
- b) The statement of financial position, statement of comprehensive income, statement of changes in equity and the statement of cash flows together with the notes thereon have been drawn up in conformity with the Companies Act, 2017 (XIX of 2017) and are in agreement with books of account and returns;
- c) Expenditure incurred and guarantees extended during the year were for the purpose of the company's business; and
- d) No zakat was deductible at source under the Zakat and Ushr Ordinance, 1980 (XVIII of 1980).

The engagement partner on the audit resulting in this independent auditor's report is Adeel Mirza, ACA.

Place: Islamabad

Dated: 14 OCT 2021



*Qasim Adeel & Co.*  
**QASIM ADEEL & CO.**  
**(CHARTERED ACCOUNTANTS)**

**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT & OPERATIONS COMPANY (PRIVATE) LIMITED**  
**STATEMENT OF FINANCIAL POSITION**  
**AS AT JUNE 30, 2021**

	Notes	2021 Rupees
<b>ASSETS</b>		
Current Assets		
Security deposit		-
Cash and bank balance	4	9,148,669
		9,148,669
<b>Total Assets</b>		<b>9,148,669</b>
<b>CAPITAL AND LIABILITIES</b>		
Authorized Capital		
1,000,000 Shares @ Rs. 10 each	5	10,000,000
Issued, subscribed and paid-up capital		
Paid up capital		10,000,000
Unappropriated Profit		(22,193,791)
		(12,193,791)
Non Current Liabilities		
Loan		21,342,460
<b>Total Equity &amp; Liabilities</b>		<b>9,148,669</b>
<b>Contingencies and Commitments</b>	6	-

Annexed notes form an integral part of these financial statements.

  
**CHIEF EXECUTIVE**

  
**DIRECTOR**  


**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT & OPERATIONS COMPANY (PRIVATE) LIMITED**  
**STATEMENT OF COMPREHENSIVE INCOME**  
**FOR THE PERIOD FROM JULY 17, 2020 TO JUNE 30, 2021**

	Notes	2021 Rupees
Revenue		-
Cost of sales		-
Gross Profit		-
Less: Administrative and General Expenses	7	(22,193,791)
		<u>(22,193,791)</u>
Less: Provision for Taxation		-
Net Profit After Taxation		<u><u>(22,193,791)</u></u>

Annexed notes form an integral part of these financial statements.

  
**CHIEF EXECUTIVE**

  
**DIRECTOR**  


**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT & OPERATIONS COMPANY (PRIVATE) LIMITED**  
**STATEMENT OF CASH FLOWS**  
**FOR THE PERIOD FROM JULY 17, 2020 TO JUNE 30, 2021**

	2021 Rupees
<b>CASH FLOW FROM OPERATING ACTIVITIES</b>	
Profit before tax	(22,193,791)
Adjustment for non-cash items	
Depreciation	-
Profit before working capital changes	(22,193,791)
<b>Changes in working capital</b>	
(Increase) / decrease in current assets	
Security deposit	-
Capital work in process	-
Increase / (Decrease) in accrued and other liabilities	
Creditor, accrued and other liabilities	-
Cash used in operations	-
<b>Net cash flow from operating activities</b>	(22,193,791)
<b>CASH FLOW FROM INVESTING ACTIVITIES</b>	-
<b>CASH FLOW FROM FINANCING ACTIVITIES</b>	
Introduction of Capital	10,000,000
Loan	21,342,460
<b>Net cash flow from financing activities</b>	31,342,460
<b>NET CASH GENERATED DURING THE YEAR</b>	9,148,669
<b>CASH AND BANK BALANCE AS AT BEGINNING OF THE YEAR</b>	-
<b>CASH AND BANK BALANCE AS AT END OF THE YEAR</b>	9,148,669

Annexed notes form an integral part of these financial statements.

  
**CHIEF EXECUTIVE**

  
**DIRECTOR**  


**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT & OPERATIONS COMPANY (PRIVATE) LIMITED**  
**STATEMENT OF CHANGE IN EQUITY**  
**FOR THE PERIOD FROM JULY 17, 2020 TO JUNE 30, 2021**

	Share Capital	Unappropriated profit	Total
	Rupees		
Balance as at July 17, 2020	-	-	-
Capital Introduced during the period	10,000,000	-	10,000,000
Profit after taxation		(22,193,791)	(22,193,791)
	10,000,000	(22,193,791)	(12,193,791)
Balance as at June 30, 2021	10,000,000	(22,193,791)	(12,193,791)

Annexed notes form an integral part of these financial statements.

  
**CHIEF EXECUTIVE**

  
**DIRECTOR**  


**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT & OPERATIONS COMPANY (PRIVATE) LIMITED**  
**NOTES TO THE FINANCIAL STATEMENTS**  
**FOR THE PERIOD FROM JULY 17, 2020 TO JUNE 30, 2021**

**1. STATUS AND NATURE OF BUSINESS**

Rashakai Special Economic Zone Development & Operations Company (Private) Limited company incorporated in Islamabad under the Companies Act, 2017 with SECP on 17 July 2020. The Company is mainly engaged in the business of development, financing, construction, marketing, management and operation of Special Economic Zone in Rashakai, Tehsil, District Nowshera, Khyber Pakhtunkhwa along with any ancillary business thereto, under the provision of Special Economic Zones Act 2012, Special Economic Zones Rules 2013 and other allied laws. It can deal in all types of developed and non-developed land for various purposes of industrial, commercial, and residential properties mainly for industrial and commercial purposes and allied types of property as well as matters ancillary thereto with the applicable approvals and permissions from the concerned authorities and in compliance with applicable laws and regulations. with its registered office located at Plot No. 2, Street No. 33, Sector F-8/4 Islamabad.

**2 SIGNIFICANT ACCOUNTING POLICIES**

**2.1 Statement of compliance**

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

- International Financial Reporting Standard for Small and Medium Sized Entities (IFRS for SMEs) issued by the International Accounting Standards Board (IASB) as notified under the Companies Act, 2017; and
- Provisions of and directives issued under the Companies Act, 2017.

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

**2.2 Accounting convention and basis of preparation**

These financial statements have been prepared under the historical cost convention, without making any adjustment for the effects of inflation or current values.

**2.3 Property, plant and equipment**

Property, plant and equipment, are stated at cost less accumulated depreciation and any identified impairment loss. Cost includes direct cost, related overheads and mark up.

Depreciation on all property, plant and equipment is charged on reducing balance method so as to write off the depreciable amount of an asset over its useful estimated life at the rates mentioned in the schedule.

Full month depreciation is charged in the year of purchase and no depreciation is charged in the month of disposal. Any gain or loss on disposal is charged to income or expense for the year.

Maintenance and normal repairs are charged to income as and when incurred. Renewals and improvements are capitalized when it is probable that respective future economic benefits will flow to the Company and the cost of the item can be measured reliably, and the assets so replaced, if any, are retired.

**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT & OPERATIONS COMPANY (PRIVATE) LIMITED**  
**NOTES TO THE FINANCIAL STATEMENTS**  
**FOR THE PERIOD FROM JULY 17, 2020 TO JUNE 30, 2021**

**2.4 Significant Accounting estimates and judgments**

The preparation of financial statements is in conformity with the Accounting and Financial Reporting Standards for Small-Sized Entities issued by the Institute of Chartered Accountants of Pakistan which requires management to make judgments, estimates and assumptions that affect the application of policies and reported amounts of assets and liabilities, income and expenses. The estimates and associated assumptions are based on historical experience and various other factors that are believed to be reasonable under the circumstances, the result of which form the basis of making the judgments about carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which estimates are revised.

Significant areas requiring the use of management estimates in these financial statements relate to useful life of depreciable assets. However, assumptions and judgments made by management in the application of accounting policies that have significant effect on the financial statements are not expected to result in material adjustment to the carrying amount of assets and liabilities in the next year.

**2.5 Stock and stores**

Stock and stores are valued at lower of net realizable value and average cost.

**2.6 Trade and other payables**

Trade and other payables are stated at their cost which is the fair value of the consideration to be paid in future for goods and services.

**2.7 Provisions**

Provisions are recorded when Company has a present obligation as a result of past event, and it is probable that an outflow of economic benefits will be required to settle the obligation and a reliable estimate can be made. Provision are reviewed at each balance sheet date and adjusted to reflect the current best estimate.

**2.8 Financial assets**

**(a) At Amortized Cost**

A financial asset is measured at amortized cost if both of the following conditions are met:

- i) The financial asset is held within a business model whose objective is to hold financial assets in order to collect contractual cash flows and;
- ii) The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on principal amount outstanding.



**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT & OPERATIONS COMPANY (PRIVATE) LIMITED**  
**NOTES TO THE FINANCIAL STATEMENTS**  
**FOR THE PERIOD FROM JULY 17, 2020 TO JUNE 30, 2021**

**(b) At Fair Value through Other Comprehensive Income**

A financial asset is measured at fair value through other comprehensive income if both the following conditions are met:

- i) The financial asset is held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets and;
- ii) The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on principal amount outstanding.

**(c) At Fair Value through Profit or Loss**

A financial asset is measured at fair value through profit or loss unless it is measured at amortized cost or at fair value through other comprehensive income.

**2.9 Taxation**

The charge for current taxation is based on taxable income at the current rates of taxation after taking into account tax rebates and credits available, if any.

**2.10 Revenue recognition**

Revenue from sale of goods is recognized on the basis of IFRS 15. Revenue is measured at the fair value of the consideration received or receivable. Revenue is recognized when it is probable that any future economic benefit associated with the item of revenue will flow to the entity, and the amount of revenue can be measured with reliability.

**2.11 Cash and cash equivalents**

Cash and cash equivalents comprise cash in hand, bank balances and highly liquid short term investments with original maturity of three months or less, that are readily convertible to known amount of cash and which are subject to insignificant risk of change in value.

**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT & OPERATIONS COMPANY (PRIVATE) LIMITED**  
**NOTES TO FINANCIAL STATEMENTS**  
**FOR THE PERIOD FROM JULY 17, 2020 TO JUNE 30, 2021**

	2021 (Rupees)
<b>4 CASH AND BANK BALANCE</b>	
Cash in Hand	-
Cash at Bank	9,148,669
	<u>9,148,669</u>
<b>5 Share Capital</b>	
Authorized capital	
1,000,000 Shares @ Rs. 10 each	<u>10,000,000</u>
Issued, subscribed and paid-up capital	
1,000,000 Shares @ Rs. 10 each	<u>10,000,000</u>
<b>6 CONTINGENCIES AND COMMITMENTS</b>	
There were no contingencies & commitments at June 30, 2021	<u>-</u>
<b>7 ADMINISTRATIVE AND GENERAL EXPENSES</b>	
Advertising and Promotion	226,586
Bank Service Charges	26,048
Business Entertainment	126,359
Communication Expense	5,000
Consultation Fee	1,902,900
Daily Expenses	350,626
Design Fee	215,986
Forex Loss	75,964
Fuel Charge	61,400
Investigate & Contact Fees	117,416
Office Supplies	92,963
Other Charges	152,208
Payroll Expenses	18,463,042
Printing and stationery	19,100
Postage Fee	16,000
Professional Fees	298,126
Travel Expense	33,479
Vehicle Toll	10,588
	<u>22,193,791</u>
<b>8 DIRECTORS REMUNERATIONS</b>	
Chief Executive remunerations	-
Directors Remunerations	<u>-</u>

**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT & OPERATIONS COMPANY (PRIVATE) LIMITED**  
**NOTES TO FINANCIAL STATEMENTS**  
**FOR THE PERIOD FROM JULY 17, 2020 TO JUNE 30, 2021**

**9 TRANSACTIONS AND BALANCES WITH RELATED PARTIES**

No any related party transaction occurred during the year.

**10 SUBSEQUENT EVENTS**

There are no such subsequent events adjusting or non-adjusting providing further evidence of relating to the period ended June 30, 2021.

**11 GENERAL**

The figures have been rounded off to the nearest rupee, unless otherwise stated.

**12 AUTHORIZATION**

These financial statements were authorized for issue by the Board of Directors in their meeting held on

14 OCT 2021

  
**CHIEF EXECUTIVE**

  
**DIRECTOR**  


**LAST ANNUAL RETURN UNDER SECTION 130 OF THE COMPANIES ACT**

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RSEZDOC is in the process of making the requisite return before the SECP.

# **POWER OFF-TAKE**

**III.**

## **ANNEX – B**

### **PESCO's COMMITMENT TO SELL POWER**

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PESCO's letter dated 19 January 2022 and technical sanction dated 3 March 2022 is appended herein below.



## PESHAWAR ELECTRIC SUPPLY COMPANY

OFFICE OF THE  
CHIEF EXECUTIVE  
PESCO PESHAWAR

No. CE (P&E)/435-39

Dated 17 /01/2022

Chief Executive Officer  
✓ Rashakai Special Economic Zone  
Islamabad.

**SUBJECT: DEMAND LOAD FOR PHASE-I OF GS-I AND GS-II (22+45=67 MW) OF  
RESHAKAI SPECIAL ECONOMIC ZONE.**

Reference: CEO Rashakai Special Economic Zone Letter No. RSEZDOC/HO/2022/010  
dated 17/01/2022

Referred to the letter cited above, Load of 22 MW for GS-I and 45 MW for GS-II  
approved by the Competent Authority with following conditions,

- i) For 45 MW of GS-II, you will not exceed the load beyond 45 MW and in this connection you will have to provide an affidavit on non-judicial stamp paper worth PKR. 100/- to the effect that your load will not exceed beyond 45 MW without the approval of Competent Authority.
- ii) 22 MW of GS-I will not be energized until and unless NEPRA declares the Tariff and you will have to wait for the decision of NEPRA.

  
CHIEF ENGINEER  
(PLANNING & ENGINEERING)  
PESCO PESHAWAR

**Copy to:**

1. Chief Executive Office PESCO for information please.
2. Chief Executive Office KPEZDMC for information.
3. Chief Engineer ( Development) PMU PESCO Peshawar
4. Chairman, CPEC Authority, Islamabad for information.

**OFFICE OF THE  
CHIEF EXECUTIVE PESCO  
WAPDA HOUSE PESHAWAR**

**TECHNICAL SANCTION**

**SUBJECT: - SANCTION FOR NEW CONNECTION FOR GS-1 (22MW),  
RASHAKAI ECONOMIC ZONE**

Sanction for supply of power regarding 22 MW load in respect of above named consumer is hereby accorded under tariff (to be determined by NEPRA) with the following conditions.

1. The subject connection will be given only through an independent 132 KV consumer's own GSS near Rashakai Interchange Nowshera as single point supply under (to be determined by NEPRA). As the sponsor of the subject case has informed this office regarding resale of power by further 29 Nos feeders at the said scheme. The connection will be charged under tariff-C until the clear instructions are received to this office from NEPRA for actual tariff determination.
2. The proposed GS-1 132KV consumer's Grid Station shall be fed through In/Out arrangement under midterm condition from 132 KV D/C transmission line with rail conductor from 220/132 KV GSS Mardan Rashakai SEZ at the cost of the applicant.
3. The allied 25Km Transmission line will be constructed according to approved Design/Specification of WAPDA/PPMC/PESCO by P.D (GSC) PESCO Peshawar. The work should be taken in hand after confirmation of payment of capital cost by the consumer and receipt of amount in PESCO's account.
4. Design of proposed GSS is already approved from Chief Engineer (Design) NTDC Lahore. The consumer Grid Station will be operated and maintained by the consumer himself as per PESCO/WAPDA policy/ rules.
5. 3x50 MVA Power T/F (132/11 KV) with allied material will be purchased by the applicant from WAPDA/PESCO's approved firms and receipt of the same will be provided to this office. The said Power T/F will be inspected from Chief Engineer MI) NTDC Lahore. The Inspection Report of the same should be provided to this office before energization of the connection.
6. The consumer Grid Station will be provided with PLC communication and 11KV capacitor bank of adequate capacity by the consumer, as per approved design/ drawing of WAPDA/PPMC/PESCO so that Power factor of the consumer's load shall not fall below 90%.
7. The Capital Cost estimate is for a tentative amount of the material / work involved & the consumer shall pay to PESCO/PPMC any additional cost with respect to capital cost charges for any alteration in route or due to

**(Cont'd on Page-2)**



escalation of prices of material/equipment involved, at the time of execution of work or any other charges/amount due to any reason as such Right of Way problems etc, beyond the control of PESCO or due to instructions of PESCO/PPMC/WAPDA Authority issued time to time due to change in policy of PESCO/PPMC/WAPDA. Mentioned amount will be recoverable from the applicant/ consumer even after energization of the load


8. PESCO will not be held responsible for any delay due to shortage of material/ equipment to be installed for the proposed transmission line. The consumer will be responsible for damages to property, cost of land involved and crops compensation and claimed if any etc.
9. All requirements dictated by PESCO/ WAPDA commercial procedure, standard design instructions, electricity rules and tariff applicable should be strictly met with according to latest instructions issued by the competent Authority/PESCO/PPMC/WAPDA.
10. Grading/Protection time co-ordination in relays of the VCBs of the consumer shall be provided so that the consumer's VCBs are disconnected before PESCO's VCBs in the Consumer Grid Station as well as at the PESCO Mardan Grid Station.
11. It should be ensured that an independent metering room for PESCO / WAPDA, is constructed by the consumer according approved Desing/ drawing in the yard and the consumer should have no access to this room.
12. The consumer Grid Station shall be checked by the Energization Committee to confirm that technical requirement of 132KV supply / metering/ protection are according to instructions/ specifications of PESCO/WAPDA before energization of the connection.
13. Demand Note for capital cost estimate shall be issued by this office. The amount of capital cost is based on tentative rough cost estimate and may be revised according to variations based upon actual expenses at the time of execution of work, due to Right of Way problems or technical clearance etc: However, Demand Notice for Security Deposits, as per applied load, will be issued, at prevailing rates, on request of the applicant after completion of deposit works/ installation of machinery.
14. **The contractor's wiring Test report, prepared at least by a class-E Contractor of the provincial Govt. should be submitted by the applicant to C.E (P&E) PESCO H/Q for verification before requesting for constitution of energization committee .**

(Cont'd on Page-3)

15. **132KV 1200/1 Amps: metering as well as protection C.Ts** shall be provided if already not installed at the consumer's end metering panel. The CTs shall be purchased by the applicant from WAPDA/ PEPCO approved firms/suppliers and tested by Manager Technical Services (M&T) PESCO Peshawar on recovery of requisite fee from the applicant before installation in the panels. The metering CTs shall be adjusted to match with the sanctioned load..
16. The protection CTs setting / Relay Plug setting should not exceed 125% of the Sanctioned load. The protection as well as metering CTs and Relay setting should be sealed to ensure the above given limitations.
17. Meter testing and sealing job should be carried out by energization committee, comprising of S.E (Op) PESCO Mardan Circle, Regional Manager (M&T) PESCO Peshawar and XEN (Op) PESCO Mardan-1 Division Mardan, XEN (P&I) PESCO Peshawar Division and D.M (T&G) PESCO Peshawar along with his A.M (T&I), to be constituted by this office on completion of the work/job, receipt of documents mentioned in above clauses, payment of security deposits and clearance of any excess expenditure, incurred on the work/job, by the consumer.
18. All the equipments and installations for supply of electricity to applicant's premises and installations with in applicant's premises are to be got checked by energization committee prior to energization of the connection. The committee should confirm and certify that these are according to WAPDA /PEPCO Standards and Specifications. Purchase orders and original receipt of purchase should be provided by the consumer. As built detail drawing of the distribution system should be submitted by applicant to committee which will be forwarded to this office for reference and record.
19. NOC/clearance from KPEZDMC administration, Distt:/Tehsil administration Railway department any PESCO's consumer and Highway etc, if needed, as detailed above, shall be arranged and provided by the applicant. Furthermore, the applicant shall make compensation for any damages to the properties of the mentioned departments/ consumer, which may happen during execution of above-mentioned constructional work of proposed job.
20. All electrical installations, H.T/L.T lines, cables, motors, capacitors and distribution system etc, at the applicant's premises shall be checked by the Electrical Inspector Govt. of KPK Peshawar to verify that these are according to Electricity Rules 1937 & Electricity Act 1910, including amendments made from time to time. The equipments may be preferably purchased from approved WAPDA firms/suppliers. NOC / Approval issued by Electrical Inspector Govt. of KPK Peshawar should be submitted by the applicant to this office.

(Cont'd on Page-4)

21. The Energization Committee should ensure before the energization of this connection that there is nothing outstanding dues/ arrears against the premises where connection is desired.
22. All other departmental formalities should be observed while allowing energization of this job/ connection.

  
**CHIEF ENGINEER (P&E)**  
**PESHAWAR ELECTRIC SUPPLY**  
**COMPANY PESHAWAR**

Endist: M (P&E)/Rashakai SEZ/ No. 1072-80 dated 3/3 /2022.

Copy to,

1. S.E (Op) PESCO Mardan Circle, Mardan.
2. Regional Manager (M&T) PESCO Peshawar.
3. P.D (GSC) PESCO Peshawar.
4. SE (GSO) PESCO Peshawar.
5. XEN (P&I) PESCO Division Peshawar.
6. XEN (T&I) PESCO Peshawar.
7. XEN (Op) PESCO Mardan-I Division.
- ✓ 8. Mr. Lyu Ming CEO Rashakai SEZ.

**IV.**

**FINANCIAL AND TECHNICAL  
CAPABILITIES**

## **ANNEX – C-1**

### **CASH BALANCES HELD IN RESERVE ALONG WITH THE BANK CERTIFICATES**

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Duly verified bank statement of RSEZDOC for the period starting from 1 January 2022 to 18 October 2022, which shows the cash balance held by the company as of 18 October 2022, is provided herein below.

YOUR ACCOUNT STATEMENT  
FOR THE PERIOD ENDING: JAN01,2022 TO OCT18,2022

ACCOUNT NO : 0874-79011258-99 OF  
ISLAMABAD-CORPORATE BRANCH

RASHAKAI SPECIAL ECONOMIC PVT LTD  
HOUSE NO 2  
STREET NO 33  
F-8/1  
PK

ACCOUNT TYPE : CURRENT ACCOUNT - CN  
CURRENCY : Yuan Renminbi  
PRINTING DATE : 20-10-22  
FREQUENCY : INTERIM / DUPLICATE  
PAGE NO : 1  
USER : SS4701

DATE	VALUE	PARTICULARS	DEBIT	CREDIT	BALANCE
		BROUGHT FORWARD			1,482,266.33
27JAN22		Transfer Debit 08747901200203	800,000.00		682,266.33
		DEAL NO 1936706 @ 27.30			
11FEB22		Swift Transfer CN09442501A		31,067,000.00	31,749,266.33
		CN09442501A			
		RB INDUSTRIAL PARK INVESTMENT AND D			
		CNY 31,067,000.00			
		07509651			
15FEB22		Transfer Debit 08747901200203	403,000.00		31,346,266.33
		DEAL # 1942568 @ 27.50			
24FEB22		Transfer Debit 08747901200203	500,000.00		30,846,266.33
		DEAL NO 1945784 @ 27.40			
09MAR22		Transfer Debit 08747901200203	1,600,000.00		29,246,266.33
		DEAL NO 1950419 @ 27.65			
09MAR22		Swift Transfer CRDKA0874CN76010	1,334,045.60		27,912,220.73
09MAR22		SWIFT CHARGES CRDKA0874CN76010	17.78		27,912,202.95
09MAR22		Comm on F. Funds CRDKA0874CN76010	3,868.73		27,908,334.22
14MAR22		Transfer Debit CRDKA0874CN76010	315.00		27,908,019.22
		3RD BANK TT CHARGES AGAINST OUR			
18MAR22		Transfer Debit 08747901200203	3,500,000.00		24,408,019.22
		DEAL NO 1953833 @ 27.80			
25MAR22		Transfer Debit 08747901200203	2,000,000.00		22,408,019.22
		DEAL NO 1955974 @ 28.00			
28MAR22		Transfer Debit 08747901200203	800,000.00		21,608,019.22
		DEAL NO 1956606 @ 28.00			
27APR22		Transfer Debit 08747901200203	500,000.00		21,108,019.22
		DEAL # 1967851 @ 27.80			
29APR22		Swift Transfer 51COR22000270984		34,300,000.00	55,408,019.22
		51COR22000270984			
		CHINA CONSTRUCTION BANK CORPORATION			
		CNY 34,300,000.00			
		03409561			
29JUN22		Transfer Debit 08747901200203	2,100,000.00		53,308,019.22
		DEAL NO 1988485 @ 30.23			

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**HL** CORPORATE BRANCH.  
(0874) ISLAMABAD.

YOUR ACCOUNT STATEMENT  
FOR THE PERIOD ENDING: JAN01,2022 TO OCT18,2022

ACCOUNT NO : 0874-79011258-99 OF  
ISLAMABAD-CORPORATE BRANCH

RASHAKAI SPECIAL ECONOMIC PVT LTD  
HOUSE NO 2  
STREET NO 33  
F-8/1  
PK

ACCOUNT TYPE : CURRENT ACCOUNT - CN  
CURRENCY : Yuan Renminbi  
PRINTING DATE : 20-10-22  
FREQUENCY : INTERIM / DUPLICATE  
PAGE NO : 2  
USER : SS4701

DATE	VALUE	PARTICULARS	DEBIT	CREDIT	BALANCE
		BROUGHT FORWARD			53,308,019.22
13JUL22		Swift Transfer CRDKA0874CN87509	308,414.17		52,999,605.05
13JUL22		SWIFT CHARGES CRDKA0874CN87509	16.29		52,999,588.76
13JUL22		Comm on F. Funds CRDKA0874CN87509	894.40		52,998,694.36
15JUL22	13JUL22	Swift Transfer CRDKA0874CN87509		308,414.17	53,307,108.53
15JUL22	13JUL22	SWIFT CHARGES CRDKA0874CN87509		16.29	53,307,124.82
15JUL22	13JUL22	Comm on F. Funds CRDKA0874CN87509		894.40	53,308,019.22
15JUL22		Swift Transfer CRDKA0874CN87769	308,414.17		52,999,605.05
15JUL22		SWIFT CHARGES CRDKA0874CN87769	16.27		52,999,588.78
15JUL22		Comm on F. Funds CRDKA0874CN87769	894.40		52,998,694.38
19JUL22		Transfer Debit CRDKA0874CN87509	315.00		52,998,379.38
		3RD BANK TT CHARGES AGAINST OUR			
19JUL22		Transfer Debit CRDKA0874CN87509	280.00		52,998,099.38
		FOREIGN BANK CHARGES			
29JUL22		Branch Settlement IDC08740747122PK	4,198,800.48		48,799,298.90
05AUG22		Swift Transfer 51COR22000294824		33,899,790.00	82,699,088.90
		51COR22000294824			
		CCB BEIJING ADD. CCB BEIJING			
		CNY 33,899,790.00			
		03409651			
15AUG22		Transfer Debit 08747901200203	2,900,000.00		79,799,088.90
		DEAL NO 2002878 @ 31.10			
17AUG22		Branch Settlement IDC08740787422PK	2,365,384.00		77,433,704.90
18AUG22		Transfer Debit 08747901200203	4,400,000.00		73,033,704.90
		DEAL NO 2004320 @ 31.27			
19SEP22		Transfer Debit 08747901200203	4,000,000.00		69,033,704.90
		DEAL NO 2014177 @ 33.28			

Opening balance	1,482,266.33
Total Debit Transactions	26
Total Amount Debited	32,024,676.29-
Total Credit Transactions	6
Total Amount Credited	99,576,114.86
Closing Balance	69,033,704.90

-----End of statement-----

This is a system generated account statement and does not require a signature.

**IBL** CORPORATE BRANCH,  
(0874) ISLAMABAD.

**VI.**

**FEASIBILITY STUDY**



**FEASIBILITY STUDY OF THE RSEZ PROJECT**

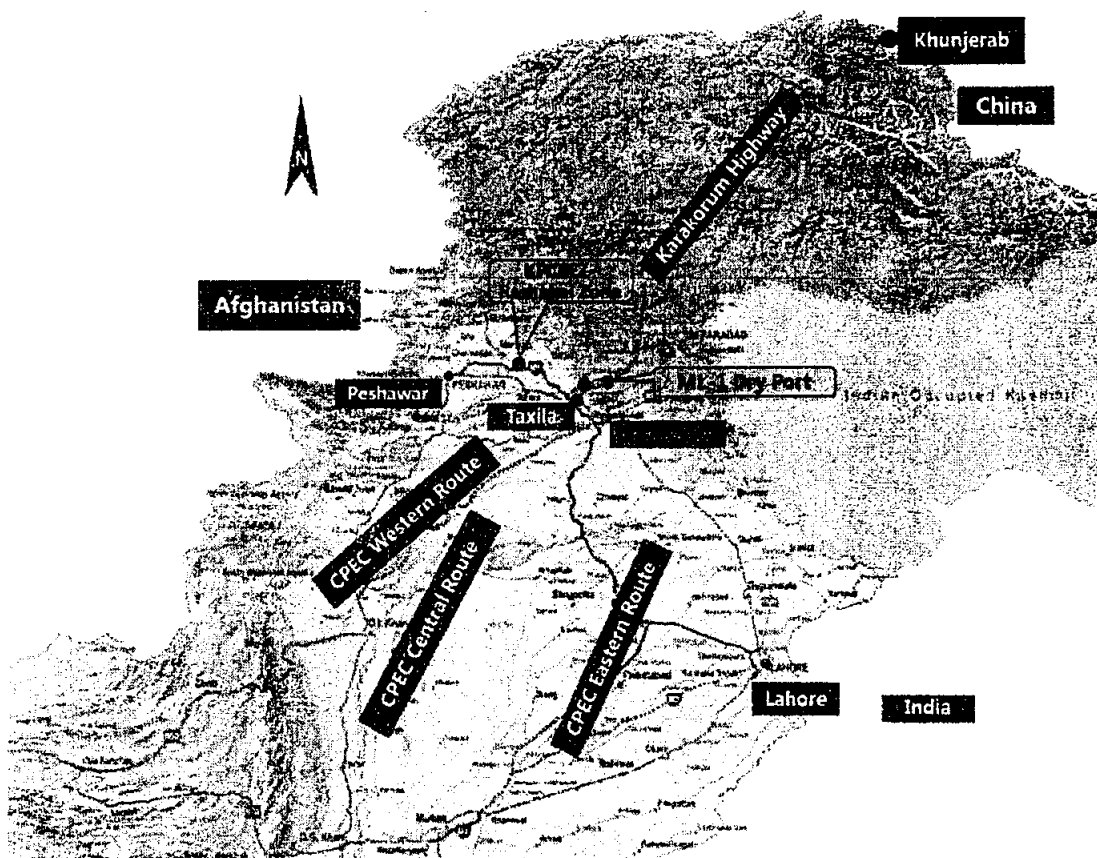
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There are two feasibility studies undertaken for the RSEZ. One relates to the economic zone and the second relates to the electrical system (distribution and supply) of RSEZ. The feasibility study of the RSEZ project is appended herewith below.

# Feasibility Study Report

## Rashakai Prioritized Special Economic Zone

### Khyber Pakhtunkhwa



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## **Chapter I Industrial Orientation**

### **1.1 Project orientation**

#### **1.1.1 Development orientation**

The Project will integrate the advantages and featured resources of KP Province in a rational manner, sufficiently bring the strategic synergy effect of Rashakai pSEZ, and other projects into play, and place special emphasis on building differentiated sub-zones such as manufacturing, trading and exhibition center etc. to build a constantly upgrading and optimizing flagship complex of emerging industries led by modern comprehensive Industrial Parks and Economic Zones along China-Pakistan Economic Corridor (CPEC) covering deep processing of metal smelting and processing, automotive, mechanical equipment, household building materials, food processing, household appliances, consumer electronics, textile & garment, and leather etc. DEVELOPER will take the lead to offer substantial One-Window comprehensive services to enterprises in the Zone.

#### **1.1.2 Main functions**

Main functions of the Project include industrial and manufacturing activities leading to industrial and economic growth and providing the enterprises superior infrastructure facilities and a conducive environment to promote such economic activities, including but not restricted to product processing, manufacturing, warehousing and logistics, trading, and support services.

### **1.2 Industry selection principles and method analysis**

#### **1.2.1 Industry selection principles**

**Table 1-1 Four Principles of Industry Selection**

	Industries no matter with self-advantage or introducing new technology must assimilate into the local environment. On the basis of giving full play to the advantages of local resources, the industrial chain shall be extended to be stronger and stronger. Otherwise, it is impossible to gather enough energy for internal work and external force.
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Industrial chain supplement	In terms of industry selection, choose the key areas available for development, and with this as an axis, gather investment attraction and preferential measures on the whole industry chain to form industrial support or synergy, as well as industrial coupling, forming the cycle of energy and materials between industries.
Diversified industries	Cultivate leading industries to develop into featured industries with regional advantages, guide the development of various industries, promote industrial competition and enhance the industry's ability to resist risks.
Green cycle development	For industry selection, make rational use of advantageous resources to form a long-term perspective, take circular economy as a consideration, give priority to green industry, enhance industrial continuity and ensure sustainable development of the industry.

### 1.2.2 Industry analysis

Twenty two major ideas are applied to analyze the industry selection for the Rashakai pSEZ from the perspective of Pakistan, China and peripheral radiation countries of Pakistan.

**Table 1-2 Thoughts of Industry Analysis of Rashakai pSEZ**

Selection level	Ideas	Details
Level 1: Pakistan	Idea 1	Thoroughly study the industrial structure of Pakistan, upgrade and improve the specific industry
	Idea 2	Thoroughly study the industrial structure of Pakistan and fill the gaps to strengthen it.
	Idea 3	Comply with the demands by the government of Pakistan and capitalize on the specific industries supported by the government.
	Idea 4	Rely on the self-advantages of strength and availability of natural resources in Pakistan and choose the appropriate industry with greater protentional for development
	Idea 5	Make use of relatively low labor cost in Pakistan to develop low-cost labour intensive related industries
	Idea 6	Vigorously develop the import substitution industry for the Pakistan market
	Idea 7	Develop the industry with special advantage, guided by the industrial structure characteristics of the FDI distribution in Pakistan
	Idea 8	Follow the laws of Pakistan's industrial evolution and develop the leading industries that match the process of industrialization in Pakistan
	Idea 9	Adapt to the process of long-term heavy industrialization in Pakistan and actively guide the related industries

Level 2: China	Idea 10	Guide the industry with advantage and surplus capacity in China by virtue of "the Belt and Road" strategy and China-Pakistan international capacity cooperation policy.
	Idea 11	Further develop the suitable industries by taking advantage of the construction of China-Pakistan Economic Corridor
	Idea 12	Utilize the support policy of Chinese local government for "Go Global" to guide China's industry with local specific advantages
	Idea 13	Analyze the core products of China's export to Pakistan, focusing on domestic industries
	Idea 14	Guided by the industrial structure of the distribution of China's foreign direct investment to lead the relevant key industries
	Idea 15	Actively guide the key industries that can radiate Europe, America and other markets from the perspective of avoiding trade barriers for China's industry
	Idea 16	Deeply study the industrial association between Pakistan and five northwestern provinces in China to guide the related industries
	Idea 17	Develop the linkage industry between Pakistan and China
Level 3: Neighboring countries	Idea 18	Make full use of regional advantages of Rashakai transportation
	Idea 19	Conform to the trend of city-industry integration in Rashakai pSEZ in future
	Idea 20	Achieve industrial linkage with Hattar Industrial Park and Gwadar Port
	Idea 21	Develop specific industries with the aid of the related superior resources of Afghanistan and other surrounding countries
	Idea 22	Develop export-oriented industries with the direction of radiation in the Middle East, and the European and American markets

### 1.2.3 Synergy effect of Park linkage level

#### (1) In the short and mid-term, it will help promote industrial linkage with the Rashakai pSEZ

The construction of Rashakai Special Economic Zone will help promote Industrial linkages with similar Economic Zones and Special Economic Zones within the province, as well as in the vicinities along Belt Road Initiative (BRI), so as to develop strategic synergetic effects in both the depth and breadth of the industrial value chain.

#### (2) It can form a higher level of linkage with the Gwadar Free Trade Zone

The Gwadar Free trade Zone in Pakistan, which is under construction by CCCC, officially opened on January 29, 2018. And it held the first Gwadar International Commodity Fair,

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attracting nearly a hundred enterprises to participate. Pakistani Prime Minister and Chinese Ambassador to Pakistan Yao Jing attended the day's related activities.

As the southern gate of the China–Pakistan Economic Corridor, Gwadar Port in Pakistan plans to build an area of about 2,280.73 acres of Gwadar Free Zone. The southern part of the free Trade zone is not only the first phase for project, it is also the starting area. It is mainly to build trade and logistics development zone relying on existing docks, with commodity exhibition, transit, trade, fishery products processing as the leading function.

In the near future, the Rashakai Prioritized Special Economic Zone, under the CPEC framework, will form a linkage with the Gwadar Free Zone.

Free Trade Zone at a higher level and will help to promote the optimal development of Pakistan's export-oriented industries and import-substitute industries.

## **1.3 Industrial Analysis Process**

### **1.3.1 Automotive Industry**

#### **(1) Attract Investment in Pakistan, by the Automotive Sector from China**

The existing automotive industry in Pakistan is small, with a poor industrial foundation of Pakistan, a small automotive scale, with a production value of the automotive industry of about USD 6.2 billion, is contributing only 2.3% to GDP. In the fiscal year 2016/17, production capacity of sedan in Pakistan was 186.9 thousand sets, 27.8 thousand sets of jeeps and pickups and 7712 sets of trucks.

The automotive market development potential in Pakistan is encouraging. According to statistics by the World Bank in 2009, the automotive inventory in Pakistan is 13 sets/1000 persons. According to deduction through sales of automotive from 2009 to 2016 (automotive rejection and population growth not taken into account), the automotive inventory in Pakistan is 19 sets/1000 persons. The automotive inventory in China is 140 sets/1000 persons. Comparatively, the automotive market of Pakistan has a great development potential.

The automotive of Chinese brands has development potential in Pakistan. The Japanese automotive occupies 100% of sedan market, 96% of light-duty vehicle market (LCV), 69% of truck market and 62% of passenger vehicle market in Pakistan. At present, the Chinese-funded enterprises in Pakistan include China FAW, Foton Motor, JAC and Dongfeng Motor, mainly engaging in truck and light-duty truck business, without involving sedan market.



The new automotive industry development policy in Pakistan attracts foreign enterprises to invest, and the *Automotive Development Policy 2016-2021* newly released by the Government of Pakistan regulates the automotive market and provides preferential policy for new automotive enterprises into the market of Pakistan to break up monopoly of the Japanese automotive. The policy includes lowering automotive part import tariff and providing tax discount to enterprises establishing automotive production lines.

## (2) Analysis of Foreign Investment opportunities for the automotive industry of China

**Table 1-3 Motive power, pressure and capacity for going-out of the automotive industry of China**

<b>Motive Power</b>	Chinese government boosts the international capacity cooperation of the automotive industry; Going-out is certainly the trend for the development of the automotive industry of China; Automotive enterprises of China have accelerated the trend of going out; Automotive enterprises of China have obtained sound achievements overseas.
<b>Pressure</b>	The sales growth of automotive of China is slowing; The exports of automotive of China is declining; The manufacturing cost of the automotive industry of China is increased; The competition of the automotive industry of China is increasingly drastic.
<b>Capacity</b>	The automotive output of China is ranking first all over the world; The self-owned brand automotive of China is rising; The potentiality of automotive enterprises of China is enormous; The automotive industry of China has established the relatively complete industry-chain supporting system.

## (3) Selection and basis of key sub-sectors for the automotive industry

Type of Sub-sector	Basis for Selection
<b>Loaders</b>	The manufacturing capacity of loaders in China is relatively powerful; Loader enterprises of China have made investment and established plants in Pakistan;

	<p>The production and marketing situation of loaders is excellent in Pakistan;</p> <p>The China-Pakistan Economic Corridor and other infrastructure construction will boost the market demand of loaders in Pakistan;</p> <p>Loaders of China are low in price, fine quality and suitable for Pakistan.</p>
<b>Pickups</b>	<p>The production and marketing situation of Pickup of China is well established;</p> <p>The gradual promotion of the ban-lifting policy for Pickup of China promotes the overseas sales of Pickup;</p> <p>The production and marketing situation of Pickup in Pakistan is sound in recent years.</p>
<b>Passenger vehicles</b>	<p>The manufacturing capacity of passenger vehicle in China is powerful;</p> <p>The typical representative of passenger vehicle enterprises of China has completed the going out.</p> <p>The production and marketing situation of passenger vehicle in Pakistan is sound in recent years.</p>
<b>Passenger cars</b>	<p>The production and sales volume situation of passenger cars of China is severe;</p> <p>The typical representative of passenger cars enterprises of China has developed the overseas market;</p> <p>The production and marketing situation of passenger cars in Pakistan is sound.</p>
<b>Special vehicles</b>	<p>The customization proportion of commercial vehicles in China is constantly rising;</p> <p>Automotive enterprises of China have possessed the experience of exports of special vehicles to Pakistan;</p> <p>The project of China-Pakistan Economic Corridor has driven the market demand for special vehicles in Pakistan.</p>
<b>Automotive parts</b>	<p>The scale of automotive parts manufacturing industry of China is constantly increasing;</p> <p>The import scale of automotive parts of China is larger;</p> <p>The production volume of part of automotive parts of China is taking lead all over the world;</p> <p>Automotive parts enterprises of China possess the strength of going out;</p> <p>Pakistan possesses certain production capacity of automotive Parts.</p>

### **1.3.2 Metal Products Processing Industry**

#### **(1) Attractive Investment in Pakistan for the Metal Products Processing industry of China**

Rapid development of construction industry of Pakistan has driven the demand for the metal products. In recent years, the construction industry of Pakistan has been developing rapidly. In the fiscal years 2016/17, output value of 682.828 billion rupees (about 6.516 billion U.S. dollars) has been achieved, with a real growth rate of 9.05%. Rapid development of the construction industry will greatly boost Pakistan's demand for metal products.

There are abundant raw materials of metal products in Pakistan, including 92,500 tons iron ore reserves, 135,200 tons copper reserves and 2.24 million ounces gold reserves. So far, there are about 58 kinds of metal and non-metallic minerals being mined in Pakistan.

The output of some metal products in Pakistan continue to grow. The metal products processing industry of Pakistan develops rapidly, and the output of some metal products enjoy a sustainable growth. Taking billet as an example, Pakistan's billet output was rapidly increased from 1,616,400 tons in the fiscal years 2011/12 to 4,099,000 tons in the fiscal years 2016/17. Pakistan's billet output was increased by 28.77% in the fiscal years 2016/17.

There is increasing demand for imports of metal products in Pakistan. Metal products imports of Pakistan continued to grow in the fiscal years 2013/14-2016/17. Metal products imports of Pakistan were 2.76 billion U.S. dollars in the fiscal years 2013/14 and increased to 4.229 billion U.S. dollars in the fiscal years 2016/17. Metal products imports of Pakistan were increased by 7.34% YoY in the fiscal years 2016/17. This shows that Pakistan has a growing demand for importing of metal products in recent years.

#### **(2) Analysis of Foreign Investment opportunities for the Metal Products processing Industry of China**

**Table 1-4 Motive power, pressure and capacity of "going out" of the metal products processing industry of China**

<b>Motive power</b>	<p>The Government of China formulates policies to encourage the metal products processing enterprises to "GO OUT";</p> <p>The Belt and Road Initiative provide new opportunities for the metal products processing industry;</p> <p>The China-Pakistan Economic Corridor encourages Chinese enterprises to invest in Pakistan.</p>
<b>Pressure</b>	<p>Pakistan initiates the anti-dumping and anti-subsidy investigations for part of China's metal products frequently;</p> <p>With the continuous implementation of environmental protection policies, the metal products processing enterprises will be under pressure without doubt;</p> <p>The metal products processing industry of China is confronted with the pressure of excess capacity;</p> <p>The industrial contribution of China's metal products processing industry is relatively low, with fierce competition.</p>
<b>Capacity</b>	<p>The market scale of China's metal products industry increases continuously;</p> <p>China's metal products processing industry has a batch of stronger listed companies;</p> <p>The main business of China's metal products industry rises continuously;</p> <p>China's metal products have been widely exported.</p>

### (3) Selection and basis of key sub-sectors for the Metal Products processing Industry

Type of Sub-sector	Basis for Selection
<b>Steel structure</b>	<p>The output of China's steel structure industry is rapidly increasing;</p> <p>China has a group of stronger steel structure enterprises; The steel structure products of China have entered the Pakistan market;</p> <p>The import demand for steel structures of Pakistan is increasing continuously.</p>
<b>Reinforced bar</b>	<p>China is the largest country of output of reinforced bars in the world;</p> <p>The import demand for steel products of Pakistan increases continuously;</p> <p>Pakistan's anti-dumping investigation of steel products exported from China can be evaded.</p>

<b>Aluminum profile</b>	China is the largest country of production of aluminum profiles in the world; The anti-dumping and anti-subsidy investigations can change the key overseas markets of China's aluminum profile enterprises to Asia; The overseas layout of China's aluminum profile enterprises has been started; The import demand for processed aluminum products of Pakistan is on the increase.
<b>Bathroom hardware</b>	The bathroom hardware products of China have the advantages of high quality and competitive price; The building industry of Pakistan is developing rapidly to stimulate the demand for bathroom hardware products; The construction of China-Pakistan Economic Corridor stimulates the demand for bathroom hardware products of Pakistan.

### 1.3.3 Textile & Garment Industry

#### (1) Attractive Investment Opportunities in Pakistan for the Textile and Garment Industry of China

Pakistan has obvious advantages in cotton resources. Cotton is the main economic crop and export resource for earning foreign exchange in Pakistan. Pakistan is also the main cotton producing area in the world, and its production ranks fourth in the world. In the first nine months of the fiscal years of 2016/17, the cotton production in Pakistan was 1,816,000 tons.

The textile industry of Pakistan boasts a solid foundation and a good industrial base, with a certain self-supply capacity. Pakistan is the world's second largest country for producing cloth, and the third largest cotton yarn producer as well as a large producer of towels and clothing. In the fiscal years of 2016/17, the cotton yarn production of Pakistan was 3,428,000 tons, and cotton cloth production was 1.043 billion square meters.

The government supports the development of the textile and garment industry. The Pakistani government has issued the *2014-2019 Policies for Textile* and hopes to realize the double of textile exports in five years by formulating a series of incentives which promote the development of the textile industry, that is, increasing from 13 billion U.S. dollars to 26 billion U.S. dollars and creating 3 million job opportunities.

The overseas market share is stable, and the textile and apparel products are the main export products of Pakistan. In the fiscal years of 2016/17, the exports of cotton fabrics were 2.134 billion U.S. dollars, cotton and yarn were 1.258 billion U.S. dollars, knitted goods were 2.359 billion U.S. dollars, and bedclothes were 2.136 billion U.S. dollars. Europe and America have been the largest export destinations for Pakistan textiles, accounting for over 60%.

In the years from 2012 to 2015, Pakistan applied to China for anti-dumping investigation on polyester staple fiber every year. Investing and building a factory in Pakistan can avoid trade barriers, and Chinese products can enter the Pakistan market more smoothly.

Pakistan has abundant domestic labor resources and 60.5 million working-age laborers.

The average monthly salary in fiscal years of 2014/15 was 14,970.70 rupees (147.79 U.S. dollars). The average monthly salary in manufacturing was 13,477.76 rupees (133.05 U.S. dollars).

Pakistan lies at the intersection of South Asia, Central Asia and the Middle East (Western Asia). It is highly active in participating in regional economic cooperation. So far, Pakistan has signed free trade agreements with Sri Lanka, China, Malaysia, SAARC and other countries and regional organizations. It has also signed preferential trade arrangements with Iran, Mauritius, Group of Eight Islamic Developing Countries and other countries and organizations. In addition, Pakistan is a favored country of EU tariff preferences. The market for the textile and garment industry of Pakistan has a wide range.

## (2) Analysis of foreign investment opportunities for the Textile and Garment industry of China

**Table 1-5 Motive power, pressure and capacity for going-out of the textile and garment industry of China**

Motive power	<p>The growth rate of finished products of industrial enterprises above designated size in the textile and garment manufacturing industry keeps increasing;</p> <p>China's textile and garment exports have ranked first in the world for several consecutive years;</p> <p>The foreign investment of Chinese textile and garment enterprises is increasingly mature;</p> <p>China's textile industry has entered the stage of transnational layout.</p>
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<b>Pressure</b>	<p>The internal demand of China's textile and garment market has declined in the last two years;</p> <p>The labor cost of China's textile and garment industry is rising, and the profit space is compressed;</p> <p>The profitability of textile and garment enterprises is slowing down; The other production cost of China's textile and garment industry is relatively high;</p> <p>China's textile and garment industry has a great pressure to upgrade and transform.</p>
<b>Capacity</b>	<p>The main business income of textile and garment industry keeps increasing;</p> <p>The fixed assets of the industrial enterprises above designated size in textile and garment manufacturing industry are increasing; The production of China's textile and garment industry is increasing rapidly;</p> <p>China's textile and garment enterprises have powerful strength, with more than 300 listed companies.</p>

### (3) Selection and basis of key sub-sectors for the Textile and Garment industry

Type of Sub-sector	Basis for Selection
<b>Garment</b>	<p>In recent years, the overall garment production has been increasing in China;</p> <p>The retail volume of Chinese garment has increased year by year;</p> <p>The rising cost of China's garment industry provides opportunities for Pakistan;</p> <p>Pakistani garment radiates to Europe and America;</p> <p>Rashakai has natural advantages in developing the garment industry.</p>
<b>Home textiles</b>	<p>The market scale of the home textile industry in China is expanding continuously;</p> <p>The home textile industry of China is advanced in technology;</p> <p>The demand for the Pakistan market is increasing;</p> <p>The home textile industry of Pakistan requires upgrading and transformation of technologies.</p>
<b>Garment accessories</b>	<p>The overall export of China's zipper and button is on the rise;</p> <p>The effect of industrial linkage development is formed with the garment industry.</p>

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### **1.3.4 Leather Industry**

#### **(1) Attractive investment of Pakistan for the Leather Industry of China**

KP Province where Rashakai is located can provide sufficient raw materials for the leather industry. In 2016, the breeding stock of cattle, buffalo, sheep and goat in KPK Province is expected to be respectively 6,060,000, 2,440,000, 1,930,000 and 8,410,000, increasing by 37%, 35%, 14% and 36% respectively compared with that in 2006 (the breeding stock of them was respectively 4,420,000, 1,800,000, 1,690,000 and 6180000). The leather industry is an industry for foreign exchange by means of export in Pakistan, with a perfect industrial basis. At present, there are a total of 720 leather enterprises, of which 30-50 are large-scale companies and more than 5 are listed companies. In the fiscal years of 2016/17, the exports of leather and leather products in Pakistan reached 944 million U.S. dollars, accounting for 4.63% of the total exports of Pakistan.

The European Union helps the development of the leather industry in Pakistan with financial support. In June 2017, the European Union agreed to provide funds for Pakistan's initiative of improving the competitiveness of leather industry for the prevention and treatment of cattle skin diseases in Pakistan.

The Pakistani government takes various measures to stimulate the leather industry. In recent years, the export of leather and leather products in Pakistan shows a downward trend. To address this issue, the government encourages the development of the leather industry with many measures, such as encouragement of technological upgrading, improvement of products quality, implementation of export tax rebates, abolition of import duty on raw materials, and simplification of export procedures.

KP provincial freight hub and railway terminal project will make the traffic in Rashakai more convenient. Rashakai pSEZ lies in the middle of China-Pakistan Economic Corridor, 70km east of the Capital Islamabad and 40km west of the KPK Province capital Peshawar, neighboring the middle section of Islamabad-Peshawar M1 Expressway. KPK province has put forward the freight hub and railway terminal project of the central special economic zone. The project will link to the railway main line ML-1, making the traffic in Rashakai more convenient.



## (2) Analysis of foreign Investment Opportunities of the Leather industry of China

**Table 1-6 Motive power, pressure and capacity for going out of the leather industry of China**

<b>Motive power</b>	<p>The global leather industry transfer to the developing countries;</p> <p>Going out is certainly the trend for the development of the leather industry of China;</p> <p>China's leather enterprises have the strength of going out;</p> <p>China's leather enterprises have some experience in overseas investment;</p> <p>China's leather enterprises have some influence overseas.</p>
<b>Pressure</b>	<p>The rising cost makes the profits of China's leather enterprises to decline;</p> <p>The constraint on the environment of resources is increasingly tighter;</p> <p>It becomes arduous to complete the task of eliminating backward production capacity of domestic leather enterprises;</p> <p>EU REACH regulations aggravate the export pressures of China's Leather industry.</p>
<b>Capacity</b>	<p>The main business income of China's leather and shoe-making industries grows steadily;</p> <p>The planning of the leather industry promotes the rapid development of the leather industry of China;</p> <p>The production of light leather of China grows rapidly;</p> <p>China's leather products are widely exported.</p>

## (3) Selection and basis of key sub-sectors for the leather industry

Type of Sub-sector	Basis for Selection
<b>Shoe-making</b>	<p>China is the main production base of the world's leather shoes and boots;</p> <p>The exports of Chinese leather shoes show a downward trend;</p> <p>China's shoe-making industry has started the overseas layout;</p> <p>Pakistani leather shoe industry has a huge potential for development and a promising prospect.</p>
<b>Luggage</b>	<p>The global market demand for luggage is sharply increased;</p> <p>The production of Chinese luggage has accounted for more than 70% of the world's total production;</p> <p>The production value of the luggage industry of China grows rapidly;</p>

	The export situation of the luggage industry of China is not optimistic; The imports of Pakistani luggage keep increasing, with large domestic demand.
<b>Leather clothing</b>	China is a big producer of leather clothing; The export situation of Chinese leather clothing is grim; Large number of export of Chinese raw leather increases the business cost of the leather clothing industry; Chinese enterprises can produce high value-added leather clothing products to boost the export competitiveness of Pakistan.

### 1.3.5 Food Processing Industry

#### (1) Attractive investment of Pakistan for the Food Processing industry of China

Agriculture is the traditional pillar industry in Pakistan, with a high production of agricultural products. In the fiscal years of 2016/17, the ratio of agricultural production value to GDP was 24.65%. The main crops in Pakistan involve wheat, rice, corn, cotton, and sugarcane, etc. Other important agricultural products involve fruits, vegetables, milk, beef and mutton, etc. In the fiscal years of 2016/17 of Pakistan, the output of crops increased by 3.02%, sugarcane increased by 7.59% and rice increased by 0.71%.

The agricultural products of Pakistan boast a large export volume and a certain market basis. As the main export commodities in Pakistan, the agricultural products and related products are mainly exported to China, the United States and European countries, where have more advanced product markets. It is expected in the fiscal year of 2016/17 that the export of rice would reach 1.607 billion U.S. dollar, the fruit, vegetables and their juices would reach 591 million U.S. dollar and the flour would reach 175 million U.S. dollar.

The Pakistani government encourages the development of the food processing industry. In order to attract foreign investment, the Pakistani government has introduced a series of preferential supporting policies, such as permission of 100% foreign ownership and no restriction on the minimum investment, etc. The Rashakai pSEZ will enjoy the incentives, if any, offered by China under CPEC Framework.

Pakistan uses conventional agricultural techniques and needs modernization, and improvement to enable vertical processing capacity of agricultural products. The process of agricultural modernization in Pakistan is relatively backward, which is greatly affected by

the natural weather. Due to insufficient agricultural industrialization level, the abundant fruit and grain crops due to lack of corresponding technology and deep processing capacity, results in a considerable waste of resources and thus urgent improvement of the deep processing capacity of agricultural products is required.

KP Province where Rashakai is located has rich agricultural product resources for processing. KP Province is suitable for planting various food crops, fruits and vegetables while Charsadda, Mardan and Swabi are suitable for planting high-quality sugarcanes. In the fiscal year of 2015/16, the production of sugarcane in Mardan close to Rashakai was 1,369,300 tons, accounting for 25.02% of the total production of the KP province; the total production of vegetables in KP province was 384,700 tons, with a year-on-year increase of 2.0%; the total production of fruit was 336,000 tons, which was down 2.1% from the same time last year.

## (2) Analysis of foreign investment opportunities for the Food Processing Industry

**Table 1-7 Motive power, pressure and capacity for going out of the Food Processing industry of China**

<b>Motive Power</b>	China's food processing enterprises benefit much from overseas investment; Going out complies with the national policy and the corporate strategy; Solid foundation of overseas market of Chinas food processing products; The Belt and Road Initiative creates new opportunities for food processing enterprises.
<b>Pressure</b>	Rising of the raw material prices reverses the going out of the food processing enterprises; Environmental protection policy gives pressure to the food processing industry; Imported foods occupies the domestic market shares; Establishment of food processing plant in China by large-sized cross-country corporation gives pressure to enterprises in China.
<b>Capacity</b>	Sound development of Chinas food processing technology and system; Total profit of Chinas food processing industry more than 200 billion Yuan; Stable scale of enterprises of Chinas food processing industry; Relatively powerful production capacity of Chinas food processing industry; Many enterprises of Chinas food processing industry going out.

### (3) Selection and basis for key sub-sectors of the Food Processing industry

Types of sub-sectors	Basis for selection
<b>Sugar</b>	Finished sugar production capacity in China lowered significantly; High sugar production costs in China, near half of the sugaring enterprises in 2016 with losses; Abundant sugarcane resources in Pakistan, large sugar production capacity; Solid sugar industrial foundation in Pakistan, great sugar requirements in China.
<b>Dairy products</b>	Production values of dairy products industry in China increased, and production capacity also increased; Well-developed dairy product enterprises in China, with the strength of Going out; Not high commercialization of dairy industry in Pakistan, and deep production capacity to be improved.
<b>Juice and beverage</b>	Well development of juice and beverage industry in China, with increasing sales income; Juice and beverage production capacity in China lowered in recent years, but famous enterprises with the strength of Going out; Abundant fruit varieties in Pakistan, relatively higher yield, providing sufficient raw materials.
<b>Muslim meat products</b>	The population of worldwide Muslim reaches about 2 billion, with great demands on Muslim requirements; The Muslim meat product industry of China develops rapidly; The animal husbandry industry develops well in Pakistan, with a high breeding stock; Production capacity of Muslim meat in Pakistan increases stably to guarantee supply of raw materials.

### 1.3.6 Household Appliance Industry

#### (1) Attractive Investment of Pakistan for the Household appliances Industry of China

With the rising living standards of the people in Pakistan, the household appliance market is promising. As of August, 2017, the total population of Pakistan is approximately 208 million, with annual average growth of 2.4%. The growth of GDP per capita in Pakistan is kept around 30%. The GDP per capita of Pakistan in 2016 is approximately 1443.6 US

dollars. As estimated by IMF, the quantity of the rich consumers in Pakistan will be increased by about 6% in each year.

The consumption potential of household in Pakistan is great, and the investment prosperity of the household industry is promising. Pakistan has a large requirement of household appliance, but the domestic manufacturing capacity is poor. In the fiscal years 2012/13-2016/17, the import of household appliance is increasing. In the fiscal years 2016/2017, imports of refrigerator and freezer, TV set and full-automatic washing machine are about 104.4 thousand US dollars, increasing by 21.82% compared with the last year. As for imported household appliance in Pakistan, 100% security shall be paid to boost local investment by Chinese enterprises. As of March 17, 2017, according to regulations by Pakistan Government, the importers of imported vehicles (complete vehicle or parts), mobile phones, cigarettes, jewelry, cosmetics, individual skin care products, electronic and household appliance, weapons and ammunition, shall pay 100% security when issuing letter of certificates.

In year 2016, Haier Group and Ruba Group cooperated and established Ruba Industrial Park. At present, the household appliance by Haier is leading in local market. Other household appliance manufacturers mirror Haier, with the opportunity of popularity of Chinas products, explore local markets and occupy market shares.

## **(2) Analysis of Foreign Investment opportunities for the Household Appliance Industry of China**

**Table 1-8 Motive power, pressure and capacity for going out of the household appliance industry of China**

Motive power	<p>The Belt and Road Initiative creates new opportunities for household appliance manufacturers;</p> <p>Chinas household appliance manufacturers accelerates worldwide layout;</p> <p>Overseas market shares of Chinas household appliance industry increasing;</p>
	<p>Chinas household appliance industry mirrors various overseas investment modes.</p>

<b>Pressure</b>	<p>In recent years, the production capacity of Chinas household appliance grows slowly;</p> <p>Increasing costs of Chinas household appliance industry;</p> <p>Serious competition in domestic household appliance industry;</p> <p>Serious trade barriers for export of Chinas household appliance industry.</p>
<b>Capacity</b>	<p>Powerful manufacturing industries of Chinas household appliance industry;</p> <p>Well performance of listing companies of Chinas household appliance industry;</p> <p>Broad export of the Chinas household appliances;</p> <p>Enhanced R &amp; D capacity of Chinas household appliance industry.</p>

### (3) Selection and basis for key sub-sectors of the household appliance industry

<b>Types of sub-sectors</b>	<b>Basis for selection</b>
<b>TV sets</b>	<p>Powerful manufacturing capacity of color TV set in China;</p> <p>Limited growth of color TV growth in China, lowered sales;</p> <p>Narrow profit space of TV set enterprises in China;</p> <p>Typical representatives of TV set enterprises in China explored overseas market;</p> <p>Increasing import of TV set in Pakistan, great domestic requirements.</p>
<b>Fans</b>	<p>Powerful fan manufacturing capacity in China;</p> <p>The scale of fan market in China shrinking year by year;</p> <p>Increasing export market for fans made in China;</p> <p>Solid industrial foundation of the fan industry in Pakistan, well developed.</p>
<b>Refrigerators</b>	<p>Powerful manufacturing capacity of refrigerators in China;</p> <p>Export of refrigerators in China keeping stable growth;</p> <p>Typical representatives of refrigerators enterprises of China explored overseas market;</p> <p>Relieving Pakistani's dependence on import of refrigerators;</p> <p>Chinese enterprises mirroring successful experience from Haier, and continuing to explore local potential.</p>

<b>Air conditioners</b>	<p>Powerful manufacturing capacity of China; Increasing export of air-conditioners of China;</p> <p>Typical representatives of air-conditioner enterprises of China invested overseas; Pakistan levies supervision tariff and stimulates localization production by Chinese enterprises. Pakistan has certain manufacturing capacity of air-conditioners.</p>
<b>Washing machines</b>	<p>Powerful manufacturing capacity of washing machines in China; Export of washing machines of China facing pressurized production;</p> <p>Typical representatives of washing machines of China expanded in overseas market; Large-sized washing machines of China based on Pakistan to avoid anti-dumping by Europe and America; Increasing import of full-automatic washing machines of Pakistan, greater requirements.</p>
<b>Small household appliances</b>	<p>Powerful manufacturing capacity of small household appliance of China; Low profit rate of small household appliance of China; Broad export of small household appliance of China;</p> <p>Typical representatives of small household appliance of China explored overseas market; Small household appliance market of China of certain development potential.</p>

### 1.3.7 Packaging / Printing Industry

**(1) Attractive investment opportunities in Pakistan for the packaging/printing industry of China** Pakistan can provide rich human resources for the packaging/printing industry; besides, it is the sixth-largest country in the world by population and its total population is always on the increase. In 2016, the total population of Pakistan is 195 million, with a year-on-year growth of 1.89%. In August of 2017, the preliminary report of the Sixth National Population

Census of Pakistan showed that the total population of Pakistan was about 208 million. The packaging/printing industry is a labor-intensive industry, and Pakistan can offer ample human resources for the packing/printing industry.

It can develop in coordination with the packaging/printing enterprises in Hattar Industrial Zone and Peshawar Industrial Zone. Both Hattar Industrial Zone and Peshawar Industrial Zone have a certain number of packaging/printing enterprises, and Rashakai pSEZ is located in Khyber Pakhtunkhwa province where Hattar Industrial Zone and Peshawar Industrial Zone are also located, so it can develop the packaging/printing industry so as to create the coordinated development effect of industrial cluster together with the packaging/printing enterprises in these two industrial zones.

The import demand for packaging/printing materials of Pakistan increases continuously, and paper and paperboards are the backbone of the printing industry and are the most important materials of the packaging industry, and in recent years, the import demand for paper and paperboards of Pakistan is on the increase. In the fiscal year of 2016/17, the import volume of paper and paperboards of Pakistan was 592,200 tons, with a year-on-year growth of 14.16%; the amount of imports is 528 million U.S. dollars, with a year-on-year growth of 4.56%.

The investment potential of the packaging/printing industry of Pakistan is huge and the printing industry of Pakistan is developing rapidly, and the current printing/packaging industry has become the second-largest industry in Pakistan, second only to the textile industry. Nearly all pieces of packaging and printing mechanical equipment are imported from foreign countries, and every year, Pakistan invests a huge amount of money to meet the increasing demand of packaging/printing products. With the economic development and an increase in per capita income of Pakistan, the packaging industry will face the increasing demand in Pakistan, while the printing industry will flourish with the prosperity of other industries.

## **(2) Analysis of foreign investment opportunities for the packaging/printing industry of China**

**Table 1-9 Motive power, pressure and capacity of "going out" of the packaging/printing industry of China**

<b>Motive power</b>	<p>The Belt and Road Initiative provides new opportunities for "going out" of China's packaging/printing industry;</p> <p>The "Going out" operation of China's packaging/printing enterprises are provided with policy supports;</p> <p>An adjustment in the layout of global manufacturing industry brings new development opportunities to the packaging/printing industry.</p>
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<b>Pressure</b>	<p>With the continuous implementation of environmental protection policies, the packaging/printing enterprises will be under pressure;</p> <p>The export volume of China's printing products are on the decrease;</p> <p>Pakistan initiates the anti-dumping and anti-subsidy investigations for part of printing products of China;</p> <p>The industrial concentration of China's packaging industry is relatively low.</p>
<b>Capacity</b>	<p>China has become the second-largest country of packaging industry in the world;</p> <p>The total production value of China's printing industry is steadily increasing;</p> <p>The income in the main business of enterprises above the printing industry of China is steadily on the increase;</p> <p>China's packaging/printing industry has a batch of stronger enterprises.</p>

### 1.3.8 Mechanical Equipment Industry

**(1) Attractive investment opportunities in Pakistan for the mechanical equipment industry of China** The import of mechanical equipment is the most and constantly increasing in Pakistan and the mechanical equipment is the most important imported product in Pakistan. The amount of imports of mechanical transportation equipment has been continuously increased since the fiscal year of 2012/2013, and the amount of imports in the fiscal year of 2016/17 were 14,999,000,000 US dollars with a year-on-year increase for 30.57%.

The market demand prospect of mechanical equipment is large in Pakistan. Pakistan is a great agricultural country but 85% of cultivated land still adopts the traditional artificial tillage method. The agricultural mechanization level should be improved urgently; Meanwhile, Pakistan is also a country with a large population of Muslim with large demand for food processing machinery. The demand of Pakistan for engineering machinery will be continuously increase with the construction of China-Pakistan Economic Corridor.

Pakistan carries out the tariff-free preference for the import of mechanical equipment and encourages the industrial development. Federal Board of Revenue is determined to carry out tariff reduction and exemption for part of imported mechanical equipment on June 2014 and the government supports the development of mechanical equipment industry.

China's mechanical equipment has been extensively exported to Pakistan. Currently, Chinas leading enterprises of mechanical enterprises such as Sany Heavy Industry, Zoomlion and

XCMG and so on have exported the mechanical equipment products to Pakistan via China engineering construction enterprise in Pakistan.

The traffic of KPK Province where the Rashakai pSEZ is located is convenient. Rashakai pSEZ is located at the central part of China-Pakistan Economic Corridor, which is 70KM from Islamabad, the Capital for 70km in the east, and 40 KM from Peshawar, the prefecture of KPK Province for 40km in the west, adjacent to the middle section of Islamabad Peshawar M1 expressway in the south and can radiate surrounding cities such as Afghan and Iran and so on.

## (2) Analysis of foreign investment opportunities for the mechanical equipment industry of China

**Table 1-10 Motive power, pressure and capacity for going out of the mechanical equipment industry of China**

<b>Motive Power</b>	<p>The national policies encourage and support going out for mechanical equipment enterprises;</p> <p>International capacity cooperation is continuously boosted;</p> <p>The Belt and Road initiative creates new opportunity for mechanical equipment enterprises;</p> <p>Going-out of the mechanical equipment industry is the inevitable option for the industrial development.</p>
<b>Pressure</b>	<p>The export of the mechanical equipment of China is declining generally; The domestic mechanical equipment industry is faced with the transformation and upgrading;</p> <p>Trade barrier and other factors force enterprises of China to seek for emerging markets;</p> <p>The competition of the machinery industry of China is drastic and the corporate profit is relatively lower.</p>
<b>Capacity</b>	<p>The economic operation of the machinery manufacturing industry of China is in good condition;</p> <p>There is a batch of enterprises with international competitiveness in the mechanical equipment industry of China;</p>
	<p>The independent development capacity of the mechanical equipment industry of China is constantly strengthened;</p> <p>The mechanical equipment industry of China possesses the powerful manufacturing capacity;</p> <p>There are numerous listed companies with powerful enterprise strength in the mechanical equipment industry of China.</p>

**(3) Selection and basis of key sub-sectors for the mechanical equipment industry**

Type of Sub-sector	Basis for Selection
<b>Agricultural machinery</b>	<p>The state encourages the development of agricultural machinery industry;</p> <p>The development of the agricultural machinery industry of China is fast and the value of output is constantly improved;</p> <p>The agricultural machinery industry of China is faced with the pressure of exports;</p> <p>The supply of agricultural machinery is insufficient in Pakistan, which demands for the imports;</p> <p>The agricultural development is good in Rashakai is better and the market of agricultural machinery possesses large market potential.</p>
<b>Food machinery</b>	<p>The category of food machinery of China is various with superior quality;</p> <p>The development of the food machinery industry of China is faced with multiple pressure;</p> <p>Going-out of food machinery enterprises of China has been the inevitable trend;</p> <p>The agricultural development in KPK Province where Rashakai is located is better and the market prospect of food machinery is bright.</p>
<b>Construction machinery</b>	<p>The revenue of the construction machinery industry of China was recovered in 2016 and the industrial development is stable;      The construction machinery industry of China is faced with the pressure of exports;</p> <p>The import of construction machinery in Pakistan is constantly increased and the market demand is large;</p> <p>The freight hub and railway terminal project in KPK Province will promote the demand for construction machinery products.</p>
<b>Packing machinery</b>	<p>The revenue of the packing machinery industry of China is constantly increased and the industrial development is better;</p>

	<p>The packing machinery of China has obtained certain overseas market;</p> <p>The development of the food processing industry will promote the demand of Pakistan for the packing machinery.</p>
<b>Printing machinery</b>	<p>The printing machinery industry of China is constantly developing stably.</p> <p>The printing machinery of China has been extensively exported overseas;</p> <p>The printing machinery of China has occupied certain market in Pakistan.</p>

### 1.3.9 Toy Industry

#### (1) Attractive investment opportunities in Pakistan for the toy industry of China

The traditional textile industry of Pakistan provides sufficient textile clothes for the toy industry, and the textile industry is the most important pillar industry and the largest export industry of Pakistan. In the fiscal years 2016/17, the cotton cloth yield of Pakistan is 1.043 billion square meters, increasing by 0.38% compared with the last year.

The total import of toys in Pakistan is increasing, with great domestic demand. From July to March of the fiscal years 2016/17, the import of toys, gaming and sports supplies in Pakistan is 78 million US dollars, increasing by 11.43% compared with the whole fiscal years 2015/16.

The labor costs of Pakistan are very competitive and Labor availability in Pakistan is abundant. The population has been keeping growth since year 2006. The nationwide average month salary of the fiscal year 2014/15 is 14970.70 rupees, (about 147.79 US dollars). The monthly average salary of the manufacturing industry is 13477.76 rupees, about 133.05 US dollars. The industry involves Iran with promising market. In August, 2013, Iran abolished the *Law of Family Planning*, which was enforced for 20 years, and invested 190 billion Riyals (about RMB 100 billion) to encourage childbirth, and set the population grown to 150-200 million.

The domestic toy market potential in Iran is great.

#### (2) Analysis of foreign investment opportunities for the toy industry of China

**Table 1-11 Motive power, pressure and capacity for going out of the toy industry of China**

<b>Motive</b>	Rapid expansion of overseas market scale of toy industry of China;
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<b>Power</b>	Exporting market of toy products of China for developed countries; Rapid expansion of market scales of Asian and Oceanian market for toy of China; Rapid expansion of enterprises for developing export business of toys.
<b>Pressure</b>	Serious market competition of toy industry in China; Poor profits of toy industry of China; Increasing barriers of foreign trade.
<b>Capacity</b>	The toy enterprises seek transformation, and combine with the culture industry; The toy industry of China has cultivated many key enterprises.

### 1.3.10 Consumer Electronics Industry

**(1) Attractive investment opportunities in Pakistan for the consumer electronics industry of China** With the increasing youth population and a huge market potential of consumer electronics in Pakistan, most of the Pakistani population is young, under the age of 30, and the population of this age group is still growing. Taking mobile phone as an example, at present, the market share of smart phone in Pakistan has increased from 30% to 50% in the past two to three years, and there is a huge potential market for consumer electronics products.

There is abundant labor force in the area around Rashakai and the labor force of Pakistan is low-paid. In 2017, Mardan had a population of 2.37 million, accounting for 7.8% of KPK's population, which is the most populous area except for the capital of KPK province. In the fiscal years 2014/15, the monthly average wage of Pakistan was about 148 US dollars, of which manufacturing was about 133.05 U.S. dollars.

China's consumer electronics products enjoy a high popularity in Pakistan. The data show that the market share of OPPO took the second place in the first and second quarter of 2017, followed by MI-ONE. Most of the top 10 market sales in 2016 were almost entirely dominated by Chinese brands.

Pakistan charges 100% deposit against consumer electronics importers, stimulating the local production of Chinese enterprises. In February 2017, Pakistan announced that importers of products including mobile phones, electronics and household appliances, cigarettes and cosmetics should pay 100% deposit for Letter of Credit issued. The total value of imported mobile phones affected by the policy is about 10 million U.S. dollars.

There are also promising markets in the neighboring countries. There is great market potential in neighboring countries of Pakistan. For example, the penetration rate of mobile phone products in Afghanistan has increased from 4.8% in 2005 to 61.6% in 2015; the amount of Iranian consumer electronics products in 2014 has reached 10.8 billion U.S. dollars, and kept growing.

## (2) Analysis of foreign investment opportunities for the consumer electronics industry of China

**Table 1-12 Motive power, pressure and capacity for "going out" of the consumer electronics industry of China**

<b>Motive power</b>	<p>Global consumer electronics market is increasing rapidly;</p> <p>National policies boost the development of consumer electronics industry of China;</p> <p>Some consumer electronics companies of China have taken the lead in "Going Global";</p> <p>China's consumer electronics products have been widely exported; Chinese consumer electronics companies benefit a lot from establishing overseas factories.</p>
<b>Pressure</b>	<p>The smart phone market of China has gradually reached saturation;</p> <p>There is fierce competition in the domestic market;</p> <p>Rising costs and configuration enhancements increase the production cost of companies;</p> <p>Saturated consumer electronics markets in developed countries force companies to explore new markets.</p>
<b>Capacity</b>	<p>The size of consumer electronics market is expanded in China; Consumer electronics industry of China plays an important role in the world;</p> <p>A number of leading enterprises emerged in this industry;</p> <p>Consumer electronics companies of China gradually improve their technological innovation capability.</p>

## (3) Selection and basis of key sub-sectors for the consumer electronics industry

Type of Sub-sector	Basis for Selection

<b>Smart phones</b>	<p>China has a strong capability in manufacturing smart phones;</p> <p>40%</p> <p>The shipment quantity of Chinese smart phone accounts for 40% of the world;</p> <p>Representatives of smart phone companies of China have invested overseas;</p> <p>Pakistan has become a major international market for smart phones with great future potential;</p> <p>Chinese branded mobile phones have occupied a significant market share in Pakistan.</p>
<b>Computers</b>	<p>China has a strong capability in manufacturing computers;</p> <p>There is high concentration of domestic computer brands and small development space for many companies in China.</p> <p>Representatives of computer companies of China have opened up overseas markets;</p> <p>There is a great potential for development of computer market in Pakistan;</p> <p>Pakistani government has taken steps to solve the network problems in remote areas.</p>
<b>Audio-visual equipment</b>	<p>Audio-visual equipment manufacturing industry of China is developing rapidly;</p> <p>The profits of audiovisual equipment industry of China are dropped and profitability is also declined;</p> <p>Some enterprises of China, who engage in audio-visual equipment industry products, have invested overseas;</p> <p>Audio-visual equipment of China has taken a certain market share in Pakistan.</p>

### 1.3.11 Trade and Exhibition City

#### (1) Setting the Basis & Analysis

Level	No.	Basis	Main Description
Pakistan	1	Pakistan's economy is expected to maintain its growth momentum. It is estimated that by 2028, the total GDP will increase substantially.	Pakistan's GDP increased steadily in the fiscal years 2011/12-2016/17, with a rising growth rate. In the fiscal years 2011/12, Pakistan's GDP was 20 trillion rupees (about 224.652 billion US dollars), a real increase of 3.84%,

			and in the fiscal year 2017, Pakistan's GDP rose to 31.86 trillion rupees (about 304.0515 billion US dollars), and the real growth rate rose to 5.70%. Pakistan's GDP is expected to reach 51.90 trillion rupees by 2027/28 fiscal year.
	2	<b>The rapid increase of per capita GDP in Pakistan is conducive to substantially raising the purchasing power of the population.</b>	Pakistan's GDP per capita increases continuously in the period from 2010 to 2016. In 2010, the per capita GDP in Pakistan was 87430.33 rupees, or about 1043.3 US dollars. In 2016, the per capita GDP in Pakistan rose to 150,632 rupees, or about 1,443.6 US dollars, which increases 3.4% year on year. It is estimated that by 2027, the per capita GDP in Pakistan will reach 208,411 Rupees.
	3	<b>Pakistan's large population base and its continued growth provide the space to the consumer market.</b>	Since 2007, Pakistan's population has maintained its growth trend. In 2016, Pakistan's total population was 195 million, which increases 1.89% year on year. In August 2017, the preliminary report of the sixth national census in Pakistan showed that the total population of Pakistan is about 208 million, an increase of 57% over the fifth national census in 1998, and the annual population growth rate is 2.4%.
	4	<b>Pakistan's domestic consumption scale and investment size support its considerable market capacity.</b>	In fiscal year 2016/17, the total nominal consumer spending in Pakistan is estimated at 26.08 trillion rupees (about 248.832 billion US dollars), which increases 11.98% year on year, and accounts 87.22% of nominal GDP.  In fiscal year 2016/17, total domestic investment in Pakistan is estimated to be 4.74 trillion rupees (about 45.25 billion US dollars), which increases 11.1% year on year, and accounts 14.88% of the nominal GDP.
	5	<b>Pakistan's wholesale and retail industry output continued to maintain rapid growth momentum to support the potential of business markets.</b>	In the period from fiscal year 2012/13 to 2016/17, the output value of the wholesale and retail trade in Pakistan continued its rapid growth, and the actual annual growth rate was continuously increasing. By fiscal year 2016/17, the output value of wholesale and retail trade in
			Pakistan increased to 53.289 billion US dollars with a real growth rate of 6.4%, which accounts for 33.19% of service industry output value, and accounts for 18.68% of GDP.



6	<b>Pakistan's trade volume shows that Pakistan has considerable market capacity.</b>	In the 2016/17 fiscal year, total trade in Pakistan was 73.314 billion US dollars, which increases 11.98% year on year. Among them, the amount of imports was 52.910 billion US dollars, which increases 18.41% year on year; the amount of exports was 20.404 billion US dollars, which decreases 1.84% year on year; the trade deficit was 32.506 billion US dollars.
7	<b>Pakistan's import and export commodity structure provides an important reference for business category of business projects.</b>	<p>Pakistan's major export commodities are textiles, foodstuffs, jewelery, chemical products (including pharmaceuticals), leather and its products, medical appliances, cement, sporting goods, engineering equipment, carpets and so on. The amount of export in Pakistan was 20.404 billion US dollars in 2016/17 fiscal year, of which, the export of knitwear was 2.359 billion US dollars, which accounts for 11.56% of the total.</p> <p>Pakistan's major import commodities are crude oil and petroleum products, foodstuffs, transportations, steel and plastic raw materials. The amount of import in Pakistan was 52.910 billion US dollars in 2016/17 fiscal year, of which, the import of mechanical transportation equipment was 14.999 billion US dollars, which accounts for 28.35% of the total.</p>
8	<b>The development basis of Pakistan's transportation and warehousing logistics industry is good.</b>	In 2016/17 fiscal year, the output value of Pakistan's transportation and warehousing logistics was 36.237 billion US dollars with a real growth rate of 3.94%, which accounts for 12.7% of proportion of GDP.
9	<b>The Pakistani government allows foreign investors to engage in wholesale, and the retail trade and the trading environment is relaxing.</b>	Pakistan's policy on foreign investment is very liberal. Foreign investors are allowed to engage in wholesale and retail trade and Pakistan implements its trade liberalization policy. At present, the free trade agreements signed by Pakistan include: <i>The Pakistan-Iran Preferential Trade Arrangements, South Asia Free Trade</i>
		<i>Area Agreement, Pakistan-China Free Trade Agreement, and Pakistan-Malaysia Closer Economic Partnership Agreement; preferential trade arrangements include: The Pakistan-Iran Preferential Trade Arrangements, Preferential Trade Agreement of the Group of Eight Islamic Developing Countries (D-8), and Pakistan-Mauritius Preferential Trade Arrangements.</i>

China	1	<b>The import and export trade volume between China and Pakistan is considerable and maintains a rapid growth.</b>	The trade between China and Pakistan continued to increase. In 2016, the bilateral trade volume between China and Pakistan was 19.33 billion US dollars, of which, China's exports to Pakistan reached 17.23 billion US dollars, China's imports from Pakistan reached 1.91 billion US dollars, China's trade surplus with Pakistan reached 15.23 billion US dollars. The scale of import and export between China and Pakistan is considerable and the trend of rapid growth is maintained. China's trade surplus with Pakistan is constantly expanding, providing an imagination for the establishment and development of an integrated commerce and trade city.
	2	<b>The goods export from China to Pakistan laid a good foundation for the further opening up of the Pakistani market for the goods of China.</b>	China's major export commodities to Pakistan are mechanical equipment, steel and its products, chemicals, electrical and electronic appliances, computer and communications products, fertilizers and agricultural products, among them, the mechanical equipment account for nearly 40%.  The structure of China's exports to Pakistan can be used as an important reference for the operation of the Trade City project. The scale of China's exports to Pakistan shows that Chinese commodities have gained a reputation in the Pakistani market and laid a good foundation for Chinese goods to further opening up the Pakistan's market.
	3	<b>China is Pakistan's largest source country of imports, supporting the strong competitiveness of Chinese goods in Pakistan.</b>	China is Pakistan's largest source of imports of goods. From July 2016 to May 2017, Pakistan imported the goods valued 13.884 billion US dollars from China, which accounts for 28.69% of the total imports, ranking the first place.
	4	<b>Development opportunities brought by the in-depth promotion of Chinas The Belt and Road initiative.</b>	Pakistan is an important country along the line of the Belt and Road initiative. The in-depth promotion of the Belt and Road initiative will help improve the living standards of Pakistani people and improve people's livelihood, resulting in good news to the development of Trade and Exhibition City Project in Rashakai pSEZ.
	5	<b>Development opportunities brought about by the Construction of China-Pakistan Economic Corridor.</b>	The radiation effects of the China-Pakistan Economic Corridor will closely collaborate with South Asia, Central Asia, North Africa, the Gulf Countries and etc. through cooperation in the field of economic and energy to forge economic resonance.

Rashakai	1	Rashakai has a good business foundation.	Prior to construction of the M1 Highway at Rashakai Intersection, this small town, Rashakai, was known for its ShireenKotay apparel market. ShireenKotay is recognized as one of the top apparel markets in the KPK province (and also in Pakistan). Although its size has been expanding, over the years there have been many other fabrics markets in Rashakai, showing that the business foundation of Rashakai is good.
	2	The traffic conditions of Rashakai is convenient, which provides an important transport guarantee for business logistics projects.	Rashakai is close to the Nowshera-Mardan Highway and the M1 Highway Rashakai Intersection. It is about 150 km from Islamabad and only 40 km from Peshawar. Ma-Rashakai intersection provides the convenient channel for Nowshera, Mardan, KPK Province and other regions.
	3	Rashakai can provide a certain hinterland market for the Trade and Exhibition City project.	Currently, the cities around Rashakai such as Mardan, Nowshera, Peshawar and other cities are all lacking in large-scale comprehensive trade projects. The large population of these cities can provide a hinterland market for the Rashakai Trade and Exhibition City project.  KPK Province has a population of 30,523,400 people in 2017, accounting for 14.9% of the total population of the country. Among them, the population of Peshawar is about 4,269,100 people, accounting for 14% of the total population of KPK Province, the population of Nowshera is about 1,520,000 people, accounting for 5% of the total population of KPK Province, the population of Mardan is about 2,370,000 people, accounting for 7.8% of the total population of KPK Province.
Trade and Exhibition City	1	Business Logistics Park is one of the types of overseas parks encouraged by the Chinese government.	The Chinese government has promulgated policies to encourage and support the establishment of the comprehensive trade city outside China, encourage the development of cross-border e-commerce, encourage enterprises to build overseas warehouses, which enhance the motivation for the going out policy of trade and logistics-related enterprises of China.

2	<p><b>Good momentum of development of overseas business projects can increase the motivation for further layout of Chinese enterprises.</b></p>	<p>As of the end of 2016, China has established about 111 trade and commerce cities outside China, of which 40 are in Asia, accounting for 36%; 31 are in Europe, accounting for 28%; 29 are in Africa, accounting for 26%; 11 are in America, accounting for 10%.</p> <p>In the future, the number of China's overseas business and trade cities will continue to grow. The professional companies engaged with business platforms will become the main force of investment in the overseas business and trade cities, and the investment regions will focus on Europe, Africa and Asia.</p>
3	<p><b>Taking the success of Dubai Dragon City as a model to stimulate Chinese enterprises continue to layout the business-type project all over the world.</b></p>	<p>Dragon City, the earliest known as the Chinese goods (Dubai) distribution center, is China's largest overseas trade center of goods collection and distribution.</p> <p>Dubai Dragon Mall lies in about 15 km southeast of Dila old town in UAE's second largest city, Dubai. There are currently more than 3,000 shops, and the commodities include diesel generators, auto parts, screws, buttons, batteries, the categories are various, and the goods shelves are set intensive and ordered, which attract about 65,000 visitors to shopping and business daily. The annual trading volume of commodities in Dragon City up to in the period from 80 billion to 90 billion US dollars.</p>
4	<p><b>Chinas business projects have the layout space in South Asia.</b></p>	<p>So far, China has only one trade city project in the Gwadar Port of Pakistan throughout South Asia, and this project can form linkage and dislocation competition with Rashakai project. There are 15 China Trade Cities in Southeast Asia, including 5 in Vietnam, 4 in Laos, 3 in Thailand, 2 in Malaysia and 1 in Cambodia.</p> <p>At present, the competition intensity of China Trade City projects in South Asia is relatively low. There is a space for the development and construction of China Trade City in Pakistan.</p>

According to the analysis of 25 bases carried out from the four levels, we think that the comprehensive trading city of Rashakai pSEZ has a good value for investment. Under the current background of constructing the China-Pakistan Economic Corridor and the sound development of China's overseas trade and logistics park project, we should take advantage of the opportunities brought by the rapid economic growth of Pakistan, carry out strategic cooperation with China's commerce and trade platform companies, and actively promote the launching of the business and trade projects of Rashakai, to further lay the foundation for the overall development of the projects.

## (2) Study on the environment of competition

Competition Level	Main Aspects	Impact on Trade and Exhibition City in Rashakai pSEZ
Level 1	Overall situation of competition for trade cities outside China	As of the end of 2016, China had set up approximately 111 trade cities overseas. The number of out-of-border trade cities will continue to grow in the future. It is foreseeable that, on one hand, these out-of-border trade cities will compete more fiercely for Chinese merchants; on the other hand, commercial platform-based enterprises are seeking opportunities around the world thanks to their advantages in merchant resources, management experiences, etc. Therefore, there will be a growing number of investment projects related to commercial platforms.

<b>Level 2</b>	<b>Competition from Chinas trade cities in Asia</b>	From a geographical point of view, competitive threats for Trade and Exhibition City in Rashakai pSEZ mainly come from Chinas trade city projects in Southeast Asia and South Asia. For the moment, most Chinese trade cities in Southeast Asia and South Area are targeting local cities. There have not been any regional well-known brands established yet, and the environment of competition is merely adequate. Besides, there are very few Chinese trade cities set up in South Asia only 1 at Gwadar Port of Pakistan. There is still enough space for Chinese trade cities to set foot in.
<b>Level 3</b>	<b>Competition from Pakistan local trade cities</b>	At present, Pakistan commercial activities are mostly carried out in trade cities that are mostly located in Karachi, Lahore and Islamabad. There are some clothing wholesale cities in Rashakai as well, featured in clothing, cloth and daily necessities wholesales, long history and poor shopping experiences.
<b>Level 4</b>	<b>Competition from Linyi Trade City at Gwadar Port</b>	Linyi Trade City at Gwadar Port mainly operate advantageous goods, including building and decorative materials, engineering machinery, hardware and E&M equipment, labor protection articles, work-site living supplies, etc., which may impact the Project to a certain degree.

For Trade and Exhibition City in Rashakai pSEZ, it is suggested to take full advantage of the enormous growing space for commercial activities in Pakistan, and focus on strategic cooperation with Chinese commercial platform-based companies so as to import their

merchant resources and management experiences, introduce E-commerce platforms to guarantee rapid launching and healthy progress of the comprehensive trade city project, as well as to avoid homogenous competition with Linyi Trade City at Gwadar Port.

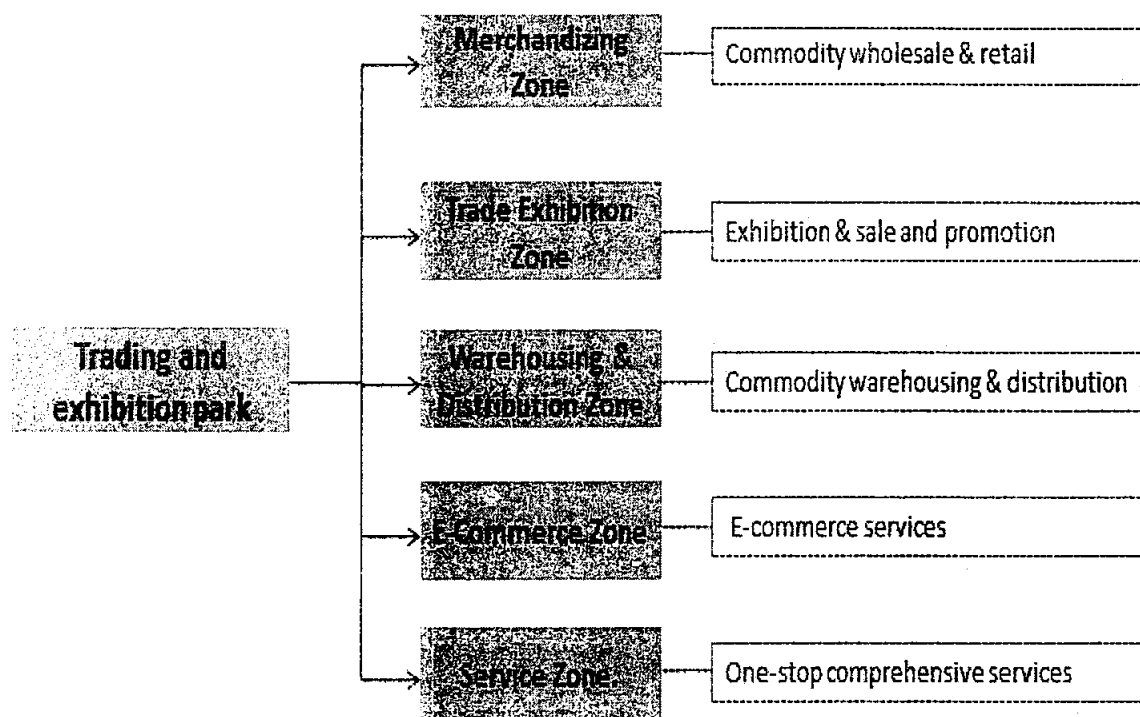
### **(3) Preliminary idea and strategic orientation**

Trade and Exhibition City in Rashakai pSEZ will integrate the product exhibition & sale, warehousing & distribution and online/offline interaction, and become a large commercial complex providing services for product exhibition & trade, wholesale & retail, warehousing and transportation. Trade and Exhibition City in Rashakai pSEZ will rely on the existing achievements of Shireen Kotay and other clothing cities, take advantage of the geographical advantage of being in the proximity of Highway M1, seize the opportunities under The Belt and Road Initiative of China, the development of the China Pakistan Economic Corridor and economic growth of Pakistan to interconnect with three economic zones Hattar, Gilgit and Gwadar Port so as to grow into a nationally reputed commodity trading center of Pakistan.

**Strategic orientation of Trade and Exhibition City in Rashakai pSEZ:** rely on the existing good cloth trading market in Rashakai; integrate advantageous commercial resources of the region; produce radial effects on Islamabad, Peshawar and other neighboring regions; interconnect with all regions within the border of Pakistan, Afghanistan and the Xinjiang Uygur Autonomous Region of China; grow into a comprehensive trade city for product exhibition & sale, warehousing & distribution, and online/offline interaction; and reputed for the full range of commodities and high-class services.

### **(4) Functional division**

Trade and Exhibition City in Rashakai pSEZ preliminarily involves five functional zones: the Merchandizing Zone, the Trade Exhibition Zone, the Warehousing & Distribution Zone, the E-Commerce Zone, and the Service Zone.



### 1) Merchandising Zone

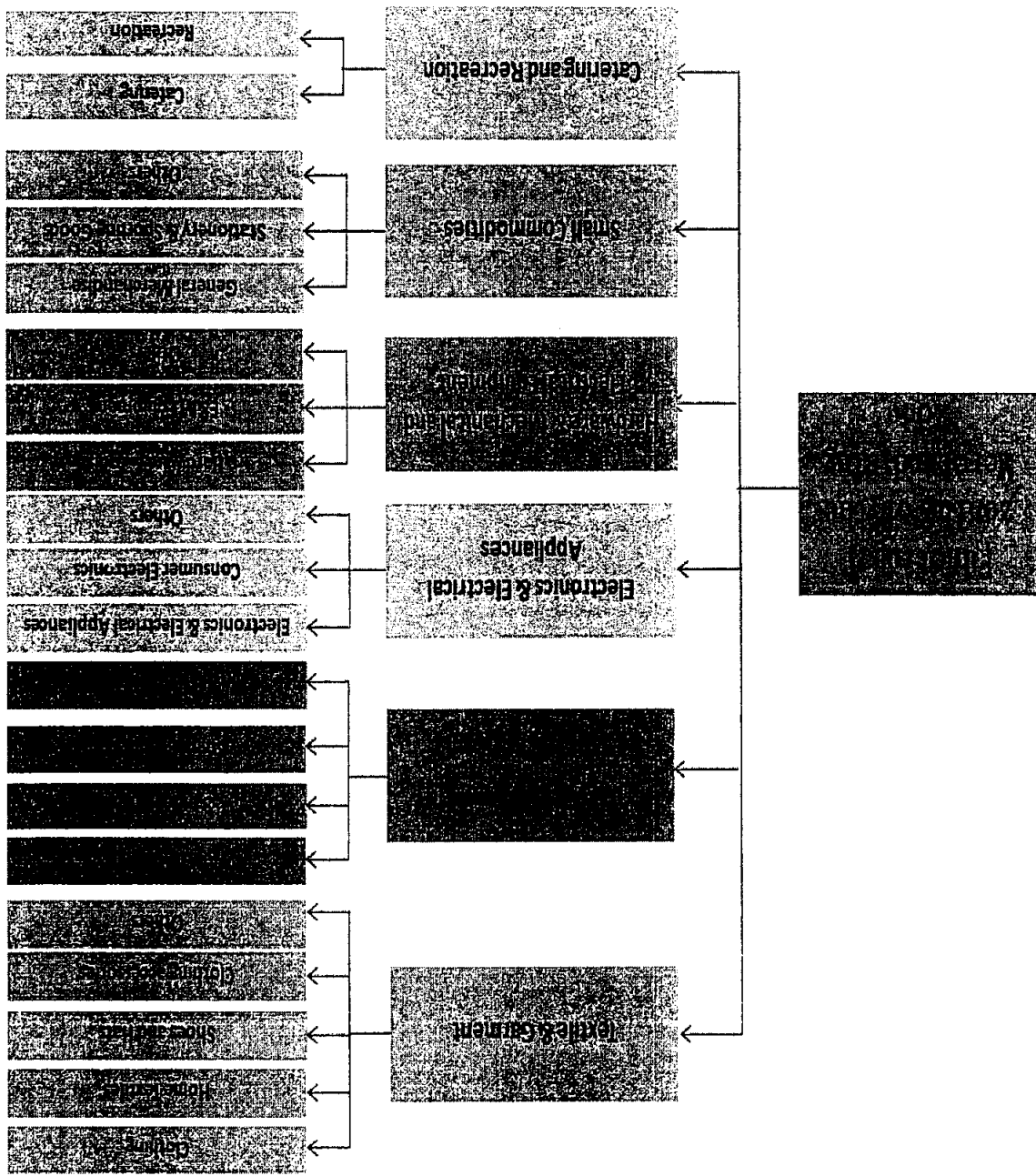
The Merchandising Zone is a commercial complex for commodity wholesale and retail.

Commodities involved in the Merchandising Zone include clothes, home textiles, shoes and hats, clothing accessories, building materials, sanitary ware, furniture, home appliances, consumer electronics, hardware and tools, and other small commodities. In particular, clothes, shoes and hats are mostly locally sourced, while building materials, consumer electrical appliances, home appliances, and hardware, etc. are mainly from China.

Most commodities involved in this zone are of middle and low classes. High-end commodities are occasionally available. Commercial activities are mostly wholesale business with retail playing an aiding role.

Transit commodities are dominant in the Merchandising Zone. The objective is to integrate local advantageous commercial resources of Rashakai and build the area into a nationally well-known commodity trading center in Pakistan, so as to assist in economic and trading exchanges between China and Pakistan and explore the Pakistani and Afghan markets with superior Chinese products.





## **2) Trade Exhibition Zone**

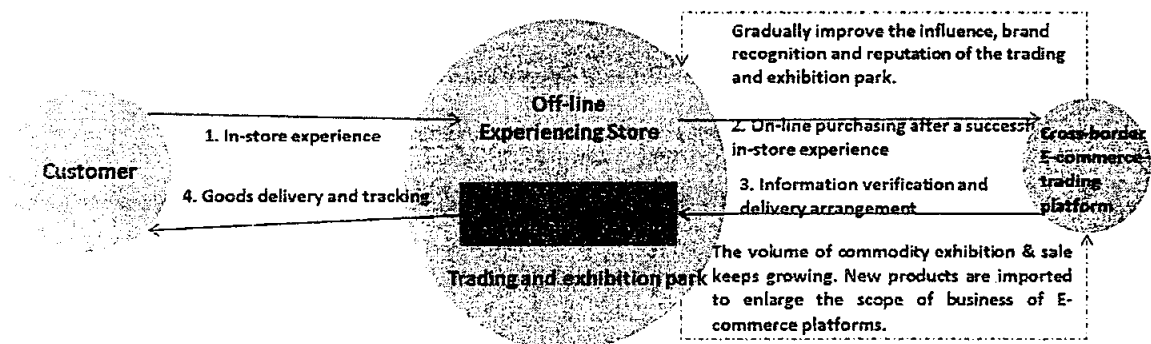
The Trade Exhibition Hall of the Trade and Exhibition City can be used for exhibition. In normal times, temporary merchants are invited to provide recreational services for and sell featured small commodities to customers. The hall can also be used to hold trade exhibitions and product promotion events, etc.

## **3) Warehousing & Distribution Zone**

The Warehousing & Distribution Zone provides services involved in warehouses, sites, storage, keeping, loading, unloading and handling, and goods distribution, etc., mostly standard buildings.

## **4) E-Commerce Zone**

E-commerce platforms are introduced into the zone. The City may cooperate with Chinas E-commerce giants and reputed E-commerce players in the Pakistani market or independently build cross-border E-commerce platforms to become a commodity gathering and distributing center based on close online-offline interaction. The development of E-commerce platforms and the concentration of massive orders can strengthen brand influences and improve actual sale volumes of trade exhibition events. During the positive interaction with E-commerce platforms, players of trade exhibition can continuously expand the scale and enrich the category of commodities based on E-commerce platforms, so as to enlarge the scope of business of E-commerce platforms.



## 5) Service Zone

The Service Zone is established to settle all matters in the City in a one-stop way, and it integrates the management center, finance, insurance, talent cultivation, supporting business services as well as living, recreational and entertaining activities.

### 1.3.12 ICT Sector

#### (1) Supports from internal environment

Level	No.	Basis
<b>Macro-environment in Pakistan</b>	1	The rapid development of macro economy in Pakistan provides good condition for the development of the ICT industry.
	2	The Pakistani government issued the <i>2017 Digital Pakistan</i> , which encourages the development of the ICT industry.
	3	The Pakistani government proposes to boost the development of the ICT industry by incubators.
	4	The Pakistani government promotes the development and planning of high-tech parks to boost the development of ICT Sector.
<b>Development of the ICT industry in Pakistan</b>	1	The information and communication industries develop quickly in Pakistan.
	2	The export value of the IT industry in Pakistan in the

		2016/17 fiscal year hit a record high.
	3	The home market of the IT industry develops fast in Pakistan.
	4	The development of the ICT industry in Pakistan helps reduce the dependence on export of information & communication products.
	5	There are a large number of ICT engineers and technicians in Pakistan.
	6	With a considerable quantity of undergraduates, Pakistan has solid talent foundation for developing the ICT industry.

To sum up, the internal environment for building ICT Sector in Rashakai pSEZ is favorable. The positive factors mainly involve that: the Pakistani government supports the development of the information & communication industry, and issues preferential investment policies; Pakistan has good foundation for exporting software and service, and the market prospect stays promising in future; and Pakistan has a solid talent foundation for developing the ICT industry.

## (2) Supports from external environment

Level	No.	Basis
<b>Environment of the world</b>	1	The ICT industry is under development across the world, with a large market size.
	2	The offshore outsourcing of software and service from Europe and America has a large market size.
	3	Extensive experience in the software industry and software park can be learnt from neighboring countries, especially India.
<b>Environment of China</b>	1	The development index of the ICT industry in China ranks top 10 in Asia-Pacific Region, and the ICT industry sees a stable development in China.
	2	China has many powerful enterprises engaged in the ICT industry.
	3	China has many typical enterprises engaged in the ICT industry and business in foreign countries.
	4	With rich experience in building hi-tech zone, China is positively expanding its share overseas.

	5	Chinese government starts paying attention to the export of soft power through the Belt and Road Initiative.
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To sum up, the external environment for building ICT Sector in Rashakai pSEZ is favorable. The positive factors mainly involve that: the software and information technology service has a large market size worldwide, and the momentum for growth in future is good; the offshore outsourcing from such countries and regions as Europe, America and Japan is large; Chinese government encourages the development of technology-oriented R&D park overseas; many enterprises are engaged in hi-tech park development in China, and they are positively expanding overseas.

## (2) Supports from investment

Level	No.	Basis
ICT Investment in ICT Technology City	1	The ICT Sector is beneficial to obtaining preferential policies from Pakistani government.
	2	The ICT Sector helps the developer negotiate policies with Pakistani government.
	3	The ICT Sector is beneficial to obtaining support and subsidy from Chinese government in future.
	4	The ICT Sector is beneficial to improving the overall image of the Zone.
	5	The ICT Sector is beneficial to promoting the development of supporting sectors in the Zone.

To sum up, the investment for ICT Sector in Rashakai pSEZ is favorable, mainly in favor of obtaining relevant preferential policies from Pakistani government, helping the developer negotiate policies with Pakistani government, obtaining supports and subsidies from Chinese government, improving the overall image of the Zone, and promoting the development of supporting sectors in the Zone. **(4) Judgment if the competition environment**

No.	Competitor	Description	Impact on ICT Technology Cluster in Rashakai pSEZ
1	<b>Technology-oriented R&amp;D Parks invested by China overseas</b>	<p>(1) By the end of 2016, China has invested in about 23 technology-oriented R&amp;D parks overseas, including 7 in USA, 4 in Russia, 2 in UK, 2 in Australia, and 1 in UK, France, Germany, Austria, Belgium, Singapore, Thailand and Pakistan,</p>	Most China-invested overseas technology-oriented R&D parks are located in developed countries, and there are just a few ICT parks. Therefore, the impact there from on

		<p>respectively.</p> <p>(2)The technology-oriented R&amp;D parks invested by China overseas are mainly located in developed countries, and most of them are jointly operated by local high-tech enterprises, scientific research institutions, and universities. The main purpose is to conduct technology-oriented R&amp;D, transformation of research results and talent cultivation.</p> <p>(3)At present, Chinese government encourages and supports the development of technology-oriented R&amp;D parks overseas. The number of China-invested overseas technology-oriented R&amp;D parks will continue to grow in future.</p>	the ICT Sector in Rashakai pSEZ is minimal.
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2	<b>High-tech industrial parks of Indonesia</b>	The Indonesian government attaches great importance to the development of high technologies, and intends to deepen the cooperation with China in the high-tech sector.	Among the neighboring countries, Indonesia is one of the countries to fight for the ICT Technology City against Pakistan, so the impact due to the competition from Indonesian high-tech industrial parks is minimal.
3	<b>High-tech industrial parks of Malaysia</b>	The Malaysian government attaches great importance to the development of high technology sector, and mainly focuses on such sectors as information communication, bio-technology and aerospace.	Among the neighboring countries, Malaysia is one of the countries to fight for the ICT Technology City against Pakistan, so the impact due to the competition from Malaysian high-tech industrial parks is minimal.
4	<b>High-tech industrial parks of Bangladesh</b>	The Bangladeshi government has accelerated the pace of constructing IT industrial park after proposing the <i>Digital Bangladesh 2021</i> . The Bangladeshi government is planned to build 28 high-tech, software and IT industrial parks across the country. So far, 12 high-tech parks have been approved, and 7 are under construction and in planning.	Among the neighboring countries, Bangladesh is a major competitor of ICT Sector of Pakistan, so it has certain impact on the ICT Sector in Pakistan.

5	<b>High-tech industrial parks of India</b>	International Tech Park Bangalore is a well-known technology park in India. India has stronger ICT industry base than Pakistan and the number of technology park continues to grow in India.	Among the neighboring countries, India is a core competitor to Pakistan for developing ICT park. India has good foundation for ICT industry development. The International Tech Park Bangalore has gained certain reputation in the world. So the competition from Indian ICT Sector is fierce.
6	<b>High-tech industrial parks of Pakistan</b>	At of 2016, 14 ICT technology cities have been built in Pakistan, and the most typical ones are Aiwan Iqbal Software Technology Park, Sand River Complex Software Technology Park and Evacuee Trust Software Park. Pakistani government plans to build at least one state-of-the-art software technology park in major cities (federal and provincial capital cities) in Pakistan in future, to promote the innovation and coordination in the ICT industry in Pakistan.	The construction of the software and IT industrial park in Pakistan is at the starting stage, and will turn into a rapid development with policy support from Pakistani government. The number of software and IT industrial parks will continue to grow, and the IT industrial parks in Pakistan will face increasingly fierce competition.

To sum up, the ICT Sector in Rashakai pSEZ will face great pressure of



competition. For one part, there is fierce competition from the core competitive country India, and for another part, there is competition from increasing software and IT industrial parks in Pakistan. However, the good thing is that the information and communication industry in Pakistan has noticeable advantages in salary level, the software and IT industrial park in Pakistan is still at the starting stage, and the involvement from Chinese counterpart will speed up the establishment and development of ICT Sector Project in Rashakai pSEZ.

#### **(5) Strategic orientation**

Strategically, the ICT Sector aims to achieve the win-win cooperation between China and Pakistan in the ICT industry and focuses on the outsourcing of software and information services. Centering on the R&D and manufacturing of ICT-related products and equipment, the ICT Sector will fully integrate the resources from the market both in and outside Pakistan, and mainly attract ICT scientific research institutes, software and service outsourcers as well as relevant products manufacturers, and also attract IT business groups and Pakistani universities and colleges to set up R&D base in the Zone. Its major market covers such countries and regions as Europe and America, Middle East, South Africa and China that outsource software and IT services. The ICT-related products and equipment produced will mainly be sold in the domestic market of Pakistan. Efforts will be made to build the ICT Sector in Rashakai pSEZ into a flag project of the ICT Industry International Cooperation between China and Pakistan under the China-Pakistan Economic Corridor.

#### **(6) Type of services**

The ICT Sector in Rashakai pSEZ is mainly involved with these services: software and information service, production and processing of ICT-related products and equipment, ICT technology R&D, ICT entrepreneurship incubator, and teaching-research training base, etc.

### **1.4 Development phase and scale prediction**

#### **(1) Development phase**

Through the specific analysis of each proposed subsector to be settled in the project, considering the present situation and demand of adjacent industrial facilities in the KP Comprehensive Special Economic Zone, and development and construction status of the surrounding areas, this project is proposed to be developed in three phases with introduction of corresponding sectors at the appropriate time. Meanwhile considering the

long-term elasticity development and according to the future development of the whole region, recovery and functional conversion for preliminary used land can be conducted.

## **(2) Scale prediction**

It is estimated preliminarily that the land demand for the industrial park in the Project is about 1,002.76 acres.

It is estimated that the total land for the Phase I development and construction of the Project will be about 247.21 acres.

It is estimated that the total land for the Phase II development and construction of the Project will be about 355.74 acres.

It is estimated that the total land for the Phase III development and construction of the Project will be about 399.86 acres.

In summary, the total land demand for this project is 1,002.76 acres.

# **Chapter II Overall Layout Planning**

## **2.1 Project location and construction conditions**

### **2.1.1 Project location**

Rashakai pSEZ is adjacent to Kernal Sher Khan interchange on M1, which is the main motorway linking Peshawar with Islamabad and CPEC alignments. Rashakai pSEZ is 30 km from Mardan in the north, 35 km from Nowshera in the south, 40 km from Peshawar in the west, and 150 km to Islamabad in the east, which enjoys a unique location advantage. Rashakai pSEZ is located in the northwest of Hattar SEZ, where the linear distance is about 73 km.

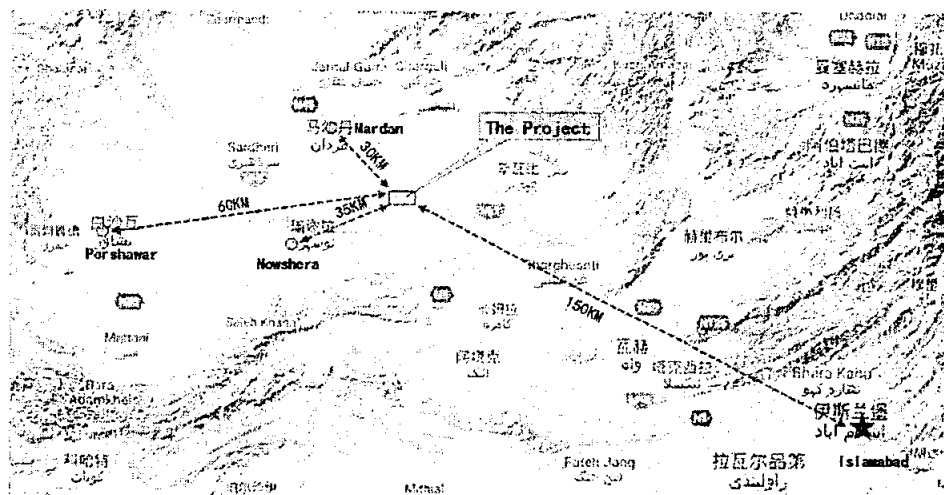


Fig.2-1 Project location map (Macro)

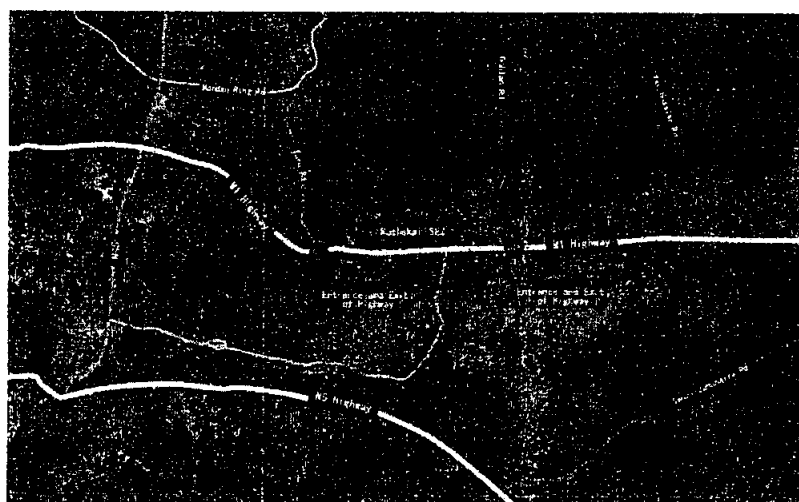
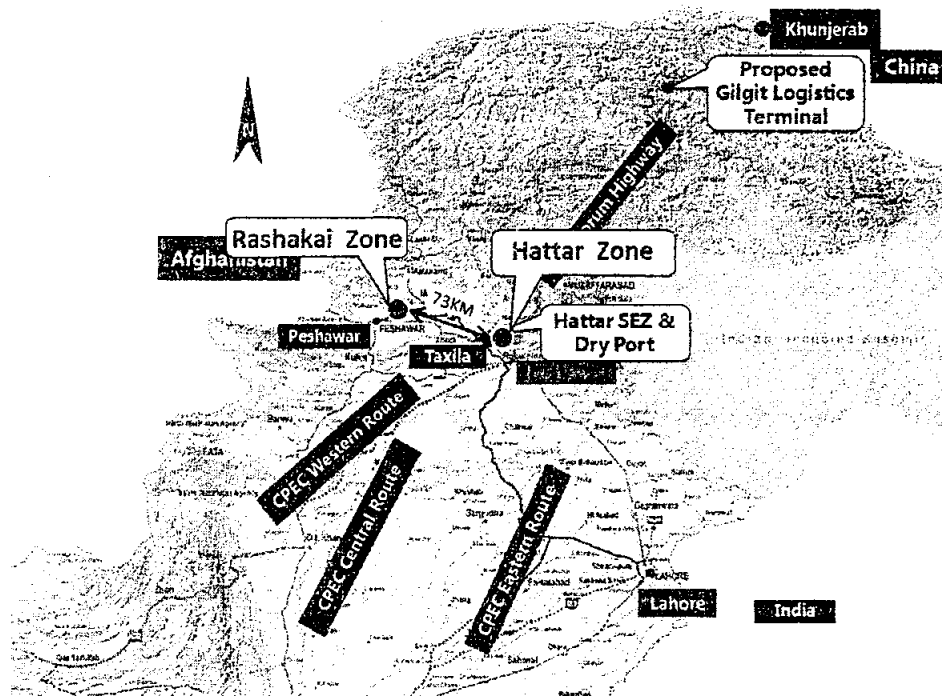


Fig.2-2 Project location map (Micro)



**Fig.2-3 Rashakai pSEZ versus Hattar SEZ relative position**

The project site adjoins to M1 motorway to the south, it is 3.1 kilometers away from highway interchange to the east outlet, 2.3 kilometers away from highway entrance to the west outlet, and auxiliary road on the west side connected to the M1 is closed. The land used in the plot is relatively flat, and there is river passing through the central area vertically. The total planned area is around 1000 acres (about 4 km<sup>2</sup>).

## **2.1.2 Site Status introduction**

### **(1) Climate**

The project site has mild climate. May, June, July and August are the hottest months. The temperature in summer from May to September is high, but the nights are relatively cool. The highest temperatures throughout the year are in May and June. December and January are the coldest months. The highest and lowest average temperatures in summer are 41.5°C and 36.6°C, respectively, and 19.3°C and 17.9 °C in winter, respectively. The rainfall is mainly in July and August. The average annual rainfall is about 597.6 mm, and the annual relative humidity is 60.1%. The highest rainfall record is in August, with an average of 112 mm. At the end of cold weather, there are occasional thunderstorms and hailstorms. The relative humidity throughout the year is high. The driest month is October, and precipitation difference between the wet and dry seasons is 99 mm.

## (2) Soil and geology

The surrounding area of the site is sandy soil, and water can penetrate quickly. This type of soil has a high permeability and helps prevent flooding. Most of the land on the north side of the site is fertile plain. There are some gravel sandstones and some gravels below the estimated water level inside the site. These are good materials for building tube wells.

## (3) Natural environment

The terrain of the Project area is relatively smooth and is comprised of cultivated land, forest land, construction land for towns and villages and water area. More than 80% of Project land is cultivated land. In the northwest and southeast of the Project area, there is forest land and a small built up area. Kabul River is located at the west of the project.

There are three seasonal streams. The natural ecological environment is relatively good. There is no municipal infrastructure available around the site, and the nearest municipal pipe network is Mardan which is 10 Km away. As there are rare residences in the Project area, thus it will be easy to remove and relocate the structures on the project area. The current status of project area is divided into four major categories, including village and town construction land, cultivated land, woodland and water area.

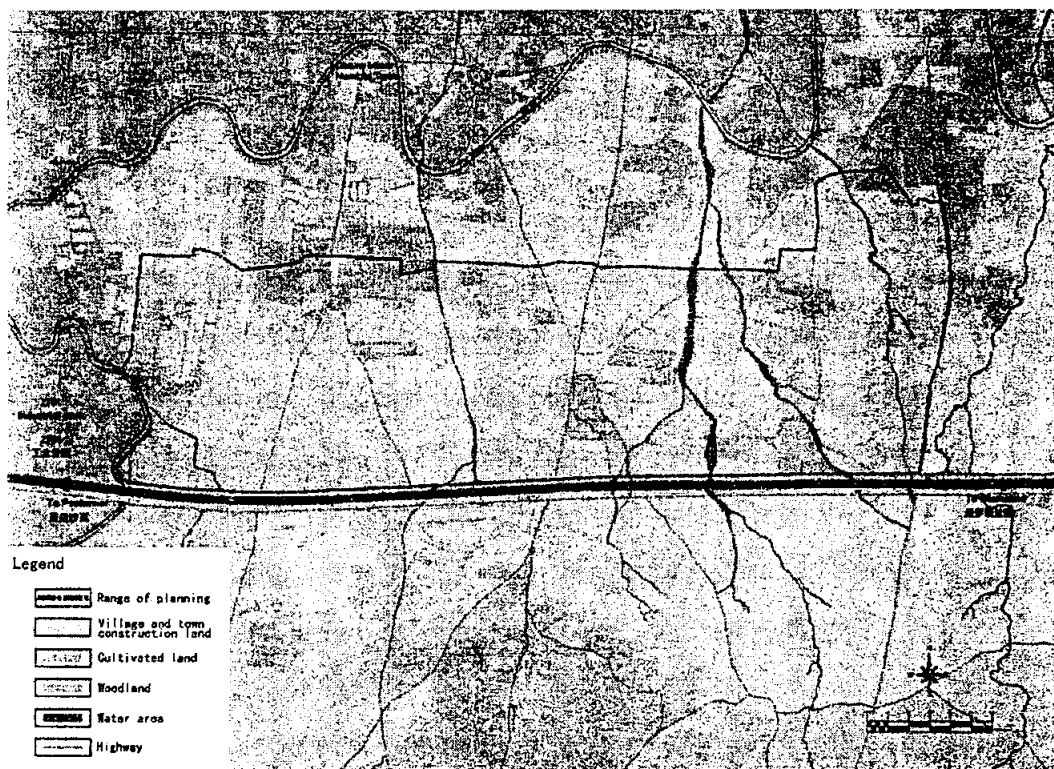


Fig.2-4 Land Use Status Map

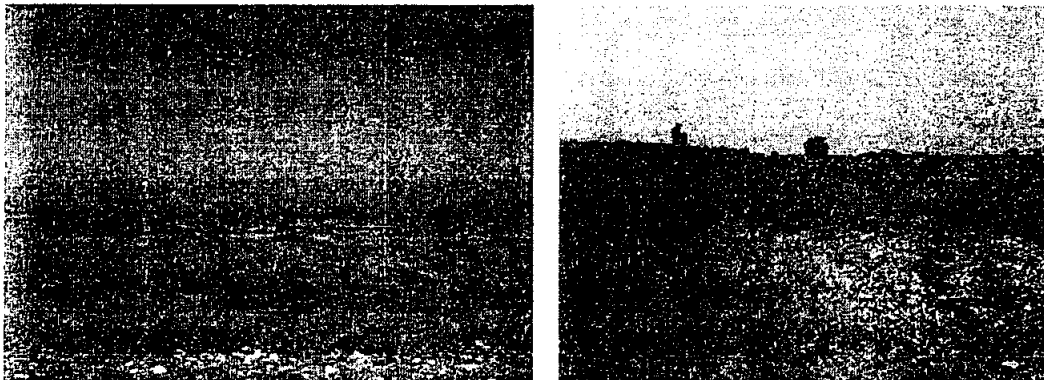


Fig. 2-5 Site picture

## 2.2 Overall planning

### 2.2.1 Planning concept

Through analysis of regional macro environment and internal resource advantages, the general orientation of the project has been developed.

According to the regional industrial orientation and other planning research guidelines, it selects the concerned industries and spatial layouts, implement the planning and design, take advantage of each industry, maximize to use the space resources, promote coordination and sustainable development of the industries, to rationally allocate and guide the industry development.

After completing the industry position analysis and spatial layout, the supporting facilities and service system are properly developed to achieve the overall sustainable development.

### 2.2.2 Planning principle

#### (1) Ecological and environmental protection, economical and reasonable

Kabul River is at west side of this project where there are also three seasonal streams in the project area. Over 80% area is cultivated land with woodland scattered inside. The current natural resource and conditions are very superior. Thus, this planning scheme will give first priority to environment protection, and take ecological concept to plan the project. It will fully take into consideration the current landform and river system. The project may also consider the aesthetics and fully utilize the beautiful scenery of the area through protection and utilization of water system and neighboring ecological resource and environment. While adhering to environmental protection and resource conservation, it

shall also emphasize the compact layout, reasonable utilization of land, efficient utilization of existing resources to realize the optimization of investment economic benefits.

## **(2) High congruence in policies between China and Pakistan**

China Pakistan Economic Corridor plans “1+4” cooperation layout focusing on the cooperation Gwadar port, energy, transportation infrastructures and industrial parks. It encourages both countries to cooperate in infrastructure, energy, telecommunication, manufacturing, agriculture, textile, etc. On one hand, this project will introduce China's advanced manufacturing and telecommunication sectors and establish power plant and other infrastructures; on the other hand, it would establish the commercial and trading logistic center by taking advantage of geographic location on CPEC, which is in compliance with the national policy and will ensure the smooth implementation of the project.

## **(3) Integrity of standardization and customization**

At the initial stage, it plans to establish a series of large, medium and small sized standard workshops, which is in favor of attracting various small sized enterprises at first. In the later stage, in order to attract international famous enterprises of certain sectors, professional and customized services will be provided to these enterprises, which would meet the special requirements of leading enterprises. With combination of standardization at initial stage and customization in the middle and later stage, it can not only be conducive to promptly initiate project at the initial stage, also promote the project to transform and upgrade to high value added and high tech sectors in the middle and later stage.

## **(4) Combination of guiding control and flexible development**

On one hand, based on the analysis of national and local policies, environment, industrial development status, space advantage, conditions and development vision, decide the industry development orientation and priority in the future, and then guide and control the industry development. On the other hand, it may reserve some flexible development space through constructing standard workshops at initial stage, which can facilitate investment attraction and initiate the project at early stage. Through combination of guiding & control and flexible development, it would ensure to promptly launch the project at early stage and ensure the sustainable development.

## **(5) Combination of viability and perspective sight**

Fully integrate with local social economy, human resource and space conditions, etc. to guarantee the viability and maneuverability; meanwhile, introduce China's advanced

design and construction concept to guarantee its progressiveness and perspective sight, build a first-class modern high-tech industrial zone of international standard.

### **2.2.3 Design concept**

#### **(1) General orientation**

The Project will integrate the advantages and featured resources of KPK Province in a rational manner, sufficiently bring the strategic synergy effect and other projects into play, and place special emphasis on building differentiated sub-zones such as ICT industrial park, trading and exhibition park, etc. to build a constantly upgrading and optimizing flagship complex of emerging industries led by modern comprehensive industrial parks along China-Pakistan Economic Corridor covering deep processing of metal smelting and processing, automotive, mechanical equipment, household building materials, food processing, household appliances, consumer electronics, textile & garment, and leather etc. DEVELOPER will take the lead to offer substantial one-stop comprehensive services to enterprises in the Zone.

#### **(2) Core concept: industrial priority, creating excellent investment environment to be demonstrative regional industrial park**

To fully utilize all the existing resources, lead and explore the future regional development and properly plan the industrial layout, the advantageous industry and key industry are developed in a collective way to promote population gathering, create good environment in terms of industrial development, transportation, ecological environment. It shall also attract settlement or visit of enterprises, clients and businessmen, greatly increase regional GDP, create more job opportunities so as to lead the future development of industrial park and the region at large.

### **2.2.4 Spatial layout**

#### **(1) Structure planned: One axis, three areas, three belts, three cores and multiple corridors.**

The overall function of the Zone is composite commercial and trading, processing, manufacturing, warehousing logistics with corresponding production and living support facilities, and according to the current land use conditions and the corresponding industrial orientation, it is planned with the functional structure of 'One axis, three areas, three belts, three cores and multiple corridors.



One axis: Main axis of industrial and space development in east-west direction which connects all areas and guides the expansion of industrial space in east-west direction;

Three areas: they are three functional clusters divided by the current water system along the east to west. The central cluster is to develop heavy industry, eastern and western clusters focus on the development of light industry.

Three belts: industrial and space development belts in north and south direction along the main road which guides expansion of industrial development space in north -south direction longitudinally.

Three cores: three industrial and space development cores created at junction of east-west development axis and north-south development belt to guide the inner space development of the zone;

Multiple corridors: natural landscape corridors along water system through the base which beautifies park environment on the basis of reserving the current status to establish a working and residential friendly multifunctional complex industrial zone.

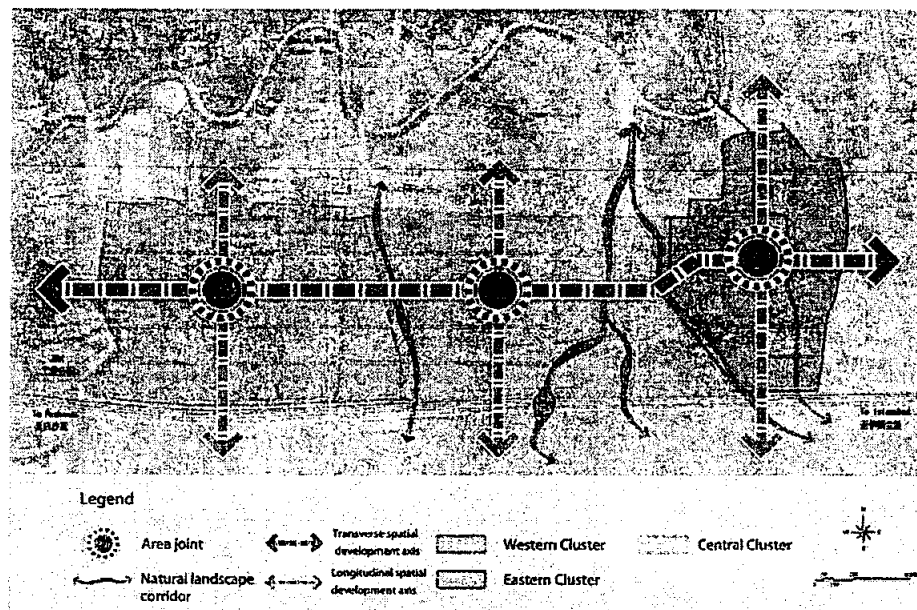


Fig. 2-6 Space structure planning diagram

## (2) Land planning

The total planned area of the Zone is 1,002.76 acres.

Following is the land use;

## Land Use Plan Composition

Land code	Land Use	Land Area (Acra)	Land Area (%)
M1	Class I industrial land	581.41	57.98
M2	Class II industrial land	120.51	12.02
R1	Class I residential land	0.49	0.05
A1	Administrative land	0.74	0.07
A4	Sports facility	0.52	0.05
A9	Religious land	0.62	0.06
B1	Commercial land	76.48	7.63
B41	Refueling station land	2.15	0.21
S1	Road	122.54	12.22
S4	Traffic station land	2.27	0.23
U12	132/11 kV Grid Station	6.18	0.62
U21	Effluent Treatment Plant	12.47	1.24
U22	Solid Waste Station	2.11	0.21
U31	Firefighting Station	0.72	0.07
G1	Green land of park	57.24	5.71
E1	Water area	16.29	1.62
<b>The Total Land</b>		<b>1002.76</b>	<b>100.00</b>

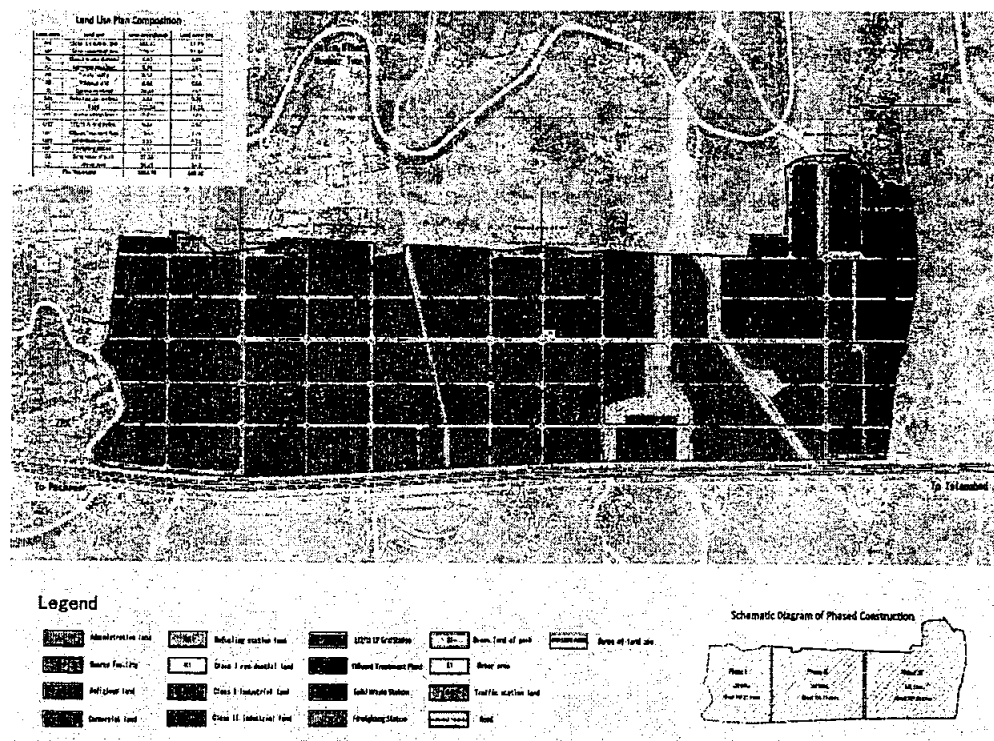


Fig. 2-7 Land Use Planning Map

### (3) Industrial layout

The land scales are predicated and development sequence is proposed as per industrial report so as to conduct spatial layout of each sector.

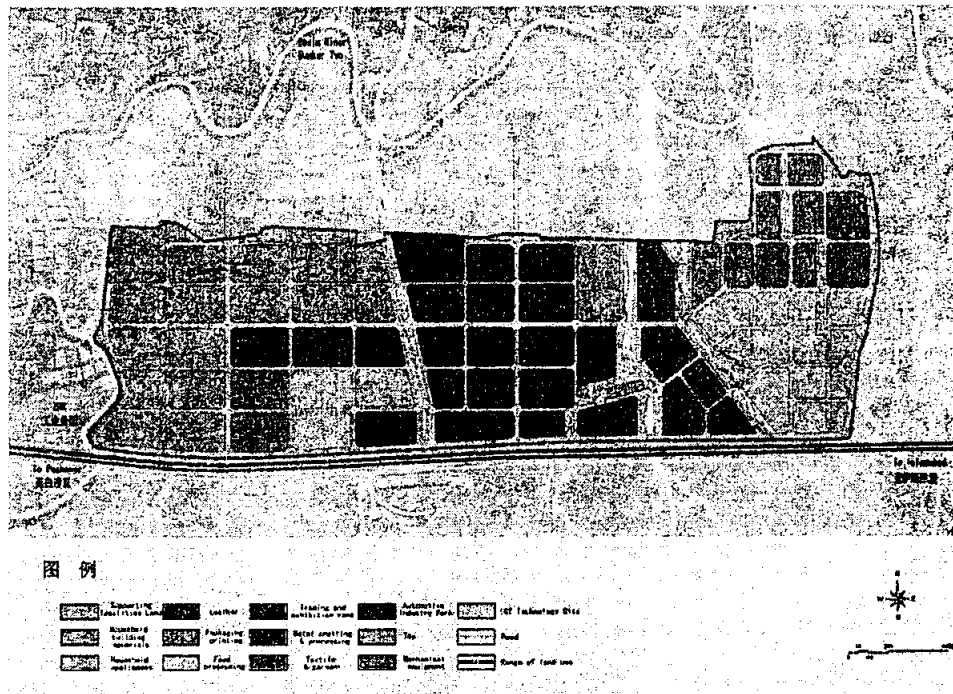


Fig. 2-8 Industrial layout

## 2.2.5 Road system planning

### (1) Planning objectives:

Establishing a sustainable integrated transport system ;

Building a highly-effective and convenient external transportation system to ensure the successful development of the Park;

Building road network systems with reasonable structure and improved functions.

### (2) External traffic planning

Firstly, it is planned to connect and transform the highway auxiliary road which is connected with the entrance and exit of the M1 Highway on the eastern and western sides, and to connect with the auxiliary road along the western side of the highway. It is recommended to improve the ramp at the entrance and exit of the highway, so as to ensure the successful passage of mass freight traffic in the future. The auxiliary road and ramp along the highway on the east side is proposed to be upgraded to serve as the main external communication channel for the project at early stage.

Secondly, it should be considered to introduce highway entrances and exits during the construction of phase II work of the Park. A highway entrance which is directly connected to the M1 Highway will be built in the middle of the Park, so as to guide external vehicles driving into the park for passenger and freight diversion, but also serves an important guarantee for the development of logistics transportation in the future.

### **(3) Internal road planning**

#### **1) Road structure**

The arterial road on the southern side is the main outgoing road, and the arterial road system of "one horizontal and three vertical" is formed within the Park. An M1 Highway auxiliary road will be constructed in the south to the project land and serves as the arterial road in the Zone. It is convenient for external traffic connection and favorable for full use of roads. Efforts shall be done to build a ring arterial road system, so as to form an arterial road network of "one horizontal three vertical" within the Zone and serve internal divisions. Import road traffic facilities along the collector road in important blocks should be improved.

A branch network of reasonable density should be established.

#### **2) Road classification**

The roads in the planning area are divided into three grades: arterial road, collector road and branch road.

The arterial road is the traffic arterial road where bears the connection between functional areas and the Park and the outside area, with restriction line 24m wide, including 16m-wide two-way four lanes.

The collector road is secondary road within and between functional areas and also used to connect branch roads to arterial roads. Such road can partially relieve the traffic pressure from arterial road, with restriction line 17m wide, including 9m-wide two-way two-lane. Branch roads mainly undertake internal traffic connection within functional area with a 15m-wide restriction line.

The total length of the planned road is about 35.9 km, of which the main road is 13.8 km, the secondary road is 7.1 km, and the branch road is 15.0 km.

#### **(4) Road vertical planning**

As per the road design specifications, it should be ensured the longitudinal gradient of roads is greater than 0.3 ‰, less than 5%.

This plan makes full use of the current terrain to set up the road longitudinal slope.

Longitudinal slope of roads is planned between 0.5% ~ 3%, which meets the drainage requirements and vehicle driving comfort.

#### (5) Parking lot

According to this plan, no centralized parking lot is established in the Park. Separated parking lots will be constructed in the development stage according to respective demands.

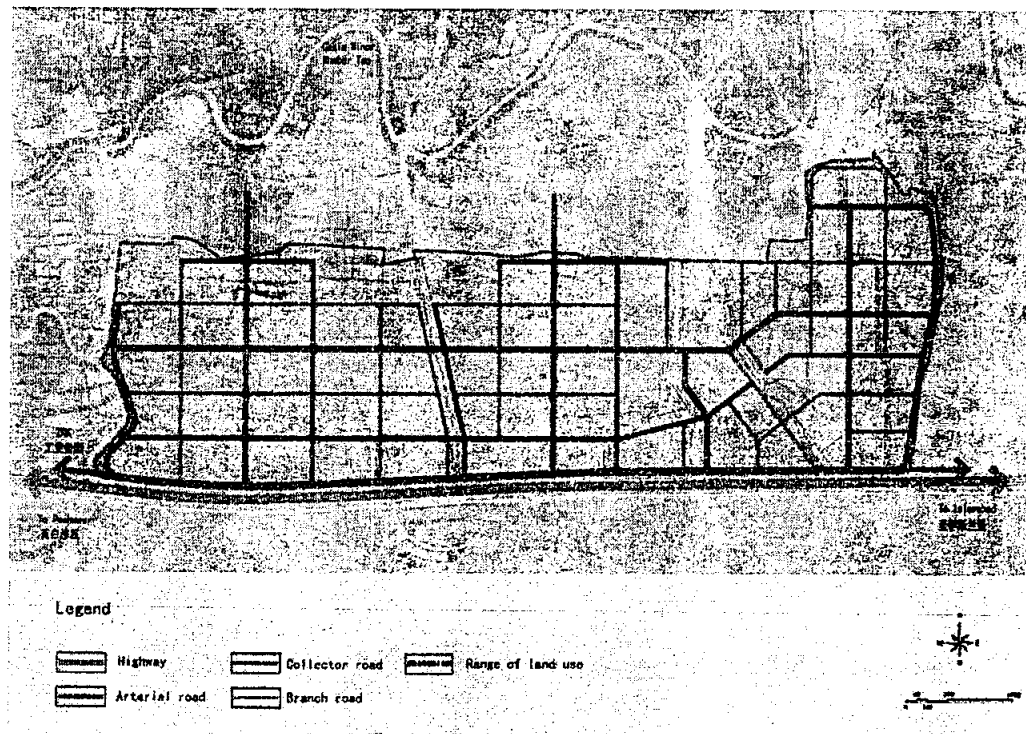


Fig. 2-9 Road system planning diagram

### 2.2.6 Project planning sequence

According to the recommendations in the Project Industry Report, the site will be divided into three phases for development. Combining with the existing development conditions of the land and the leading role of the Phase I of the Project, it is proposed to adopt the strategy of developing in phases from the middle to the two sides.

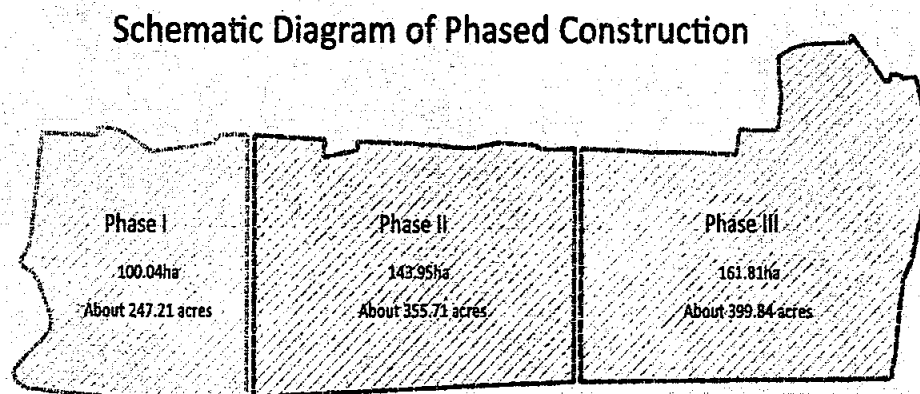
The Phase I covers approximately 247.21 acres, focusing on the development of metal smelting and processing, automobile industrial parks, textile and apparel and integrated trade center, with the construction of necessary facilities and surrounding roads to offer the basic operating conditions. The Phase II covers approximately 355.74 acres, focusing on home building materials, household appliances, food processing, leather and packaging/printing, aiming at the improvement in the manufacturing industry. The Phase III

coves approximately 399.86 acres, focusing on the development of machinery and equipment, toys and ICT Sector, promoting the industrial park to a higher industrial level.

#### **Main basis for development sequence**

Priority shall be given to the development of land with convenient transportation facilities and sound site conditions according to the land conditions. Compared with the eastern part of the Base, the western part has gentle slope and contains no water system, therefore, site leveling involves less excavation, bringing about less difficult in the preliminary development phase but conducive to saving investment, thus obtaining greater profits for KPEZDMC.

Successful operation of the phase I works will lay sound foundation for the full use of the land. Subsequently, appropriate measures will be taken to explore the land with unsound site conditions and the park will be developed as a whole.



**Fig.2-10 Phased construction plan**

#### **(1) Phase I project**

The Phase I project will focus on the development of metal smelting and processing, textile and apparel, automobile industrial park and Trading and exhibition zone.

The total area of Phase I will be 247.21 acres.

## **(2) Phase II project**

The Phase II project focuses on the development of home building materials, household appliances, leather, food processing and packaging/printing industries. The total area of Phase II will be 355.74 acres.

## **(3) Phase III project**

The Phase III project focuses on the development of toys, machinery and equipment and ICT science & technology park. The total area of Phase III will be 399.86 acres.

**Table 2-2 Rashakai Zone Stage Development Indicators**

Phase	Sector	Total Area ('0,000 m <sup>2</sup> )	Percentage in Area of Each Phase (%)	Percentage in Total Area (%)	Total Area of Each Phase (hm <sup>2</sup> )
Phase I	Metal smelting and processing	48.03	30.75	11.81	156.20
	Textile and apparel	12.82	8.21	3.15	
	Automotive industry park	34.30	21.96	8.43	
	Trading and exhibition zone	4.93	3.16	1.21	
	Land for power supply facilities	8.06	5.16	1.98	
	Firefighting	0.28	0.18	0.07	
	Medical facility	0.28	0.18	0.07	
	Administrative land	0.25	0.16	0.06	
	Masjid	0.25	0.16	0.06	
	The training center	0.25	0.16	0.06	
	Sports facility	0.21	0.13	0.05	
	Water area	4.75	3.04	1.17	
	Green space	15.63	10.01	3.84	
	Road	26.16	16.75	6.43	



<b>Phase</b>	Home building materials	49.49	32.78	12.17	<b>148.94</b>
<b>II</b>	Household appliances	29.41	19.48	7.23	
	Leather	14.87	9.85	3.66	
	Food processing	15.43	10.22	3.79	
	Packaging/Printing	10.68	7.08	2.63	
	Truck terminal	1.10	0.73	0.27	
	Refueling station	0.87	0.58	0.21	
	Drainage land	2.79	1.85	0.69	
	Green space	3.10	2.05	0.76	
	Road	23.25	15.40	5.72	
<b>Phase III</b>	Toys	3.72	3.74	0.91	<b>99.55</b>
	Machinery and equipment	28.00	28.12	6.88	
	ICT Technology City	33.04	33.18	8.12	
	Disposal Station	1.69	1.70	0.42	
	Water area	2.35	2.36	0.58	
	Green space	12.05	12.10	2.96	
	Road	18.70	18.78	4.60	
<b>Total</b>	-	<b>404.69</b>	-	<b>100.00</b>	<b>404.69</b>

## Chapter III Construction Scheme

### 3.1 Construction contents

#### (1) Construction contents

Construction contents of this Project consist of two parts:

- 1) Public facilities: including municipal supporting facilities and roads in the Park;
- 2) Park development: including the management building (built by the developer) and factory buildings/warehouses (built by enterprise), supporting offices and supporting businesses.

### 3.2 Technical proposal

#### 3.2.1 General layout

The general layout of the park fully embodies the status quo of the landform and surrounding traffic conditions. The trading and exhibition park is arranged in the south of the base, close to Peshawar and Mardan. ICT Sector is adjacent to the M1 Expressway. The supporting service zone stays in the center to ease the surrounding industrial population. The processing and manufacturing industry is arranged in a relatively separate place in the north and west of the site to avoid interferences to other functional zones. The whole site falls into three functional clusters by the current conditions and industrial types.

In terms of the overall functional zoning, all industrial clusters follow the principle of "centralized arrangement for related industries, and proper isolation for special industries". In the park, the functional zones for light industries are appropriately separated from those for heavy industries. Moreover, light and heavy industries are properly separated from other industries.

For each cluster, the land is divided and arranged by the type of industry and the scale for construction.

**Western Cluster:** focus on the development of industries involved in household building materials, household appliances, food processing, leather, and packaging / printing, etc.; plan and arrange the industrial land of classes I and II.

**Central Cluster:** focus on the development of the metal smelting & processing, automotive industry park, textile and garment industry, Trade and Exhibition City; plan and arrange the industrial land of classes I and II. This cluster also considers a reservation of about 19.76

acres of land for constructing a power plant. To avoid interferences from construction of the power plant to the surrounding land, the power plant will be arranged in a relatively separate place in the northeast, close to the water system of the garden.

**Eastern Cluster:** focus on the development of mechanical equipment, toy industry and ICT Sector; plan and arrange the land for commerce, business, education and scientific research, and type-I and II industries.

### **3.2.2 Construction program**

#### **(1) Construction scale**

The Project covers 4,067,000m<sup>2</sup> in total, and the management building to be built by the developer covers 700 m<sup>2</sup>. The Project is divided into three phases. The Phases I, II and III cover 1,562,000 m<sup>2</sup>, 1,510,000 m<sup>2</sup> and 995,000 m<sup>2</sup>, respectively.

#### **(2) Design concept**

This Project will follow the following architectural design concepts:

All buildings shall be designed according to the geological location of the Project. Buildings should be designed in the principles of "practical, economic, beautiful and people-oriented", and to ensure each functional area is set up reasonably to avoid mutual interference.□

Subject to functional requirements, the design scheme is required to be technologically-reasonable, cost-effective, safe and reliable.□

Building design scheme shall meet the requirements of fire safety, ventilation, lighting, energy saving, environmental protection.□

#### **(3) Architectural style**

Pakistan is one of the coldest and hottest countries in the world and has a long and uninterrupted architecture history, with mountains, green valleys, boundless desert and long coastlines. Such country's modern architecture falls into two main trends: one is established based on local materials and design language; the other comes from international style using modern technology, concrete, glass and aluminum cladding. Modern architecture occupies a dominant position.

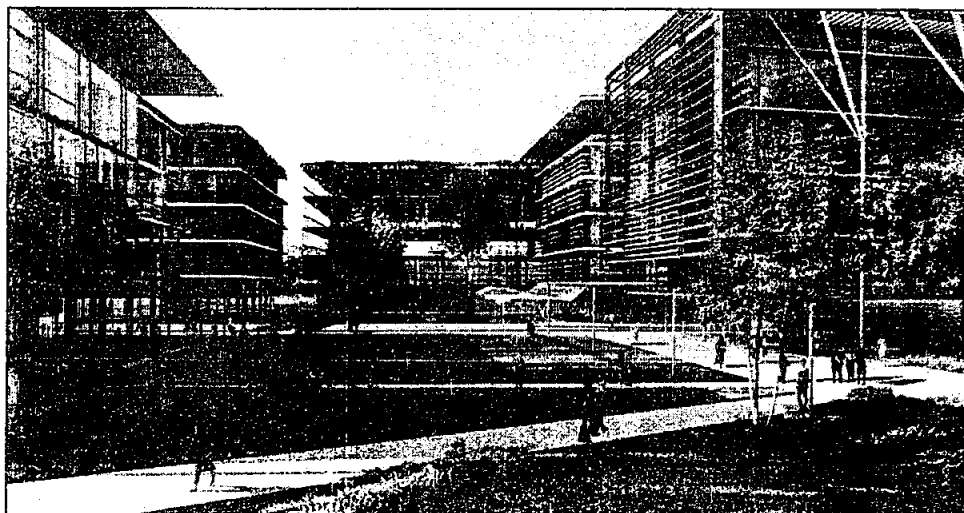
This Project will be designed by following the mainstream direction of modern style, highlighting the architectural form of trading and exhibition park and ICT Industrial Park to show the Project's personality. The processing manufacturing park and Warehousing and Logistics Base will be designed of modular form to improve the unity and rhythm of the building, and highlight the personality display of the trading and exhibition park and ICT Industrial Park.



**Fig. 3-1 Architectural schematic diagram of trading and exhibition park**

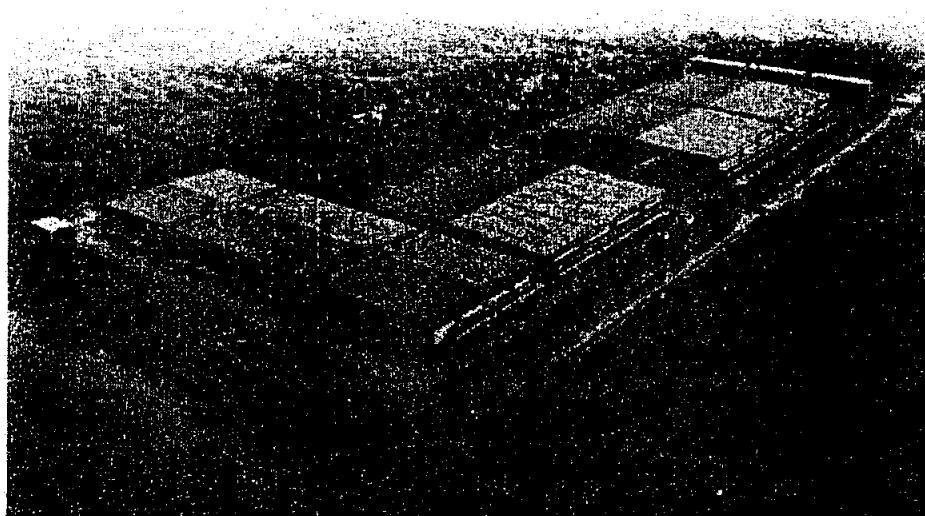
The trading and exhibition park is mainly composed of multi-layer commodity wholesale market, cultural facilities construction, business office buildings, hotels, convenience stores. It is the main place where external business is conducted and symbolizes the image of the Project.

The ICT Industrial Park and supporting service area are mainly composed of ICT R & D innovation center, Expo center, supporting office, staff dormitory, industrial workshop and school buildings, which are mutually echoed with the trading and exhibition park and lay the main tone of the Project.



**Fig. 3- 2 Schematic diagram of ICT Industrial Park**

The processing and manufacturing park and warehousing/logistics base comprise single-layer and double-layer workshops, warehouses, enterprise office buildings and supporting buildings. It occupies the most of the project construction land and the buildings should be designed in a cost-effective manner in consideration of its functional characteristics. The park sets off and integrates with the international trading and exhibition park and the high-tech park.



**Fig. 3- 3 Architectural schematic diagram of Warehousing Logistics Base**

The supporting service area buildings are mainly to meet the needs of the entire park staff training, business services, accommodation, and office needs. It is planned to build a

management building of 700 square meters. Satisfy the needs of Midway employees' daily work, meetings, and reception.

#### (4) building structure

Multi-story and single-story buildings are proposed to adopt reinforced concrete structure, economic and practical masonry walls are used. Pile foundation or strip foundation will be used as foundation form, subject to the final geological report. Considering the cost savings and the rationality of building structure form, is light steel structure is proposed to be used for single-layer and double-layer workshops, warehouses. Color steel plates are used for walls and pile foundation or independent foundation as foundation form.

#### (5) Main buildings

According to the previous market research and analysis, and under the principle of satisfying functions of each area, the main buildings in the Project are arranged under the preliminary planning, as shown in Table 3-1.

**Table 3-1 Schedule of main buildings and structures**

Phase I									
	S/N	Project name	Floor area(m <sup>2</sup> )	Axis size	Number of floors	Floor height	Structure type	Foundation type	Notes
Self-built	1	Administration building	700	14X25	2	3.6x2	Frame work	Pile foundation	Provide office space for the park administration staff of this project.

#### (6) Green building design

Green buildings can reduce the load on the environment, save energy and resources, provide safe, healthy and comfortable living spaces and be compatible with the natural environment to achieve harmonious coexistence and sustainable development of people and buildings and the environment. Green building design will be considered in the Project, which will be embodied in the following aspects:

- 1) Make a reasonable space design to save land resources while providing a healthy and comfortable use space.

2) Use local environmentally friendly building materials to reduce the destruction of natural resources and environmental pollution;

3) Make energy-saving design of buildings to save energy, including thermal insulation, solar energy, etc.;

4) Improve the self-disposal capacity of the Project with respect to the discharges to reduce the pressure on the municipal facilities.

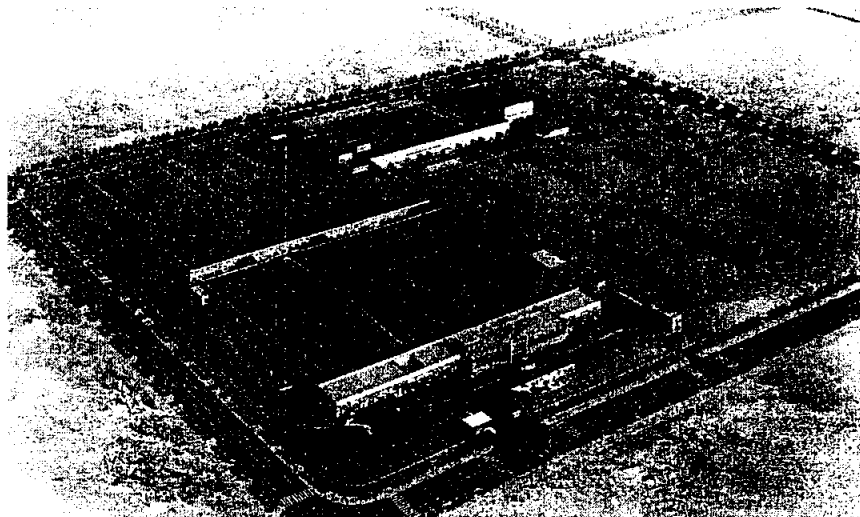


Figure 3-4 Diagram of Buildings in the Park

### 3.2.3 Foundation treatment, road yard and bridge.

#### (1) Project overview

The total land use of this project is 1,002.76 acres, which is divided into three phases. The total land use of phase I is 247.21 acres, of which the road lengths are 2023 meters of arterial roads and 6307 meters of secondary & branch road; the total land use of phase II is 355.74 acres, of which the road lengths are 1420 meters of arterial roads and 8814 meters of secondary & branch road; and the total land use of phase III is 399.86 acres, of which the road lengths are 2739 meters of arterial roads and 6954 meters of secondary & branch road.

The main content of this chapter is the design description of land formation, foundation treatment and road site and so on.

## **(2) Design conditions**

### **1) Design standard**

Allowable bearing capacity of shallow foundation (mainly refers to the bearing capacity of backfill layer of 3m depth)

$$[R] \geq 120 \text{kPa}$$

### **2) Design load**

Road and warehouse location:

The uniform load of the site is 50KN/m<sup>2</sup>.

Mobile devices:

400KN flat-bed trailer;

Tr-60 container trailer.

### **3) Geological conditions**

At present, there is no detailed geological and topographic data within the range of this project site.

## **(3) Land formation**

The current vertical elevation changes in the project planning range are relatively high, and the current elevation is at +336~+369m. There are forest lands, gully and agricultural land distributed within the project land area.

According to the current situation of the site, the site clearance is required for the topsoil, and the existing pond area shall be dredged before backfilling of earthwork. In principle, the site shall be backfilled with its own excavated earthwork within the site for balance. If there is any shortage, the backfill material will be purchased.

## **(4) Foundation treatment**

For different geological conditions and application requirements, the foundation treatment method is mainly divided into shallow treatment and deep treatment.

1) Shallow treatment method: mainly used for shallow reinforcement of foundation soil. Currently, several common methods used include replacement method, dynamic compaction, vibration compaction and impact compaction and so on.



2) Deep treatment method: mainly used for the deep and thick soft clay treatment of high water content, high compressibility, low strength, and poor permeability. The methods used include mainly preloading method, sand pile method, cement mixing pile method and so on. According to the field survey of this project, the site has a good geological condition and is suitable for the shallow foundation treatment.

The dynamic compaction method is proposed for the foundation treatment of public facilities site such as supporting management facilities, water and electricity facilities of the park to reinforce the shallow filling layer and silt layer. Then the vibration compaction will be taken for site leveling.

The dynamic compaction adopts twice tamping method and one common compaction, with capacity of 1800KN.m and tamping spacing of 4.0m. The plum-shaped arrangement uses the tamper for compaction. The capacity of common compacting is 1000KN.m and the overlap compaction is taken.

The foundation of the road within the park area is to be treated with overcut and mixed ash layer compaction.

#### **(5) Site and road surface**

Asphalt concrete or cement concrete and other materials are usually used in road and site pavement, considering the main road of the park is mainly subjected to the flow of machinery and the load is frequent. There are certain requirements on the flatness and wearability of the surface layer.

Comparison of advantages and disadvantages of asphalt pavement and cement pavement  
Comparison of pavement quality: asphalt pavement is smooth and driving is comfort; the formation of cement pavement is relatively poor, but the adoption of modern cement paving equipment can ensure the high level of cement pavement and high quality of the highway.  
Comparison of pavement life: asphalt pavement has the disadvantages of aging and poor water resistance, and the design life is 15 years while the design life of cement pavement is 30 years. For heavy traffic areas with large load, the design life of both types of current pavement is difficult to achieve. It is very common that pavement requires to be repaired

within a year or two, which is generally related to the poor construction quality and overweight. For the road with heavy traffic and large slope, cement road pavement is better. Comparison of road maintenance: the asphalt pavement is easy to maintain, and the traffic will be open immediately after the maintenance is completed; while concrete pavement is hard to maintain and the traffic cannot be open immediately.

Comparison of cost: Currently the oil price is high; for high-grade highway (grade II and above), cost difference between the two kinds of pavement is not large. But from the cost/life ratio (the cost of life), the cement pavement is dominant.

**To sum up, considering the site and road of the park is mainly loaded with the flow of machinery. There is a certain requirement for the flatness and wear ability of the surface layer. And combining with the design characteristics of the nearby industrial parks, the asphalt pavement is recommended.**

According to the local economic conditions and design characteristics, the proposed road surface structure of the park is as follows:

3.5cm asphalt surface treatment layer, 20cm cement stabilized gravel base, and 25cm gravel fill. The bedding of the surface layer is laminated and compacted with cement stabilized soil.

The hydropower/sanitation facilities provided in the park area are mainly used for small vehicles, and concrete slab surface is also recommended for the structural surface. The recommended surface structure is: concrete slab of 25 cm thick with bending strength of 4.5MPa, consists of 25 cm thick, with 15cm thick stabilized cement gravel base and 15cm thick graded gravel cushion underneath.

#### **(6) Bridge structure**

According to the site condition, some rivers or gullies exist within this project. For rivers and gullies with small span ( $\leq 5\text{m}$ ), it is recommended to adopt buried bypass culverts for the drainage from both side of the road. For the rivers and gullies with span of 5m to 10m, it is recommended to adopt permanent structures such as box culvert to drain both sides of the water channel or gully. For rivers or gully with span over 10m, it's recommended to build

bridges for the traffic of both sides of the road. For bridge structure, the superstructure of precast reinforced concrete or pre-stressed concrete slab beam is adopted and the abutment foundation on both sides can use light abutments of gravity type or the column type according to specific condition. The interior of river channel or gully adopts pile foundation beam structure, the pile foundation is recommended to use the drilling or punching pile. In the wider gully or river channel, the porous simple-support plate girder is adopted, and the bridge surface adopts continuous structure.

### 3.2.4 Supporting works

In this Project, construction of water, electricity and other supporting works shall be considered, and corresponding facilities shall be made available to the park accordingly.

#### (1) Water supply

##### 1) Water supply source

On the south of the project site is the urban arterial road. Two parallel main water supply and transmission pipes are arranged on the arterial road and isolating valves are provided at each main intersection.

The Project is divided into three plots by taking the river channel as the boundary. Each plot takes water from the municipal water transmission main through 2 access points. The pipe diameter at each access point is DN500.

##### 2) Forecast of water consumption

The total area of construction land of the Project is 404.69 ha. The water consumption is calculated with land usage index method according to the land usage and area. Therefore, the total water consumption of the Project is predicted to be about 18,200 m<sup>3</sup>/d. Specifically, the water consumption for Phases I, II and III is 6,500 m<sup>3</sup>/d, 7,500 m<sup>3</sup>/d and 4,100 m<sup>3</sup>/d, respectively. (As detailed in the table below):

**Table 3-2 Estimation of Water Consumption of the Project**

S/N	Sector	Water Indicator (m <sup>3</sup> /ha.d)	Water Consumption (m <sup>3</sup> /d)	Phase

1	Metal smelting and processing	60	2781	Phase I
2	Textile and apparel	60	769.2	
3	Automotive industry park	60	2012.4	
4	Land for power	20	161.2	

	supply facilities			
5	Integrated trade center	80	394.4	
6	Waters	0	0	
7	Green space	10	167.4	
8	Road	10	291.4	
Subtotal			6577	
1	Home building materials	60	2619	
2	Household appliances	60	1764.6	
3	Leather	80	1189.6	
4	Food processing	60	925.8	
5	Packaging/Printing	60	641.4	Phase II
6	Sanitation sites	20	9.4	
7	Drainage sites	20	48.4	
8	Green space	10	79.4	
9	Road	10	261.1	
Subtotal			7538.7	
1	Toys	60	219.6	
2	Machinery and equipment	60	1594.8	
3	ICT science & technology park	60	1970.4	Phase III
4	Sanitation sites	20	13.8	
5	Waters	0	0	
6	Green space	10	145	
7	Road	10	189.8	
Subtotal			4133.4	
Grand total	-		18249.1	

### 3) Water supply pipe diameter calculation

The hourly variation coefficient of water consumption is 1.5. The pipe shall be of nodular cast iron pipe with a flow velocity of 0.8m/s - 1.2m/s.

The Project is divided into three plots according to the terrain. The diameters of service pipes from the municipal water supply network will be determined based on the water consumption of each plot.

The water consumption of Phase I is 6,600 m<sup>3</sup>/d and the maximum hourly water consumption on the day with the maximum water consumption is 411m<sup>3</sup>/h, so the diameter of the service pipe is set as DN500. The water consumption of north plot of Phase II is 7,500m<sup>3</sup>/d and the maximum hourly water consumption on the day with the maximum water consumption is 471m<sup>3</sup>/h, so the diameter of the service pipe is set as DN500. The water consumption of Phase III is 4,100m<sup>3</sup>/d and the maximum hourly water consumption on the day with the maximum water consumption is 258m<sup>3</sup>/h, so the diameter of the service pipe is set as DN500.

#### 4) Water supply network planning

Each plot of the Project takes water from the municipal water transmission main to form a loop water supply pipe network together with the water supply system within the plots. The water supply pipes shall be arranged along the planned roads within the plot. The water supply pipes shall satisfy the domestic, production and fire water demands. The water supply pipe network is arranged in a loop.

No independent fire water supply system is provided in the plots. Fire water shares the pipes with the domestic water. During the construction of pipe network, fire hydrant and fire-fighting equipment will be arranged according to the requirements for fire protection.

### **(2) Sewage**

#### 1) Drainage system

Diversion of rain and sewage is adopted for the drainage system, with a complete sewage collection and treatment system established.

#### 2) Forecast of sewage quantity

The composite sewage coefficient is set as 0.60. The total amount of sewage in the Project is about 11,500 m<sup>3</sup>/d, including 4,200 m<sup>3</sup>/d for Phase I, 4,800 m<sup>3</sup>/d for Phase II and 2,500 m<sup>3</sup>/d for Phase III.

### 3) Sewage pipe diameter calculation

In consideration of local living conditions, the peak variation factor of the domestic sewage takes 1.6.

The maximum design fullness of the sewage pipe: DN300, 0.55; DN400, 0.65; DN500, 0.70.

In the Project, the sewage pipes are also arranged in three separate areas. The maximum hourly sewage quantity of Phase I is 78L/s and the sewage pipe diameter is DN500; the maximum hourly sewage quantity of Phase II is 89L/s and the maximum diameter of sewage pipe is DN500; the maximum hourly sewage quantity of Phase III is 46L/s and the maximum diameter of sewage pipe is DN400.

### 4) Sewage pipe network planning

The sewage pipes are in low side arrangements, parallel with the road center line. The sewage pipe transports the sewage by the gravity flow mode.

The minimum diameter of the sewage pipe is DN300, and the pipe should be buried deeper than 2.5m at the starting point.

### 5) Facility planning

In the near term of the Project, the sewage from the plots will be disposed by the sewage treatment facility built by the settled enterprises and then discharged to the water body through rainwater pipe network; in the future term, sewage pipe network will be built to collect the sewage to the sewage treatment plant for disposal.

## **(3) Rainwater**

### 1) Drainage principle and drainage system

Separate the rain and sewage in the drainage system. Build rainwater drainage facility according to the city standard. Adjust measures to local conditions and combine the gullies and pipes. Take the natural gullies in the plots as the recipient body of rainwater. Make full use of the collection capacity of the watercourse.

### 2) Pipe network planning

The rainwater in the pipe flows from high to low and then flows into the rainwater pipe after being collected by the gutter inlets along the line. Multiple water outlets are arranged, and the water is discharged into the near waters in a distributed manner.

The calculation is made with the rainwater pipe in a full state. The minimum design discharge velocity is 0.75m/s. Pipes are laid along the planned road in the form of gravity flow. In order to avoid that the pipe diameter is too large, multiple water outlets are provided.

The minimum and maximum diameters are DN400 and DN1800, respectively.

#### **(4) Fire protection**

The total number of employees planned for the park is 15,000 to 20,000. The fire at the same time is calculated once. The design water flow for a fire is set as 20L/s.

##### **1) Planning of fire water supply facilities**

The fire-fighting water is sourced from the urban water supply system. Fire hydrants are set close to the intersection; if the street is wider than 60m, fire hydrants shall be set along the two sides. If the fire hydrant protection radius is not greater than 150m and the spacing is not greater than 120m, it is advisable to arrange the fire hydrants on the ground. If the fire hydrants are arranged underground, obvious signs shall be set up.

##### **2) Planning of passages for fire trucks**

The passages for fire trucks rely on the road network system and are composed of roads of all levels, internal roads of enterprises and public institutions, passage for building fire trucks and the passage for fire trucks taking water from natural or artificial water source.

The width and free height of the passages for fire trucks shall comply with relevant specifications.

##### **3) Planning of fire communication**

The urban fire communication commanding system is composed of subsystems including fire alarm, fire alarm acceptance, commanding at fire field, comprehensive management of fire information and simulation training. The planning and construction of the urban fire communication commanding system shall conform to relevant local regulations.



## (5) Power supply

### 1) Forecast of power consumption

According to the planned land purposes and the planned load index of unit construction land, the electrical loads for Phases I, II and III of the park are predicted to be 81.31MW, 77.76MW and 50.01MW, respectively. The predicted total electrical load for the three phases is up to 200.09MW, and taking the simultaneous factor as 0.7, the calculated capacity is 146.36 MW.

**Table 3-3 Electrical Load Forecast of Construction Land**

Phase	Sector	Planned Load Index of Unit Construction Land (kW/0,000 m <sup>2</sup> )	Electrical Load (MW)	Electrical Load of Each Phase (MW)
Phase I	Metal smelting and processing	800	38.42	81.31
	Textile and apparel	600	7.69	
	Automotive industry park	800	27.44	
	Integrated trade center	800	3.94	
	Power plant	250	2.02	
	Fire house	600	0.17	
	Medical station	600	0.17	
	Administration center	600	0.15	
	Mosque	600	0.15	
	Training center	600	0.15	
	Sports site	600	0.13	

	Waters	10	0.05	
	Green space	20	0.31	
	Road	20	0.52	
Phase II	Home building materials	600	29.69	77.76
	Household appliances	700	20.59	
	Leather	500	7.44	
	Food processing	800	12.34	
	Packaging/Printing	600	6.41	
	Truck terminal	30	0.03	
	Filling station	200	0.17	
	Drainage sites	200	0.56	
	Green space	20	0.06	
	Road	20	0.46	
Phase III	Toys	500	1.86	50.01
	Machinery and equipment	800	22.40	
	ICT science & technology park	750	24.78	
	Treatment station	200	0.34	
	Waters	10	0.02	
	Green space	20	0.24	
	Road	20	0.37	
Total	-		209.09	209.09
Simultaneous factor: 0.7				146.36

## 2) Facility planning

The 132kV/11kV step-down station in the park will be fed by the power plant established in the park, and the power plant is not part of the Project. One step-down station will be set up in the plots of Phases I, II and III, respectively, three in total. The voltage level of the step-down station is 132/11kV. Three sets of 132/11kv 40MVA main transformers are set in the step-down station of Phase I; three sets of 132/11kV 40MVA main transformers are set in the step-down station of Phase II; and two sets of 132/11kV 40MVA main transformers are

set in the step-down station of Phase III. The three step-down stations serve respectively as the 11kV power supply for the switching station in their respective range and for the substation within the plot. In the park, the corresponding 11kV switching station and substations will be arranged according to the phased load center.

The three 132/11kv step-down stations and the 11kV switching station are not in the scope of the Project. The 11kV substation in each plot will be built by the enterprises settled in the plot.

#### (6) Communication and information technology

Communication infrastructure will be built in the Park, mainly including telephone and data communication system, public video monitoring system and information channel.

**Table 3-4 Forecasting of Communication Facilities for the Park**

Rashakai		Weak-current Pipeline for Public Roads		Public Monitoring System	Administrative Telephone	
Description	Floor area (ha)	Index	Subtotal (km)	Subtotal (Nr.)	Index (20/ha)	Subtotal (Nr.)
Phase I	156.20	Arterial road (8 holes/km): 5km*8	40	98	20/ha	3124
		Collector road (4 holes/km): 4.3km*4	17.2			
		Branch road (4 holes/km): 2.3km*4	9.2			
<b>Total</b>						
Phase II	148.94	Arterial road (8 holes/km): 4.8km*8	38.4	104	20/ha	3020
		Collector road (4 holes/km): 2.8km*4	11.2			
		Branch road (4 holes/km): 5.0km*4	20			
<b>Total</b>						
Phase III	99.55	Arterial road (8 holes/km): 4.3km*8	34.4	88	20/ha	1991

		Collector road (4 holes/km): 0.8km*4	3.2			
		Branch road (4 holes/km): 4.9km*4	19.6			
<b>Total</b>						
<b>Grand</b>			<b>193.2</b>	<b>290</b>		<b>8135</b>
<b>total</b>						

#### 1) Telephone and data communication system

It is expected to install about 8,100 phones in the Park. In addition, demand for various data communication business needs to be considered. Modular office of local telecommunications system with the end capacity no smaller than 12,000 lines is planned to be set in the public service area of the Park to provide phone and data communication services for the administrative department of the Park and the settled enterprises.

#### 2) Public road monitoring system

It is proposed to set video monitoring system in the public area of the Park to satisfy the demand of traffic management and security. Surveillance cameras will be installed at the squares and road intersections. The monitoring system shall be digital, and the images shall be stored for at least one month.

#### 3) Information pipeline

Information pipeline is arranged on the arterial road and collector road of the Park for laying of cables in the weak current systems. UPVC grille pipeline is adopted, with the buried depth no smaller than 0.8m.

### (7) Heating, ventilation and air conditioning

1) Heating source the natural gas from the municipal network will be supplied to the park through the pipeline. The central heating may be used for the public and civil buildings on the lands for the commercial services, public services and residential purposes. The design, arrangement and charging of the heating station shall be carried out by the related municipal departments according to the requirement of block planning requirements. For premises in the industrial area that require the heating, but the requirements are greatly different, the

relevant enterprises shall, according to their own process requirements, apply for municipal heating or construct their own heating plant.

#### 2) Air conditioning

according to the usage of buildings, and considering meteorological conditions, working conditions and other factors, air conditioning in the civil buildings shall be designed in accordance with the comfort requirements, and the air conditioning for industrial purposes shall be designed in accordance with the required temperature and humidity in the process and other requirements. The split air conditioner or central air conditioner may be selected, supplemented by appropriate energy-saving measures to meet the air-conditioning needs in the park.

3) Ventilation the natural ventilation shall first be used to meet the ventilation needs of various buildings. Where the natural ventilation cannot meet the need, appropriate mechanical air supply and ventilation system will be set up to meet the labor and health needs. The energy-saving products or ventilation systems shall be preferred in the design of mechanical ventilation.

#### 4) Smoke prevention and extraction design

According to the local fire-fighting regulations, the natural smoke extraction is given priority and the natural smoke vents to the fire-fighting regulations are set up in the industrial land, commercial and service facilities and public administration and service facilities and other industry and civil building monomers in the park. Where the natural smoke extraction cannot meet the requirements of fire regulations, the mechanical smoke extraction equipment will be set up and subject to the review by the fire authority.

#### 5) Thermal power

The thermal power demand in the park is mainly the demand on the natural gas, heating and industrial gas. Natural gas and heat supply by municipal pipelines. The park use galvanized steel pipe as the access pipe. In Phase I, the municipal natural gas pipeline will be extended to the external wall of the office building, with an expected pipe length of 250m

(including valves and pressure reducing devices), a pipe diameter of DN50 and a buried depth of 0.9m.

There will be 15,000 - 20,000 people in the park. Assuming the natural gas for each person is  $0.5\text{Nm}^3/\text{s}$ , the total natural gas is  $7,500 - 10,000\text{Nm}^3/\text{d}$ . The park provides the main pipes and the settled enterprises may apply for pipe connection as required. Industrial gas shall be arranged by the settled enterprises according to the production or process demand.

### **3.3 Safety protection**

#### **3.3.1 Security standards**

Pakistan has established mature policies and procedures on safety issues. The related safety measures of CPEC are very strict. All projects related to CPEC will have security assurance from the Army. Also, Cape Province has developed sop according to federal government directives. As a result, KPEZDMC will prepare the safety plan for Rashakai pSEZ based on the minimum standard.

#### **3.3.2 Security plan**

Rashakai pSEZ will develop a three-level response plan based on the concept of a safe city. The Level 2 and Level 3 response is the responsibility of the government; therefore no cost will be involved. Coordination and safety exercise will be the responsibility of the KPEZDMC safety department. The preparation and implementation of Level 1 response is the responsibility of the Rashakai pSEZ developer. The subsequent responsibility for maintaining the safety settings during the operation phase will be treated as service replenishment. **(1) Level 1 response**

The internal safety response from the Rashakai pSEZ is the first level, which will respond to any unexpected incident and strive for 20-30 minutes for Level 2 response.

The investment and construction contents of the developer include:

- 1) Built-in boundary wall of barbed wire and watchtower.
- 2) CCTV cameras around the control room.
- 3) Control entry/exit system/door.
- 4) Fast anti-power vehicles.
- 5) Peripheral search lights.

Operation/operating costs are about 3.5 million per month, including:

- 1) Manpower required for safety and security costs (KPEZDMC and Security Company)
- 2) Maintenance cost of CCTV system.
- 3) Maintenance cost of fast anti-power vehicles.

- 4) Maintenance cost of the searchlight.
- 5) Maintenance cost of communication system.

**(2) Level 2 response**

The police form part of Level 2 response, which will expel terrorist activities from areas outside the economic zone and strive for 45-60 minutes for Level 3 response. KPEZDMC safety department is responsible for the coordination of Level 2 safety response.

**(3) Level 3 response**

The Army, as part of Level 3 response, will be activated only when the terrorist activity is beyond the control of the police or hostage is held. The safety management of KPEZDMC will coordinate safety response and level 3.



## **Chapter IV Environmental Protection**

### **4.1 Design basis**

According to the requirements of Pakistan Environmental Impact Assessment (EIA) Procedures, the specific EIA methods for the planned industries of the project, and the detailed overall practice have been made. When the project is required to be checked and approved, the related EIA is mandatory.

The EIA work is carried out by the Environmental Protection Bureau and the provincial environment department under Pakistan Ministry of Environment.

The application shall be submitted to the executive department by the company settled in this park in accordance with the requirements of different industries with the EIA expense paid.

### **4.2 Major sources of pollution and pollutants**

#### **4.2.1 Construction period**

The major environmental impact factors of this project are piling operation, surface leveling, monomer construction, equipment installation and other activities. The main pollution factors are construction dust, construction noise, waste oil produced by construction machinery, construction waste, and domestic wastewater of construction workers and so on.

#### **4.2.2 Operation period**

##### **(1) Air pollution**

There is no productive dust produced from the planning areas such as warehousing and logistics, complex commerce and trade, technology research and development, and production and living service facilities, and a small amount of air pollution sources are the exhaust gas of the vehicles and dust from ground.

In the product processing and manufacturing industry, there are different greenhouse gas emissions during the production process of metallurgy and processing, automobiles, machinery and equipment, home furnishing and building materials, food processing, household appliances, consumer electronics, textile and apparel, leather and other industries.

#### **(2) Water pollution source**

The main wastewater produced is domestic wastewater and production wastewater.

#### **(3) Noise pollution sources**

The main noise pollution sources in the planning areas such as complex commerce and trade, technology research and development, and production and living service facilities are traffic noise generated by the working vehicles.

The noise sources of industrial park are mainly noises of equipment operation, loading and unloading of warehouse and logistics, and traffic noise.

#### **(4) Solid waste**

The main sources of solid waste in the planning areas such as complex commerce and trade, technology research and development, production and life service facilities and so on are the daily garbage and office waste generated during the working and living process of personnel.

The main solid waste in the industrial park is the waste of various industries in the production process, and some of the waste products may be poisonous and harmful.

### **4.3 Measures for environmental protection**

#### **4.3.1 Construction period**

The construction site shall be hardened and flat and unblocked to prevent leakage of materials and supplies due to jolt of transport vehicles at the construction site. Any parts of the construction site that cannot be hardened

shall be compacted, watered and cleaned on a regular basis to prevent dust pollution. When stacking sand, stones and other construction materials that are likely to cause dust, dust suppression measures such as covering, and watering shall be taken.

The construction schedule and time shall be reasonably arranged and operation with high noise equipment shall be done within the fixed time to avoid the impact of construction noise on surrounding environment. Construction machinery and transport vehicles with low noise and low vibration shall be selected. Routine maintenance and protection of construction machinery and transport vehicles shall be strengthened to maintain them in good service conditions. The construction machinery and transport vehicles entering the construction site shall be properly dispatched and controlled to reduce horn noise.

The domestic garbage of the construction team shall be cleared and transported by the contractor to the qualified garbage disposal plant in time for treatment. The construction wastes shall be uniformly collected, classified and treated as far as possible for the purpose of comprehensive utilization, and shall not be discarded or disposed of at will. The construction wastes which are classified as Pakistani hazardous wastes shall be entrusted to the qualified hazardous waste treatment enterprises for harmless treatment.

#### **4.3.2 Operation period**

##### **(1) Atmospheric environmental protection measures**

Traffic in the general trade service zone, technical research and development zone and production and life service facilities zone shall be well controlled to reduce vehicles at idle speed and thus to reduce emissions of pollutants. Cleaning vehicles shall be equipped to sweep the road to reduce the dust. The

oil fumes from the commercial kitchens shall not be discharged unless treated by the oil fume purifier and up to the standard.

The different types of waste gases from the industrial area shall be purified and treated according to the specific contents of the environmental impact assessment (EIA) procedures to meet the emission requirements of the special EIA.

## **(2) Water pollution source control measures**

### **1) Production wastewater**

Some production wastewater generated by the power plant will be recycled after treatment, and the remaining will be discharged into the river after satisfactory treatment. The production wastewater of other plant areas will be discharged into the municipal drainage pipelines or rivers after satisfactory treatment. 2) Domestic wastewater

The domestic wastewater is mainly generated by the staff. The domestic wastewater will be treated with the septic tank and then discharged into the municipal wastewater pipelines.

The oily wastewater will be discharged into the sanitary sewers after oil-water separation.

## **(3) Noise control measures**

Equipment with low noise and high efficiency shall be used. Maintenance and service of machinery and equipment shall be strengthened to maintain normal operation and reduce the noise.

Reasonable greening will not only reduce noise, but also beautify the environment.

## **(4) Solid waste disposal measures**

The domestic garbage and office wastes shall be classified and collected by the garbage stations and shall be regularly cleaned up and transported by the local environmental sanitation department.

The construction wastes shall be uniformly collected, classified and treated as far as possible for the purpose of comprehensive utilization, and shall not be discarded or disposed of at will. The construction wastes which are classified as Pakistani hazardous wastes shall be entrusted to the qualified hazardous waste treatment enterprises for harmless treatment.

#### **4.4 Control measures against ecological changes**

In order to minimize the impact of the project on the surrounding ecological environment, full consideration shall be given to protection of surrounding ecosystems and corresponding mitigation measures shall be taken so as to reduce and avoid adverse impacts on the species and the ecology caused by various behaviors during development and construction of the project and maintain the diversity and sustainable utilization and development of the ecosystems.

Ecological changes due to construction of the project shall be restored as much as possible. Destruction of vegetation should be minimized in the project. The abandoned sand, stone and soil shall be transported to the specialized storage site and shall not be dumped into other ditches. After completion of the project, the excavation surface and the open land for storage of abandoned sand, stone and soil must be planted with trees and grass to prevent water and soil loss.

#### **4.5 Greening**

Greening supplemented by beautification is one of the important principles in this design. The green land shall be built into lawns, and on both sides of the road shall be planted with arbores and shrubs with good adaptability to purify the air and reduce the noise.

## **4.6 Environmental monitoring and management**

Environmental monitoring is an important part of environmental protection work and will be implemented by qualified organizations to provide basis and services for environmental management and pollution control.

After completion of the project, attention should be paid to the control of the amount of wastes generated and reuse or recycle of the wastes to ensure that the total discharge of pollutants will meet the requirements of the EIA.

## ENVIRONMENTAL IMPACT ASSESSMENT RASHAKAI PRIORITIZED SPECIAL ECONOMIC ZONE

- I. NOC FROM ENVIRONMENTAL PROTECTION AGENCY (EPA)-03.04.2019
- II. RESPONSES SUBMITTED BY KPEZDMC TO EPA-28.03.2019
- III. RESPONSES SUBMITTED BY KPEZDMC TO EPA-15.03.2019
- IV. PUBLIC HEARING AS PART OF THE REVIEW PROCESS OF THE EIA REPORT  
ON 12-02-2019
- V. ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT DATED 14.12.2018  
(ANNEXURE A)



**Environmental Protection Agency**  
Forestry, Environment & Wildlife Department  
Govt. of Khyber Pakhtunkhwa



No. EPA/EIA/KPEZDMC/Rashakai/19/155

Date: 3/4/2019

To

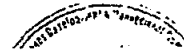
Mr. Ali Muazzam Syed,  
(General Manager – Infrastructure),  
Khyber Pakhtunkhwa Economic Zone Development and  
Management Company,  
120-Industrial Estate Hayatabad,  
Jamrud Road, Peshawar.

Subject: **ENVIRONMENTAL IMPACT ASSESSMENT REPORT OF RASHAKAI  
ECONOMIC ZONE (1000 ACRE)**

I am directed to refer to the subject cited above and to enclose herewith Environmental Approval/Decision Note on EIA Report of "Rashikai Economic Zone, District Nowshera" for your information and further implementation.

Moreover, Schedule VII must be submitted to this Agency within a month on Stamp Paper as an undertaking for the compliance of terms and conditions as mentioned in the Environmental Approval as well as mitigation measures proposed in the EIA Report. (Copy enclosed).

*Ali Muazzam Syed*  
Deputy Director (EIA)





## **SCHEDULE-VI**

### **Decision on EIA**


1. **Name, address of proponent:** Mr. Ali Muazzam Syed,  
(General Manager – Infrastructure);  
Khyber Pakhtunkhwa Economic  
Zone Development and  
Management Company,  
120-Industrial Estate Hayatabad,  
Jamrud Road, Peshawar
2. **Description of Project:** Rashakai Special Economic Zone is  
located near Kernal Sher Khan  
Interchange on Motorway-1, District  
Nowshera, Khyber Pakhtunkhwa  
over an area of 404.69 ha (1000  
acres). The estimated cost of the  
project is \$ 116.567 million. The  
project consist of construction of  
main roads, link roads, truck  
terminals, Sewerage System, Water  
Supply System, Parking Terminal,  
Administrative Block, Fire Station  
and Other Allied facilities. Combined  
Effluent Treatment Plant will be  
constructed for the treatment of all  
effluents of proposed Special  
Economic Zone.
3. **Location of project:** Kernal Sher Khan Interchange on  
Motorway-1, District Nowshera.
4. **Date of filing of EIA:** 14/12/2018 (Ref: EPA/Diary No.720)
5. After a careful review, the Environmental Protection Agency, Govt. of  
Khyber Pakhtunkhwa has decided to accord conditional approval of the  
Environmental Impact Assessment (EIA) Report of "Rashakai Special  
Economic Zone is located near Kernal Sher Khan Interchange on  
Motorway-1, District Nowshera, Khyber Pakhtunkhwa" in line with the  
guidelines issued by Khyber Pakhtunkhwa Environmental Protection Act,  
2014 and IEE/EIA Regulations, 2000 subject to the following terms &  
conditions:

- a) The Proponent shall adopt all precautionary and mitigation measures identified in EIA Report as well as any unanticipated impacts during the construction and operation phase of Project.
- b) All effluents/emissions shall be kept within the permissible limits of National Environmental Quality Standards (NEQS).
- c) The Proponent shall construct Combine Effluent Treatment Plant (CETP) as proposed for Rashakai Special Economic Zone, keeping in view the whole Industrial Estate waste water discharge.
- d) The Proponent shall ensure proper zonation of industries in the Economic Zone.
- e) Khyber Pakhtunkhwa EZDMC shall bound all the industries to obtain Environmental Approvals from EPA at planning stage.
- f) The Khyber Pakhtunkhwa Economic Zone Development and Management Company (KP-EZDMC) shall strictly follow Disaster Management Plan.
- g) A nursery shall be developed inside the zone and annually block plantation of at least 50,000 shall be planted inside the Economic Zone which will act as a barrier/buffer zone between Industrial Estate and adjacent community.
- h) A Health, Safety & Environment (HSE) Unit shall be established in the Economic Zone. An Environmental Science graduate and two Foresters shall be employed to look after the environmental issues.
- i) Traffic Management Plan shall be implemented.
- j) Internships/apprenticeships program shall be encouraged for technical graduates belong to surrounding villages.
- k) Social welfare program shall be carried out for the local people and shall be communicated to EPA.
- l) All the compensation (Agriculture, civil structures, etc.) shall be paid before the commencement of activity.
- m) A grievance redressal committee shall be constituted to recommend steps/actions particularly for the effectees whom land has been acquired, the same shall be submitted to this Agency before initiation of construction activities.
- n) A comprehensive plantation plan shall be implemented in the Economic Zone.
- o) A Flood Protection Plan shall be prepared and shared with EPA.

- q) Employment shall be provided to the local people of the nearest Union Councils in technical/non technical jobs. Detail of the same shall be provided to EPA.
6. The Proponent shall be liable for correctness and validity of the information supplied by the Environmental Consultant.
  7. The Proponent shall be liable for compliance of Regulations 11,13,14,17 and 18 of IEE/EIA Regulations, 2000, regarding approval, confirmation of compliance, entry, inspections and monitoring.
  8. This approval is accorded only for the installation/ construction phase of the project. The proponent will obtain approval for operation of the project in accordance with the Regulations 13 (2) (b) and 18 of the IEE/EIA Regulations, 2000.
  9. Any change in the approved Project shall be communicated to EPA, Khyber Pakhtunkhwa and shall be commenced after obtaining the approval.
  10. This approval shall be treated as null and void if all or any of the conditions mentioned above is/are not complied with.
  11. This approval does not absolve the proponent of the duty to obtain any other approval or clearance that may be required under any law in force.
  12. There shall be no legal case pending in the courts against the project.
  13. In exercise of the power under Section-13 of the Khyber Pakhtunkhwa Environmental Protection Act, 2014, the Undersigned is pleased to approve the EIA Report for construction phase of the said Project with above mentioned terms and conditions.

Dated: Peshawar 3/4/2019.

Tracking/File. No. EPA/EIA/KPEZDMC/Rashakai/19/155

  
**DIRECTOR GENERAL,**  
**EPA, Khyber Pakhtunkhwa.**  
**3<sup>rd</sup> Floor, SDU Building,**  
**Khyber Road Peshawar, Cantt.**

# Market Research Study

RASHAKAI SPECIAL  
ECONOMIC ZONE

December 2018



**Institute of Management Sciences**  
**Peshawar**

## Foreword

Rashakai Special Economic Zone (RSEZ) is one of the recently approved prioritized Special Economic Zones under CPEC. RSEZ has the potential to bring a paradigm shift in the industrial and socio-economic landscape of Khyber Pakhtunkhwa. Its unique geographic positioning and availability of resources would be leveraged to usher industrial revolution in KP by bringing both local and foreign investors to invest in high value addition industries to cater for national, regional and international markets.

The Market Study on Rashakai Special Economic Zone conducted by the Institute of Management Sciences (IMSciences) Peshawar provides a holistic picture regarding the market potential of RSEZ. The study was conducted in December 2018. Key areas covered by the study include the demand for land, geographical location advantages, demographics and availability of skilled labor, competitor analysis, availability of data for investment, legal framework and rule of law; and recommendations to ensure success of this important strategic initiative.

I am really thankful to IMSciences that provided its relentless support in conducting this excellent study. Further, I would like to extend my gratitude to Dr. Muhammad Nouman and Mr. Muhammed Ahmed, who worked day and night to ensure that the study is aligned with the mandate of the RSEZ.

I look forward to participation of all relevant stakeholders in realizing the dream of ushering industrial revolution in KP and making RSEZ the next success story of Pakistan.

Muhammad Azam Farooq  
Coordinator HRDC-IMSciences

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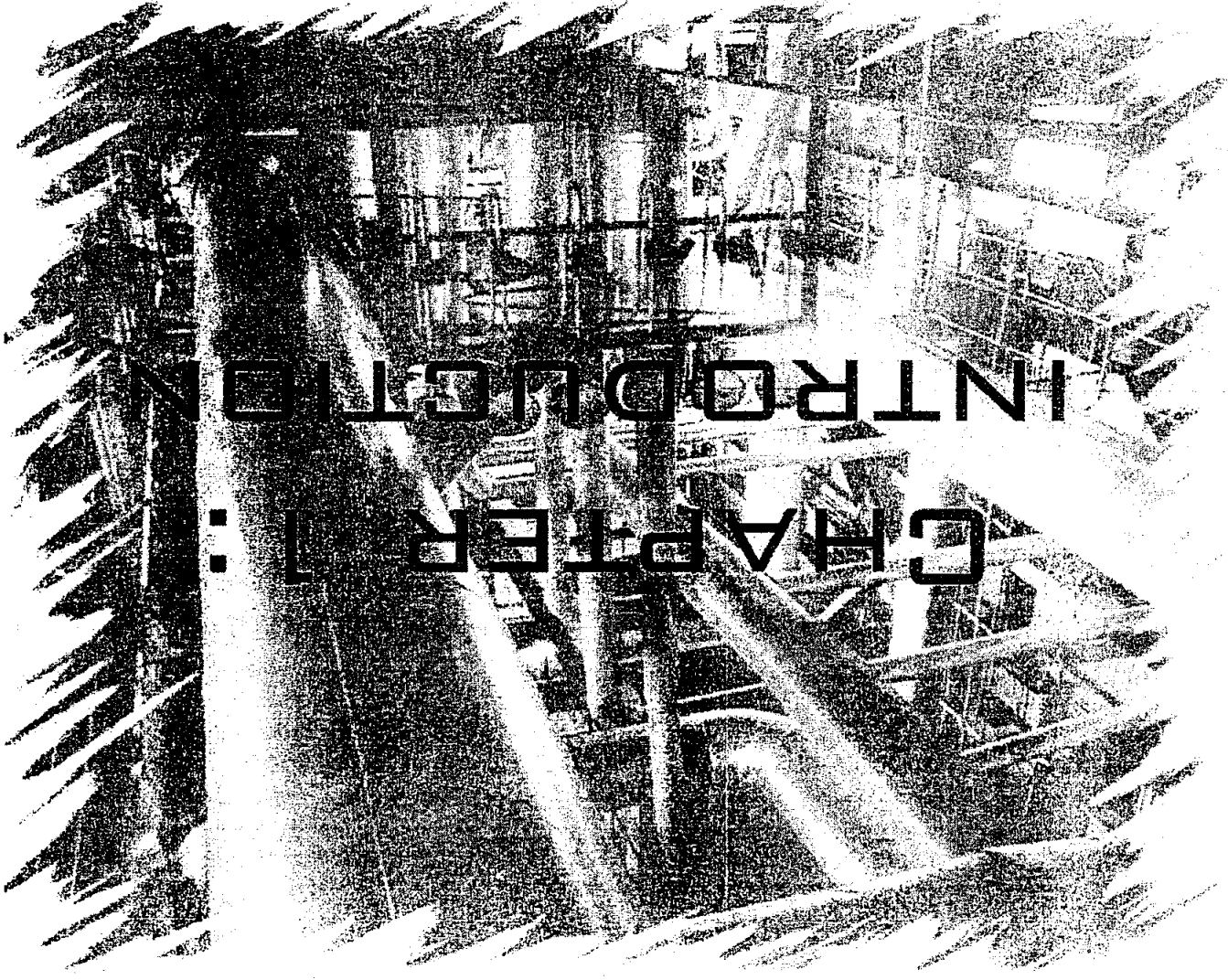
## Executive Summary

The 'Market Research Study' has been conducted to analyze demand of plots in Rashakai Special Economic Zone for setting up of manufacturing units. It also gauges advantages of investing in RSEZ compared to setting up units in SEZs of other provinces and presents findings in line with the 'Scope of Work' that has eight specific parameters. These include Rashakai SEZ being the first Prioritized Special Economic Zone of CPEC in the country that is significantly increasing Demand for Land, Geographical Location Advantages, Demographics, Vocational Trainings and Universities, Competitor Analysis, Data Available for Investment, Legal framework and Rule of Law. The approach and methodology used for the assignment relied on review of secondary and primary data collected from multiple sources and stakeholders identified through a consultative 'Stakeholders Mapping' involving 43 stakeholders. Sources of secondary data included more than 120 reports, studies, IC materials, web content, surveys, assessments, vignettes, presentation materials etc. A systematic approach was used to identify, select, review and analyze secondary data. For primary data KIIs and findings from FGD were also incorporated. A total of 37 conclusions and recommendations have been presented at the end.

Demand for land in RSEZ was assessed at three levels, applicant data, KP's historical industrial mix and the experts' view of the industrial mix. Based on the three scenarios, we forecast that the number of units in RSEZ will be 440 with a  $\pm 5\%$  variation. Results for demand in terms of eight clusters including marble/granite, food processing, plastic, pharma, packaging, engineering, steel and other sectors have been presented. There is ample evidence to suggest investor interest that is a very good sign for RSEZ's potential. For geographical location, RSEZ's advantages across three categories have been identified including proximity with CPEC network, reasonable availability of raw materials and human resources as well as access to a viable transportation infrastructure. Relevant details have been presented in the report. Our findings also suggest a positive impact of RSEZ on demographics of the local area with approximately 37% increase in household income, 153% increase in male employment and 291% increase in female employment by 2030.

Other socio economic factors also show positive signs of improvement. With a population of approximately 523,000 for the areas surrounding Rashakai, there is a strong presence of consumer markets further augmented by teeming populations in Mardan and Nowshera districts. For vocational skills and higher education gaps have been identified particularly in terms of the lack of alignment between the anticipated industrial mix that may emerge from the development of RSEZ and the TVET and higher education skillset and assortment that will be required to fill the emerging human resource and labor force requirements. Our competitor analysis for RSEZ has been carried out with other prominent industrial estates and SEZs(Sundar Industrial Estate, M3 Industrial City Faisalabad, Quaid e Azam Apparel Park Sheikhpura) selected based on significance of the progress made on these and for being the most direct competitors of RSEZ as per our assessment. For pricing while the per acre price of 18.7 million is on a lower side if compared with the existing Sundar Industrial Estate and comparable to others, it is justifiable owing to international standards infrastructure including Combined Effluent Treatment Plant, which will be the first plant in the country,a number of incentives specifically approved for Prioritized SEZs, locational advantages, utilities and amenities where RSEZ outshines its competitors. For rule of law and the overall security profile for KP in general and Rashakai in particular, data reveals a significant improvement in the law and order situation of the province. This includes a significant decline in incidents related to law and order,as evident from KP's Home Department data from 2011 to 2018. Moreover, the local population around Rashakai including District Mardan has expressed more than 70% approval rating for performance of police and civilian LEAs in the area based on our findings from secondary data for 2017. This is in addition to the special security arrangements that will be put in place as per CPEC protocols for RSEZ that we have highlighted in this report.





# CHAPTER 1 : INTRODUCTION

### 1.1. Background of the Study

Rashakai Special Economic Zone (RSEZ), the first prioritized SEZ of Pakistan and the flagship project of the province of Khyber Pakhtunkhwa and Khyber Pakhtunkhwa Economic Zones Development and Management Company (KPEZDMC) is spread over an area of 1000 acres. This project is conceptualized from its initial stages by KPEZDMC; RSEZ will therefore have a natural benefit of being an exceptionally pre-planned special economic zone that is expected to meet international standards. Rashakai Special Economic Zone is strategically located on M1 Motorway at the intersection of M1 and Swat Expressway, and is linked to both China Pakistan Economic Corridor (CPEC) routes through Swat Expressway and Burhan interchange. RSEZ also serves as a bridging post to Northern Areas of Khyber Pakhtunkhwa and has close proximity to the Afghan border. Due to this central position of the economic zone in the province, it is envisaged as the imminent trade hub of Khyber Pakhtunkhwa.

### 1.2 Objective of the Study

The primary purpose of this market research is to analyze demand of industrialization in Rashakai Special Economic Zone for setting up of industrial units. It also gauges advantages of investing in RSEZ compared to setting up units in SEZs of other provinces and presents findings in line with the 'Scope of Work' provided below.

### 1.3 Scope of the Assignment

The consulting firm was required to submit a detailed Market Research Study Report. The Report has the following parameters:

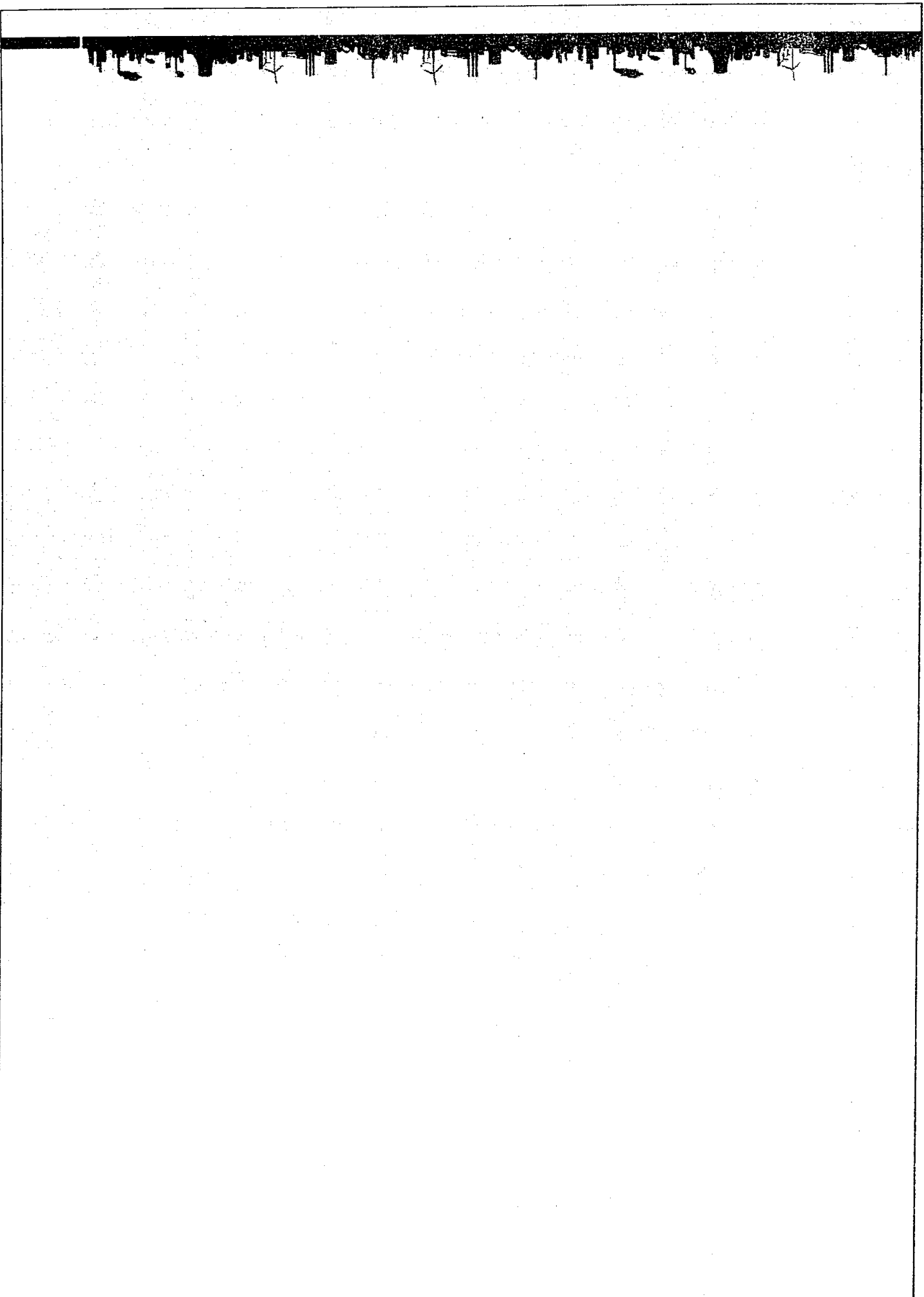
1. Rashakai SEZ being the first Prioritized Special Economic Zone of CPEC in the country
2. Demand for Land
3. Geographical Location Advantages
4. Demographics
5. Vocational Trainings and Universities
6. Competitor Analysis
7. Data Available for Investment
8. Legal framework
9. Rule of Law



The tasks performed under the assignment included following key areas:

- Demand for land in RSEZ for setting up manufacturing units including existing applications, investor queries and through data from secondary sources with a focus on type industry and area required sector wise.
- Geographical Location Advantages including location of RSEZ with respect to CPEC, local area, road network, raw material availability etc.
- Demographics including age, gender, education and income level of people in adjoining areas as well as inputs on labor force and consumer markets.
- Vocational trainings and universities to assess skilled labor for industries in RSEZ
- Competitor analysis with a focus on comparison of RSEZ with other industrial estates and SEZs in other provinces or regions of the country – focus on pricing, services, incentives etc.
- Legal framework with a focus on incentives that KP offers compared to other provinces
- Data available for investment with a focus on nature and quality of data in comparison to other provinces
- Rule of law with a focus on security profile of KP in general and Rashakai in particular as well as status of 'One Window' and 'Ease of Doing Business'







# CHAPTER 2: APPROACH & METHODOLOGY

## 2.1. An Overview of the Approach

This chapter mainly discusses the methodology adopted by team of experts to conduct this assignment. Main headings include; the nature of data, steps taken by the experts to collect data, the target respondents, techniques used for presenting information and the limitations faced during data collection, analysis and subsequent completion of the assignment

## 2.2. Stakeholders Mapping

As this assignment was focused on the Market Research on the Rashakai Special Economic Zone (RSEZ), a multidimensional level of stakeholders needed to be approached by the experts. That is why the original list of stakeholders identified was very comprehensive consisting of more than 120 stakeholders. However, keeping in view the short timeframe for this assignment the team agreed on reducing the list to the most relevant stakeholders. The modified list of stakeholders is shared below;

S#	Category	Stakeholder Name	Location
1	KP/Provincial	KP Planning & Development Department	Peshawar
2	KP/Provincial	KP Economic Zones Development & Management Company	Peshawar
3	KP/Provincial	KP Board of Investment	Peshawar
4	KP/Provincial	KP Industries Department	Peshawar
7	KP/Provincial	Sarhad Chambers of Commerce & Industry	Peshawar
8	KP/Provincial	Mardan Chambers of Commerce & Industry	Peshawar
9	KP/Provincial	KP-Bureau of Statistics	Peshawar
10	KP/Provincial	KP-TEVTA	Peshawar
11	KP/Provincial	KP-Police Dept.	Peshawar

12	KP/Provincial	KP-Finance Dept.	Peshawa
13	KP/Provincial	KP-HED	Peshawa
14	KP/Provincial	Department of Agriculture	Peshawa
15	Punjab Provincial	Punjab Industrial Estates Development & Management Company	Lahore
16	Punjab Provincial	Punjab Board of Investment	Lahore
17	Punjab Provincial	Sundar Industrial Estate	Lahore
18	Punjab Provincial	Faisalabad Industrial Estate Development & Management Company	Faisalaba
19	Federal	Federal Board of Investment	Islamaba
20	Federal	Overseas Chamber of Commerce and Industry	Islamaba
21	Federal	Ministry of Industries & Production	Islamaba
22	Federal	FPCCI (including R&D Cell)	Islamaba
23	Federal	Planning Commission of Pakistan	Islamaba
24	Federal	CPEC Center of Excellence	Islamaba
25	Federal	Higher Education Commission (including CPEC Cell)	Islamaba
26	Federal	Trade & Development Authority Pakistan	Islamaba
27	Federal	Pak-China Business Council	Islamaba
28	Federal	SDPI	Islamaba
29	Federal	NAVTTTC	Islamaba
30	Federal	SECP	Islamaba
31	Federal	Pakistan Bureau of Statistics	Islamaba
32	Federal	Export Processing Zones Authority	Islamaba
33	Federal	CRBC	
34	Federal	Select Embassies in Islamabad	Islamaba
35	Industrial/SEZ	Korangi Creek Industrial Park	Hattar
36	Industrial/SEZ	Hattar Economic Zone	Hattar
37	Industrial/SEZ	(CPEC) Chine Special Economic Zone Dhabeji	Dhabej
38		Faisalabad Chamber of Commerce & Industry	
39		Islamabad Chamber of Commerce & Industry	
40		Rawalpindi Chamber of Commerce & Industry	
41		Karachi Chamber of Commerce & Industry	
42		Lahore Chamber of Commerce & Industry	
43		Sialkot Chamber of Commerce & Industry	

**Table 2.1: Stakeholders Approached for Market Research Study**



### 2.3. Data Collection, Data Source & Other Consideration

Both primary & secondary data sources were considered for data collection. Secondary data source included; a wide spectrum of reports, information and communication materials, digital content on relevant websites and social media pages of stakeholders, case studies, research papers, presentations, and any other published material gathered through search engines like Google. Primary data was collected through Key Informant Interviews (KIIs), Focus Group Discussions and through circulating an email Questionnaire. The KIIs targeted stakeholders from KP particularly institutional stakeholders. In case of KIIs' two separate tools were developed. One was used to conduct KIIs with important stakeholders through telephone. A list of these stakeholders is provided below whereas another KII was used for stakeholders who were contacted in person. The FGD tool was used to collect data from business community, community elders, law enforcing agencies and locals residing in Rashakai and surrounding areas.

S#	Department	Contact Person	Designation	Contact
1	Sarhad Chamber /KPCCI	Faiz Muhammad	President	3008580090
2	KP, Bureau of Statistics	Tariq Mehmud	Director	919211183
3	KP-TEVTA	Nazir Ahmad	Director	3339418118
4	KP-higher Education Department	Nazirullah	Deputy Chief Planning	3440970355
5	KPEZDMC	Adil Salahuddin	Chief Commercial	3350099210
6	KP Industries Department	Roshan Mehsud	Deputy Secretary	919210901
7	KP-BOIT	Nazir Awan	Acting CEO	3009592121
8	KP-Police Department	Manzoor Awan	DPO Rashakai	3454444488
9	Punjab Board Of Investment & Trade (PBIT)			042 -9920 5201-06
10	Balochistan Board Of Investment	Dr. Mohammad Riaz	Deputy Director	081-9203796





11	Sindh Board Of Investment (SBI)	Abdul Azeem Utali	CEO, SEZ	021-99207512-4 03018507860
12	Punjab Industries, Commerce & Investment Department	Ms. Rafyah Saeed	Add. Sec. SEZ	4299213950
13	Industries & Commerce Department Gov of Sindh	Secretary office	Additional Secretary	021-99211291
14	Industries & Commerce Department Govt. of Baluchistan	Secretary office	Secretary Industries	081-9211160

**Table 2.2:** Contact Details for Telephonic KIIs

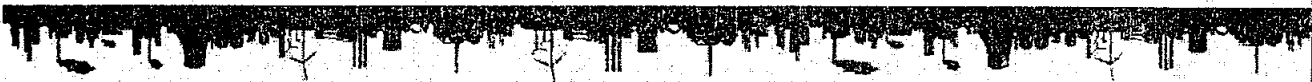
In addition to KIIs and FGDs, the stakeholders outside KP (Federal, Punjab, Sindh) were contacted via email-generated Questionnaire.

#### 2.4. Limitations of the Study

Few of the factors due to which the assignment's scope was limited included

1. The concept of SEZs itself is a relatively novice one for Pakistan. At the time of this study no functioning SEZ exists in the country. Same is the case with RSEZ. Consequently, researching a phenomenon in a context that is yet to materialize fully means that in some instances the team had to rely on perceptual information and opinions rather than hardcore data that is validated and reliable.
2. Keeping in view the time constraints some of the key stakeholders' response was not prompt i.e. multiple calls and emails to stakeholders to share data or their point of view were placed with limited success. Wherever primary data was lacking, greater emphasis was placed on collection of secondary data to overcome limitations.
3. Another important limitation was the limited availability of relevant, reliable and updated secondary data on Rashakai and its adjoining areas.
4. While all the secondary data reviewed and analyzed for this study was gathered from original and authentic sources, the team did not have the means to verify them for authenticity. Moreover, there were instances where discrepancies and mismatch in data were observed prompting the team to exclude such information.





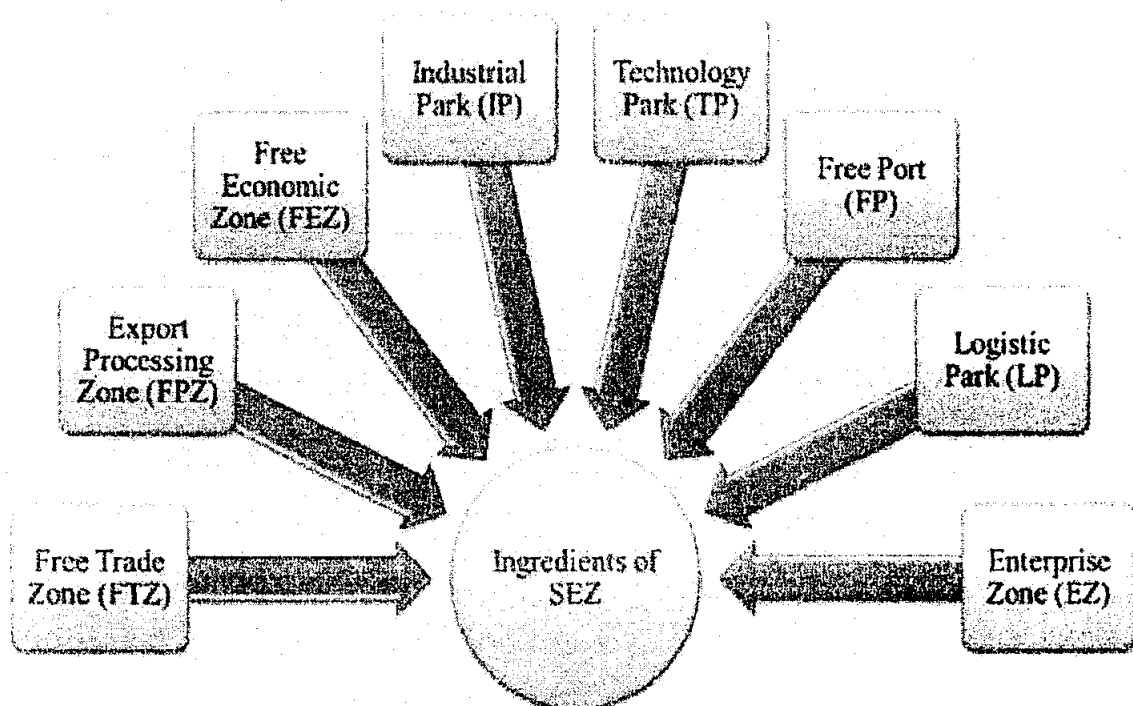
# CHAPTER 3:

CONCEPTUALIZING SEZS  
IN GLOBAL AND REGIONAL CONTEXT



### 3.1. The Concept of SEZs

Special Economic Zones are reckoned to be an important source for a number of reasons. This includes the diversification of the economy, developing skills of the local labor force, reducing disparities that are regional in nature, grouping economic activities together with the local industries. Other characteristics of RSEZs include transference of technology, spreading of know-how, promoting additional industry-related activities, entrepreneurship development, creating more competition, the attraction of both local as well as a foreign direct investment especially for regions that are not as privileged. It increases employment, promotes exports and facilitates management and administration. SEZ can be single or composite and it can house one or many of the facilities indicated in the following figure.



**Figure 3.1:** "Imminent Prosperity at the Doorsteps of Households: Evidence from Socio-kinetics of Rashakai Economic Zone Using Dynamic Two Point Mode" by Dr. Ejaz Gul and Prof. Dr. Imran Sharif Chaudhry

SEZs are usually described as self-contained when it comes to the procurement of raw materials. This can be both from their local or international market. They are also self-contained in generating power, pollution mitigation, the treatment of sewage, and other supportive services. Facilities such as transportation, cultural, and education institutes are developed concurrently with the SEZ. Hence SEZs provide important insulation from both the uncertain external and internal environment.

SEZs have the privilege of having relaxation in customs and tax laws and regulations in comparison to the rest of the country. These special economic zones are usually duty-free territories for trade and manufacturing. Many fiscal, as well as regulatory incentives are provided to investors, all within the zones by the local, provincial, and national governments. Still, as indicated by global experience, the decision to invest in an SEZ is hardly ever based on the financial incentive alone, since these are not the key components to its success. The success factors that contribute are; cost-effectiveness as well as efficient infrastructure, good governance (one that will differentiate it from the rest of the country). The success of an SEZ stimulates the economy, encourages provisions to public services even more effectively.

Successful SEZs are expected to introduce interventions relatively quickly throughout the country, through a mix of demonstrations and linkages with the local industries. They are able to create economic spaces for their entries into ordinary and intermediate manufacturing. SEZs are basically summarized as being strategic locations that help in addressing bottlenecks arising from structural and institutional issues. These can be complexities in procedures, deficiencies in infrastructure, and hassles with bureaucracy, among other restrictive practices. These SEZs are there to offer a climate of investment that aims to attract offshoring activities and outsourcing ones as well.



It is important to note that even though SEZs have played an incredibly important role all around the world, they have still been criticized for not being legally and socially protective of its workers. Globally, the explanation offered for the failures of the SEZs are 'rent-seeking' by the interest groups; taking undue advantage of the incentives such as tax holidays; other fringe benefits offered; weak governance; issues with regulation; and unresolved disputes. In order to avoid such problems and to make sure that management is efficient, countries need to assign decision-making roles that are decentralized in nature. Public-private partnership arrangements also needs to be in place and conducive. This increases the inclusiveness with the institution and the local community as well. Special Economic Zones are geographical locations with economic laws different from the rest of the country and are more flexible.

The main objectives of SEZs are to enhance foreign direct investments and also to become a nurturing ground for the increasingly competitive international environment for exports. This idea came from the fact that exports needed to be promoted more and that a level playing field is deserved by the domestic manufacturer and enterprises in order to be competitive.

Special Economic Zones have grown dramatically, especially in the last 20 years. The ILO's database from 1996 reveals that 176 SEZs are operating in about 47 countries. Then in 2006, 3500 zones were operating in 130 countries. This growth in results is evident despite the fact that a plethora of SEZs have not met their intended objectives. However, there are still several examples that show a prominent contribution to exports, employment, and increase in FDI. They have also played a role in global trade integration, structural transformation, and industrialization.

Surprisingly, SEZs have been very successful in countries with adverse economic conditions. These countries with their imperfect structures and a complete refusal to adapt to change can be used as experimental grounds in order to test and re-tune economic reforms before their application to the wider economy.



The People's Republic of China is said to be a classic example of this phenomenon. SEZs are very helpful in reducing regional inequalities even in economies that are well-functioning or advancing (economically) to higher levels. This is evident in Thailand as well as Vietnam. These SEZs are a tool that helps in the concentration of population and the economic activities in big cities like Bangkok and Ho Chi Minh City.

SEZs also provide an improved business environment because they come with efficient legal and regulatory framework. SEZs become the reasons for enhanced infrastructure, trade facilitation infrastructure development and cutting unnecessary red tape. SEZs aim at logistical, legal, and tax arrangements that are intended to facilitate developing countries in increasing exports of manufacturing concerns. This investment is otherwise very hard to attract. Factors such as weak infrastructure, security threats for investors, higher regulatory duties, and restrictions in trade undermine the progress of industries. The rationale provided for the existence of an SEZ is to decrease the costs that are associated with aforementioned deterrents. This economic zone will create an environment that is both favorable and also within a geographic area. This is why they are called investment enclaves as well. The following table summarizes direct and indirect socio-economic benefits.

Static Benefits	Dynamic Benefits	Social benefits
Foreign Exchange Earnings	Skills Upgrading	Quality of Employment
Foreign Direct Investment	Testing Field For Wider Economic Reform Technology transfer	Wages
Employment Generation	Demonstration Effect	Gender-Differentiated Impacts
Government Revenue	Export Diversification	
Export Growth	Enhancing Trade Efficiency of Domestic Firms Formation of Industry Clusters Integration into Global Value Chains	

Table: 3.1: 'SEZs in India: Concept, Objectives and Strategies' by Dr. R. Shashi Kumar. 2015



### 3.2. Goals of SEZs

Objectives underlined by the United Nations Publication of 1985 of the special economic zones are the following:

- Generating foreign exchange earnings
- Creating employment
- Attracting foreign capital and advanced technology
- Acquiring labor management skills
- Creating linkages between EPZ industries and the domestic economy

In similar vein, the Indian government passed the SEZ Act in 2005. According to the Act, the core objectives of an SEZ are to attract foreign investment, increased exports, creating jobs and promoting regional development. In the government's own words, the main objectives are:

1. Generation of additional economic activity;
2. Promotion of exports of goods and services;
3. Promotion of investment from domestic and foreign sources;
4. Creation of employment opportunities;
5. Development of infrastructure facilities.

### 3.3. Global and Regional Development

The literature on SEZs presented in a global context, they all point to their growth nodes and how they are incubators of good practice. SEZs located on borders have more added benefits by how they improve integration of international supply chains, even if such an increase would require more cooperation and collaboration of authorities that are present on both sides of the border. In the end, it is important to note that a SEZs' positive and negative impact should be focused and that they evolve over a course of many years. It is accepted that their outcome will change with evolution and that their measure of success would be to turn their good practices into standard practices. The Asian Development Bank observed that SEZs are basically a very good policy, damaged only by poor





SEZs back from the 1960s have been known as free trade zones and depending on their regulations in various regions around the world, have usually rapidly grown specifically in Latin America, Asia, and Africa. One universal feature that these zones possess is the duty-free importation of goods. This, however, is a condition to outputs that are exported fully.

Keeping in mind the international experience, one can conclude that physical and non-physical factors have been underscored. These are factors that are contributing to the likelihood of success. Priorities wise, some of the physical factors are the geographic location of the economic zone, whether there is the availability of airports and other ports, personnel, infrastructure, and other support services. Non-physical factors are then related to the reliability of the investment environment, this includes both political and economic stability. Efficient governance is also required so that operation of the economic zones is followed through with the minimum amount of bureaucracy.

The main aim of why both local and foreign investment is attracted is so that these economic zones can, directly and indirectly, influence employment. With a lot of location-based models, these economic zones will breed economies of agglomeration. This is done through the promotion of interaction amongst companies, thereby raising their productivity through the building up of conglomerates or by attracting facilities that are technologically advanced. In the end, gaining static and dynamic outcomes in these economic zones will help in achieving the desired socioeconomic outcomes. This is of course with respect increasing the quality of employment and simultaneously making sure that decent wages are presented to the local population.

Factors associated with the success or failure of these economic zones are very wide in range. These are the drivers among which wages and productivity (in the region), preference of trade, the outlook of the market, policies of the government and the macroeconomic environment, incentives that are offered to investors, and execution of the program are all included. Still, a lot of important international studies will identify investment climate in these special economic zones and also the access to a large amount of local and regional markets as the variables that are most closely connected with the outcomes of these SEZs.



Referring to the Association of Southeast Asian Nations (ASEAN), the competitive strategies, of course, depend on the country's stage of current economic development. It is known that Industrial Parks and Special Economic Zones are there to foster catch-up strategies in developed countries. At the same time, the innovation districts are there to accelerate innovation in the already developed economies. All the countries of ASEAN have very widely made use of these special economic zones. More than 1,000 economic zones are currently operating there.

### 3.4 Orientation to the Concept of SEZs in Pakistan

A comprehensive and legal framework for the regulation of the SEZs in Pakistan is provided in the SEZs Act 2012 and SEZ Rules 2013. This is reckoned to be a useful initiative keeping in view that in the past only a set of limited incentives were provided for promotion of economic zones. This is one of the main reasons cited for why most of the Industrial Estates failed despite the fact that they were given lucrative incentives. Legislation includes well-defined mechanisms of accountability for concerned agencies such as developers of SEZ and government agencies; guaranteed under the Act these agencies are responsible and accountable for provision of support services to SEZs. It is anticipated that a conducive infrastructure will be provided to the enterprises/businesses through the establishment of SEZs. These facilities cannot, however, be withdrawn prematurely. Previously, it was possible for the incentives to be withdrawn at any moment under the Statutory Regulatory Ordinance.

It is possible for an SEZ to avail incentives that go beyond those that were initially stated in the Act. This aims at promoting technology intensive industries in particular regions of Pakistan. This is where the Board of Approvals (BOA) may extend more benefits and incentives to a particular category of these special economic zones, zone enterprise, regions or sectors. The following conditions apply though.



- These benefits, in addition, are justified based on an assessment of the economic impact.
- These benefits, if granted, are liable to be in forfeit if it is proved that the developer of any zone or enterprise has not been able to comply with these conditions. The BOA also has the authority to make the economic impact assessment of the SEZ within the first five years of the commencement. Additionally, anything mentioned in this act does not in any way limit the power of the provincial, federal, or local authority. They can still grant additional benefits if and when they please.

Other facilities that the SEZs can have are electricity, gas, and other utilities. These will be given at the zero-point of the zone. Provision of security is one of the key requirements of SEZs developed under the CPEC framework.

In today's competitive business environment, Pakistan, through its flagship CPEC initiative, has embarked on another journey of industrialization. Although industrialization initiatives in the past haven't been massively successful, Pakistan does have several clusters of the industry that are operating substantially.

- Faisalabad, ready-made garments.
- Sialkot, surgical goods and sports industry
- Gujarat, pottery and ceramic industry
- Khyber Pakhtunkhwa, marble clusters
- Hattar, Industrial Estate
- Gujranwala, tannery and leather cluster

With CPEC agreement, Pakistan is in a better position to rely on China, with a renewed conviction, to establish SEZs. China has around 1,800 SEZs and its success in the domain of manufacturing needs no elaboration. Since 1980s, China has been focusing on skill and knowledge development that is required for setting up special economic zones. Pakistan thus can and should capitalize on Chinese experience in order to make sure that Pakistan's proposed economic zones become successful too.



In order for these SEZs to become successful, it is critically important to attract and secure foreign investments. For this reason, reliable and sustainable provision of economic incentives as well as critical such as electricity, gas, water etc. are provided. In this regard, the federal government of Pakistan has agreed to ensure provisions to these SEZs. Besides, for better working environment of the SEZs, security risk factors needs to be minimized. Federal government of Pakistan has shown firm commitments to ensure security of these SEZs. The success of these SEZs will depend most on the socioeconomic conditions of the adjacent areas. Looking at the case of Pakistan, the employment opportunities of the locals and their capacity building is a primary concern.

In light of the rapid transformation happening on a global scale, it is important for Pakistan to invest in repositioning itself in the world market. The country has a lot of essential advantages and potential for growth, which can be used to prepare its economy in order to secure a huge share in the competition of global production and exports. In the last four decades, the manufacturing sector of Pakistan has shown growth potential at an average rate of 7%, despite a slowdown in recent years. This shows resilience of the Pakistani industries and entrepreneurs, which indeed is critical for sustaining a growth momentum. Certain challenges are threatening Pakistan in the establishment Special Economic Zones. These challenges take various forms and are related to transforming human, technological, financial, and institutional resources.





# CHAPTER 4:

## DEMAND FOR LAND



#### 4.1 Economic Overview of KP

KP economy is the 3<sup>rd</sup> largest economy of Pakistan and its share in Pakistan's total GDP is 10.5%. Key economic highlights of the economy are presented in the following table.

**Table 4.1:** Key highlights of KP's Economy (excluding newly merged districts of FATA)

<b>Population</b>	30.50 million	<b>GDP In USD</b>	49,654 billion Dollars
<b>Labor force</b>	6.09 million	<b>GDP growth</b>	5 percent
<b>Unemployment</b>	7.2 percent	<b>GDP per capita</b>	1628 Dollars
<b>Population below poverty line</b>	49.2 percent	<b>Contribution to national export</b>	
<b>Major Economic Sector</b>	<ul style="list-style-type: none"> <li>• Leather</li> <li>• Dairy and meat</li> <li>• Pharmaceuticals</li> <li>• Marble and Granite</li> <li>• Engineering</li> <li>• Plastic</li> <li>• Food processing</li> </ul>	<b>Major Industries</b>	<ul style="list-style-type: none"> <li>• Tobacco</li> <li>• Marble and Granite</li> <li>• Pharmaceuticals</li> </ul>
<b>Number of industrial units</b>	1,888	<b>Major Agriculture produce</b>	<ul style="list-style-type: none"> <li>• Maize</li> <li>• Tobacco</li> <li>• Peach</li> <li>• Apple</li> <li>• Persimmon</li> <li>• Potatoes</li> <li>• Vegetables</li> </ul>



## 4.2 Demand forecast

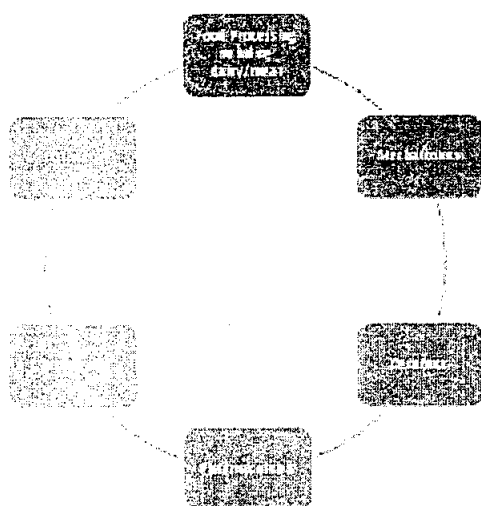
Demand forecast is based on the following information:

- Applicant database
- Secondary data related to major economic sector
- Secondary economic data related to connected districts of RSEZ
- Key Informant's Interviews (KIIs)

Based on informal advertisement on its website, KPEDZMC has received application for “plot booking” of RSEZ. In response to this informal advertisement, 769 applications have been received, though no formal invitation has been advertised till date. These applications are further analyzed for our study. The key highlights of the data are presented in Table.

**Table 4.2: Applicant's Data**

SECTORS	No. of Applications
Marble/ Granite/ Ceramics	398
others	99
food processing	78
Plastic industry	54
Engineering	51
pharma	43
Packing	40
Steel	6



Industrial mix identified through the applicant's information has been compared with the historical industrial mix of the Province. Additionally, in order to better inform our self and assess the future beneficial ventures, we have conducted Key Informants Interview of the leading industrialists, and field experts. These three scenarios are presented in the following tables. Scenario 1 and 2 are strongly correlated. In other words, applicant's preferential industrial mix is in accordance with the traditional industrial mix of the province. Scenario 3 is based on the aspirations of the local experts and emerging trends plus growing requirement of the local population. We as experts also endorse scenario 3, and we anticipate that the most likely industrial mix will be Scenario 3.

**Table 4.3: Three Scenarios of Industrial Mix**

Scenario 1: Industrial Mix based on Applicant's Data	Scenario 2: Historically Industrial Mix in KP	Scenario 3: Industrial Mix based on Expert's Vision
Engineering	Engineering	Automobile and Engineering
Food processing	Food and beverages	Food and Beverages including dairy/meat
Marble/ Granite/ Ceramics	Marble and chips	Mechatronics/Medical equipment
Others	Others	Marble, Granite and Ceramics
Packaging	Packaging	Pharmaceuticals
Pharmaceuticals	Pharmaceuticals	Plastic
Plastic	Plastic and Rubber	Others
Steel		

Based on the three scenarios, we forecast that the number of units in RSEZ will be 440<sup>1</sup> with a  $\pm$  5% variation. The variation in the number of units is due to the three scenarios. Nevertheless, the average size of the plot is calculated as 1.785 acres with a minimum value of 1 acre and a maximum of 50 acres, depending upon the nature of industry<sup>2</sup>. The following table illustrates the

<sup>1</sup> 440 units arrived as total number of area (700 acre)/ average land size (1.78 acre)

<sup>2</sup> For the details see annexure.....

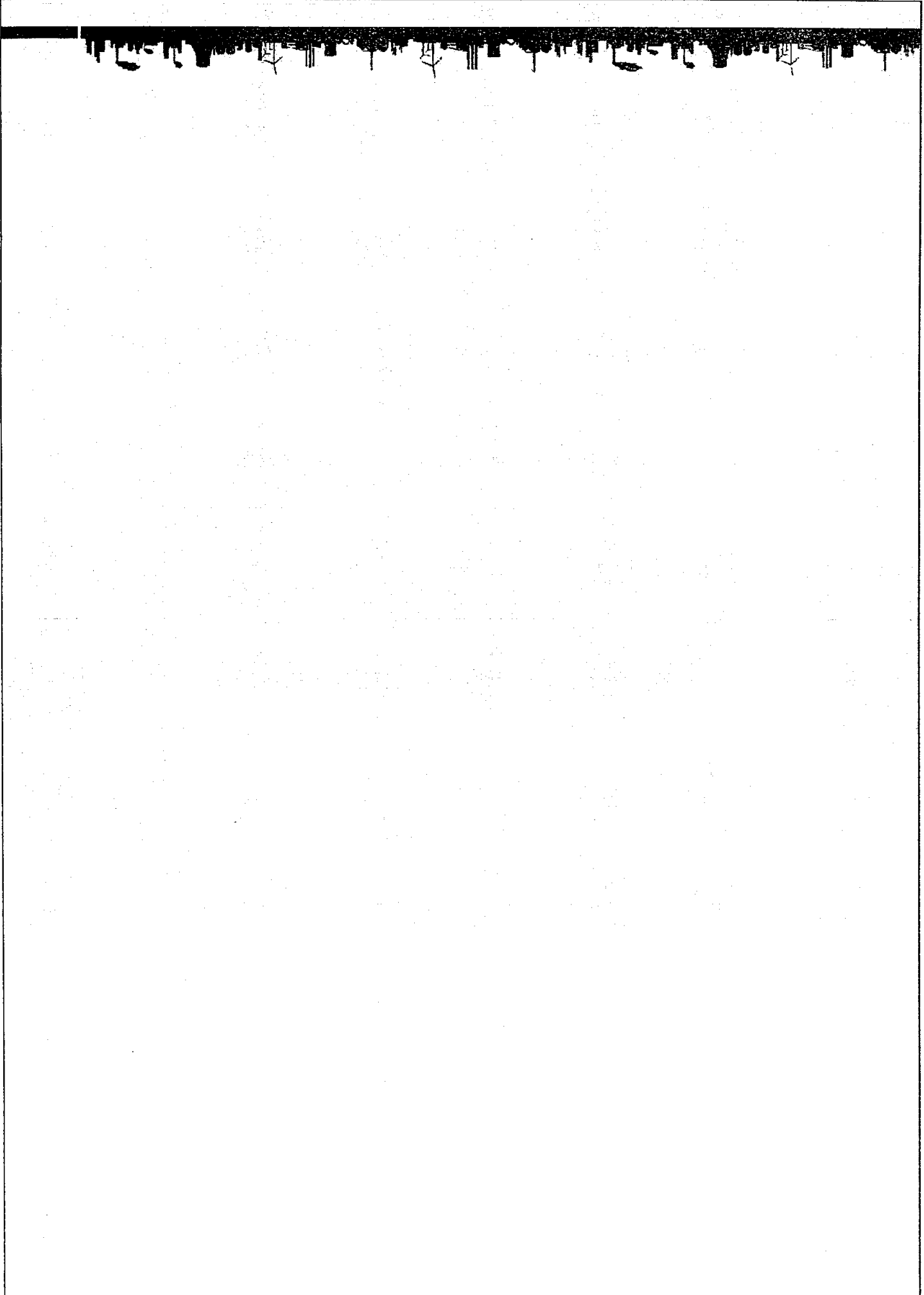


details of the applications regarding the demand for plot and sizes by different prospective buyers. The cluster wise demand can also be observed.

Table 4.4: Cross-tabulation of Applicant Data

	Total								
	Engineering	Food Processing	Marble/ Granite/ Ceramics	Others	Packaging	Pharma	Plastic Industry	Steel industry	
	30	59	363	68	32	35	48	3	638
	7	12	28	20	6	5	6	1	85
	1	0	1	0	0	0	0	1	3
	2	5	1	4	0	2	0	1	15
	3	0	1	3	1	0	0	0	8
	0	1	0	0	0	0	0	0	1
	0	1	0	0	0	0	0	0	1
	1	0	0	0	1	0	0	0	2
	6	0	3	1	0	0	0	0	10
	0	0	1	0	0	1	0	0	2
	0	0	0	1	0	0	0	0	1
	1	0	0	1	0	0	0	0	2
	0		0	1	0	0	0	0	1





# CHAPTER 5:

GEOGRAPHICAL

LOCATION

ADVANTAGES



As per the study titled ‘**Nine Proposed Priority SEZs under CPEC & SEZ Act; An Approach to Industrial Development**’ conducted by CPEC Centre of Excellence, following are the locational advantages and key success factors of any SEZs:

- Location of SEZs
- Natural resources which will be used as raw material or input resources
- Availability of infrastructure
- Availability of Human Resource (available skills, literacy rate, employment rate, human capital index)
- Availability of utilities

### 5.1 Location of RSEZ

RSEZ is located at the interchange of M1 and Swat expressway near Mardan. It is located at Rashakai, District Nowshera and close juncture of:

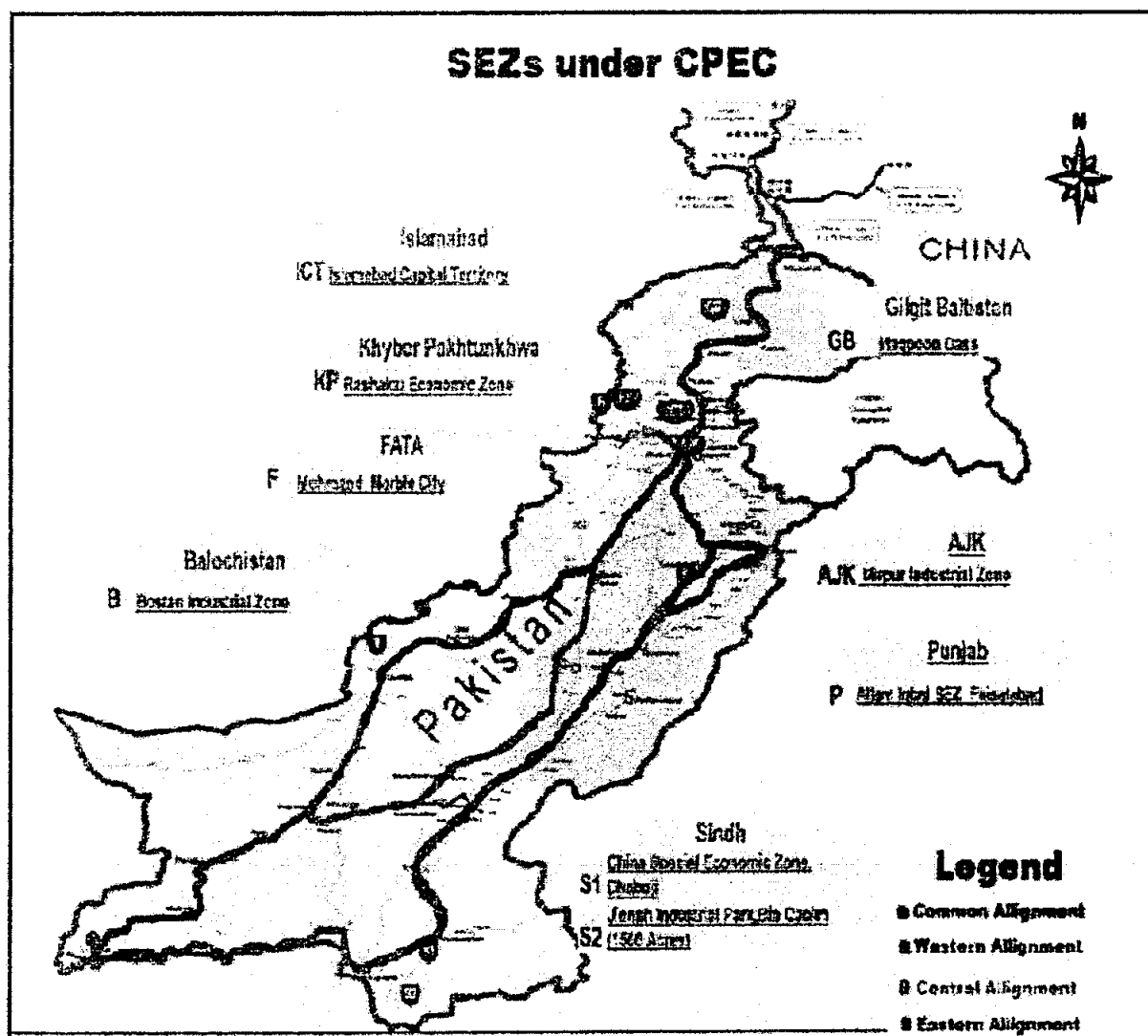
- Motorway-M-1
- Swat Expressway
- National Highway -N-5
- CPEC Western Route
- 

RSEZ links to both CPEC routes through Swat Expressway and Burhan Interchange at M1. It also serves as a bridge for Northern Areas of Khyber Pakhtunkhwa and located close to Afghan border. Due to this central position, the economic zone has the potential to become a trade hub for KP. It can be valuable in expanding transit trade to Afghanistan and Central Asian countries.

The following maps depict the geographical location of RSEZ and its positioning with respect to CPEC routes:



Figure 5.1: SEZs under CPEC



Source: Prime Minister's Office, Board of Investment (BOI)

Figure 5.2: Map showing CPEC linking with Swat Expressway / Motorway i.e. N-95 & Di Chitral CPEC route i.e. N-45

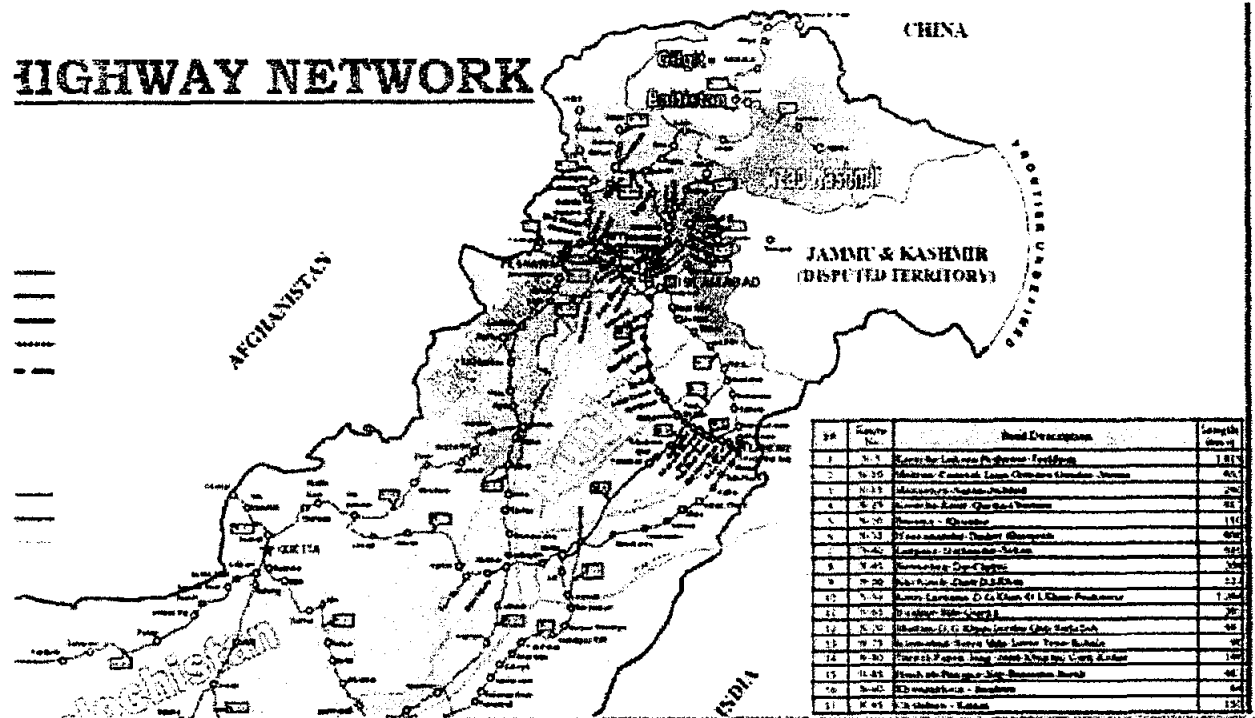


Figure 5.3: Locational Advantages of RSEZ (1)

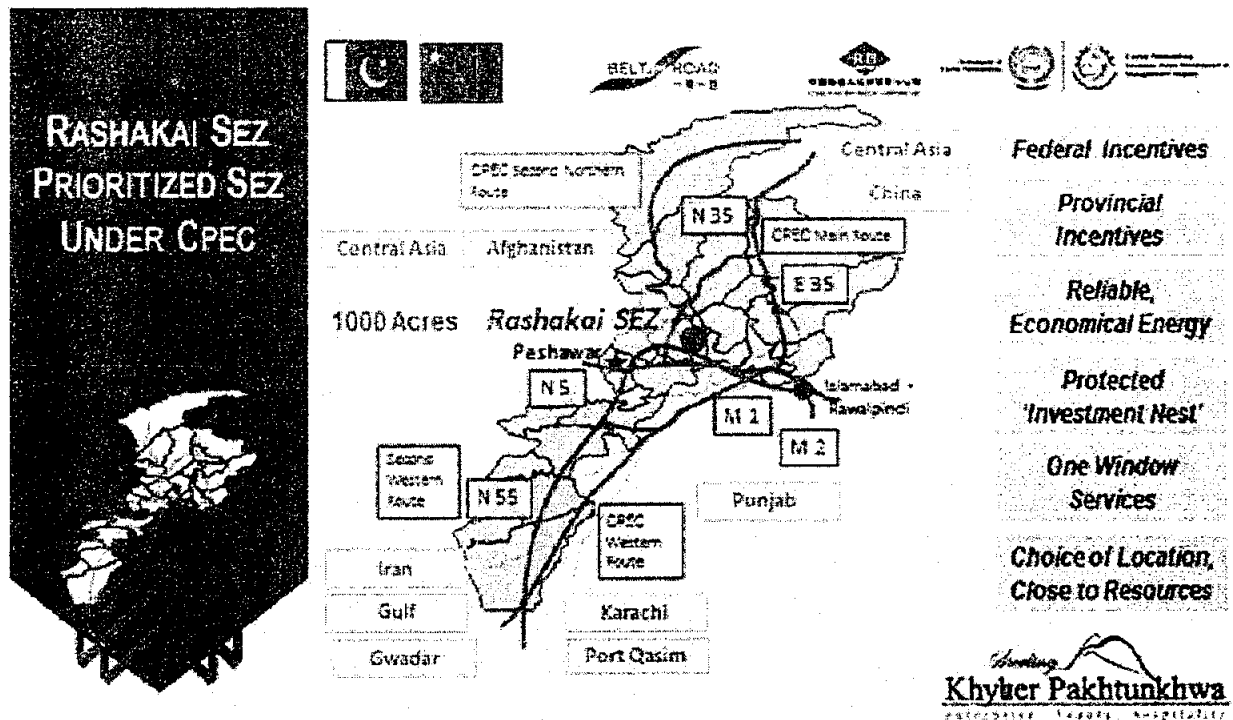


Figure 5.4: Locational Advantages of RSEZ (2)

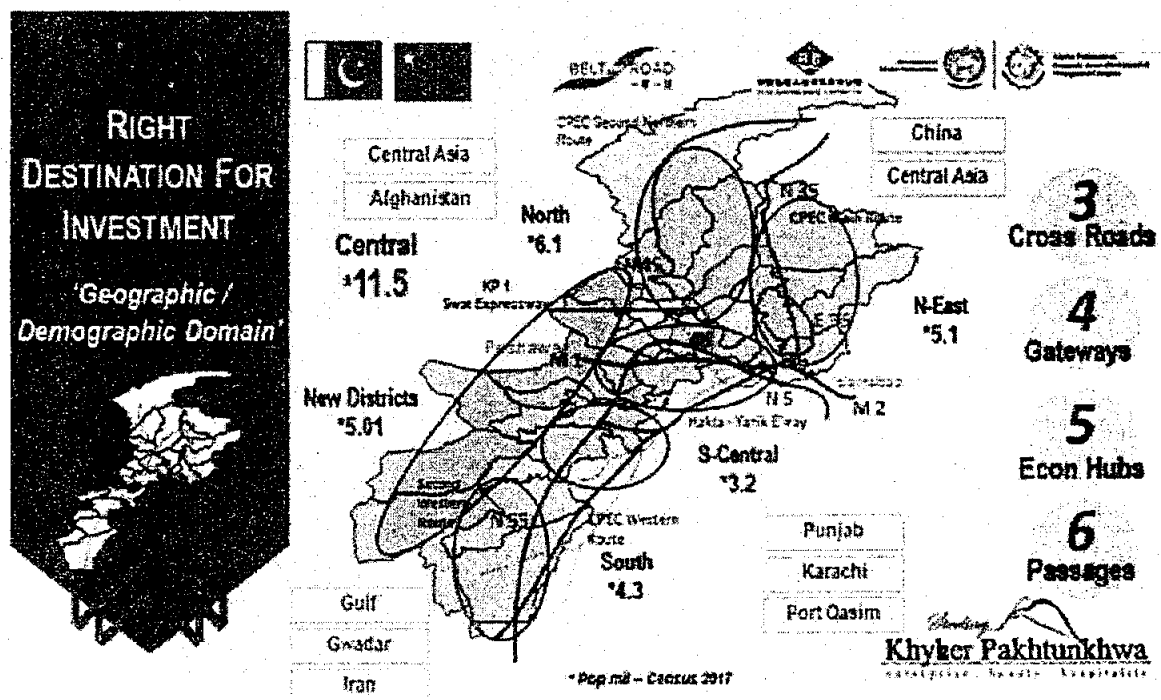
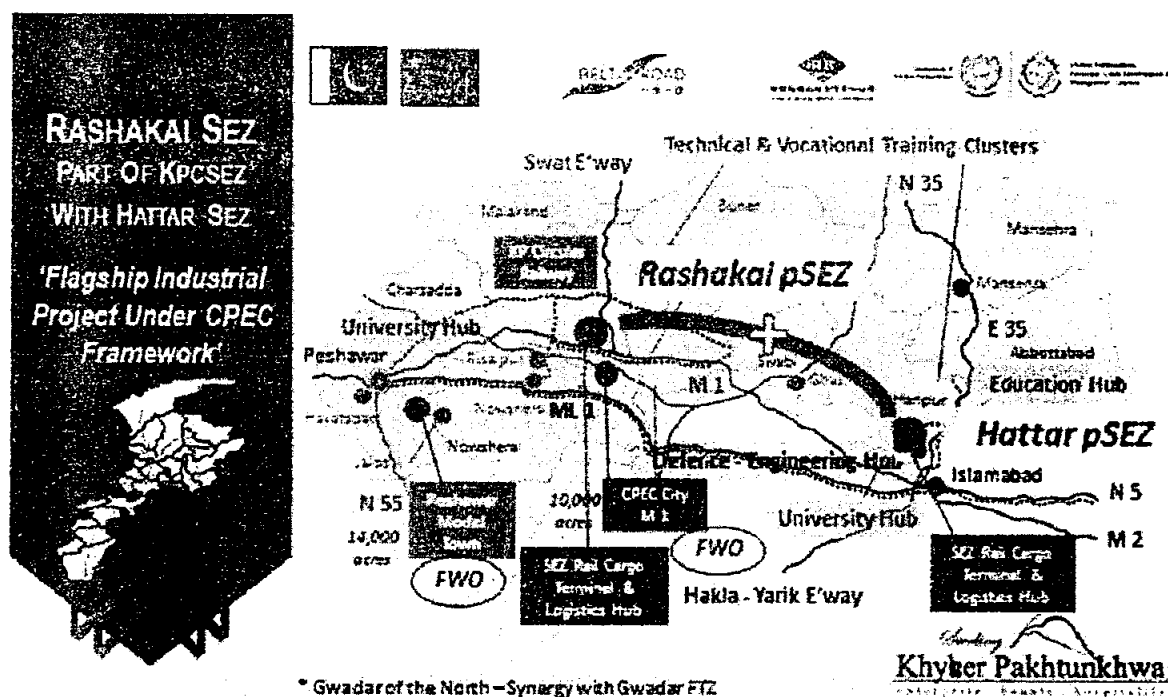
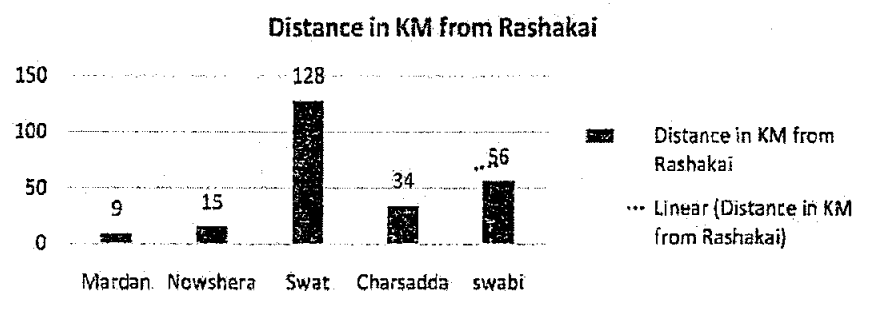


Figure 5.5: Locational Advantages of RSEZ (3)



RSEZ is surrounded by five districts i.e. Mardan, Swabi, Charasadda, Swat and Nowshera. According to the 2017 census, the accumulated population of these districts is 9,441,985 (23% of KPK total population). Distance of these districts from Rashakai is given below:

Table 5.1: Distance of Nearby Districts from RSEZ



### 5.1 Availability of Mineral reserves

District Nowshera, where RSEZ is located, is rich with many types of minerals. Lime stone, marble and granite, shale clay, dolomite, latrite, slate stone in particular, are produced in enough quantity not only to meet the domestic demands but also regional demands. As per KP Bureau of Statistics report on mineral deposits (Year 2012-13), production of lime stone is 2,596,531 tons,



marble 6,661 tons, latrite 17,576 tons, fire clay 5,098 tons, dolomite 14,155 tons, coal 9,344 tons, shale

clay 516,263 tons, slate stone 55,549 tons and soap stone 1,830 tons. Cherat coalfield which is located in Nowshera district has coal reserves of 7.4 Million tons. KPOGCL has identified hydrocarbon deposit in Nowshera block which consists of Mardan, Charsadda, Swabi and Buner districts presenting joint venture opportunity for national and international firms for exploration and production.

### 5.1 Agriculture and live stock

This cluster of five districts is very rich resource in agriculture sector and significantly contributing in provincial and national economy. Key statistics of major crops (other than wheat) is given in following table.

**Table 5.2: Major Crops in Five Districts Nearby RSEZ**

Major crops	Production in ton <sup>1</sup>	% in KPK Economy	% in national Economy
Tobacco	60,384	84%	60%
Maize	354,447	41%	6.2%
Potatoes	26,006	22.3%	0.65%
Onion	113,680	56.4%	6.5%
Peach	25,550	74.1%	54.6%

In addition, vegetables are regularly exported to Middle East from this region. Therefore, this area is very lucrative for agro based industry and RSEZ play an important role for the economic development of this area.

Livestock is another important sector and have huge potential for value addition for local and international market. Key information is as under:

**Table 5.3: Livestock Statistics**

Types	Number of animals	% in KPK Economy	% in national Economy
Cow	1,134,879	25.6%	3.83%
Buffaloes	544,097	30.7%	2.02%
Goat	971,915	15.7%	1.8%
Sheep	264,249	15.6%	0.99%



### 5.1 Availability of infrastructure

RSEZ is connected to all connected districts/Pakistan through:

- Peshawar International Airport that is 58 KM away from RSEZ and Islamabad International airport that is 90 Km away from RSEZ
- Dry port is 65Km away from RSEZ
- Railway Station is 25 Km away from RSEZ

RSEZ is located along Islamabad-Peshawar Motor way (M-1)





# CHAPTER 6:

## DEMOGRAPHY AND AVAILABILITY OF SKILLED LABOR

This chapter has been prepared in light of the need for presenting the demographic data for Rashakai and its adjoining areas including status of the local labor force and consumer and business markets. Moreover, in order to assess the availability of skilled manpower for RSEZ it presents information on vocational training institutes, colleges and universities that will serve as a source-base of workforce for RSEZ and skill profile. Deriving from the 'Stakeholders Mapping', stakeholders included for collection of secondary and primary data included;

- Pakistan Bureau of Statistics ([www.pbs.gov.pk](http://www.pbs.gov.pk))
- KP Bureau of Statistics ([www.kpbos.gov.pk](http://www.kpbos.gov.pk))
- NAVTTC
- KP-TEVTA
- KP Higher Education Department
- Higher Education Commission Pakistan
- Other Stakeholders (including relevant reports of international agencies, donors etc.)

### **6.1. Population Profile for the Region**

Rashakai Special Economic Zone is located in Rashakai, one of the 47 Union Councils of District Nowshera. Rashakai is also one of the 24 major villages of the District. The village lies at the border of the adjoining District Mardan, therefore, the demographic data for both districts has been included in this section. Table 6.1 provides some fundamental information.



### Khyber Pakhtunkhwa District wise Demographic Analysis

Administrative Units	Households	Pop. 2017	Pop 1998	SEX Ratio	Pop Increased Pop 1998-2017	Pop Increased % 1998-2017	Registered Voter 30 <sup>th</sup> June 2017	18 above Pop (%)	18 above Pop 1998 (%)
<b>Nowshera</b>	198,808	1,518,540	874,373	106.10	644,167	73.63	699104	46.04	49.53
<b>Mardan</b>	311,868	2,373,061	1,460,100	102.45	912,961	62.53	1136449	47.89	47.48

**Table 6.1:** District-wise Demographics (Source: Census Report 2017)

Additionally, this section presents further demographic data for two adjoining districts within immediate vicinity of RSEZ;

- Demographics for District Nowshera
- Demographics for District Mardan

Further, additional demographics on Charsadda and Swabi are also provided.



## 6.1.1. Demographics for District Nowshera (2017)

<b>Area</b>	<b>1748 Sq. Km</b>
<b>Population Density</b>	<b>868 / Sq. Km</b>
<b>Population Distribution</b>	
• Male	791159 (52.10 %)
• Female	727619 (47.90 %)
• Urban Population	25.96 %
• Rural Population	74.04 %
<b>Average Household Size</b>	<b>7.64</b>
<b>Literacy Ratio (10 +)</b>	<b>42.50 %</b>
• Male	60.55 %
• Female	22.68 %
<b>Administrative Units</b>	
• Tehsils	01
• Union Councils	47
• Mauzas	153
• Municipal Committees	04
• Town Committees	01
• Cantonment	03



**Table 6.2:** District Profile – Nowshera (Source: [www.kp.gov.pk](http://www.kp.gov.pk))

Census Year	Population	Rural Area	Urban Area
1951	222,527	170,072	52,455
1961	276,937	188,968	87,969
1972	410,718	307,783	102,935
1981	537,638	386,647	647,343
1998	874,373	150,991	227,030
2017	1,518,540	N/A	N/A

**Table 6.3:** Growth of Population since 1951 (Source: Pakistan Bureau of Statistics, 2018)**6.1.2. Demographics for District Mardan (2017)**

<b>Area</b>	<b>1632 Sq.Kms</b>
<b>Population Density</b>	<b>1454 / Sq. Km</b>
<b>Population Distribution</b>	
• Male	1224499 (51.60 %)
• Female	1148324 (48.39 %)
• Urban Population	17.47 %
• Rural Population	79.78 %
Average Household Size	7.61
<b>Literacy Ratio (10 +)</b>	<b>36.5 %</b>
• Male	53.50%
• Female	18.38 %
<b>Administrative Units</b>	
• Tehsils	02
• Union Councils	74
• Mauzas	168
• Municipal Committees	02
• Cantt.	01





Table 6.4: District Profile – Mardan (Source: [www.kp.gov.pk](http://www.kp.gov.pk))

Census Year	Population	Rural	Urban
1951	357,455	308,628	48,827
1961	481,297	400,184	81,113
1972	696,622	569,359	127,263
1981	881,465	715,163	166,302
1998	1,460,100	1,164,972	295,128
2017	2,373,061	N/A	N/A

Table 6.5: Growth of Population since 1951 (Source: Pakistan Bureau of Statistics, 2018)

## 6.1.3. Demographics for District Swabi (2017)

Area	1543 Sq.Kms.
Population	1624616 persons
• Male	817344 (50.31%)
• Female	807272 (49.69 %)
Population Density	1052.9 per Sq. Km
• Urban Population	225925 (13.91 %)
• Rural Population	1348691 (86.09 %)
Average Household Size	7.58

## 6.1.4. Demographics for District Charsadda (2017)

Area	996 Sq.Kms.
Population	1616198 persons
• Male	820520 (50.79 %)
• Female	795657 (49.21 %)
Population Density	1622.68 per Sq. Km
• Urban Population	270175 (16.72%)
• Rural Population	1346023 (83.28 %)
Average Household Size	7.31



## 6.2. Population Profile for Rashakai and Adjoining Areas

The Rashakai village including the RSEZ is located on M1 Motorway (Islamabad – Peshawar) at distance of 140 kilometers from Islamabad and 50 kilometers from Peshawar. Rashakai is a medium size town within District Nowshera with a population of approximately 118,000 individuals. The RSEZ is at a distance of 115 kilometers from Afghan border. Its central location is expected to make it as industrial, trade and economic hub for the country (Gul & Chaudry, 2016). There are five major villages around Rashakai SEZ. These include;

1. Rashakai
2. Sowkai
3. Bara Banda
4. Risalpur
5. Raj Muhammad Kalli

Except Rashakai which has a population of approximately 80,000 people, population of remaining four villages was almost same, 25 to 30 thousand. Besides these five villages, there are small pockets of population scattered around Rashakai SEZ. Total population of households in these villages is approximately 523,300 individuals out of which 272,116 (52%) are females and 251,184 (48%) are males. According to demographic estimate 52% of the male and female population is of school and college going age.

## 6.3. Household Income, Labor Force, Consumer and Business Markets

Presently per capita income of households of the overall area is approximately Rs. 110,829 per year. Presently most significant economic activity at Rashakai is cloth trading. Households are also engaged in domestic agriculture activities. The household size in villages is 9 to 10 individuals per house. Houses are mostly made of bricks with 3 to 5 rooms per house. Existing literacy rate in the Rashakai village is 35%. There are primary and high schools for males and females separately. There is a rural health center at Rashakai; however, critical patients are taken to hospitals at nearby urban centers that is Mardan and Nowshera. People have fields on fringes of villages where they do their subsistence agriculture. Electricity availability to households is very less due to frequent power breakdowns. Households are using different sources of energy including generators and solar panels. Clean drinking water is collected from underground



aquifer through tube wells in the houses and fields. Households have no elaborate arrangements of sanitation except for 2 to 3 lavatories per house and unlined muddy drains. Similarly, sewerage and waste disposal is being done by households on self-help basis and there is no organized system of disposal.

According to Gul and Chaudry (2016) the analysis of household data suggests moderate positive skewness and negative kurtosis; positive skewness indicates that households with low income were more than high income and negative kurtosis indicated that distribution is flatter than Gaussian distribution with light tails. All variables had positive skewness and negative kurtosis indicating that in 2016 proportion of deprived households was more than the blessed. Table 6.below provides further details



Kurtosis	-3.13	0.209	-2.83	-3.25	-2.58	-2.51	-0.76
Skewness	0.5867	0.1267	0.1946	0.5823	0.5598	0.2791	0.7363
Median	96389	9036	4390	20199	12613	20690	660
Standard Deviation	25839.01	3175.58	3126.62	9818.15	6422.15	12032.54	689124.0
Average	110829	9993	4818	26120	15431	24415	689
Raj	89326	6135	2030	17826	9303	10933	566
Muhammad Risalpur	141612	12816	8406	37366	23619	38612	869
Bara Banda	90619	8290	4390	20199	12613	16503	596
Sowkai	96389	9036	1616	18919	10703	20690	660
Rashakai	136200	13690	7650	36289	20916	35339	756
	$\bar{Y}$	$M_e$	$F_e$	$E_m$	$E_f$	$H$	$E$
Variables	Per Capita Income PKR (per year)	Male Employment (numbers)	Female Employment (numbers)	Male Education (enrolments in numbers)	Female Education (enrolments in numbers)	Health (numbers)	Energy (kilowatt hours per capita)

Table 6.6: Demographic Data for Rashakai and Adjoining Villages (Source: Pakistan Bureau of Statistics)

In addition to the above-mentioned demographic profile, Rashakai and its adjoining areas are characterized by economic activity and presence of labor force related to the following consumer and business markets;

- Fruits and Vegetables (wholesale and retail)
- Foods (floor, grains, meats, poultry, packaged goods)
- Packaging (small scale and low value addition)
- Cloth/Textile (wholesale and retail)
- Stitching and Knitting (household-centric)

In addition to the above-mentioned sectors, Rashakai and its adjoining areas are within reach of certain key input resources (such as marble and granite) from the nearby districts and locations. This can consequently influence the nature and types of industrial units in RSEZ from the perspective of feasible investment options. The proximity of connected districts with available input resources includes;

- Gemstone, Soap stone, Metal Ores, Magnesium and Phosphate at Abbottabad (approximately 150 Km from Rashakai)
- Established clusters of hand & power looms, foot wears & sugarcane at Charsadda (approximately 30 Km from Rashakai)
- Gemstone and Metallic Ores at Malakand (approximately 48 Km from Rashakai)
- Gemstone, Marble/Granite at Lower Dir (approximately 120 Km from Rashakai)
- Sugarcane and Tobacco at Mardan (approximately 10 Km from Rashakai)
- Wheat, Maize, Tobacco, Maize, Rice, Sugar Cane, Mustard , Water Melon, Musk Melon, Apricot, Guava, Pear, Peaches, Plum, Citrus and Mulberry plantations at Swabi (approximately 30 Km from Rashakai)



According to Colliers International (2018) the RSEZ site primarily consists of agricultural land, however there are a few establishments nearby suggesting the nature and spread of the labor force and business markets. These include ZRK Industrial Park towards the west of RSEZ site, which is the largest wood based panel industry in Pakistan producing MDF and particleboard, covering the building industry needs of more than 300 million people. Based opposite RSEZ and on the other side of Motorway, two housing schemes have been announced by the names of Khyber Motorway Town and Sher Shah Suri Housing Scheme. This suggests the potential for real estate market in the region. Additionally, the existence of the nearby Mardan Industrial Estate suggests presence of a potential business market for RSEZ. The development of this estate has been carried out in three separate phases over the course of almost four decades. Initial buildout of this industrial area began in 1972, the second phase of expansion took place 12 years later in 1984 and finally the last leg of growth occurred 26 years later in 2010. According to our research and local enquiries, the first two phases of this estate contains a total of 160 plots, which have managed to achieve an occupancy level of 100 percent. The third and most recent phase, which was developed in 2010, has a total number of 100 plots. From these plots only 10 percent have been occupied to date with 90 percent remaining vacant. The main reason for this low level of occupancy is the lack of proper provision for utilities in the area. Electricity has only recently been provided with little to no distribution of gas. This situation and poor supply of facilities has discouraged potential business groups and investors from setting up industries in this phase of the industrial estate.

Other potential business markets include the Pakistan Locomotive Factory (Risalpur), which was established in 1993. Another site worth mentioning is the Bara Banda Small Industries Estate also located in the city of Risalpur. It is pertinent to note that there is not a lot of diversity with regards to the types of industries that operate within Mardan and Bara Banda Industrial Estates. The factories operating within both these estates can be classified as small to medium scale and are essentially dominated by various companies producing granite and marble. However there are a few paper and board mills in the surrounding areas as well. Moreover, Abbas and Ali (2018) suggest that based on the strengths of the connected districts and resource pool, the economic zone has predominant investment feasibility for industries in fruit & food packaging and textile.



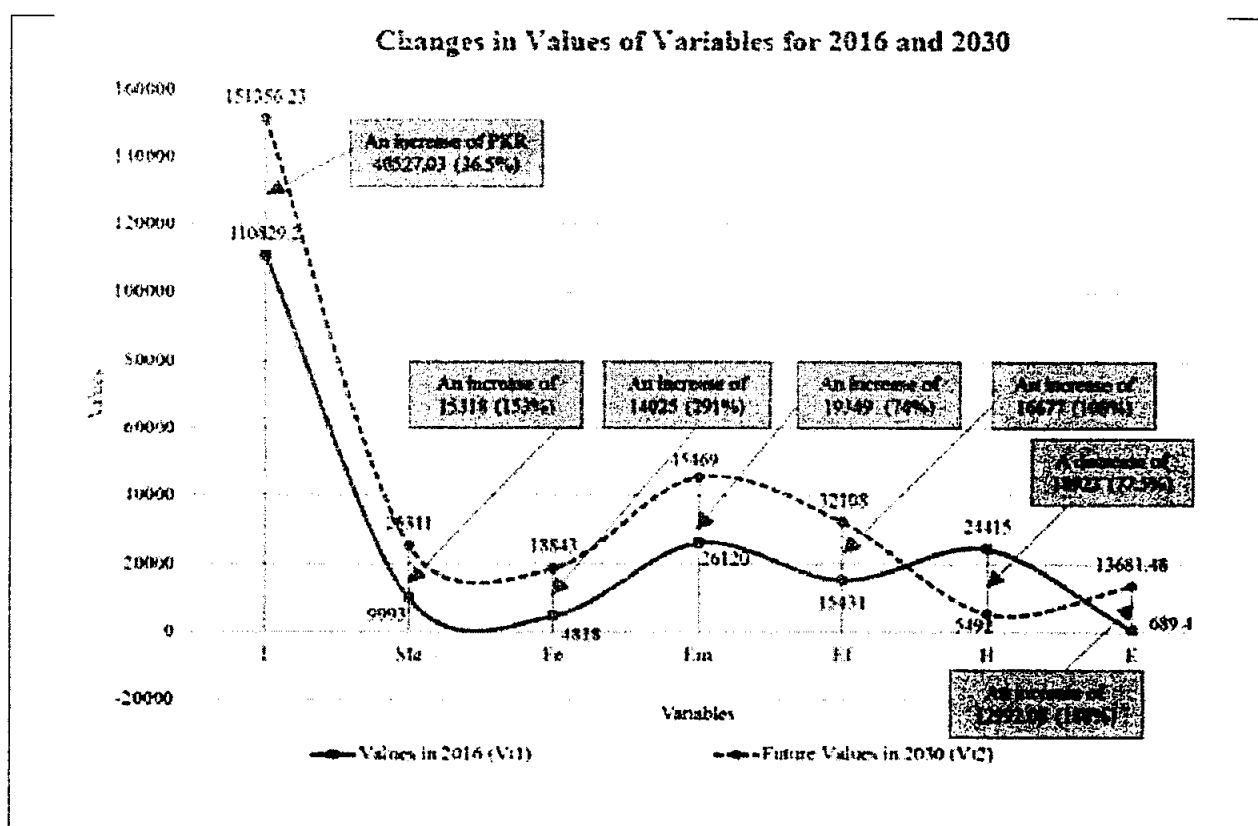
In overall terms, District Nowshera where Rashakai is located is one of the more economically developed regions of KP Province. It has a thriving agriculture and horticulture sector along with mining industries (marble), mineral reserves, and manufacturing industries (locomotive factory, cement, tobacco factory, textiles, beverages, ceramics, edible oil/ghee, and soaps/shampoo etc.). For Nowshera to grow economically, the focus should remain on the polishing the current sectors, which can make this district a 'Multifaceted Hub of Mineral processing, Construction, Manufacturing and Agriculture'. Additionally, KP Oil and Gas Company Limited (KPOGCL) has identified hydrocarbon deposits in Nowshera block which consists of Mardan, Charsadda, Swabi and Buner districts presenting joint venture opportunities for national and international firms for exploration and production (District Profile, KP Govt., 2018).

Similarly, in District Mardan adjoining Rashakai agriculture, horticulture and manufacturing (heavy industries like railway engines, sugar industry and other manufacturing concerns like cigarettes, textiles, beverages, ceramics, edible oil/ghee, and soaps/shampoo etc.) remain the sectors. This district has a minor potential to become a multifaceted hub of mining, heavy manufacturing, agriculture and tourism. The area is also suitable for olive tree cultivation (District Profile, KP Govt., 2018).

#### **6.4. Anticipated Impact of RSEZ on the Demographics of the Region**

Gul and Chaudry (2018) have conducted a study on the anticipated impact of RSEZ on the demographics of Rashakai and adjoining areas for the period 2016 to 2030. Figure 6.2 and subsequent discussion provides some of the key findings from their analysis.





**Figure 6.1:** Anticipated Demographic Changes in Rashakai and Adjoining Villages Due to RSEZ  
(Source: Gul and Chaudhry 2018)

As shown in Figure 6.1, all variables (I = per capita income, Me = male employment, Fe = female employment, Em = male education, Ef = female education and E = energy) show an increase by 2030 in different proportions except number of patients (H = health) which decreased by 77.5% due to expected improved health facilities after construction of RSEZ. Maximum increase was noticed in female education. This was because of the present low enrolment of girls in schools (3.4% of present girls' population of Rashakai and surroundings) which would increase to 13.3% in 2030 after completion of SEZ at Rashakai. In fact, even with almost triple increase in the school enrolments of girls, the percentage raised to only 13.3% of the total girls population in 2030. An interesting fact was increased per capita availability of energy to households of Rashakai and surroundings. Availability of uninterrupted modern energy to surrounding households will definitely have immense socioeconomic impact.



## 6.5. Skilled Manpower Sources: Vocational Institutes and Universities

### 6.5.1 Overview of TVET in Pakistan

In Pakistan, there are 3,798 technical and vocational institutions, of which 1,139 (30%) are in public sector, whereas 2,659 (70%) are in private sector.

The total enrolment in the technical and vocational institutions is 0.315 million, of which 0.137 million (44%) is in public sector, whereas, 0.177 million (56%) is in private sector.

It has been seen that 30% of public technical & vocational institutions are serving 44% of total technical

& Vocational enrolment. While 70% of private institutes are serving for 56% of the private sector enrolment.

The total male enrolment in the technical and vocational institutions is 0.225 million (65%), whereas, the female enrolment is 0.119 million (35%).

The total teachers in the technical and vocational institutions are 18,207, out of those 9,139 (50%) are in public and 9,018 (50%) are in private sector. There are 13,903 (76%) male teachers and 4,304 (24%) female teachers.

Source: Pakistan Education Statistics 2016-16 by Academy of Education Planning and Management



### 6.5.2 Labour Force Challenges in KP

The national level labour force participation is 45.2%, however, the participation level in KP is low and was reported to be 36.3% in 2014-15. The unemployment rate of the nation dropped from 6.0 to 5.9 in fiscal year of 2013-2014, while the unemployment rate in KP also dropped from 0.54 million to 0.51 million in the same year. The most recent Labour Force Survey (LFS) indicates a notable unemployment rate of 7.72% for KP when contrasted with the national level 5.9%. These circumstances are further intensified by the low literacy rate of 53.94% in KP when compared with 61.75%, 62.98% and 55.54 % of Punjab, Sindh and Balochistan respectively. The family size of 7.03 in KP is higher than other regions of Pakistan.

The labour force in Pakistan has recorded an increase of 2.5 million personnel from 2010-11 to 2012-13, which was further increased from 60.10 million to 61.04 million from 2013-14 to 2014-15. The civilian labour force of KP increased from 6.58 million in 2010-11 to 6.72 million in 2012-13, which is an increase of 0.14 million. In 2013-14 to 2014-15 the civil labour force further increased 0.15 million.

This increase has developed several challenges for the labour force of KP.

1. The national level labour force participation is 45.2%, however, in KP this participation is recorded to be 36.3% in 2014-15
2. The unemployment rate of the country dropped from 6.0 to 5.9 from the year 2013-14 to 2014-15. Comparatively, the unemployed labour of KP was also dropped from 0.54 million to 0.51 million from 2014 to 2015, however, this decrease was recorded mainly in male labour force. The number of unemployed females remain the same in 2015 i.e. 0.20 million.



1. The latest LFS suggested highest unemployment rate of 7.72% for KP as compared to the national level i.e. 5.9%. Furthermore, the youth unemployment rate (age 10 years above) is more alarming as it is calculated to be 25.37%. Similarly, the female unemployment rate is 3.03% as compared to the national level of 2.15% respectively. This also indicates that the KP economy is not performing well and has not created many openings for youth.
2. The labour force situation was further impaired by the low literacy rate of 53.94% of KP as compared to 61.75, 62.98 and 55.54 % of Panjab, Sindh & Balochistan respectively.
3. The growth rate of 4.3% in the province is also low as compared to a national growth rate of 4.6%.

Considering the highest unemployment rate, highest population rate, lowest literacy rate, lowest labour force participation and low economic growth (4.3%), the revitalization of socio-economic status supported by skilled workers is the need of the day. This will increase the supply side and will not only enhance the developmental statistics, but will also augment the growth statistics. On the other hand, historically, TVET sector received a low priority in KP for some of the following reasons;

- As the pre entry/admission requirements for TVET is low or even not required, therefore, it has created an impression of low priority education. The image of TVET was further mutilated by psychological, social and cultural factors such as education for low caste and less privileged group. The opportunity cost of the less privileged group makes it more repulsive to opt for education for their bread and butter.



- The ADP allocated for public sector TVET institutes is also not sufficient to make these institutes work according to the needs of the job market.
- The institutional and curriculum structure also makes it a vague qualification to attain. Multiple curricula, issuing authorities with an overlapping mandates and the absence of a quality curriculum framework are the main concerns in making the TVET attractive.

Source: Sector Study on Demand Driven Competency Based Training in Potential Sectors of KP by GIZ, March 2017

The technical and vocational skill shortage has remained a major challenge for Khyber Pakhtunkhwa over the decades in the industries especially in manufacturing, construction, mining and service sectors. The privatization and economic restructuring programmes launched at federal level have caused further imbalance in the supply provision of skilled labour. The soaring gaps between demand and supply of skilled labour have adversely impacted the efficiency of the industry sector leading to less production and non-adjustment of surplus labour available in the market. Consequently, the economic growth could not pick the required speed in accordance with the market trends of labour position with respect to the arising situation. The challenge of closing the gaps and reducing unemployment at national and provincial levels can only be addressed with the exploitation of available potential in the Technical and Vocational, Education and Training Institutions (TVET) through upgrading their skills as per modifications of technology.

As per report prepared by NAVTTC, number of working vocational institutions stand at 569 numbers accounting for 95% in comparison with functioning of meagre 30 numbers of technical institutions which contribute to only 5% of total supply of TVET institutions. Moreover, the strength of skilled workforce provided by the technical institutions in a year stand at 25,580 persons whereas skilled workforce supplied by vocation institutions consists of 73,912 persons per annum in the KPK which is more than half of the skilled workforce produced by the technical institutes. The 1,882 industrial units are working in the manufacturing sector whereas only 169 industrial units are found in the construction sector. The 1,150 industrial units are available in the mining sector and only 624 units are engaged in the services sector. The highest workforce deficiency is found in mining sector which accounts for 99% of total skilled workforce followed by service sector (98%) and construction sector (82%) while least skilled workforce deficiency has been reported in manufacturing which makes up only 21% of total skilled workforce.



The highest skilled workforce has been reported in the manufacturing with 80.9% followed by service with 71.6%, mining with 50.4% and least provision of skilled workforce is in the construction with only 4.2% of total workforce. The supply of skilled workforce on technical side based on DAE civil (6,500), electrical (5,000), mechanical (2,000), electronics (1,000) and telecom (less than 1,000) is more than the available demand of 3,000 and less than 1,000 skilled persons in the market which means creation of awareness is required amongst the people for investment in these sectors aimed at adjustment of surplus skilled workforce for utilizing their skill in the development of economy. The basic computer and tailoring & dress on vocational side have the capacity of producing 5,000 skilled persons each against demand of only 2,000 and less than 1,000 skilled persons respectively

Source: Skills Gap Analysis Khyber Pakhtunkhwa by NAVTTC, February 2017

### 6.5.3 Overseas Employment Trend in Last 10 Years

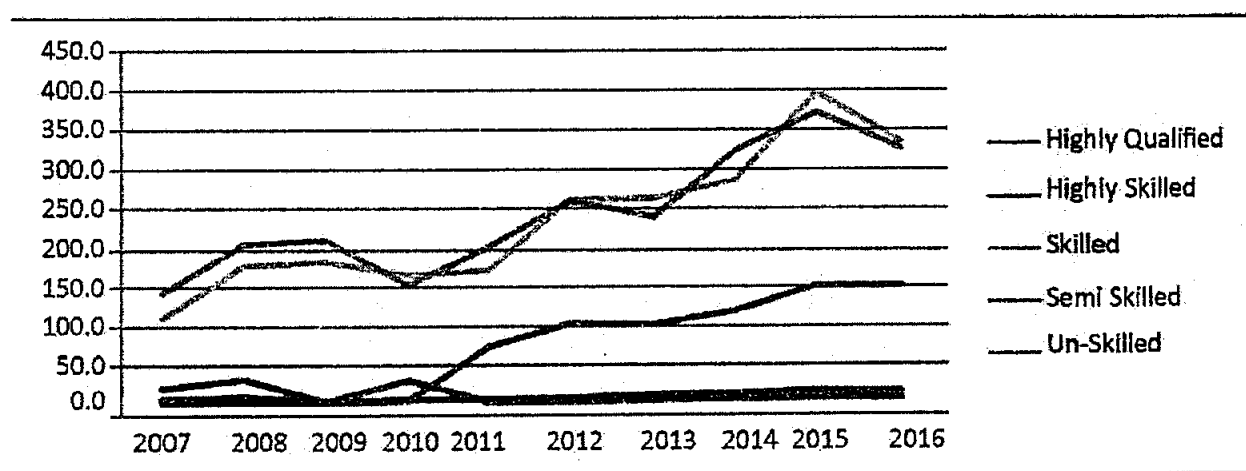
Table 6.7 below shows the number of Pakistanis who travelled abroad for employment registered with the Bureau of Emigration and Overseas Employment during the period 2007-16. The share analysis of overseas shows a higher tendency for skilled and unskilled labour from 2007. However, the rate of skilled workers is increasing as compared to unskilled labour in the last 10 years. This clearly demonstrates that skilled workers demand is increasing overseas.



Table 6.7: Overseas Employment in Last 10 Years - All figures are in (000)

Year	Highly Qualified	Highly Skilled	Skilled	Semi-Skilled	Un-Skilled
2007	8.2	21.0	110.9	3.2	143.7
2008	9.7	33.2	177.8	4.2	205.4
2009	5.0	3.3	182.7	2.5	210.2
2010	7.1	31.7	165.7	5.2	153.3
2011	7.0	3.0	171.7	73.2	202.0
2012	9.3	4.2	261.5	104.2	259.3
2013	12.1	5.0	263.1	103.0	239.5
2014	14.6	6.2	287.6	120.2	323.8
2015	17.5	7.9	397.3	151.6	372.3
2016	16.5	8.2	335.7	152.2	326.8

Source: Bureau of Emigration and Overseas Employment  
Source: Bureau of Emigration and Overseas Employment



Source: Sector Study on Demand Driven Competency Based Training in Potential Sectors of Khyber Pakhtunkhwa

#### 6.5.4 TVET Institutes in Khyber Pakhtunkhwa

The following table provides comparative analysis of TVET institutes in various provinces in Pakistan:

Provincial/ Region	Level	Institutions			Total	Enrollment by Sex			Teachers		
		Male	Female	Mixed		Male	Female	Total	Male	Female	Total
Punjab	Technical	257	249	160	666	48,567	3,504	52,071	4,103	2,297	6,400
	Vocational	420	545	205	1,170	70,641	60,400	131,041	2,540	239	2,779
	Total	677	794	365	1,836	119,208	63,904	183,112	6,643	2,536	9,179
Sindh	Technical	60	21	115	196	36,730	1,978	38,708	1,498	456	1,953
	Vocational	142	203	79	424	15,603	10,501	26,104	587	259	846
	Total	202	224	194	620	52,333	12,479	64,812	2,085	714	2,799
KP	Technical	78	6	2	86	2,800	2,019	4,819	1,855	63	1,918
	Vocational	476	135	39	650	26,800	20,800	47,600	501	90	591
	Total	554	141	41	736	29,600	22,819	52,419	2,356	153	2,509
Balochistan	Technical	10	2	-	12	1,215	500	1,715	179	30	209
	Vocational	59	63	15	137	5,876	4,260	10,136	102	95	197
	Total	69	65	15	149	7,091	4,760	11,851	281	125	406
A.S.K.	Technical	9	-	5	14	1,053	23	1,076	248	18	266
	Vocational	36	67	12	115	5,278	3,290	8,568	339	126	465
	Total	45	67	17	129	6,331	3,313	9,644	587	144	731
FATA	Technical	10	-	-	10	879	48	927	145	14	159
	Vocational	24	42	-	66	2,300	1,250	3,550	80	92	172
	Total	34	42	-	76	3,179	1,298	4,477	225	106	331
GB	Technical	5	-	4	9	1,055	40	1,095	186	4	190
	Vocational	26	126	23	175	2,350	8,690	11,040	421	183	604
	Total	31	126	27	184	3,405	8,730	12,135	607	187	794
ICT	Technical	7	8	5	20	611	321	932	325	98	423
	Vocational	21	69	8	98	1,887	2,061	3,948	597	164	761
	Total	28	77	13	118	2,498	2,382	4,880	922	262	1,184
Pakistan	Technical	386	286	291	963	93,272	8,484	101,756	8,736	3,008	11,744
	Vocational	1,204	1,250	381	2,835	131,825	112,282	244,107	5,187	1,304	6,491
	Grand Total	1,590	1,536	672	3,798	225,097	119,766	344,863	13,923	4,312	18,235

**Table 6.8: TVET Institutes in KP (Source: Pakistan Education Statistics 2016-16 by Academy of Education Planning and Management)**

### 6.5.5. Annual Supply of TVET Institutions in KP

The figure indicates annual supply of skilled workforce from both technical and vocational institutions to meet the emerging demand of market in KP. The graph depicts that total number of skilled workforce provided by the technical institutions in a year stands at 25,580 persons whereas skilled workforce supplied by vocation institutions consists of 73,912 persons per annum in the province which is more than half of the skilled workforce produced by the technical institute. The notable phenomenon in comparison of data between two types of institutes is on rise in the skilled workforce generated by the vocational institute over technical institute. The reduced number of skilled workforce in the technical trades reflects radical changes needed for improvement in the efficiency of existing technical institutions and augmenting in its numbers so that soaring demand of market may be met as per the evolving needs of the market.

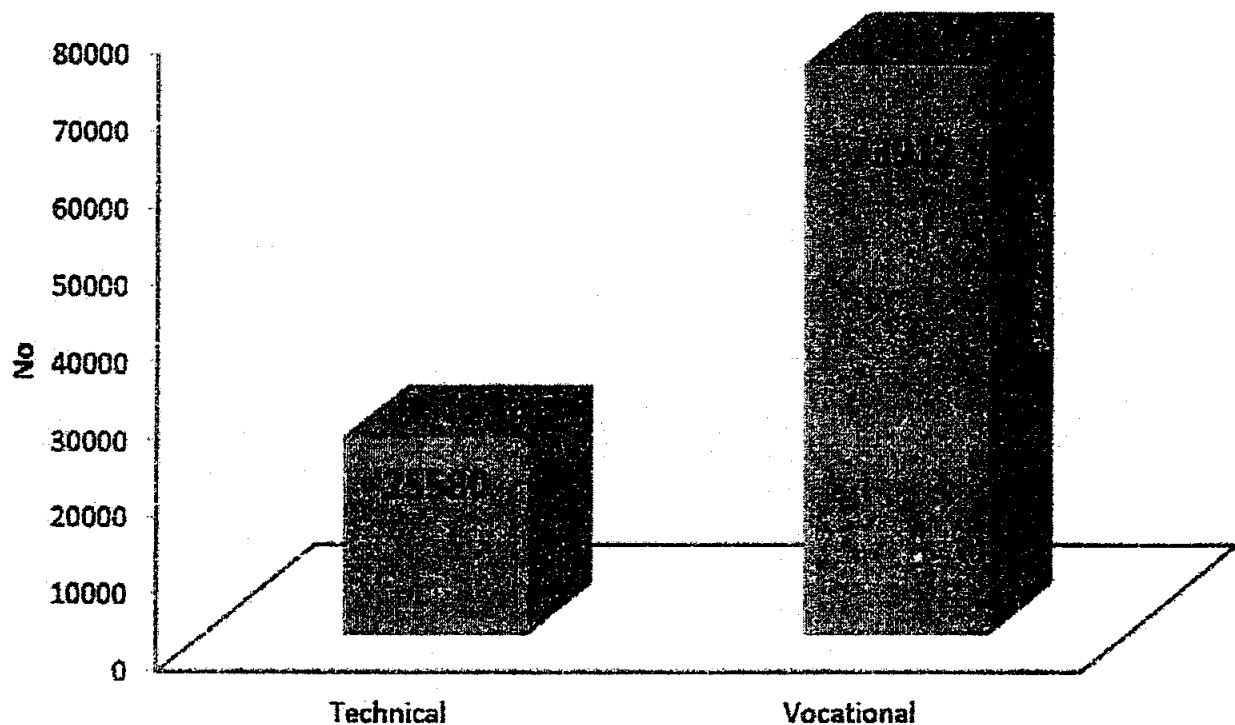


Figure 6.2: Annual Supply of TVET in KP (Source: Skills Gap Analysis Khyber Pakhtunkhwa by NAVTTC, February 2017)



### 6.5.6 Industrial Units in Khyber Pakhtunkhwa Sector Wise

The data in the graph shows deficiency of skilled workforce in different industrial units of KP ranging from manufacturing to service sector. The rapid growth of production has slowed down leading to decreased efficiency in the provincial economy or in case of filling the gap with work based learner increase market value cost. Now the data is interpreted quantitatively to measure the actual deficiency in the manufacturing, construction, mining and service sectors of the province. The 1,882 industrial units are working in the manufacturing sector whereas only 168 industrial units are found in the construction sector. The 1,150 industrial units are available in the mining sector and only 624 units are engaged in the services sector. The stark comparison gives conspicuous results that manufacturing sector ranks top in terms of having availability of industrial units whereas construction sector leads deficiency of skilled workforce. The status of industrial units in mining and service sector lies in between the highest and lowest sector which indicates acute deficiency of skilled workforce. The deficiency of skilled workforce in the mining, service and construction needs to be bridged through increasing number of industrial units in the province.

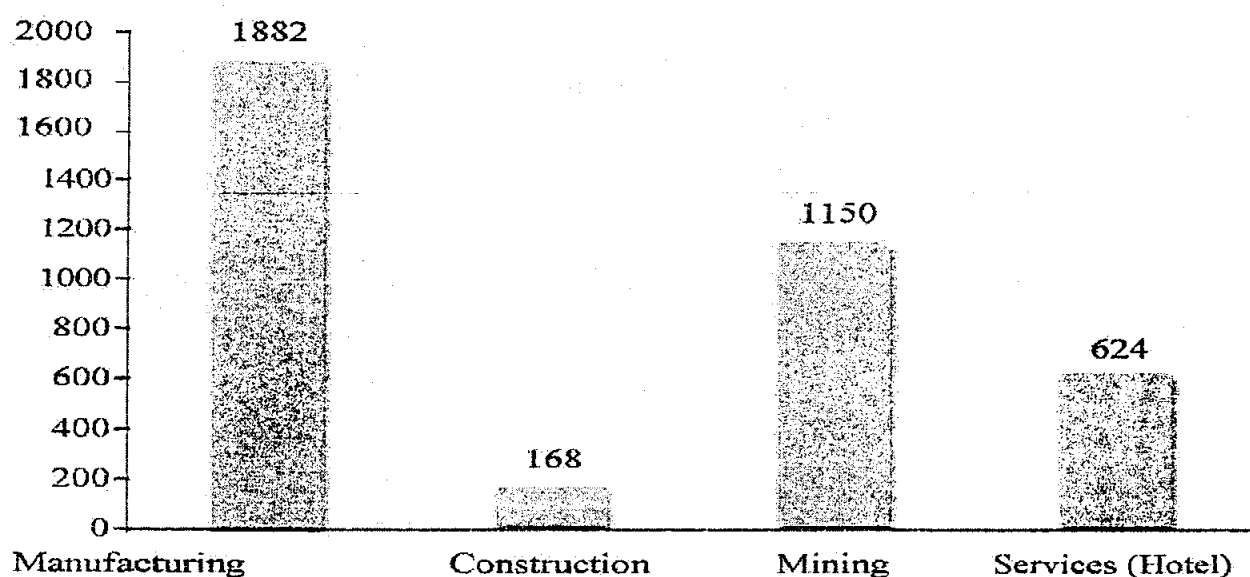


Figure 6,3: KP Industrial Units (Source: Skills Gap Analysis Khyber Pakhtunkhwa by NAVTTC, February 2017)



#### 6.5.7. Supply vs Demand of Skilled Workforce (Technical Trades)

The data given in the table demonstrates comparison between supply and demand of skilled work force in technical education leading to creation of substantial gaps. The findings depicts that supply of skilled workforce is more than its demand in B tech civil, B tech electrical, B tech mechanical, DAE architectural, DAE auto, DAE auto & farm, DAE cit, DAE civil, DAE computer hardware, DAE electrical, DAE electronics, DAE food, DAE mechanical, DAE RAC, DAE telecom and DAE DDM. Likewise the demand of skilled workforce is more than its supply in DAE Chemical, DAE Mechanical, DAE Mining, DAE Mold, DAE Pharmacy, DAE Land & Mine Survey Tech and DAE Material.

The exceeding supply over demand has created demand gaps of skilled workforce after comparison between its demand and supply and have been marked in DAE Electrical with 5,005 as the highest demand gap followed by DAE Computer Hardware with 3,422, DAE Mechanical with 1,742, DAE CIT with 662, DAE Electronics with 645, DEA Telecom with 452, B Tech Electrical with 402 and DAE food with least demand gap of only 12. Similarly, the highest supply gap of skilled workforce has been detected in DAE Land & Mine Survey Tech with 3,994 after comparison between its demand and supply. It was followed by DAE Mining with 3,143 as supply gap DAE Chemical with 815 and least supply gap of skilled workforce existed in DAE Material with only 05.

The trends in trade indicates that majority students prefer to join DAE Electrical followed by DAE Computer Hardware, DAE Mechanical, DAE CIT, DAE Electronics and DAE Telecom as a result of which surplus skilled workforce is available in the market whereas less opportunities are available in DAE Land & Mine Survey Tech, DAE Mining, and DAE Chemical, DAE Mold, DAE Pharmacy and DAE Petroleum. The planning is required to be made in accordance with demand and supply gaps of skilled workforce for reducing such existed gaps aimed at adjustment of surplus skilled workforce in the indicated professions by creating opportunities in the market while provision of shortage of skilled workforce is needed to be made to bring it in line with the rising demand by involving technical institutions.



## TVET Supply vs Demand

Trade	Supply	Demand	Gaps
B. Tech Civil	168	86	□ 82
B. Tech Electrical	411	9	□ 402
B. Tech Mechanical	80	0	□ 80
DAE Architectural	364	265	□ 99
DAE Auto	143	5	□ 138
DAE Auto & Farm	47	12	□ 35
DAE Chemical	275	1,090	□ (815)
DAE CIT	596	34	□ 662
DAE Civil	6,469	3,047	□ 3,422
DAE Computer Hardware	384	12	□ 372
DAE Electrical	5,350	345	□ 5,005
DAE Electronics	928	283	□ 645
DAE Food	30	18	□ 12
DAE Mechanical	2,309	567	□ 1,742
DAE Petroleum	91	123	□ (32)
DAE RAC	109	0	□ 109
DAE Telecom	509	57	□ 452
DAE DDM	123	0	□ 123
DAE Mining	0	3,143	□ (3,143)
DAE Mold	0	48	□ (48)
DAE Pharmacy	0	59	□ (59)
DAE Land & Mine Survey Technology	0	3,994	□ (3,994)
DAE Material	0	5	□ (5)

Table 6.9: Skills Gap Analysis Khyber Pakhtunkhwa by NAVTTC, February 2017



### 6.5 Universities in Khyber Pakhtunkhwa

There are total 185 universities in Pakistan providing their services in both public and private sectors of education. Out of these universities, 110 (59%) are working under umbrella of public sector, whereas 75 (41%) are working under the supervision of private sector.

The total enrolment in the universities, i.e., at post graduate stage, is 1.463 million. Out of this enrolment 1.192 million (81%) students are enrolled in public universities, whereas, 0.270 million (19%) students are studying in private universities. Despite the fact that there are more universities in public sector, there are less students in these universities as compared to private sector.

The total male enrolment in the universities is 0.795 million (54%), whereas, the female enrolment is 0.667 million (46%).

The total teachers in the universities are 58,733 out of which 40,258 (69%) are in public and 18,475 (31%) are in private sector.

Source: Higher Education Statistics 2016-17 by Academy of Education Planning and Management

As per Higher Education Commission web site, there are 41 universities in Khyber Pakhtunkhwa (both public and private sector).

University	Location	Established	Campuses	Specialization	Type
1 Islamia College University	Peshawar	1913 (2008)*		General	Public
2 Pakistan Military Academy, Kakul	Abbotabad	1947		Training	Pakistan Army
3 University of Peshawar	Peshawar	1950		General	Public



University	Location	Established	Campuses	Specialization	Type
4 Gomal University	Dera Ismail Khan	1974	Tank <sup>[13]</sup>	General	Public
5 University of Engineering and Technology, Peshawar	Peshawar	1980	Abbottabad, Bannu, Jalozai, Kohat	Engineering and Technology	Public
6 University of Agriculture, Peshawar	Peshawar	1981	Mardan	Agriculture, veterinary and business	Public
7 CECOS University of IT and Emerging Sciences	Peshawar	1986		IT & engineering	Private
8 GIK Institute of Engineering & Technology	Swabi	1988		Engineering	Private
9 Kohat University of Science and Technology	Kohat	2001	Hangu	General	Public
10 University of Malakand, Chakdara	Lower Dir	2001		General	Public



University	Location	Established	Campuses	Specialization	Type
11 Qurtuba University	Peshawar	2001	Dera Ismail Khan	General	Private
12 Sarhad University of Science and IT	Peshawar	2001		Science & IT	Private
13 Fast University, Peshawar Campus	Peshawar	2001		Information technology	Private
14 City University of Science and IT	Peshawar	2001		IT, engineering & general	Private
15 COMSATS University	Abbotabad Campus	2001		IT	Public
16 Hazara University	Mansehra	2002		General	Public
17 Gandhara University	Peshawar	2002		Medical sciences	Private
18 Northern University	Nowshera	2002		General	Private
19 Institute of Management Sciences	Peshawar	2005		Management Sciences	Public



University	Location	Established	Campuses	Specialization	Type
20 University of Science and Technology	Bannu	2005		General	Public
21 Khyber Medical University	Peshawar	2007	Abbottabad, Bannu, DI Khan, Saidu Sharif (Swat)	Medical	Public
22 Abasyn University	Peshawar	2007		General	Private
23 Abdul Wali Khan University Mardan	Mardan	2009	Chitral, Pabbi, Shankar, Palosa Campus, Timergara Campus	General	Public
24 Shaheed Benazir Bhutto University, Sheringal	Upper Dir	2009	Chitral	General	Public
25 University of Swat	Swat	2009		General	Public
26 Bacha Khan University	Charsadda	2012		General	Public
27 Shaheed Benazir Bhutto Women University	Peshawar	2012		General	Public



University	Location	Established	Campuses	Specialization	Type
28 University of Haripur	Haripur	2012		General	Public
29 IQRA National University	Peshawar	2012		General	Private
30 Khushal Khan Khattak University	Karak	2012		General	Public
31 University of Swabi	Swabi	2012		General	Public
32 Abbottabad University of Science and Technology	Abbottabad	2015		Science & Technology	Public
33 Women University Mardan	Mardan	2016		General	Public
34 Women University Swabi	Swabi	2016		General	Public
35 University of Technology	Nowshera	2016		Technology	Public
36 FATA University	Akhorwal	2016		General	Public





University	Location	Established	Campuses	Specialization	Type
37 University of Chitral	Chitral	2017		General	Public
38 University of Buner <sup>1</sup>	Buner	2017		General	Public
39 University of Engineering and Technology Mardan	Mardan	2017		Engineering and Technology	Public
40 University of Agriculture, Dera Ismail Khan	Dera Ismail Khan	2017		Agriculture	Public
41 University of LakkiMarwat	LakkiMarwat	2017		General	Public

Source: Higher Education Commission Web Site ([www.hec.gov.pk](http://www.hec.gov.pk))



### 6.6.1 Universities and their Faculty in Pakistan (Province wise)

Province wise distribution of university faculty is given below:

Province/ Region	Institutions			Faculty	Teachers		
	Public Institutions	Private Institutions	Total		Public Teachers	Private Teachers	Total
					Total	Total	Total
Punjab	34	26	60	Full Time	10,730	5,182	15,912
				Part Time	4,047	1,496	5,543
				Total	14,777	6,678	21,455
Sindh	23	31	54	Full Time	5,676	5,097	10,773
				Part Time	1,119	1,914	3,033
				Total	6,795	7,011	13,806
KP	25	10	35	Full Time	4,464	1,194	5,658
				Part Time	816	332	1,148
				Total	5,280	1,526	6,806
Baluchistan	7	1	8	Full Time	1,571	79	1,650
				Part Time	81	74	155
				Total	1,652	153	1,805
A&K	5	2	7	Full Time	932	121	1,053
				Part Time	221	22	243
				Total	1,153	143	1,296
GB	1	-	1	Full Time	200	-	200
				Part Time	-	-	-
				Total	200	-	200
ICT	15	5	20	Full Time	8,246	1,747	9,993
				Part Time	2,155	1,217	3,372
				Total	10,401	2,964	13,365
Pakistan	110	75	185	Full Time	31,819	13,420	45,239
				Part Time	8,439	5,055	13,494
				G. Total	40,258	18,475	58,733


Source: Pakistan Education Statistics 2016-17 by Academy of Education Planning and Management

## 6.6.2 University Level Enrolment Statistics 2016-17

Province/ Region	Level	Male			Female			Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Atlantic	Bachelor	94,258	94,263	188,521	54,734	26,823	81,557	145,992	121,086	270,078
	Master of 16 yrs of Education	29,036	37,578	66,614	7,825	5,655	13,480	36,861	43,234	80,095
	Master of 16 yrs	28,327	23,185	51,512	10,363	7,983	18,346	34,495	31,168	65,663
	Ph.D	1,923	3,150	5,073	751	427	1,178	4,676	1,580	6,256
	P.G.D.	443	443	886	1	59	60	454	593	1,047
	Total	154,087	158,919	313,006	73,614	40,947	114,561	225,455	246,557	472,012
North	Bachelor	63,950	31,804	95,754	48,150	23,963	72,113	112,100	62,367	174,467
	Master of 16 yrs of Education	7,331	8,125	15,456	1,819	1,125	2,944	9,150	9,250	18,400
	Master of 16 yrs	14,496	5,665	20,161	9,591	4,551	14,142	24,287	10,216	34,503
	Ph.D	1,309	502	1,811	451	213	664	1,760	715	2,475
	P.G.D.	1,692	722	2,414	43	33	76	1,155	757	1,912
	Total	88,778	51,918	140,696	69,654	29,885	99,539	146,452	83,061	229,513
NP	Bachelor	48,739	13,706	62,445	23,213	3,875	27,088	71,950	17,671	89,621
	Master of 16 yrs of Education	9,828	8,146	17,974	2,942	2,019	4,961	10,770	10,145	21,915
	Master of 16 yrs	7,291	2,512	9,803	4,194	809	5,003	11,485	3,429	14,914
	Ph.D	1,382	425	1,807	322	50	372	1,704	475	2,179
	P.G.D.	221	56	277	-	-	-	221	76	297
	Total	67,463	24,845	92,308	30,669	6,853	37,522	95,130	31,736	126,866
Quebec	Bachelor	9,673	4,836	14,509	210	45	255	9,883	4,881	14,764
	Master of 16 yrs of Education	4,149	3,475	7,624	77	49	126	4,226	3,524	7,750
	Master of 16 yrs	2,746	1,832	4,578	81	22	103	2,827	1,854	4,681
	Ph.D	153	75	228	-	-	-	153	75	228
	P.G.D.	-	-	-	-	-	-	-	-	-
	Total	16,775	9,246	26,021	287	116	403	15,119	9,335	24,454
Tobacco	Bachelor	7,966	4,638	12,604	351	143	494	9,319	4,808	14,127
	Master of 16 yrs of Education	1,548	4,037	5,585	195	75	270	1,743	4,132	5,875
	Total	9,514	8,675	18,189	546	218	764	11,062	8,940	20,002

Source: Pakistan Education Statistics 2016-17 by Academy of Education Planning and Management

Province	District	Type of Institution	Number of Institutions									
			Govt	Private	Religious	Non-Profit	Charitable	Co-operative	Other	Total	Govt	Private
Punjab	Faisalabad	Higher Secondary	101	106	101	101	101	101	101	101	101	101
		Senior Secondary	101	106	101	101	101	101	101	101	101	101
		Junior Secondary	101	106	101	101	101	101	101	101	101	101
		Primary	101	106	101	101	101	101	101	101	101	101
		Madrasah	101	106	101	101	101	101	101	101	101	101
		Technical	101	106	101	101	101	101	101	101	101	101
		Medical	101	106	101	101	101	101	101	101	101	101
		Law	101	106	101	101	101	101	101	101	101	101
		Engineering	101	106	101	101	101	101	101	101	101	101
		Other	101	106	101	101	101	101	101	101	101	101
Punjab	Lahore	Higher Secondary	101	106	101	101	101	101	101	101	101	101
		Senior Secondary	101	106	101	101	101	101	101	101	101	101
		Junior Secondary	101	106	101	101	101	101	101	101	101	101
		Primary	101	106	101	101	101	101	101	101	101	101
		Madrasah	101	106	101	101	101	101	101	101	101	101
		Technical	101	106	101	101	101	101	101	101	101	101
		Medical	101	106	101	101	101	101	101	101	101	101
		Law	101	106	101	101	101	101	101	101	101	101
		Engineering	101	106	101	101	101	101	101	101	101	101
		Other	101	106	101	101	101	101	101	101	101	101
Punjab	Rawalpindi	Higher Secondary	101	106	101	101	101	101	101	101	101	101
		Senior Secondary	101	106	101	101	101	101	101	101	101	101
		Junior Secondary	101	106	101	101	101	101	101	101	101	101
		Primary	101	106	101	101	101	101	101	101	101	101
		Madrasah	101	106	101	101	101	101	101	101	101	101
		Technical	101	106	101	101	101	101	101	101	101	101
		Medical	101	106	101	101	101	101	101	101	101	101
		Law	101	106	101	101	101	101	101	101	101	101
		Engineering	101	106	101	101	101	101	101	101	101	101
		Other	101	106	101	101	101	101	101	101	101	101
Punjab	Islamabad Capital Territory	Higher Secondary	101	106	101	101	101	101	101	101	101	101
		Senior Secondary	101	106	101	101	101	101	101	101	101	101
		Junior Secondary	101	106	101	101	101	101	101	101	101	101
		Primary	101	106	101	101	101	101	101	101	101	101
		Madrasah	101	106	101	101	101	101	101	101	101	101
		Technical	101	106	101	101	101	101	101	101	101	101
		Medical	101	106	101	101	101	101	101	101	101	101
		Law	101	106	101	101	101	101	101	101	101	101
		Engineering	101	106	101	101	101	101	101	101	101	101
		Other	101	106	101	101	101	101	101	101	101	101



# CHAPTER 7: COMPETITOR ANALYSIS

## 7.1 Proposed SEZs

Initially, the Board of Investment notified the following SEZs:

1. Khairpur Special Economic Zone, Sindh (136 Acres)
2. Korangi Creek Industrial Park, Sindh (240 Acres)
3. Bin Qasim Industrial Park, Sindh (930 Acres)
4. Quaid-e-Azam Apparel Park, Sheikhpura, Punjab (1,536 Acres)
5. M-3 Industrial City, Faisalabad, Punjab (4,356 Acres)
6. Value Added City, Faisalabad, Punjab (225 Acres)
7. Hattar Economic Zone, Haripur, KP (424 Acres)

Subsequently, the following SEZs were proposed for inclusion in CPEC:

1. Rashakai Economic Zone, M-1, Nowshera, KP
2. China Special Economic Zone Dhabeji, Sindh
3. Bostan Industrial Zone, Balochistan
4. Allama Iqbal Industrial City (M3), Faisalabad, Punjab
5. ICT Model Industrial Zone, Islamabad
6. Port Qasim, Karachi, Sindh
7. Special Economic Zone at Mirpur, AJK
8. Mohmand Marble City, FATA
9. Moqpondass SEZ Gigit-Baltistan



### 1.2 Additional Package for Priority Special Economic Zones under CPEC.

Board of Investment has approved additional incentives for priority special economic zones under CPEC. These include:

- Provision of plots on Installments (50% down payment and remaining 50% In four biannual installments)
- Markup support @ 50% of the markup to a maximum of 5% on the loans taken in Pakistani currency for financing the project. The support is to be provided by the respective governments for the zones in their jurisdiction
- Freight subsidy @50% on the inland transportation of plant and machinery for installation in/development of any of the priority SEZ
- One Window operation by SEZ — the provincial government to either delegate authority for implementing labor, environment and other such laws; and collection of local/provincial taxes or to 1 depute representatives of the departments in one window office. Federal government departments (Utility companies, FBR, SECP etc.) to depute representatives to perform similar functions in the zone.

### 1.3 Comparison of RSEZ with Other SEZs

Based on the progress regarding the development of these SEZs, the following SEZs have been shortlisted for comparison with RSEZ:

1. Sundar Industrial Estate, Lahore, Punjab
2. Quaid-e-Azam Apparel Park, Sheikhpura, Punjab
3. Allama Iqbal Industrial City (M3), Faisalabad, Punjab

The following comparison tables are prepared for the purpose:

1. Pricing and Incentives.
2. Utilities, Amenities and Facilities.
3. Industries / Sectors.



Table 7.2: Comparison of RSEZ with Other SEZs (Selected) – Pricing &amp; Incentives

Comparison Factor	Rashakai SEZ	M3 Industrial City - Faisalabad	Sundar Industrial Estate	Quaid-e Azam Apparel Park – Sheikhpura
Price Per Acre Land (in million)	18.7 m	6.6 m	50 m	Price not yet determined
Payment Terms	Easy Installments	YES 15% Down Payment	25% Down payment Remaining within 15 days of balloting	25% Advance Payment Remaining 75% within 15 days
Application & Processing Fee	5000/- (Application fee)	500/- (Application Form Fee) 15,000/- (Processing Fee)	No Application Fee	NO Application FEE
Management Fee	NO	Not specified	Not specified	Rs. 0.5 million per acre per year
Commercial Plots	30 percent of total area reserved for commercial plots but Price NOT determined yet	30 percent of total area reserved for commercial plots. Commercial Plot Unit is MARLA and Per Marla charges are 300,000/-	<b>PHASE II</b> 5 Marla – Rs. 7.5 m 7.5 Marla – Rs. 11.25 m 10 Marla – Rs. 15 m <b>PHASE III</b> 5 Marla – Rs. 12.5 m 7.5 Marla – Rs. 18.75 m 10 Marla – Rs. 25 m 15 Marla – Rs. 37.5 m	Since this park is in its development phase NO RATES DETERMINED YET, NOR the PERCENTAGE OF AREA RESERVED
One time duty free import of machinery for the plant in SEZ	YES	YES	NO	YES
Duty free import of capital Goods for once to developers	YES	YES	NO	YES
Income Tax Holidays / Tax Incentives	YES (5 year income tax holiday for developers and 10 year income tax holiday for enterprises)	YES (5 year income tax holiday for developers and 10 year income tax holiday for enterprises)	NO	YES (5 year income tax holiday for developers and 10 year income tax holiday for enterprises)





Table 7.3 : Comparison of RSEZ with Other SEZs (Selected) –Utilities, Amenities/Services, Commercial & Residential Facilities

Comparison Factor	Rashakai SEZ	M3 Industrial City - Faisalabad	Sundar Industrial Estate	Quaid-e Azam Apparel Park - Sheikhpura
<b>UTILITIES</b>				
Electricity	YES (210 MW) To be provided by PESCO and NTDC at Zero Point (underground electricity distribution network inside the zone by developer)	YES Facility provided through 132 KV VAC Grid Station	Wapda	YES Dedicated Power Plant, Grid Station 132 KV
Gas Connection	YES (30 mtr/cd) to be provided by SNGPL at Zero Point (bulk transmission and distribution lines in the zone by developer)	YES Connections of utility services shall be obtained by allottee by paying usual fees/charges	SNGPL	YES (Gas Supply and underground electricity cabling)
Water Charges	Monthly But Rate Not Decided YET	FIEDMC will provide water connections but the water charges will be the usual government charges for water supply and will be paid to the government of Punjab and NOT FIEDMC		NOT Determined



Comparison Factor	Rashakai SEZ	M3 Industrial City - Faisalabad	Sundar Industrial Estate	Quaid-e Azam Apparel Park - Sheikhpura
Ware House	YES	YES	NO	NO
Fire Brigade	YES	YES	YES	NO
Centralized Security System	YES	YES	Security boundary wall with internal patrolling	YES
Disaster Management Help Desk			YES	
COMMERCIAL/RESIDENTIAL				
Hotels	YES	YES (5-Star Hotel)	YES	YES
Restaurants / Coffee Shops	YES	YES	YES	NO
Amenity Area / Food Courts	YES	NO	NO	YES
Commercial Center	YES	YES	YES	NO
Country Club	NO	YES	NO	NO
Community Centre	NO	NO	NO	YES
Residential Plots	YES	NO	NO	NO
Sports facilities	YES	NO	NO	NO
Labor Colony	YES	YES	NO	YES

Table 7.4 : Comparison of RSEZ with Other SEZs (Selected) – Industries/Sectors

Comparison Factor	Rashakai SEZ	M3 Industrial City - Faisalabad	Sundar Industrial Estate	Quaid-e Azam Apparel Park - Sheikhpura
CONSTRUCTION & ALLIED				
Marble & Granite	YES	NO	NO	NO
Home Building Materials	YES	NO	NO	NO
Building Materials	YES	NO	NO	NO
FOOD & ALLIED				
Maize, Fruit, Tobacco	YES	NO	NO	NO
Meat & Halal Food	YES	NO	NO	NO
Fruit / Vegetable Processing (Pulp, nectar, juices, Pickles, etc.) & Packing & Export Houses	YES	NO	NO	NO
Flour Mills	NO	NO	NO	NO
Biscuits, breads and other bakery products	YES	NO	NO	NO



Comparison Factor	Rashakai SEZ	M3 Industrial City - Faisalabad	Sundar Industrial Estate	Quaid-e Azam Apparel Park - Sheikhpura
Ice cream, Khoya and other sweet meat and dairy products	YES	NO	NO	NO
Spices	YES	NO	NO	NO
Bottled Water	YES	NO	NO	NO
Food Processing	YES	YES	YES	NO
Ghee & Cooking Oil	YES	NO	NO	NO
Food & Beverages			YES	
<b>AGRICULTURE, DAIRY &amp; LIVESTOCK</b>				
Seed Processing & Distribution	YES	NO	NO	NO
Feed Mills	YES	NO	NO	NO
Compost & Other Organic Fertilizers	NO	NO	NO	NO
<b>AUTOMOTIVE &amp; ENGINEERING</b>				
Engineering Manufacturing Automotive	YES	NO	YES	NO
Bicycle, Hand pump, Electric Motor	YES	NO	NO	NO
Cold storage Machinery	YES	NO	YES	NO
Farm Equipment & Implements	NO	NO	NO	NO
Spare parts, Fabrication Iron Hand Pump Manufacturing	YES	NO	NO	NO
Heavy Electrical Engineering	NO	NO	NO	NO
Steel	NO	NO	YES	NO
<b>PHARMACEUTICAL</b>				
Medicinal Herb Processing	YES	NO	NO	NO
Pharmaceuticals	YES	YES	YES	NO



Comparison Factor	Rashakai SEZ	M3 Industrial City - Faisalabad	Sundar Industrial Estate	Quaid-e Azam Apparel Park - Sheikhpura
<b>TEXTILE &amp; GARMENTS</b>				
Garments & Textile	YES	NO	YES	NO
Cotton Ginning	YES	NO	NO	NO
Apparel Zone	YES	NO	NO	YES
Garment Zone	YES	NO	NO	YES
Dyeing & Processing			YES	
<b>OTHER</b>				
Logistic Support Industry	YES	NO	NO	NO
General Merchandise & Sports Goods	YES	NO	NO	NO
Electronics & Electrical Appliances	YES	NO	NO	NO
Furniture	YES	NO	NO	NO
Chip Board	YES	NO	NO	NO
Plastic Molding plant	YES	NO	YES	NO
PVC Cables, Cement Bags, Fiber optic cables, Ropes	YES	NO	NO	NO
Telecommunication & IT	YES	YES	NO	NO
Chemicals	YES	YES	YES	NO
Energy / Power	NO	YES	NO	NO
Packaging	NO	NO	YES	NO
Paper	NO	NO	YES	NO
Wood	NO	NO	YES	NO



# CHAPTER 8:

DATA AVAILABLE FOR INVESTMENT



This chapter has been prepared in light of the need for assessing the status of data that an investor can use to make the decision to invest in RSEZ. Sources of data and the relevant organizations within KP were accessed to prepare this assessment. Additionally, the status of data available with other provinces has also been investigated to prepare a collation matrix for KP with other provinces. Deriving from the 'Stakeholders Mapping', stakeholders included for collection of secondary and primary data included;

- KP Board of Investment and Trade ([www.kpboit.kp.gov.pk](http://www.kpboit.kp.gov.pk))
- Bureau of Investment ([www.boi.gov.pk](http://www.boi.gov.pk))
- KPEZDMC ([www.kpezdmc.org.pk](http://www.kpezdmc.org.pk))
- Export Processing Zones Authority ([www.epza.gov.pk](http://www.epza.gov.pk))
- Punjab Board of Investment and Trade ([www.pbit.gop.pk](http://www.pbit.gop.pk))
- Sindh Board of Investment ([www.sbi.gos.pk](http://www.sbi.gos.pk))
- Baluchistan Board of Investment (Investment Facilitation Centre, Quetta at [www.boi.gov.pk/ContactUs/IFCQuetta.aspx](http://www.boi.gov.pk/ContactUs/IFCQuetta.aspx))
- Small and Medium Enterprise Development Authority ([www.smeda.org](http://www.smeda.org))
- KP Industries Department ([www.industries.kp.gov.pk](http://www.industries.kp.gov.pk))
- SEZ websites
- Interviews with business leaders
- Other Stakeholders (including relevant reports of international agencies, donors etc.)

### 8.1. Nature, Sources, Format and Quality of Investor Data for KP

Table 8.1 below provides the status of data available for investment in KP in general along with inputs on whether it relates to RSEZ or not;



S. No.	Data Label	Data Source	Titles: Format/Key Elements/Layout	Quality/Usefulness with reference to RSEZ
1.	Structural Review of Investor-Related Information Available Online	KPEZDMC ( <a href="http://www.kpezdmc.org.pk">www.kpezdmc.org.pk</a> )	<p>Besides general information about KPEZDMC, the data of potential interest to investors available online includes;</p> <ul style="list-style-type: none"> <li>• Proposed EZs/SEZs/PSEZs</li> <li>• Existing EZs/SEZs/PSEZs</li> <li>• Prioritized SEZs (that include two i.e. RSEZ and Hattar SEZ)</li> <li>• Achievements</li> <li>• Plot Application Form</li> </ul> <p>The 'Downloads' section of the website has RSEZ related data in the following forms;</p> <ul style="list-style-type: none"> <li>• Nine Feasibility Studies (Fruit Candy, Canning, Controlled Atmosphere Storage, Citrus Cordial Plant, Cold Storages – 500, 1000, 2000, 3000, 4000 tons capacity)</li> <li>• Rashakai Evaluation Report</li> <li>• Incentive Application</li> <li>• Document List for Incentives</li> <li>• KPEZDMC Brochure (English &amp; Chinese languages)</li> <li>• Way Forward 2016</li> <li>• KP Industrial Policy 2016</li> <li>• Industrial Building Bye-Laws</li> <li>• FAQs related to Power Plants at RSEZ</li> <li>• TORs for Gas Turbine at RSEZ</li> </ul>	<p>While data in the form of reports and documents is available it has not been organized on the website with a focus on investor. Navigation for the data is not too easy. It is likely that the potential investor will miss out on any relevant information as it has not been provided in any particular order or through some form of categorization that may be investor-centric</p> <p>A strong aspect of the website is that it provides the key incentives on the homepage (5 investment incentives offered under KP's Industrial Policy &amp; 2 incentives specific to SEZs)</p> <p>Contact information for KPEZDMC (office address, phone, fax, email) is available</p>



S. No.	Data Label	Data Source	Titles: Format/Key Elements/Layout	Quality/Usefulness with reference to RSEZ
	Structural Review of Other Investor-Related Information Available with KPEZDMC	KPEZDMC	<p>In addition to information available on KPEZDMC's website a total of 25 other documents were assessed in terms of their potential usefulness for investors. While it remains KPEZDMC's prerogative which documents it wants to share with the investor, the ones that may provide data of interest to investors include;</p> <ul style="list-style-type: none"> <li>• District Profiles (all districts of KP including Nowshera &amp; Mardan)</li> <li>• RSEZ Marketing Plan</li> <li>• Rashakai Feasibility</li> <li>• RSEZ Submitted Applications Data</li> <li>• RSEZ Valuation Report</li> <li>• Tax Implications of RSEZ &amp; Hattar SEZ</li> <li>• Developmental Effects of SEZs</li> <li>• Guidelines on SEZ Development</li> <li>• Data Collection Survey for SEZ</li> <li>• SEZ, progress, challenges – World Bank report</li> <li>• SEZ's, an operational review of their impact</li> </ul>	<p>While data in the form of reports and documents is available it has not been organized with a focus on investor queries in general. Most of it is not available online.</p> <p>It is likely that the potential investor will miss out on any relevant information as it has not been provided in any particular order or through some form of categorization that may be investor-centric.</p>





S. No.	Data Label	Data Source	Titles: Format/Key Elements/Layout	Quality/Usefulness with reference to RSEZ
			<ul style="list-style-type: none"> <li>• SEZ's, KPMG report</li> <li>• SEZ's: Lessons learned</li> <li>• SEZ's: Promise &amp; pending challenges</li> <li>• Economic Impact of SEZ</li> <li>• Comparative study on SEZ's</li> <li>• Impact of SEZs on Human Development</li> </ul>	
	Investment Opportunities Khyber Pakhtunkhwa 2015: Energy & Power, Tourism, Housing, Agriculture & Livestock, Mines and Minerals	KPBoIT	<p>A 40-page Booklet; prepared for KP Investment Roadshow 2015 in Dubai; provides 8 reasons to invest in KP;</p> <ul style="list-style-type: none"> <li>• Presents 4 investment opportunities in Energy &amp; Power;</li> <li>• 6 investment opportunities in Tourism</li> <li>• 1 investment opportunity in Housing</li> <li>• 2 investment opportunities in Agriculture &amp; Livestock</li> <li>• 3 investment opportunities in Mines &amp; Minerals</li> </ul>	<p>None of the data and information in the document is with reference to RSEZ;</p> <p>Primarily a promotional booklet designed to encourage investment in KP province in general through specific projects in different areas of the province;</p> <p>Some statistical data is included but without acknowledging sources properly</p>

S. No.	Data Label	Data Source	Titles: Format/Key Elements/Layout	Quality/Usefulness with reference to RSEZ
	Khyber Pakhtunkhwa: The Unrevealed Story – Investment Guide 2015	KPBoIT	<p>A 96-page document; presents data on:</p> <ul style="list-style-type: none"> <li>Investment Climate, Facilitation &amp; Incentives</li> <li>Investment Opportunities in 8 sectors including Energy &amp; Power; Tourism; Mines &amp; Minerals; Industries; Public Transport; Housing; Resource Productivity &amp; Waste Management; Agriculture, Livestock and Fisheries;</li> <li>Legal and Taxation Framework</li> </ul>	The report provides data and information regarding the investment scenario in District Nowshera and District Mardan along with status of the industry however, no specific data relevant to SEZs is present
	Presentation Booklet Pakistan Investment Conference	KPBoIT	A 21-page document with input and data from the 40-page document (KP Investment Opportunities 2015)	Data is in the same format as (1)
	Structural Review of Investor-Related Information Available Online	KPBoIT ( <a href="http://www.kpboit.kp.gov.pk">www.kpboit.kp.gov.pk</a> )	<p>The data available online includes the following information:</p> <ul style="list-style-type: none"> <li>Investment Sectors</li> <li>Investment Projects</li> <li>Proposed Investment Projects</li> <li>Opportunities in Oil &amp; Gas</li> <li>Project Under Study</li> <li>Investment Opportunities in Hydel Sector</li> <li>Investment Opportunities Khyber Pakhtunkhwa 2015: Energy &amp; Power, Tourism, Housing,</li> </ul>	<p>KPBoIT does not have its custom website</p> <p>Data is of general interest for potential investors</p> <p>The 'Downloads' section is empty</p> <p>No data that is RSEZ-centric was found</p> <p>Contact information for KPBoIT (office address, phone, fax, email available)</p>

S. No.	Data Label	Data Source	Titles: Format/Key Elements/Layout	Quality/Usefulness with reference to RSEZ
			<ul style="list-style-type: none"> <li>• Agriculture &amp; Livestock, Mines and Minerals</li> <li>• Khyber Pakhtunkhwa: The Unrevealed Story – Investment Guide 2015</li> <li>• Presentation Booklet Pakistan Investment Conference</li> </ul>	
	Investment in Pakistan 2017	KPMG TaseerHadi& Co.	A 96-page report with information on; <ul style="list-style-type: none"> <li>• Overview of the Economy</li> <li>• Sector Profiles</li> <li>• Regulatory Framework for Investors</li> <li>• Forms of Business Presence</li> <li>• Foreign Exchange</li> <li>• Mergers and Acquisitions</li> <li>• Taxations</li> <li>• Labour Laws</li> </ul>	The document provides limited information on SEZs including RSEZ mainly on page 9 and page 55 including rudimentary information on SEZ Act 2012
	Business and Investment Opportunities in Oil & Gas Exploration and Production Sectors, Khyber Pakhtunkhwa, PAKISTAN	KP Oil & Gas Company Limited	A 3-page document with generic data	No data relevant to SEZs or RSEZ



S. No.	Data Label	Data Source	Titles: Format/Key Elements/Layout	Quality/Usefulness with reference to RSEZ
	Sector Study on Demand Driven Competency Based Trainings in Potential Sectors of Khyber Pakhtunkhwa 2017	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH	<p>A 47-page document focusing on possible TVET skills gap in the top performing sectors/sub sectors of KP. Offers a preliminary list of growth drivers in the province; identifies and presents details on four key sectors having TVET needs namely;</p> <ul style="list-style-type: none"> <li>• Construction</li> <li>• Tourism &amp; Hospitality</li> <li>• Manufacturing (Pharmaceuticals &amp; Light engineering)</li> <li>• Energy (Micro Hydel &amp; Solar)</li> </ul>	While no specific information has been provided with reference to RSEZ, the document can be very useful to potential investors in terms of assessing the TVET scenario in the province before making an investment decision in RSEZ
	Sector Study on Demand Driven Competency Based Trainings in Potential Sectors FATA 2017	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH	<p>A 47-page document focusing on possible TVET skills gap in the top performing sectors/sub sectors of KP. Offers a preliminary list of growth drivers in FATA; identifies and presents details on three key sectors with TVET needs namely;</p> <ul style="list-style-type: none"> <li>• Construction</li> <li>• Mining (marble)</li> <li>• Agriculture based businesses (Pine nuts)</li> </ul>	While no specific information has been provided with reference to RSEZ, the document can be very useful to potential investors in terms of assessing the TVET scenario in FATA before making an investment decision in RSEZ
	Labor Force Surveys	Pakistan Bureau of Statistics	<p>The survey reports present labor force data for the whole country including KP province in terms of;</p> <ul style="list-style-type: none"> <li>• Demographics</li> <li>• Migrations</li> <li>• Participation Rates</li> <li>• Industry-wise Employment</li> <li>• Occupational Groups</li> <li>• Wages</li> <li>• Formal, Informal Sector Employment</li> <li>• Others</li> </ul>	While labor data specific to KP is available it is not present for specifically for the districts/region in the vicinity of RSEZ








































S. No.	Data Label	Data Source	Titles: Format/Key Elements/Layout	Quality/Usefulness with reference to RSEZ
	Labour, Employment and Skill Development: 11 <sup>th</sup> Five Year Plan 2013-2018, Government of Pakistan	Planning Commission, Government of Pakistan	Presents a situational analysis on the subject along with identification of key objectives and strategies for the five-year period	No data of relevance investment in SEZs or RSEZ
	Labor Market Profile Pakistan 2018	Danish Trade Council for International Development and Cooperation	A 39-page report that presents the profile in terms of 11 thematic sections: trade unions, employers' organizations, tripartite structures (incl. social dialogue), national labour legislation, violations of trade union rights, working conditions, situation of the workforce (with subsections unemployment, sectoral employment, migration, informal economy, child labour, gender, and youth), education (incl. vocational training), social protection, general economic performance, and trade	While an investor may develop an assessment of the labor market in Pakistan including labor-related legislations for KP, it only offers some generic information on trading with reference to SEZs but no specific data relevant to RSEZ is present
	Pakistan Labor Market Updates	ILO Country Office for Pakistan	A 4-page document with brief input on Pakistan's Labor Market and a focus on female labor in particular	No specific data relevant to RSEZ
	Pakistan Employment Trends	Pakistan Bureau of Statistics	Presents statistical data on employment trends in Pakistan	May offer a general idea on employment trends and help an investor assess the suitability vis-à-vis SEZs



S. No.	Data Label	Data Source	Titles: Format/Key Elements/Layout	Quality/Usefulness with reference to RSEZ
	Structural Review of Investor-Related Information Available Online	Export Processing Zones Authority ( <a href="http://www.epza.gov.pk">www.epza.gov.pk</a> )	Data provides includes; <ul style="list-style-type: none"> <li>• Incentives</li> <li>• Facilities</li> <li>• One Window Service</li> <li>• EPZA Ordinance, Rules</li> <li>• Production Oriented Labour Laws</li> <li>• Affiliations</li> <li>• SROs</li> <li>• Application Form</li> <li>• Guidelines &amp; Eligibility</li> <li>• Investor's Directory</li> </ul>	No data specific to RSEZ was found
	Structural Review of Investor-Related Information Available Online	Board of Investment ( <a href="http://www.boi.gov.pk">www.boi.gov.pk</a> )	Data provided includes; <ul style="list-style-type: none"> <li>• Ease of Doing Business Strategy 2018 – 2021</li> <li>• Data on Foreign Investment in Pakistan</li> <li>• 5 Reasons of Investment</li> <li>• Investment Treaty</li> <li>• SEZs</li> <li>• Sector Profile &amp; Data</li> <li>• Services (visa, airport entry, security clearance/NOC, Liaison Office)</li> <li>• Interface for Investor to Share Feedback</li> </ul>	While useful data in terms of investment scenario for Pakistan was available, no data specific to RSEZ was present
	Structural Review of Investor-Related Information Available Online	SMEDA ( <a href="http://www.smeda.org">www.smeda.org</a> )	Data provided includes; <ul style="list-style-type: none"> <li>• More than 150 Pre-Feasibilities</li> <li>• Facilitation for Doing Business</li> <li>• Projects</li> <li>• Regional Profiles</li> <li>• Publications</li> <li>• Opportunities</li> </ul>	No data specific to RSEZ was found

## 8.2. Comparison of KP Data with Other Provinces

In addition to presenting the status of data available for investment in KP along with its relevance to RSEZ, a province-wise comparison of the available data has also been carried out including data relevant to five established SEZs so far (RSEZ, Hattar SEZ, Faisalabad IEDMC, Khairpur SEZ, Quaid e Azam Apparel Park). Table 8.2 below presents this comparison through a 'Collation Matrix'.

Data Sucker	KP	Punjab	Sindh	Baluchistan
District Profiles	Yes 	Yes 	Yes 	Yes 
Feasibilities	Yes 	Yes 	Yes 	Yes 
Application Form and Guidelines	Yes 	Yes 	Yes 	N/A
Evaluation Reports	Yes 	Yes 	Yes 	Yes 
IC (Information, Communication) Materials	Yes 	Yes 	Yes 	No
Policy Documents	Yes 	Yes 	Yes 	No
Sector Profiles	Yes 	Yes 	Yes 	Yes 
TVET Data	Yes 	Yes 	Yes 	Yes 
Labor Force Data	Yes 	Yes 	Yes 	Yes 
Functional Websites of Economic Zone Company	Yes ( <a href="http://www.kpezdmc.org.pk">www.kpezdmc.org.pk</a> ) 	Yes ( <a href="http://www.pic.com.pk">www.pic.com.pk</a> ) ( <a href="http://www.fiedmc.com.pk">www.fiedmc.com.pk</a> ) 	No	No
Functional Website of SEZs (including SEZ facilities and incentives, socio-economic conditions; living conditions; residential and other facilities in the local area etc.	Yes	Yes ( <a href="http://www.qaap.pk">www.qaap.pk</a> ) ( <a href="http://www.fiedmc.com.pk">www.fiedmc.com.pk</a> ) 	Yes ( <a href="http://www.ksez.com.pk">www.ksez.com.pk</a> ) 	N/A













Functional Website of Board of Investment	Yes ( <a href="http://www.kpboit.kp.gov.pk">www.kpboit.kp.gov.pk</a> ) 	Yes ( <a href="http://www.pbit.gop.pk">www.pbit.gop.pk</a> ) 	Yes ( <a href="http://www.sbi.gos.pk">www.sbi.gos.pk</a> ) 	No
Legal Framework Data	Yes 	Yes 	Yes 	N/A
Security and Crime Data	Yes 	Yes 	Yes 	Yes 
<b>SEZ-Specific Data</b>				
<i>Land Pricing</i>	Yes	Yes	Yes	N/A
<i>Incentives</i>	Yes	Yes	Yes	N/A
<i>Services</i>	Yes	Yes	Yes	N/A
<i>Facilities / Utilities / Amenities</i>	Yes	Yes	Yes	N/A
<i>Focused Sectors</i>	Yes	Yes	Yes	N/A

Table 8.2: Collation Matrix – Province-Wise Data for Investment

\* Data's Relevance to SEZ Investment Decision of the Investor

Strong:  Medium:  Weak: 







# CHAPTER 9:

## LEGAL FRAMEWORK AND RULE OF LAW



## Chapter 9: Legal Framework and Rule of Law

This chapter has been prepared in order to present the status of legal framework and incentives for investment in KP compared to other provinces including status of 'One Window' and 'Ease of Doing Business.' Further it presents an assessment of the security profile and security infrastructure of KP in general and Rashakai and its adjoining areas in particular and offers some comparisons. Deriving from the 'Stakeholders Mapping', stakeholders included for collection of secondary and primary data included;

- Industries Department, KP
- Industries Departments of the other provinces
- KPEZDMC
- KP Police Department
- BOI
- KPBoIT
- BOIs of other provinces



### 9.1. Investor Incentives in KP vs. Other Provinces: A Legal and Policy-Level Comparison

A review of incentives for investment being offered by the provinces has been carried out to generate a comparison. Provided below is 'Infographic Template'.

#### Incentives for Prioritized SEZs

##### Federal Government Incentives

##### *Corporate Income Tax*

Exemption from all taxes on income for a period of 5 years for developers and 10 years for enterprises commencing commercial production by the 13th June, 2020, in the SEZs for the next ten years; "Provided that exemption from all taxes on income for those zone enterprises or firms which commence commercial production after the aforesaid date shall be for the next five years".

##### *Custom / Import Duty*

One time exemption from all custom duties on plant and machinery imported into SEZ except the items listed under chapter 87 of the Pakistan Customs Tariff.

Freight subsidy of 50% on inland transportation



### 9.1. Status of 'One Window' and 'Ease of Doing Business'

The Federal Government passed Investment Policy 2013 to enable a business-friendly environment. The following basic principles provide the theme of the policy:

- Reducing the cost of doing business in Pakistan
- Reducing the processes of doing business
- Ease of doing business with creation of industrial clusters and SEZs
- Linkages of trade, industrial and monetary policies for greater convergence

#### 9.1.1. Khyber Pakhtunkhwa

Limited information on 'One Window' facilitation is available. However, for RSEZ the developer is planning to develop a one window facility for all the amenities including incentives, government liaison & trained human resource. The developer will provide complete solution/assistance to industrialists to accomplish their goals as per Figure 9.1.

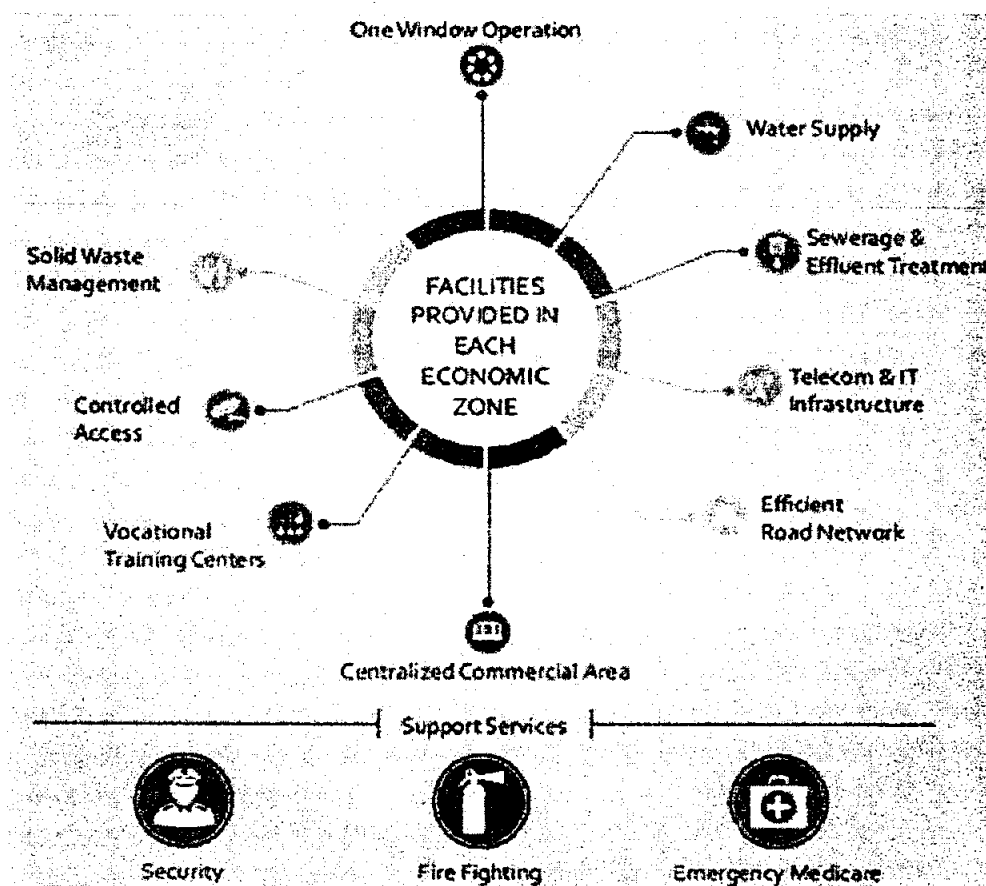


Figure 9.1: 'One Window' services to be offer

### 9.1.1. Punjab

No specific data on 'One Window' was available for Punjab through PIEDMC (Punjab Industrial Estates Management Company). However, PBIT has developed some mechanism in this regard which is in the initial stage and further being developed.

### 9.1.2. Sindh

Sindh has recently established the Sindh Economic Zones Management Company – SEZMC in August 2018. However, the company does not have a formally launched website. No public data on 'One Window' facilitation or investment incentives was available. Similarly Sindh Board of Investment (SBI) and Khairpur Special Economic Zone (KSEZ) do not provide any stated mechanism or approach either.

### 9.1.3. Baluchistan

No information on 'One Window' facilitation was available.

### 9.1.4. Ease of Doing Business (EODB)

In addition to 'One Window' facilitation, the Board of Investment has prepared an 'Ease of Doing Business Strategy 2018-2021'. The strategy provides data for 2018 and 2019 in terms of Pakistan's ranking on 'Doing Business – DB' and 'Distance to Frontier – DTF'.



Indicator	DB 2018	DB 2019	DB 2019 DTF	DB 2019 DTF
Overall - out of 190	147	136	51.65	55.31
Starting a business (reform)	142	130	78.61	81.89
Dealing with Construction Permits	141	156	59.72	53.59
Getting Electricity	167	167	42.39	44.15
Registering Property (reform)	170	161	41.41	45.63
Getting Credit	105 (-23)	112	45.00	45.00
Protecting Minority Investors (reform)	20	26	71.67	71.67
Paying Taxes	172 (-16)	173	46.43	47.05
Trading Across Borders (reform)	171	142	41.94	60.12
Enforcing Contracts	156	156	43.49	43.49
Resolving Insolvency	82	53	45.83	59.86

Table 9.1: Pakistan's Recent 'DB' and 'DTF' Rankings on 11

In light of Pakistan's ranking data, the BOI has outlined key reforms that are planned for the above-mentioned 10 indicators. A review of these reforms reveals the following key information;

Reform Action	Timelines	Responsibility
Integration of Federal and Provincial Company Registration Portals	Short Term	SECP PITB and Govt. of Sindh
Availability of online fee payment facility at federal and provincial levels;	Short Term	SECP PITB and Govt. of Sindh
Create a set of incentives to ensure uptake of the electronic business start-up in Sindh and Punjab;	Short Term	SECP PITB and Govt. of Sindh
Conducting mapping of business permits and licenses and integrate licensing and permitting with the business startup system in Sindh and Punjab;	Medium to Long term	Punjab Govt. Sindh Govt.
Conduct mapping of agencies authorized to conduct inspections and integrate inspections tracking into the business start-up system in Sindh and Punjab;	Medium to Long term	Punjab Govt. Sindh Govt.

**Table 9.2: Planned Reforms for 'Starting a Business'**



Reform Action	Timelines	Responsibility
Complete electronic database for checking for encumbrances (liens, mortgages, restrictions and the like) in Lahore and make it available online;	Short Term	PLRA-Punjab/BOR-Sindh
Establish and publish statistics on the number of land disputes	Short Term	PLRA-Punjab/BOR-Sindh
Online issuance of Fard	Short Term	PLRA-Punjab
Online submission of Fard	Short Term	PLRA-Punjab
Inter-government electronic procedure to obtain non-objection certificate	Medium to Long term	Revenue Authorities

Table 9.3: Planned Reforms for 'Dealing with Construction Permits'

Reform Action	Timelines	Responsibility
Operationalization of e-registry	Short Term	SECP and Finance Division
Complete implementation of the Collateral Registry	Medium to Long term	SBP, SECP & FIN DIV
Revise Secured Lending legal framework to ensure compliance with DB methodology	Medium to Long term	SBP, SECP & FIN DIV
Enable collection and distribution of credit data from retailers or utility companies	Medium to Long term	SBP & FIN DIV

Table 9.6: Planned Reforms for 'Getting Credit'





There are no planned reforms for 'Protecting Minority Investors'

Reform Action	Timelines	Responsibility
Reduce a number of payments. Complete implementation of E-payments of social security contributions;	Short Term	PESSI & SESSI
Complete implementation of E-payments of pension contributions;	Short Term	EOBI-PESSI & SESSI
Reduce time to obtain VAT refund (Federal level reform)	Short Term	FBR
Improve risk-management system audits	Short Term	FBR
Enable filing and payment of all taxes and contributions electronically.	Short Term	FBR -PESSI & SESSI

**Table 9.8:** Planned Reforms for 'Paying Taxes'.

Reform Action	Timelines	Responsibility
Ensure 50% reduction of customs-related processing time at the border (Karachi)	Short Term	FBR-Customs
Ensure availability of on-line payment facilities at the border of duty, taxes and all other charges	Short Term	FBR-Customs
Complete integration of WeBOC with Plant Protection Department;	Short Term	FBR-Customs
Complete Integration of WeBOC with Animal Quarantine Department;	Short Term	FBR-Customs
Reduce hours to prepare import/export documents from 55 to 20 (export) from 143 to 50 (import) through expansion of electronic document exchanges.	Short Term	FBR-Customs
Establishment of National One Window	Long Term	FBR-Customs

**Table 9.9:** Planned Reforms for "Trade across Borders"

Reform Action	Timelines	Responsibility
Introduce efficient rules for Commercial Court and accompanying Bench Book for Punjab and Sindh	Medium to Long term	LHC, KHC
Operationalize the Commercial Bench in Punjab and Sindh High and District Courts;	Medium to Long term	LHC, KHC
Introduce provisions limiting adjournments at the Commercial Bench in Punjab and Sindh to improve the Judicial Quality Index;	Medium to Long term	LHC, KHC
Improve case management system at Punjab and Sindh High and District Courts to increase the Judicial Quality Index from 5 to 10.	Medium to Long term	LHC, KHC

Table 9.10: Planned Reforms for 'Enforcing Contracts'

There are no planned reforms for 'Resolving Insolvency'

In addition to the above, the scenario for Ease of Doing Business in Khyber Pakhtunkhwa has the following key dimensions;

### Registration Property

- Digitalization of the entire property record to improve the integrity of property documents in progress
- "FARD", the basic document certifying the title of land can be obtained by paying a nominal fee within a maximum of 7 days
- To bring transparency in the property transactions, a mechanism of periodic property valuation by the deputy Commissioner (DC) has been placed for elimination the direction of the Revenue Official in such deals.
- Practice of collecting transfer / mutation fee by the Revenue Officer has been done away and a system for payments by vouchers in the banks has been introduced.

### Construction Permits

- One window Desk (deputing an officer of BS 17) to facilitate the visitors has been established in Peshawar Development Authority (PDA).
- All required information about procedures and requisite forms are being placed on the official websites of Peshawar Development Authority.
- PDA has introduced one-window-operation since 2006.
- Procedure of transfer of plots/house/property in Peshawar Development Authority (PDA) streamlined and takes only 3-5 days.

### Paying Taxes

- Established 'Khyber Pakhtunkhwa Revenue Authority (KPRA)
- Sales Tax on services has been collected through an online system. Registration and filing both are being done online.
- Dedicated counters have been established in most of the NBP branches in KP.
- Fully computerized vehicle registration system is functional.
- One window facility for Property Tax and Professional tax established in the Districts of Peshawar, Mardan and Abbottabad;
- Record of property tax and professional taxes has been made fully computerized in 16 districts of KP where these tax was applicable.
- Integrating Motor Vehicle Register with other provincial relevant

### Other Reforms

- Establishment of KP-BOIT
- Establishment of KPEZDMC
- Establishment of Khyber Pakhtunkhwa Oil & Gas Company Limited (KPOGCL)
- Restructuring of Pakhtunkhwa Energy Development Organization (PEDO)
- The KP Right to Information Act; 2013
- Public Private Partnership Act; 2014
- Minerals Policy; 2014



- Tourism Policy; 2015
- Industrial Policy 2016
- Hydro Power Policy; 2016
- Mineral Act; 2016
- Investment Strategy 2016
- Lease Policy 2016
- Investment Policy
- Private sector led Technical and Vocational Training Authority (TEVTA)

### 9.1. Security Profile and Services With Respect to RSEZ

The team accumulated the information from national and provincial statistics along with results from public perception surveys for District Nowshera and Mardan to come up with an assessment. Additionally, information on security arrangements with respect to CPEC projects has been presented that will apply to RSEZ.

The most updated figures on crime-related statistics of the country have been gathered from Pakistan Bureau of Statistics for the year 2017. For KP, the following specific data on security and crime scenario was available;







	2014	2015	2016	Graphs
Terrorism	290	131	99	
ATA Cases	45	37	59	
Crime Against Persons	5193	4752	4993	
Crime Against Property	1835	1791	1608	
Traffic Related Offences	11229	9792	11275	
Misc.	12268	11947	14143	

Table 9.12: Crime Statistics 2014 to 2016 (Source: KP Police Department)

In terms of the overall strength of the security apparatus in KP Table 9.13 provides updated information;

Police and Levies(Federal + Provincial)	
	<b>Posts</b>
Police Strength	92000
Federal Levies	5711
Provincial Levies	299
<b>Total</b>	<b>98010</b>

Table 9.13: Strength of Civilian LEA in KP 2018 (Source: Home Department KP)

Data for the last eight years in KP shows a marked improvement in the province in terms of security and prevalence of peace. In this regard Figure 9.2 shows data on terrorism incidents from 2011 to 2018.

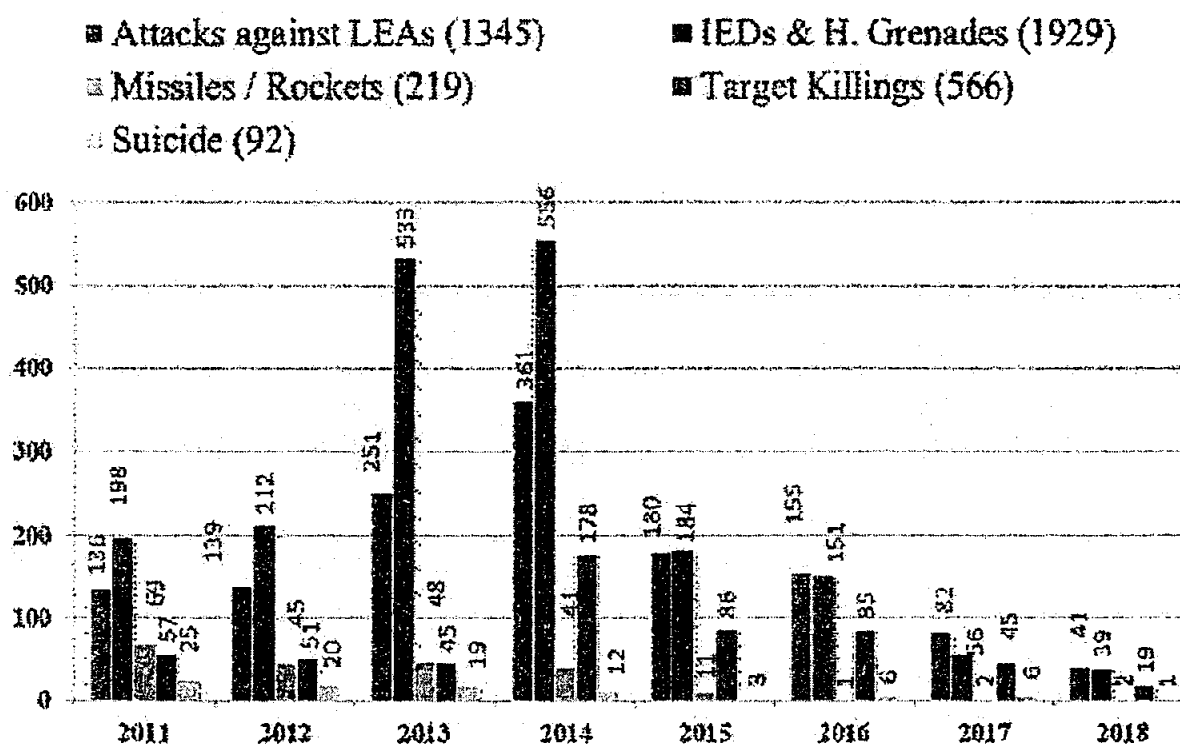
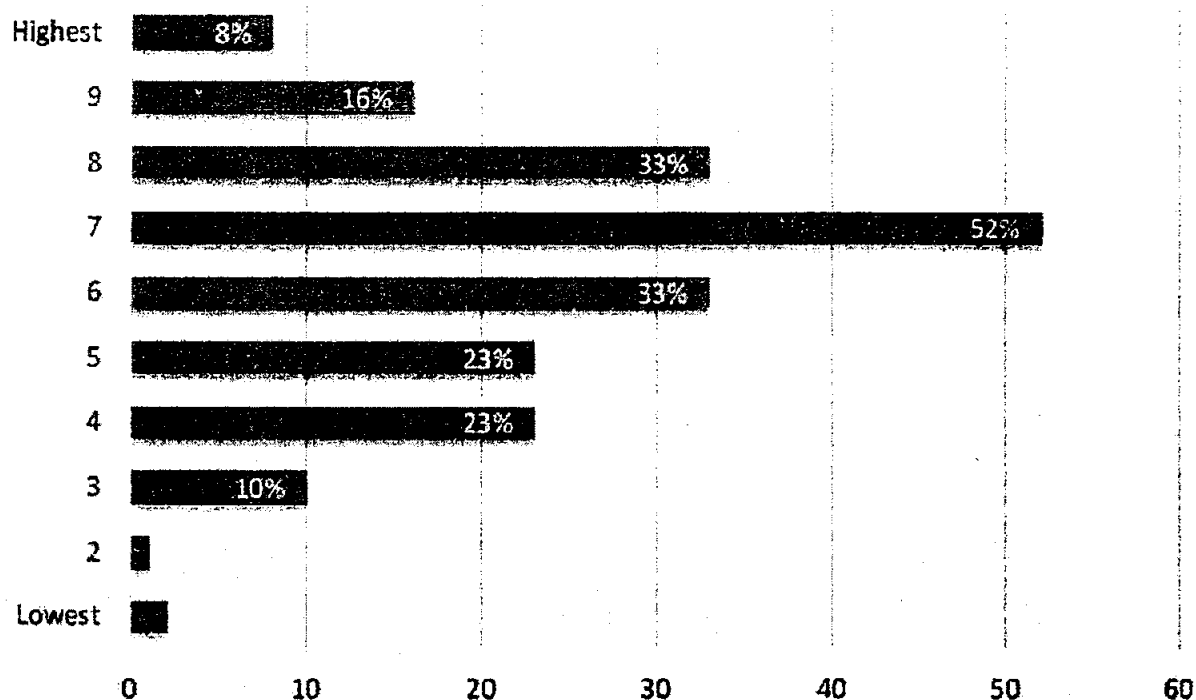


Figure 9.2: Terrorism Incidents in KP (Source: Home Department KP, 2018)



Further, with regards to performance assessment of the security setup in the areas around RSEZ, we have used findings from Transparency International's Report on the Performance of KP Police for District Mardan. Even though no data on perceptions with respect to Nowshera was available, it can be extrapolated that the results will not be very different for the Nowshera either.



**Figure 9.3: Public Perception of Overall Performance of KP Police in Mardan (Source: Transparency International 2017)**

Figure 9.3 presents rating of the overall services of the police at a scale from 1 to 10, 1 being extremely bad, and 10 extremely good. 17.9 percent respondents rated the police from 1 to 4, and 70.6 percent of the respondents rated the police services from 6 to 10.

Moreover, In line with the Safety Protection mechanisms for all CPEC projects, RSEZ will have the following key components

### 9.3.1 Security Standards and Security Plan for RSEZ

Pakistan Government has established mature policies and procedures on safety and security matters related to CPEC, which are very comprehensive and effective. All projects related to CPEC will have security assurance from the Pakistani Army as well as local security forces. KP Province has developed SOPs in accordance with the federal government directives with regards to the safety and security of the CPEC projects. Moreover, KP police has a separate dedicated wing to maintain safety and security of the CPEC projects.

RSEZ will develop a three-level response plan based on the concept of a safe city. The Level 2 and Level 3 response is the responsibility of the government. The preparation and implementation of Level 1 (initial) response is the responsibility of the RSEZ developer. Coordination with the government security agencies would be done by the developer.

#### *Level 1 response*

The internal safety response from the Rashakai SEZ is the first level, which will respond to any unexpected incident and strive for 20-30 minutes for Level 2 response. The investment and construction contents of the developer include:

- 1) Built-in boundary wall of barbed wire and watchtower.
- 2) CCTV cameras around the control room.
- 3) Control entry/exit system/door.
- 4) Peripheral search lights.

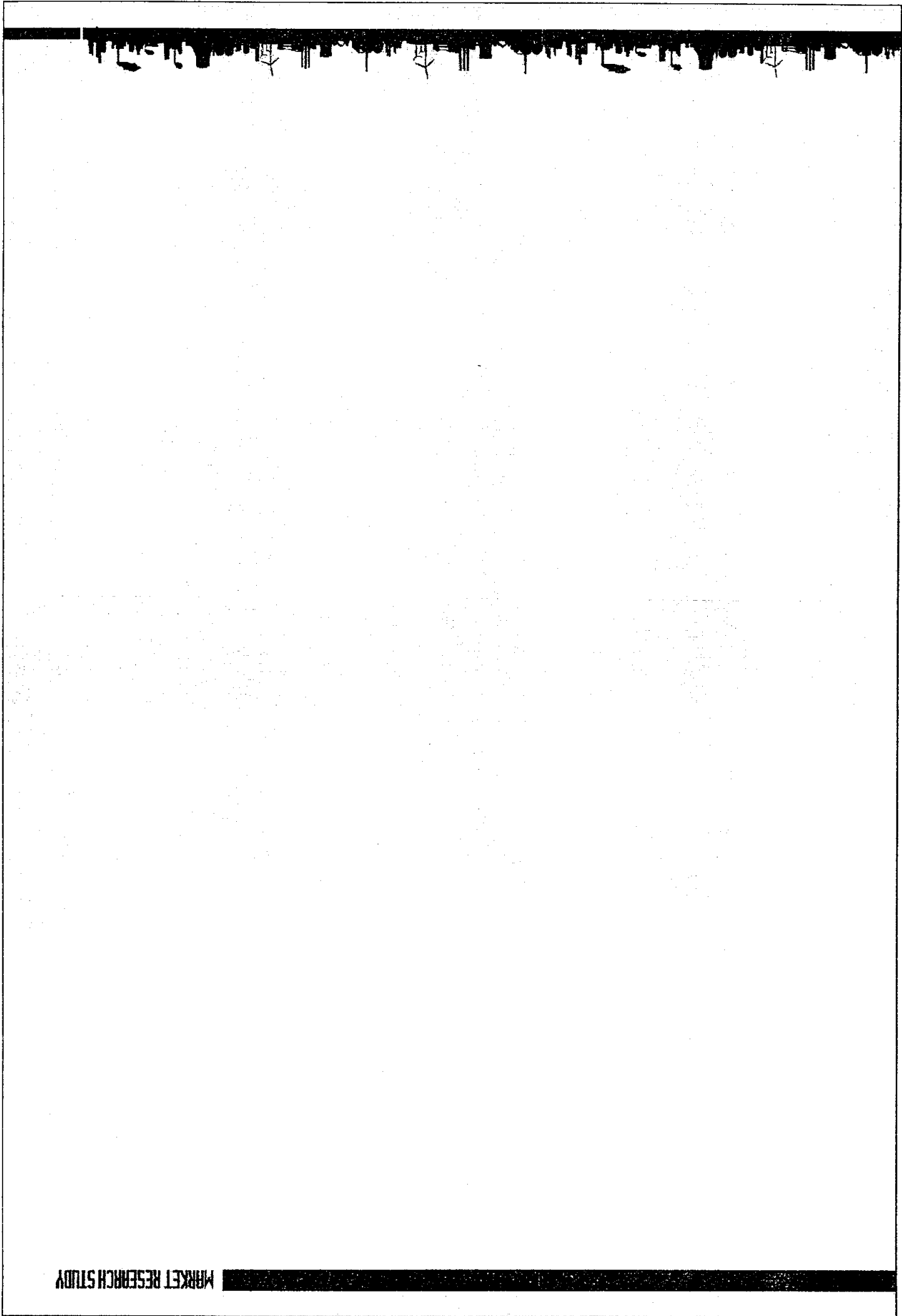
#### *Level 2 response*

The police form part of Level 2 response, which will expel security concerned activities from areas outside the economic zone and strive for 45-60 minutes for Level 3 response.

#### *Level 3 response*

The military, as part of Level 3 response, will be activated only when the security concerned activity is beyond the control of the police.









# CHAPTER 10

## CONCLUSIONS AND RECOMMENDATIONS

In light of our assessment for different components of the Market Research Study, provided are specific conclusions and recommendations for each area;

### **Investor Interest**

1. Being the first prioritized SEZ under the CPEC framework in the country, demand for industrial land is expected to be significant. This unique competitive advantage of RSEZ is likely to attract significant investment from within the country as well as abroad. This foreseeable demand for industrialization in RSEZ is expected to be the sinews of rapid sale of plots.
2. A major drive for investment is expected to be generated due to the infrastructure pertaining to international standards and amenities that will be offered in RSEZ. The amenities include combined effluent treatment plant, underground electrification, gas distribution network, water supply network, international standard road network, fire-fighting system, 24/7 surveillance and monitoring systems, fiber optic connectivity, on-site security arrangements, one window facilitation, and more importantly, stable and timely supply of electricity and gas at the doorstep of RSEZ.
3. The existing applicant data provides a positive outlook of the demand from local investors. There is ample evidence to suggest investor interest that is a positive sign for RSEZ's potential. However, so far, there is little data regarding demand from foreign (especially Chinese) investors; which is important especially keeping in consideration that the Government of Pakistan wants to attract foreign direct investment.
4. The proposed land price of USD 140,000 per acre in RSEZ for Phase I, given the offered amenities and facilities, and based on comparative analysis with two prominent industrial zones suggest that it is regionally competitive and rather attractive.
5. In addition to the industrial setup, demand for commercial plots in the existing industrial estates in the Province of KP is significantly high. Prices of commercial plots in the existing industrial estates in KP range from 8 to 20 times the price of industrial plot price.

Given the current demand for commercial plots at industrial estates in the Province of KP, it is strongly advised that the developer should maximize the availability of commercial plots



1. in RSEZ which can be a suitable source of revenue. The lease of commercial plots will also foster the required commercial activities in the zone.
2. Marketing of RSEZ to potential Chinese and foreign investors should be solicited through CRBC and other forums.
3. The World Economic Forum has forecasted a paradigm shift in industrial manufacturing and coined the term Industrial Revolution 4.0 for this transformation. A study may also be undertaken regarding how the subject transformation will affect the composition of industries, investment requirement and demand pattern in RSEZ with the passage of time.
4. Investor Conferences and effective marketing campaigns may be arranged, soliciting participation from local and foreign investors, seeking their buy-in and commitments.
5. As part of one window facilitation, Industry/sector specific profiles should be prepared for investor facilitation. Furthermore, facilitation to investors may be extended in terms of investment advisory and joint venture formation.
6. Industry/sector wise allocation of land both in terms of number of units and acres should be prepared in order to maintain a balanced industry mix in RSEZ.
7. Given the growing focus on environmental concerns and related stringent regulatory compliances, the availability of the combined effluent treatment plant in RSEZ, will make obtaining NoCs and other related approvals from Environmental and relevant regulatory agencies easier and faster for resident zone enterprises.
8. Given the type of amenities and facilities, including the combined effluent treatment plant, and stable supply of utilities such as electricity, gas, water, and ICT services, the resident zone enterprises will be receptive to pay a reasonable fee that is sufficient to maintain all such amenities and facilities.
9. As a benchmark for fee charged from zone enterprises for maintenance of SEZs, the example of Quaid-E-Azam Apparel Park at M2 may be considered which has a proposed fee of 0.5 million per acre per annum.
10. Due to the growing demand and scarcity of water in the country, the Supreme Court of Pakistan has made certain important interventions to address the issue. As a result, the water prices for commercial use are expected to rise. As the developer is providing a stable supply of water in RSEZ, zone enterprises may be charged reasonable fees for water consumption.



1. Instead of zone enterprises investing heavily in establishing their own effluent treatment plants, the availability of the combined effluent treatment plant will prove to be more cost effective and therefore, it is recommended that zone enterprises are charged a reasonable fee that is sufficient for the O&M of the facility.

#### Geographical Location Advantages

2. RSEZ possesses unique geographical advantage coupled with proximity to CPEC network, reasonable availability of raw material and human resources as well as access to a viable transportation infrastructure in terms of airports (Peshawar & Islamabad), dry port, railway station and most importantly the motorway network. Its unique position can be leveraged both for industries geared towards national consumption as well as exports.

#### Demographics and Availability of Skilled Labor

3. For demographics, our findings suggest positive effects on population of the local area surrounding RSEZ for the timespan 2016 to 2030 particularly household income increase by 36%, male employment increase by 153% and female employment increase by 291%.
4. Findings from KIIs also suggest that Nowshera in particular has had a historical predilection for industrial manufacturing evident from our data as well. Moreover, both Mardan and Nowshera have remained ethnically diverse with social acceptance for various minority ethnic groups particularly from Punjab and other parts of the country. This also suggests a positive outlook for RSEZ.
5. Regarding vocational training and higher education our findings suggest significant potential however, gaps in terms of supply and demand remain. Consequently we suggest that all the technical, vocational, educational and training institutions in KP should be linked with the website of NAVTTC for the purpose of planning, research, education, training and employment opportunities for TVET graduates.
6. The linkages must be strengthened between government departments responsible for various policies affecting the skilled market and statistical agencies for effective institutional collaboration and cooperation.



1. TVET institutes should provide demand-driven technical training for which effective linkages must be established with the potential industries from the perspective of RSEZ.
2. There is a need to increase the number of technical institutions and introduce new technical courses in alignment with the skill requirements of the potential portfolio of industries/sectors being established in RSEZ.
3. Technical collaboration with relevant national and international organizations should be undertaken in order to introduce new technical training
4. Technical training institutes should also provide soft skills training to trainees in addition to technical skills.
5. Regarding universities and their graduates, there seem to be enough universities and enrolments to cater for the university level graduate requirements of RSEZ, which constitute a small percentage of the total labour requirements.

### Competitor Analysis

6. One key factor to ensuring chances of success for RSEZ is the 'One Window' operation that should be established to assist investors in smooth establishment and operations of units in RSEZ.
7. Arrangements associated with transport and logistics should be strengthened.
8. A Business Center should be established to provide common business facilities including small library, auditorium, conference and meeting rooms.
9. A business incubation center should be established to encourage SMEs to initiate innovative manufacturing oriented businesses.
10. SMEs require a host of business development services which investors in RSEZ would find difficult to acquire from adjacent areas. Hence, it is suggested that a pool of business development service providers (both individuals and firms) should be created and a Business Development Center should be established to cater for these demands in the RSEZ.



### Data Available for Investment

1. Data in short and focused form like 'Snippets' and 'Extracts' carrying key information should be developed. It should be transformed into Information & Communication materials like brochures, flyers, presentations, online static and dynamic content.
2. In our interactions with leaders of the business community from KP, it was noted that investors, particularly those in the small and medium scale bracket do not have a very strong requirement for statistical data particularly complex numbers. Rather, there was greater consensus that in terms of making an investment decision particularly for SEZs certain key factors are of greater importance. Based on our analysis, it is recommended that the developers should focus on creation and provision of sharp and focused information for investors in the following categories in order to facilitate investment decisions in RSEZ and other SEZs of the province;
  - Locational Advantages of the SEZ
  - Strength of Communication Technologies and Physical Ease of Access
  - Social Life and Cultural Fit of the Region – 'Welcome Feel'
  - Skilled/Semi-Skilled Labor: Ease of Availability
  - Availability of Key Energy Resources (Electricity, Gas, Other Facilities)
  - Residential Facilities and Arrangements
  - Security Scenario
3. The investment data in the above categories need to be developed and disseminated through a third party like reputable business stakeholders that the investors trust. These may include business leaders (opinion leaders) from the local area or those who have credibility and reputation at the provincial and national level. These opinion leaders can serve as 'RSEZ Ambassadors' and should take ownership of the data in order to strengthen the investors' confidence in data's genuine nature and usefulness.



### Legal Framework and Rule of Law

1. Even though three provinces KP, Punjab and Sindh make claims with regards to 'One Window' facilitation, more evidence of on-ground facilitation is needed. In this regard the developer needs to develop a 'One Window Framework and Strategy' that puts in place processes and procedures along with key enablers, facilitators and their roles and responsibilities.
2. In terms of EODB, the latest EODB Strategy 2018-2021 has a number of planned reforms. However, no reforms specific to KP were present in this strategy document. There is a need for the Province of KP to develop initiatives and reforms in line with this strategy and strengthen the EODB scenario for the province in comparison to Punjab and Sindh. Key areas that need consideration include 'Getting Electricity', 'Getting Credit' and 'Trade across Borders' that have received lesser attention in KP's existing EODB framework.
3. The overall assessment of the security profile for KP has shown significant improvement as shown from our analysis. The public perception with regards to performance of Police and LEAs for Mardan shows that 70.6 percent of the respondents rated the police services from good to extremely good. Furthermore, the security arrangement for RSEZ will fall under the CPEC security protocols.



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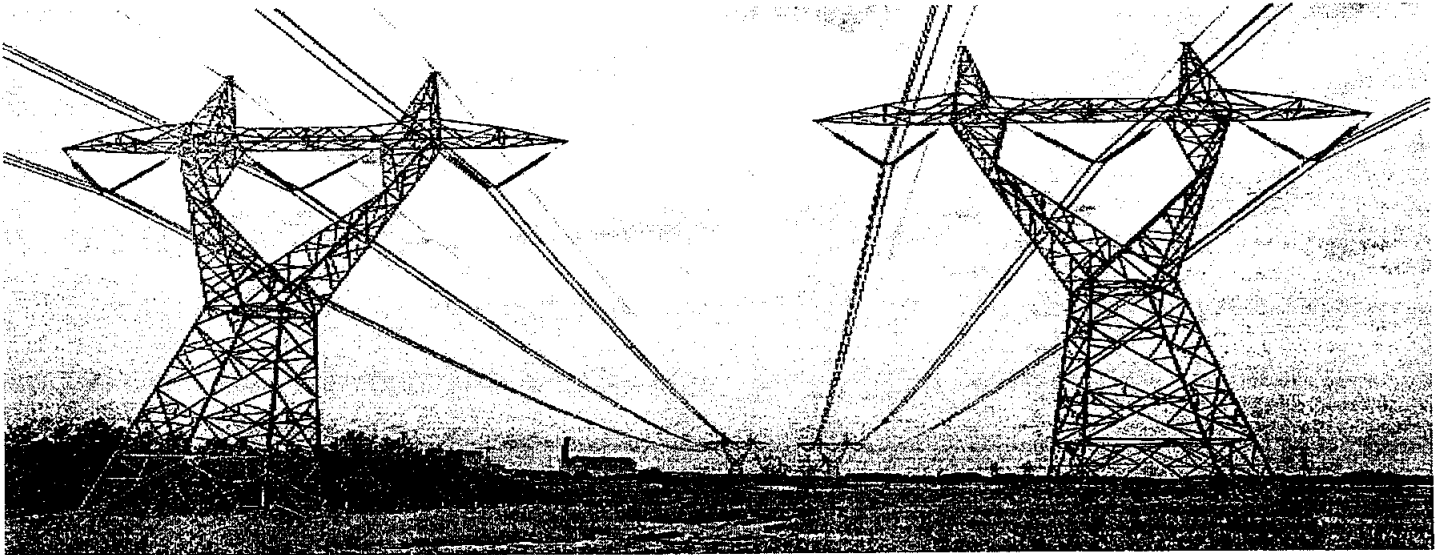
This report has been prepared by  
Institute of Management Sciences, Peshawar



# Final Report

## Grid Interconnection Studies of

### 202.6 MW Rashakai Special Economic Zone

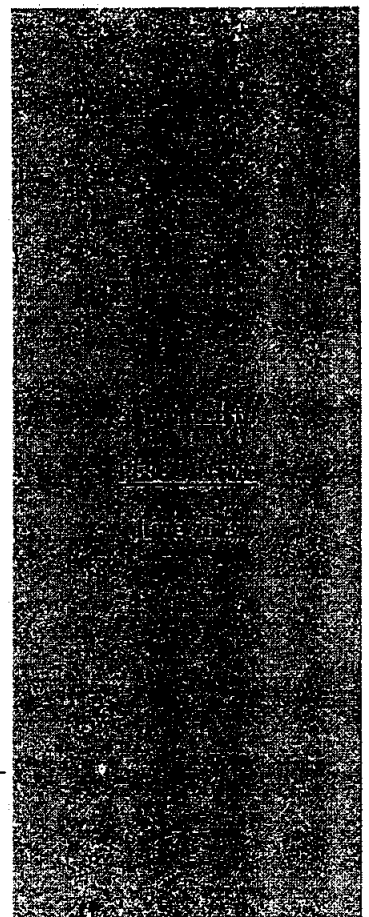


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## Executive Summary

The Rashakai Special Economic Zone (RSEZ) is located between the 220/132 kV Mardan and proposed 220/132 kV Swabi grid stations of PESCO. The Rashakai SEZ comprises of proposed RSEZ GS-I and GS-II, the interconnection scheme consists of 24.32 km from 220/132 kV Grid Station Mardan to RSEZ GS-II using S/C rail conductor, whereas 24.37 km Mardan to RSEZ GS-I using S/C rail conductor, As a second source 30 km from proposed 220/132 kV Grid Station Swabi to RSEZ GS-I using D/C rail conductor, whereas 0.05km GS-I to GS-II using S/C rail conductor.

RSEZ has total proposed load demand of 202.6 MW which is divided into following phases.

S-1			
1	Phase-I RSEZ Grid Station (GS-II)	45	30-Aug-2022
2	Phase-I RSEZ Grid Station (GS-I)	22.09	30-Aug-2022
3	Phase-II RSEZ Grid Station (GS-I)	45.9	31-Dec-2023
4	Phase-II RSEZ Grid Station (GS-II)	45	31 <sup>st</sup> December 2023
5	Phase-III RSEZ Grid Station (GS-I)	44.61	31-Dec-2025
<b>Total demand load</b>		<b>202.6MW</b>	

PESCO grid system, after addition of the RSEZ has been analysed for load flow, short circuit, and transient stability studies to determine whether the plant connection with the PESCO grid meets the NEPRA Grid Code Planning Criteria requirements.

The latest and up-to-date NTDC/PESCO network model base cases have been used. The steady-state, sequence, and dynamic data for the Rashakai Special Economic Zone is processed to build the steady-state, short circuit, and dynamic models in PSSE software format.

A detailed power system analysis study on the peak load demand of the Rashakai Special Economic Zone is prepared and results of the study are listed below.

### 1. Load flow analysis

The analysis has been performed for the year 2022, the year 2023, and the year 2025. The power flow analysis shows that the bus voltages and line loadings in all the cases, with and without the addition of the RSEZ are within the acceptable limit as per the NEPRA Grid Code Planning Criteria.

### 2. Contingency analysis

N-1 contingency analysis also has been performed for the year 2022, the year 2023, and the year 2025 and the results were also validated as per the thermal and voltage limits in associated N-1 post contingency conditions. The results of the contingency analysis shows that there is no thermal and voltage violations under N-1 conditions in the NTDC and PESCO network due to RSEZ addition.

### 3. Short circuit analysis

Maximum short circuit levels have been conducted in the year 2025. Moreover, to see the short circuit current contribution of 'Rashakai Special Economic Zone', maximum short circuit levels at the substations located in the vicinity of the project were also computed. The 3-phase and 1-phase short circuit currents at both 132kV RSEZ GS-I & RSEZ GS-II grid stations are 16.3 KA and 11.1 kA respectively. This shows that the short circuit levels of 'Rashakai Special Economic Zone' are well below the ratings of standard 40kA switchgear; hence it is suggested to use 40kA Circuit breaker at 'Rashakai Special Economic Zone'.

Therefore, it is concluded that the proposed interconnection scheme holds good based on short circuit analysis as well.

#### 4. Transient stability analysis

The transient stability studies were carried out to check the dynamic impact due to potential faults in the PESCO grid system and, in turn, the impact of disturbances in the proposed RSEZ grid stations on the PESCO grid system. The RSEZ is found to meet all the transient stability requirements under Normal clearing 5 cycle opening time and stuck breaker conditions of delayed breaker opening after 9 cycles and tripping of the associated circuit.

The results of transient stability analysis show that the power system is stable for the suggested interconnection scheme of the 'Rashakai Special Economic Zone '.

#### 5. Reactive power compensation

To meet the reactive power demand and power factor of RSEZ for 202.6MW load in year 2025, 20 MVAR switched shunt capacitors are proposed at each 33 kV bus bars of RSEZ GS-II and 24 MVAR switched shunts are proposed at each 11 kV bus bar of RSEZ GS-I.

#### 6. Recommendations

RSEZ is required to install appropriate reactive compensation at its end to maintain a 0.95 (lag) power factor at the point of interconnection. Also, it is noted that substantial attention needs to be given to the design of 11kV and 33 kV distribution network, to optimize feeder lengths and voltage profile as well to increase supply reliability for customers. Also, RSEZ shall conduct separate system studies for the installation of reactive power compensation equipment (static/dynamic where necessary) within both RSEZ GS-I and RSEZ GS-II for reactive power/voltage control and power quality mitigation based on size, location, and type of industrial loads.

Based on the study results overall, it is concluded that the proposed interconnection scheme for 'Rashakai Special Economic Zone' meets all the NEPRA Grid Code and Planning Criteria.

#### 7. Compliance by PESCO

PESCO will make sure that its transmission network is upgraded as modelled in the base cases. Particularly the following circuits will be completed before the commission of the Rashakai SEZ Load:

- Construction of 132kV Single Circuit (S/C) on Rail conductor from 220kV Nowshera to Pabbi
- Construction of 132kV S/C transmission line on Rail conductor from 220kV Chakdara-Salarzai-Daggarr Buner
- Reconductoring of remaining portion of 132kV transmission line from 220/132kV Nowshera-132kV Nowshera Industrial on Lynx conductor to Rail Conductor
- 132kV Circuit S/C Mardan-ZRK-Marble City-Nowshera City will be made in/out at Dobian"

## 1. Introduction

### 1.1 Project Background

The total land areas of Rashakai Special Zone Project is 1000 acres approximately. Two grid stations GS-I and GS-II would be constructed/installed with total demand of 202.6 MW. The total expected demand is divided into the following five stages.

- First stage, 45 MW demand is proposed on 30-Aug-2022 at phase-I of RSEZ GS-II.
- Second stage, 22.09 MW demand is proposed on 30-Aug-2022 at phase-I of RSEZ GS-I.
- Third stage, 45.9 MW demand is proposed on 31-Dec-2023 at phase-II of RSEZ GS-I.
- Fourth stage, 45 MW demand is proposed on 31-Dec-2023 at phase-III of RSEZ GS-II.
- Fifth stage, 44.61 MW demand is proposed on 31-Dec-2025 at phase-III of RSEZ GS-I.

The indicative timelines for the provision of electric power are as under:

Sl. No.	Phase	Demand (MW)	Timeline
1	Phase-I RSEZ Grid Station (GS-II)	45	30-Aug-2022
2	Phase-I RSEZ Grid Station (GS-I)	22.09	30-Aug-2022
3	Phase-II RSEZ Grid Station (GS-I)	45.9	31-Dec-2023
4	Phase-II RSEZ Grid Station (GS-II)	45	31 <sup>st</sup> December 2023
5	Phase-III RSEZ Grid Station (GS-I)	44.61	31-Dec-2025
	<b>Total Demand Load</b>	<b>202.6MW</b>	

Table 1.1.1 Demand phases

### 1.2 Plant data

Total Load Demand of RSEZ	= 202.6 MW
Proposed Demand of GS-I	= 112.6 MW
Proposed Demand of GS-II	= 90 MW
Transformers of GS-II in phase I	= 60 MVA, 2 numbers
Transformers of GS-I	= 50 MVA, 3 numbers
% Impedance of transformer at RSEZ GS-I & GS-II	= 12.5%
Voltage Ratio of Transformers at GS-II	= 132/33 kV
Voltage Ratio of Transformers at GS-I	= 132/11 kV
Proposed MVAR at 33 kV of GS-II	= 20MVAR
Proposed MVAR at 11 kV of GS-I	= 24 MVAR



### 1.3 The Objective of the Study

The principal objective of this study "Connection assessment of Rashakai Special Economic Zone to the PESCO grid system" is to assess the impact of the proposed interconnection for the RSEZ on the PESCO transmission system and vice versa and ensure the interconnection meets the NEPRA/NTDC grid code planning criteria requirements. In this study, a most appropriate interconnection with the PESCO network is presented for the project.

A detailed power system analysis study of the complete load demand of the Rashakai Special Economic Zone is to be prepared. The scope of work including but not limited to system analysis studies for both grid stations, and any other essential data, securing of necessary approval from PESCO for early commissioning of the Grid Stations.

The detailed contents of the work of scope as under:

- a. Load flow studies and contingency analysis
- b. Grid interconnection and short-circuit studies
- c. Reactive power compensation studies
- d. Transient stability analysis
- e. Interconnection diagram for both sub-stations

## 2. Methodology and Assumptions

### 2.1 Mobilization, information/data collection, inputs

- Prepare preliminary (initial) data requirement list
- Kick-off meeting with project team
- Collection of data from PESCO and NTDC systems necessary to carry out the above analysis/studies
- Gather, organize, review, and analyze readily available data/inputs
- Review available past planning and operation report(s)
- Build, gather, databases and review available data and base-cases
- Organize databases in desired formats of original and compiled data files
- Verify, validate, check, the databases
- Prepare and deliver a list of additional data required, if needed

### 2.2 Develop connection alternatives, review/update base cases

- Review base case for data errors/checks using PSSE built-in functions and engineering judgment
- Confirm or assume any missing/incorrect data
- Modeling of the plant in PSS/E based on the developer/vendor-provided data
- Modify PESCO/NTDC network PSS/E model to integrate the plant model
- Verify plant model based on vendor data and model confirmations
- Build base case model confidence and get PESCO review/confirmation

### 2.3 Power flow simulations and reactive power compensation studies, meeting the planning criteria

- Carry out load flow simulations for all components in service for peak cases
- Carry out detailed load flow analysis and reactive power compensation studies, under normal as well as N-1 contingency conditions
- Prepare overall simulations list and related automation files for selected N-1 contingencies in consultation with NTDC
- Carry out contingencies runs and monitor violation (s)
- Identify critical contingencies for violation(s)
- Identify and confirm reinforcement/addition in the grid to overcome limiting constraints in case of non-confirmation
- Carry out contingencies runs in reinforced network and monitor violation(s)
- Prepare a list of additional reinforcement and security required for overcoming violation(s)

### 2.4 Short circuit study

- Review data and perform short circuit analyses for peak/off-peak cases for present and future years
- Evaluate the impact of planned plants on fault level
- Carry out detailed short circuit study to calculate the maximum fault current at selected stations
- Suggest remedial measures if it has adverse impact

### 2.5 Transient stability simulations and analysis

- Review all planned commissioning/selected year case for dynamic data
- Prepare overall simulations list and fault condition to simulate as per planning criteria
- Carry out detailed dynamic stability analysis on the existing transmission system under different system disturbances
- Carry out transient stability simulation for selected/agreed contingencies
- List violations as per planning criteria requirements
- Identify and confirm reinforcement/addition in the grid to meet stability and security criteria and identify any needs or to update remedial action schemes

- Carry out dynamic simulation and assessment to ensure system stability and security after reinforcement
- List all the reinforcement required

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The grid interconnection scope of ‘Rashakai Special Economic Zone’ to the PESCO power system network is as follows;

- The geographical location of the RSEZ is shown in the figure below and also provided in Appendix-1, whereas the PESCO overall network geo-single line diagram is provided in Appendix-1.

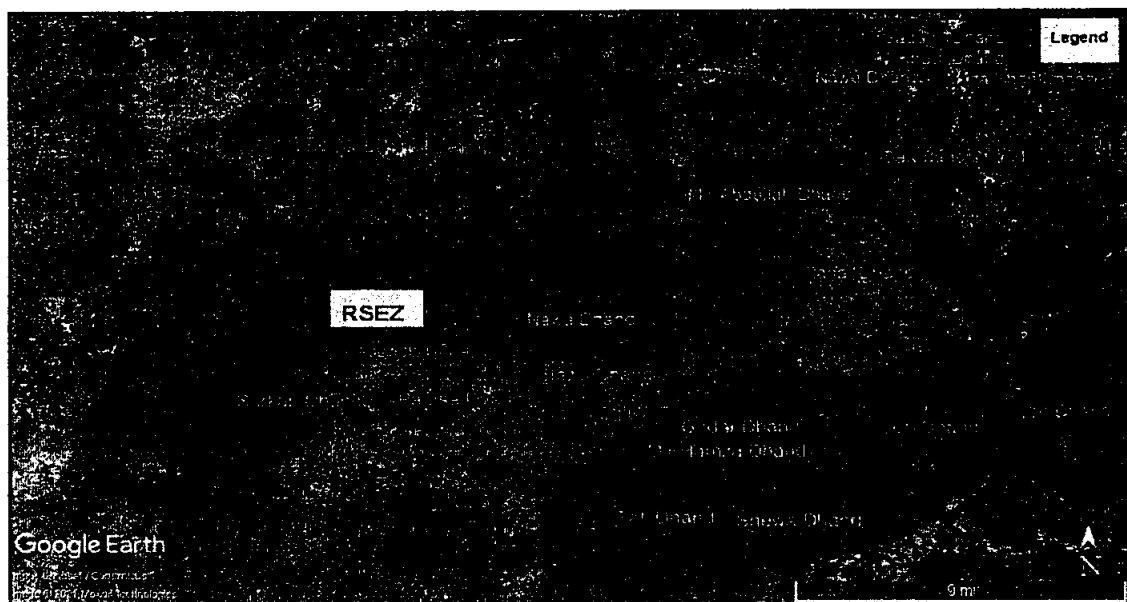


Figure 3.1 Geographical location of the RSEZ

The bubble diagrams and proposed interconnection scheme development for RSEZ are provided below and also provided in Appendix-3 with more details.

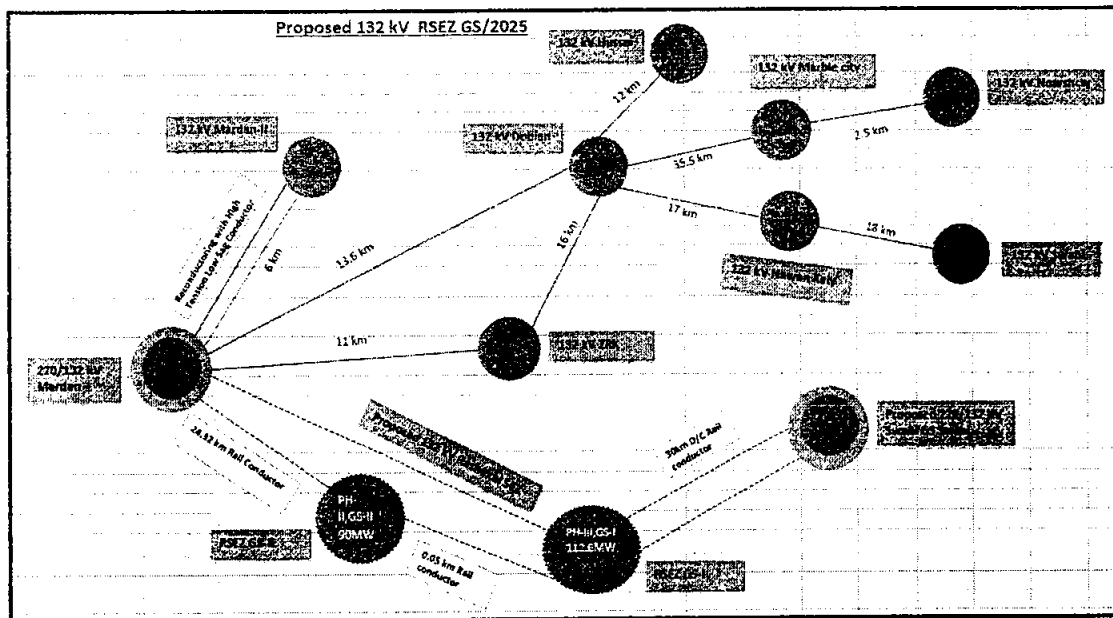


Figure 3.2 Bubble diagram of the RSEZ

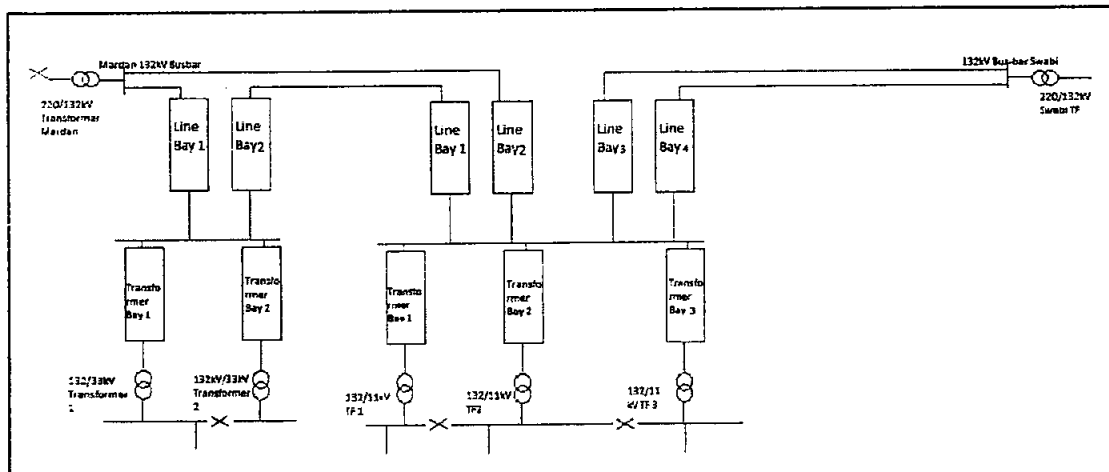


Figure 3.3 Proposed interconnection scheme of of the RSEZ

There is a strong and robust existing network of PESCO which consist of;

- 220/132 kV Mardan GS –Mardan-II 132 kV GS, 6 KM double circuit transmission line.
- 132 KV Mardan-II GS – 132 KV Jalala GS, 25 KM single circuit transmission line.
- 220/132 KV Mardan GS – 132 KV ZRK GS, 11 KM single circuit transmission line.
- 132 KV ZRK GS – 132 KV Dobian GS, 15 KM single circuit transmission line.
- 132 KV Dobian GS – 132 KV Marbel city GS, 35.5 KM single circuit transmission line.

### 3.1 Understanding of the interconnection plan

Rashakai special economic zone consists of first RSEZ Grid Station-I and second is RSEZ Grid Station-II with total load demand is 202.6 MW, and their expected load is divided into following phases.

S. No	Phase	Load (MW)	Year
1	Phase-I RSEZ Grid Station (GS-II)	45	30-Aug-2022
2	Phase-I RSEZ Grid Station (GS-I)	22.09	30-Aug-2022
3	Phase-II RSEZ Grid Station (GS-I)	45.9	31-Dec-2023
4	Phase-II RSEZ Grid Station (GS-II)	45	31 <sup>st</sup> December 2023
5	Phase-III RSEZ Grid Station (GS-I)	44.61	31-Dec-2025
	<b>Total demand Load</b>	<b>202.6MW</b>	

Table 3.1.1 Demand phases

This load demand is to be met via the nearest available grid facility of PESCO. The RSEZ GS-I is located at about 30 km from proposed 220/132 kV Swabi grid station of PESCO and RSEZ GS-II is located at about 24.32 km from 220/132 KV Mardan GS.

This study was carried out to check the strength of the existing network and to verify if this meets planning criteria and that this addition of load can be accommodated, or some extra reinforcement is required.

### 3.2 Approach to the system modelling and simulation

Following approach was adopted for modeling and load flow, short circuit, and dynamic analysis:

#### 3.2.1 Load flow cases

S. No	Phase	Load (MW)	Year	Year	Year
1	Phase-I RSEZ Grid Station (GS-I)/(GS-II)	22.09/45	30-Aug-2022	2022	3.2.1.2
2	Phase-II RSEZ Grid Station (GS-I)	45.9	31-Dec-2023	2023	3.2.1.3
3	Phase-II RSEZ Grid Station (GS-II)	45	31 <sup>st</sup> Dec 2023		3.2.1.3
4	Phase-III RSEZ Grid Station (GS-I)	44.61	31-Dec-2025	2025	3.2.1.4
	<b>Total demand Load</b>	<b>202.6MW</b>			

Table 3.2.1.1 Year-wise Demand phases

Bubble diagrams of PESCO existing network and year wise phases of RSEZ are provided below and also provided in Appendix-3.

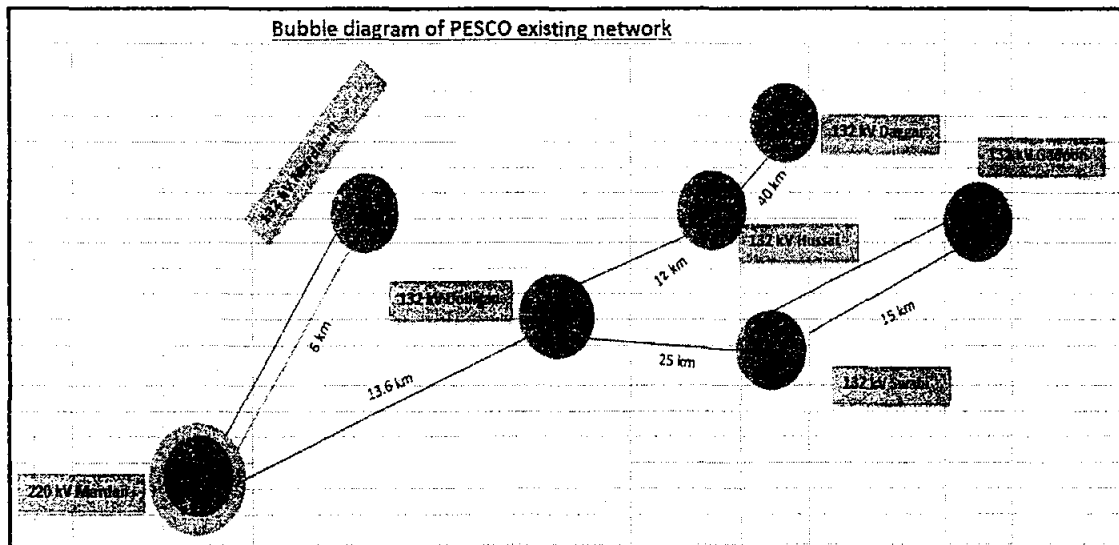


Figure 3.2.1.1 Bubble diagram PESCO existing network

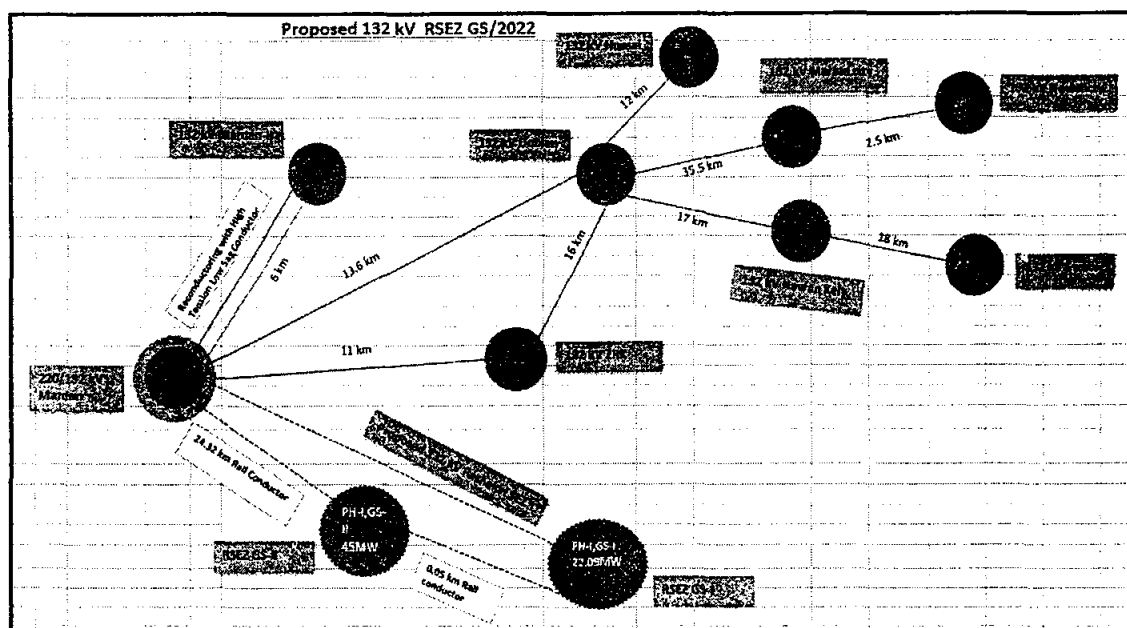
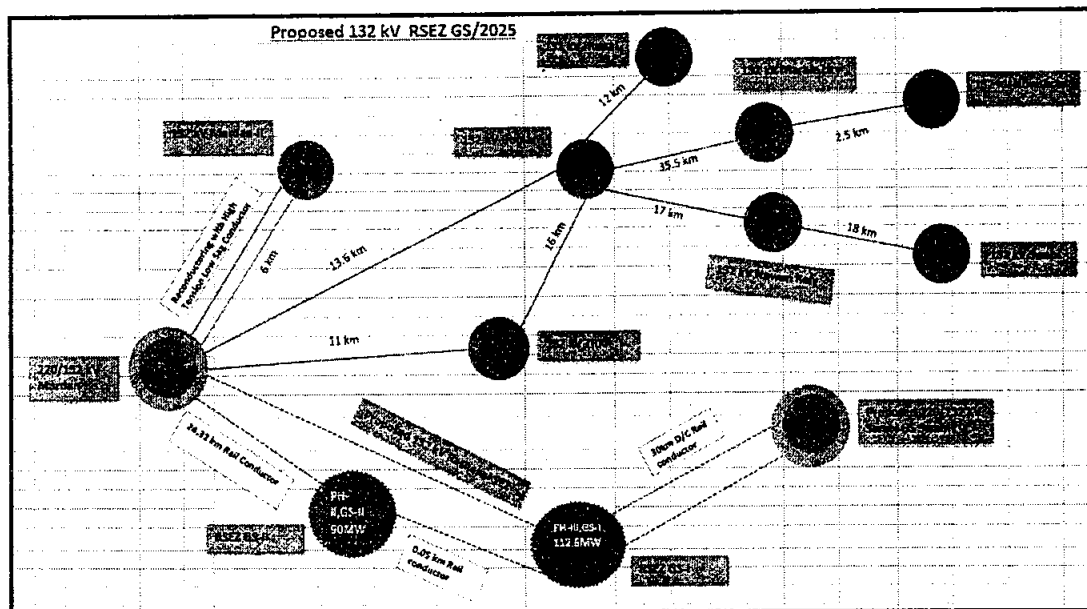
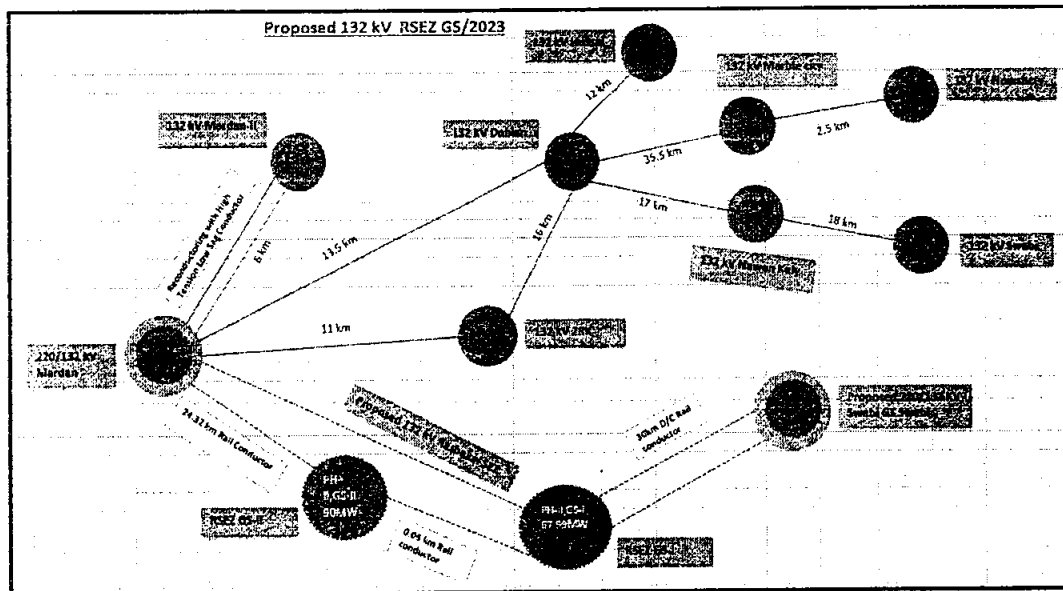


Figure 3.2.1.2 Proposed 132 kV Phase-I RSEZ GS-I and phase I of RSEZ GS-II -2022





## 4. Data Processing

### 4.1 Site Surveys and Related Meetings

Rashakai Special Economic Zone (RSEZ), located near M-1 Nowshera, is set to be established in Khyber Pakhtunkhwa (KP). The 1000 acres of land of REZ will be developed in three phases. The total area designated for Industrial use is 702 acres and as per Federal SEZA Regulations, of which 159 acres will be developed in Phase I, 279 acres in phase II, and subsequently 264 acres in Phase III. For commercial use, an area of 76 acres has been allocated.

#### 4.1.1 Collection of Data

The following data is collected and used for this study:

- The latest up-to-date generation plan has been used for the subject study as incorporated in the provided base cases.
- The optimal transmission expansion plans of NTDC and PESCO have been used considering the load demand and generation requirements as incorporated in the provided base cases.
- That the augmentation of the transmission lines of NTDC and PESCO shall take place in accordance with the transmission expansion plan, especially in the vicinity of the subject RSEZ.
- The load demand forecast is most recent and revised as incorporated in the provided base cases.
- Appropriate study years for the subject system study are taken, which are the base case of the year 2022, the year 2023, and the base case of the year 2025.

### 4.2 Processing of RSEZ Data

The received data from RSEZ, PESCO and NTDC was processed into the PSSE software format to perform the simulation studies.

This processed plant data is modeled in the overall PESCO network model as per the proposed connection scheme. Updated PESCO network base case is then simulated by considering the N-1 contingency analysis for each case using standard checks like convergence, mismatch, number of iterations, voltage and thermal limits, and 15 seconds drift-run tests for dynamics run.

Above mentioned data is processed to build the following basic models in PSSE software format:

- Steady-state data for load flow analysis
- Sequence data for short circuit analysis
- Dynamic data for transient stability analysis

#### 4.2.1 Steady-State System Modeling

The 202.6 MW of power is evacuated to the Rashakai Special Economic Zone, which is evacuated in five different stages as below.

Demand Phases			
1	Phase-I RSEZ Grid Station (GS-II)	45	30-Aug-2022
2	Phase-I RSEZ Grid Station (GS-I)	22.09	30-Aug-2022
3	Phase-II RSEZ Grid Station (GS-I)	45.9	31-Dec-2023
4	Phase-II RSEZ Grid Station (GS-II)	45	31 <sup>st</sup> December 2023
5	Phase-III RSEZ Grid Station (GS-I)	44.61	31-Dec-2025
<b>Total demand Load</b>		<b>202.6MW</b>	

Table 4.2.1.1 Demand phases

Steady-state models of transmission lines and transformers in RSEZ and its vicinity in the PSSE software are as under:

- Transmission conductor suggested for interconnection of the proposed grid stations are modelled having its per unit (p.u) resistance, reactance, and susceptance according to line length and MVA rating.
- Positive sequence parameters are employed in the steady-state model of the under-system study.

#### 4.2.2 Sequence Data Modeling

Short circuit analysis for RSEZ and the network of PESCO has been conducted by using the following parameters of the transmission lines;

- Positive sequence data
- Negative sequence data
- Zero sequence data

#### 4.2.3 Dynamic Data Modeling

The dynamic simulation model of the entire network has been developed in PSSE software.

The two severe types of disturbances simulated to assess the stability of the Subject and the power system a study as per the NEPRA grid code criteria are given as under:

- 3-phase fault at bus bar cleared in 5-cycles (100 ms) and tripping of the associated circuit.
- 1-phase to ground fault at bus bar cleared in 9 cycles (180 ms) (delayed clearing or stuck breaker condition) and tripping of the associated circuit

## 5. Load Flow Analysis

### 5.1 Load Flow Study Objectives

A power flow study (or load flow study) is an analysis of the magnitude of bus voltages, line loadings, phase angles of the bus voltages and power flows in a power system under steady-state conditions.

The main goal of load flow analysis is to develop a reliable connection arrangement between the 'Rashakai Special Economic Zone' and the PESCO grid system under normal and N-1 contingency conditions.

The load flow analysis has been performed for the year 2022, the year 2023, and the year 2025. The power flow conditions are studied on the system study cases that include up-to-date generation, transmission facilities, and load forecast representing the queue position applicable to this project. The load flow studies Exhibits as covered in this chapter are provided in Appendix-4.

For RSEZ GS-I overall results for three transformers with each capacity 50 MVA and for RSEZ GS-II overall results for two transformers with each capacity 60 MVA were tested and it was observed that all results and conclusion remain same.

Following are the important objectives of load flow analysis:

- Confirmation that no voltage and thermal loading limits are exceeded as per NERPA Grid Code Planning criteria.
- Voltage profile of PESCO system.
- Transmission line loadings in terms of Active (MW) and Reactive Power (MVAR) flows.
- Active Power (MW) loss in the network.
- Transmission network and transformation reactive losses (MVAR).
- Proposal of remedial solutions to any identified limitations or issues.

A relative approach has been used in the power flow analysis to determine the impact of the Rashakai Special Economic Zone project on the performance of the PESCO power system network.

### 5.2 Load Flow Study Criteria

Load flow analysis is performed under the following conditions;

- Steady-state normal (N-0) operating conditions
- N-1 contingency operating conditions around the plan

The grid interconnection studies are carried out by considering the operational data defined by NEPRA Grid Code, which is listed as under:

#### 5.2.2 Voltage Limit

For system planning, the following voltage limits are defined for steady-state load flow analysis;

- i. Under normal operating conditions (N-0 condition) all bus voltages shall be within the bandwidth of  $\pm 5$  % of Nominal System Voltage.
- ii. Under N-1 contingency conditions, all bus voltages shall be within the bandwidth of  $\pm 10$  % of Nominal System Voltage.

#### 5.2.2 Component loading limits

Loading criteria for current-carrying components (transmission circuits, transformers, substation bus bars, circuit breakers, disconnect switches, and auxiliary equipment) to evaluate steady-state load flow studies is as follows;

- i. Under normal operating conditions (N-0 conditions), all components shall be loaded below their Normal Continuous Maximum Ratings.

- ii. Under contingency conditions (N-1 conditions), all components shall be loaded below their Emergency Ratings.

### 5.3 Load Flow Analysis for the Year 2022 without Addition of Rashakai Special Economic Zone

The power flow analysis without the RSEZ to the base year 2022 in the power network of the PESCO system was simulated first. This section summarizes the pre-contingent steady-state analysis for the PESCO system load flow study.

Load flow analysis for the year 2022 without the addition of RSEZ has been conducted for the condition under normal system conditions as provided in Exhibit # 1.0. The power flow through the transmission lines, the transformer the RSEZ, and the surrounding network are presented in this simulation and the results are summarized below.

The load flow analysis during the year 2022 has been conducted for N-1 contingency conditions. Whereas the summarized results of contingency simulations are provided as Exhibit# 1.1 to 1.2 below:

Contingency Conditions	
1.0	Normal Case
1.1	Mardan-MardanII line out
1.2	Mardan- charsada Line out

**Table 5.3.1** Contingency Conditions without RSEZ base case 2022

It is observed that before connecting the RSEZ to the PESCO electrical network, all the current-carrying component capacities are within the range. No limitation is seen in any of the MW and MVAR flows.

### 5.4 Load Flow Analysis for the Year 2022 with total demand 67.2 MW (45 MW demand at RSEZ GS-II and 22.09 MW demand of RSEZ GS-I)

Load flow analysis for the year 2022 with the addition of RSEZ has been conducted for the condition under normal system conditions as provided in Exhibit # 2.0. The power flow through the transmission lines, the transformer the RSEZ, and the surrounding network are presented in this simulation and the result is summarized below.

The load flow analysis during the year 2022 has been conducted for N-1 contingency conditions. Whereas the summarized results of contingency simulations are provided as Exhibit# 2.1 to 2.5 below:

Contingency Conditions	
2.0	Normal Case
2.1	RSEZ GS-I – RSEZ GS-II line out
2.2	RSEZ GS-II-Mardan Line out
2.3	Mardan- charsada Line out
2.4	Mardan- RSEZ GS-I Line out
2.5	Mardan- Mardan-III Line out

**Table 5.4.1** Contingency Conditions With total demand 67.2 MW (45 MW demand at RSEZ GS-II and 22.09 MW demand of RSEZ GS-I base case 2022

### 5.5 Load Flow Analysis for the Year 2023 (without 220KV Swabi grid station) and with total demand 157.09 MW (90 MW demand of RSEZ GS-II GS and 67.09 MW demand of RSEZ GSI)

Load flow analysis for the year 2023 with the addition of RSEZ and without 220KV Swabi grid station has been conducted for the condition under normal system conditions as provided in Exhibit # 3.0. The power flow through the transmission lines, the transformers, and the surrounding network are presented in this simulation and the result is summarized below.

The load flow analysis during the year 2023 has been conducted for N-1 contingency conditions. Whereas the summarized results of contingency simulations are provided as Exhibit# 3.1 to 3.6 below:

Contingency Conditions	
3.0(a)	Normal Case
3.1(a)	RSEZ GS-I – RSEZ GS-II line out
3.2(a)	RSEZ GS-II-Mardan Line out
3.3(a)	Mardan- charsada Line out
3.4(a)	Mardan- RSEZ GS-I Line out
3.5(a)	Mardan- Mardan-III Line out

**Table 5.5.1** Contingency Conditions without 220KV Swabi GS and With total demand 157.09 MW (90 MW demand of RSEZGS-II GS and 67.09 MW demand of RSEZ GSI base case 2023)

### 5.5 Load Flow Analysis for the Year 2023 with (with 220KV Swabi grid station) and with total demand 157.09 MW (90 MW demand of RSEZ GS-II GS and 67.09 MW demand of RSEZ GSI)

Load flow analysis for the year 2023 with the addition of RSEZ has been conducted for the condition under normal system conditions as provided in Exhibit # 3.0. The power flow through the transmission lines, the transformers, and the surrounding network are presented in this simulation and the result is summarized below.

The load flow analysis during the year 2023 has been conducted for N-1 contingency conditions. Whereas the summarized results of contingency simulations are provided as Exhibit# 3.1 to 3.6 below:

Contingency Conditions	
3.0	Normal Case
3.1	RSEZ GS-I – RSEZ GS-II line out
3.2	RSEZ GS-II-Mardan Line out
3.3	Mardan- charsada Line out
3.4	Mardan- RSEZ GS-I Line out
3.5	Swabi new- RSEZ GS-I Line out
3.6	Mardan- Mardan-III Line out

**Table 5.6.1** Contingency Conditions with 220KV Swabi GS and With total demand 157.09 MW (90 MW demand of RSEZGS-II GS and 67.09 MW demand of RSEZ GSI base case 2023)

#### 5.7 Load Flow Analysis for the Year 2025 with total demand 202.6 MW (90 MW demand of RSEZ GS-II and 112.6 MW demand of RSEZ GS-I)

Load flow analysis for the year 2025 with the addition of RSEZ has been conducted for the condition under normal system conditions as provided in Exhibit # 4.0. The power flow through the transmission lines, the transformer the RSEZ, and the surrounding network are presented in this simulation and the result is summarized below.

The load flow analysis during the year 2025 has been conducted for N-1 contingency conditions. Whereas the summarized results of contingency simulations are provided as Exhibit# 4.1 to 4.6 below:

Contingency Conditions	
4.0	Normal Case
4.1	RSEZ GS-I – RSEZ GS-II line out
4.2	RSEZ GS-II-Mardan Line out
4.3	Mardan- charsada Line out
4.4	Mardan- RSEZ GS-I Line out
4.5	Mardan- Mardan-III Line out
4.6	Swabi new- RSEZ GS-I Line out

Table 5.7.1 Contingency Conditions with total demand 202.6 MW (90 MW demand of RSEZ GS-II and 112.6 MW demand of RSEZ GS-I)

#### 5.8 Conclusions of Load Flow Analysis

The results obtained after conducting load flow analysis of above mentioned years with normal and N-1 contingency conditions show that the proposed interconnection scheme of RSEZ has been found reliable in various operating scenarios and fulfills the requirements of the NEPRA Grid Code and other applicable Planning Criteria.

To meet the reactive power demand and power factor of RSEZ for 202.6MW load in year 2025, 20 MVAR switched shunt capacitors are proposed at 33 kV bus bars of RSEZ GS-II and 24 MVAR switched shunts are proposed at 11 kV bus bar of RSEZ GS-I.

Apart from the list of n-1 contingencies mentioned in the above table we analyzed some other n-1 contingencies in the vicinity of RSEZ and results show that the power flow on all the circuits are within defined limits and the voltages and loadings are in acceptable range of defined study criteria.

## 6. Short Circuit Analysis

### 6.1 Short Circuit Study Objectives

This section covers the short circuit analysis performed for the "Rashakai Special Economic Zone". When Rashakai Special Economic Zone is added to a system, the available fault current of that system increases. Therefore, a short circuit study has been performed to determine if the circuit breakers of existing substations near the Rashakai Special Economic Zone have adequate short circuit interruption duties.

Short circuit analysis includes the three-phase and single phase-to-ground fault simulations.

Short circuit studies would determine the following;

- Maximum fault current levels the Rashakai Special Economic Zone Grid stations.
- Total fault currents and contribution from the associated network.
- Adequacy of short circuit capacity of switch gears at neighboring existing substations.

### 6.2 Short Circuit Study Assumptions and Criteria

Short circuit studies were carried out for evaluating the following short circuit levels of RSEZ at 132kV bus bar and contiguous network;

- Balanced 3-phase fault
- Un-balanced L-G fault

Analysis was performed for the year 2025, as the case would have all the planned generation and transmission systems components in service, which would produce the worst scenario with extreme fault level calculations.

Short circuit currents were calculated for maximum fault levels according to International Electro technical Commission (IEC) standard IEC-909, with the following assumptions;

- For calculations of maximum fault levels;
- Bus voltage has been assumed as 1.10 per unit (p.u) i.e. 10 % above the nominal.
- Maximum dispatch of all the generation in the system has been taken.
- Taps ratios of all the transformers to be assumed at unity.
- Charging of all the transmission lines to be assumed at zero.
- All the shunt compensations to be assumed at zero in a positive sequence.

### 6.3 Short Circuit Study with Rashakai Special Economic Zone GS-I and RSEZ GS-II in the year 2025

To analyze the impact of the RSEZ on the system, Short circuit analysis is performed after connecting the RSEZ GS-I and GS-II. The base case year 2025 is simulated for the subject study.

The total maximum short circuit levels at the substations located in the electrical vicinity of the area of interest have been calculated and are tabulated below;

Short circuit levels with the addition of Rashakai Special Economic Zone in the year 2025 are below and results are in Appendix-5.

Short Circuit Levels				
Sl. No.	Location	Voltage (kV)	Three Phase Fault (kA)	Single Line to Ground Fault (kA)
1.	RSEZ GS-I	132kV	16.3	11.1
2.	RSEZ GS-II	132kV	16.3	11.1
3.	RSEZ GS-I	11 KV	20.6	22.0
4.	RSEZ GS-II	33 KV	8.1	8.6
5.	Mardan	220kV	21.3	15.7

Table 6.3.1 Maximum Short Circuit level with RSEZ GS-I and RSEZ GS-II in the year 2025				
No.	Substation	Voltage (kV)	Maximum Short Circuit Level (kA)	Maximum Short Circuit Level (MVA)
6.	Swabi new	132kV	22.9	16.9
7.	Mardan	132kV	30.9	23.9
8.	Swabi	220 kV	15.5	10.5

**Table 6.3.1** Maximum Short Circuit level with RSEZ GS-I and RSEZ GS-II in the year 2025

#### 6.4 Conclusions of Short Circuit Analysis

Maximum short circuit levels in the 2025 year are computed with the Rashakai Special Economic Zone GS-I and GS-II for selection of circuit breaker ratings and relay coordination respectively.

Moreover, to see the short circuit current contribution of the "Rashakai Special Economic Zone ", short circuit levels at the substations located in the electrical vicinity of the RSEZ are also calculated. The findings show that with the addition of this RSEZ, fault levels do not exceed the standard circuit breaker ratings of existing installed equipment at the neighboring substations.

The short circuit levels of 'Rashakai Special Economic Zone' are well below the ratings of standard 40kA switchgear; hence it is suggested to use 40kA Circuit breaker at 'Rashakai Special Economic Zone'.

Therefore, it is concluded that the proposed interconnection scheme holds good based on short circuit analysis as well.



## 7. Transient Stability Analysis

### 7.1 Transient Stability Study Objectives

The transient phase is the passage from the initial to the final conditions emanating from the disturbances in its operating conditions either on RSEZ or on the network in its vicinity. To analyze these conditions, detailed transient stability studies were carried out for the RSEZ.

The stability studies are carried out to check the dynamic impact on the RSEZ due to faults or disturbance in proposed grid stations and, in turn, the impact of disturbances in the nearby grid stations.

The studies involved the choice of equipment and optimum regulation through control strategies which allow the system to remain in stable conditions under potential risks. Transient stability studies provide the basis of the power system for the subject economic zone as it determines the following;

- Transient stability of the RSEZ after any fault occurs in the system by the damping of fluctuations in frequency, MW and MVAR, etc.
- The capability of the system to damp the oscillations timely.
- Operating limits of frequency, MW, and MVAR for RSEZ as imposed by the NEPRA Grid Code standards.
- Proposal of remedial solutions in the event of a problem.

### 7.2 Transient Stability Study Criteria

The benchmark criteria for transient stability analysis are;

- Three-phase short circuit fault application at important and selected buses (for N-1 fault contingencies locations) is evaluated as per standards of NEPRA stability criteria.
- Transient stability analysis is simulated for the two following circuit breaker fault clearing time durations;
- Normal 5 cycle opening time, with the opening of the faulted system component.
- Stuck breaker conditions of delayed breaker opening after 9 cycles. (without opening adjacent breakers and as per PESCO/NTDC requirements and practices of simulations)
- Transient stability of proposed RSEZ Grid stations after tripping a nearby transmission line.

### 7.3 Transient Stability Performance of Rashakai SEZ

To study the transient behavior of RSEZ and system towards the disturbances, the following faults are subjected:

- 3-Phase balanced fault at Rashakai Special Economic Zone cleared in 5 cycles.
- 3-Phase balanced fault at adjacent ends cleared in 5 cycles.
- 1-Phase to ground fault at Rashakai Special Economic Zone cleared in 9 cycles
- 1-Phase to ground fault at adjacent ends cleared in 9 cycles.

To obtain the results, every simulation is carried for the steady-state condition for one second, to ensure that the system is completely stable and steady before the fault is applied in the system (pre-fault conditions/drift run test). Then the fault is applied and the system is simulated for the fault clearance time. After the clearance of the fault from the system (post-fault conditions) followed by a certain contingency, the system is observed for 10 seconds to ensure that oscillations in various quantities are damped and the system has re-instated the stability conditions, dynamic analysis plots are attached in Appendix-6.

Furthermore the peak load case year 2022 has been selected for the stability analysis, the stability has not been analyzed for year 2025 because at this project stage there is no additional information about the nature of load is available therefore it is recommended that in future RSEZ shall conduct separate dynamic system studies to

maintain the system stability and reliability within both RSEZ GS-I and RSEZ GS-II for reactive power/voltage control and power quality mitigation based on size, location, and type of industrial loads.

### 7.3.1 3-Phase fault at Rashakai Special Economic Zone cleared in 5 cycles – August 2022 year base case

The three phase fault is applied at the proposed Rashakai Special Economic Zone bus then each fault is removed in 5 cycles (100 msec) accompanied by a particular N-1 contingency and transient stability response of the system is monitored, which is summarized in the table below

Bus location	Circumstances	Sl. No.	Parameter to be monitored
RSEC GS-I 132 kV	RSEZ GS-I 132kV – RSEZ GS-II 132kV One Circuit Out.	5.0	Bus voltage
		5.1	Bus Frequency
		5.2	Power and VARS
		5.3	Rotor Angle

Table 7.3.1.1 Dynamic stability analysis for 5 cycles

### 7.3.2 3- phase fault at adjacent end cleared in 5 cycles– August 2022 year base case

The three phase fault is applied on the adjacent end location of the line and the fault is removed in 5 cycles (100 msec) accompanied by a range of possible outages. The transient stability response of the system is monitored for these conditions, which is summarized in the table below:

Bus location	Circumstances	Sl. No.	Parameter to be monitored
Mardan 132 kV	RSEZ GS-II 132kV – Mardan 132kV One Circuit Out.1066-1070	5.4	Bus voltage
		5.5	Bus Frequency
		5.6	Power and VARS
		5.7	Rotor Angle
RSEZ GS-I 132kV	RSEZ GS-I 132kV – Mardan132kV One Circuit Out.1068-1070	5.8	Bus voltage
		5.9	Bus Frequency
		5.10	Power and VARS
		5.11	Rotor Angle
Mardan 132kV	Mardan III 132kV – Marda132kV One Circuit Out.1070-1071	5.12	Bus voltage
		5.13	Bus Frequency
		5.14	Power and VARS
		5.15	Rotor Angle
Mardan 220 kV	Mardan 220/132kV transformer out	5.16	Bus voltage
		5.17	Bus Frequency

Location of Fault	Equipment	Time (s)	Variable
Mardan 220 kV	Tarbela 220kV- Mardan 220kV one circuit out.200-150	5.18	Power and VARS
		5.19	Rotor Angle
		5.20	Bus voltage
		5.21	Bus Frequency
		5.22	Power and VARS
		5.23	Rotor Angle

Table 7.3.2.1 Dynamic stability analysis for 5 cycles

### 7.3.3 SLG fault at Rashakai Special Economic Zone cleared in 9 cycles – August 2022 year base case

The LG fault is applied at the "Rashakai Special Economic Zone" and the fault is cleared in 9 cycles (180 msec) to simulate delayed fault clearing situation, followed by a trip of a single circuit. If a system can overcome this fault after time of 9 cycles then it is assumed to be stable in any of the possible delayed breaker opening conditions up to 180 msec.

Transient stability response of the system under these special conditions is monitored, which is summarized in the table below:

Location of Fault	Equipment	Time (s)	Variable
RSEC GS-I 132 kV	RSEC GS-I 132kV – RSEC GS-II 132kV One Circuit Out.	6.0	Bus voltage
		6.1	Bus Frequency
		6.2	Power and VARS
		6.3	Rotor Angle

Table 7.3.3.1 Dynamic stability analysis for 9 cycles

### 7.3.4 SLG fault at adjacent end cleared in 9 cycles – August 2022 year base case

The LG fault is applied on certain adjacent end locations, the fault is cleared in 9 cycles (180 msec) accompanied by a range of possible trips. The transient stability response of the system is monitored for these conditions, which is summarized in the table below:

Location of Fault	Equipment	Time (s)	Variable
Mardan 132 kV	RSEC GS-II 132kV – Mardan 132kV One Circuit Out.1066-1070	6.4	Bus voltage
		6.5	Bus Frequency
		6.6	Power and VARS
		6.7	Rotor Angle

From	To	From	To
RSEZ GS-I 132kV	RSEZ GS-I 132kV – Mardan132kV One Circuit Out.1068-1070	6.8	Bus voltage
		6.9	Bus Frequency
		6.10	Power and VARS
		6.11	Rotor Angle
Mardan132kV	Mardan III 132kV – Marda132kV One Circuit Out.1070-1071	6.12	Bus voltage
		6.13	Bus Frequency
		6.14	Power and VARS
		6.15	Rotor Angle
Mardan 220 kV	Mardan 220/132kV transformer out	6.16	Bus voltage
		6.17	Bus Frequency
		6.18	Power and VARS
		6.19	Rotor Angle
Mardan 220 kV	Tarbela 220kV- Mardan 220kV one circuit out.200-150	6.20	Bus voltage
		6.21	Bus Frequency
		6.22	Power and VARS
		6.23	Rotor Angle

Table 7.3.4.1 Dynamic stability analysis for 9 cycles

#### 7.4 Conclusions of Transient Stability Analysis

The transient stability studies are carried out to check the dynamic impact on RSEZ due to faults or disturbance in the national grid system for August 2022 year base cases and, in turn, the impact of disturbances in the adjacent network on the grid system. The results of transient stability analysis show that the power system is stable for the suggested interconnection scheme of the "Rashakai Special Economic Zone" for the faults on the substations that might be near to or distant from the RSEZ. It is therefore concluded that, with the addition of the RSEZ, there are no stability issues seen and it fulfills all the criteria for the generation connected with the power system.

## 8. Overall Conclusions and Recommendations

The Rashakai Special Economic Zone (RSEZ) is located between the 220/132 kV Mardan and proposed 220/132 kV Swabi grid stations of PESCO. The Rashakai SEZ comprises of proposed RSEZ GS-I and GS-II, the interconnection scheme consists of 24.32 km from 220/132 kV Grid Station Mardan to RSEZ GS-II using S/C rail conductor, whereas 24.37 km Mardan to RSEZ GS-I using S/C rail conductor, As a second source 30 km from proposed 220/132 kV Grid Station Swabi to RSEZ GS-I using D/C rail conductor, whereas 0.05km GS-I to GS-II using S/C rail conductor.

There is the strong network of PESCO comprises of 220/132 kV Mardan GS –Mardan-II 132 kV GS, 6 KM double circuit transmission line, 25 KM Mardan-II – Jalala S/C 132 kV transmission line, 11 km 220/132 kV Mardan GS – 132 kV ZRK GS, single circuit transmission line, 15km 132 kV ZRK GS – 132 kV Dobian GS single circuit transmission line and 35.5 KM Dobian GS – Marbel city 132kV GS single circuit transmission line.

RSEZ has total proposed load demand of 202.6 MW which is divided into following phases.

Rashakai Special Economic Zone (RSEZ) Load Demand Phases			
1	Phase-I RSEZ Grid Station (GS-II)	45	30-Aug-2022
2	Phase-I RSEZ Grid Station (GS-I)	22.09	30-Aug-2022
3	Phase-II RSEZ Grid Station (GS-I)	45.9	31-Dec-2023
4	Phase-II RSEZ Grid Station (GS-II)	45	31 <sup>st</sup> December 2023
5	Phase-III RSEZ Grid Station (GS-I)	44.61	31-Dec-2025
Total demand load		202.6MW	

PESCO grid system, after addition of the RSEZ has been analysed for load flow, short circuit, and transient stability studies to determine whether the plant connection with the PESCO grid meets the NEPRA Grid Code Planning Criteria requirements.

The latest and up-to-date NTDC/PESCO network model base cases have been used. The steady-state, sequence, and dynamic data for the Rashakai Special Economic Zone is processed to build the steady-state, short circuit, and dynamic models in PSSE software format.

A detailed power system analysis study on the peak load demand of the Rashakai Special Economic Zone is prepared and results of the study are listed below.

### 1. Load flow analysis

The analysis has been performed for the year 2022, the year 2023, and the year 2025. The power flow analysis shows that the bus voltages and line loadings in all the cases, with and without the addition of the RSEZ are within the acceptable limit as per the NEPRA Grid Code Planning Criteria.

### 2. Contingency analysis

N-1 contingency analysis also has been performed for the year 2022, the year 2023, and the year 2025 and the results were also validated as per the thermal and voltage limits in associated N-1 post contingency conditions. The results of the contingency analysis shows that there are no thermal and voltage violations under N-1 conditions in the NTDC and PESCO network due to RSEZ addition.

### 3. Short circuit analysis

Maximum short circuit levels have been conducted in the year 2025. Moreover, to see the short circuit current contribution of 'Rashakai Special Economic Zone ', maximum short circuit levels at the substations located in the vicinity of the project were also computed. The 3-phase and 1-phase short circuit currents at both 132kV RSEZ GS-I & RSEZ GS-II grid stations are 16.3 KA and 11.1 kA respectively. This shows that the short circuit levels of 'Rashakai Special Economic Zone' are well below the ratings of standard 40kA switchgear; hence it is suggested to use 40kA Circuit breaker at 'Rashakai Special Economic Zone'.

Therefore, it is concluded that the proposed interconnection scheme holds good based on short circuit analysis as well.

### 4. Transient stability analysis

The transient stability studies were carried out to check the dynamic impact due to potential faults in the PESCO grid system and, in turn, the impact of disturbances in the proposed RSEZ grid stations on the PESCO grid system. The RSEZ is found to meet all the transient stability requirements under Normal clearing 5 cycle opening time and stuck breaker conditions of delayed breaker opening after 9 cycles and tripping of the associated circuit.

The results of transient stability analysis show that the power system is stable for the suggested interconnection scheme of the 'Rashakai Special Economic Zone '.

### 5. Reactive power compensation

To meet the reactive power demand and power factor of RSEZ for 202.6MW load in year 2025, 20 MVAR switched shunt capacitors are proposed at each 33 kV bus bars of RSEZ GS-II and 24 MVAR switched shunts are proposed at each 11 kV bus bar of RSEZ GS-I.

### 6. Recommendations

RSEZ is required to install appropriate reactive compensation at its end to maintain a 0.95 (lag) power factor at the point of interconnection. Also, it is noted that substantial attention needs to be given to the design of 11kV and 33 kV distribution network, to optimize feeder lengths and voltage profile as well to increase supply reliability for customers. Also, RSEZ shall conduct separate system studies for the installation of reactive power compensation equipment (static/dynamic where necessary) within both RSEZ GS-I and RSEZ GS-II for reactive power/voltage control and power quality mitigation based on size, location, and type of industrial loads.

Based on the study results, overall it is concluded that the proposed interconnection scheme for 'Rashakai Special Economic Zone' meets all the NEPRA Grid Code and Planning Criteria

### 7. Compliance by PESCO

PESCO will make sure that its transmission network is upgraded as modelled in the base cases. Particularly the following circuits will be completed before the commission of the Rashakai SEZ Load:

- Construction of 132kV Single Circuit (S/C) on Rail conductor from 220kV Nowshera to Pabbi
- Construction of 132kV S/C transmission line on Rail conductor from 220kV Chakdara-Salarzai-Daggar Buner
- Reconductoring of remaining portion of 132kV transmission line from 220/132kV Nowshera-132kV Nowshera Industrial on Lynx conductor to Rail Conductor
- 132kV Circuit S/C Mardan-ZRK-Marble City-Nowshera City will be made in/out at Dobian"

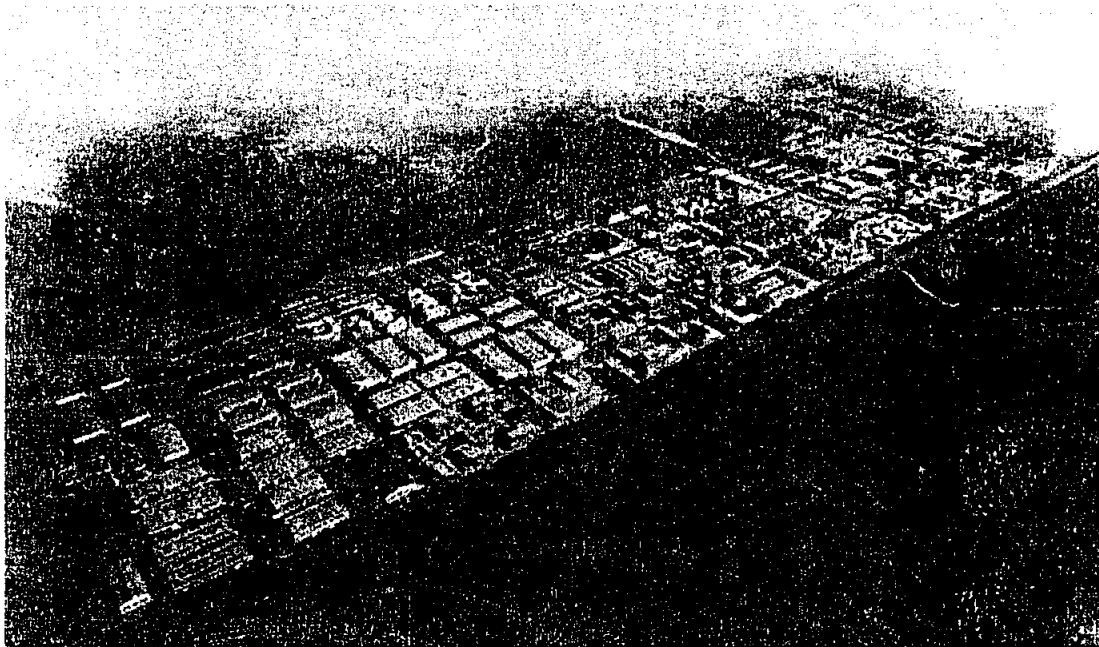
**Appendices**

<b>Appendix-1</b>	Geographical location
<b>Appendix-2</b>	Bubble diagram & Proposed interconnection scheme
<b>Appendix-3</b>	Load Flow Analysis Sketches
<b>Appendix-4</b>	Short Circuit Analysis Results
<b>Appendix-5</b>	Dynamic Analysis

RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD



**EXTERNAL ELECTRIFICATION DESIGN**  
**RASHAKAI SPECIAL ECONOMIC ZONE**  
**KHYBER PAKHTUNKHWA**





**11 KV DISTRIBUTION NETWORK**

**PREPARED BY: M/S ULTIMATE ENGINEERING CONSULTANTS**  
PAKISTAN ENGINEERING COUNCIL LICENCE NO: CONSULT/1689

DESIGN BOOK FOR 11KV EXTERNAL NETWORK-RASHAKAI SPECIAL ECONOMIC ZONE



CONSULTANT INTRODUCTION		
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PAKISTAN ENGINEERING COUNCIL	
Registration No: CONSULT/1689	Serial No: 13311 FEC-4A
Date of Registration: 01-12-2014	
	
<b>CERTIFICATE OF REGISTRATION OF PAKISTANI CONSULTING ENGINEER</b> (UNDER PAKISTAN ENGINEERING COUNCIL ACT 1976)	
This is to certify that M/s <u>ULTIMATE ENGINEERING CONSULTANTS</u> Address <u>27-A, SYED JAMALUDDIN AFGHANI ROAD, UNIVERSITY TOWN, PESHAWAR</u> have been registered as Consulting Engineers at Serial No <u>CONSULT/1689</u> of the Register of Pakistan Engineering Council with following particulars:-	
Type of Ownership (021,022,023,024)	
Field of Specialization	
(Project-profile Code Nos.)	1201,1203,1204(i),(iii),(iv),1205(ii)(IRRIGATION SYSTEM),(v), 1208(ii),1210,1219(ii),1220,1235(NINE ONLY) (FOR ELECT, CIVIL & ELECTRONICS ENGG WORKS ONLY)
Date of Issue: 01/04/2021	 Registrar Pakistan Engineering Council, Islamabad.
Note: 1. This Certificate of Registration shall expire on 30th June 2021 and will be renewed on payment of the required fee before 31st July, 2021. 2. Description of project profile codes is shown on reverse.	

**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD**

## **“PROJECT REPORT”**

**DESIGN BOOK FOR 11KV EXTERNAL NETWORK-RASHAKAI SPECIAL ECONOMIC ZONE**

**Page 4**

**“EXTERNAL ELECTRIFICATION OF RASHAKAI SPECIAL ECONOMIC ZONE”**

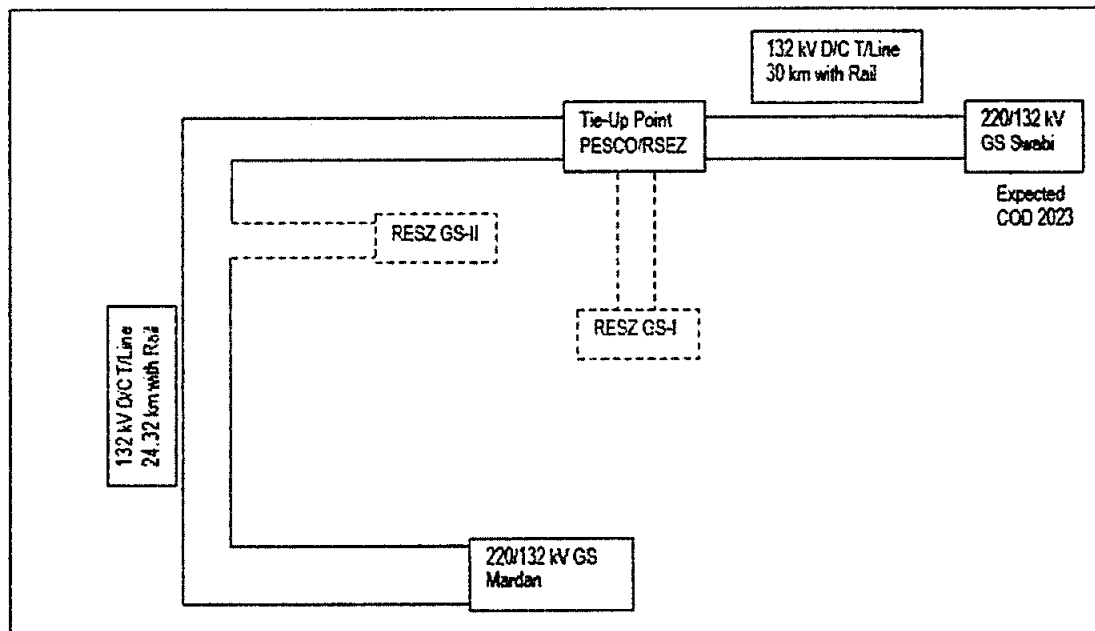
**PROJECT REPORT**

1. Location	: RASHAKAI
2. Number Of Phases	: 03 Nos
3. Total Area	: 1002 Acres
4. Area Phase-I	: 247 Acres
5. Area Phase-II	: 355 Acres
6. Area Phase-III	: 400 Acres
7. 132 KV Grid Stations	: 02 Nos
8. 132 KV Transmission Lines	: Mardan & Swabi
9. Total Load (MW)	: 210(90 (GS2) + 120 (GS1)) MW
10. Total Load (Amps)	: 12,978 Amps
11. Type of Distribution Network	: Overhead / Under-Ground
12. Load of Phase-I (11KV)	: 17.85 MW
13. Load of Phase-II (11KV)	: 39.01 MW
14. Load of Phase-III (11KV)	: 37.45 MW
15. Total 11KV feeders	: 29 Nos (Existing 27 + 2 Future Extension)

**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD**

**INTERCONNECTION SCHEME BETWEEN TWO GRID STATIONS  
WITH EXTERNAL 132KV TRANSMISSION LINES OF RASHAKAI  
SPECIAL ECONOMIC ZONE**

## INTERCONNECTION SCHEME BETWEEN TWO GRID STATIONS WITH EXTERNAL 132KV TRANSMISSION LINES OF RASHAKAI SPECIAL ECONOMIC ZONE



### Explanation:

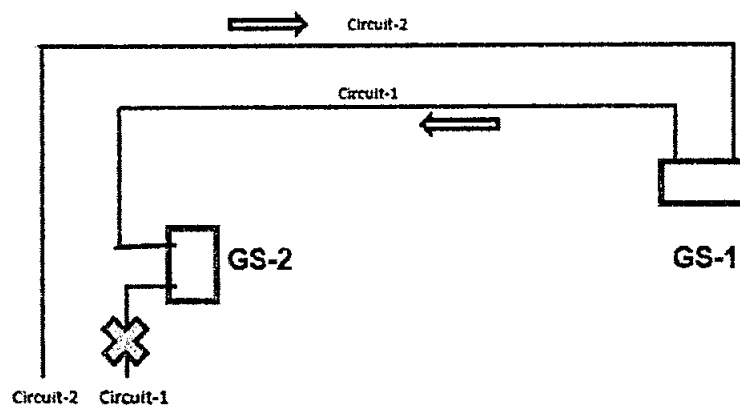
220/132kV MARDAN substation will provide 160MW double Circuit Transmission line and 220/132KV Sawabi Substation will provide 50MW to 132KV Rashakai Substation (GS-1 132/11KV substation and GS-2 132/33KV substation), this double circuit transmission line will be ended in Substation like In/out arrangement.

GS-2 substation will get connection on one circuit from Mardan like in/out arrangement as shown in above picture, GS-1 Substation will get direct connection on one circuit from Mardan which will be connected to GS-2 through in / out arrangement and double circuit from Swabi Grid Station connected to GS-1.

### Contingency Plan

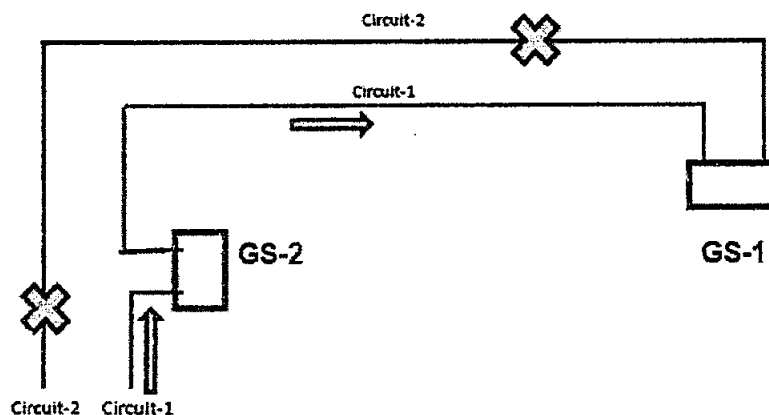
#### **Case-1:**

GS-2 substation will be get connection on one circuit like in/out arrangement as shown in picture, If in case there is some problem in circuit-1 then GS-2 will get supply from GS-1 substation from Circuit 2.



#### **Case-2:**

GS-2 substation will be get connection on one circuit like in/out arrangement as shown in picture, If in case there is some problem in circuit-2 then GS-2 will get continuous supply from Circuit-1 and GS-2 substation will feed supply to GS-1 substation on Circuit-1.



**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD**

**11KV SOURCE OF POWER SUPPLY, VOLTAGE DROP AND  
TECHNICAL LOSSES**



## **11KV INTERNAL DISTRIBUTION NETWORK FOR RASHAKAI SPECIAL ECONOMIC ZONE**

### **SOURCE OF POWER SUPPLY**

The 11KV Independent feeders supply to the above mentioned Rashakai Special Economic Zone to be Constructed by the Rashakai Special Economic zone Development and Operation Company (Pvt) Ltd (RSEZDOC). All the Single Circuit feeders comprising of ACSR Ospray conductor and will be emanating from Proposed 132KV Grid Station No : 1. There are total 29 No's of 11KV Feeders.

### **PEMISSIBLE LIMIT OF VOLATGE DROP AND TECHNICAL LOSSES**

The Voltage drop shall be calculated shall be made from node to node as per WAPDA/PESCO/NTDC Instructions. M/S RSEZDOC (PVT) LTD certified that the tail end voltage drop and power losses from the proposed feeder shall not exceed the permissible limits of 5% and 3.5% respectively.

**“LAND AREA CALCULATIONS”**

**EXTERNAL ELECTRIFICATION DESIGN FOR THE 11KV DISTRIBUTION NETWORK  
RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ)  
(A PROJECT OF CPEC)**

**LAND DETAIL OF RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) PHASE-I**

(Sr. No.)	Plot Type	Industry Type	Plot Size Per (10,000 m <sup>2</sup> )
1	M1	(M1 Industrial land)	7.36
2	M1	(M1 Industrial land)	6.24
3	M1	(M1 Industrial land)	5.23
4	M1	(M1 Industrial land)	3.32
5	M1	(M1 Industrial land)	5.85
6	M1	(M1 Industrial land)	5.03
7	M1	(M1 Industrial land)	4.77
8	M1	(M1 Industrial land)	3.2
9	M2	(M2 Industrial land)	4.62
10	M2	(M2 Industrial land)	3.43
11	M2	(M2 Industrial land)	2.63
12	W1	Logistics and Warehousing	2.77
13	A1	Administrative office land	0.25
14	A1	Administrative office land	0.47
15	B1	Commercial land	4.98
16	B41	Gas station	0.8
17	S4	Land for traffic station (Transport Depot)	1.06
18	U11	Water supply land	0.12
19	U11	Water supply	0.12
20	U11	Water supply	0.15
21	U21	Sewage treatment plant	5.04
TOTAL LAND AREA PER 10,000 M <sup>2</sup>			<b>67.44</b>

# RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD

## LAND DETAIL OF RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) PHASE-II

(Sr. No.)	Plot Type	Industry Type	Plot Size Per (10,000 m2)
1	M1	(M1 Industrial land)	7.61
2	M1	(M1 Industrial land)	5.46
3	M1	(M1 Industrial land)	7.29
4	M1	(M1 Industrial land)	2.10
5	M1	(M1 Industrial land)	5.41
6	M1	(M1 Industrial land)	4.88
7	M1	(M1 Industrial land)	4.17
8	M1	(M1 Industrial land)	4.28
9	M1	(M1 Industrial land)	4.98
10	M1	(M1 Industrial land)	5.20
11	M1	(M1 Industrial land)	5.47
12	M1	(M1 Industrial land)	3.31
13	M1	(M1 Industrial land)	4.08
14	M1	(M1 Industrial land)	4.79
15	M1	(M1 Industrial land)	5.33
16	M1	(M1 Industrial land)	5.21
17	M2	(M2 Industrial land)	7.69
18	M2	(M2 Industrial land)	3.07
19	M2	(M2 Industrial land)	10.61
20	M2	(M2 Industrial land)	5.11
21	M2	(M2 Industrial land)	4.71
22	B1	Commercial land	6.82
23	B1	Commercial land	5.19
24	B1	Commercial land	2.66
25	W1	(M1 Logistics and Warehousing)	3.94
26	U11	Water supply	0.03
27	U22	Environmental sanitation	0.30
28	U31	(Fire Fighting)	0.29
29	R1	M1 Residential land	0.20
30	U11	Water supply	0.14
31	S1	Land for roads	16.07
32	G1	Park	4.61
33	F1	Rivers	1.78
TOTAL LAND AREA PER 10,000 M2			152.79

## RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD

### LAND DETAIL OF RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) PHASE-III

(Sr. No.)	Plot Type	Industry Type	Plot Size Per (10,000 m2)
1	M1	(M1 Industrial land)	33.61
2	M2	(M2 Industrial land)	68.59
3	A1	Administrative office land	0.02
4	A4	Sports land	0.21
5	A9	Religious land	0.25
6	B1	Commercial land	12.14
7	S1	Land for roads	11.12
8	U11	Water supply	0.49
9	U12	Power supply	2.46
10	U22	Environmental sanitation	0.25
11	G1	Park	18.65
12	E1	Rivers	6.25
TOTAL LAND AREA PER 10,000 M2			154.05

**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD**

## **“LOAD CALCULATIONS”**

# RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD

( Sr. No. )	Plot Type	Industry Type	Plot Size Per (10,000 m2)	Power load per unit area (kW/10,000m2)	Assessed Load (MW)	Ultimate Load (MW)
1	M1	(M1 Industrial land)	7.36	480	3.53	2.40
2	M1	(M1 Industrial land)	6.24	400	2.50	1.70
3	M1	(M1 Industrial land)	5.23	400	2.09	1.42
4	M1	(M1 Industrial land)	3.32	400	1.33	0.90
5	M1	(M1 Industrial land)	5.85	400	2.34	1.59
6	M1	(M1 Industrial land)	5.03	400	2.01	1.37
7	M1	(M1 Industrial land)	4.77	400	1.91	1.30
8	M1	(M1 Industrial land)	3.2	480	1.54	1.04
9	M2	(M2 Industrial land)	4.62	480	2.22	1.51
10	M2	(M2 Industrial land)	3.43	20	0.07	0.05
11	M2	(M2 Industrial land)	2.63	480	1.26	0.86
12	W1	Logistics and Warehousing	2.77	300	0.83	0.57
13	A1	Administrative office land	0.25	500	0.13	0.09
14	A1	Administrative office land	0.47	500	0.24	0.16
15	B1	Commercial land	4.98	600	2.99	2.03
16	B41	Gas station	0.8	200	0.16	0.11
17	S4	Land for traffic station (Transport Depot)	1.06	30	0.03	0.02
18	U11	Water supply land	0.12	200	0.02	0.02
19	U11	Water supply	0.12	200	0.02	0.02
20	U11	Water supply	0.15	200	0.03	0.02
21	U21	Sewage treatment plant	5.04	200	1.01	0.69
Ultimate Demand of Phase-I					26.25	17.85

## DESIGN PARAMETERS :-

1. Development Factor : 0.85
2. Diversity Factor: 1.25
3. Power Factor : 0.85

Ultimate Load (MW) = (Assessed Load \* Development Factor)/ Diversity Factor

Ultimate Load (MVA) = Ultimate Load (MW) / Power Factor

# RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD

(Sr. No.)	Plot Type	Industry Type	Plot Size Per (10,000 m <sup>2</sup> )	Power load per unit area (kW/10,000m <sup>2</sup> )	Assessed Load (MW)	Ultimate Load (MW)
1	M1	(M1 Industrial land)	7.61	400.00	3.04	2.07
2	M1	(M1 Industrial land)	5.46	400.00	2.18	1.49
3	M1	(M1 Industrial land)	7.29	400.00	2.92	1.98
4	M1	(M1 Industrial land)	2.10	400.00	0.84	0.57
5	M1	(M1 Industrial land)	5.41	400.00	2.16	1.47
6	M1	(M1 Industrial land)	4.88	400.00	1.95	1.33
7	M1	(M1 Industrial land)	4.17	400.00	1.67	1.13
8	M1	(M1 Industrial land)	4.29	400.00	1.71	1.16
9	M1	(M1 Industrial land)	4.99	400.00	1.99	1.35
10	M1	(M1 Industrial land)	5.20	400.00	2.08	1.41
11	M1	(M1 Industrial land)	5.47	400.00	2.19	1.49
12	M1	(M1 Industrial land)	3.31	400.00	1.32	0.90
13	M1	(M1 Industrial land)	4.12	400.00	1.63	1.11
14	M1	(M1 Industrial land)	4.79	400.00	1.92	1.30
15	M1	(M1 Industrial land)	5.33	400.00	2.13	1.45
16	M1	(M1 Industrial land)	5.21	400.00	2.08	1.42
17	M2	(M2 Industrial land)	7.69	480.00	3.69	2.51
18	M2	(M2 Industrial land)	3.07	480.00	1.47	1.00
19	M2	(M2 Industrial land)	10.61	480.00	5.09	3.46
20	M2	(M2 Industrial land)	5.11	480.00	2.45	1.67
21	M2	(M2 Industrial land)	4.71	480.00	2.26	1.54
22	B1	Commercial land	6.82	600.00	4.09	2.78
23	B1	Commercial land	5.19	600.00	3.11	2.12
24	B1	Commercial land	2.65	600.00	1.60	1.09
25	W1	(M1 Logistics and Warehousing)	3.94	300.00	1.18	0.80
26	U11	Water supply	0.03	200.00	0.01	0.00
27	U22	Environmental sanitation	0.30	20.00	0.01	0.00



# RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD

(Sr. No.)	Plot Type	Industry Type	Plot Size Per (10,000 m2)	Power load per unit area (kW/10,000m2)	Assessed Load (MW)	Ultimate Load (MW)
28	U31	(Fire Fighting)	0.29	200.00	0.06	0.04
29	R1	M1 Residential land)	0.20	200.00	0.04	0.03
30	U11	Water supply	0.14	200.00	0.03	0.02
31	S1	Land for roads	16.07	20.00	0.32	0.22
32	G1	Park	4.61	20.00	0.09	0.06
33	E1	Rivers	1.78	20.00	0.04	0.02
Total Ultimate Demand of Phase-II					57.37	39.01

## DESIGN PARAMETERS :-

1. Development Factor : 0.85
2. Diversity Factor: 1.25
3. Power Factor : 0.85

Ultimate Load (MW) = (Assessed Load \* Development Factor)/ Diversity Factor

Ultimate Load (MVA) = Ultimate Load (MW) / Power Factor

# RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD

## EXTERNAL ELECTRIFICATION DESIGN FOR THE 11 KV DISTRIBUTION NETWORK RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) (A PROJECT OF CPEC)

### LOAD DETAIL OF RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) PHASE-III

(Sr. No.)	Plot Type	Industry Type	Plot Size Per (10,000 m <sup>2</sup> )	Power load per unit area (kW/10,000m <sup>2</sup> )	Assessed Load (MW)	Ultimate Load (MW)
1	M1	(M1 Industrial land)	33.61	400.00	13.45	9.14
2	M2	(M2 Industrial land)	68.59	480.00	32.92	22.39
3	A1	Administrative office land	0.02	500.00	0.01	0.01
4	A1	Sports land	0.21	150.00	0.03	0.02
5	A9	Religious land	0.25	250.00	0.06	0.04
6	B1	Commercial land	12.14	600.00	7.29	4.95
7	S1	Land for roads	11.12	20.00	0.22	0.15
8	U11	Water supply	0.49	200.00	0.10	0.07
9	U12	Power supply	2.46	200.00	0.49	0.34
10	U22	Environmental sanitation	0.25	20.00	0.00	0.00
11	G1	Park	18.65	20.00	0.37	0.25
12	E1	Rivers	6.25	20.00	0.12	0.06
Total Ultimate Demand of Phase-III					55.98	37.45

#### DESIGN PARAMETERS:-

1. Development Factor : 0.85

2. Diversity Factor: 1.25

3. Power Factor : 0.85

Ultimate Load (MW) = [Assessed Load \* Development Factor]/ Diversity Factor

Ultimate Load (MVA) = Ultimate Load (MW) / Power Factor

## **“GRID STATION DETAILS”**

**“GRID STATION # 1”**

**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD**

**"EXTERNAL ELECTRIFICATION OF RASHAKAI SPECIAL ECONOMIC ZONE"**

**132 KV GRID STATION # 1**

**DETAILS**

1. Location	: RSEZ Phase-III
2. Transmission Line	: Mardan & Swabi
3. Total Sanctioned Load	: 120MW
4. Power Transformer Capacity	: 150 MVA
5. Power Transformers Ratings	: 3 x 50 MVA
6. Provisioning of Each Power Transformer	: 1 Incoming & 9 Outgoing
7. 11 KV Outgoing Panels	: 27 No
8. Reserved 11KV Outgoing Panels for Future	: 02 Nos
9. Total Ultimate Load	: 94MW
10. Load Available for Future Extension	: 26MW
11. Control House Building	: Yes
12. Residential Colony	: Yes
13. Minimum Land Requirement	: 10117 SqMtr

**“GRID STATION # 2”**

**“EXTERNAL ELECTRIFICATION OF RASHAKAI SPECIAL ECONOMIC ZONE”**

**132 KV GRID STATION # 2**

**(Steel Mill)**

**DETAILS**

1. Location	: RSEZ Phase-I
2. Transmission Line	: 132KV Mardan
3. Total Sanctioned Load	: 90MW
4. Power Transformer Capacity	: 120 MVA
5. Power Transformers Ratings	: 2 x 60 MVA
6. Control House Building	: Yes
7. Residential Colony	: Yes
8. Minimum Land Requirement	: 4845 SqMtr

**“11 KV FEEDER CALCULATIONS”**



**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD**  
**EXTERNAL ELECTRIFICATION DESIGN FOR THE 11 KV DISTRIBUTION NETWORK**  
**RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ)**  
**(A PROJECT OF CPEC)**

**RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) PHASE-I**

**LOAD DETAIL OF 11 KV FEEDERS**

**MAIN ABSTRACT**

(Sr. No.)	DESCRIPTION	Ultimate Load (MW)
1	11KV Feeder No. 1	4.70
2	11KV Feeder No. 2	3.57
3	11KV Feeder No. 3	3.95
4	11KV Feeder No. 4	3.99
5	11KV Feeder No. 5	1.64
<b>A. Ultimate Demand of 11 KV Feeders (1 to 5) (MW)</b>		<b>17.85</b>
<b>B. Total Load In Amperes (Amps)</b>		<b>1103.21</b>

**Formula**

Amperes (MW) = (Load in MW) x  $[1/(1.73 \times 0.85 \times 11)] \times 1000$

Amperes (MW) = Load in MW x 61.82

# RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD

## EXTERNAL ELECTRIFICATION DESIGN FOR THE 11 KV DISTRIBUTION NETWORK RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) (A PROJECT OF CPEC)

### RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) PHASE-I

#### LOAD DETAIL OF 11 KV FEEDER No. 1

(Sr. No.)	Plot Type	Industry Type	Plot Size Per (10,000 m <sup>2</sup> )	Power load per unit area (kW/10,000m <sup>2</sup> )	Ultimate Load (MW)
1	M1	(M1 Industrial land)	5.85	400	1.59
2	M1	(M1 Industrial land)	5.03	400	1.37
3	M2	(M2 Industrial land)	4.62	480	1.51
4	M2	(M2 Industrial land)	3.43	20	0.05
5	B41	Gas station	0.8	200	0.11
6	U11	Water supply land	0.12	200	0.02
7	U11	Water supply	0.12	200	0.02
8	U11	Water supply	0.15	200	0.02
9	S1	Land for traffic station (Transport Depot)	1.06	30	0.02
A. Ultimate Demand of 11 KV Feeder No. 1					4.70
B. Total Load in Amperes (Amps)					290.40

# RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD

## EXTERNAL ELECTRIFICATION DESIGN FOR THE 11 KV DISTRIBUTION NETWORK RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) (A PROJECT OF CPEC)

### RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) PHASE-I

#### LOAD DETAIL OF 11 KV FEEDER No. 2

(Sr. No.)	Plot Type	Industry Type	Plot Size Per (10,000 m2)	Power load per unit area (kW/10,000m2)	Ultimate Load (MW)
1	A1	Administrative office land	0.25	500	0.09
2	A1	Administrative office land	0.47	500	0.16
3	B1	Commercial land	4.98	600	2.03
4	M1	(M1 Industrial land)	4.77	400	1.30
A. Ultimate Demand of 11 KV Feeder No. 2					3.57
B. Total Load In Amperes (Amps)					220.95

**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD**

**EXTERNAL ELECTRIFICATION DESIGN FOR THE 11 KV DISTRIBUTION NETWORK  
RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ)  
(A PROJECT OF CPEC)**

**RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) PHASE-I**

**LOAD DETAIL OF 11 KV FEEDER No. 3**

(Sr. No.)	Plot Type	Industry Type	Plot Size Per (10,000 m <sup>2</sup> )	Power load per unit area (kW/10,000m <sup>2</sup> )	Ultimate Load (MW)
1	M1	(M1 Industrial land)	7.36	480	2.40
2	M2	(M2 Industrial land)	2.63	480	0.86
3	U21	Sewage treatment plant	5.04	200	0.69
A. Ultimate Demand of 11 KV Feeder No. 3					3.95
B. Total Load In Amperes (Amps)					243.95

**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD**

**EXTERNAL ELECTRIFICATION DESIGN FOR THE 11 KV DISTRIBUTION NETWORK  
RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ)  
(A PROJECT OF CPEC)**

**RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) PHASE-I**

**LOAD DETAIL OF 11 KV FEEDER No. 4**

(Sr. No.)	Plot Type	Industry Type	Plot Size Per (10,000 m2)	Power load per unit area (kW/10,000m2)	Ultimate Load (MW)
1	M1	(M1 Industrial land)	6.24	400	1.70
2	M1	(M1 Industrial land)	5.23	400	1.42
3	M1	(M1 Industrial land)	3.2	400	0.87
A. Ultimate Demand of 11 KV Feeder No. 4					3.99
B. Total Load In Amperes (Amps)					246.68

**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD**

**EXTERNAL ELECTRIFICATION DESIGN FOR THE 11 KV DISTRIBUTION NETWORK  
RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ)  
(A PROJECT OF CPEC)**

**RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) PHASE-I**

**LOAD DETAIL OF 11 KV FEEDER No. 5**

Sr. No.	Plot Type	Industry Type	Plot Size Per (10,000 m2)	Power load per unit area (kW/10,000m2)	Ultimate Load (MW)
1	M1	(M1 Industrial land)	3.32	400	0.90
2	W1	Logistics and Warehousing	2.77	390	0.73
A. Ultimate Demand of 11 KV Feeder No. 5					1.64
B. Total Load In Amperes (Amps)					101.24

**EXTERNAL ELECTRIFICATION DESIGN FOR THE 11 KV DISTRIBUTION  
NETWORK**

**RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ)  
(A PROJECT OF CPEC)**

**RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) PHASE-II**

**LOAD DETAIL OF 11 KV FEEDERS**

**MAIN ABSTRACT**

(Sr. No.)	DESCRIPTION	Ultimate Load (MW)
1	11KV Feeder No. 1	4.70
2	11KV Feeder No. 2	4.15
3	11KV Feeder No. 3	4.69
4	11KV Feeder No. 4	4.47
5	11KV Feeder No. 5	4.05
6	11KV Feeder No. 6	3.77
7	11KV Feeder No. 7	3.90
8	11KV Feeder No. 8	4.67
9	11KV Feeder No. 9	4.62
<b>A. Ultimate Demand of 11 KV Feeders (1 to 9) (MW)</b>		<b>39.01</b>
<b>B. Total Load In Amperes (Amps)</b>		<b>2411.71</b>

**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD**

**EXTERNAL ELECTRIFICATION DESIGN FOR THE 11 KV DISTRIBUTION NETWORK  
RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ)  
(A PROJECT OF CPEC)**

**RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) PHASE-II**

**LOAD DETAIL OF 11 KV FEEDER No. 1**

(Sr. No.)	Plot Type	Industry Type	Plot Size Per (10,000 m2)	Power load per unit area (kW/10,000m2)	Ultimate Load (MW)
1	B1	Commercial land	7	600	3
2	W1	(M1 Logistics and Warehousing)	3.94	300.00	1
3	U11	Water supply	0.03	200.00	0.0041
4	U22	Environmental sanitation	0.30	20.00	0.0041
5	E1	Rivers	1.78	20.00	0.02
6	B1	Commercial land	2.66	600.00	1.09
A. Ultimate Demand of 11 KV Feeder No. 1					4.70
B. Total Load In Amperes (Amps)					290.80



# RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD

## EXTERNAL ELECTRIFICATION DESIGN FOR THE 11 KV DISTRIBUTION NETWORK RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) (A PROJECT OF CPEC)

### RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) PHASE-II

#### LOAD DETAIL OF 11 KV FEEDER No. 2

(Sr. No.)	Plot Type	Industry Type	Plot Size Per (10,000 m2)	Power load per unit area (kW/10,000m2)	Ultimate Load (MW)
1	D1	Commercial land	5.19	600.00	2.12
2	M2	(M2 Industrial land)	5.11	400.00	1.67
3	U31	(Fire Fighting)	0.29	200.00	0.04
4	R1	M1 Residential land)	0.20	200.00	0.03
5	U11	Water supply	0.14	200.00	0.02
6	S1	Land for roads	16.07	20.00	0.22
7	G1	Park	4.61	20.00	0.06
A. Ultimate Demand of 11 KV Feeder No. 2					4.15
B. Total Load In Amperes (Amps)					256.70

**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD**

**EXTERNAL ELECTRIFICATION DESIGN FOR THE 11 KV DISTRIBUTION NETWORK  
RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ)  
(A PROJECT OF CPEC)**

**RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) PHASE-II**

**LOAD DETAIL OF 11 KV FEEDER No. 3**

(Sr. No.)	Plot Type	Industry Type	Plot Size Per (10,000 m <sup>2</sup> )	Power load per unit area (kW/10,000m <sup>2</sup> )	Ultimate Load (MW)
1	M1	(M1 Industrial land)	7.61	400.00	2.07
2	M1	(M1 Industrial land)	5.46	400.00	1.49
3	M1	(M1 Industrial land)	4.17	400.00	1.13
A. Ultimate Demand of 11 KV Feeder No. 3					4.69
B. Total Load In Amperes (Amps)					289.89

**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD**

**EXTERNAL ELECTRIFICATION DESIGN FOR THE 11 KV DISTRIBUTION NETWORK  
RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ)  
(A PROJECT OF CPEC)**

**RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) PHASE-II**

**LOAD DETAIL OF 11 KV FEEDER No. 4**

(Sr. No.)	Plot Type	Industry Type	Plot Size Per (10,000 m <sup>2</sup> )	Power load per unit area (kW/10,000m <sup>2</sup> )	Ultimate Load (MW)
1	M2	(M2 Industrial land)	10.61	480.00	3.46
2	M2	(M2 Industrial land)	3.07	480.00	1.00
A. Ultimate Demand of 11 KV Feeder No. 4					4.47
B. Total Load In Amperes (Amps)					276.04

# RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD

## EXTERNAL ELECTRIFICATION DESIGN FOR THE 11 KV DISTRIBUTION NETWORK RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) (A PROJECT OF CPEC)

### RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) PHASE-II

#### **LOAD DETAIL OF 11 KV FEEDER No. 5**

(Sr. No.)	Plot Type	Industry Type	Plot Size Per (10,000 m2)	Power load per unit area (kW/10,000m2)	Ultimate Load (MW)
1	M2	(M2 Industrial land)	7.69	480.00	2.51
2	M2	(M2 Industrial land)	4.71	480.00	1.54
A. Ultimate Demand of 11 KV Feeder No. 5					4.05
B. Total Load in Amperes (Amps)					250.21

**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD**

**EXTERNAL ELECTRIFICATION DESIGN FOR THE 11 KV DISTRIBUTION NETWORK  
RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ)  
(A PROJECT OF CPEC)**

**RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) PHASE-II**

**LOAD DETAIL OF 11 KV FEEDER No. 6**

(Sr. No.)	Plot Type	Industry Type	Plot Size Per (10,000 m <sup>2</sup> )	Power load per unit area (kW/10,000m <sup>2</sup> )	Ultimate Load (MW)
1	M1	(M1 Industrial land)	3.31	400.00	0.90
2	M1	(M1 Industrial land)	5.33	400.00	1.45
3	M1	(M1 Industrial land)	5.21	400.00	1.42
A. Ultimate Demand of 11 KV Feeder No. 6					3.77
B. Total Load In Amperes (Amps)					232.89

**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD**

**EXTERNAL ELECTRIFICATION DESIGN FOR THE 11 KV DISTRIBUTION NETWORK  
RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ)  
(A PROJECT OF CPEC)**

**RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) PHASE-II**

**LOAD DETAIL OF 11 KV FEEDER No. 7**

(Sr. No.)	Plot Type	Industry Type	Plot Size Per (10,000 m <sup>2</sup> )	Power load per unit area (kW/10,000m <sup>2</sup> )	Ultimate Load (MW)
1	M1	(M1 Industrial land)	5.47	400.00	1.49
2	M1	(M1 Industrial land)	4.08	400.00	1.11
3	M1	(M1 Industrial land)	4.79	400.00	1.30
A. Ultimate Demand of 11 KV Feeder No. 7					3.90
B. Total Load In Amperes (Amps)					241.13

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**RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) PHASE-II**

**LOAD DETAIL OF 11 KV FEEDER No. 8**

(Sr. No.)	Plot Type	Industry Type	Plot Size Per (10,000 m <sup>2</sup> )	Power load per unit area (kW/10,000m <sup>2</sup> )	Ultimate Load (MW)
1	M1	(M1 Industrial land)	4.98	400.00	1.35
2	M1	(M1 Industrial land)	2	400	0.57
3	M1	(M1 Industrial land)	5.20	400.00	1.41
4	M1	(M1 Industrial land)	4.88	400.00	1.33
A. Ultimate Demand of 11 KV Feeder No. 8					4.67
B. Total Load In Amperes (Amps)					288.55

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**RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) PHASE-II**

**LOAD DETAIL OF 11 KV FEEDER No. 09**

(Sr. No.)	Plot Type	Industry Type	Plot Size Per (10,000 m2)	Power load per unit area (kW/10,000m2)	Ultimate Load (MW)
1	M1	(M1 Industrial land)	7.29	400.00	1.98
2	M1	(M1 Industrial land)	5.41	400.00	1.47
3	M1	(M1 Industrial land)	4.28	400.00	1.16
A. Ultimate Demand of 11 KV Feeder No. 09					4.62
B. Total Load In Amperes (Amps)					285.52



**EXTERNAL ELECTRIFICATION DESIGN FOR THE 11 KV DISTRIBUTION  
NETWORK**

**RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ)  
(A PROJECT OF CPEC)**

**RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) PHASE-III**

**LOAD DETAIL OF 11 KV FEEDERS**

**MAIN ABSTRACT**

(Sr. No.)	DESCRIPTION	Ultimate Load (MW)
1	11KV Feeder No. 1 & 2	9.14
2	11KV Feeder No.3 TO 7	22.39
3	11KV Feeder No. 8 & 9	5.92
A. Ultimate Demand of 11 KV Feeders (1 to 9) (MW)		37.45
B. Total Load In Amperes (Amps)		2315.22

**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD**

**EXTERNAL ELECTRIFICATION DESIGN FOR THE 11 KV DISTRIBUTION NETWORK  
RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ)  
(A PROJECT OF CPEC)**

**RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) PHASE-III**

**LOAD DETAIL OF 11 KV FEEDER No. 1 & 2**

(Sr. No.)	Plot Type	Industry Type	Plot Size Per (10,000 m <sup>2</sup> )	Power load per unit area (kW/10,000m <sup>2</sup> )	Ultimate Load (MW)
1	M1	(M1 Industrial land)	33.61	400.00	9.14
A. Ultimate Demand of 11 KV Feeder No. 1 & 2					9.14
B. Total Load in Amperes (Amps)					565.20

**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD**

**EXTERNAL ELECTRIFICATION DESIGN FOR THE 11 KV DISTRIBUTION NETWORK  
RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ)  
(A PROJECT OF CPEC)**

**RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) PHASE-III**

**LOAD DETAIL OF 11 KV FEEDER No. 3 TO 7**

(Sr. No.)	Plot Type	Industry Type	Plot Size Per (10,000 m2)	Power load per unit area (kW/10,000m2)	Ultimate Load (MW)
1	M2	(M2 Industrial land)	68.59	480.00	22.39
A. Ultimate Demand of 11 KV Feeder No. 3 TO 7					22.39
B. Total Load In Amperes (Amps)					1384.07

# RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD

## EXTERNAL ELECTRIFICATION DESIGN FOR THE 11 KV DISTRIBUTION NETWORK RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) (A PROJECT OF CPEC)

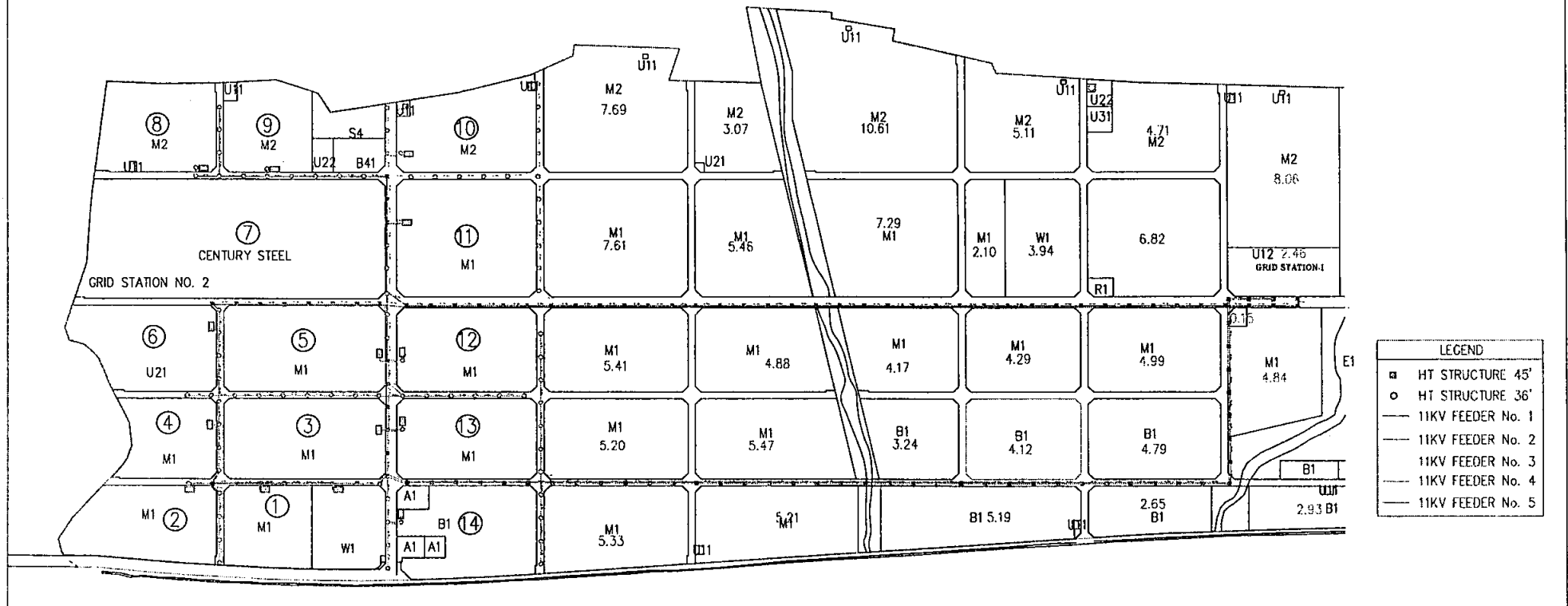
### RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ) PHASE-III

#### LOAD DETAIL OF 11 KV FEEDER No. 8 & 9

(Sr. No.)	Plot Type	Industry Type	Plot Size Per (10,000 m <sup>2</sup> )	Power load per unit area (kW/10,000m <sup>2</sup> )	Ultimate Load (MW)
1	B1	Commercial land	12.14	600.00	4.95
2	A1	Administrative office land	0.02	500.00	0.01
3	A4	Sports land	0.21	150.00	0.02
4	A9	Religious land	0.25	250.00	0.04
5	S1	Land for roads	11.12	20.00	0.15
6	U11	Water supply	0.49	200.00	0.07
7	U12	Power supply	2.46	200.00	0.34
8	U22	Environmental sanitation	0.25	20.00	0.0034
9	G1	Park	18.65	20.00	0.25
10	E1	Rivers	6.25	20.00	0.08
A. Ultimate Demand of 11 KV Feeder No. 8 & 9					5.92
B. Total Load In Amperes (Amps)					365.95

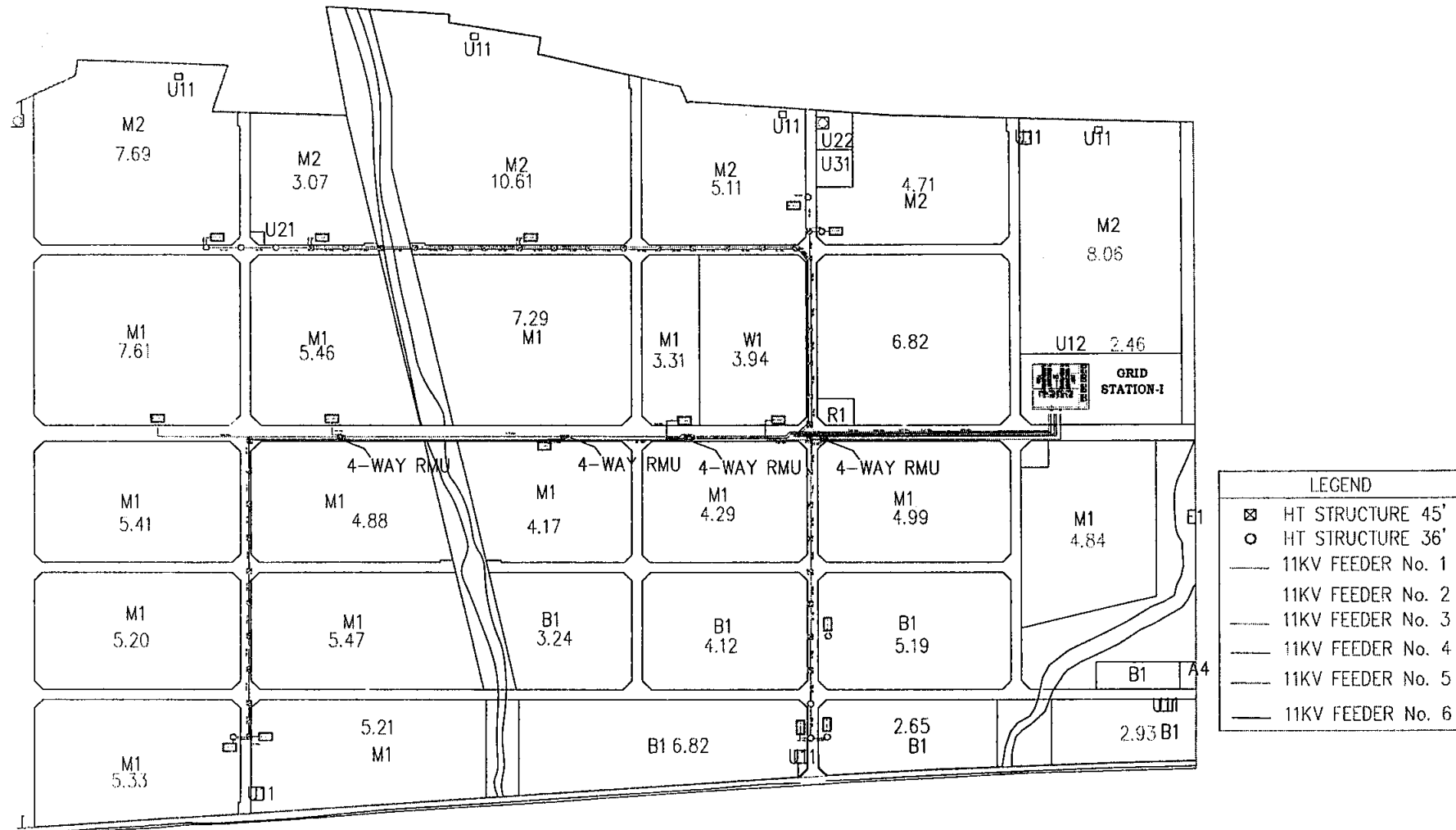
## **“11KV DISTRIBUTION LAYOUT**

# **HT DISTRIBUTION NETWORK FOR RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ)** **11 KV FEEDER NO. 1 , 2, 3, 4 & 5 PHASE-I**



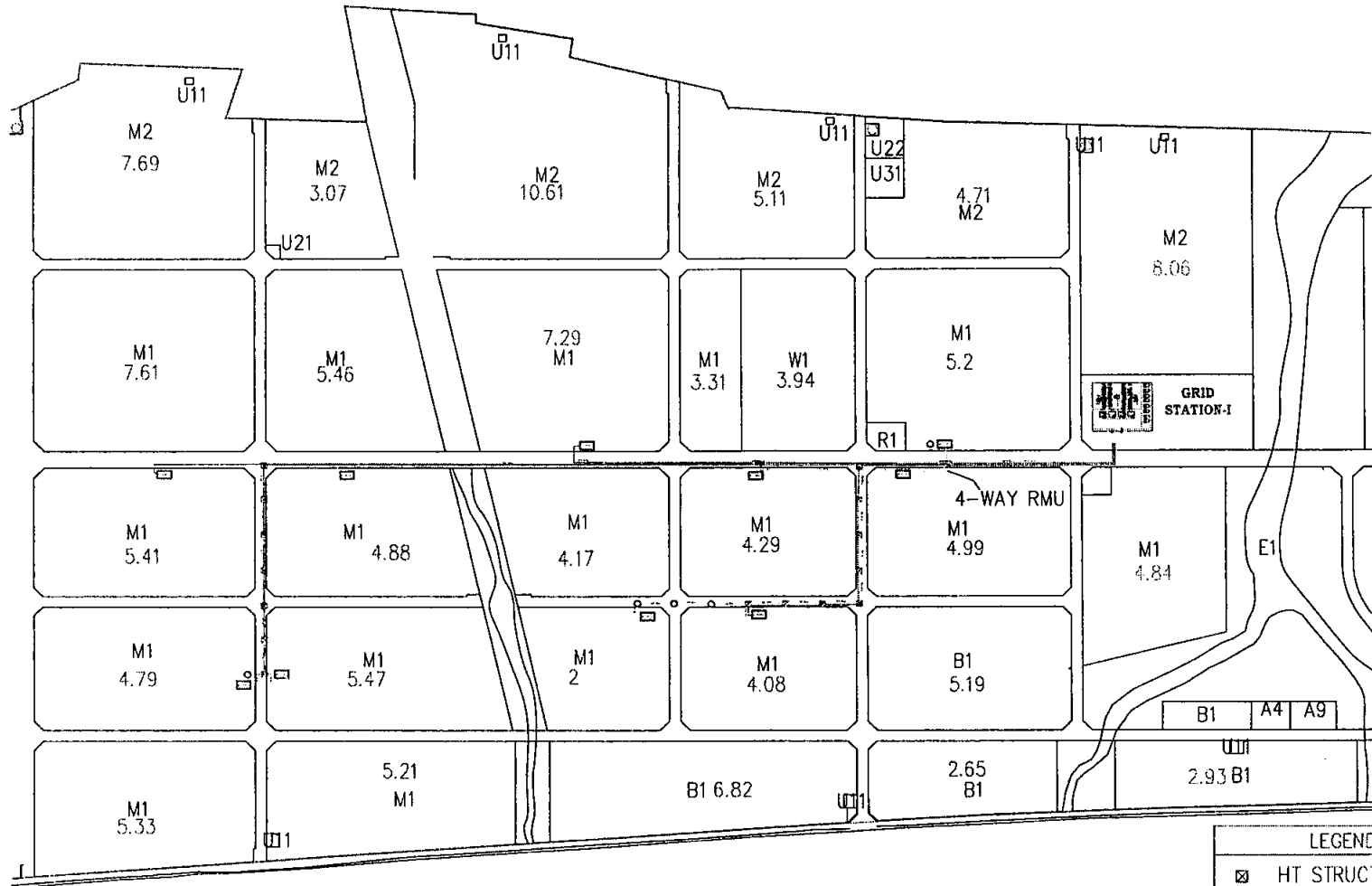
# HT DISTRIBUTION NETWORK RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ)

## 11 KV FEEDER NO. 1, 2, 3, 4, 5 & 6 PHASE-II



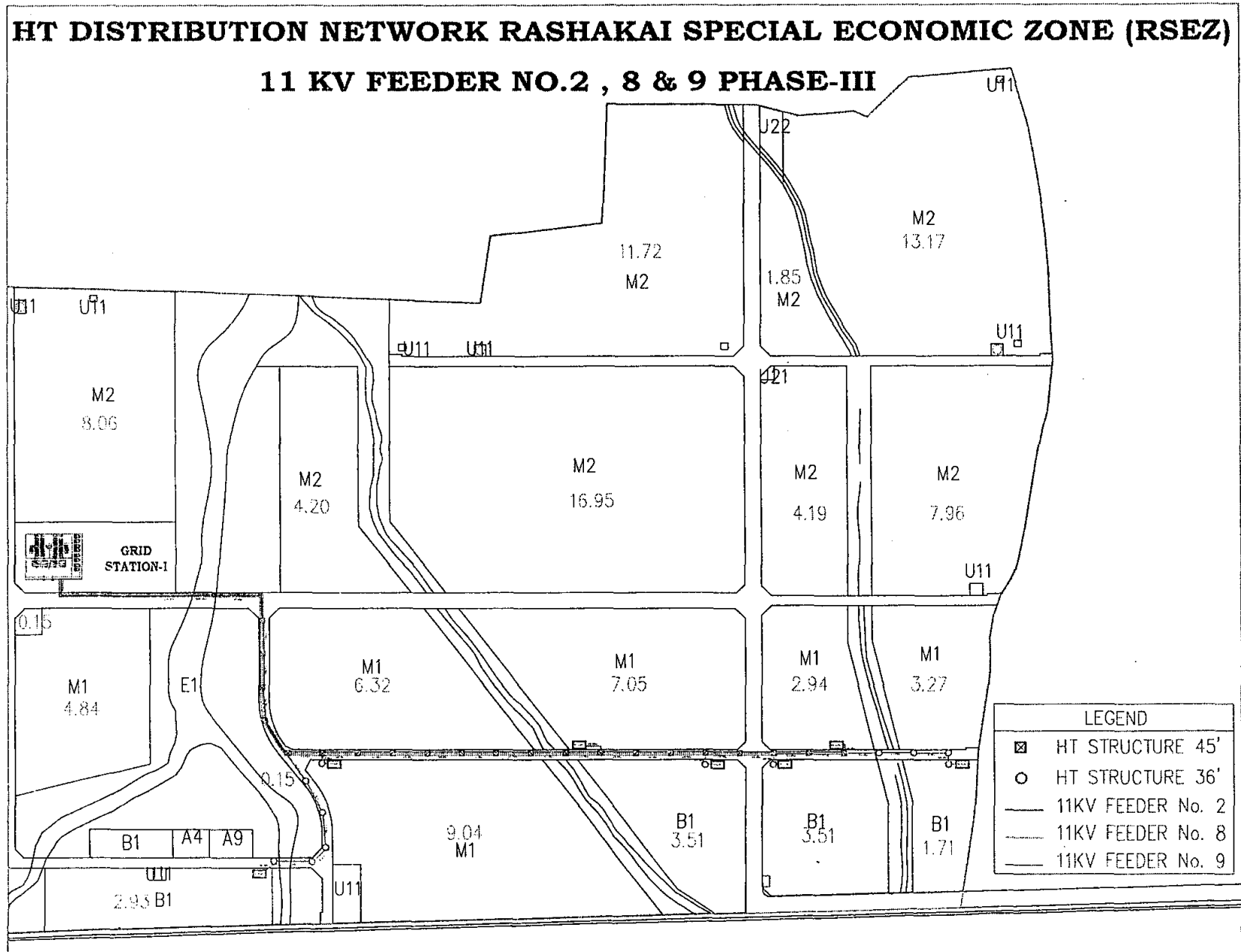
# HT DISTRIBUTION NETWORK RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ)

## 11 KV FEEDER NO. 7, 8 & 9 PHASE-II

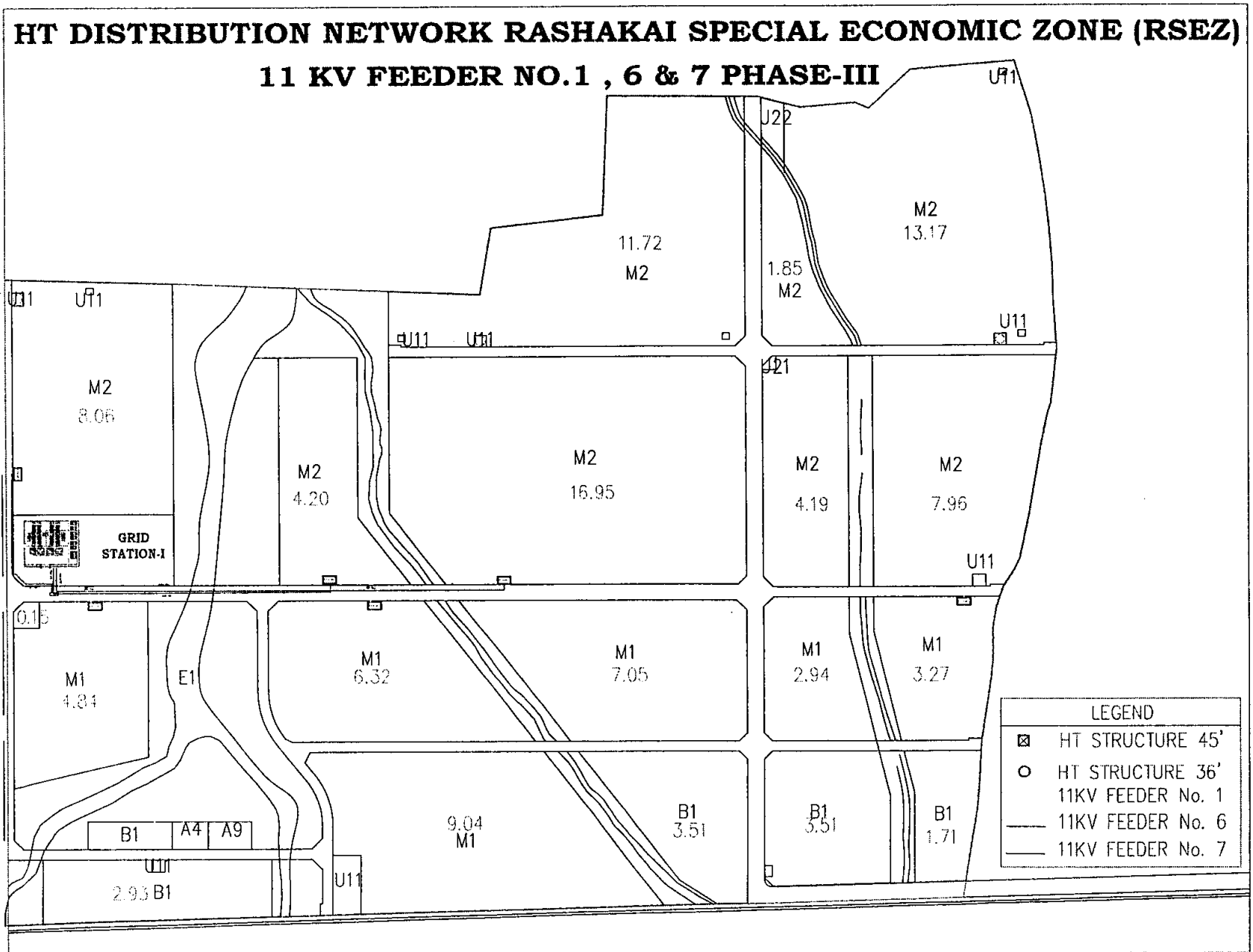


LEGEND	
☒	HT STRUCTURE 45'
○	HT STRUCTURE 36'
—	11KV FEEDER No. 7
—	11KV FEEDER No. 8
—	11KV FEEDER No. 9





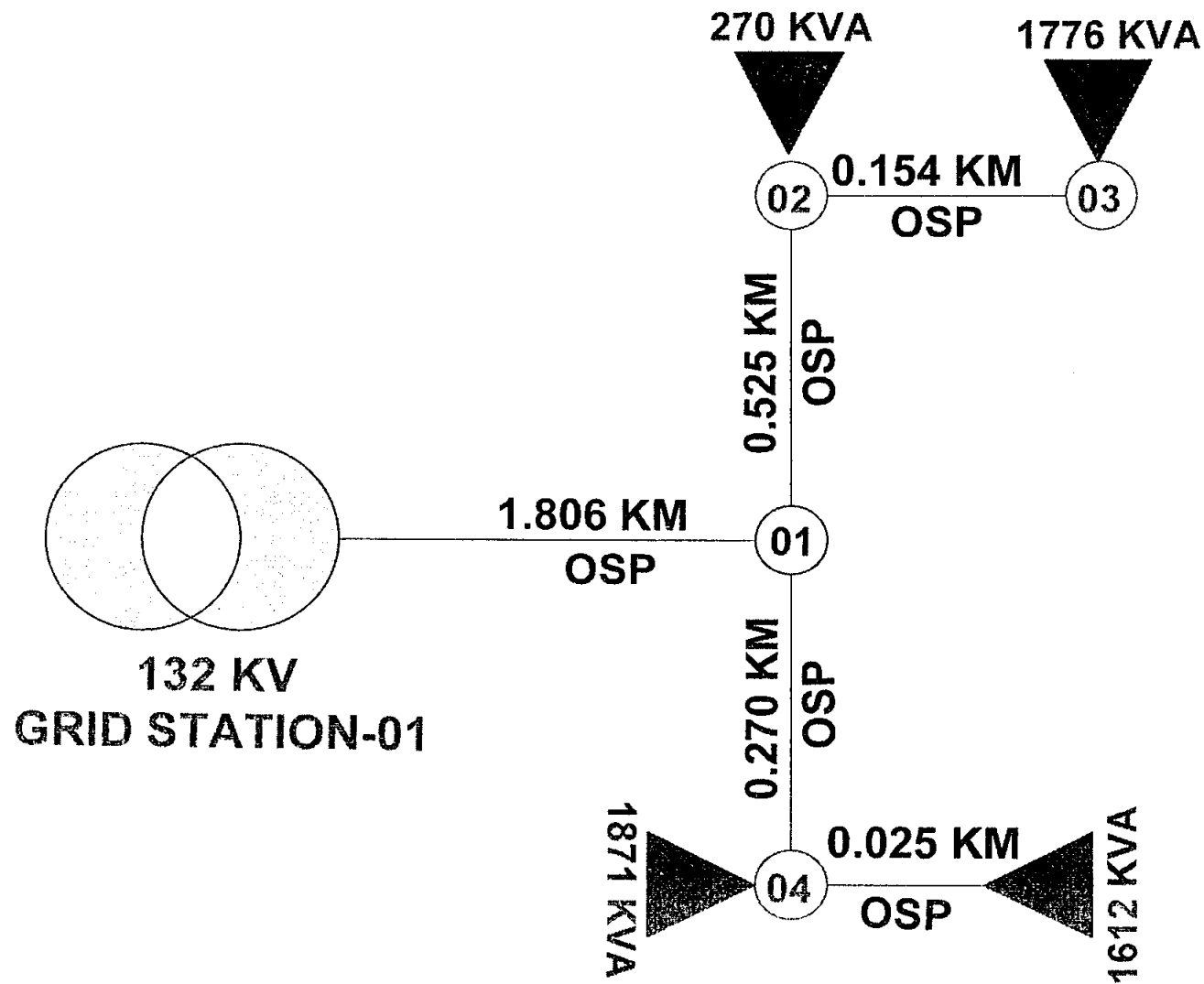




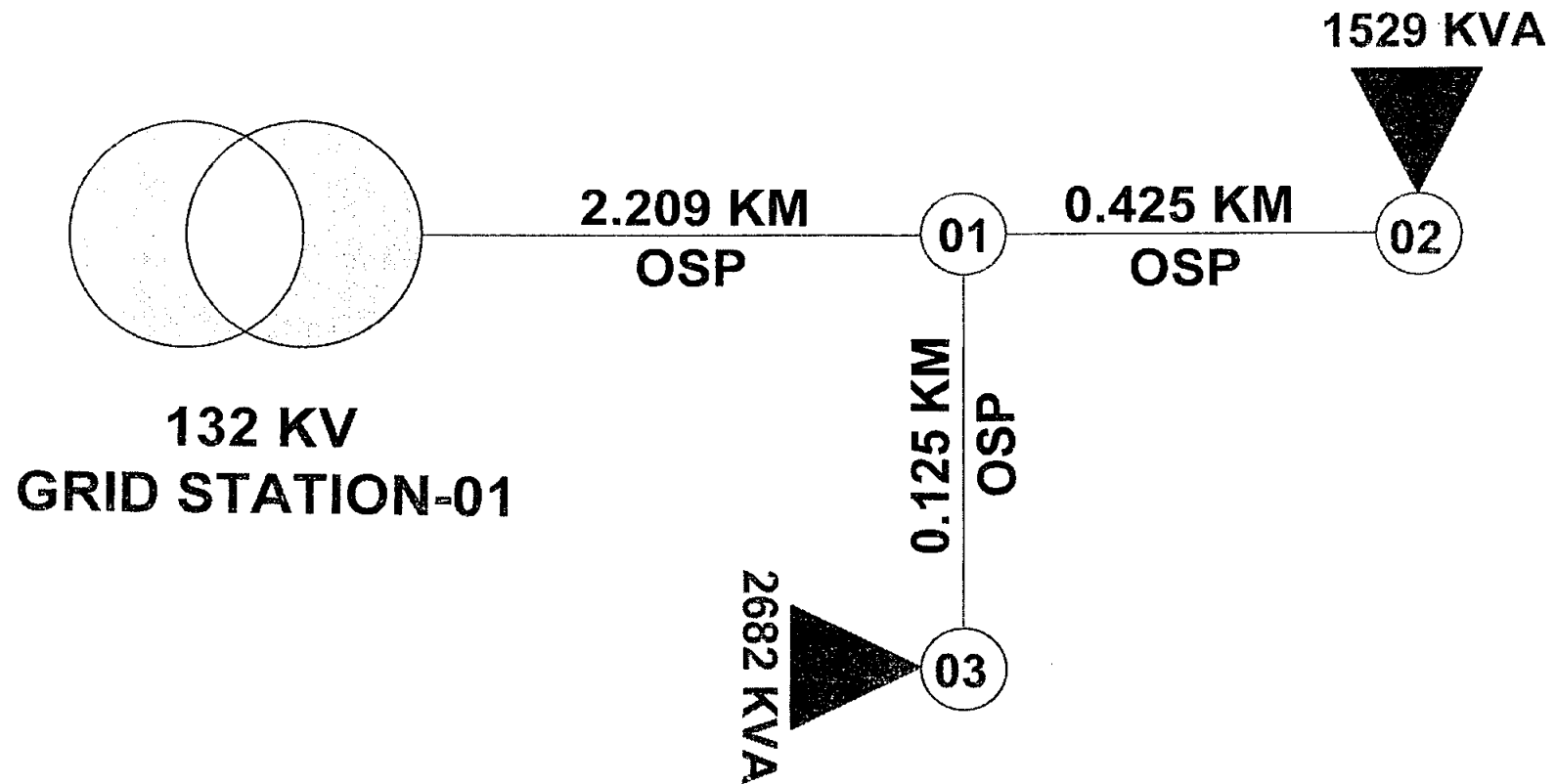
**“SINGLE LINE DIAGRAM”**

**11KV NETWORK**

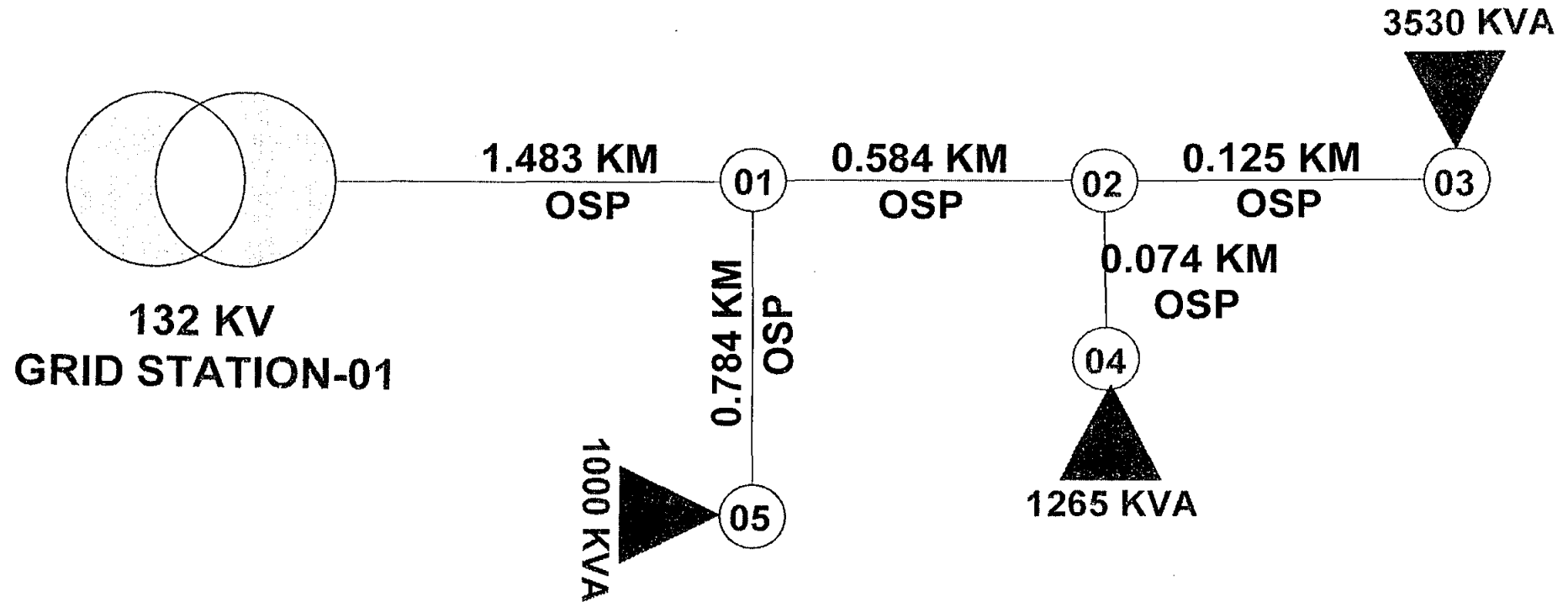
# Single Line Diagram of 11 KV RSEZ PHASE-01 Feeder 01



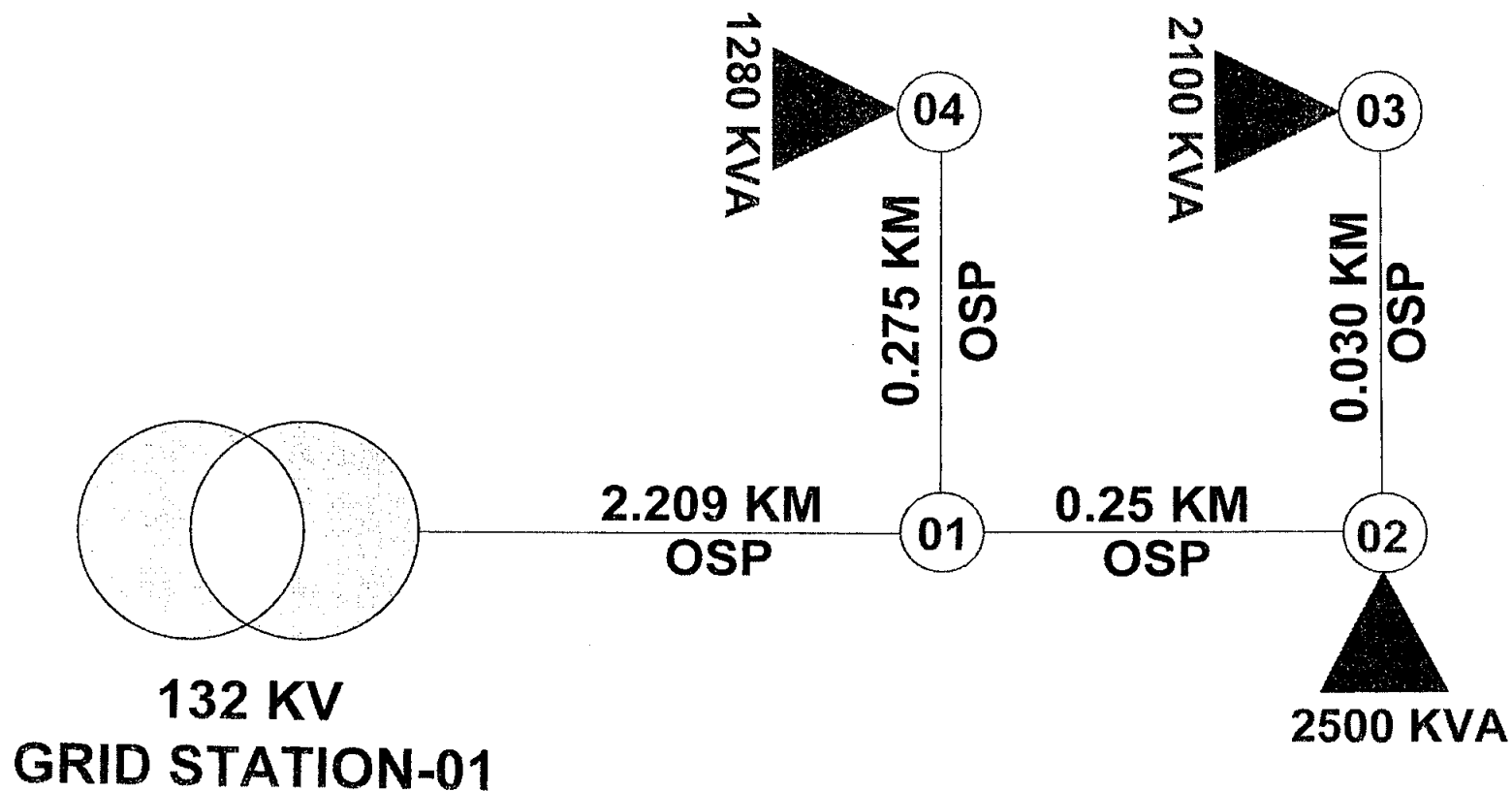
# Single Line Diagram of 11 KV RSEZ PHASE-01 Feeder 02



# Single Line Diagram of 11 KV RSEZ PHASE-01 Feeder 03

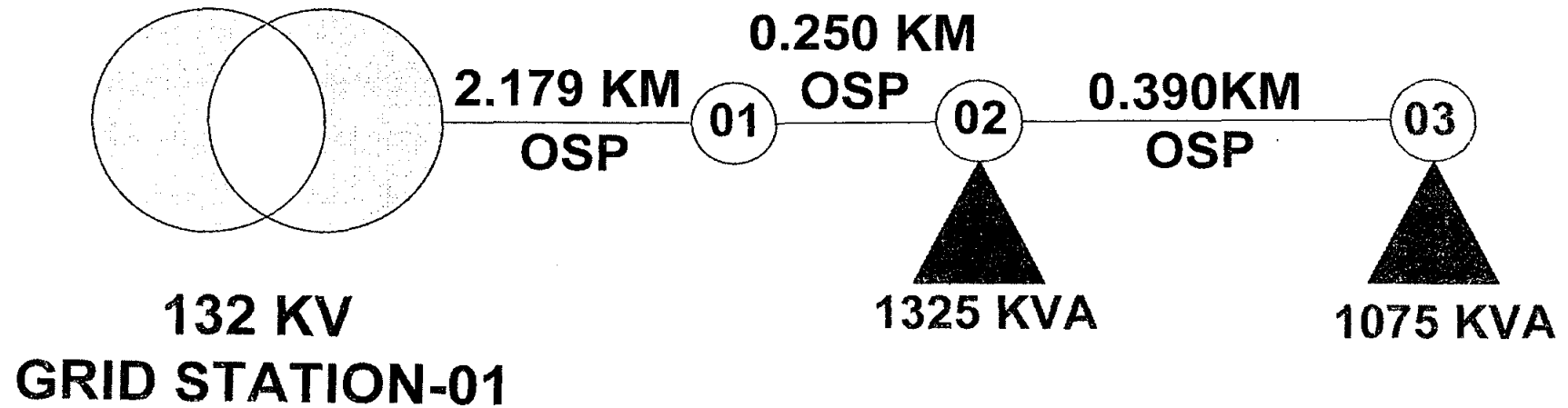


## Single Line Diagram of 11 KV RSEZ PHASE-01 Feeder 04

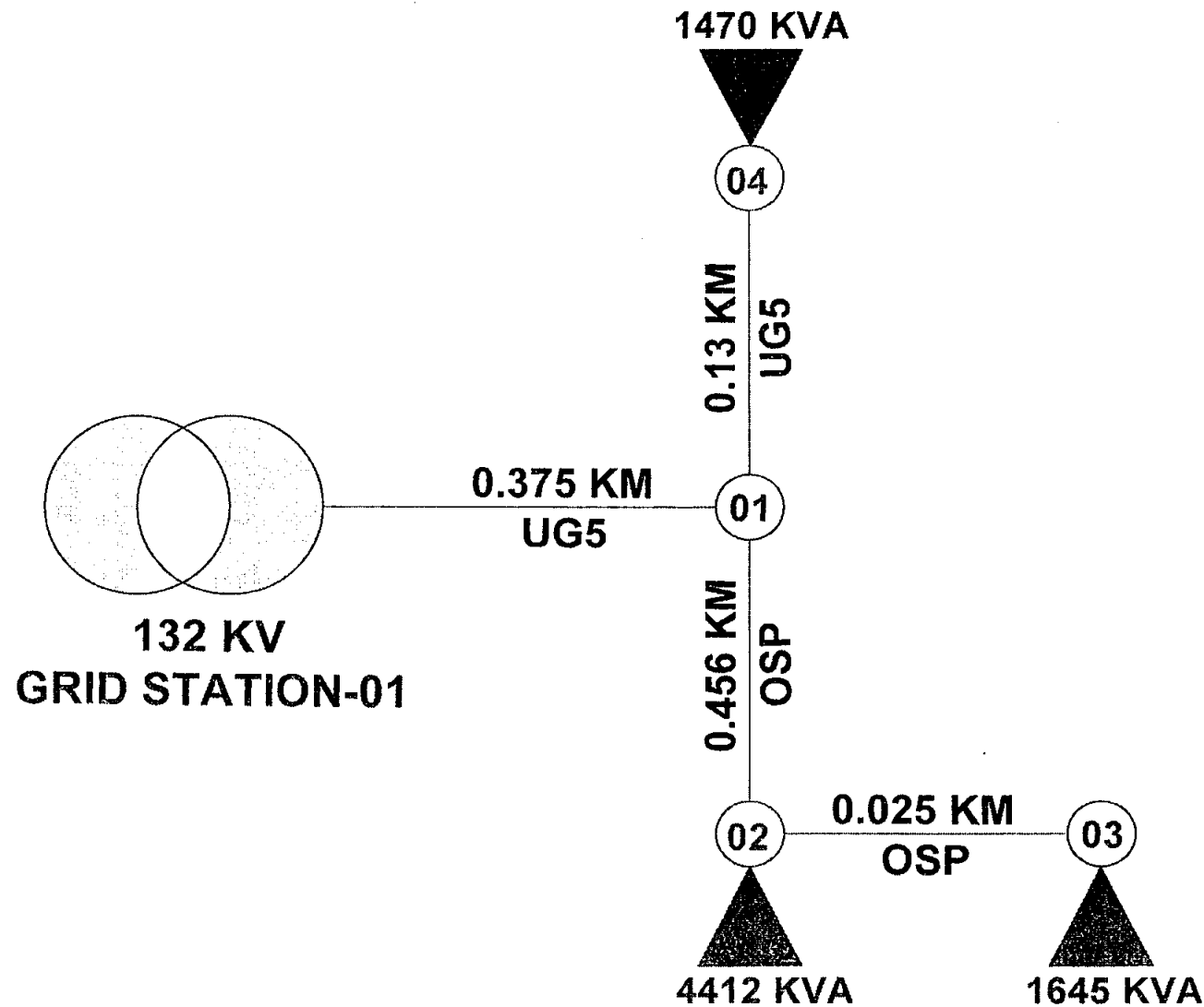




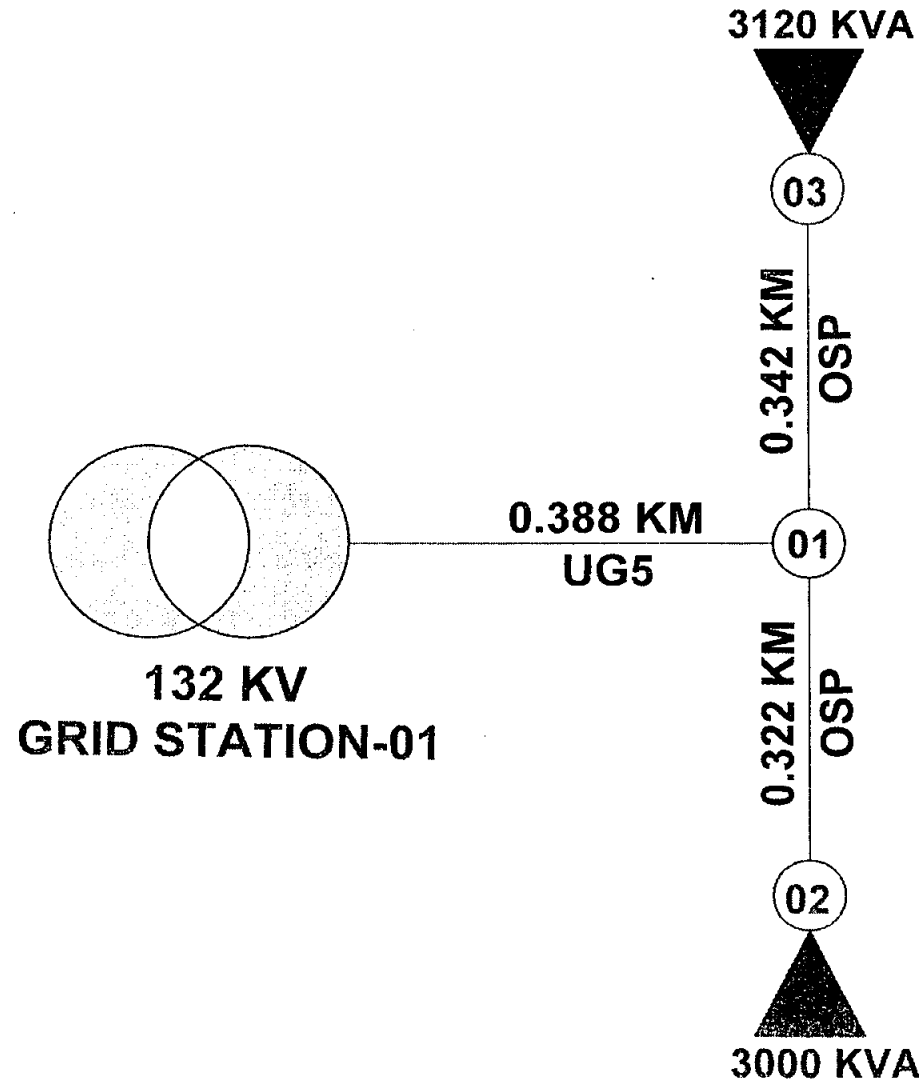
# Single Line Diagram of 11 KV RSEZ PHASE-01 Feeder 05



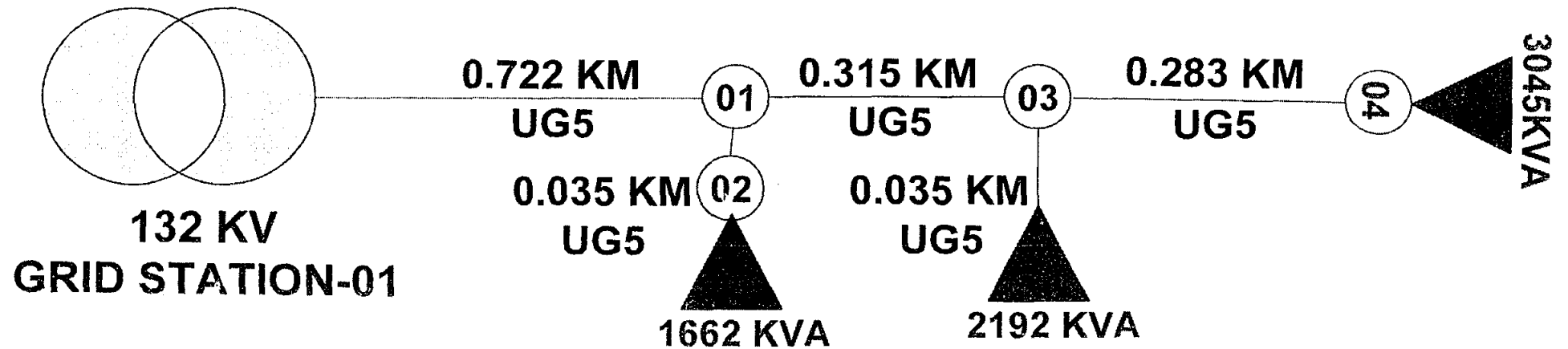
# Single Line Diagram of 11 KV RSEZ PHASE-02 Feeder 01



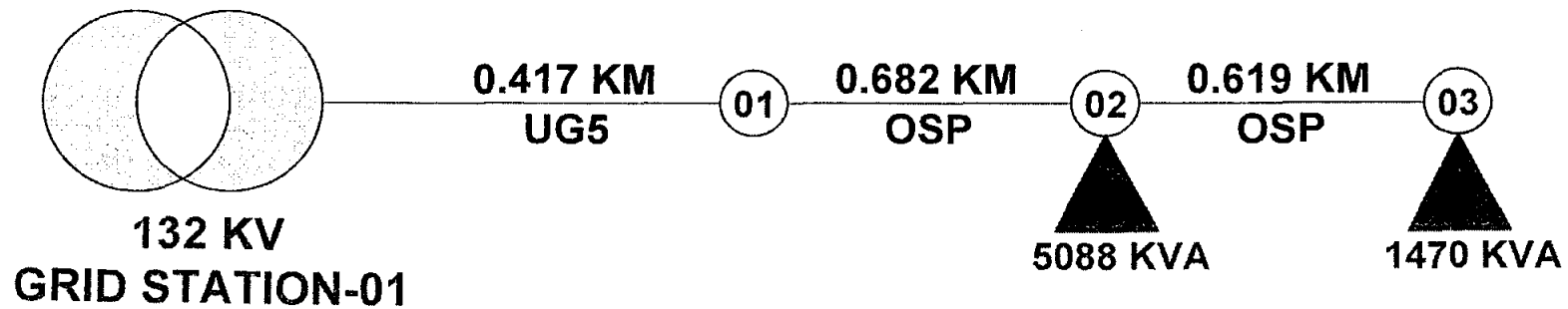
# Single Line Diagram of 11 KV RSEZ PHASE-02 Feeder 02



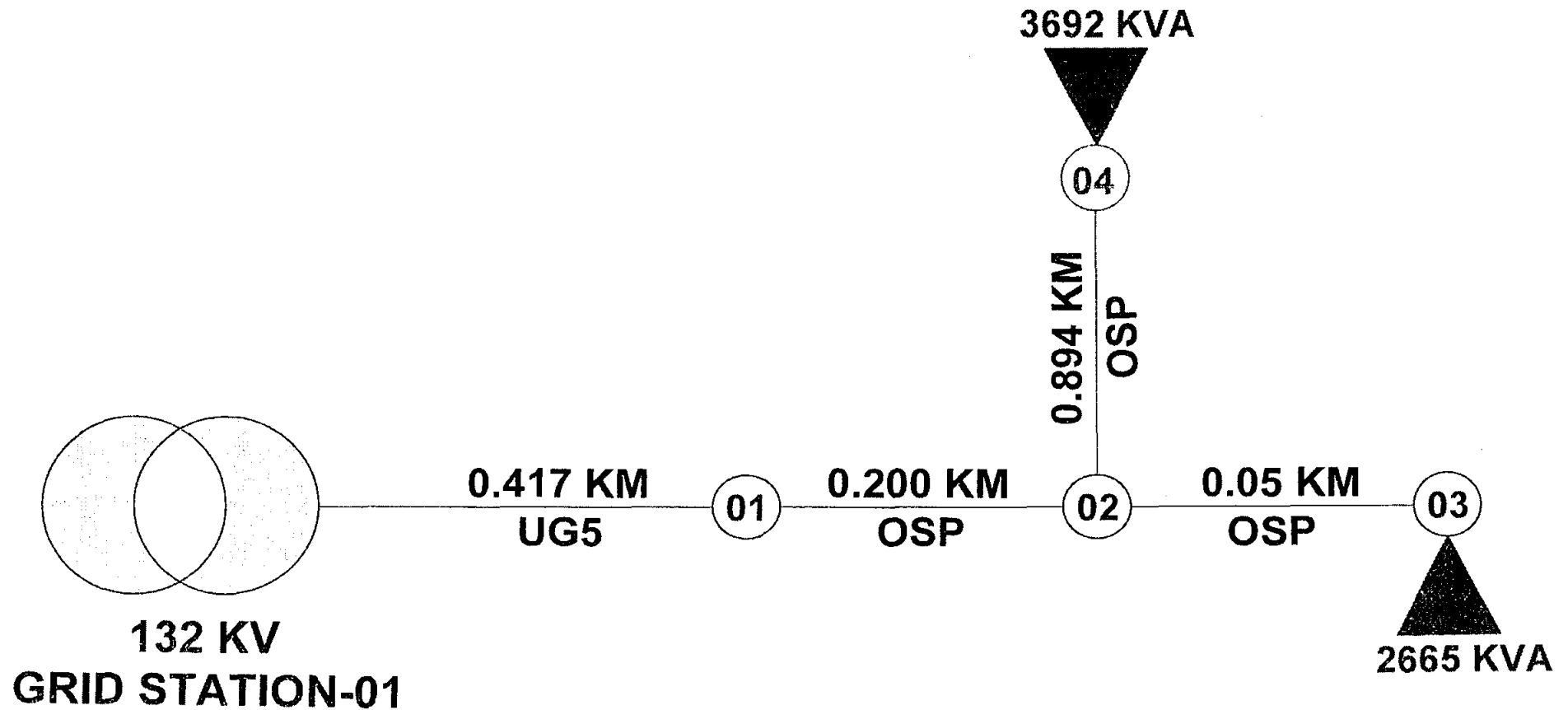
# Single Line Diagram of 11 KV RSEZ PHASE-02 Feeder 03



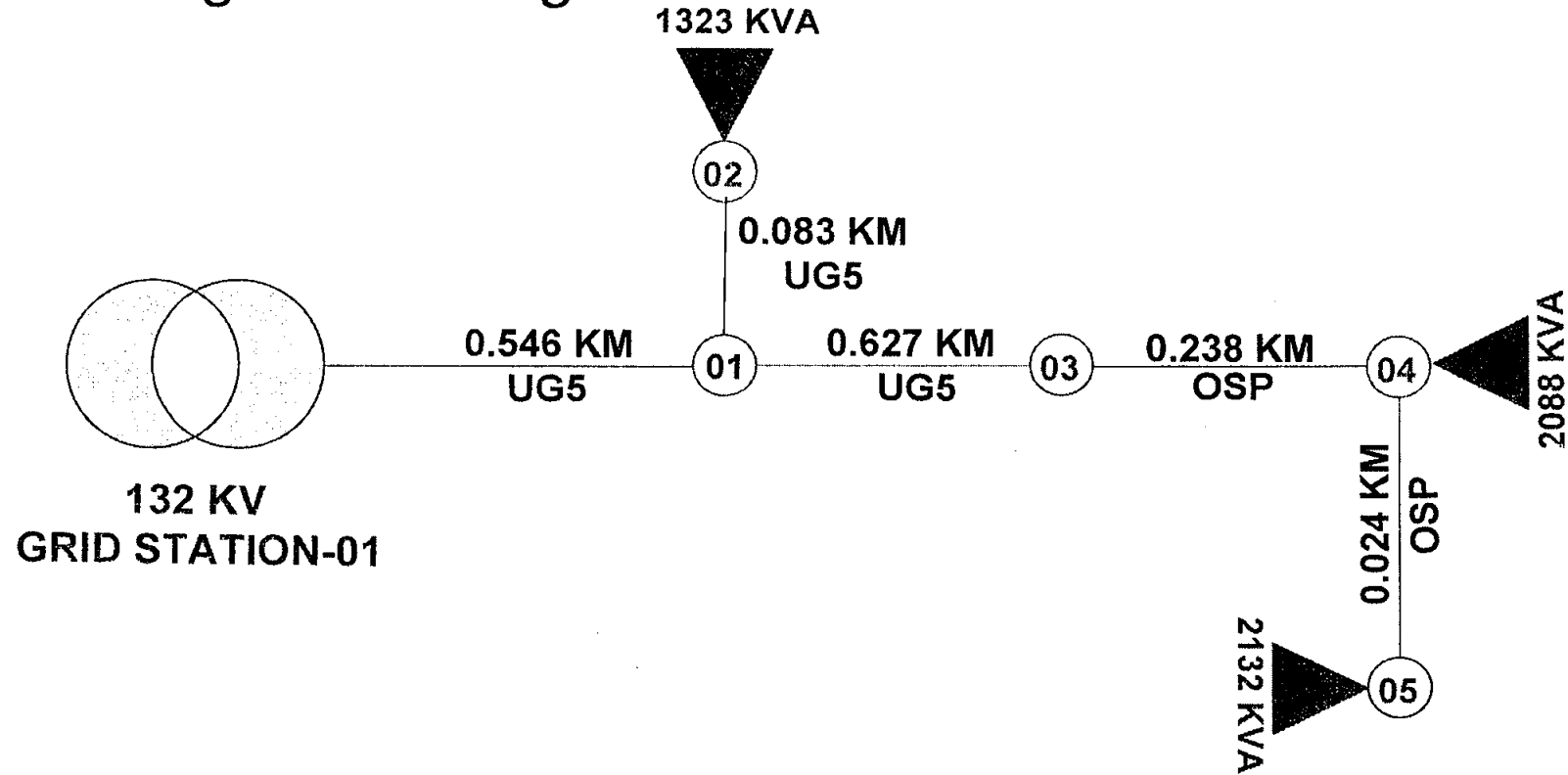
## Single Line Diagram of 11 KV RSEZ PHASE-02 Feeder 04



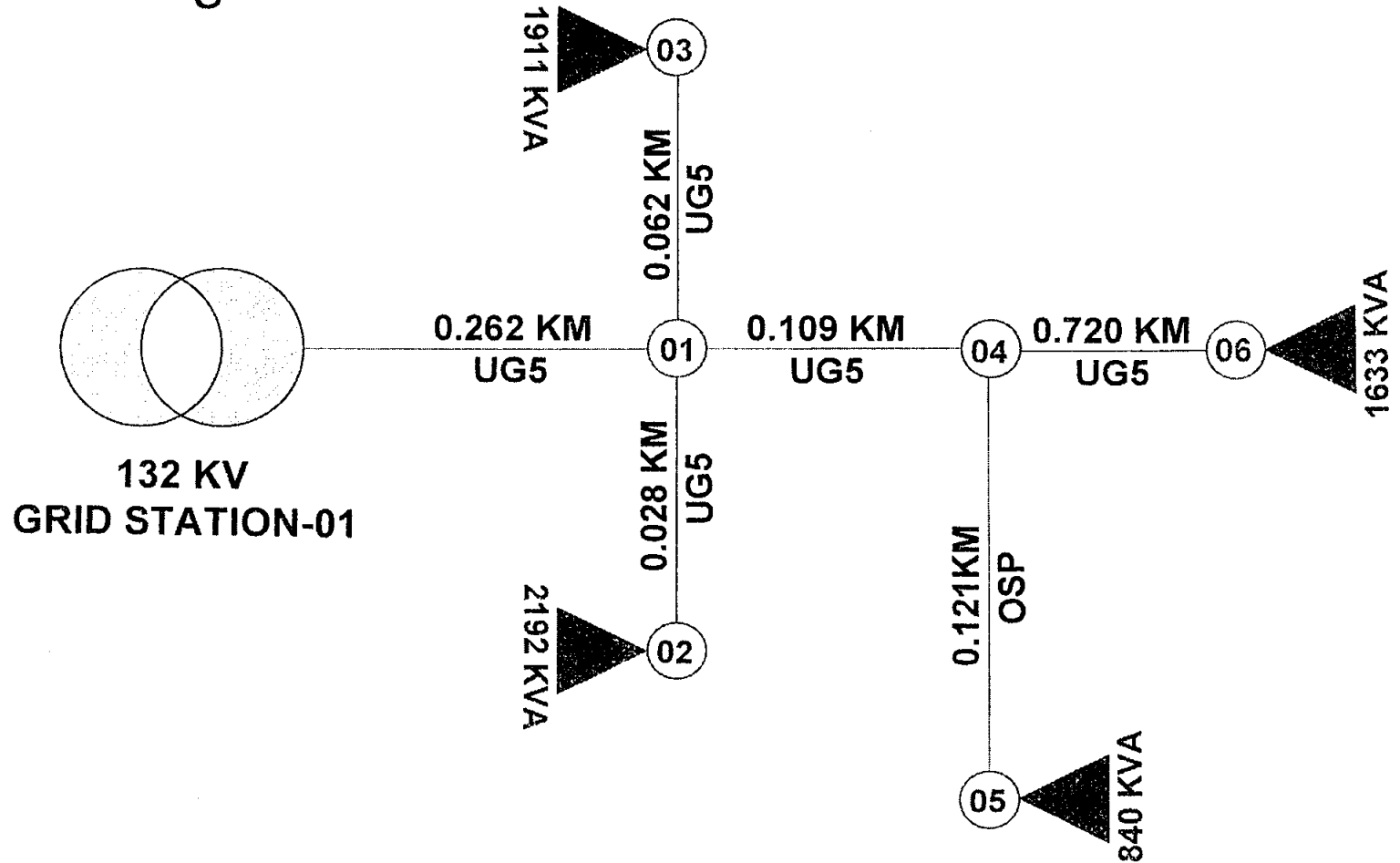
# Single Line Diagram of 11 KV RSEZ PHASE-02 Feeder 05



# Single Line Diagram of 11 KV RSEZ PHASE-02 Feeder 06

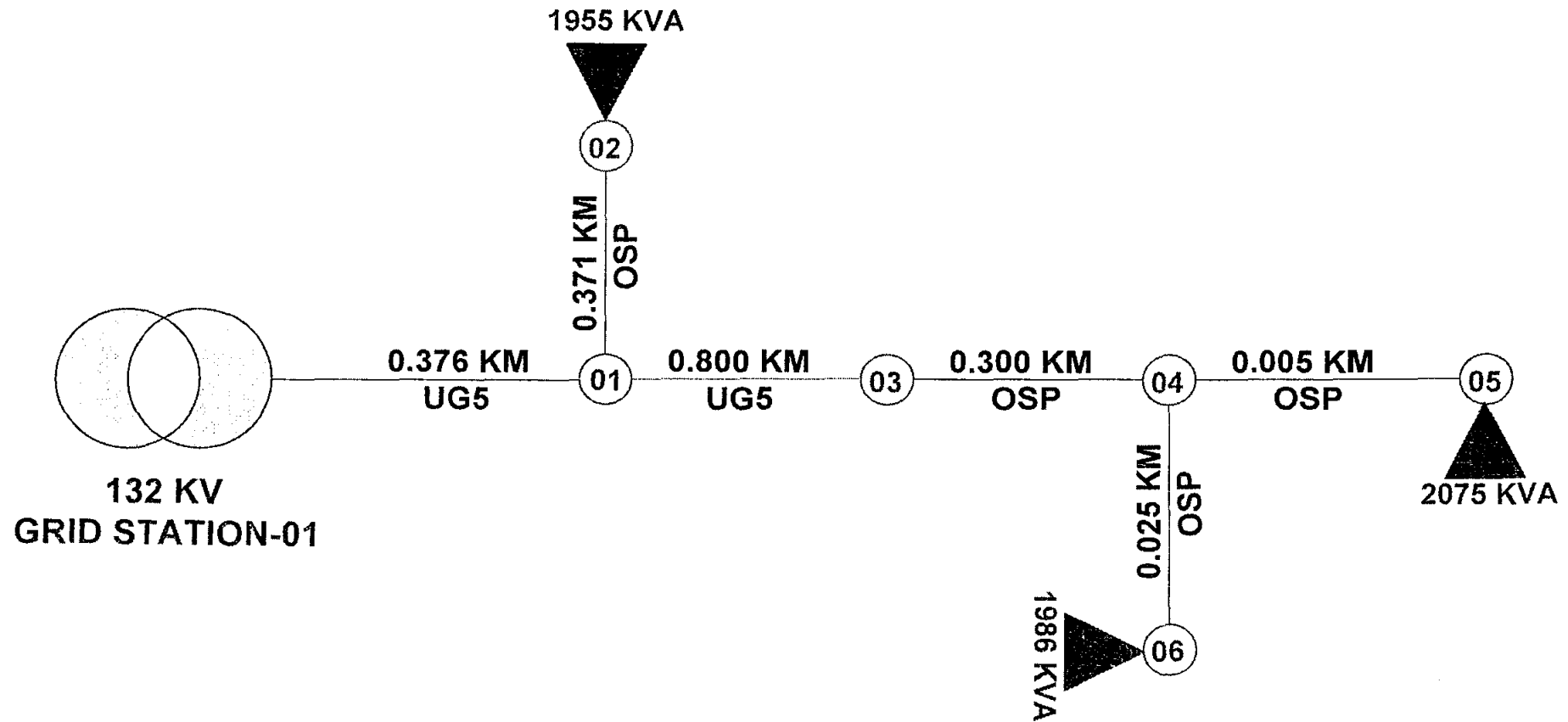


# Single Line Diagram of 11 KV RSEZ PHASE-02 Feeder 07

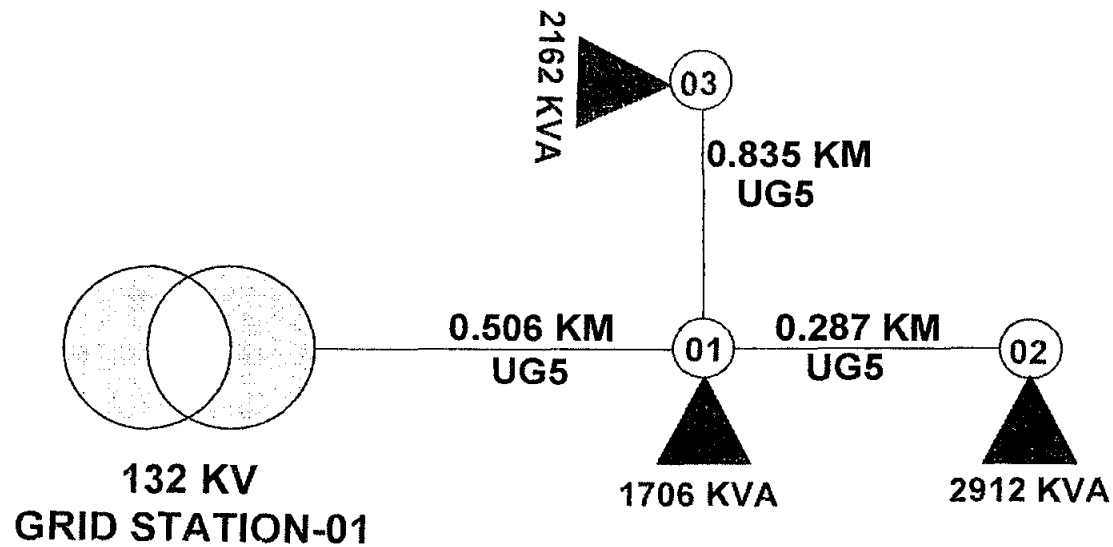




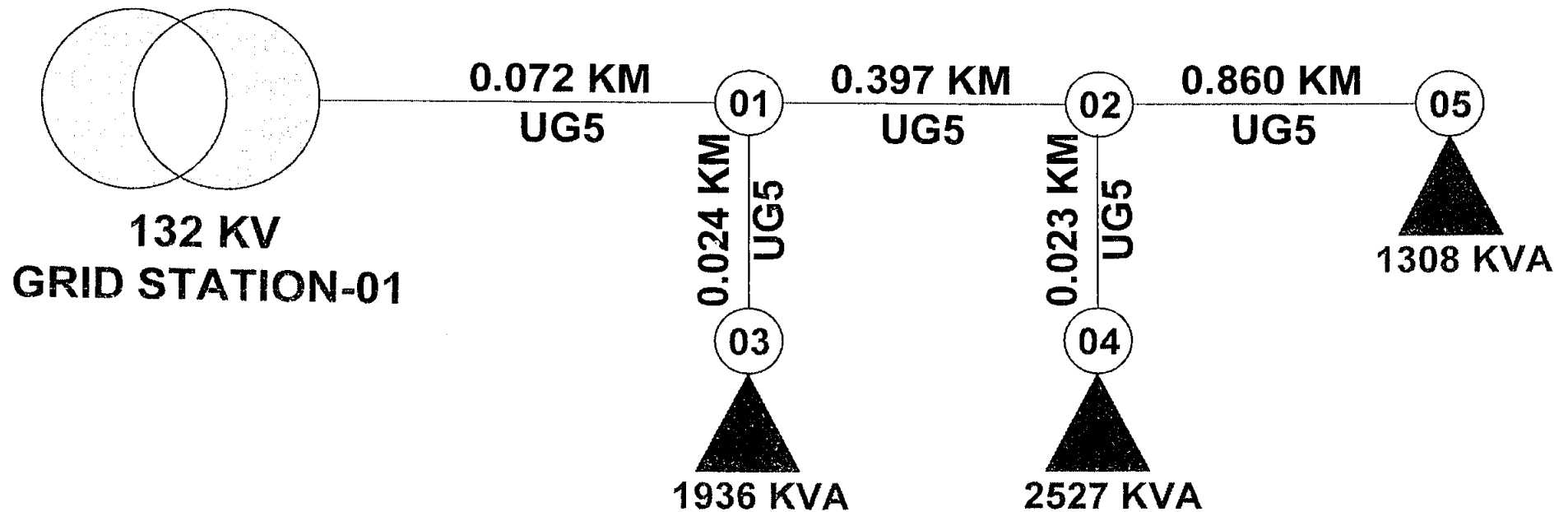
# Single Line Diagram of 11 KV RSEZ PHASE-02 Feeder 08



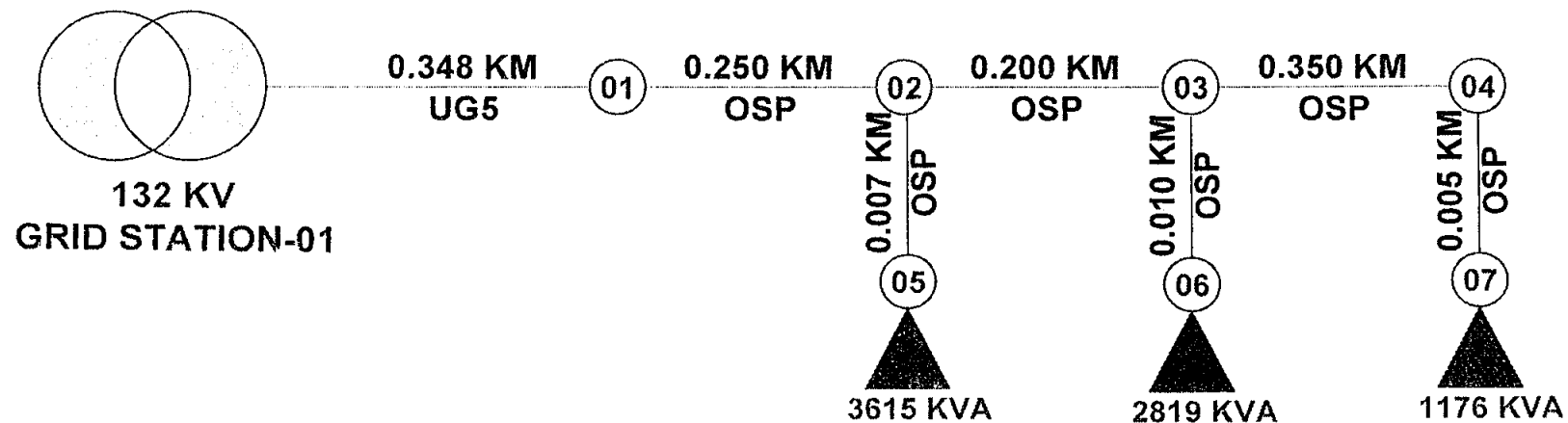
## Single Line Diagram of 11 KV RSEZ PHASE-02 Feeder 09



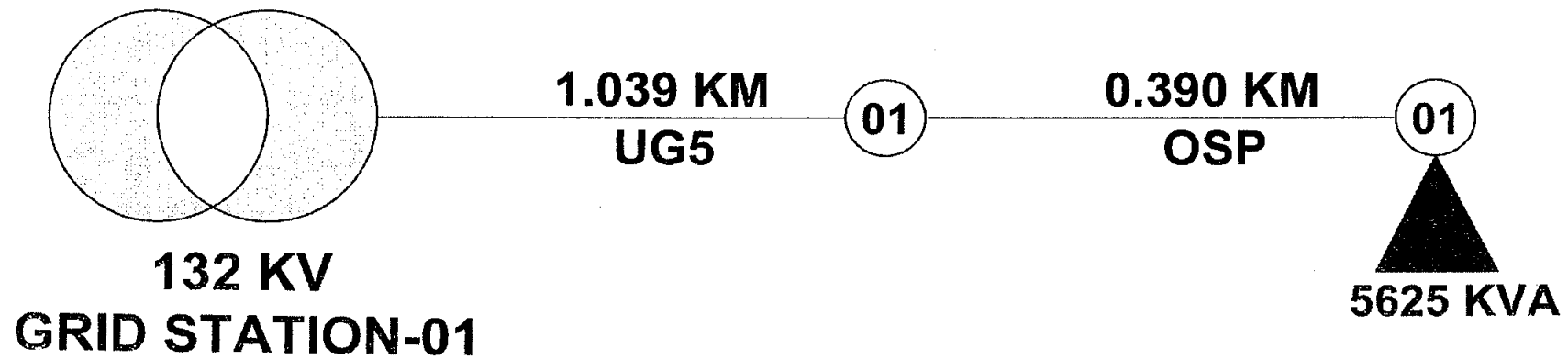
## Single Line Diagram of 11 KV RSEZ PHASE-03 Feeder 01



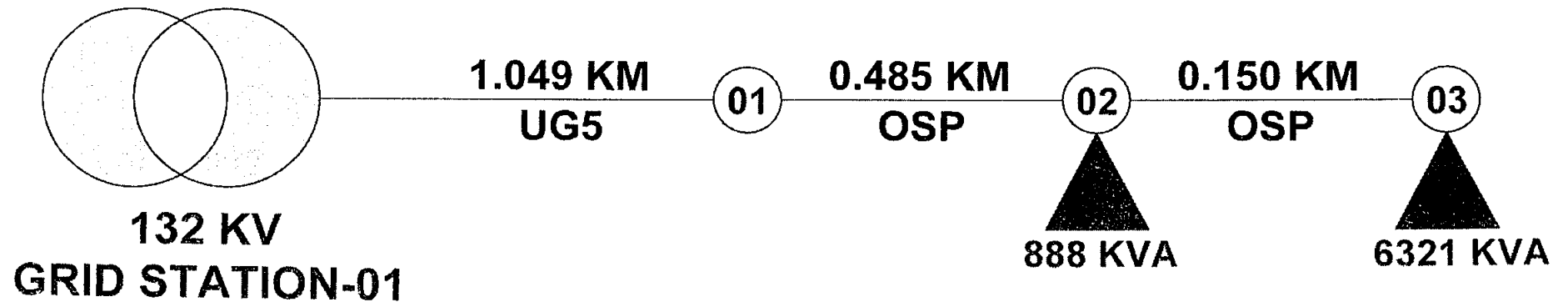
# Single Line Diagram of 11 KV RSEZ PHASE-03 Feeder 02



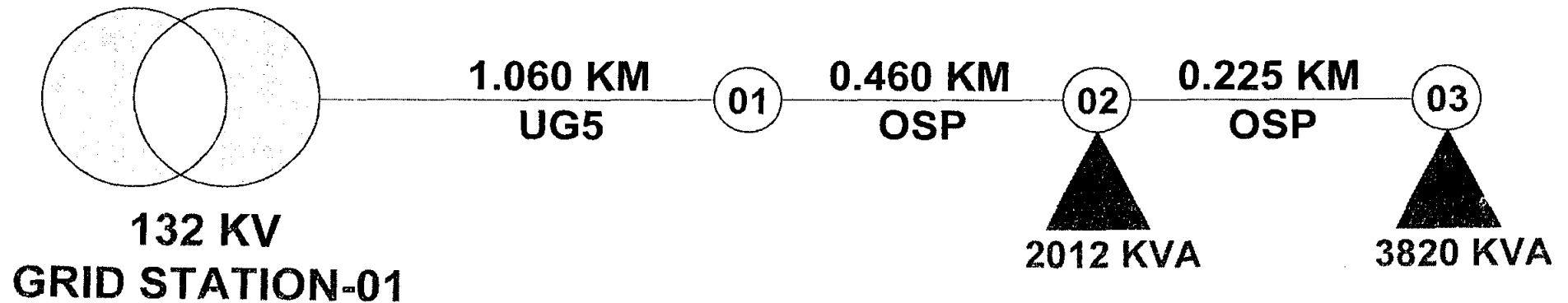
Single Line Diagram of 11 KV RSEZ PHASE-03 Feeder 03



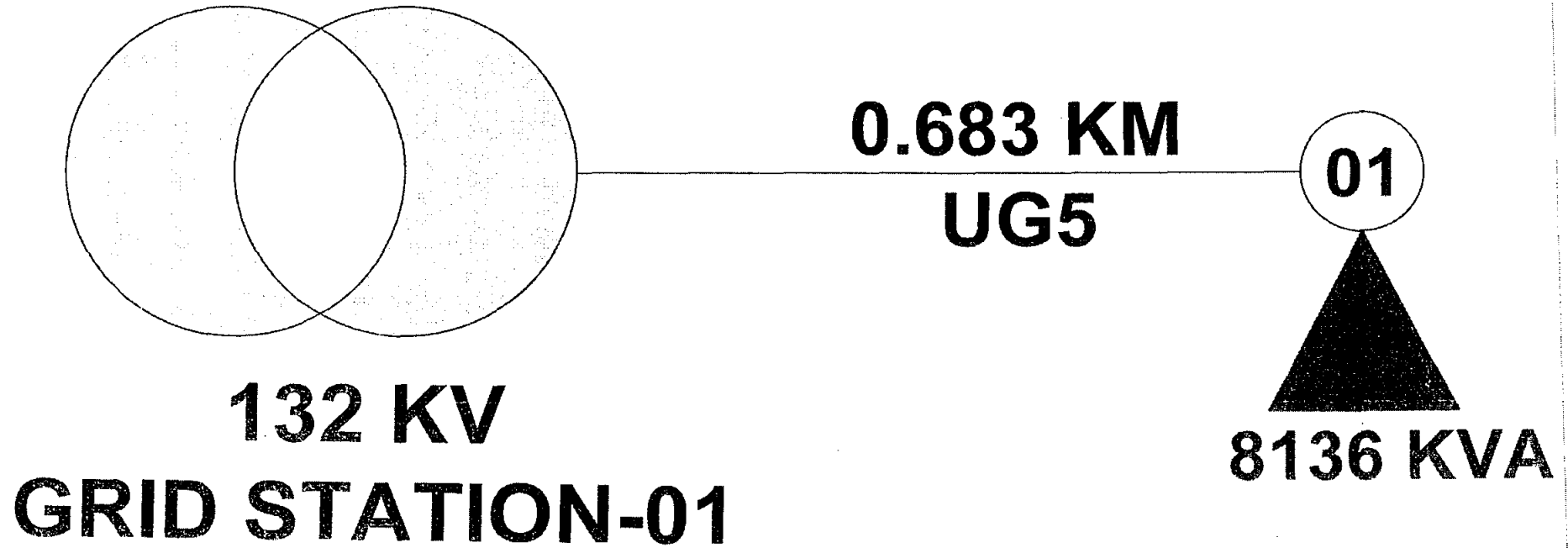
## Single Line Diagram of 11 KV RSEZ PHASE-03 Feeder 04



# Single Line Diagram of 11 KV RSEZ PHASE-03 Feeder 05

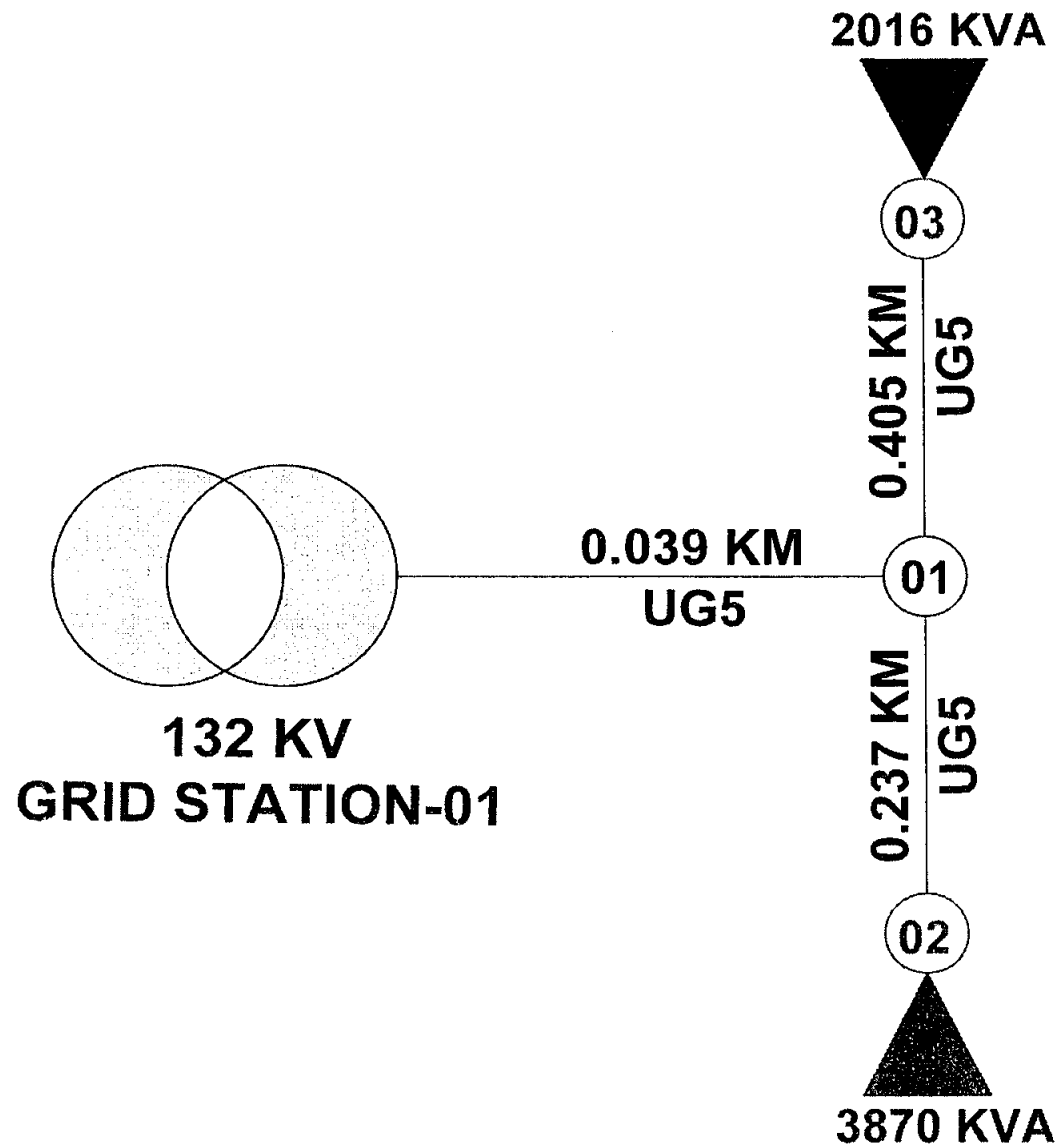


## Single Line Diagram of 11 KV RSEZ PHASE-03 Feeder 06

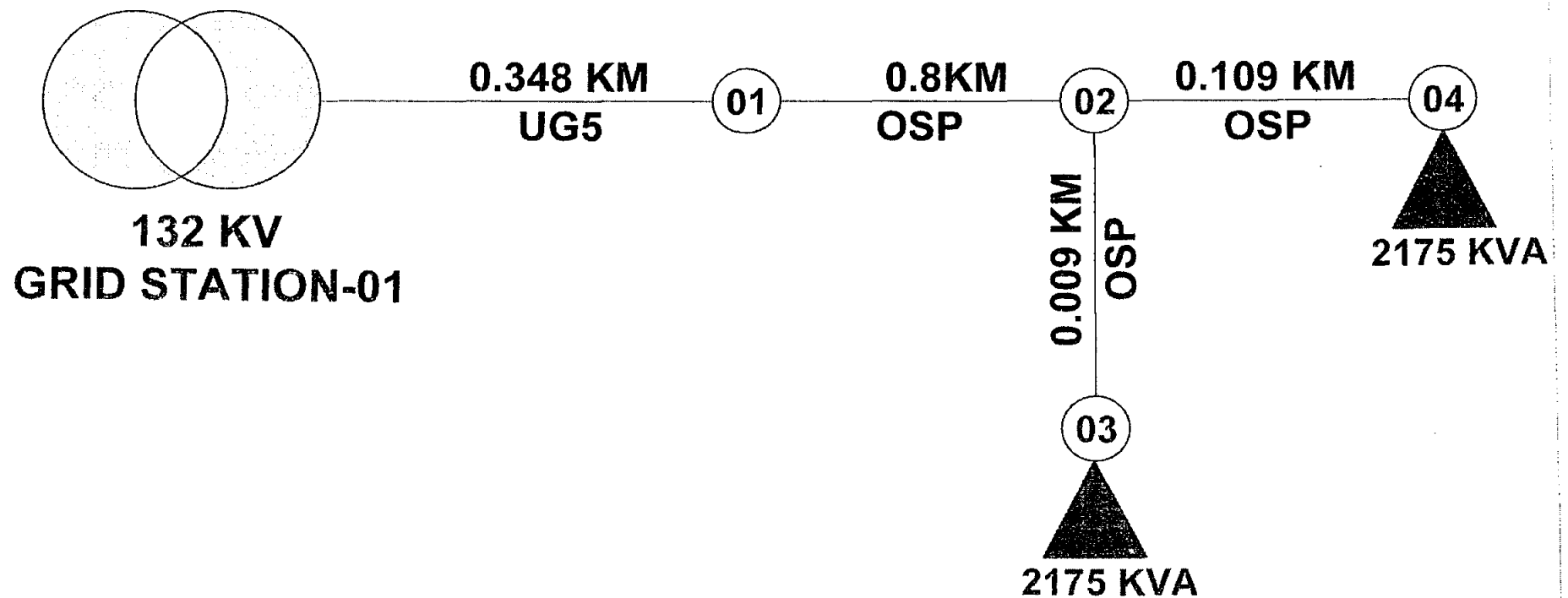




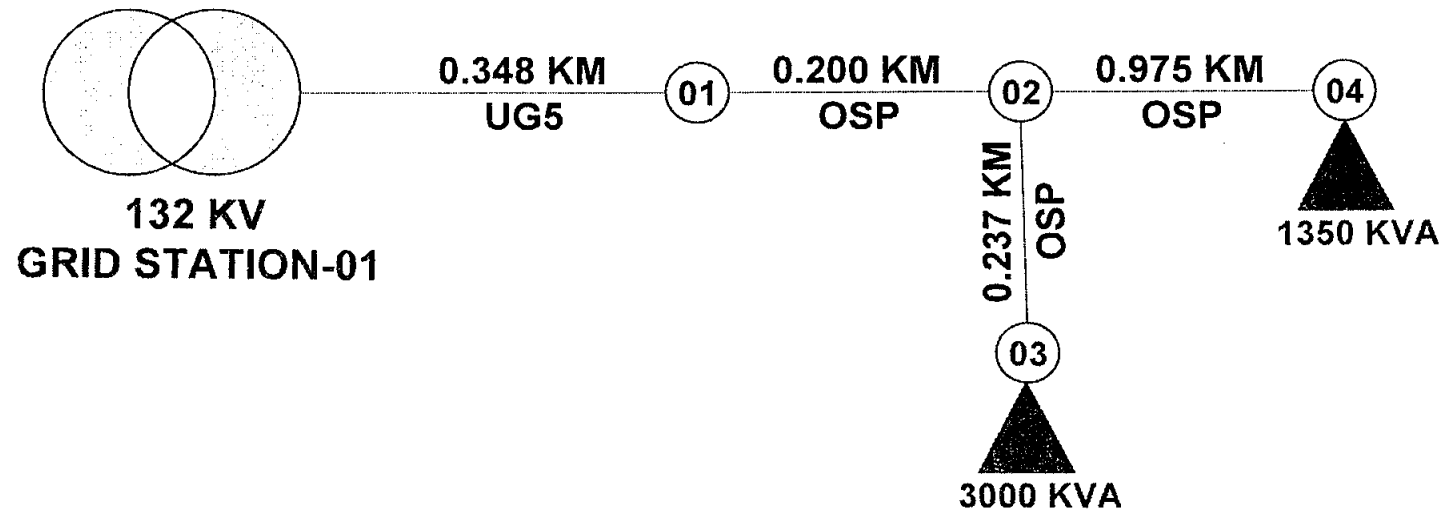
# Single Line Diagram of 11 KV RSEZ PHASE-03 Feeder 07



## Single Line Diagram of 11 KV RSEZ PHASE-03 Feeder 08



## Single Line Diagram of 11 KV RSEZ PHASE-03 Feeder 09



**“11KV FEEDER LOAD FLOW  
ANALYSIS”**

# W A T E R A N D P O W E R D E V E L O P M E N T A N D O P E R A T I O N C O M P A N Y ( P M T ) L T D I T Y

LOAD FLOW ANALYSIS FOR - 11KV RSEZ P-01 F-01 (C:RSEZ1)

(HIGH TENSION ANALYSIS)

Date : 27/07/21

LOAD AMPS = 290.00 AMPS

TOTAL FEEDER DEMAND = 5525 KVA

EXISTING PF = 85 %

BUS VOLTAGE = 11.0 Kv

TOTAL SPOT LOAD DEMAND = 0 KVA

PROPOSED PF = 85 %

FEEDER LOAD FACTOR = 60 %

FEEDER LOAD FACTOR = 0.4																
SECTION TRF.					EXISTING SYSTEM							PROPOSED SYSTEM				
FROM	TO	LENGTH	SIZE	CUM	COND	CAP.	CURRENT	%	%VOLT	LOSS	COND	CAP.	CURRENT	%	%VOLT	LOSS
NODE	NODE	KMTRS	KVA	KVA		KVAR	AMPS	LDNG.	DROP	KWATTS		KVAR	AMPS	LDNG.	DROP	KWATTS
0.0	1.0	1.845	0	5559	OSP		290.0	44%	2.3	57.256			290.0	44%	2.3	57.256
1.0	2.0	0.250	0	5559	OSP		290.0	44%	2.6	7.758			290.0	44%	2.6	7.758
2.0	3.0	0.250	300	5559	OSP		290.0	44%	2.9	7.758			290.0	44%	2.9	7.758
3.0	4.0	0.150	1776	5259	OSP		274.3	42%	3.1	4.165			274.3	42%	3.1	4.165
4.0	5.0	0.323	3483	3483	OSP		181.7	28%	3.4	3.935			181.7	28%	3.4	3.935

\*\*TOTAL\*\* 2.818 5559

80.872

80.872

## S Y S T E M S U M M A R Y

		EXISTING	PROPOSED	BENEFIT
Line Losses	=	80.9 KW	80.9 KW	0.0 KW
Transformation Losses	=	0.0 KW	0.0 KW	0.0 KW
Total Power Losses	=	80.9 KW	80.9 KW	0.0 KW
% Power Losses	=	2 %	2 %	0 %
Annual Energy Loss	=	306068.2 KWH	306068.2 KWH	0.0 KWH
% Annual Energy Loss	=	1 %	1 %	0 %

OSP - 660A,

's' Indicates Spot Load.

'\*' Indicates Voltage Drop above 5 %

WATER AND POWER DEVELOPMENT AUTHORITY  
RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD.

LOAD FLOW ANALYSIS FOR - 11KV RSEZ P-01 F-02 (C:RSEZ2)

(HIGH TENSION ANALYSIS)

Date : 27/07/21

LOAD AMPS = 220.00 AMPS

TOTAL FEEDER DEMAND = 4192 KVA

EXISTING PF = 85 %

BUS VOLTAGE = 11.0 Kv

TOTAL SPOT LOAD DEMAND = 0 KVA

PROPOSED PF = 85 %

FEEDER LOAD FACTOR = 60 %

SECTION TRF.						EXISTING SYSTEM						PROPOSED SYSTEM					
FROM	TO	LENGTH	SIZE	CUM	COND	CAP.	CURRENT	%	%VOLT	LOSS	COND	CAP.	CURRENT	%	%VOLT	LOSS	
: NODE	: NODE	: KMTRS	: KVA	: KVA		: KVAR	: AMPS	: LDNG.	: DROP	: KWATTS		: KVAR	: AMPS	: LDNG.	: DROP	: KWATTS	
0.0	1.0	2.200	0	4211	OSP		220.0	33%	2.1	39.291		220.0	33%	2.1	39.291		
1.0	2.0	0.425	1529	1529	OSP		79.9	12%	2.2	1.001		79.9	12%	2.2	1.001		
1.0	3.0	0.125	2682	2682	OSP		140.1	21%	2.2	0.905		140.1	21%	2.2	0.905		

\*\*TOTAL\*\* 2.750 4211

41.197

41.197

SYSTEM SUMMARY

		EXISTING	PROPOSED	BENEFIT
Line Losses	=	41.2 KW	41.2 KW	0.0 KW
Transformation Losses	=	0.0 KW	0.0 KW	0.0 KW
Total Power Losses	=	41.2 KW	41.2 KW	0.0 KW
% Power Losses	=	1 %	1 %	0 %
Annual Energy Loss	=	155917.8 KWH	155917.8 KWH	0.0 KWH
% Annual Energy Loss	=	1 %	1 %	0 %

OSP - 660A,

'S' Indicates Spot Load.

'\*' Indicates Voltage Drop above 5 %

# WATER AND POWER DEVELOPMENT AUTHORITY

## RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD

LOAD FLOW ANALYSIS FOR - 11KV RSEZ p-01 F-3 (C:RSEZ3)

(HIGH TENSION ANALYSIS)

Date : 27/07/21

LOAD AMPS = 243.00 AMPS  
BUS VOLTAGE = 11.0 Kv

TOTAL FEEDER DEMAND = 4630 KVA  
TOTAL SPOT LOAD DEMAND = 0 KVA  
FEEDER LOAD FACTOR = 60 %

EXISTING PF = 85 %  
PROPOSED PF = 85 %

FEEDER LOAD FACTOR = 60 %																
SECTION TRF.						EXISTING SYSTEM					PROPOSED SYSTEM					
FROM	TO	LENGTH	SIZE	CUM	COND	CAP.	CURRENT	%	VOLT	LOSS	COND	CAP.	CURRENT	%	VOLT	LOSS
NODE	NODE	KMTRS	KVA	KVA		KVAR	AMPS	LDNG.	DROP	KWATTS		KVAR	AMPS	LDNG.	DROP	KWATTS
0.0	1.0	1.845	0	4833	OSP		243.0	37%	1.9	40.201			243.0	37%	1.9	40.201
1.0	2.0	0.175	2833	3833	OSP		192.7	29%	2.0	2.398			192.7	29%	2.0	2.398
1.0	4.0	0.445	1000	1000	OSP		50.3	8%	2.0	0.415			50.3	8%	2.0	0.415
2.0	3.0	0.140	1000	1000	OSP		50.3	8%	2.0	0.131			50.3	8%	2.0	0.131

\*\*TOTAL\*\* 2.605 4833

43.145

43.145

### SYSTEM SUMMARY

	EXISTING	PROPOSED	BENEFIT
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Line Losses	=	43.1 KW	43.1 KW	0.0 KW
Transformation Losses	=	0.0 KW	0.0 KW	0.0 KW
Total Power Losses	=	43.1 KW	43.1 KW	0.0 KW
% Power Losses	=	1 %	1 %	0 %
Annual Energy Loss	=	163296.1 KWH	163296.1 KWH	0.0 KWH
% Annual Energy Loss	=	1 %	1 %	0 %

OSP - 660A,

' Indicates Spot Load.

' Indicates Voltage Drop above 5 %

# RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD

(HIGH TENSION ANALYSIS)

Date : 27/07/21

LOAD AMPS : 246.00 AMPS

TOTAL FEEDER DEMAND : 4687 KVA

EXISTING PF : 85 %

BUS VOLTAGE : 11.0 KV

TOTAL SPOT LOAD DEMAND : 0 KVA

PROPOSED PF : 85 %

FEEDER LOAD FACTOR : 60 %

FEEDER LOAD FACTOR = 80 %																
SECTION TRF.						EXISTING SYSTEM					PROPOSED SYSTEM					
FROM	TO	LENGTH	SIZE	CUM	COND	CAP.	CURRENT	%	%VOLT	LOSS	COND	CAP.	CURRENT	%	%VOLT	LOSS
NODE	NODE	KMTRS	KVA	KVA		KVAR	AMPS	LONG.	DROP	KWATTS		KVAR	AMPS	LONG.	DROP	KWATTS
0.0	1.0	1.980	1670	4693	OSP		246.0	37%	2.1	44.214			246.0	37%	2.1	44.214
1.0	2.0	0.525	1023	1023	OSP		53.6	8%	2.2	0.557			53.6	8%	2.2	0.557
1.0	3.0	0.030	2000	2000	OSP		104.8	16%	2.1	0.122			104.8	16%	2.1	0.122

\*\*TOTAL\*\* 2.535 4693

44.893

44.893

## SYSTEM SUMMARY

	EXISTING	PROPOSED	BENEFIT
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Line Losses	=	44.9 KW	44.9 KW	0.0 KW
Transformation Losses	=	0.0 KW	0.0 KW	0.0 KW
Total Power Losses	=	44.9 KW	44.9 KW	0.0 KW
% Power Losses	=	1 %	1 %	0 %

Annual Energy Loss	=	169912.2 KWH	169912.2 KWH	0.0 KWH
% Annual Energy Loss	=	1 %	1 %	0 %

OSP - 660A.

'S' Indicates Spot Load.

'\*' Indicates Voltage Drop above 5 %



# WATER AND POWER DEVELOPMENT AUTHORITY RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD

LOAD FLOW ANALYSIS FOR - 11KV RSEZ P-1 F-5 (C:RSEZ5)

(HIGH TENSION ANALYSIS)

Date : 27/07/21

LOAD AMPS = 101.00 AMPS

TOTAL FEEDER DEMAND = 1924 KVA

EXISTING PF = 85 %

BUS VOLTAGE = 11.0 Kv

TOTAL SPOT LOAD DEMAND = 0 KVA

PROPOSED PF = 85 %

FEEDER LOAD FACTOR = 60 %

SECTION TRF. :						EXISTING SYSTEM :					PROPOSED SYSTEM :					
FROM	TO	LENGTH	SIZE	CUM	COND	CAP.	CURRENT	%	%VOLT	LOSS	COND	CAP.	CURRENT	%	%VOLT	LOSS
MODE	MODE	XMTRS	KVA	KVA	:	KVAR	AMPS	LDNG.	DROP	KWATTS	:	KVAR	AMPS	LDNG.	DROP	KWATTS
0.0	1.0	2.884	1058	2058	OSP		101.0	15%	1.2	10.856			101.0	15%	1.2	10.856
1.0	2.0	0.385	1000	1000	OSP		49.1	7%	1.3	0.342			49.1	7%	1.3	0.342
**TOTAL**		3.269	2058							11.198						11.198

## SYSTEM SUMMARY

		EXISTING	PROPOSED	BENEFIT
Line Losses	=	11.2 KW	11.2 KW	0.0 KW
Transformation Losses	=	0.0 KW	0.0 KW	0.0 KW
Total Power Losses	=	11.2 KW	11.2 KW	0.0 KW
% Power Losses	=	1 %	1 %	0 %
Annual Energy Loss	=	42391.2 KWH	42391.2 KWH	0.0 KWH
% Annual Energy Loss	=	0 %	0 %	0 %

OSP - 660A,

'S' Indicates Spot Load.

'\*' Indicates Voltage Drop above 5 %

LOAD FLOW ANALYSIS FOR - 11KV RSEZ Phase-02 Feeder-01 (C:RSEZP2F1)

(HIGH TENSION ANALYSIS)

Date : 27/07/21

LOAD AMPS = 290.00 AMPS

TOTAL FEEDER DEMAND = 5525 KVA

EXISTING PF = 85 %

BUS VOLTAGE = 11.0 Kv

TOTAL SPOT LOAD DEMAND = 0 KVA

PROPOSED PF = 85 %

FEEDER LOAD FACTOR = 60 %

FEEDER LOAD FACTOR = 80 %																
SECTION TRF. :						EXISTING SYSTEM :						PROPOSED SYSTEM :				
FROM	TO	LENGTH	SIZE	CUM :	COND	CAP.	CURRENT	%	%VOLT	LOSS :	COND	CAP.	CURRENT	%	%VOLT	LOSS :
NODE	NODE	XMTRS	KVA	KVA :		KVAR	AMPS	LDNG.	DROP	KWATTS :		KVAR	AMPS	LDNG.	DROP	KWATTS :
0.0	1.0	0.400	0	5813	OSP		290.0	44%	0.5	12.413			290.0	44%	0.5	12.413
1.0	2.0	0.450	3530	5813	OSP		290.0	44%	1.1	13.965			290.0	44%	1.1	13.965
2.0	3.0	0.025	1283	2283	OSP		113.9	17%	1.1	0.120			113.9	17%	1.1	0.120
3.0	4.0	0.030	1000	1000	OSP		49.9	8%	1.1	0.028			49.9	8%	1.1	0.028

\*\*TOTAL\*\* 0.905 5813

26.526

26.526

### SYSTEM SUMMARY

		EXISTING	PROPOSED	BENEFIT
Line Losses	=	26.5 KW	26.5 KW	0.0 KW
Transformation Losses	=	0.0 KW	0.0 KW	0.0 KW
Total Power Losses	=	26.5 KW	26.5 KW	0.0 KW
% Power Losses	=	1 %	1 %	0 %
Annual Energy Loss	=	100404.4 KWH	100404.4 KWH	0.0 KWH
% Annual Energy Loss	=	0 %	0 %	0 %

OSP - 660A.

'S' Indicates Spot Load.

'\*' Indicates Voltage Drop above 5 %

# RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD

LOAD FLOW ANALYSIS FOR - 11KV RSEZ Phase-02 Feeder-02 (C:RSEZP2F2)

(HIGH TENSION ANALYSIS)

Date : 27/07/21

LOAD AMPS = 256.00 AMPS

BUS VOLTAGE = 11.0 KV

TOTAL FEEDER DEMAND = 4877 KVA

TOTAL SPOT LOAD DEMAND = 0 KVA

FEEDER LOAD FACTOR = 60 %

EXISTING PF = 85 %

PROPOSED PF = 85 %

FEEDER LOAD FACTOR																
SECTION TRF.						EXISTING SYSTEM					PROPOSED SYSTEM					
FROM	TO	LENGTH	SIZE	CUM	COND	CAP.	CURRENT	%	%VOLT	LOSS	COND	CAP.	CURRENT	%	%VOLT	LOSS
: NODE	: NODE	: KMTRS	: KVA	: KVA	:	: KVAR	: AMPS	: LDNG.	: DROP	: KWATTS	:	: KVAR	: AMPS	: LDNG.	: DROP	: KWATTS
0.0	1.0	0.468	0	4885	OSP		256.0	39%	0.5	11.318			256.0	39%	0.5	11.318
1.0	2.0	0.330	2495	4885	OSP		256.0	39%	0.9	7.980			256.0	39%	0.9	7.980
2.0	3.0	0.342	2390	2390	OSP		125.2	19%	1.1	1.978			125.2	19%	1.1	1.978
**TOTAL**		1.140	4885							21.276						21.276

## SYSTEM SUMMARY

		EXISTING	PROPOSED	BENEFIT
Line Losses	=	21.3 KW	21.3 KW	0.0 KW
Transformation Losses	=	0.0 KW	0.0 KW	0.0 KW
Total Power Losses	=	21.3 KW	21.3 KW	0.0 KW
% Power Losses	=	1 %	1 %	0 %
Annual Energy Loss	=	80530.3 KWH	80530.3 KWH	0.0 KWH
% Annual Energy Loss	=	0 %	0 %	0 %

OSP - 660A,

'S' Indicates Spot Load.

'\*' Indicates Voltage Drop above 5 %

# WATER AND POWER DEVELOPMENT AUTHORITY RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD.

LOAD FLOW ANALYSIS FOR - 11KV RSEZ Phase-02 Feeder-3 (C:RSEZP2F3)

(HIGH TENSION ANALYSIS)

Date : 27/07/21

LOAD AMPS = 289.00 AMPS  
BUS VOLTAGE = 11.0 KV

TOTAL FEEDER DEMAND = 5506 KVA  
TOTAL SPOT LOAD DEMAND = 0 KVA  
FEEDER LOAD FACTOR = 60 %

EXISTING PF = 85 %  
PROPOSED PF = 85 %

FEEDER LOAD FACTOR = 50 %											PROPOSED SYSTEM					
SECTION		TRF.	EXISTING SYSTEM								PROPOSED SYSTEM					
FROM	TO	LENGTH	SIZE	CUM	COND	CAP.	CURRENT	%	%VOLT	LOSS	COND	CAP.	CURRENT	%	%VOLT	LOSS
NODE	NODE	KMTRS	KVA	KVA		KVAR	AMPS	LDNG.	DROP	KWATTS		KVAR	AMPS	LDNG.	DROP	KWATTS
0.0	1.0	0.468	0	5518	OSP		289.0	44%	0.6	14.423			289.0	44%	0.6	14.423
1.0	2.0	0.445	1330	5518	OSP		289.0	44%	1.1	13.715			289.0	44%	1.1	13.715
2.0	3.0	0.300	1753	4188	OSP		219.3	33%	1.4	5.324			219.3	33%	1.4	5.324
3.0	4.0	2.500	2435	2435	OSP		127.5	19%	2.8	14.996			127.5	19%	2.8	14.996
**TOTAL**		3.713	5518							48.458						48.458

## SYSTEM SUMMARY

		EXISTING	PROPOSED	BENEFIT
Line Losses	=	48.5 KW	48.5 KW	0.0 KW
Transformation Losses	=	0.0 KW	0.0 KW	0.0 KW
Total Power Losses	=	48.5 KW	48.5 KW	0.0 KW
% Power Losses	=	1 %	1 %	0 %
Annual Energy Loss	=	183403.3 KWH	183403.3 KWH	0.0 KWH
% Annual Energy Loss	=	1 %	1 %	0 %

OSP - 660A,

'S' Indicates Spot Load.

'\*' Indicates Voltage Drop above 5 %

# WATER AND POWER DEVELOPMENT AUTHORITY

## RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD

LOAD FLOW ANALYSIS FOR - 11KV RSEZ Phase-02 Feeder-4 (C:RSEZP2F4)

(HIGH TENSION ANALYSIS)

Date : 27/07/21

LOAD AMPS : 276.00 AMPS

TOTAL FEEDER DEMAND = 5259 KVA

EXISTING PF = 85 %

BUS VOLTAGE = 11.0 Kv

TOTAL SPOT LOAD DEMAND = 0 KVA

PROPOSED PF = 85 %

FEEDER LOAD FACTOR = 60 %

FEEDER LOAD FACTOR = 80 %																
SECTION TRF.						EXISTING SYSTEM					PROPOSED SYSTEM					
: FROM	TO	LENGTH	SIZE	CUM	: COND	CAP.	CURRENT	%	%VOLT	LOSS	: COND	CAP.	CURRENT	%	%VOLT	LOSS
: NODE	NODE	KMTRS	KVA	KVA	:	KVAR	AMPS	LDNG.	DROP	KWATTS	:	KVAR	AMPS	LDNG.	DROP	KWATTS
0.0	1.0	0.400	0	5250	OSP		276.0	42%	0.5	11.244			276.0	42%	0.5	11.244
1.0	2.0	0.250	0	5250	OSP		276.0	42%	0.8	7.027			276.0	42%	0.8	7.027
2.0	3.0	0.425	4070	5250	OSP		276.0	42%	1.3	11.946			276.0	42%	1.3	11.946
3.0	4.0	0.300	1180	1180	OSP		62.0	9%	1.4	0.426			62.0	9%	1.4	0.426

\*\*TOTAL\*\* 1.375 5250

30.643

30.643

### SYSTEM SUMMARY

		EXISTING	PROPOSED	BENFFIT
Line Losses	=	30.6 KW	30.6 KW	0.0 KW
Transformation Losses	=	0.0 KW	0.0 KW	0.0 KW
Total Power Losses	=	30.6 KW	30.6 KW	0.0 KW
% Power Losses	=	1 %	1 %	0 %
Annual Energy Loss	=	115978.1 KWH	115978.1 KWH	0.0 KWH
% Annual Energy Loss	=	0 %	0 %	0 %

OSP - 660A,

'S' Indicates Spot Load.

'\*' Indicates Voltage Drop above 5 %

# WATER AND POWER DEVELOPMENT AUTHORITY

## RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (RSEZDO) ANALYSIS

LOAD FLOW ANALYSIS FOR - 11KV RSEZ Phase-02 Feeder-5 (C:RSEZP2F5)

Date : 27/07/21

LOAD AMPS = 250.00 AMPS  
BUS VOLTAGE = 11.0 Kv

TOTAL FEEDER DEMAND = 4763 KVA  
TOTAL SPOT LOAD DEMAND = 0 KVA  
FEEDER LOAD FACTOR = 60 %

EXISTING PF = 85 %  
PROPOSED PF = 85 %

EXISTING SYSTEM											PROPOSED SYSTEM					
FROM	TO	LENGTH	SIZE	CUM	COND	CAP.	CURRENT	%	%VOLT	LOSS	COND	CAP.	CURRENT	%	%VOLT	LOSS
NODE	NODE	KMTRS	KVA	KVA		KVAR	AMPS	LONG.	DROP	KWATTS		KVAR	AMPS	LONG.	DROP	KWATTS
0.0	1.0	0.410	0	4764	OSP		250.0	38%	0.4	9.456			250.0	38%	0.4	9.456
1.0	2.0	0.250	0	4764	OSP		250.0	38%	0.7	5.766			250.0	38%	0.7	5.766
2.0	3.0	0.077	1811	1811	OSP		95.0	14%	0.7	0.256			95.0	14%	0.7	0.256
2.0	4.0	0.850	2953	2953	OSP		155.0	23%	1.3	7.535			155.0	23%	1.3	7.535

\*\*TOTAL\*\* 1.587 4764

23.013

23.013

### SYSTEM SUMMARY

	EXISTING	PROPOSED	BENEFIT
Line Losses	= 23.0 KW	23.0 KW	0.0 KW
Transformation Losses	= 0.0 KW	0.0 KW	0.0 KW
Total Power Losses	= 23.0 KW	23.0 KW	0.0 KW
% Power Losses	= 1 %	1 %	0 %
Annual Energy Loss	= 87103.7 KWH	87103.7 KWH	0.0 KWH
% Annual Energy Loss	= 0 %	0 %	0 %

OSP - 660A,

'S' Indicates Spot Load.

'\*' Indicates Voltage Drop above 5 %

# WATER AND POWER DEVELOPMENT AUTHORITY

**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (LIMITED)**  
 LOAD FLOW ANALYSIS FOR - 11KV RSEZ Phase-02 Feeder-6 (C.RSEZP278)

Date : 27/07/21

LOAD AMPS : 232.00 AMPS  
 BUS VOLTAGE : 11.0 Kv

TOTAL FEEDER DEMAND = 4420 KVA  
 TOTAL SPOT LOAD DEMAND = 0 KVA  
 FEEDER LOAD FACTOR = 60 %

EXISTING PF = 85 %  
 PROPOSED PF = 85 %

SECTION TRF.						EXISTING SYSTEM					PROPOSED SYSTEM				
FROM	TO	LENGTH	SIZE	CUM	COND	CAP.	CURRENT	%	%VOLT	LOSS	COND	CAP.	CURRENT	%	%VOLT
NODE	NODE	KMTRS	KVA	KVA		KVAR	AMPS	LDNG.	DROP	KNATTS		KVAR	AMPS	LDNG.	DROP
0.0	1.0	0.468	0	4455	OSP		232.0	35%	0.5	9.295			232.0	35%	0.5
1.0	2.0	0.210	1059	4455	OSP		232.0	35%	0.7	4.171			232.0	35%	0.7
2.0	3.0	0.600	0	3396	OSP		176.9	27%	1.2	6.928			176.9	27%	1.2
3.0	4.0	0.100	0	3396	OSP		176.9	27%	1.3	1.155			176.9	27%	1.3
4.0	5.0	0.490	3396	3396	OSP		176.9	27%	1.7	5.658			176.9	27%	1.7

\*\*TOTAL\*\* 1.868 4455

27.207

27.207

## SYSTEM SUMMARY

		EXISTING	PROPOSED	BENEFIT
Line Losses	=	27.2 KW	27.2 KW	0.0 KW
Transformation Losses	=	0.0 KW	0.0 KW	0.0 KW
Total Power Losses	=	27.2 KW	27.2 KW	0.0 KW
% Power Losses	=	1 %	1 %	0 %
Annual Energy Loss	=	102975.1 KWH	102975.1 KWH	0.0 KWH
% Annual Energy Loss	=	1 %	1 %	0 %

OSP - 660A,

'S' Indicates Spot Load.

'\*' Indicates Voltage Drop above 5 %

# WATER AND POWER DEVELOPMENT AUTHORITY RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD

LOAD FLOW ANALYSIS FOR - 11KV RSEZ Phase-02 Feeder-7 (C:RSEZP2F7)

(HIGH TENSION ANALYSIS)

Date : 27/07/21

LOAD AMPS = 240.00 AMPS

TOTAL FEEDER DEMAND = 4573 KVA

EXISTING PF = 85 %

BUS VOLTAGE = 11.0 Kv

TOTAL SPOT LOAD DEMAND = 0 KVA

PROPOSED PF = 85 %

FEEDER LOAD FACTOR = 60 %

FEEDER LOAD FACTOR = 80 %																
SECTION TRF.						EXISTING SYSTEM					PROPOSED SYSTEM					
FROM	TO	LENGTH	SIZE	CUM	COND	CAP.	CURRENT	%	%VOLT	LOSS	COND	CAP.	CURRENT	%	%VOLT	LOSS
NODE	NODE	KMTRS	KVA	KVA	:	KVAR	AMPS	LONG.	DROP	KWATTS	:	KVAR	AMPS	LONG.	DROP	KWATTS
0.0	1.0	0.425	1	4588	OSP		240.0	36%	0.4	9.033			240.0	36%	0.4	9.033
1.0	2.0	0.800	0	3282	OSP		171.7	26%	1.0	8.703			171.7	26%	1.0	8.703
1.0	5.0	0.202	0	1305	OSP		68.3	10%	0.5	0.348			68.3	10%	0.5	0.348
2.0	3.0	0.300	1753	3282	OSP		171.7	26%	1.2	3.264			171.7	26%	1.2	3.264
3.0	4.0	0.025	1529	1529	OSP		80.0	12%	1.2	0.059			80.0	12%	1.2	0.059
5.0	6.0	0.150	1305	1305	OSP		68.3	10%	0.5	0.258			68.3	10%	0.5	0.258

\*\*TOTAL\*\* 1.902 4588

21.665

21.665

## SYSTEM SUMMARY

	EXISTING	PROPOSED	BENEFIT
Line Losses	= 21.7 KW	21.7 KW	0.0 KW
Transformation Losses	= 0.0 KW	0.0 KW	0.0 KW
Total Power Losses	= 21.7 KW	21.7 KW	0.0 KW
% Power Losses	= 1 %	1 %	0 %
Annual Energy Loss	= 82017.6 KWH	82017.6 KWH	0.0 KWH
% Annual Energy Loss	= 0 %	0 %	0 %

DSP - 660A,

'S' Indicates Spot Load.

'\*' Indicates Voltage Drop above 5 %



W A T E R   A N D   P O W E R   D E V E L O P M E N T   A U T H O R I T Y  
RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD

LOAD FLOW ANALYSIS FOR - 11KV RSEZ Phase-02 Feeder-8 (C:RSEZP2F8)

(HIGH TENSION ANALYSIS)

Date : 27/07/21

LOAD AMPS        = 288.00 AMPS  
BUS VOLTAGE     = 11.0 Kv

TOTAL FEEDER DEMAND        = 5487 KVA  
TOTAL SPOT LOAD DEMAND     = 0 KVA  
FEEDER LOAD FACTOR        = 60 %

EXISTING PF    = 85 %  
PROPOSED PF    = 85 %

SECTION TRF. :						EXISTING SYSTEM :					PROPOSED SYSTEM :					
FROM	TO	LENGTH	SIZE	CUM	COND	CAP.	CURRENT	%	%VOLT	LOSS	COND	CAP.	CURRENT	%	%VOLT	LOSS
NODE	NODE	KMTRS	KVA	KVA	:	KVAR	AMPS	LDNG.	DROP	KWATTS	:	KVAR	AMPS	LDNG.	DROP	KWATTS
0.0	1.0	0.300	0	5560	OSP		288.0	44%	0.4	9.182			288.0	44%	0.4	9.182
1.0	2.0	0.050	1588	3902	OSP		202.1	31%	0.4	0.754			202.1	31%	0.4	0.754
1.0	7.0	0.040	1658	1658	OSP		85.9	13%	0.4	0.109			85.9	13%	0.4	0.109
2.0	3.0	0.050	0	2314	OSP		119.9	18%	0.4	0.265			119.9	18%	0.4	0.265
3.0	4.0	0.700	1564	1564	OSP		81.0	12%	0.6	1.695			81.0	12%	0.6	1.695
3.0	5.0	0.202	0	750	OSP		38.8	6%	0.4	0.112			38.8	6%	0.4	0.112
5.0	6.0	0.300	750	750	OSP		38.8	6%	0.4	0.167			38.8	6%	0.4	0.167

\*\*TOTAL\*\*        1.642   5560

12.284

12.284

S Y S T E M   S U M M A R Y

		EXISTING	PROPOSED	BENEFIT
Line Losses	=	12.3 KW	12.3 KW	0.0 KW
Transformation Losses	=	0.0 KW	0.0 KW	0.0 KW
Total Power Losses	=	12.3 KW	12.3 KW	0.0 KW
% Power Losses	=	0 %	0 %	0 %
Annual Energy Loss	=	46516.9 KWH	46516.9 KWH	0.0 KWH
% Annual Energy Loss	=	0 %	0 %	0 %

OSP - 660A,

S' Indicates Spot Load.

\*' Indicates Voltage Drop above 5 %

# RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (BOT) LTD R I T Y

LOAD FLOW ANALYSIS FOR - 11KV RSEZ Phase-02 Feeder-9 (C:RSEZP2F9)

(HIGH TENSION ANALYSIS)

Date : 27/07/21

LOAD AMPS = 285.00 AMPS

TOTAL FEEDER DEMAND = 5430 KVA

EXISTING PF = 85 %

BUS VOLTAGE = 11.0 Kv

TOTAL SPOT LOAD DEMAND = 0 KVA

PROPOSED PF = 85 %

FEEDER LOAD FACTOR = 60 %

EXISTING SYSTEM											PROPOSED SYSTEM										
SECTION	TRF.																				
FROM TO	LENGTH	SIZE	CUM	COND	CAP.	CURRENT	%	%VOLT	LOSS	COND	CAP.	CURRENT	%	%VOLT	LOSS						
NODE NODE	KMTRS	KVA	KVA		KVAR	AMPS	LONG.	DROP	KWATTS		KVAR	AMPS	LONG.	DROP	KWATTS						
0.0 1.0	0.575	0	5422	OSP		285.0	43%	0.7	17.234			285.0	43%	0.7	17.234						
1.0 2.0	0.400	1364	5422	OSP		285.0	43%	1.2	11.989			285.0	43%	1.2	11.989						
2.0 3.0	0.285	2329	4058	OSP		213.3	32%	1.5	4.785			213.3	32%	1.5	4.785						
3.0 4.0	0.550	1729	1729	OSP		90.9	14%	1.7	1.677			90.9	14%	1.7	1.677						

\*\*TOTAL\*\* 1.810 5422

35.685

35.685

## SYSTEM SUMMARY

EXISTING	PROPOSED	BENEFIT
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Line Losses	= 35.7 KW	35.7 KW	0.0 KW
Transformation Losses	= 0.0 KW	0.0 KW	0.0 KW
Total Power Losses	= 35.7 KW	35.7 KW	0.0 KW
% Power Losses	= 1 %	1 %	0 %
Annual Energy Loss	= 135066.2 KWH	135066.2 KWH	0.0 KWH
% Annual Energy Loss	= 1 %	1 %	0 %

OSP - 660A.

'S' Indicates Spot Load.

'\*' Indicates Voltage Drop above 5 %

# RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD

## W A T E R   A N D   P O W E R   D E V E L O P M E N T   A U T H O R I T Y

LOAD FLOW ANALYSIS FOR - 11KV RSE1 Phase-03Feeder-1 (C:RSE1P3F1)

(HIGH TENSION ANALYSIS)

Date : 27/07/21

LOAD AMPS = 242.00 AMPS

TOTAL FEEDER DEMAND = 4611 KVA

EXISTING PF = 85 %

BUS VOLTAGE = 11.0 Kv

TOTAL SPOT LOAD DEMAND = 0 KVA

PROPOSED PF = 85 %

FEEDER LOAD FACTOR = 60 %

E X I S T I N G   S Y S T E M										P R O P O S E D   S Y S T E M						
FROM	TO	SECTION	TRF.	CUM	COND	CAP.	CURRENT	%	%VOLT	LOSS	COND	CAP.	CURRENT	%	%VOLT	LOSS
NODE	NODE	LENGTH	SIZE	KVA	KVAR	AMPS	LONG.	DROP	KWATTS	KVAR	AMPS	LONG.	DROP	KWATTS		
0.0	1.0	0.125	1548	4616	OSP		242.0	37%	0.1	2.701		242.0	37%	0.1	2.701	
1.0	2.0	0.425	2022	3068	OSP		160.8	24%	0.4	4.055		160.8	24%	0.4	4.055	
2.0	3.0	0.083	1046	1046	OSP		54.8	8%	0.4	0.092		54.8	8%	0.4	0.092	
**TOTAL**		0.633	4616							6.848						6.848

### S Y S T E M   S U M M A R Y

	EXISTING	PROPOSED	BENEFIT
Line Losses	= 6.8 KW	6.8 KW	0.0 KW
Transformation Losses	= 0.0 KW	0.0 KW	0.0 KW
Total Power losses	= 6.8 KW	6.8 KW	0.0 KW
% Power Losses	= 0 %	0 %	0 %
Annual Energy Loss	= 25937.7 KWH	25937.7 KWH	0.0 KWH
% Annual Energy Loss	= 0 %	0 %	0 %

# WATER AND POWER DEVELOPMENT AUTHORITY

## RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD

LOAD FLOW ANALYSIS FOR - 11KV RSEZ P-03 F-02 (C:RSEZP3F2)

(HIGH TENSION ANALYSIS)

Date : 27/07/21

LOAD AMPS = 319.00 AMPS

TOTAL FEEDER DEMAND = 6078 KVA

EXISTING PF = 85 %

BUS VOLTAGE = 11.0 Kv

TOTAL SPOT LOAD DEMAND = 0 KVA

PROPOSED PF = 85 %

FEEDER LOAD FACTOR = 60 %

EXISTING SYSTEM										PROPOSED SYSTEM									
FROM	TO	LENGTH	SIZE	CUM	COND	CAP.	CURRENT	%	%VOLT	LOSS	COND	CAP.	CURRENT	%	%VOLT	LOSS	COND	CAP.	CURRENT
NODE	NODE	KMTRS	KVA	KVA		KVAR	AMPS	LONG.	DROP	KWATTS		KVAR	AMPS	LONG.	DROP	KWATTS			
0.0	1.0	0.325	0	6148	OSP		319.0	48%	0.4	12.204			319.0	48%	0.4	12.204			
1.0	2.0	0.240	0	6148	OSP		319.0	48%	0.7	9.012			319.0	48%	0.7	9.012			
2.0	3.0	0.050	2892	6148	OSP		319.0	48%	0.8	1.877			319.0	48%	0.8	1.877			
3.0	4.0	0.400	2256	3256	OSP		168.9	26%	1.1	4.211			168.9	26%	1.1	4.211			
4.0	5.0	0.350	1000	1000	OSP		51.9	8%	1.2	0.348			51.9	8%	1.2	0.348			

\*\*TOTAL\*\* 1.365 6148

27.652

27.652

### SYSTEM SUMMARY

EXISTING		PROPOSED		BENEFIT	
Line Losses	=	27.7 KW	27.7 KW	0.0 KW	
Transformation Losses	=	0.0 KW	0.0 KW	0.0 KW	
Total Power Losses	=	27.7 KW	27.7 KW	0.0 KW	
% Power Losses	=	1 %	1 %	0 %	
Annual Energy Loss	=	104666.7 KWH	104666.7 KWH	0.0 KWH	
% Annual Energy Loss	=	0 %	0 %	0 %	

OSP - 660A,

'S' Indicates Spot Load.

'\*' Indicates Voltage Drop above 5 %

# RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD

LOAD FLOW ANALYSIS FOR - 11KV RSEZ P-03 F-03 (C:RSEZP3F3)

(HIGH TENSION ANALYSIS)

Date : 27/07/21

LOAD AMPS : 244.00 AMPS

TOTAL FEEDER DEMAND : 4649 KVA

EXISTING PF : 85 %

BUS VOLTAGE : 11.0 Kv

TOTAL SPOT LOAD DEMAND : 0 KVA

PROPOSED PF : 85 %

FEEDER LOAD FACTOR : 60 %

SECTION TRF.						EXISTING SYSTEM						PROPOSED SYSTEM					
FROM	TO	LENGTH	SIZE	CUM	COND	CAP.	CURRENT	%	%VOLT	LOSS	COND	CAP.	CURRENT	%	%VOLT	LOSS	
NODE	NODE	KMTRS	KVA	KVA		KVAR	AMPS	LONG.	DROP	KWATTS		KVAR	AMPS	LONG.	DROP	KWATTS	
0.0	1.0	1.750	0	4670	OSP		244.0	37%	1.8	38.445			244.0	37%	1.8	38.445	
1.0	2.0	0.110	1610	4670	OSP		244.0	37%	1.9	2.417			244.0	37%	1.9	2.417	
2.0	3.0	0.225	3060	3060	OSP		159.9	24%	2.1	2.123			159.9	24%	2.1	2.123	
**TOTAL**		2.085	4670							42.985						42.985	

## SYSTEM SUMMARY

		EXISTING	PROPOSED	BENEFIT
Line Losses	=	43.0 KW	43.0 KW	0.0 KW
Transformation Losses	=	0.0 KW	0.0 KW	0.0 KW
Total Power Losses	=	43.0 KW	43.0 KW	0.0 KW
% Power Losses	=	1 %	1 %	0 %
Annual Energy Loss	=	162684.1 KWH	162684.1 KWH	0.0 KWH
% Annual Energy Loss	=	1 %	1 %	0 %

OSP - 660A,

'S' Indicates Spot Load.

'\*' Indicates Voltage Drop above 5 %

WATER AND POWER DEVELOPMENT AUTHORITY  
RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD

LOAD FLOW ANALYSIS FOR - 11KV RSEZ P-03 F-04 (C:RSEZP3F4)

(HIGH TENSION ANALYSIS)

Date : 27/07/21

LOAD AMPS : 301.00 AMPS

TOTAL FEEDER DEMAND : 5735 KVA

EXISTING PF : 85 %

BUS VOLTAGE : 11.0 Kv

TOTAL SPOT LOAD DEMAND : 0 KVA

PROPOSED PF : 85 %

FEEDER LOAD FACTOR : 60 %

SECTION TRF.						EXISTING SYSTEM						PROPOSED SYSTEM					
FROM	TO	LENGTH	SIZE	CUM	COND	CAP.	CURRENT	%	%VOLT	LOSS	COND	CAP.	CURRENT	%	%VOLT	LOSS	
NODE	NODE	KMTRS	KVA	KVA		KVAR	AMPS	LONG.	DROP	KWATTS		KVAR	AMPS	LONG.	DROP	KWATTS	
0.0	1.0	1.750	0	5800	OSP		301.0	46%	2.3	58.506			301.0	46%	2.3	58.506	
1.0	2.0	0.135	750	5800	OSP		301.0	46%	2.5	4.513			301.0	46%	2.5	4.513	
2.0	3.0	0.150	5050	5050	OSP		262.1	40%	2.7	3.802			262.1	40%	2.7	3.802	
**TOTAL**		2.035	5800							66.821						66.821	

SYSTEM SUMMARY

		EXISTING	PROPOSED	BENEFIT
Line Losses	=	66.8 KW	66.8 KW	0.0 KW
Transformation Losses	=	0.0 KW	0.0 KW	0.0 KW
Total Power Losses	=	66.8 KW	66.8 KW	0.0 KW
% Power Losses	=	1 %	1 %	0 %
Annual Energy Loss	=	252887.2 KWH	252887.2 KWH	0.0 KWH
% Annual Energy Loss	=	1 %	1 %	0 %

OSP - 660A.

'S' Indicates Spot Load.

'\*' Indicates Voltage Drop above 5 %

LOAD FLOW ANALYSIS FOR - 11KV RSEZ P-03 F-05 (C:RSEZP3F5)

PANY (PVT) LTD  
(HIGH TENSION ANALYSIS)

Date : 27/07/21

EXISTING PF = 85 %  
PROPOSED PF = 85 %

\*\*TOTAL\*\* 1.790 4500

EXISTING	PROPOSED	BENEFIT
----------	----------	---------

Annual Energy Loss	=	138048.2 KWH	138048.2 KWH	0.0 KWH
% Annual Energy Loss	=	1 %	1 %	0 %

'S' Indicates Spot Load.  
'\*' Indicates Voltage Drop above 5 %

# WATER AND POWER DEVELOPMENT AUTHORITY RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD LOAD ANALYSIS FOR 11KV RSEL P-03 F-06 (C:RSEZP3F6) (HIGH TENSION ANALYSIS)

LOAD AMPS = 339.00 AMPS  
BUS VOLTAGE = 11.0 Kv

TOTAL FEEDER DEMAND = 6459 KVA  
TOTAL SPOT LOAD DEMAND = 0 KVA  
FEEDER LOAD FACTOR = 60 %

Date : 27/07/21  
EXISTING PF = 85 %  
PROPOSED PF = 85 %

SECTION TRF.							EXISTING SYSTEM							PROPOSED SYSTEM						
FROM	TO	LENGTH	SIZE	CUM	COND		CAP.	CURRENT	%	%VOLT	LOSS	COND	CAP.	CURRENT	%	%VOLT	LOSS			
NODE	NODE	KMTRS	KVA	KVA			KVAR	AMPS	LDNG.	DROP	KWATTS		KVAR	AMPS	LDNG.	DROP	KWATTS			
0.0	1.0	0.650	6505	6505	OSP			339.0	51%	0.9	27.564			339.0	51%	0.9	27.564			
**TOTAL**		0.650	6505								27.564						27.564			

## SYSTEM SUMMARY

		EXISTING	PROPOSED	BENEFIT
Line Losses	=	27.6 KW	27.6 KW	0.0 KW
Transformation Losses	=	0.0 KW	0.0 KW	0.0 KW
Total Power Losses	=	27.6 KW	27.6 KW	0.0 KW
% Power Losses	=	1 %	1 %	0 %
Annual Energy Loss	=	104318.6 KWH	104318.6 KWH	0.0 KWH
% Annual Energy Loss	=	0 %	0 %	0 %

OSP - 660A,

' Indicates Spot Load.

' Indicates Voltage Drop above 5 %



# W A T RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD

LOAD FLOW ANALYSIS FOR - 11KV RSEZ P-03 F-07 (C:RSEZP3F7)

(HIGH TENSION ANALYSIS)

Date : 27/07/21

LOAD AMPS = 243.00 AMPS  
BUS VOLTAGE = 11.0 Kv

TOTAL FEEDER DEMAND = 4630 KVA  
TOTAL SPOT LOAD DEMAND = 0 KVA  
FEEDER LOAD FACTOR = 60 %

EXISTING PF = 85 %  
PROPOSED PF = 85 %

EXISTING SYSTEM										PROPOSED SYSTEM						
FROM	TO	LENGTH	SIZE	CUM	COND	CAP.	CURRENT	%	%VOLT	LOSS	COND	CAP.	CURRENT	%	%VOLT	LOSS
NODE	NODE	KMTRS	KVA	KVA		KVAR	AMPS	LDNG.	DROP	KWATTS		KVAR	AMPS	LDNG.	DROP	KWATTS
0.0	1.0	0.300	0	4639	DSP		243.0	37%	0.3	6.537			243.0	37%	0.3	6.537
1.0	2.0	0.400	1544	1544	DSP		80.9	12%	0.4	0.966			80.9	12%	0.4	0.966
1.0	3.0	0.215	3095	3095	DSP		162.1	25%	0.4	2.085			162.1	25%	0.4	2.085
**TOTAL**		0.915	4639							9.588						9.588

## SYSTEM SUMMARY

		EXISTING	PROPOSED	BENEFIT
Line Losses	=	9.6 KW	9.6 KW	0.0 KW
Transformation Losses	=	0.0 KW	0.0 KW	0.0 KW
Total Power Losses	=	9.6 KW	9.6 KW	0.0 KW
% Power Losses	=	0 %	0 %	0 %
Annual Energy Loss	=	36299.2 KWH	36299.2 KWH	0.0 KWH
% Annual Energy Loss	=	0 %	0 %	0 %

DSP - 660A,

'S' Indicates Spot Load.

'\*' Indicates Voltage Drop above 5 %

# WATER AND POWER DEVELOPMENT AUTHORITY

## RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD

LOAD FLOW ANALYSIS FOR - 11KV RSEZ P-03 F-08 (C:RSEZP3F8)

(HIGH TENSION ANALYSIS)

Date : 27/07/21

LOAD AMPS = 185.00 AMPS  
BUS VOLTAGE = 11.0 Kv

TOTAL FEEDER DEMAND = 3525 KVA  
TOTAL SPOT LOAD DEMAND = 0 KVA  
FEEDER LOAD FACTOR = 60 %

EXISTING PF = 85 %  
PROPOSED PF = 85 %

SECTION TRF.						EXISTING SYSTEM					PROPOSED SYSTEM					
FROM	TO	LENGTH	SIZE	CUM	COND	CAP.	CURRENT	%	%VOLT	LOSS	COND	CAP.	CURRENT	%	%VOLT	LOSS
: NODE	: NODE	: KMTRS	: KVA	: KVA	:	: KVAR	: AMPS	: LONG.	: DROP	: KWATTS	:	: KVAR	: AMPS	: LONG.	: DROP	: KWATTS
0.0	1.0	0.325	0	3770	OSP		185.0	28%	0.3	4.104			185.0	28%	0.3	4.104
1.0	2.0	0.240	0	3770	OSP		185.0	28%	0.5	3.031			185.0	28%	0.5	3.031
2.0	3.0	0.432	2770	3770	OSP		185.0	28%	0.8	5.456			185.0	28%	0.8	5.456
3.0	4.0	0.975	1000	1000	OSP		49.1	7%	1.0	0.867			49.1	7%	1.0	0.867

\*\*TOTAL\*\* 1.972 3770

13.458

13.458

### SYSTEM SUMMARY

EXISTING	PROPOSED	BENEFIT
----------	----------	---------

Line Losses	= 13.5 KW	13.5 KW	0.0 KW
Transformation Losses	= 0.0 KW	0.0 KW	0.0 KW
Total Power Losses	= 13.5 KW	13.5 KW	0.0 KW
% Power Losses	= 0 %	0 %	0 %
Annual Energy Loss	= 50943.8 KWH	50943.8 KWH	0.0 KWH
% Annual Energy Loss	= 0 %	0 %	0 %

OSP - 660A,

'S' Indicates Spot Load.

'\*' Indicates Voltage Drop above 5 %

WATER AND POWER DEVELOPMENT AUTHORITY  
**RASHAKAI SPECIAL ECONOMIC ZONE DEVELOPMENT AND OPERATION COMPANY (PVT) LTD**  
 LOAD FLOW ANALYSIS FOR - 11KV RSEZ P-03 F-09 (C:RSEIP3F9) (HIGH TENSION ANALYSIS)

Date : 27/07/21

LOAD AMPS = 176.00 AMPS  
 BUS VOLTAGE = 11.0 Kv

TOTAL FEEDER DEMAND = 3353 KVA  
 TOTAL SPOT LOAD DEMAND = 0 KVA  
 FEEDER LOAD FACTOR = 60 %

EXISTING PF = 85 %  
 PROPOSED PF = 85 %

FEEDER LOAD FACTOR = 90 %																
SECTION TRF.						EXISTING SYSTEM					PROPOSED SYSTEM					
FROM	TO	LENGTH	SIZE	CUN	COND	CAP.	CURRENT	%	%VOLT	LOSS	COND	CAP.	CURRENT	%	%VOLT	LOSS
: NODE	: NODE	: KMTRS	: KVA	: KVA	:	: KVAR	: AMPS	: LDNG.	: DROP	: KWATTS	:	: KVAR	: AMPS	: LDNG.	: DROP	: KWATTS
0.0	1.0	0.325	0	3370	OSP		176.0	27%	0.2	3.715			176.0	27%	0.2	3.715
1.0	2.0	0.240	0	3370	OSP		176.0	27%	0.4	2.743			176.0	27%	0.4	2.743
2.0	3.0	0.600	1685	3370	OSP		176.0	27%	0.9	6.858			176.0	27%	0.9	6.858
3.0	4.0	0.100	1685	1685	OSP		88.0	13%	0.9	0.286			88.0	13%	0.9	0.286

**\*\*TOTAL\*\***      1.265   3370

13.602

13.602

SYSTEM SUMMARY

		EXISTING		PROPOSED		BENEFIT	
Line Losses	=	13.6	KW	13.6	KW	0.0	KW
Transformation Losses	=	0.0	KW	0.0	KW	0.0	KW
Total Power Losses	=	13.6	KW	13.6	KW	0.0	KW
% Power Losses	=	0	%	0	%	0	%
Annual Energy Loss	=	51489.5	KWH	51489.5	KWH	0.0	KWH
% Annual Energy Loss	=	0	%	0	%	0	%

OSP - 660A,

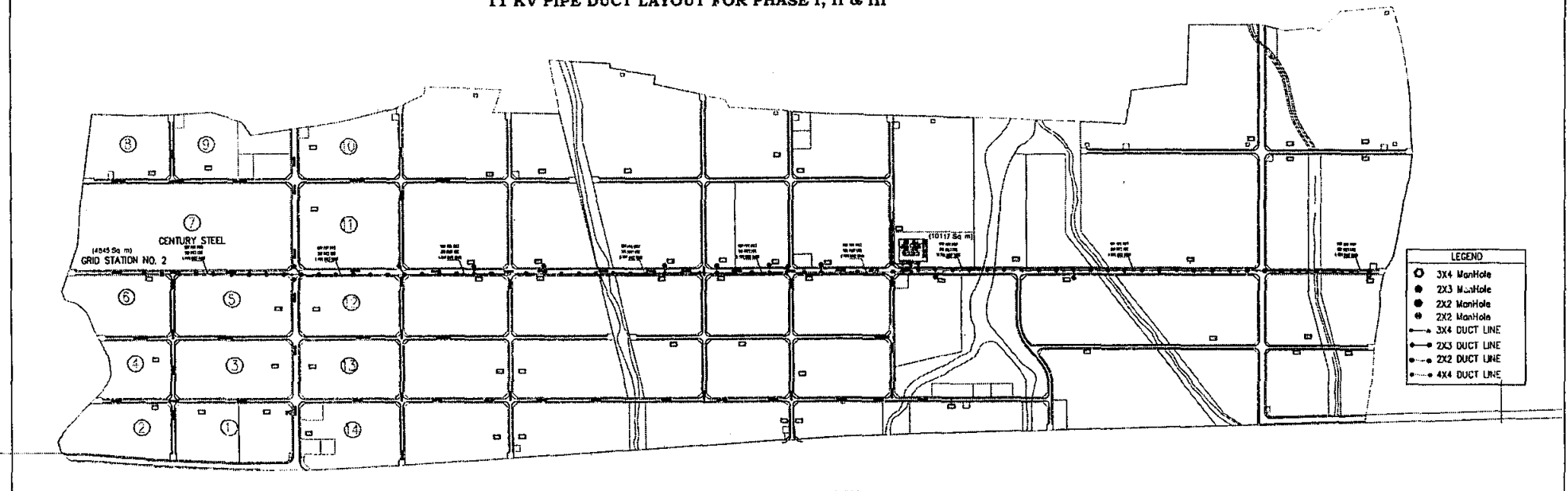
'S' Indicates Spot Load.

'\*' Indicates Voltage Drop above 5 %

**COMPLETE LAYOUT OF  
11KV NETWORK**

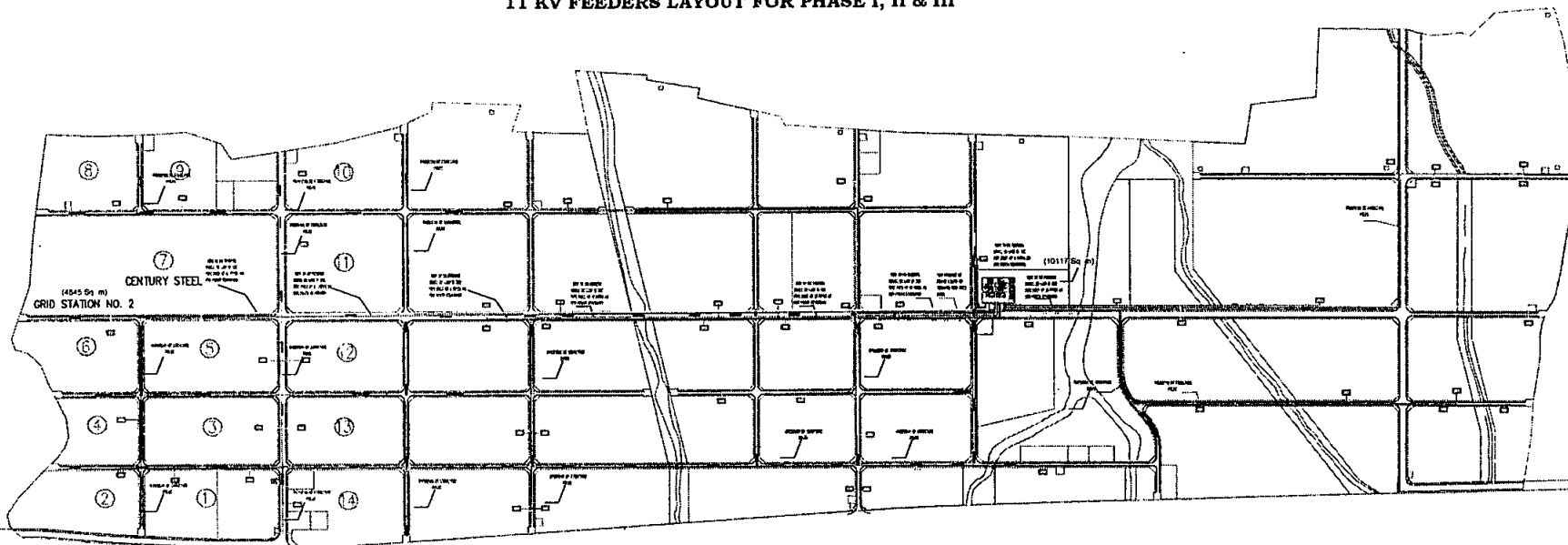
## HT DISTRIBUTION NETWORK FOR RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ)

11 KV PIPE DUCT LAYOUT FOR PHASE I, II & III



## HT DISTRIBUTION NETWORK FOR RASHAKAI SPECIAL ECONOMIC ZONE (RSEZ)

### 11 KV FEEDERS LAYOUT FOR PHASE I, II & III





# NATIONAL TRANSMISSION & DESPATCH COMPANY LTD

CHIEF ENGINEER DESIGN (NTDCL)

No.CED/NTDC/MGS/G/22/ 15892-94

Dated: 25/11/2021

✓  
Chief Executive Officer, Rashakai  
Special Economic Zone Development  
And Operations Company Private Limited  
House # 02, Street No.33, F-8/1, Islamabad

Subject: CONTOUR APPROVAL/VETTING OF CONSTRUCTION DRAWINGS  
FOR 132KV GRID STATIONNO.01 (120MW) & 132KV GRID  
STATION-II (90 MW) JOB NO.1804-N: RASHKAI SPECIAL  
ECONOMIC ZONE

Ref: - i) Your letter No. RSEZDOC/HO/2021/105 dated 23.11.2021  
ii) Your letter No. RSEZDOC/HO/2021/103 dated 16.11.2021

With reference to your letter at Ref[i], the following drawings of the subject work have been reviewed and one copy of the same duly approved with remarks marked in red thereon, to be incorporated is enclosed herewith for further necessary action.

Sr.No	Description	Drawing No.
1	Single Line Diagram	GW-2019-0001-132KV-ES001
2	General Layout Plan	GW-2019-0001-132KV-Z01

Approval from this office does not relieve the Contractor from his responsibility to do the work in accordance with the contract.

In case of any incompatibility in drawings with the actual site conditions, the case may please be referred to this office for remedial measure/advice prior to start of the work.

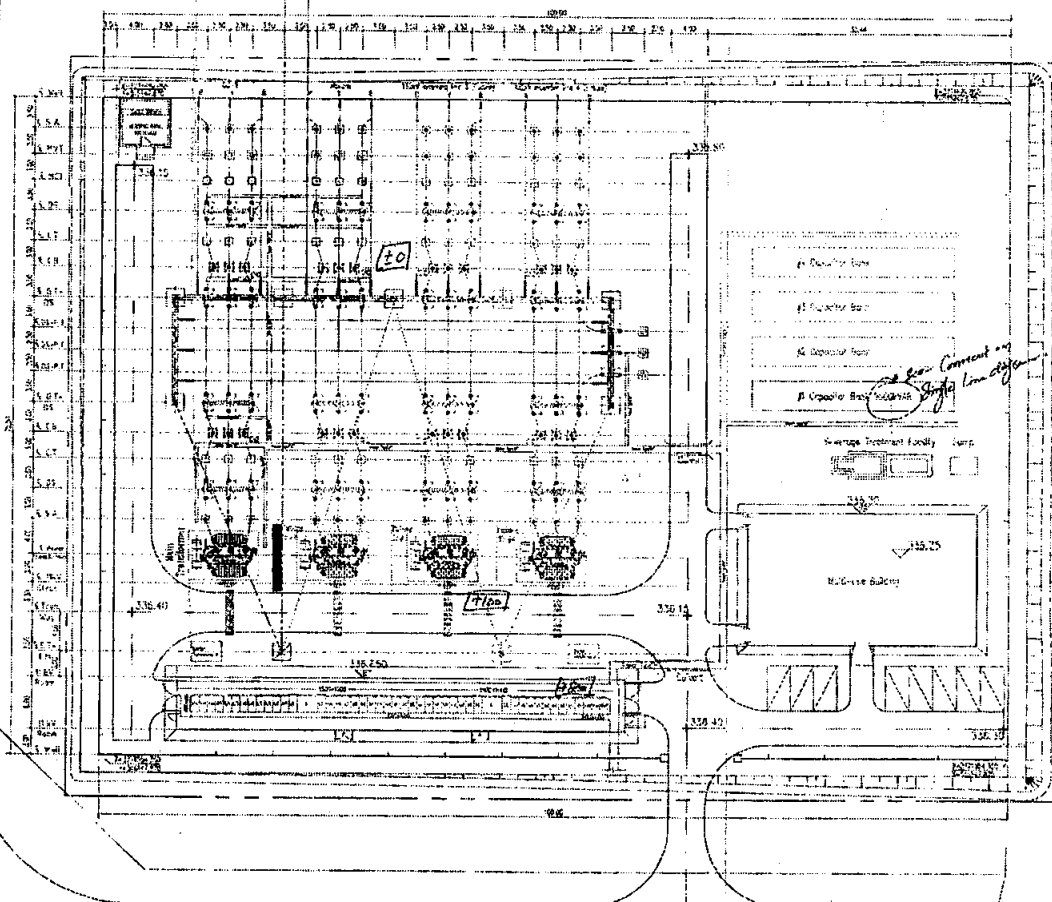
D.A as Above

Copy to:

- 1- Chief Executive Officer, PESCO, Peshawar
- 2- Chief Engineer (Dev.) PMU PESCO Peshawar
- Master File/ Relevant file

MANAGER DESIGN (GS) NTDC

Station for installation of Section from construction  
graphical of accompanied by 2nd (2nd) shall be enclosed.



LAND OF SUBSTATION			
No.	Description	Unit	Quantity
1	Area of substation land	m <sup>2</sup>	7500.00
2	Area of substation land	m <sup>2</sup>	6150.00
EQUIPMENT			
No.	Name	Unit	Quantity
1	Surge Arrester	EA	1
2	Metering Voltage Transformer	MVT	1
3	Metering Current Transformer	MCT	1
4	Disconnector, Single Break	DB	1
5	Current Transformer	CT	1
6	Oil Circuit Breaker	O.C.B.	1
7	Busbar	CB	1
8	Earth Mat	EM	1
9	Metering Transformer	MT	1
10	Busbar	CB	1
11	Wall and Gate	—	—
12	Building Ground Elevation	—	—
13	Location of Building	—	—
14	Land Use Boundary	—	—
15	Site Slope	—	—
16	Road	—	—
17	Substation Architecture	—	—
18	Signal Box	—	—

NOTES:-

1. This drawing is designed according to the surveying and mapping map provided by the owner.
2. Unless otherwise indicated, all dimensions are in meters and shall be rounded to the nearest millimeter.
3. The coordinates and elevations in this figure are in meters.
4. For construction, the dimensions and elevations shall be rounded to the nearest millimeter.
5. In this drawing, the dimensions and elevations shall be rounded to the nearest millimeter.
6. The slope shown in this figure is for reference only.
7. The slope shown in this figure is for reference only.
8. The slope shown in this figure is for reference only.
9. The slope shown in this figure is for reference only.
10. The slope shown in this figure is for reference only.
11. The slope shown in this figure is for reference only.
12. The slope shown in this figure is for reference only.
13. The slope shown in this figure is for reference only.
14. The slope shown in this figure is for reference only.
15. The slope shown in this figure is for reference only.
16. The slope shown in this figure is for reference only.
17. The slope shown in this figure is for reference only.
18. The slope shown in this figure is for reference only.

CHINA ROAD AND BRIDGE CORPORATION

100KV STEP-DOWN STATION PROJECT OF RAILWAY SPECIAL ECONOMIC ZONE IN NINGXIA PROVINCE

100KV STEP-DOWN SUBSTATION GENERAL LAYOUT

Drawn By: [Signature] Checked By: [Signature]

Designed By: [Signature] Reviewed By: [Signature]

Approved By: [Signature] Date: [Date]



AUTHORIZED COMPANY				
CHINA ROAD AND BRIDGE CORPORATION				
PROJECT 132.11KV STEP-DOWN STATION PROJECT OF RASHAKA SPECIAL ECONOMIC ZONE IN KHY PAKISTAN				
TITLE 132KV GS-1 SUBSTATION SINGLE LINE DIAGRAM				
Date 2021/11	Classification Electrical	Scale As Shown	Drawing No. GB-2019-0001-132KV-SS001	
Approved By [Signature]	Reviewed By [Signature]	Checked By [Signature]	Designed By [Signature]	Drawn By [Signature]

**THE EXPECTED LIFE OF THE SYSTEM**

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The expected life of the system will be approximately **30 years**.

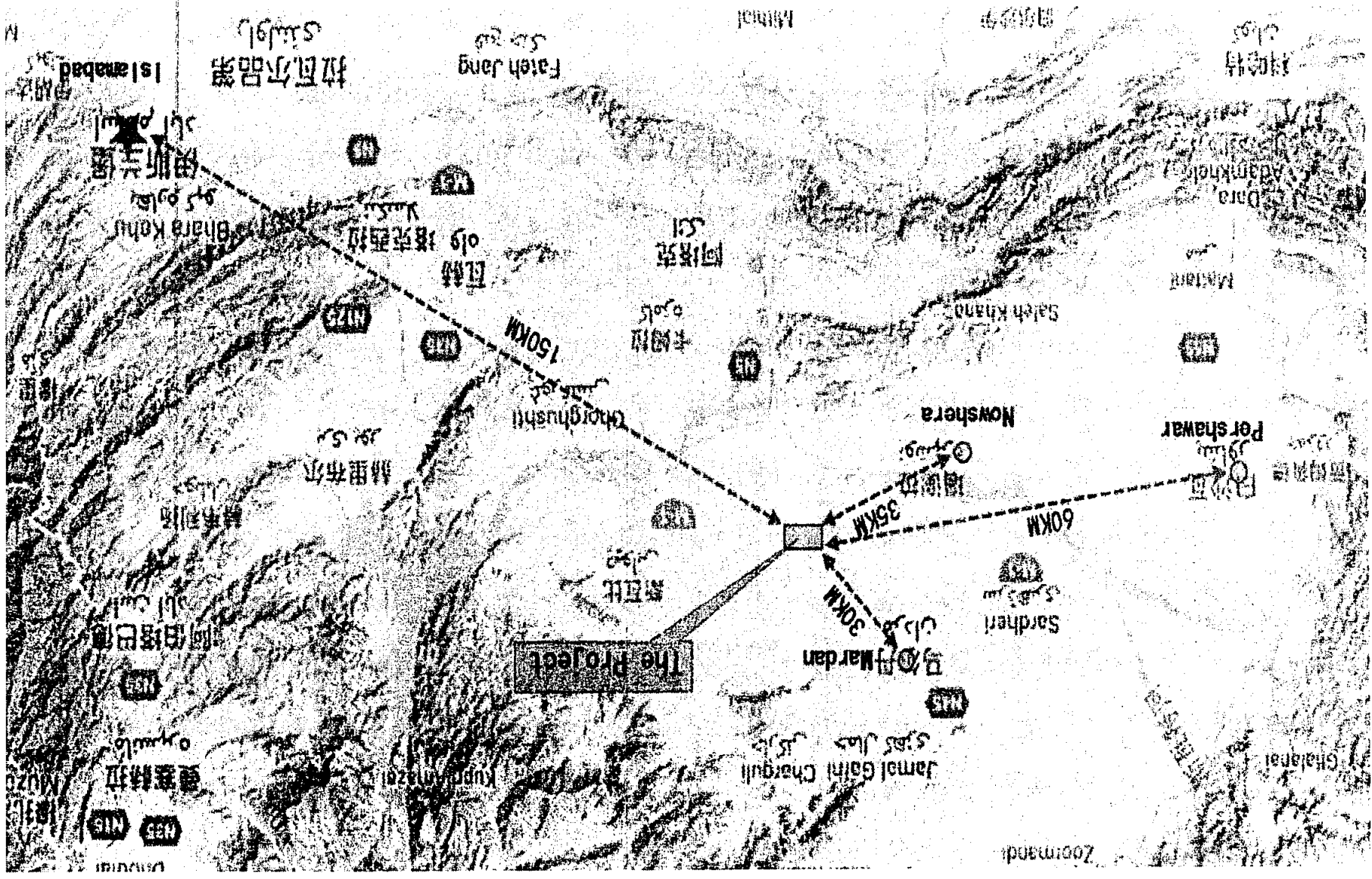
**THE LOCATION OF THE SYSTEM, OR THE TERRITORY WITH OUTER BOUNDARIES  
WITHIN WHICH THE SYSTEM IS PROPOSED TO BE INSTALLED AND OPERATED BY  
THE LICENSEE, ALONG WITH MAPS AND PLANS**

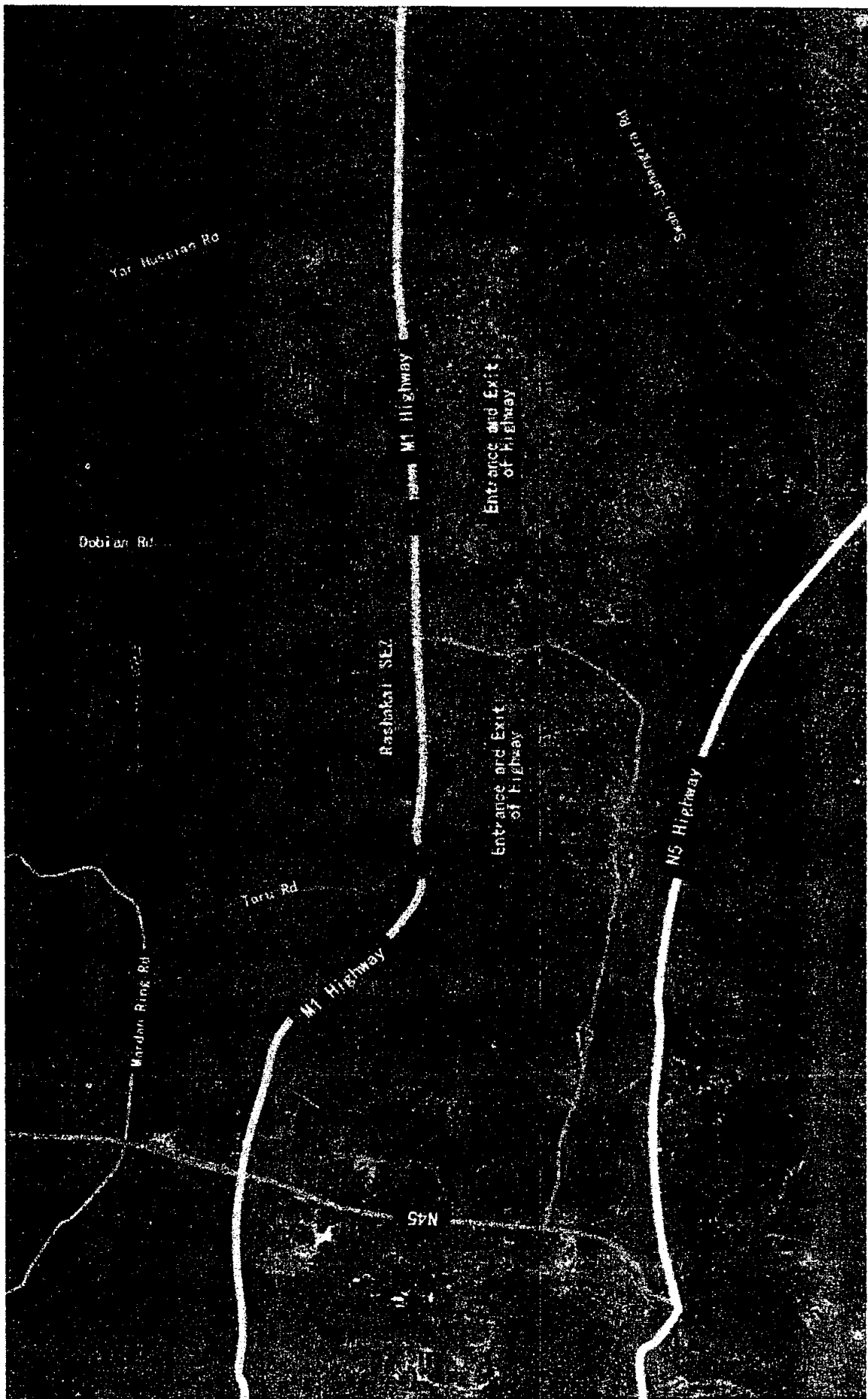
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The RSEZ is adjacent to the Kernal Sher Khan interchange on M-1, which is the main motorway linking Peshawar with Islamabad and CPEC alignments. The RSEZ is also 30 km from Mardan in the north, 35 km from Nowshera in the south, 40 km from Peshawar in the west, and 150 km to Islamabad in the east, which enjoys a unique location advantage. RSEZ is located in the northwest of Hattar SEZ, where the linear distance is about 73 km.

Micro and macro maps of the RSEZ are provided herein below.

Further, land documents pertaining to the acquisition and possession of the service territory (1000 Acres of land) is provided herein below.







Office of the  
**Tehsildar Jehangira**

(Phone No.0923-510229, E-mail: [ACJehangira337@gmail.Com](mailto:ACJehangira337@gmail.Com))

No. 19 /Teh/Jeh/2019  
29 March, 2019

To

Li Zhihuai

General Manager

China Road and Bridge Corporation (Pakistan),

House No 2 Street No 33 F-8/1, Islamabad, 44000, Pakistan.

**Sub: Non- Encumbrance Certificate (NEC) for the Rashakai SEZ Land (RSEZ)**

With reference to the above subject, we would like to submit the Non-Encumbrance Certificate (NEC) for the Rashakai SEZ land. The Project Land is not subject to any encumbrances or legal disputes other than the existing Court cases related to the Enhance Price of the land. The Khyber Pakhtunkhwa Economic Zone Development and Management Company filed an appeal before the Hon'ble Peshawar High Court against the Enhance Price of the subject land.

The land has been acquired through Land Acquisition Act 1894 vide Award Notification order dated 28-05-2010 by fulfilling all the legal and codel formalities .The land Measuring approximately 1000 Acres Expansion of Nowshera Industrial Estate at Misri Banda, Mishak, Ali Muhammad and Mughalki on Peshawar Islamabad Motorway (M-1) District Nowshera .

Tehsildar, Jehangira



KHYBER PAKHTUNKHWA  
ECONOMIC ZONES DEVELOPMENT  
& MANAGEMENT COMPANY

RefNo: KPEZDMC/RSEZ/03

Date: 12/17/2018

The Deputy Commissioner,  
Nowshera,  
Govt of KPK.


Subject: Land demarcation of Rashakai special economic zone on urgent basis

Respected Sir,

It is to bring in your kind information that KPEZDMC is in progress to initiate Rashakai Special Economic Zone as per government policy. In this regards KPEZDMC Management had meeting in your office on dated 12/11/2018, KPEZDMC has initially decide to demarcate the land of SPECIAL ECONOMIC ZONE RASHAKAI as per your permission,

Therefore KPEZDMC is requesting you to provide all the concerned Halqa Ptwaris one at a time ( MisriBanda, Ali Muhammad, Mishak, Mughalki, Nandrak) for land demarcation of all sides with solid reference points and provide security.

KPEZDMC will highly appreciate your prompt action and support.



Your Faithful

Estate Manager Rashakai SEZ

M. Asif Khan

Received  
17/12/18



**KHYBER PAKHTUNKHWA**  
**Economic Zone Development & Management Company**  
**RESZ.**  
 Govt. of Khyber Pakhtunkhwa



No. RESZ/Land:

Dated: 15/4 2019.

The Assistant Commissioner  
 Jehangiera.

Subject: DEMARCATION OF LAND AT RESZ.

I am directed by the competent authority and to state here that the CRBC (chines based company) are going on to start survey in adjoin land of the acquired 1000-acre land of RESZ. Therefore, it is to request you to please depute the concerned revenue staff (halqa Patwari and Girdawar) to demarcate the boundaries of acquired land measuring 1000 acres of RESZ on urgent basis so as to facilitate the foreigner company in the site work.

State Manager  
 RESZ, KPEZDMC

CC:

1. The DC, Nowshera
2. The MEO, KPEZDMC, Peshawar.
3. PS to CEO, KPEZDMC, Pesh

*Tehsildar Jehangiera*

*Plz carry out the  
 demarcation by tomorrow  
 i.e 17/04/18 and report*

*Received  
 16-4-18*

*M. J. Khan  
 11/4  
 A.C.*

*16/04/18.*





Office of the  
Deputy Commissioner  
Nowshera

(Office Phone: 0923-9220099, Fax: 0923-9220159, Email: d:ousrpk@yahoo.com)

13 August, 2018

NOTIFICATION

No. \_\_\_\_\_ /DK/DC/NT 2018-19/NSR. In pursuance of Board of Revenue, Revenue & Estate Department, Government of Khyber Pakhtunkhwa letter No. AS(S)3/249/Swabi-P-II/27953-74 dated 17.07.218 and in supersession of this office Notification No.892-912/DK/DC/NT.2017-18/NSR dated 31.07.2017, revised valuation table for the year 2018-19 is notified for District Nowshera @ per Marla for the purpose of evaluation of Stamp Duty/ Mutation fee/ Registration fee as per schedule attached to this notification showing rate of different types of land. The valuation table shall take place with immediate effect and shall remain in force till further orders.

Deputy Commissioner /  
District Collector  
Nowshera

No. 585-604 /DK/DC/NT 2018-19/NSR.

Copy forwarded for information to the:-

- 1- Senior Member of Revenue, Government of Khyber Pakhtunkhwa, Peshawar.
- 2- Commissioner, Peshawar Division, Peshawar.
- 3- Secretary-I, Board of Revenue, Government of Khyber Pakhtunkhwa, Peshawar.
- 4- Director Land Records, Government of Khyber Pakhtunkhwa, Peshawar.
- 5- District Nazim Nowshera.
- 6- Director General Excise and Taxation, Government of Khyber Pakhtunkhwa, Peshawar.
- 7- Controller, Government Printing press, Peshawar, for publication in next issue of government Gazette.
- 8- Assistant Secretary (Stamps), Board of Revenue, Government of Khyber Pakhtunkhwa, Peshawar w/r to his office letter quoted above.
- 9- Additional Deputy Commissioner, Nowshera.
- 10- Executive Engineer (C&W), Division Nowshera.
- 11- Executive Officer, Cantonment Board, Nowshera/ Risalpur.
- 12- Military Estates Officer, Nowshera.
- 13- Assistant Commissioner, Nowshera/Jehangira.
- 14- All Additional Assistant Commissioner in District Nowshera.
- 15- Tehsil Municipal Officer, Nowshera/Pabbi/Jehangira.
- 16- Account Officer Deputy Commissioner Nowshera & Government Gazette.
- 17- Tehsildar,  
Nowshera /Pabbi/Jehangira.
- 18- Naib Tehsildar, Khairabad.
- 19- Sub-Registrar, Nowshera.
- 20- Office Copy.

(From S# 17 to 19) For necessary action & with the direction to affix at conspicuous places and at Patwar Khana for the information of general public.

Deputy Commissioner /  
District Collector  
Nowshera

IN THE COURT OF DISTRICT OFFICER (R&E) COLLECTOR NOWSHERA.

Award Under Section 11 of the Land Acquisition Act 1894 in respect of the land acquired for the purpose of "Expansion of Nowshera Industrial Estate at Mesri Banda, Meshak, Ali Muhammad and Mughalki on Peshawar Islamabad Motorway District Nowshera.

The Acquiring Department i.e. Sindh Development Authority Govt of Khyber Pakhtoon Khwa has requested vide his letter No. SD/ANIE/03-A/179-184 dated 19.04.2008 to initiate acquisition proceeding for the land measuring 1000 Acre for "Expansion of Nowshera Industrial Estate at Mesri Banda, Meshak, Ali Muhammad and Mughalki on Peshawar Islamabad Motorway District Nowshera.

Accordingly, Draft Notification U/S-4 of the Land Acquisition Act, 1894 was notified vide this office Notification No. 620-26/DOR/Acq dated 17.06.2008 and copies thereof endorsed to all concerned. List of Khassia numbers as notified/mentioned in the Notification Under Section 4 is attached as Annexure - A.

The Revenue Officer Circle/Tehsildar Nowshera vide memo No.836/DOR/Acq 30.06.2008 was directed to furnish Ausat Yaksala based on the rates of mutations attested from 18.06.2007 to 17.06.2008. The Revenue Officer Circle/ Naib Tehsildar Khairabad has furnished Ausat Yaksala vide his endorsement No. 201/N dated 27.08.2008. Detail of rates as per Ausat Yaksala is as under:

S.#	Name of muza	Kind of land	Ausat Yaksala per Kanal
1.	Ali Muhammad	Barani	4528/80
2.	-do-	Mera	2715/20
3.	-do-	Nul Chahi	25260/80 (Adj)
4.	-do-	Banjir Qadeem	5669/20 (Adj)
5.	-do-	Ghair Mumkin	60200/66 (Adj)
6.	Meshak	Barani	9559/20
7.	-do-	Ghair Mumkin	60200/66 (Adj)
8.	-do-	Nul Chahi	25280/80
9.	-do-	Mera	10240/80
10.	Mughalki	Barani	13561/40
11.	-do-	Ghair Mumkin	60200/66 (Adj)
12.	-do-	Banjir Qadeem	5659/20
13.	Mesri Banda	Barani	14693/80
14.	-do-	Nul Chahi	22784/80
15.	-do-	Banjir Qadeem	13612/61
16.	-do-	Mera	11202/76
17.	-do-	Ghair Mumkin	60200/66

It is mentioned that the rate of Nul Chahi kind of land has been determined from the adjacent Muza Meshak, whereas the rate of Banjir Qadeem kind of land has been worked out from the adjacent Muza Mughalki, while the rate of Ghair Mumkin kind of land of Muza Ali Muhammad has been carried out from the adjacent Muza Mesri Banda and the rate of Ghair Mumkin kind of land of Muza Meshak has been come out from the adjacent Muza Mesri Banda and the rate of Ghair Mumkin kind of land of Muza Mughalki has been determined from the adjacent Muza Mesri Banda.

ATTESTED  
Copying Branch  
D.O. Office Nowshera

18/02/08

It is mentioned that the rate of Nul Chahi, Banjar Qadeem, Ghair Mumkin kind of land of Muza Ali Muhammad, Ghair Mumkin kind of land of Muza Meshak and Ghair Mumkin kind of land of Muza Mughalki has been determined from the adjacent Muzas.

After issuance of Notification U/S-4 of the Land Acquisition Act, 1894 the land owners namely (i) Mahmood Rabbani S/O Ali Akber, (ii) Sadbar S/O Lajber (iii) Shah Faisal Afridi S/O Khan Khel (iv) Tayyab Ali Sindh S/O Munawar residents of Mughalki, (v) Haji Afsar Ullah S/O Ghani Ullah etc (vi) Inayat ur Rehman S/O Sultan Muhammad R/O Meshak (vii) Amir Muhammad S/O Noor Muhammad etc (viii) Shah Wali S/O Muhammad Hanif and Muhtaram S/O Abdur Rashid R/O Mesri Banda submitted applications stating therein that their land being an Agriculture and only source of their income may be excluded from the said acquisition.

Later on a meeting regarding selection of sites for China Pak Economic Zones was held under the chairmanship of the Chief Secretary Govt of Khyber Pakhtoon Khwa on 06.03.2009 wherein it has been decided that 1000 Acre of land would be acquired from Rashakai Inter Change towards Islamabad on M-1 Motorway.

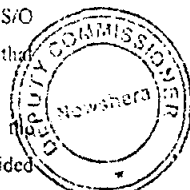
In compliance a corrigendum Notification U/S-4 of the LAA, 1894 has been issued vide No. 78/DOR/Acq dated 16.03.2009 and the land reduced from 12903 Kanal 13 Marla to 8000 Kanal and 13 Marla. Corrigendum Notification U/S-4 of the LAA, 1894 is attached as Annexure -B.

The Acquiring Department has requested vide this office memo: No.80/DOR/Acq dated 21.03.2009 to deposit estimated cost Rs.14,70,51,283/- to this office to proceed in the matter, in response the Acquiring Department has remitted an amount of Rs.60000000/- bearing Cheque No.6311624 dated 14.07.2009 instead of demanded amount Rs.14,70,51,283/- which has been deposited in the Govt treasury vide challan No. 10 dated. 21.07.2009. Therefore this office requested the Acquiring Department vide No. 229/DOR/Acq dated 15.07.2009 to deposit the remaining amount Rs. 8,70,51,283/- as required.

In response the Acquiring Department vide No. SDA/NIE/PCEZ/1684-89 dated 03.08.2009 has furnished a cross cheque No. 6953652 dated 01.08.2009 for an amount of Rs.43000000/- which has been deposited in the Govt Treasury vide challan No. 16 dated 17.08.2009. This office again requested the Acquiring Department vide No. 241/DOR/Acq dated 31.08.2009 to remit the remaining amount i.e Rs. 4,40,51,283/- so that further proceed in the matter. Consequently the Acquiring Department has sent a cheque No. 7014547 dated 01.09.2009 for an amount of Rs.4,40,51,000/- vide memo No. SDA/NIE/CPEZ/1778-83 dated 03.09.2009, which has also been deposited in the Govt Treasury, vide Challan No.22 dated 10.9.2009.

The Acquiring Department submitted Draft Notification U/S-6 & 17 of the Land Acquisition Act, 1894 for further proceeding. Accordingly, this office signed the said Draft Notification and forwarded it to worthy Commissioner Peshawar Division Peshawar vide this office No.251/DOR&E/Acq dated 16.09.2009 for countersignature and issuance. The worthy Commissioner Peshawar Division Peshawar signed the said Notifications and issued vide No. AC(R)/Pesh/3-17/1874-81 and No. AC(R)/Pesh/3-17/2009-1882-90 dated 09.10.2009 respectively.

This office requested vide No. 279-S1/DOR&E/Acq dated 22.10.2009 the Executive District officer (Works & Services), the Executive District officer (Agriculture) and Divisional Forest Officer Nowshera to make spot visit for assessment of the value of Super Structure, Firewood Trees and Fruit Plants erected upon on the proposed land.



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18/10/09  
Office Nowshera

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In response, the DFO Peshawar Forest Division Nowshera has intimated vide No. 314/DOR/Acq dated 11.11.2009 that the said area is under the jurisdiction of Mardan Forest Division, therefore the concerned office may be contacted in this regard vide No. 968/E dated 05.11.2009. Resultantly, this office requested the Division Forest Officer Mardan Division Mardan for early action.

This office reminded the departments concerned to expedite the assessment process vide this office No. 348/DOR&E/Acq dated 21.12.2009 and No. 349/DOR&E/Acq dated 21.12.2009 but no action has been taken by the concerned departments. Beside this a meeting of all concerned was called on 07.01.2010 in the office of the undersigned and express great concern over the slow process of assessment and directed the participants to expedite the assessment process. Minutes of the meeting issued to all concern vide No. 12/DOR&E/Acq dated 15.01.2010.

Notice U/S-9 (1) of the Land Acquisition Act, 1894 was issued vide this office No. 314/DOR/Acq dated 24.10.2009 wherein the concerned land owners were informed to attend this court on 11.11.2009 personally or through authorized agent to file their claims/objections if any. The land owners of muza Mughalki and Mesri Banda namely Malik Faiz ullah Khan S/O Mir Zaman, Gul Faraz S/O Mirwas Khan, Fazal Wahid, Khawas Khan, Javed Iqbal residents of Muza Mesri Banda attend this court and stated in written that the rate fixed for is meager than the market rate but they have not substantiated their claim through supporting documents. Hence, this court rejected their objections.

It is further added the land owners submitted an application to Chief Minister Khyber Pukhtoon Khwa through the Federal Minister of State for Local Govt. Mr. Masood Abbas Khattak, stating in application that their land may be exempted from acquisition as an agriculture and only source of their income. In this regard a meeting was held with the Chief Minister Khyber Pukhtoon Khwa in presence of Mr. Masood Abbas Khattak as a local MNA of the locality. The Senior Member Board of Revenue, the Commissioner Peshawar Division Peshawar, the District Coordination Officer Nowshera and the undersigned attend the said meeting and it was decided that a spot visit may be made and assure the kind of land, so that the grievances of the land owners may be redressed. In compliance the undersigned visited the area and it was observed that the mostly land is barren and the report furnished by the Field Revenue Staff regarding kind of land is correct and based on fact.

The instant case was initiated on 17.06.2008, as per guidelines every acquisition case has to be completed within (6) months, which took about two years. The Acquiring Department as well as the high-ups pressing hard for passing of award in the best interest of public. Therefore I intend to pass award of land only so far as the award of Super Structure, firewood/fruit trees is concerned it will be announced as and when the assessment process is completed.

To proceed further acquisition proceeding, this office made a request to the Commissioner Peshawar Division Peshawar for grant of approval as the estimated cost of the land is more than five million which is required to be approved from the competent authority vide No. 49/DOR&E/Acq dated 15.03.2010. In response the Commissioner Peshawar Division Peshawar has conveyed the approval vide his letter No. AC (P/D)/Pehs/3-17/2010 dated 16.03.2010.

ATTESTED  
Copying Branch  
DC Office Nowshera

OK

18-02-2010

Therefore, I hereby announce the award of the land as per detail given below:-

S.No	Name of Maza	Kind of land	Land acquired		Rate per kanal	Total amount
			K	M		
1.	Mesri Banda,	Barani	118	01	Rs. 14693/87	Rs.1734611/35
2.	-do-	Nul Chahi	344	16	Rs. 22784/61	Rs. 7856202/49
3.	-do-	Banjer Qadeem	26	09	Rs.12612/61	Rs.333603/53
4.	-do-	Mera	1733	14	Rs. 11202/76	Rs. 19422225/01
5.	-do-	Ghair Mumkin	38	07	Rs. 60200/66	Rs.2308695/31
6.	Ali Muhammad.	Barani	344	00	Rs.4528/80	Rs.1557907/20
7.	-do-	Mera	1008	10	Rs. 5715/20	Rs. 5763779/20
8.	-do-	Nul Chahi	562	03	Rs. 25280/80	Rs. 14211601/72
9.	-do-	Banjer Qadeem	44	03	Rs. 5669/20	Rs.250295/18
10.	-do-	Ghair Mumkin	158	16	Rs.60200/66	Rs. 9559864/80
11.	Meshak.	Barani	10	15	Rs. 9569/20	Rs. 102868/90
12.	-do-	Ghair Mumkin	81	17	Rs. 60200/66	Rs. 4927424/02
13.	-do-	Nul Chahi	208	00	Rs. 25280/80	Rs.5258406/40
14.	-do-	Mera	1867	19	Rs. 16240/80	Rs. 30337002/36
15.	Mughalki	Barani	1397	17	Rs. 12561/40	Rs. 18956802/99
16.	-do-	Ghair Mumkin	49	12	Rs. 60200/66	Rs. 2985952/74
17.	-do-	Banjer Qadeem	05	14	Rs. 5669/20	Rs.32314/14
Total Land			8000	13	Total Rs.125599558/-	
15% Compulsory Acquisition Charges.						Rs. 18839934/-
2% Mutation fee						Rs. 2511991/-
Khumas Fee.						Rs. 99800/-
Grand Total: Rs. 14,70,51,283/-						

Under the circumstances explained above, I hereby pass an award for Rs. 14,70,51,283/- in respect of the above land. The land owners shall be entitled for their share as entered in the Register Haqdarar-e-Zamin. in the owner ship column, therein.

*[Signature]*  
District Officer,  
Rev. & Estate/Collector,  
Nowshera

No. 99-106/DOR/Acq/NSR Dated Nowshera the 28/5/2019

Copy forwarded for information to:-

1. The Commissioner Peshawar Division Peshawar.
2. District Coordination Officer, Nowshera.
3. The Secretary Board of Revenue Khyber Pakhtoon Khwa, Peshawar.
4. The Director (F&A) SDA Peshawar.
5. The General Manager (Tech) SDA Peshawar.
6. The Manager (Planning) SDA Peshawar.
7. The Project Manager Nowshera Industrial Estate, Risalpur.
8. The Naib Tehsildar, Khairabad for information. He is also directed to enter & attest mutations in the name of acquiring department and also prepare Acquaintance Roll, Naqsha Tajweezi and Field book of the acquired land within one month positively.

Serial No. 65

Name of Applicant

Date of Application

Date of Receiving

ATTESTED

Copying Branch  
DC Office Nowshera

*[Signature]*  
District Officer,  
Rev. & Estate/Collector,  
Nowshera

18/02/2019

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4

Area	Khairi Bazar	Location
156-17	156-17	156-17
156-18	156-18	156-18
156-19	156-19	156-19
156-20	156-20	156-20
156-21	156-21	156-21
156-22	156-22	156-22
156-23	156-23	156-23
156-24	156-24	156-24
156-25	156-25	156-25
156-26	156-26	156-26
156-27	156-27	156-27
156-28	156-28	156-28
156-29	156-29	156-29
156-30	156-30	156-30
156-31	156-31	156-31
156-32	156-32	156-32
156-33	156-33	156-33
156-34	156-34	156-34
156-35	156-35	156-35
156-36	156-36	156-36
156-37	156-37	156-37
156-38	156-38	156-38
156-39	156-39	156-39
156-40	156-40	156-40
156-41	156-41	156-41
156-42	156-42	156-42
156-43	156-43	156-43
156-44	156-44	156-44
156-45	156-45	156-45
156-46	156-46	156-46
156-47	156-47	156-47
156-48	156-48	156-48
156-49	156-49	156-49
156-50	156-50	156-50
156-51	156-51	156-51
156-52	156-52	156-52
156-53	156-53	156-53
156-54	156-54	156-54
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156-58	156-58	156-58
156-59	156-59	156-59
156-60	156-60	156-60
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156-62	156-62	156-62
156-63	156-63	156-63
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156-68	156-68	156-68
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156-81	156-81	156-81
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156-84	156-84	156-84
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156-87	156-87	156-87
156-88	156-88	156-88
156-89	156-89	156-89
156-90	156-90	156-90
156-91	156-91	156-91
156-92	156-92	156-92
156-93	156-93	156-93
156-94	156-94	156-94
156-95	156-95	156-95
156-96	156-96	156-96
156-97	156-97	156-97
156-98	156-98	156-98
156-99	156-99	156-99
156-100	156-100	156-100

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S.No.	Name of Muza	Kind of Land	Land to be Acquired		Rate per Kanal
			K	M	
1.	Misri Banda	Banda	118	01	Rs. 14693/87
2.	-do-	Nul Chahi	344	16	Rs.. 22784/81
3.	-do-	Banjir Qadeem	26	09	Rs. 12612/61
4.	-do-	Mera	1733	14	Rs. 11202/76
5.	-do-	Ghair Mumkin	38	07	Rs. 60200/66
			2261	07	-----
6.	Ali Mohammad	Barani	344	00	Rs. 4523/80
7.	-do-	Mera	1008	10	Rs. 5715/20
8.	-do-	Nul Chahi	562	03	Rs. 25280/80
9.	-do-	Banjir Qadeem	44	03	Rs. 5669/20
10.	-do-	Ghair Mumkin	158	16	Rs. 60200/66
			2117	12	-----
11.	Meshak	Barani	10	15	Rs. 9569/20
12.	-do-	Ghair Momkin	81	17	Rs. 60200/66
13.	-do-	Nul Chahi	208	00	Rs. 25280/80
14.	-do-	Mera	1867	19	Rs. 16240/80
			2168	11	-----
15.	Mughalki	Barani	1397	17	Rs. 13561/40
16.	-do-	Ghair Mumkin	49	12	Rs. 60200/66
17.	-do-	Banjir Qadeem	05	14	Rs. 5669/20
			1453	03	-----
	Total		8000	13	
	Total Cost of land		Rs. 125599558/-		
	15% Compulsory Acquisition Charge		Rs. 18839934/-		
	2% Mutation Fee		Rs. 2511991/-		
	Khumas Fee		Rs. 99800/-		
	Grand Total		Rs. 147051283/-		

1354 342

OFFICE OF THE DISTRICT COORDINATION OFFICER/ADMINISTRATOR  
NOWSHERA

No. 717-20/PS/DCO/NSR/2012  
23 February 23, 2012

To:

The Chairman,  
Sarhad Development Authority,  
Khyber Pakhtunkhwa, Peshawar

Subject: - Joint Application for De-Notification of land acquired for Pak  
China Economic Zone Motorway M-1

Enclosed please find herewith a joint application received from residents of Misri Banda, Mughulkai, Ali Muhammad and Mishak, Tehsil and District Nowshera, wherein they have prayed for de-notification of land acquired for the establishment of Pak China Economic Zone along with Motor Way.

Sarhad Development Authority has purchased land for Pak China Economic Zone Motorway M-1 and payment has been made. The land owners were aggrieved against the acquisition of their land and were making frequent request for its de-notification.

The District Government Nowshera agrees with the contention of the land owners and requests that the land acquired for the subject scheme may kindly be de-notified as requested by the residents of the above mentioned villages in their joint application.

Muhammad Ayaz Mandokhel  
District Coordination Officer/Administrator  
Nowshera

No. & Date Even.

Copy to the: -

1. Commissioner, Peshawar Division, Peshawar.
2. Project Manager, Industrial Estate, Nowshera Risalpur.
3. District Officer, R&E, Nowshera.

District Coordination Officer/Administrator  
Nowshera

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21-3-2012

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21/3/12





## SARHAD DEVELOPMENT AUTHORITY

Government of Khyber Pakhtunkhwa

P.I.A. Building Arbab Road, Peshawar Cantt: (Pakistan)

Post Box No.172 Fax No.9211605

Tele:9211608 - 9211609

Website: <http://www.sda.org.pk>

No.SDA/D(P&I)/1EN/1365.

Dated 26.06.2013

The Deputy Commissioner/  
Land Acquisition Collector,  
Nowshera

**SUBJECT:- POSSESSION OF 1000 ACRES LAND AT M-I NEAR RASHAKAI  
INTERCHANGE FOR EXPANSION OF NOWSHERA INDUSTRIAL  
ESTATE**

Dear Sir,

The Provincial Government had approved a scheme for acquisition of 1000 acres land at M-I near Rashakai Interchange Nowshera for which the SDA has already deposited Rs 147.051 million in 2009 on a/c of acquisition of 1000 acres land. Besides above, the SDA has also deposited Rs 13.508 million for acquisition of 398 kanals and 05 marlas land to provide connectivity to the 1000 acres land through approach road.

The Provincial Government has allocated a sizeable amount in the ADP for 2013-14 for master planning of the said land, keeping in view the importance of the project as the same will promote industrialization and create adequate job opportunities in the province. You are, therefore, requested to kindly direct the Revenue staff to give physical possession of 1000 land to the Industrial Estate Manager Nowshera at the earliest. Moreover, the case for the award of additional area of 398 kanals & 05 marlas land may also kindly be expedited.

Director

(Planning & Implementation)

cc to:

1. General Manager (Planning), SDA, Peshawar with the instructions to follow up the matter with the Deputy Commissioner Nowshera.
2. Industrial Estate Manager Nowshera with the advice to please pursue the matter vigorously.
3. P.S. to Secretary Industries, Commerce & Technical Education Department, Govt. of Khyber Pakhtunkhwa, Peshawar.
4. P.S. to Chairman, Sarhad Development Authority, Peshawar.

RECEIVED

No. SDA/IE/705  
Dated 5-7-2013

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05/7/13



(362)

**Nowshera Industrial Estate**  
**SARHAD DEVELOPMENT AUTHORITY**  
Govt: of Khyber Pakhtunkhwa  
Nowshera Mardan Road, Risalpur  
Tel/Fax: 0937/880111

No. SDA/IEM/NSR/ 141-46

Date 25-4-2013

The Deputy Commissioner/Collector,  
District Nowshera.

Subject:- MASTER PLANNING OF INDUSTRIAL ESTATE NOWSHERA ALONG  
M-1 ( 1000 ACRES)

I am directed to please refer to G.M (Planning) SDA letter dated 23-04-2013 (copy enclosed) pertaining to taken-over possession of the acquired land measuring 1000 acres along Motorway for the establishment of Pak—China Economic Zone.

It is pertinent to mention that SDA has deposited the entire awarded amount i.e. cost of acquired land <sup>to the Govt of Khyber Pakhtunkhwa</sup> and Award & Mutation has already been issued in favour of Nowshera Industrial Estate, SDA.

It is, therefore, requested to kindly depute the concerned Revenue Staff for demarcation and handing-over the possession of 1000 acres land to SDA management at the earliest, as the Provincial Govt: is pressing hard for early completion of the scheme in order to achieve the desired goal please.

With regards.

Industrial Estate Manager  
Nowshera.

Copy to:-

- 1) Director (Finance) SDA.
- 2) Director (Planning & Implementation ) SDA.
- 3) Asstt: Commissioner/LAC, Nowshera.
- 4) G.M (Planning) SDA-----w/r to his letter as quoted above please.
- 5) P.S to Chairman, SDA.

*Spn 2004*

Specimen Jalozai - 8-11-5 (90)  
OFFICE OF THE DEPUTY COMMISSIONER / DISTRICT COLLECTOR  
NOWSHERA

NOTIFICATION U/S-5 OF LAA 1894

Whereas the Commissioner Peshawar Division Peshawar is satisfied that the land notified under section-IV of the Land Acquisition Act, vide District Collector Nowshera notification No. <sup>301-99/</sup>~~1375-99/~~<sup>04-11-2009</sup>~~DOR&A/ACQ/NSR dated 04-10-2002~~ (as described in the specification below) is needed for public purposes, namely "~~Shahadat Rani Hussain Campus at Jalozai Tehsil Pabbi District Nowshera~~" Expansion 7

*Nowshera Indle - 2010*

Now therefore in exercise of the powers under section-V of the Land Acquisition Act, 1894, the Commissioner Peshawar Division Peshawar has been satisfied that the land specified below of which plans can be inspected in the office of the Land Acquisition Collector District Nowshera.

Any person who is interested and who has any objection to the acquisition of any land in the locality, may within thirty days of the publication of this notification, file an objection, in writing before the Land Acquisition Collector Nowshera.

Land upon which any religious place of worship shrine, tomb, Graveyard or any immovable property attached any institution and the boundaries of which are contiguous with the site of the same shall be excluded from the said land, similarly waqf and evaquee properties and state land shall be excluded.

District	Tehsil	Locality	Khasra No.	Area to be Acquired	
				K	M
Nowshera	Pabbi	Jalozai Maira	665	181	19
			664	03	02
		<i>Mian Buda</i>	666/1	02	01
		<del>Ata Buda</del>	668	22	01
			669	02	10
		<i>Mugul Bari</i>	670	01	14
			671	05	10
			672	03	19
		<i>Nomd Sark</i>	673	02	00
			674	07	00
			675	02	07
			676	03	01
			677	03	01
			678	00	14
			679	02	00
			681	07	01

## **ANNEX – E-5**

### **FUEL TYPE AND AVAILABILITY**

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Fuel type and availability is not applicable/relevant as RSEZDOC will provide grid load to all zone enterprises.

## **ANNEX – E-6**

### **INFRASTRUCTURE PROJECT COST, FINANCING PLAN, FINANCING TERMS, TARIFF CALCULATIONS AND ASSUMPTIONS OF FINANCIAL CALCULATIONS INCLUDING ECONOMIC/FINANCIAL ANALYSIS**

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These details will be provided at the time of tariff petition.

**THE TYPE AND DETAILS OF THE SERVICES PROPOSED TO BE PROVIDED**

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Services proposed to be provided shall include professionally handling of all issues relating to:

- i. Un-interrupted power supply to the zone enterprises in RSEZ throughout the year;
- ii. Maintaining quality of power with respect to internal voltage deviation, frequency variation, and harmonics;
- iii. Safety standards and its implementation;
- iv. Operation of electrical system with high reliability & availability;
- v. Maintenance of system with least power outages and durations;
- vi. Customer services;
- vii. Billing after providing power connections to zone enterprises;
- viii. Tariff structuring and management of other tariff related matters and dealing with NEPRA from time to time;
- ix. Preparation of performance reports;
- x. Maintenance of data and records in respect of provision of electrical power services.

## **ANNEX – E-8**

### **THE ENVIRONMENTAL IMPACT OF THE SYSTEM**

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The environment impact is covered within the Environmental Impact Assessment (EIA) of the RSEZ project, as approved, which is appended herein below.

## PROGRESS REPORT OF THE DISTRIBUTION & SUPPLY INFRASTRUCTURE

---

### Progress of the RSEZ Project:

- As of 18 October 2022, the accumulated progress has reached 73% which meets requirements of the entire construction period.
- The site camp, 3.1km permanent boundary wall, 1.1km temporary wall, 7 watchtowers, steel structure of main gate, reception center, guard room of reception center and ancillary works in the site have been completed.
- Structural work: concrete pouring, reinforcement binding and brick masonry have been completed 100%; Decoration work: the exterior wall works and roof works has been completed 100%, the putty works for internal wall and external wall plastering has been completed 100%, the indoor floor tiles and ceiling suspenders installation has been completed 100%, emulsion paint construction is in progress.
- Warehouse: the foundation works, site area and indoor concrete ground have been completed, the steel structure has arrived at the port, and customs clearance is in progress.
- Fire control pump station and fire control water room: the concrete pouring, reinforcement binding, brick setting external and internal wall plastering have been completed.
- Water tower: the concrete structure of 1 # water tower has been completed, and the decoration and installation works are under construction. The shaft of 2 # water tower has been completed to 75%, and the frame has been erected to the bottom of the water tank.
- Rainwater open channel: this work has been completed.
- Sewage pipeline: sewage pipe installation has been completed 100%.
- Roadside power cables and street lights: 93% of the roadside power cables and street lights have been completed.
- Plane communication pipeline: 94% of the roadside communication pipeline has been



completed.

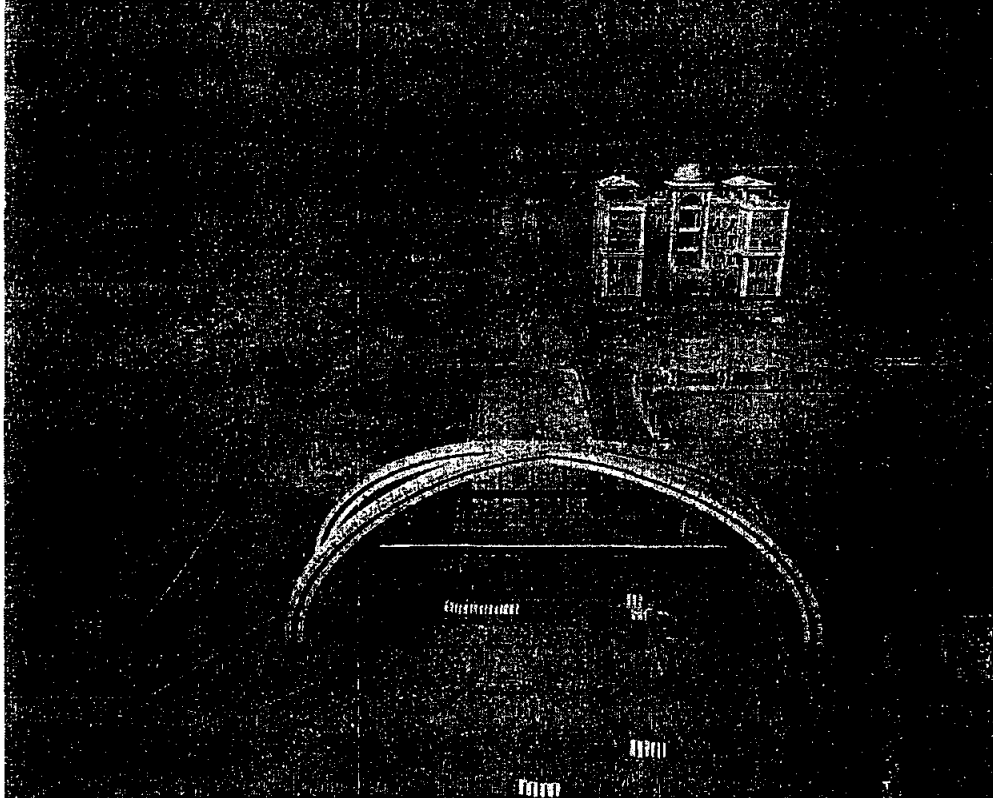
- Plane water supply pipeline: 100% of the roadside water supply pipeline has been completed.
- Gas pipeline engineering: 100% of earthwork excavation and back-filling for gas engineering and pipeline, pressure test and ancillary works has been completed;
- Road Construction: There are eight roads for the phase I (three main roads are concrete pavement and five branch roads are asphalt pavement).
- The surface clearing and earthwork of the sub-grade range have been completed 100%; the sub-grade excavation, the sub-grade filling and the sub-base have been completed 100%; The concrete pavement has been completed and the asphalt surface pavement has been completed by 60%.

#### Construction Progress of Distribution & Supply Infrastructure

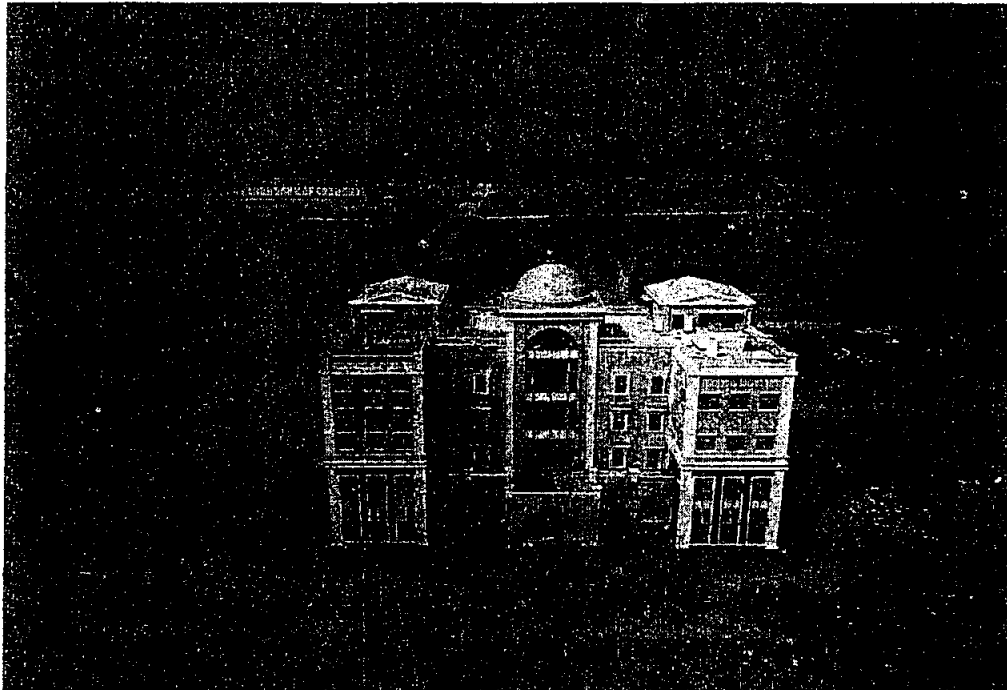
- Grid station: Boundary wall, masonry works and main structure of comprehensive house, main structure works of distribution room, transformer foundation, accident oil pool and regulating pool have been completed, decoration of comprehensive house and distribution room have been completed. 80% of the lighting works, 90% of the lightning protection, 90% of the grounding works, 97% of the civil works and 95% of the site facilities works of the grid station have been completed.
- 11kv Distribution Network: The excavation work of pole foundation have been completed 100% and the concrete work of pole foundation have been completed 100%, 100% of cross arm hardware installation and 100% of overhead conductor installation have been completed. Installation of pole mount circuit breakers and ring main unit is in progress.

## SITE PICTURES

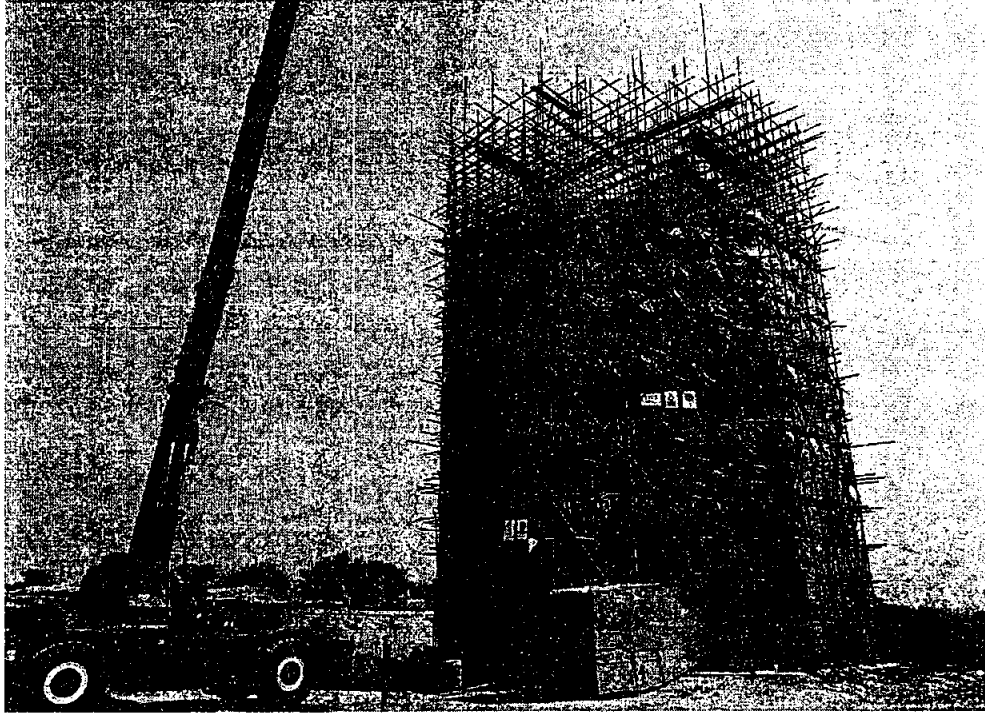
Main Gate



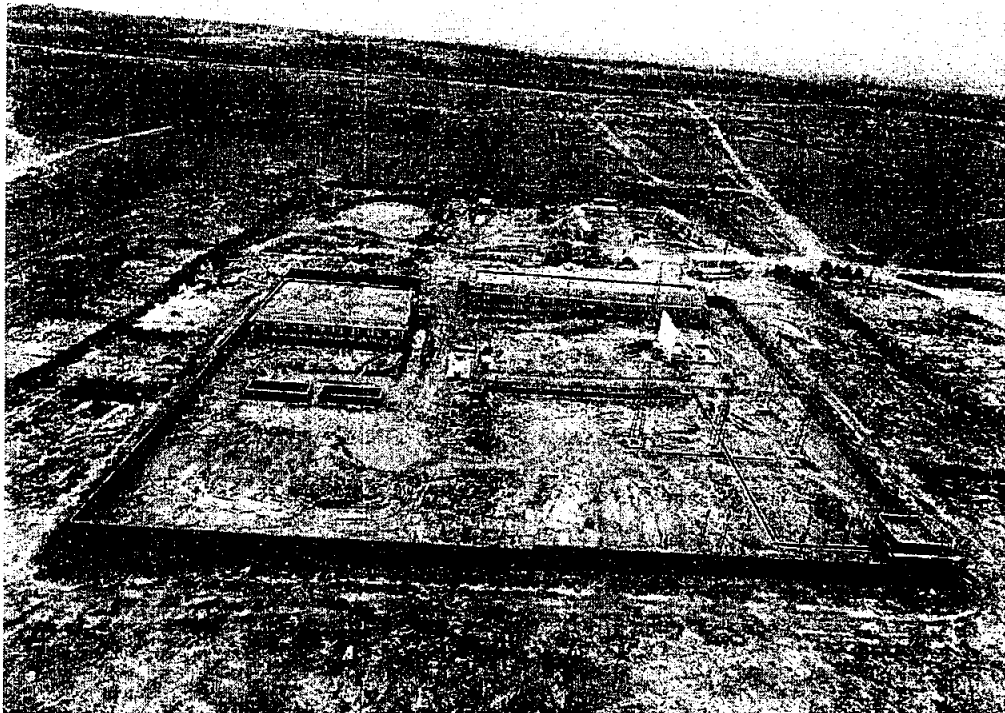
Comprehensive Building



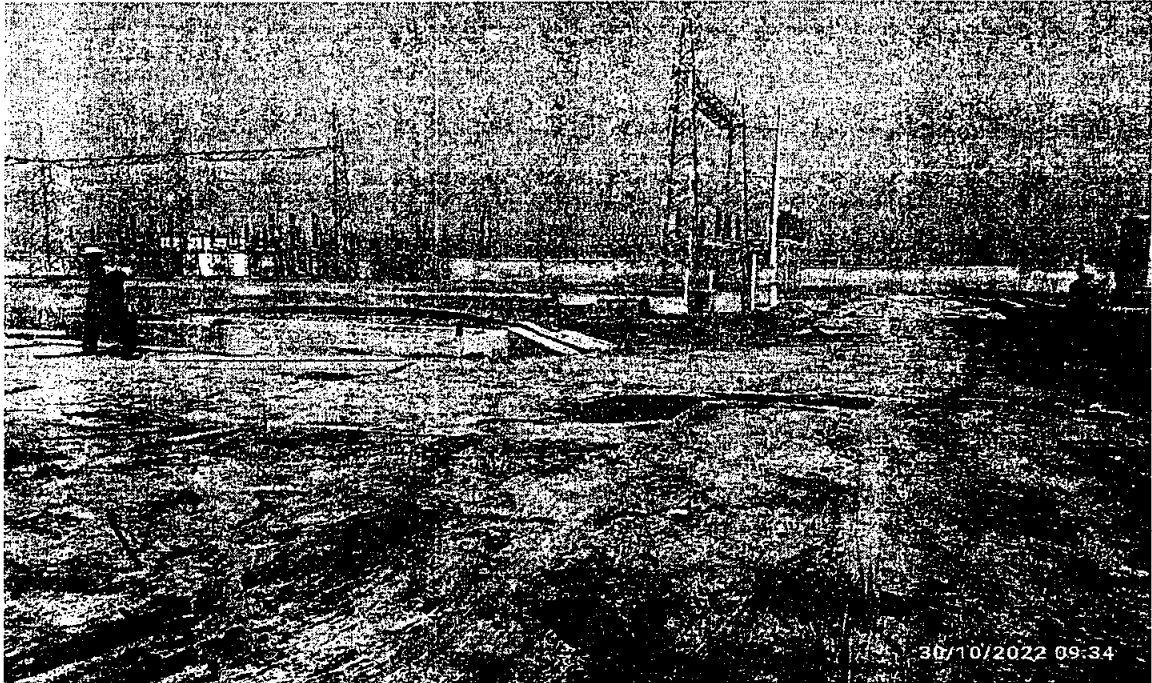
Water tower # 2



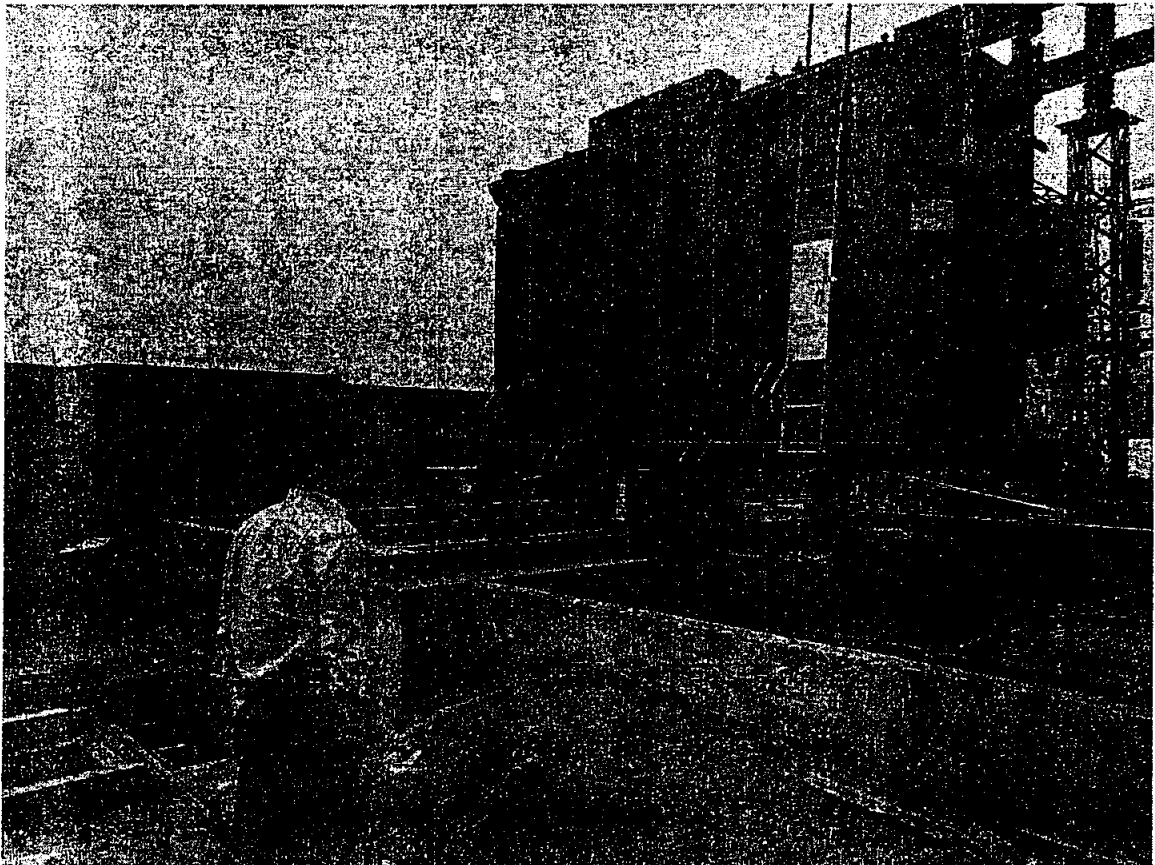
Grid Station



**Concrete Road Work at Grid Station**



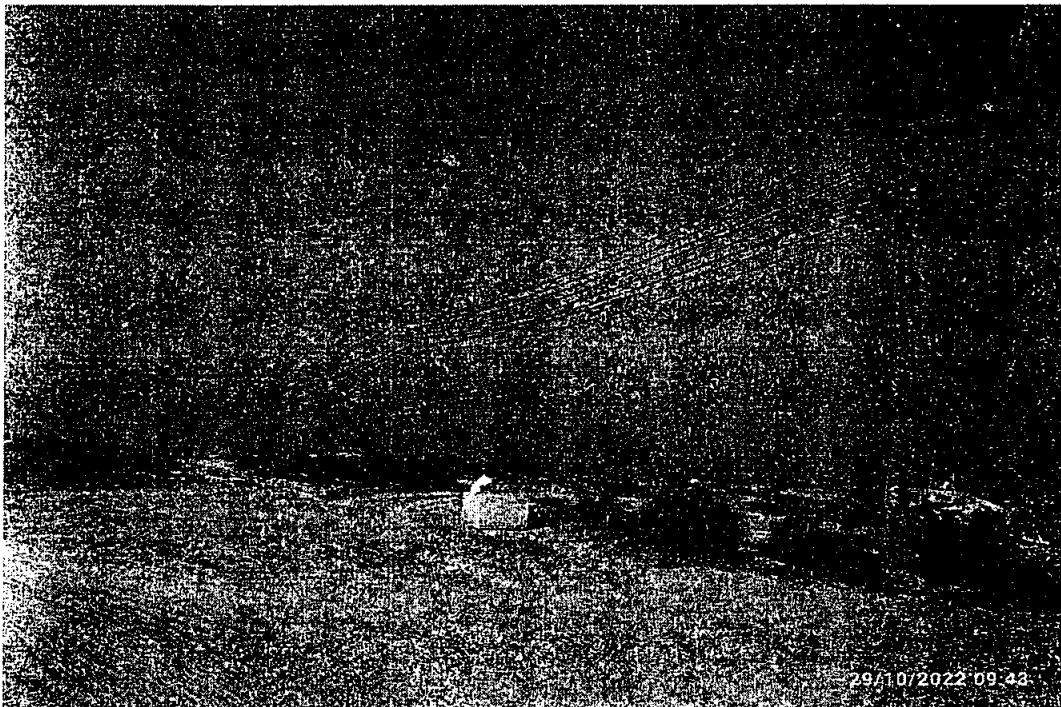
**Installation of 132kV Power Transformer**



Installation of 11kV Switchgear



Installation of 11KV Conductor



**VII.**

**DETAILS OF THE DISTRIBUTION  
SYSTEM**

**ENVIRONMENTAL AND SOCIAL SOUNDNESS ASSESSMENT (ESSA) REPORT**

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Please refer to the Environmental Impact Assessment appended hereinabove as **Annex E-8**.

**SYSTEM STUDIES**

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Please refer to the grid interconnection study and load flow study appended as Annex E-2.



**PATROLLING AND INSPECTION PROCEDURES**

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- Routine day/Night patrolling of cable route and overhead lines route will be carried out with trained staff. (The inspection sheet will be available with these teams).
- The inspection teams/patrolling team will notify any emergency condition by mobile phones and/or UHF sets (if allowed by government) to dispatch maintenance crew.
- The team will also contact load dispatch centre and control room for any emergency shutdown.
- The patrolling team will also look for any encroachments on the route of cables and distribution lines.
- The standard operating procedure (SOP) will be prepared for patrolling teams.

**MAINTENANCE PLANS AND PROCEDURES**

---

- The grid station will be manned by switch board operators and therefore 24/7 monitoring will be in place.
- The daily monitoring of equipment will be carried out as per following sample:  
Hourly reading of ammeter, voltmeter and energy meters, temperature, pressure etc will be carried out by the Switch Board Operators (SBO).
- The SAS system will also record all values necessary and transients to centralized Load Dispatch Centre (LDC).
- On the basis of monitoring by SBO and SAS, maintenance will be carried out; however routine maintenance of all equipment will be carried out as per recommendations of manufacturer.
- For planned maintenance the weekly, monthly , quarterly and annually maintenance schedule will be performed .The planned maintenance will be carried out in winter season (NOV–to–FEB) to avoid any load shedding.
- The distribution system design with ample capacity for load transfer and to take any element out of service due to planned and emergency maintenance conditions.
- Maintenance team will be available to take care of emergency and planned routine maintenance.
- The testing relays will also be part of planned maintenance and schedule will be prepared as per recommendation of manufacturer.
- The standard operating procedure for maintenance will be prepared and will be implemented as per international codes and standards.

**FAULT LOCATION AND TROUBLE-SHOOTING PROCEDURES**

---

- Teams will be deployed at fault location along with equipment.
- The latest equipment with facility of pin pointing underground cable fault will be available to minimize the maintenance time.
- Testing equipment for locating faults in CT, PT etc to check internal faults will be made available with qualified testing engineers.
- Team of engineers with different skills will be deployed for relay testing, breaker testing and Cable Testing.
- Automatic isolation of faulty portion will be done by relays and SAS system.

## **TRAINING AND DEVELOPMENT PROCEDURES**

---

- In house training facilities will be available to train employee, skilled and professional and managers.
- Safety trainings will be conducted in routine.
- Specialized training for equipment will be given by manufacturers.
- On-job training shall be imparted during construction of the installations.
- Maintenance and operation manuals shall be available to train engineers for the following :
  - Overall maintenance and monitoring of the grid station and distribution system;
  - Circuit breakers, operating mechanism testing, routing maintenance;
  - Monitoring and testing of power transformer, current and voltage transformer and routine maintenance;
  - Protection relays;
  - Operations indications, testing including control and indicating instruments;
  - Distribution transformers switchgear and metering;
  - MV feeders and distribution lines lying and maintenance;
  - Earthing systems and its routine testing and measurement.

## **ANNEX – F-7**

### **INFORMATION AND DOCUMENTS IN SUPPORT OF DISTRIBUTION EXPANSION AND INVESTMENT**

---

Please refer to the information provided in Annex E-2.

## ANNEX – F-8

### TYPE OF DISTRIBUTION SYSTEM AND CONFIGURATION, SERVICE TERRITORY, RIGHT OF WAY, FEEDER MAPS

#### General

The total land area of the RSEZ is approximately 1000 acres. The expected power demand of RSEZ, when fully developed, is **202.6 MW**, spread over in the following phases:

1	Phase-I RSEZ Grid Station (GS-II)	45	30-Aug-2022
2	Phase-I RSEZ Grid Station (GS-I)	22.09	30-Aug-2022
3	Phase-II RSEZ Grid Station (GS-I)	45.9	31-Dec-2023
4	Phase-II RSEZ Grid Station (GS-II)	45	31 <sup>st</sup> December 2023
5	Phase-III RSEZ Grid Station (GS-I)	44.61	31-Dec-2025
	<b>Total demand load</b>	<b>202.6MW</b>	

#### Type of Distribution System and Configuration

The distribution network will consist of two grid stations, GS-I and GS- II, to meet the expected demand. The RSEZ is located between the 220/132 kV Mardan and proposed 220/132 kV Swabi grid stations of PESCO. The interconnection scheme consists of 24.32 km from 220/132 kV Grid Station Mardan to RSEZ GS-II using S/C rail conductor, whereas 24.37 km Mardan to RSEZ GS-I using S/C rail conductor. As a second source 30 km from proposed 220/132 kV Grid Station Swabi to RSEZ GS-I using D/C rail conductor, whereas 0.05km GS-I to GS-II using S/C rail conductor.

The electricity is proposed to be fed through extra high tension 132kV transmission lines, two in number for serving the two grid stations mentioned hereinabove. The 132 kV transmission lines shall be laid overhead between the grid stations. The 132 kV cable shall be single core (XLPE type).

The GS-I would step down power from 132 kV to 11kV through 40 MVA power transformers estimated to be about 4 in number, and GS-II would step down power from 132 kV to 33kV through 60 MVA power transformers estimated to be 2 in number for meeting the entire load of the area.

For distributing power, about 29 (27 existing and 2 future extension) 11 kV feeders shall be laid, feeding distribution transformers as required from time to time, when the entire area of RSEZ is fully developed.

#### Service Territory

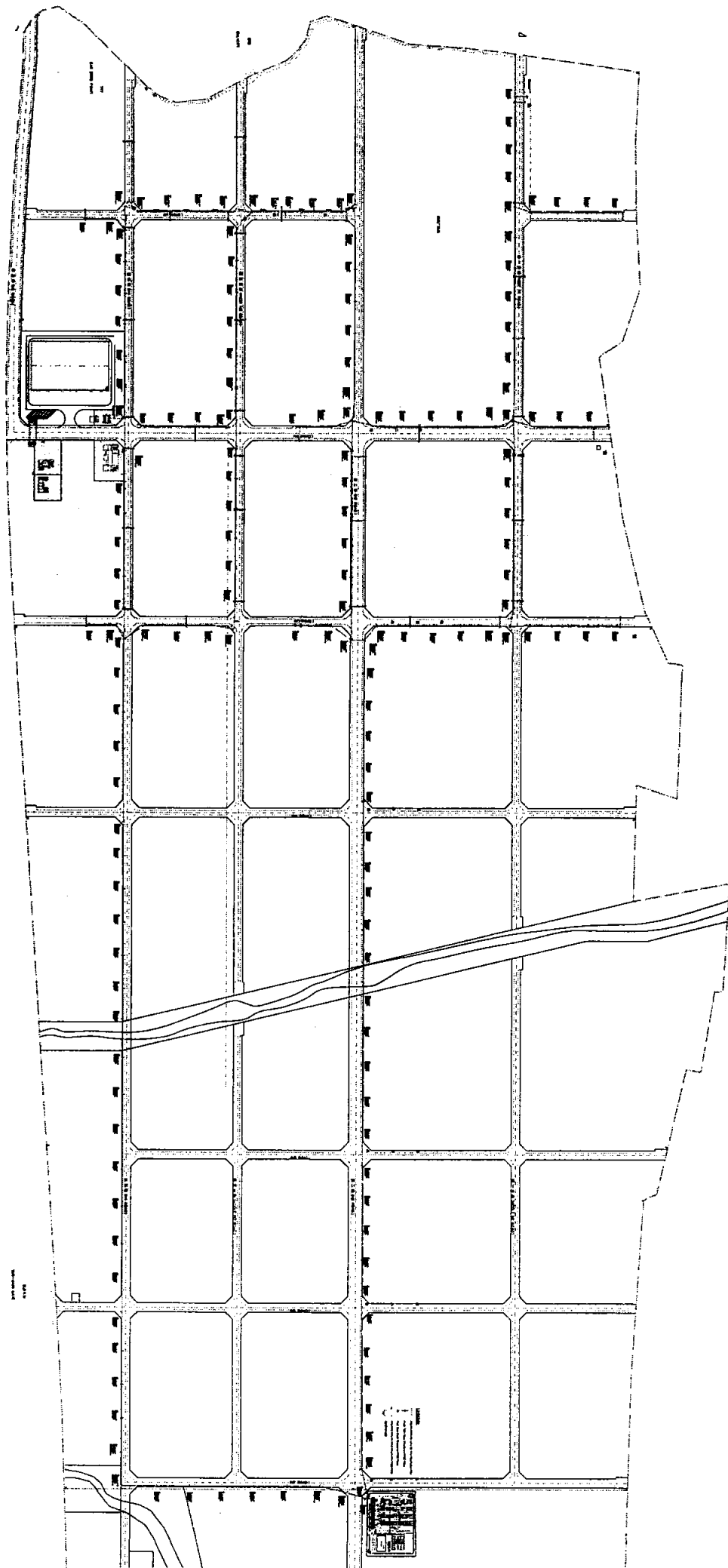
RSEZ is located at the district of Nowshera, KP along the Peshawar-Islamabad Motorway and is 60km away from the city of Peshawar. The service territory is shown at **Annex E-4**.

#### Right of way

As the Petitioner has full possession of the land, comprising of 1000 Acres, the right of way available and utility corridors have been planned for 132 kV and 11 kV cables by the developers and planners.

#### Feeder Maps

Feeder maps are provided in the External Electrification Design Book of the 11kv distribution network, on pages 47, 48, 49, 50, 51, and 52 thereof. The complete map is provided herein below.





**VOLTAGE LEVELS AND REGULATION**

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- The distribution system voltage level shall be as per NEPRA regulations and performance standards.
- The voltage levels of medium voltage distribution lines shall be 11 kV with voltage regulation of  $\pm 5\%$  at the receiving end and single line contingency condition (N-1). The medium voltage distribution lines shall be overhead.
- Voltage level of transmission lines shall be 132 kV with voltage regulation  $\pm 5\%$  at the receiving end and it shall be  $\pm 10\%$  under single outage contingency. (N-1 condition as per NEPRA regulation and performance standards.) The said transmission lines are constructed, owned and maintained solely by PESCO.
- The voltage drop shall be calculated from node to node as per WAPDA/PESCO/NTDC Instructions. The tail end voltage drop and power losses from the proposed feeder shall not exceed the permissible limits of 5% and 3.5% respectively.

## **LINE EQUIPMENT CHARACTERISTICS**

---

All material and equipment supplied and installed shall be designed, manufactured and tested to meet the following system and climate conditions unless specifically stated otherwise for any material /equipment.

All system shall adopt following main standards, wherever applicable, and the design criteria shall meet the following.

### Design Codes and Standards

All system shall adapt the following standards:

- International Electro technical Commission (IEC).
- NTDC Specifications

### Design Criteria

The Electrical Distribution System meets the following requirements:

- High reliability
- Safe operation
- Route protection

- Redundancy
- Reliable technology
- Easy to maintain and troubleshoot
- Environmentally protected
- Cost effective
- Fire proof

#### System Conditions

Normal System Voltage	-	HV	132,000	Volts
	-	MV	11,000	Volts
Highest System Voltage	-	HV	145,000	Volts
	-	MV	11,500	Volts
Phases	-	HV	3	
			Wire/Conductors	
	-	MV	3	
			Conductors/Wire	
Frequency	-			
		HV/MV	50	Hz

Rated short circuit current	-	HV	40	kA
	-	MV	25	kA

#### BIL (Basic Impulse level)

Lightning Impulse withstand Voltage (132 kV)	-	650	kV
Lightning Impulse withstand Voltage (11kV)	-	95	kV
Power Frequency withstand Voltage (132kV)	-	275	kV
Power Frequency withstand Voltage (11kV)	-	36	kV

System Earthing	Earthing is provided as per NTDC Standards
-----------------	--

#### Climate Conditions

Max Ambient Air temperature	-	50 °C
Max Daily Average temperature	-	40 °C
Min Ambient Air temperature	-	0 °C
Horizontal surface	-	60 °C
Highest Radiation intensity	-	1000 W/m <sup>2</sup>
Max relative humidity	-	95%
Isokeraunic level	-	9.7 Days / Annum

Altitude	-	285m(935ft) above Sea Level
Location	-	Semi desert
Pollution	-	Wind blown sand

The line equipment characteristics shall be as follows.

A. 132 kV Grid station Equipment

1. Power Transformer

i.	Rated	40 MVA
ii.	Voltage ratio	132/11.5 kV
iii.	Winding arrangement	Delta /Star
iv.	Tap position	23 ( $\pm 11$ )
v.	Impedance at principal tap	10%
vi.	Vector group	Dyn11
vii.	Tap change range	23( $\pm 11$ )
viii.	Earthing method connected to grounding mesh	Neutral is Directly

## 2. AIS Switchgear

i. Rated Voltage	145 kV
ii. Operating Voltage	132 kV
iii. Rated 3 – Phase, Short circuit breaking current	40 kA
iv. Rated 3– Phase , Peak short circuit making current	100 kA
v. Rated bus bar current	2000 A

## 3. 132Kv Protection Equipment/Relay Data

- i. Bus bar differential CU (Schneider UK) MICOM P741
- ii. Bus bar differential PU (Schneider UK) MICOM P741
- iii. Line Distance Relay (Schneider UK) MICOM P543
- iv. Line Backup HV OC&EF (Schneider UK) MICOM P141
- v. Line Differential & Distance Relay (Schneider UK) MICOM P543
- vi. Line Backup HV OC&EF (Schneider UK) MICOM P141
- vii. Transformer Differential (Schneider UK) MICOM P642
- viii. Transformer Backup HV OC&EF (Schneider UK) MICOM P141
- ix. Transformer Backup LV OC&EF (Schneider UK) MICOM P141
- x. Transformer Mechanical (Schneider UK) MICOM P143
- xi. Line Bay Control Unit (Sifang China) CSI-200E
- xii. Transformer Bay Control Unit (Sifang China) CSI-200E

- xiii. Common Bay Control Unit (Sifang China) CSI-200E
- xiv. GPS Time Synchronization (Sifang China) CSC-196
- xv. Protocol Converter (Sifang China) CSD-1321
- xvi. Substation Automation System (Sifang China) CSC-2000
- xvii. Fault Recorder Device (Qualitrol-UK) IDM+
- xviii. Protocol Converter (Sifang China) CSD-1321
- xix. Energy Meters ISKRA-SI MT680

B. 11 kV Switchgear

ii.	Rated Current	630A outgoing and Capacitor panels, 2500 A for Incomer, bus bars and bus Coupler
iii.	Rated Voltage	11kV
iv.	Rated Frequency	50 Hz
v.	Rated short circuit breaking current	25 kA for 1 Sec
vi.	Rated short circuit making current	63 kA
vii.	Rated 1 minute power frequency withstand voltage	28kV
viii.	Rated lighting impulse withstand voltage	75 kV
ix.	Operating sequence	O-0.3 sec-CO-3Min-CO

x. Operating times:

- |                  |           |
|------------------|-----------|
| i. Closing time  | Max 80 ms |
| ii. Opening Time | Max 60 ms |

C. Switching station

- The switching sub-station is outdoor type either of 3 way/4 way MV switchgear panel arrangement as per design requirement.
- The sub-station Contains MV switchgear panel with vacuum circuit breaker (VCB) to accommodate outside MV cable circuit designated as incoming and outgoing.
- The sub-station is mounted on RCC platform with provision for MV cables circuit entry and connections.
- VCB switchgear panel for connecting outside MV cable shall be complete in all respect shall be pre wired and equipped with the following
  - i. Single Ratio Dual core current transformer for protection
  - ii. Numeric over current and Earth Fault Relay.
  - iii. Digital Ammeter
  - iv. Ammeter selector switch ( ASS)
  - v. Earth fault indicator ( EFI)
  - vi. Earth switch to ground cable.
  - vii. Cable live indication.
  - viii. Cable termination arrangement.
- The protective equipment and EFI is smart and intelligent Electronic Devices (IEDs) having provision for remote on line two way data and fault



indication communication and provision for integration with AMI for distribution Automation ( DMS and EMS) to achieve smart grid concept.

- The instrument /relay compartment in MV panel contains sufficient space to accommodate the devices necessary for remote data transmission and for control/monitoring through SAS.
- The VCB and earthing switch shall have potential free 6/12 NOs of Normally open and 6/12 Nos of normally closed (NC) contacts for ON and OFF indication and control through SAS.
- The metering and Instrument relay compartment shall have sufficient of various size/capacity of spare terminals.

MV cable and Straight through joint /Termination.

- The cable shall be three core stranded aluminium conductor, XLPE insulated, triple extruded, PVC bedded, steel wire armored (SWA) and PVC sheath overall.
- The cable shall be laid in tranches on cable raceways/Hangers

#### D. Distribution System ( 11 kV)

##### 1. Transformer

I. Rating	500/750/1000 kVA
II. Voltage ratio	11000/400Volts
III. Tap position	Principal Tap
IV. Vector group	Dyn11

V. Impedance voltage (500kVA) 4% (With IEC tolerance)

VI. Impedance voltage (750/1000kVA) 5%(With IEC tolerance)

## 2. 11 kV switch gear

- i. Rated voltage 15,000 Volts
- ii. Operating voltage 11,000 Volts
- iii. Rated 3 phase short circuit current (1 sec) 25 kA
- iv. Rated 3 phase short circuit making current 63 kA

## 3. 11 kV cable

- I. Size 3x300mm<sup>2</sup>
- II. Type Copper conductor XLPE insulated steel tape
- III. Rated Voltage 15 kV
- IV. No of cores 3

- I. Size ACSR Ospray 1x300mm<sup>2</sup>
- II. Type Insulated Aluminium Conductor  
18/4.465stranded
- III. Rated Voltage 15 kV
- IV. No of cores 3

**POWER QUALITY CONTROL**

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- The power quality will be maintained according to NEPRA regulations and codes.
- Harmonics and voltage deviations and frequency variation will be monitored automatically through SAS.
- Loading of the equipment and terminal voltage shall be monitored.
- Connection points, heating points shall be monitored and maintained.
- Capacitor bank to improve the power factor, as stated in the Single Line Diagram.

## **ANNEX – F-12**

### **BACK-UP/EXPRESS FEEDER PROVISIONS**

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- Back up MV feeder provision is provided for each sub-station to provide backup in case of fault on service feeder.
- Similarly 132 kV overhead transmission line of 800 mm<sup>2</sup> sizes consist of two (2) circuits with a possibility of further expansion to additional two (2) circuits to meet (n-1) criteria the other circuit shall be capable of taking peak load demand of the RSEZ.

## ACCIDENT PROTECTION AND PREVENTION PROCEDURES

---

- Standard operating procedure (SOP) for operation and maintenance of all equipment will be prepared.
- Safety procedure will be developed considering the voltage levels.
- All operation and maintenance personal will be equipped with safety gears and personal safety gadgets.
- All equipment will be tagged properly to avoid any accident.
- The earthing of all equipment will be carried out as per IEC/IEEE/ WAPDA/NTDC codes and standards.
- The forms for handing over or taking over equipment of maintenance will be developed.
- Shut down for maintenance of normal line/equipment will be communicated in writing.
- Proper communication will be done to shut down for maintenance of normal line element as well as for handing over for re-energizing of element after maintenance.
- All operation with time, and persons responsible, will be tagged properly, in registers at installation, to avoid any accident.
- The SOPs prepared will define duties of personnel involved in operation and maintenance.
- The proper warning signs will always be in place.
- The equipment for maintenance will be not accessible to any unauthorized person.
- The fire extinguisher system will be placed, at necessary place, along with manual system for high voltage equipment like transformer and grid stations. Furthermore, the control building will have fire and smoke detectors installed for fire prevention.
- The underground mesh will be installed to control step and touch voltages within limits.
- Firefighting training will be given to operation and maintenance crew.
- The illumination level will be such to prevent any accident due to low light standards.

- All codes and standards used by the company will be as per the NEPRA distribution code and standards.
- The health and safety protocols will be developed for employees.
- The equipment will be tested as per the aforementioned SOPs to avoid accidents.
- All equipment installed will be made inaccessible by installing barriers and putting warning signs.

**EMERGENCY PROVISIONS**

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- Fire tenders with at least state of art equipment will be available.
- Automatic alarms will be initiated in any emergency conditions.
- SAS will be used to cut off the lines or consumer supply remotely to minimize the effect of any fire or hazardous situation.
- Ambulances with medical aid will be readily available in case of any medical emergency.
- The communication system will be designed to minimize reporting time to limit loss.

**PROTECTION, CONTROL AND MEASURING INSTRUMENTS**

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General

Protection system shall be designed to protect all the essential equipment installed in the electrical network of RSEZ. The general aim of the protection equipment shall be to isolate every fault on the network with reliability, speed, selectivity and simplicity, avoiding unnecessary operation and in the minimum time possible. The protection system shall comprise state of the art, high speed, highly sensitive numerical relays and associated equipment. The protection system shall be designed in such a way that it shall facilitate easy maintenance and repair of the components. All components shall be suitable for the local climatic conditions.

Transmission Lines Protection

Distance/differential relays shall be used as primary protection for high speed fault clearance on transmission line with maximum sensitivity and selectivity. Over current relays for phase and earth faults shall be used as back-up protection.

132/11 kV Power Transformers Protection

Differential protection shall act as the main protection for the 132/12 kV transformers. HV and LV over-current and Earth Fault Relays shall be provided for transformer back-up protection.

11 kV Feeder Protection

Protection of 11 kV feeders shall comprise over-current relays for phase and earth faults. Effective grading between the over-current and earth fault relays of the outgoing feeders at grid stations and those relays at the downstream 11 kV network shall be ensured.



**TYPE OF METERING SYSTEM TO BE USED**

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It is proposed that RSEZDOC will utilize Automatic Reading Meters (AMR) for the project, as explained below.

**METERING INSTALLATION AND TESTING FACILITIES**

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- Energy measurement system is designed to calculate energy in and out from power transformer and energy exported to various medium voltage 11kV feeders and 132kV transmission circuits.
- All metering instruments and summation equipment are designed to be of the smart IED/AMR type and are designed to communicate with the SAS.
- The energy meters shall be compliant with the following standards of the International Electrotechnical Commission (IEC):
  - i. IEC 62052-11;
  - ii. IEC 62053-21;
  - iii. IEC 62056-21
  - iv. IEC 61036
  - v. EN 50470-3;
  - vi. IEC 62053-22;
  - vii. IEC 62053-23.
- The metering devices shall allow to measure MWh or kWh and MVarh or kVarh and as an option measuring of import and export of active and reactive energy in the same instrument.
- The combination meters (kWh/kVarh) shall be able to register the two rate MWh- or kWh-tariff (two registers) for one direction, or a single rate MWh- or kWh-tariff for two directions (import/export), a single rate MVarh or kVarh tariff for leading and lagging reactive energy (two registers).
- The meter shall have two independent electronic output contacts (one for MWh or kWh and one for MVarh or kVarh) for re-transmitting to an external totalizer.
- The MWh- or kWh-meters the accuracy shall be of class 0.2S/0.5S according to IEC 62052-11 and IEC 62053-22, the MVarh- or kVarh-meters shall be of class 3.

- The meters must be able to register a low initial reading, i.e. shall start at less than 0.05 % of the load.
- On-site calibration facilities shall be provided to enable the service engineer to modify/offset the error curve with defined very small values/steps.

**COMMUNICATION SYSTEMS**

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**Substation Automation System (SAS)**

Substation Automation System shall be used to collect data from instruments and relays located at grid station and to transmit data at load dispatch centre (LDC), RSEZ for monitoring and controlling purpose. The collected data from relays and instrument shall be viewed on one or more SAS host computers that will be located at LDC, RSEZ. Based on the information received from the grid stations, automated or operator– driven supervisory commands can be pushed to grid station control devices which are then referred to as the field device.

Following signals shall be provided in SAS Signal list:

1. Circuit Breaker Faulty or Spring Uncharged signals for all 132kV Circuit Breakers
2. Circuit Breaker Close or Open signals for all 132kV Circuit Breakers
3. Circuit Breaker Motor faulty signals for all 132kV Circuit Breakers
4. Auto Recloser in service/ out of service
5. Auto Recolser Blocked signals
6. Breaker Failure stage-II signals
7. 132kV Busbar protection out
8. Sync-check successful / unsuccessful signals for 132kV Circuit Breakers
9. All relevant Protection & Control tripping signals
10. AC and DC MCBs trip signals for all protection & control panels/equipment.