

**Distribution  
System  
Engineering**



*A Vision to Clear Solutions*

# WHO WE ARE?

**POWER-tek** has 24 years of successful business history in power system engineering and smart grid projects. For over 275+ customers in four continents and over 20 countries, POWER-tek has successfully delivered power system engineering solutions. POWER-tek customers include large independent system operators, transmission companies, distribution companies, oil and gas companies, government agencies, commercial banks, international development agencies, construction and consulting companies, large industries, and power project developers. Over 75% annual revenue for past many years from repeat customers proves strong customers trust for POWER-tek.

**24**  
Years of Customer Satisfaction

Projects Delivery in  
**4**  
Continents

**275+**  
Customers Worldwide

**75%**  
Repeated Customers Revenue

# REPRESENTATIVE PROJECTS



Distributions system and grid compliance study of Napier wind farm

**Wpd Germany/Tetra-Tech WEI Inc., Mississauga, Canada**



Distributions system planning / Different distributions system areas in Ontario, over 12MW each, 21 solar power projects and engineering cost estimates

**Sky Power, Toronto/Hydro One, Ontario, Canada**



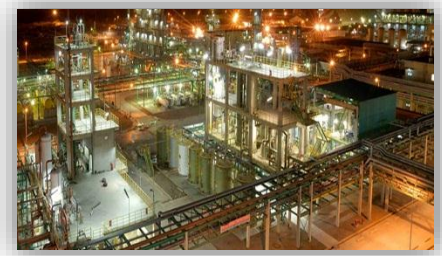
Power distribution system and Relay-Settings update after transformer replacement

**Gulf Salt Power Company, Saudi Arabia**



Utility interconnection review for distribution system and relay coordination

**ABB, Saudi Arabia**



Exxon electrical distribution network expansion and balancing studies

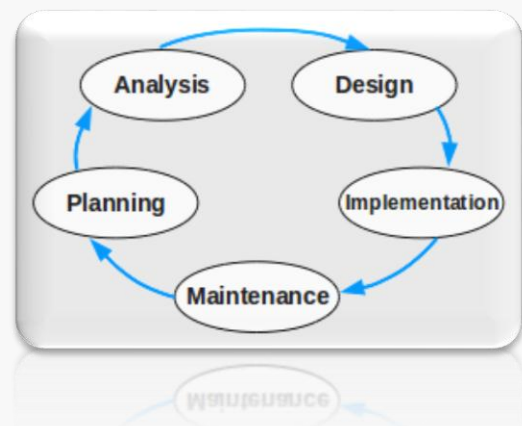
**Exxon (Engro) Chemicals Ltd / Jafri Associates**

# POWER-tek's GLOBAL REACH



## OUR SERVICES

A combination of strong analytical expertise and life time hands on practical field experience of power systems is differentiating aspect of POWER-tek services. These services cover various aspects of power systems engineering that include planning, analysis, design and operations, preparation of bid documents and bid evaluation, contract award and project management. POWER-tek has established a reputation for quality and innovative approaches in the following areas, where it has successfully provided services globally in the past 24 years:



### DISTRIBUTION SYSTEM PANNING AND RELIABILITY

- Distribution planning studies (Load flow, short circuit, stability and motor starting studies)
- Comparison of protection options
- Voltage level comparisons

*Comparison of system configurations including*

- Number of homes per transformer
- Feeder lengths
- Lateral lengths
- Load break vs non load break
- Use of faulted circuit indicators
- Service to critical loads

### OPTMAL CAPACITOR PLACEMENT

- Loss evaluation of existing configuration
- Loss evaluation using reconfiguration of existing kVR
- Optimized sizing and placement of capacitor banks

### DISTRIBUTION ENGINEERING DESIGN AND INSTRUMENTATION

- Preparation of basic design package
- Detailed engineering design and specifications of equipment, electrical and instrumentation systems
- Protection coordination and relay settings
- Preparation of documents for BOQ, procurement and contracting services.
- Preparation of tender documents for competitive bidding based on the customer or Bank guidelines
- Bid evaluation
- Contract award
- Field tests
- Operational performance/efficiency analysis and recommendations

### AUTOMATION AND SMART GRID

- Advanced distribution management system
- Outage management system
- Integration of renewable energy in smart grid system
- Reconfiguration for loss reduction
- Smart meter data management
- Efficient equipment utilization
- Energy storage systems for smart grid applications

# OUR SAMPLE VALUABLE CUSTOMERS/Solutions Provided for

 USA <a href="http://www.pjm.com">www.pjm.com</a>	 USA <a href="http://www.spp.org">www.spp.org</a>	 Canada <a href="http://www.ieso.ca">www.ieso.ca</a>	 Saudi Arabia <a href="http://www.gccia.com.sa">www.gccia.com.sa</a>	 USA <a href="http://www.tva.gov">www.tva.gov</a>
 Canada <a href="http://www.bchydro.com">www.bchydro.com</a>	 Canada <a href="http://www.hydraoone.com">www.hydraoone.com</a>	 USA <a href="http://www.gatrans.com">www.gatrans.com</a>	 USA <a href="http://caec.coop">caec.coop</a>	 USA <a href="http://www.cooperativeenergy.com">www.cooperativeenergy.com</a>
 Saudi Arabia <a href="http://www.se.com.sa">www.se.com.sa</a>	 South Korea <a href="http://www.kepco.co.kr">www.kepco.co.kr</a>	 Pakistan <a href="http://www.ntdc.com.pk">www.ntdc.com.pk</a>	 Malaysia <a href="http://www.tnb.com.my">www.tnb.com.my</a>	 USA <a href="http://www.aep.com">www.aep.com</a>
 USA <a href="http://www.dominionenergy.com">www.dominionenergy.com</a>	 USA <a href="http://www.firstenergycorp.com">www.firstenergycorp.com</a>	 USA <a href="http://www.amecfw.com">www.amecfw.com</a>	 USA <a href="http://www.peco.com">www.peco.com</a>	 USA <a href="http://www.firstenergycorp.com">www.firstenergycorp.com</a>
 USA <a href="http://www.comed.com">www.comed.com</a>	 USA <a href="http://www.firstenergycorp.com">www.firstenergycorp.com</a>	 USA <a href="http://www.dpandl.com">www.dpandl.com</a>	 USA <a href="http://www.firstenergycorp.com">www.firstenergycorp.com</a>	 USA <a href="http://www.bge.com">www.bge.com</a>
 USA <a href="http://www.pseg.com">www.pseg.com</a>	 USA <a href="http://www.atcllc.com">www.atcllc.com</a>	 USA <a href="http://www.firstenergycorp.com">www.firstenergycorp.com</a>	 USA <a href="http://www.duke-energy.com">www.duke-energy.com</a>	 USA <a href="http://www.pplelectric.com">www.pplelectric.com</a>
 USA <a href="http://www.oge.com">www.oge.com</a>	 USA <a href="http://www.nppd.com">www.nppd.com</a>	 USA <a href="http://www.westarenergy.com">www.westarenergy.com</a>	 USA <a href="http://www.wfec.com">www.wfec.com</a>	 Abu Dhabi <a href="http://www.adwea.com">www.adwea.com</a>
 Oman <a href="http://www.omanpwp.com">www.omanpwp.com</a>	 Qatar <a href="http://www.km.com.qa">www.km.com.qa</a>	 Kuwait <a href="http://www.mew.gov.af">www.mew.gov.af</a>	 USA <a href="http://www.usaid.gov">www.usaid.gov</a>	 USA <a href="http://www.ansaldoenergia.com">www.ansaldoenergia.com</a>
 Canada <a href="http://www.energy.gov.on.ca">www.energy.gov.on.ca</a>	 Pakistan <a href="http://www.pepco.gov.pk">www.pepco.gov.pk</a>	 USA <a href="http://www.shawgrouppltd.com">www.shawgrouppltd.com</a>	 Germany <a href="http://www.siemens.com">www.siemens.com</a>	 Switzerland <a href="http://www.abb.com">www.abb.com</a>
 Pakistan <a href="http://www.privatisation.gov.pk">www.privatisation.gov.pk</a>	 USA <a href="http://www.tetrattech.com">www.tetrattech.com</a>	 Canada <a href="http://www.hatch.com">www.hatch.com</a>	 Germany <a href="http://www.lahmeyer.de">www.lahmeyer.de</a>	 USA <a href="http://www.s&amp;w.com">www.s&amp;w.com</a>