



Our Unique Projects Completion Process



Your **Problem**

Most of the times, large projects are more than the scope of contractors or customers. To make every stake holder completely capable of tackling tasks in hand, we offer our interventions.









On Site **Training**

EPESOL believes in the education of its customers. We have an extensive training program for the education and training of the projects we done. In addition we have our Training School for advance learning in protection.

Idea Innovation

From retrofit designs to assisting with complete protection part of EPCs, EPESOL is unique in every bit. We innovate our unique LV, MV & HV/EHV portfolio according to the very comfort of our customers.

Protection **Engineering**

Most of the times the project involve a part of studies. We offer a uniquely perfect portfolio of protection studies including; interconnection studies, base design works and detailed design works.

Equipment Procurement

EPESOL being the partner of GE Grid Solutions that includes the whole protection and control portfolio of GE and ALSTOM procure the best equipment according to international standards.

Manufacturing

EPESOL has state of the art manufacturing facility. We are category M2 manufacturers in LESCO utility. We have more than a decade of experience in panels and switchgear manufacturing with our own machines.

Testing & Commissioning EPESOL has a highly experienced and

certified team of services engineers. We offer complete dismantling, replacement, testing, erection and commissioning services within the given time and constraints.

Protection Turn Key

FEATURES & BENEFITS:

EPESOL offers a unique end-to-end solution. Our Protection Turnkey solution is based on EPESOL's multifarious skill-set. We have the world's largest protection, control and automation product line from GE, Alstom and ABB. We also provide design & consultancy services backed by a gigantic experience of more than three decades. Our state-of-the-art manufacturing facility makes sure the quality remains the same throughout the project and end products qaulify the whole project standards. The solution is perfect as our testing, commissioning and maintenance team - with a work presence in 11 countries - meticulously completes the project. This huge portfolio by a Pakistani corporate ensures a global standard solution.

including MCBs, MCCBs, ACBs, RCCB, RCBOs, contactors and control products.

and power distribution ingenious boards JuicePack.

GE's products for medium voltage including Switchgear, Circuit Breakers, PFI and

GE's product line for low voltage Reactive compensations, dry type transformers, capacitors, voltage regulators, surge arresters and other products of commercial, **EPESOL's energy management** industrial and utility applications.

GE and Alstom's protection and control portfolio along with metering solutions, auxiliary transformers and lighting solutions.

Manufacturing of protection & control panels, switchgears, PFI panels, MCCs, control boards, DBs, **Commissioning** activities of all electronics & related products **Testing** for motors, VFD(variable

frequency drives), PLC (programmable logic controllers), 3-phase inverter & soft starter, low protection coordination, ground power generator synchronization, CT, PT, breaker and PFI test, ATS

panel, cable testing and motor control centers (MCCs)

types for the entire product line. **Studies** of all types for plant interconnection, load flow, short circuit, harmonic, motor starting, grid, cable sizing and Automatic Load Shedding (ALS).

OFFERINGS:

1. ENGINEERING DESIGN:

Our EHV, HV, MV & LV Engineering Unit overlooks this phase which includes three processes:

- Interconnection Studies; involving Load Flow, Short Circuit and Transient Stability Studies.
- Base Design; covering preliminary system specifications and selection of the most viable products.
- Detailed Design; for schematic & interconnection designs along with component settings calculations.

2. Supply & Manufacturing:

- Pakistan's largest protection, control & automation portfolio as partner of GE Grid Solutions (including Alstom).
- LV & MV solutions including GE & ABB protection and control product line.
- Complete packaged solutions through our local manufacturing facility with adequate throughput.
- Strict QC procedure duly audited and supported by GE.
- Registered panel manufacturer under category M2 in the utility.

3. Installation & Erection

Complete installation & erection services in minimum time with top notch quality and long term efficiency.

4. TESTING, COMMISSIONING & START-UP

International work footprint on 3 continents & 11 countries under the guidance of GE as a sub-contractor assuring enduring operational performance, efficiency and dependability.

5. TRAINING & SUPPORT

With 'Training School' customers get trained on functionality, operation & maintenance of the solutions we offer.





Safe Upgrade from electromechanical relay & control systems in terms of space



Smart and compact



Increase in asset life relay & control solutions resulting in cost efficiency and system reliability



Easily available aftersales and maintenance support 24/7

OFFERINGS:

1. **INQUISITIVE STUDIES:**

Thorough and detailed system studies are performed in order to find out the exact scope of project.

2. REPLACEMENT DESIGN

EPESOL offers a unique approach in this domain.

- Smooth & perfect transformation of old parameters to new ones, thus making the overall system same to maintain
- Whether the focus area is isolated or interfaced with the whole scheme, Design team covers all aspects, thoroughly
- Perfect transformation of old/incomplete schematics to new ones, thus easy to understand for the customers

3. DISMANTLING

EPESOL services engineers do the precise dismantling of required existing equipment to ready everything for next steps.

4. Modifications

Precise modifications as per the drawings provided by Design are made into the existing system.

5. TESTING, COMMISSIONING & START-UP

Our Field Services is the sub-contractor of GE; the experience that makes it best suited for this job. We also provide 24/7 aftersales support and complete on-site training of the project done.



ENGINEERING:



Our Engineering portfolio covers a huge hemisphere. From initial design phase to extended and detailed phase all our engineering processes are governed by the experienced eyes of veteran engineers aided by latest design process monitoring techniques. We offer complete Plant Design including Mechanical, Civil and Electrical design, Process Design including detailed Piping design and Infrastructure design.

PROCUREMENT:



We have an experienced team on this task that ensures best sources for material and equipments according to the client requirements. This includes assessment of vendor's qualification, processes involved in import/export, documentation and logistics management. Electrical products are mostly procured of GE, Alstom and ABB as they are our principals.

CONSTRUCTION:



Our expertise expand to construction capabilities of the quality EPESOL is famous for. This include all sorts of Industrial and Commercial construction namely plant construction, relocation and up-gradation. We have experienced teams for civil, mechanical and electrical construction.

Our		
Sign	nati	ure
Proj	ects	
	CCC	
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	<u>Voltage Level</u>	Scope	Customer	<u>Description</u>
	18 kV	Protection Retrofit	Tarbela, Hydel	Generator Protection Retrofit
	220 kV	Protection Retrofit	K-Electric	Distance Protection System Retrofit
	6.6 kV	Protection Retrofit	Engro P&C	Generator Protection Retrofit
\	132 kV	Protection Retrofit	K-Electric	High Impedance Busbar Retrofit
\	13.8 kV	Protection Retrofit	FFBL	Generator Protection Retrofit
	11.5 kV	Protection Retrofit	Uch Power	Generator Protection Retrofit
	15 kV	Protection Retrofit	Liberty Power	Generator & Transformer Protection Retrofit
/	132 kV	Protection Turnkey	Jinnah Hydro	Line Differential & Over Current Turnkey
	220 kV	Protection Retrofit	K-Electric	Transformer Protection Retrofit
	220 kV	Protection Turnkey	NTDC	NTDC - Guddu Line Differential Turnkey
	11 kV	MV Turnkey	AES Lalpir	Power Factor Improvement plant Turnkey
	6.6 kV	MV Turnkey	OMV - Sawan	Generator Load Shedding Scheme Turnkey
	6.6 kV	MV Turnkey	SABA Power	Power factor improvement plant Turnkey



Partner GE Energy



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