

Integrated Electrical Package

ABB Australia Electrification Engineering and Integration Group (EEI)

Our Mission... “Be the most competitive high quality electrification provider that reduces project risk to our global clients.”

Introduction

Electrification Engineering and Integration Group (EEI) is an engineering, project management and sub-contracting arm of ABB Australia Power Products Medium Voltage division. Our expertise is in Electrical Design Engineering, Procurement and Project Management, acting on behalf of our global clients.

EEI recognises that it is you, our client, who is our key to success. Meeting your needs and expectations is our mission. We will ensure that every contact you make with us, and every engineering solution, plant integration or procurement service you receive from us meets and if not exceed your expectations.

We are aware however that your needs and expectations are ever changing and we as a key partner and supplier must be in a position to effectively manage and react to these changes and see them as opportunities to add more and new values for you – our client.

In managing these value-adding processes within our business, we have adopted and implemented a range of Quality and Environmental Management initiatives since the late 1980s, which we believe are of direct benefit to you – our client. All our engineering offices hold ISO 9001 and ISO 14000 certifications.

Quality Assurance is more than just the recognition of a formal system. It is about providing you, our client, with an adequate level of confidence that the goods or services we offer will satisfy all your requirements. This system is under periodical review for continuous improvement.

We strive to provide the best service throughout the tendering stage by:

- Professional handling of initial requests
- Open discussion to resolve any matters that require clarification
- Speedy respond to your requests
- Easy to understand offer
- Prompt reply to clarifications

We recognise the essentials of careful project execution. Every project will be honoured the highest attention by :

- Mutual agreement in resolving any differences in our offer and your order which remains outstanding
- Flexible arrangements we can make to accommodate your requests to inspect work in progress, including testing, in accordance with the agreements we have reached
- Quality of product and services verification

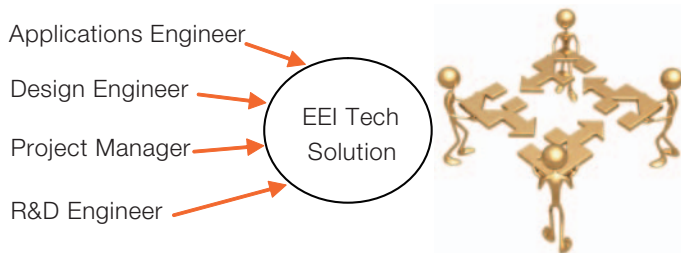
Being an organisation who do not just talk about Quality, Design Engineering Solutions and Client Service, but have implemented this as culture throughout the division , we trust that you too will recognise the value-adding benefits when you do business with us.



EEI structure

EEI team is headed by applications and engineering departments employing a specialist group of applications engineers, design engineers, experienced project managers and R&D personnel. We talk in your language – technical solutions.

As part of the world’s foremost power and automation technology companies, EEI is uniquely positioned to utilise the global strength of ABB group to provide fast, cost effective and technically efficient total electrification solutions.



EEI Offers

EEI expertise is in complete substation electrification projects. We are your complete turnkey office for HV/MV/LV/Control Systems Integrated Package.

Definitions:

- HV High Voltage Switchgear
- MV Medium Voltage Switchgear
- LV Low Voltage Switchgear
- Control System Substation Electrical Monitoring & Control Programmable Logic Controller Interface to DCS, ECS, SCADA, etc

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Who are EEI global clients?

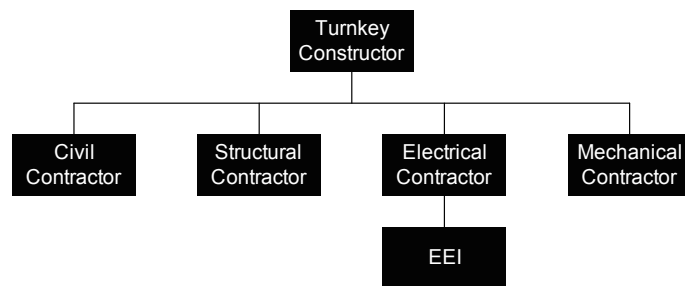
We have enjoyed business with many partners and end users over many years. Our global client groups include:

- Electrical Contractors
- Constructors, Developers
- Government Utilities – Water, Infrastructure
- Power Producers – Renewables, etc
- Industrial – Mining, Minerals, Chemical, Oil and Gas

With our unique offering – electrification design engineering, procurement and project management approach, we aim to reduce project risk to our clients.

Partnership - Your access to Our Expertise

A partnership with EEI provides access to years of experience in your industry. We leverage global capabilities to complement your organisation business through consulting, development, and implementation of customised substation solutions. We can plug “electrification gaps” to enable your business to focus on your core competencies, and together as partners deliver complex turnkey substations.



Boundary

Table below is a graphical illustration of EEI limits of supply.

Project Life Cycle	Resp	Resp
Substation Concept	EEI	Client
Front End Engineering	EEI	
Detail Engineering	EEI	
Equipment Selection	EEI	
Procurement & Manufacturing	EEI	
Construction		Client
Commissioning	EEI	Client
Start-up	EEI	Client
Operation & Maintenance		Client
Handover		Client

Our Value to Your Business as Partners

Key value drivers in partnership:

- Provide “Electrification” expertise
- Reduce client integration risks
- Time saving
- Cost saving by eliminating hidden costs



Resources

EEI provides resources on “Electrification” design. The sub-contract of Electrification Engineering and Integration allows clients to focus on their strengths, such as installations, civil, structure and mechanical scope.

Risk

The biggest risk in a system integrated package is the interface between equipment. This is best managed by equipment suppliers standardising on a common design engineering philosophy and platform. EEI can best manage this risk by using ABB products of same platform or tested 3rd party products, a knowledge gained from our extensive experience.

Time

Project usually with demanding timeline. EEI with all the electrification and project management expertise will seek to reduce project turn around time. Client will benefit from time saving achieved by dealing with one electrical supplier, rather than coordination between multiple suppliers.

Costs

Beware of hidden costs especially for inexperienced system integrators. EEI takes hidden costs away from your financial books.



Tip of the Iceberg

Known Costs :-

- Engineering Costs
- Tendering Costs
- Equipment Costs
- Testing Costs
- Construction Costs

Hidden Costs :-

- Integration Issues
- Design Negotiation
- Project Management
- Suppliers Problems
- Safety Costs
- Customer Dissatisfaction
- Duplication of Effort
- Debugging Costs
- Expediting Shipments
- Overtime
- Startup Delays
- Construction Rework
- Training Costs
- Stress
- Engineering Changes
- Frustration
- Paperwork

How to start the enquiry process?

This is the only document we need is the preliminary load list. EEI will develop the rest of the design. We can provide load list template.

ITEM	EQUIP-NO	DESCRIPTION	RATED POWER (kW)	RATED VOLTAGE (V)	RATED CURRENT (A)	POWER FACTOR
1		INCOMER FROM CKP-GQ-7500			800.00	
2		INCOMER FROM CKP-GQ-7540			800.00	
3		BUSTIE			2500.00	
3		OUTGOING TO CKP-TR-7711 (2.0 MVA)			218.69	
4		OUTGOING TO CKP-TR-7713 (2.5 MVA)			273.37	
5		OUTGOING TO CKR-TR-7715 (1.6 MVA)			174.95	
6	CKP-KM-4100	REFR. COMPRESSOR MOTOR	2065	6600	213.83	0.88
7	CKP-KM-4150	REFR. COMPRESSOR MOTOR	2065	6600	213.83	0.88
8	CKP-PM-4320	SEAWATER LIFT PUMP MTR NO. 1	475	6600	50.27	0.87
9	CKP-PM-4330	SEAWATER LIFT PUMP MTR NO. 2	475	6600	50.27	0.87
10	CKP-PM-4510	COOLING MEDIUM PUMP MTR NO. 1	275	6600	28.14	0.90
11	CKP-PM-4520	COOLING MEDIUM PUMP MTR NO. 2	275	6600	28.14	0.90
12	CKP-PM-4545	COOLING MEDIUM PUMP MTR NO. 5	275	6600	29.11	0.87
13		INCOMER FROM CKP-GQ-7520			800.00	
14		INCOMER FROM CKP-GQ-7560			800.00	
15		OUTGOING TO CKP-TR-7712 (2.0 MVA)			218.69	
16		OUTGOING TO CKP-TR-7714 (2.5 MVA)			273.37	
17		OUTGOING TO CKR-TR-7716 (1.6 MVA)			174.95	
18	CKP-KM-1301	VAPOUR RECOVERY COMP. MOTOR	820	6600	86.79	0.87
19	CKP-KM-4200	REFR. COMPRESSOR MOTOR	2065	6600	213.83	0.88
20	CKP-PM-4340	SEAWATER LIFT PUMP MTR NO. 3	475	6600	50.27	0.87
21	CKP-PM-4350	SEAWATER LIFT PUMP MTR NO. 4	475	6600	50.27	0.87
22	CKP-PM-4360	SEAWATER LIFT PUMP MTR NO. 5	475	6600	50.27	0.87
23	CKP-PM-4530	COOLING MEDIUM PUMP MTR NO. 3	275	6600	28.14	0.90
24	CKP-PM-4540	COOLING MEDIUM PUMP MTR NO. 4	275	6600	28.14	0.90

Handling your request

On receiving your request to supply, our Applications engineer will review the documentation you have sent us to ensure that it is enough detail as is necessary for us to process your request and subsequently make you an offer to supply, or advised otherwise if constrained by available resources. If there is any information or clarification that we require, we will contact you during the period.

If we have all the information we consider necessary to assemble you an offer your request will then be passed onto our engineer staff. In examining your requirements our application and engineering staff will:

- Consider offering previously manufactured designs to reduce the total lead time of our offer
- Consider your special requirements and what we are able to offer in each instance.

Our respective Purchasing and Planning staff will review the proposals developed by our Engineering staff for your offer. Such a review will include:

- An examination of the delivery dates of any special long lead time items
- An examination of our capacity to make the solutions/products you require in the time frame you have specified.

When this information is available our Applications engineer will compile an offer.

Our Offer To You

Unless we have discussed otherwise, our offer to you will be structured as follows.

1. A Covering Commercial Offer setting out: -

- The basis of our offer.
- The scope of supply
- The conditions of our price(s)
- Delivery terms
- Validity
- The Conditions of Sale under which we will accept your order:

2. A Technical Offer setting out technical information of the package we are offering you.
3. Single Line Drawings and Protection Diagrams
4. Comments to Technical Requirements stating either: -
 - We are unable to fully meet your requirements, or
 - What we are offering is an alternative or an option.
5. Schedules if provided, these will be completed as required.
6. Other supporting documentation as is necessary, eg. Technical solution literatures, typical arrangement drawings, system topology, solution information pamphlets.
7. Product Catalogues, factory leaflets and technical information pamphlets



Should our offer to you be unclear in any way, please contact our Application Engineer immediately for clarification.

Handling your order

Your order will be managed by the same Project Manager who attended the project kick off meeting. This is done to reduce the possibility of information being misinterpreted that could occur in assignment to different staff.

During the processing of your order

When received, your order will be reviewed to ensure that: -

- There is no difference between what has been ordered and what was offered and subsequently agreed in writing after the original offer was made.
- The technical and commercial conditions prevailing at the time of our original offer still exist to enable us to meet the terms of our offer.

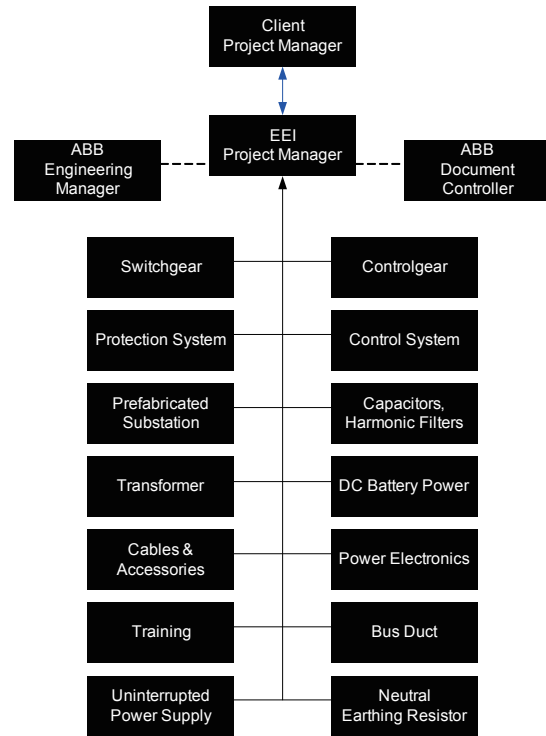
If there is any discrepancy, we will notify you and seek clarification in writing.

EEI Execution Approach

EEI provides you a single point of contact for any electrical and control fault allowing: -

- Quicker response with no finger pointing and no excuses.
- Quick fix times therefore less down time.
- Maximum savings

EEI integrated package saves money, saves time, increase reliability of deliverables and reduces project risk.



Despatch of your order

Your order will generally be despatched on the date we have agreed. The on-time product delivery performance is a measure to our success.

If you have requested special arrangements such as export grade packaging, short term storage etc. these requirements will be met where agreed to.

Warranty returns

Products offered under the order are covered by a twelve month parts and labour warranty. Please contact us immediately if:

- Products appear to have been damaged in any way on arrival
- You are unsure as to the installation or commissioning of the units

Please refer to the separate Conditions of Sale for specific inclusions/exclusions.

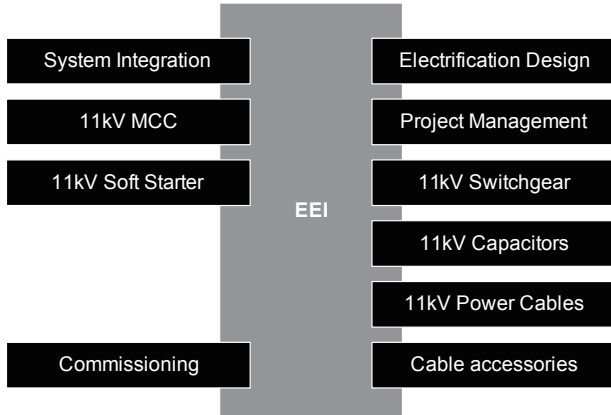
Invoicing

If credit facilities have been made available, you will be invoiced for the agreed price at the time of deliverables. If a variable price agreement was entered into, you will be invoiced separately for the variable portion based on the agreed formula.

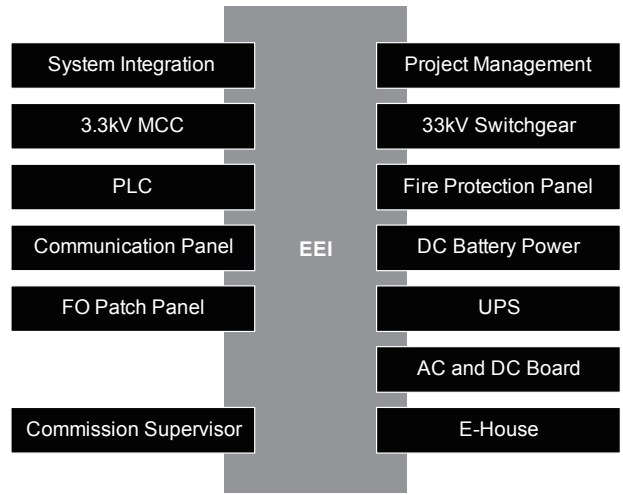
EEI accepts all major currencies such as USD, EURO, GBP, AUD, Swiss Francs, etc.

Typical Projects

Project: Oman Water Pump Stations
 End User: Ministry Of Water
 Location: Oman



Project: Mt. Isa Water
 End User: Mt. Isa Water Board
 Location: Australia



Conclusion

We would value your feedback in relation to the following areas:

- The way we handled your requests
- The way we resolved any matters that required clarification between ourselves
- The clarity of the information we have provided, including the offer itself, drawings, manuals, test reports, etc
- The 'As delivered' condition and performance of our offer

Should you place an order we will also contact you after order delivery to enable you to offer comments which can help us to improve our performance.

For more information please contact:

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The data and illustrations are not binding. We reserve the right to make changes in the course of technical development of the product.
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