



Accredited Electrotechnology Estimating Course
Electrotechnology Estimating Software
Electrotechnology Estimator Training
Electrotechnology Consultancy
"Building Reputations"

Image of Dalrymple Bay Coal Terminal (DBCT) Mackay - Telecommunications & Electrical Services for Stacker Reclaimers Tendered and Project Managed by the Author.

INTRODUCTION

In 2016–17, in response to some concerns about alleged poor and unsafe cabling practices that could potentially put at risk the Australian Government’s National Broadband Network (NBN) migration objectives, the ACMA made customer cabling compliance a priority compliance area (PCA).

SYNERGIES

There are common elements and synergies between the telecommunications and electrical industries, with many workers often qualified in both (the results of the ACMA cabling PCA indicated that 71 per cent of registered cablingers were also qualified electricians). However, the regulation of these industries is quite separate.

ELECTROTECHNOLOGY CHANGES

Like the telecommunications industry, the electrical industry has also witnessed significant changes in technologies and its operating environment in the last twenty years. The mandatory use of earth leakage circuit breakers (ELCBs) and residual current devices (RCDs) since the 1990s has significantly changed the electrical safety environment. Driven by developments in Telecommunications technology, consumer demand for cabling has evolved from the basic ‘plain old telephone service’ (POTS) connection to increasingly sophisticated configurations required by increasingly ubiquitous superfast broadband services and ‘smart-intelligent wired’ buildings and homes. Integrated infrastructure projects that demand emerging technologies and active components such as BAS, Access/Security, DAS, MATV, Wi-Fi, PoE and LED lighting are becoming the norm and the astute SME or large enterprise Electrical Communications contractor will recognise this and co-ordinate all aspects of its development under a carefully determined strategy.

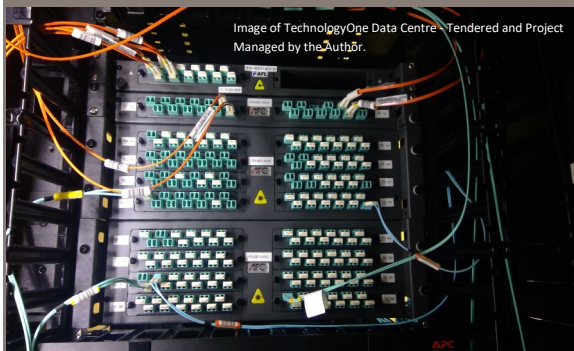


Image of TechnologyOne Data Centre - Tendered and Project Managed by the Author.



Image of Brisbane Star Track Depot Embedded Co-Generation Plant - Tendered and Project Managed by the Author.

TECHNOLOGY & AUTOMATION

Industries across the world are experiencing rapid changes in their daily operations, accelerated by technological innovation. These changes will transform the way industries manage, supply, and regulate their operations. Technological advances will provide challenges and opportunities to the Electrotechnology industry, with the merging of traditional industry sectors and the emergence of new industry subsectors. New products and services in process automation for homes are continuously entering the market in Australia. Packaged home automation systems are now being offered that include smart plugs, doors, windows and motion sensors. Furthermore, the development of fully electric vehicles, commercial automation processes, sensor fit-outs, as well as communications and remediation services are continuing to increase in demand. These new systems allow consumers to conserve energy and automate the use of certain home appliances. From tailored Programmable Logic Controller (PLC) programming to Supervisory Control and Data Acquisition (SCADA) systems, industrial process automation services and devices are now commonplace. New specialist skills will be sought for these new technologies, requiring new and revised training strategies.

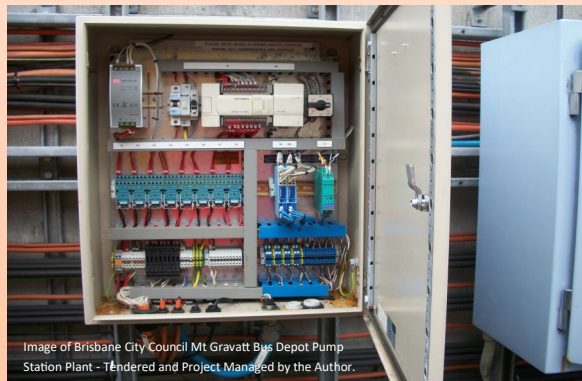


Image of Brisbane City Council Mt Gravatt Bus Depot Pump Station Plant - Tendered and Project Managed by the Author.

STRATEGY

The ever-changing Electrical Telecommunications Contracting landscape and the increasing deployment of superfast broadband technologies now require the most robust cabling infrastructure and cutting-edge test equipment to support this change and growth. Modern telecommunication cables and new customer cabling technologies will continue to emerge, most likely including the increased deployment of converged technologies where single cables transmit telecommunications data while also distributing electrical power. These developments in cabling technologies require up-to-date, specialised skills to ensure their correct and safe operation. To maintain a leading and high-profile position in the face of increasing opposition and other external influences in the market place, it is vital that you are attuned to the best enterprise principles of modern and efficient management.

“Building Reputations”



Doug Hogarth

STRATEGIC SYNERGIES SECURING SUCCESS

With such volatility in the Construction Industry and Market Competition, we can expect great pressure on Electrical/Telecommunication Contractors operating margins, possible reductions in workloads and severe competition. Electrical/Telecommunication Contractors can expect to be squeezed, requiring them to win the job more than once!

To combat these external influences the Electrical/Telecommunication Contractor of **today** must; -

- ◆ Be the **Preferred/Nominated** Electrical/Telecommunication Contractor
- ◆ Be smarter than their competition when **Tendering**
- ◆ Be better than their competition when **Negotiating**
- ◆ Be proven and capable of providing standards compliant Structured cabling for BAS, Access/Security, DAS, MATV, Wi-Fi, PoE , DALI and LED lighting systems

ACCREDITED UEENEEC005B ESTIMATE ELECTROTECHNOLOGY COURSE

According to the Australian Industry Standards (AIS) on behalf of the Industry Reference Committee (IRC), the current number of **qualified** Electrotechnology estimators capable of the tendering knowledge needed to comprehensively quote for and secure projects, with an accurate budgeting outcome, is extremely small. This course is the result of many years of trial and error, research and extensive training, that has culminated in a source of knowledge that cannot be found on the WEB or in any training facility that we are aware of. Hands on, measured success and personal experience are the points of difference we are offering with this course.

TENDERING SOLUTIONS FOR YOUR BUSINESS NEEDS

For new and existing Electrical Telecommunication Contractors trying to merge the new electrotechnology systems of the day with their current skillset of qualifications, this course will provide an objective view from an experienced Electrical Telecommunication Estimator on **How, Why and What** estimate information is necessary to assemble and submit a professional and competitive quotation/tender for Electrical and Telecommunication Electrotechnology projects

SUCCESSFUL TENDERING

Successful tendering requires;

- ◆ Scope comprehension; Specification comprehension; Standards comprehension
- ◆ Drawing comprehension; Accurate and reliable take off methods
- ◆ Accurate take off quantities; Accurate and competitive costings
- ◆ Staff & Sub Contractor skill set comprehension & much, much more.

Depending upon your company's resources, the Estimators role may overlap into a number of other areas of support and expertise including, for example: The conducting of site inspections/surveys, RFT/RFQ response and compliance, sales support, Sub-Contractor, equipment/vendor product and solution selection, quantity surveying including BOM creation and pricing and standards compliance.

In many projects the Electrotechnology and building services infrastructure takes place during construction with the implementation and commissioning of building services taking place near the end of the building process when timelines are tightest, and many variations may have taken place. It may often be your infrastructure choices and design Estimate that will underpin all the upper Electrotechnology layers and ultimately the success of your customer's business to function - **so no pressure!**

No matter what ! All tenders will have a margin of error and external influences such as Site Conditions, Installation factors, Specifications & Quality Considerations, Builders Schedule, Staff & Sub-Contractor Skill Sets, Suppliers and deliverability, Etc, Etc, so an accurate, realistic and achievable budget estimate needs to consider all these possibilities from the very start.

Doug Hogarth is a consultant with a tool box of products to deliver the client's brief, or alternatively, the client can choose to access the training modules offered and use the tools in the suite themselves.

- OVER 40 YEARS EXPERIENCE IN THE ELECTRICAL & TELECOMMUNICATIONS CONTRACTING INDUSTRY,
- QUALIFIED ELECTRICAL FITTER MECHANIC C3942
- SENIOR ELECTRICAL & TELECOMMUNICATIONS ESTIMATOR
- SENIOR PROJECT MANAGER
- DIPLOMA PROJECT MANAGEMENT
- CERTIFICATE IV PROJECT MANAGEMENT
- SENIOR OH&S MANAGER
- DIPLOMA OH&S
- CERTIFICATE IV TRAINING & ASSESSMENT TAE40110
- STATEMENT OF ATTAINMENT TAELN411
- CERTIFICATE III TELECOMMUNICATIONS CERTIFICATE ICT30210
- COMMSCOPE CERTIFIED SP3000 "STRUCTURED CABLING INFRASTRUCTURE DESIGN"
- COMMSCOPE CERTIFIED SP3801 "INSTALLING PREMISES CABLING SYSTEMS ACT 1"
- COMMSCOPE CERTIFIED SP3802 "CERTIFYING AND TROUBLE SHOOTING PREMISES CABLING SYSTEMS ACT 2"
- TITAB TELECOMMUNICATIONS CABLING LICENCE T14256
- TITAB TELECOMMUNICATIONS REGISTERED CABLING ASSESSOR Q01077R

ESTIMATING SOFTWARE

Personally, for many years I've researched TAFE's, Trade Manuals, and the WEB looking for that tool, that edge, that point of difference, that alternative that will improve my reputation and skill as an Electrotechnology Projects Estimator. I just couldn't find it, so I built my own "My Quote Mate" or MQM.

Good – Quality estimating software is a great tool for speed, eliminating repetitive work and reducing human error, however, very few computer programs have the flexibility and capability to cater for the variety of "Environmental or External Influencing Factors" and "Degree's of Difficulty" that accompany all Electrotechnology projects. Whilst all this is well and good, estimating software still requires the human mind of experience and intelligence to apply these factors.

My Quote Mate
"Building Reputations"

Project:	My Sample	Reviewed by:	CEO	Approved:	Yes
Address:	Sample St	Estimator:	DAK	Contracts Manager:	Yes
Date:	01-Jan-21	Tender Ref:	DAK-2021-001	Supervisor:	Not Required
Est Hours:	189.1				

Agenda Items	Scope of Works Description	Preliminary Risk Assessment Profile Rating %				Estimated Hrs
		Check List Does this SWF apply to this project?	Do any penalty rates apply to these works?	Select the type of penalty?	What % of the works are subject to this penalty?	
1	Structured Copper Cores Cabling Works	Yes	Yes	SWF Allowance	100%	40.3
2	Gal Steel 50mm & 100mm Lead - In Pipes and Core Holes	Yes	Yes	None	100%	5.0
3	Telecoms Cabinet Works	Yes	Yes	Degree of Difficulty	100%	0.0
4	Internal Fiber Optic Cabling Works	Yes	Yes	SWF Allowance	100%	4.8
5	Voice copper cabling works & protection	Yes	No	None	0%	0.0
6	Civil Works	Yes	No	None	0%	0.0
7	Miscellaneous, demolition, Site Audit, Floor Box, Floor Chase, CES, Etc	Yes	No	None	0%	0.0
8	External Fiber Optic Cabling Works	Yes	No	None	0%	0.0
9	Lighting Cabling Works	Yes	No	None	0%	0.0
10	Power Cabling Works	Yes	No	None	0%	0.0
11	Sub Main Cabling Works	Yes	No	None	0%	0.0
12	Main Cabling Works	Yes	No	None	0%	0.0
13	Switchboard Works	Yes	No	None	0%	0.0
14	Cable Tray Cable Cage & Skirting Duct Works	Yes	No	None	0%	0.0
15	Fire Works	Yes	No	None	0%	0.0
16	Security Works	Yes	No	None	0%	0.0
17	MATV Cabling Works	Yes	No	None	0%	0.0
18	LPS Works	Yes	No	None	0%	0.0
19	Project Lighting Supply and Fit Off	Yes	No	None	0%	0.0
20	Plant, Scaffold & Scissor Hire, Equipment Hire, Sub Contractors, Switchboards Etc	Yes	No	None	0%	0.0
*Total Scope of Work required for this project are:						50.2

To build your Estimating "Reputation" and fill the Electrotechnology transition gap, SynergyPro offer Software that covers over 20 Scopes of Work from "Fiber Optic Cabling to the Desk" to "Embedded Co-Generation Power Systems" and every other Scope of Work in between with the ability to create Sub Scopes of Work limited only by the users imagination plus project management tools to keep your projects on track.

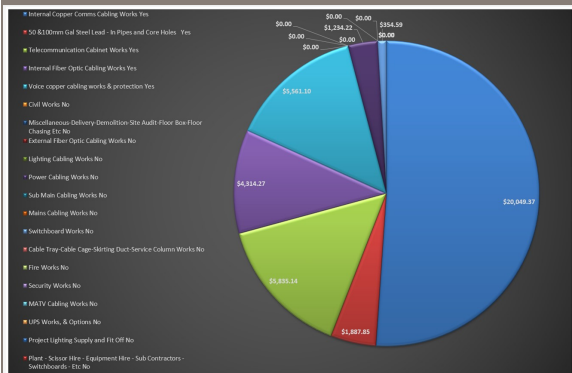


Image of Authors electrical tool box. Note the Fuse Wire and Pot Crimp

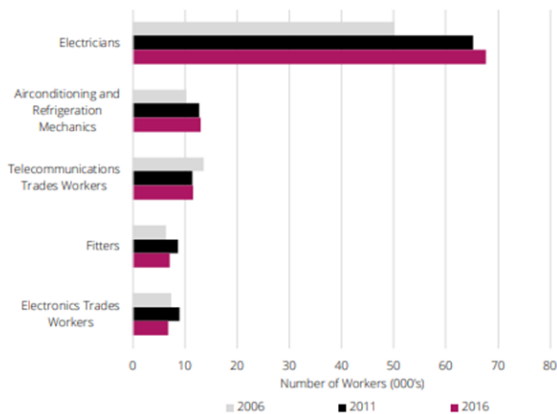
THE TOOLS

SynergyPro offer a tool box like no other available on the market, that has been fine-tuned over the last 40 years of industry service, comprehensive execution and successful outcomes. The SynergyPro system has proven itself in the industry, but up until now, has been guarded fiercely, as all good estimators do with their successful methodologies and processes, "Building Reputations". This system is the result of many years of trial and error, research and extensive training, that has culminated in a source of knowledge that cannot be found on the web or in any training facility that we are aware of. Hands on, measured success and personal experience are the points of difference, we are offering with this product.

INDUSTRY IN TRANSITION

This is an industry in transition. The gap has not yet been filled for the incredibly fast changes in the structural inclusion of new data and electrical communications. Part of this transition, includes the need for trained professionals with the ability to integrate the electrotechnology into accurate building budgets. SynergyPro can provide those trades or businesses, the skills and training required to successfully bridge the transition required of them. The objective for SynergyPro is to provide businesses the tool box to bridge the transition.

TOP FIVE ELECTROTECHNOLOGY OCCUPATIONS BY EMPLOYMENT



The number of Electricians has grown by nearly 35 per cent since 2006, with most of the growth occurring between 2006 and 2011. The remaining top occupations have either declined or experienced small growth in the last five years (2011-2016).

Source: Australian Bureau of Statistics, Census - 2006, 2011, 2016. Australian Government.

"Building Reputations"

With the rapid advancements in technology, the Electrotechnology industry has reported that the Qualifications UEE30811 Certificate III in Electrotechnology Electrician and UEE3211 Certificate III in Air-conditioning and Refrigeration are falling behind industry advancements. This is of significant concern to the industry and may have a negative impact on workers ability to adapt to technological advancements.

The development of appropriate training and agreed qualifications under the Australian Industry standards, remains a variable. An important point to note, is that post-trade qualifications enrolments, which lack government funding, has fallen by 36% since 2014.

The resources available to electrotechnology trades, to employ or facilitate extra qualifications for an already established workforce, is small to non-existent. There is no government subsidy to encourage employers to offer this kind of professional development in an existing business based on trade personnel, without Strategic Synergies - success can be illusive.

ELECTROTECHNOLOGY INDUSTRY SKILL SHORTAGES

On behalf of the Electrotechnology IRC, AIS conducted an online survey for stakeholders, between 4 December and 16 January 2018. The IRC sought feedback on the current skill shortages and the reasons for the shortages, as perceived by industry stakeholders.

ELECTROTECHNOLOGY SKILL AND LABOUR SHORTAGES

71.6 per cent of respondents reported experiencing a skills shortage in the last 12 months. The occupations reported as being in shortage were:

1. Refrigeration / Air Conditioning Technicians
2. Electricians
3. Educators, Trainers and Assessors
4. Engineers (various)
5. Renewables Specialists

REASONS FOR SHORTAGE

Employers identified the following reasons for the shortage with the most frequent response listed first.

1. Ageing workforce / current staff retiring
2. Cost/time to achieve the required qualification
3. Wages/salaries considered too low
4. Unattractive job / poor industry image
5. Competition from other organisations

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ELECTROTECHNOLOGY CONSULTING

doug@synergypro.com.au

www.synergypro.com.au