Who's abdicating their training responsibility this year? The learner, the provider or the employer?

EEA Conference & Exhibition 2014

18-20 June, Auckland

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Abstract
The learner, the provider and the employer…a look at the three way partnership for transmission training in New Zealand and the pivotal role that the employer and training provider play in providing a holistic training experience for the learner, to the benefit of the employer and the industry as a whole.

The transmission sector is like any other – we want to raise the standard of our workforce. Learners leave Transpower Grid Skills "work ready" but it takes experience on the job to become "work capable" - to carry out work on the assets, independently, in a consistent way. It is therefore crucial that employers provide an environment where experiential on-job learning can build upon the formal training programmes they invest in. In turn, training providers must offer training and assessment models that capitalise upon the on-job experience.

This paper discusses how Transpower, through Grid Skills, is working with its Service Providers to embed a three way learner, provider, employer relationship. In particular, it discusses the training and assessment initiatives that Grid Skills is introducing to the transmission sector, and the accompanying challenges and opportunities. We'll compare our old training materials and delivery methods with the new, and share the latest feedback from learners, employers and trainers. We'll also give a brief update on Transpower's progress toward embedding a role competency framework, and the impact of national qualifications on training in the transmission sector.

Throughout the paper, tensions between regulated and business decisions for the PTE, asset owner and service providers are analysed and workable solutions discussed that could benefit all participants. Whichever solutions we adopt, the key is that the learner, the employer and the training provider each have responsibilities - no responsibility for ownership can be abdicated by any member if we wish to raise the standard of training in the transmission sector to ensure a highly skilled workforce for the future.

Introduction
Transpower is registered with the New Zealand Qualifications Authority (NZQA) as a Private Training Establishment, and delivers regulatory and technical training for the transmission industry under the brand of 'Grid Skills' (formerly Omaka Training). Established in 2013, Grid Skills is charged with providing training for the field workforce employed by Transpower's Service Providers – Service Providers being the term used to refer to companies contracted by Transpower to carry out work on the National Grid.

At the 2013 EEA conference, Grid Skills Manager, Paul Bagg, set out a vision and strategy for the future of workforce development in the transmission sector. Titled 'Technical Workforce Capability (TWC)' the strategy was introduced in response to identified gaps in training that left the sector vulnerable to a number of insufficiencies - insufficient workers, insufficiently trained workers and insufficiently developed training programmes. Developed in a collaborative partnership with key industry stakeholders[1], the TWC vision is 'enough competent people to carry out work in substations and on transmission lines, with zero incidents, human errors and system incidents' (Transpower, 2012).

1 Transpower, ABB, Electrix, Electronet, Northpower, Transfield, Infrastructure ITO, EEA (Electricity Engineers Association).

A crucial element in the success of the TWC strategy was the rebranding and restructuring of training delivery, and Paul set out the challenge ahead of Grid Skills as it set about overhauling its approach to the training and assessment of transmission work within the electricity supply industry.

Twelve months on from that conference address, Grid Skills has introduced a number of initiatives, which are at various stages of development. Firstly, trade training in the transmission sector will align with the direction of training in the wider electricity supply industry[2] and link to national qualifications. Grid Skills has implemented a new look and feel for its training materials and training delivery methods. It has developed a strategy to include specific and explicit instruction in safety awareness and behavioural attributes in all training programmes and is at the point of introducing a more robust and authentic way of verifying performance to standard (assessment) for practical skills taught in a classroom-based setting. Grid Skills has reviewed Transpower's position on workplace training and has piloted several training programmes on operational equipment on-site.

Underpinning the above, the TWC strategy and objectives have been embedded as business as usual for Grid Skills as it continues the development of technical role competency profiles[3] and finalises the review of Transpower's Service Specifications for transmission lines and substations. The formalised mechanisms set up by the TWC are working to support collaboration across the transmission industry – subject matter experts meet in Technical Advisory Forums (TAF's) to define technical training competency requirements, and senior managers meet through the Technical Training Governance Board (TTGB) to manage high level decisions on training that affect all parties. Membership of the TAFs and the TTGB comprises representation from Grid Skills, Transpower (maintenance and projects), Service Providers and the Infrastructure ITO.

Referring to the abstract for this paper, its purpose is to explore how learners, employers and training providers, in the New Zealand transmission sector, can work together so that none 'abdicate' their responsibilities in what is essentially a tripartite working relationship. From this point, the paper considers the financial investment in training made by the sector and then discusses the initiatives previously outlined to consider the benefits and tensions that arise as these stakeholder groups work together.

Training is a major investment

Training the right people in the right skills is widely recognised as being crucial to maintaining a steady and adaptive workforce. In New Zealand, and other post industrial countries, workplace training now usually involves a combination of on-job and off-job training. On-job training happens at the workplace, often informally, while off-job training encompasses a more institutionally-based education, occurring at a polytechnic or some other education provider, such as an industry training provider like Grid Skills.

Historically, most training in the transmission sector has been carried out, and assessed, off-job. In the 2011/2012 financial year, Transpower (through Omaka Training) delivered 535 training programmes with an average of three days duration, to 2,958 workers in the transmission sector. This group was composed mainly of the employees, or subcontracting

2 Generation, Distribution, Retail and Telecommunications

3 Role competency profiles identify the minimum entry, operational, and subject matter expert profiles for specific roles. These roles cover the eighteen generic technical and behavioural competency requirements approved by the TTGB for the transmission industry.

staff of Service Providers. The TWC strategy document put the cost for the training at $2.75 million (Transpower, 2012).

Service Providers also carried training costs for the same period, in terms of loss of work hours. Referring to the Transpower costs, and proposing the labour cost composition as set out in Table 1, it is roughly estimated that service provider contribution for the 2011/2012 period, as a group, may have been in the vicinity of $2.5 million[4] – excluding depreciation, amortisation and overhead costs. This estimated figure suggests the total financial investment by industry, for training to maintain and develop the National Grid, may have been in the vicinity of $5 million.

Normal rate of pay (NRP)		**$25.00**
Annual leave	8%	$2.00
Sick leave	4%	$1.00
Statutory holiday	4 %	$1.00
ACC	7.50%	$1.88
KiwiSaver	3%	$0.75
Compliance training	4%	$1.00
Personal Protective Equipment	3%	$0.75
Profit (7.5 - 15%)	10%	$2.50
Labour cost composition	**43.5% of NRP**	**$10.88**

Table 1: Labour cost composition

With both the asset owner and the service provider investing heavily in training, a significant return must be expected. Consequently, in order to maximise that financial investment, structures and systems must be in place that support and extend learning opportunities (Independent Taskforce on Workplace Health and Safety, 2013; New Zealand Council for Educational Research (NZCER), 2011; BCITO, 2008; Ashton 2004). The way learning happens on-job and off-job and the organisational cultures we promote to support that learning will shape an employee's motivation for training and for developing good work practice.

Because learning is inherently contextual (Hager, 2004), and because "productivity gains appear to be highest in workplaces with cultures that support and promote learning" (Harvey & Harris, 2008, cited in NZCER 2011, p. 10), employers are invited to consider the ways in which their organisation might promote a learning culture that affords more learning opportunities for employees, on the job. To demonstrate a culture of learning, structures and systems might: make learning a priority at a policy level; train managers and supervisors to understand workplace learning practices; set up goal setting and mentoring; provide time for learners/trainees to read through study notes during work hours; give supervisors enough time

4 Calculation: 43.5% (labour cost composition) x 8 (hours of work per day) x 3 (average days attending a course) × 2,958 (learners)

to carry out observations of an employee's performance in the field; and recognise a person's success in achieving a qualification.

For Grid Skills, as changes in training and assessment systems are rolled out, supporting a culture of learning has meant getting to grips with the implications of organisational workplace structures, and considering how the roles and responsibilities of the learner, the employer and the training provider intersect in the gathering of assessment evidence in the workplace.

National qualifications

A major project in the tertiary education sector over the past few years has been 'the TRoQ' – the Tertiary Review of Qualifications. The TRoQ affects all qualifications on the National Qualifications Framework. In brief, the aim of the TRoQ is to remove duplicate and unused qualifications and bring the remaining qualifications up to date, while at the same time introducing a more robust structure and process for qualification review and development.

The new methodology has the effect of ensuring that industry training organisations (ITOs) and other standard setting bodies consult fully and transparently with key stakeholders in any review and development process. Grid Skills and other key stakeholders[5] are currently attending review groups led by the Infrastructure ITO[6] to review the transmission qualifications, which previously, and for a variety of factors, have not been fully utilised. The content of the qualifications will align with Transpower's service specifications, recently revised by both Transpower and its service provider partners via the TAFs.

Once the reviewed qualifications are on the framework, the combination of the knowledge and skills ('work ready') training provided by Grid Skills and the on-job training experience provided by the employer may ultimately result in the employee gaining a recognised national qualification. Where a qualification is linked to registration as an electrical worker, the learner will be entitled to apply to the Electrical Workers Registration Board (EWRB) for that registration. The issuing of workplace competency certificates as required by industry regulations[7], when a learner is considered 'work capable' by the employer, will remain the responsibility of the employer.

New training materials

Earlier this year, Grid Skills launched the revised training package for the Substation Induction programme to a receptive group of trainers. The package was designed to encourage more learner participation. In addition, the design of the facilitator resources assists Grid Skills Training Instructors across the country to model a consistent approach to delivery so that learners receive a consistent message and quality of training. With Health and Safety ever uppermost in training considerations, a key feature of the design is the integration of Transpower safety messages, layered through the learner workbook using visual text aids.

5 Stakeholders include transmission companies, the Electrical Workers Registration Board, and other tertiary training providers.

6 Infrastructure ITO is a merger of what were previously Electricity Supply ITO (ESITO) and Infratrain. Infrastructure ITO is the NZQA approved Standard Setting Body for Transmission Qualifications.

7 Electricity (Safety) Regulations, 2010.

The substation induction training package is the blueprint for the development of future training material, soon to get underway. The wide scale redevelopment of training material will require the technical input of subject matter experts (SMEs) from the field. There are sure to be challenges in obtaining this input as most SMEs are employed by Service Providers and have day to day work output requirements – nevertheless, the knowledge they can contribute is critical to the quality and validity of training material for the transmission sector, and so workable solutions must be found.

Verifying practical performance to standard, on-job

In some ways, Transpower, through Grid Skills, behaves rather like an industry training organisation (ITO) – it has 'members' (contracted Service Providers), sets the industry standards for the transmission sector (via service specifications and compliance requirements), and arranges training. And whilst Transpower is not the standard setting body for the transmission qualifications that sit on the National Qualification Framework, it is, together with its Service Provider partners, a major stakeholder, and as such has a deciding influence on development. However, unlike an ITO, the Transpower/Grid Skills model does not provide coordination services for learners as they work through their training and has not, until now, included on-job assessment as part of its training provider assessment model.

Taking verification of practical performance out of the 'classroom' and on to the job is a major shift for Grid Skills and presents opportunities for employers to participate in a more integrated approach to the on-job off-job model. It also affords Grid Skills the opportunity to consider the intersection of assessment for training outcomes (carried out by the training provider) and assessment for compliance under the relevant government Acts (carried out by the employer). Working with Service Providers through the TTGB, it is Grid Skills' intention to seek alignment of the assessment processes where this is feasible, and where it will maintain both educational and regulatory standards.

For this model to succeed, it will be crucial for Grid Skills to ensure that learners and employers are well informed about their role in on-job verification, and are supported in the process by clear guidelines and well-designed assessment material. Learners will apply the knowledge and skills gained from the training programme to tasks in real work situations, according to their company's own work procedures. Once a supervisor considers the learner is able to meet the industry standard required, they will use assessment material provided by Grid Skills to 'verify' the learner's performance, in that same business as usual environment.

Verifying performance in the field does not mean that a person must be trained to be an assessor, though there are a range of broader benefits to employers of supporting senior and experienced staff to gain skill in assessment of performance against set standards (NZCER, 2010). What it does mean, is that the person verifying the evidence must be technically competent and supported by their employer to sign off learner performance on behalf of the company. Verifiers are critical to the assessment process and require time and support to carry out verification in a way that is meaningful and raises the standards for work performance in the industry.

In any combination of on and off-job training and assessment, a risk to be managed for the learner, the employer, and the training provider (or ITO) is the potential for lack of exposure to task. If the learner does not have the opportunity to gain the experience needed in the workplace, and to have that experienced verified, they risk not achieving their qualification or competency. The challenge of ensuring exposure to task is not specific to the Transmission

sector, nor to the electricity supply industry itself, as Gilbert (2008) identified in a report on apprenticeships in the building and construction industry. Lack of exposure to task is a risk that is being managed successfully in other sectors and one that does need to be taken into account during the planning phase of work. In situations where gaining exposure to task is limited, options such as simulated training and secondment may be considered.

Training at the work site

Transpower has been reluctant to do workplace training on operational assets in the past due to network integrity and load security (Transpower, 2012). However, recent training initiatives by Grid Skills demonstrate a shift in Transpower's stance and workplace training is now considered a viable delivery option – training may be delivered on-site at Service Provider locations and where other practicalities allow; for example, where there is no risk of loss of supply and where training will not create additional risk either to the public or stakeholders. The value of training in the workplace is that employees are working on assets they work on every day - in the environment they are used to. They will work in actual work conditions – in good and bad weather, with tools that are utilised day to day and on plant and equipment that is maintained in working, and not training, order. The work will have direct relevance to their role in the company.

Workplace training also affords benefits to Grid Skills trainers, and hence the quality of the training provision. Being situated in the workplace and working from an actual job-pack a trainer is well placed to observe how elements such as worksite safety plans, customer liaison requirements and practical site set up arrangements affect industry practice. It is anticipated that on-site training will afford Grid Skills the opportunity to identify, through the trainer, potential non-alignment of industry practice and to resolve the difference through the TAF structure.

Training on-site does mean work may take longer. On the other hand, not having employees away from the job also means work on the maintenance plan continues and therefore a portion of the training costs may be recuperated. In Grid Skills training courses delivered on-site, the learners' supervisor or manager has been available to observe – such involvement can develop company understanding of training content and requirements, assisting employers to plan for further staff development accordingly.

Focus on health and safety

'You don't know what you don't know' and wherever there is a lack of training for safety awareness or technical skills, human error and procedural violations are bound to occur. Near misses, serious harm incidents and fatalities tend to relate back to how well the people involved were trained, whether it is the person on the tools, or the supervisors and managers setting the workplace culture and standards of performance.

Recent reports on industrial incidents and accidents in New Zealand identify that lack of training, of both health and safety awareness and technical skills is a major contributor to serious injury and fatality (Independent Taskforce on Workplace Health and Safety, 2013; Labour and Immigration Research Centre, 2012; Department of Labour, 2007). These reports also find that poor behaviours and attitudes (of individuals and organisations) contribute to workplace injury.

Training must focus on developing a culture of competence and responsibility not only for those on the tools, but for supervisors and managers. The working at heights in the

construction industry fatality report noted a lack of leadership or supervision in almost a quarter of the cases where best practice was not followed (Labour and Immigration Research Centre, 2012). These findings were supported a year later in a 2013 report by the Independent Taskforce on Workplace Health and Safety where it was noted that " … lower level managers sometimes discourage workers from reporting near misses, hazards and injuries, and do not pass this information up the hierarchy' (Independent Taskforce on Workplace Health and Safety p. 31).

Grid Skills has recognised an opportunity to take a leaf from the apprenticeship model, where health and safety was seen to be a core, integrated component of trades training (Independent Taskforce on Workplace Health and Safety, 2013). Topics that raise awareness of safety and explore the impact of certain behaviours and attitudes on team communication and work practice will now be built in to the curriculum of every training programme. In relation to that, the Electricity Engineers Association (EEA) "Guide to Supervision for Safety" has identified a list of essential attributes demonstrated by successful employees supervising workplace safety. Whereas training for supervisory attributes once began at Site Supervisor level, training toward the attributes identified by the EEA now begins in introductory training modules, alongside the training of technical skills. This approach introduces the learner to the behavioural element of work requirements early on in his/her career, aiming to act as a support for the development of good habits.

As with Technical training, training in concepts of behaviour and attitude will be best validated by actual experience – the ongoing attention to the promotion of safe behaviour and positive attitudes in the workplace is a responsibility for the learner, the employer and Grid Skills.

Summing up

What is the purpose of training? Is it to meet asset owner compliance requirements? Is it to produce a well-trained, highly skilled workforce? The answer of course is both but it requires Transpower, its Service Providers and the learner to work together for something they have in common - a desire for training to be successful so that we have enough skilled people, with enough of the right skills, attitudes and behaviours to raise the standard of performance across the industry - and reinvigorate it. The industry is working within tight economic constraints and training needs to strengthen outcomes such as increased work productivity and work safety - and it needs to motivate and retain the younger generation coming through.

To keep the National Grid operating, skilled workers are needed now, and in the future, who can design, build, maintain and operate the transmission system safely, efficiently and reliably. To get such a skilled workforce, workers will need to be trained, and, for training to be effective, industry organisations will need to provide training and workplace cultures that have a commitment to support learning. For Grid Skills, this means continuing to build solid training and assessment structures and systems, in collaboration with Service Providers. This paper invites employers to consider the ways in which their organisation might promote a learning culture that affords more learning opportunities for employees, on the job.

Initiatives such as workplace training and assessment on job do not mean companies have to make training part of their core business. But it does mean that training in the transmission sector will become more integrated than it has been over the past 10 – 15 years and that even more than before, none of us can afford to abdicate our responsibilities.

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