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ESITO

Electricity Supply Industry Training Organisation Inc.



AN INDUSTRY SKILLS STRATEGY *for the New Zealand Electricity Supply Industry*

FINAL REPORT DECEMBER 2006

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AN INDUSTRY SKILLS STRATEGY *for the New Zealand Electricity Supply Industry*

EXECUTIVE SUMMARY

The skills gaps in the Electricity Supply Industry (ESI) are well researched and documented.¹ Employers and ESITO have worked hard to alleviate skills gaps in various ways including investing heavily in training, bringing skilled workers to New Zealand and by endeavouring to promote careers within the industry.

In April 2006, ESITO commissioned the University of Waikato Management Research Centre to identify current key industry skill issues in order to develop a strategic way forward. A range of issues were identified as a result of interviews with representatives from 20 electricity supply employers. While the main concern remains a lack of skilled workers, the researcher believes industry is confident that strategies to reduce the gap are working and industry is now shifting some focus to other areas of concern.

The external researcher suggested the formation of a number of steering groups to focus on other “Major Issues” which should be addressed in two stages. The identified “Major Issues” are as follows:

Stage 1

- Future of skilled positions, project and contract managers
- Future of supervisors
- Industry Pride
- Training Provision
- Other reviews- pathways and qualifications

Stage 2

- Training sector redesign
- E-Learning

On 18 October 2006, ESITO presented a report entitled “An Industry Skills Strategy for the New Zealand Electricity Supply Industry – An Interim Report October 2006” at an industry consultation forum in Hamilton. This was followed by presentations during the period 3-10 November 2006 at a series of meetings in Auckland, Hamilton, Wellington, Dunedin and Christchurch. Thirty-eight representatives from 24 ESI member companies attended the presentations. There was representation from all sectors of the ESI. Member companies were also invited to provide written or verbal feedback.

During the consultation process, there was general agreement with the content and issues identified by the external researcher as detailed in the interim report. The majority of discussion during the consultation process centred on the following “Major Issues”:

- Future of skilled positions, project and contract managers
- Future of supervisors
- Industry Pride

This suggests that industry is confident that the three part numbers strategy (take on young recruits, bring in skilled individuals from overseas and up-skill individuals crossing in

from other industries) is reducing the skills gap, enabling the industry to focus on the “Major Issues”.

Industry supported the formation of steering groups and felt that ESITO’s role going forward was one of facilitation. However, participants stated that ESITO has an active role to play in a component of the industry pride issue, being the promotion of the ESI to those outside the industry, particularly as part of the recruitment process.

ESITO will facilitate steering groups in 2007 to further investigate the issues of the future of skilled positions - project and contract managers, future of supervisors and industry pride. The initial focus of the steering groups will be to identify the key objectives for each issue and what supporting information is required to assist the steering group to develop recommendations. Should extensive external input be required, such as research, funding sources will need to be identified to support and undertake this activity. Meantime, ESITO will continue to support industry in the “three-part numbers strategy”, which is assisting the ESI in reducing the current skills gap.

¹ Koslow, S. (2005) Has the skills gap increased?: Long term planning and strategy for effective training in the Electricity Supply Industry
Koslow, S. (2006) Light at the end of the tunnel?: The 2006 revision of the annual skills gap analysis.
The New Zealand Department of Labour. (May 2006) Skills in the labour market report.



AN INDUSTRY SKILLS STRATEGY *for the New Zealand Electricity Supply Industry*

AN INDUSTRY SKILLS STRATEGY *for the Electricity Supply Industry*

ESITO has set out to develop a training strategy and plan for the electricity supply industry by the end of 2006.

This report is the first step in a full consultation with industry by ESITO to develop the strategy and was produced by using desk research and interviews of 20 electricity supply employers in New Zealand.

This report sought information on the current skills and training situation in New Zealand's electricity supply industry. Sources were interviews with key industry employees, past ESITO Gap Analysis reports, New Zealand Department of Labour studies.

The main source of information was depth interviews with key industry employers.

Interviewees were questioned as to what their main problems with skilled labour were, what they are doing about these problems, and what they believe ESITO can do.

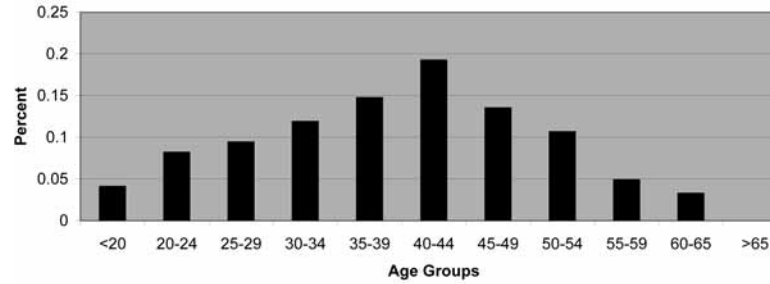
The companies were contacted during April and June 2006. Most agreed to participate, although there was some trouble gaining cooperation from generation company participants, whose views may be underrepresented. 20 interviews were held with senior managers at these firms, typically lasting one to two hours. Where logistics allowed it, managers were visited at their premises (mostly Auckland and Christchurch), but in other cases interviews were carried out via telephone.

“ESITO has set out to develop a training strategy and plan for the electricity supply industry by the end of 2006.”

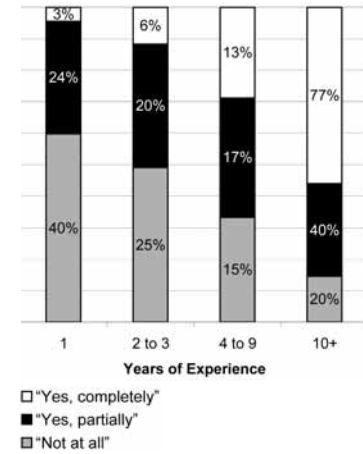
DEMOGRAPHIC ANALYSIS

The following graphs indicate the age, ethnicity, gender and level of qualification reached by ESI employees, followed by graphs detailing the make-up of industry sectors. The data was sourced from ESI employees as part of the 2005 Skills Gap research.

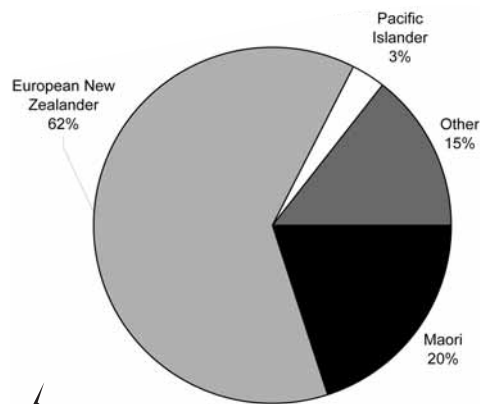
Age of ESI Employees



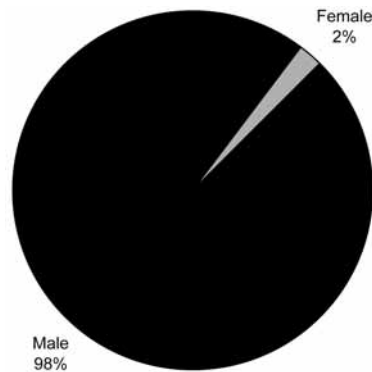
ESI Employees Training Achieved by years of Experience



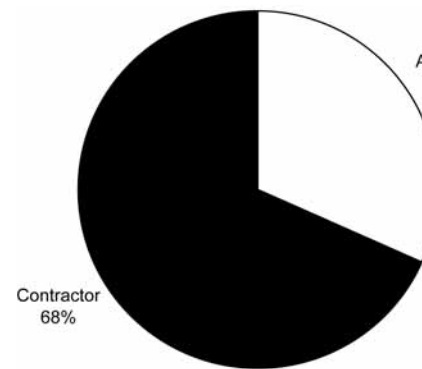
Ethnicity of ESI Employees



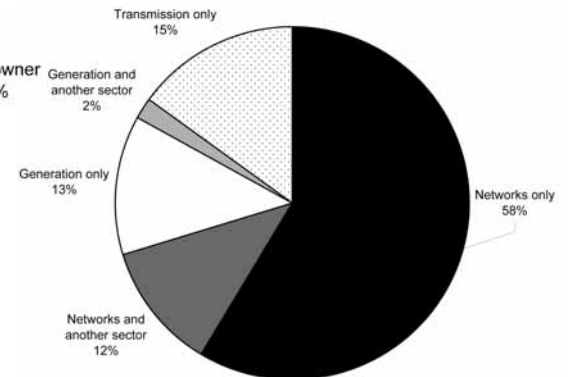
Gender of ESI Employees



Electricity Supply Industry Basic Sector Split



Electricity Supply Industry Sector Breakdown



ESITO'S RESPONSIBILITIES

The Industry Training Act of 2002 section 6(c) requires that ITOs:

- 1 Provide leadership within industry on matters relating to skill and training needs by identifying current and future needs.
- 2 Develop strategic training plans (STP) to assist industry to meet those needs; and
- 3 Promote training that will meet those needs.

In response to the needs of the electricity supply industry, ESITO has been providing a high level of leadership - and employers have been exerting to keep up with the demand for skilled labour.

But, even with this leadership and effort, there is a current and anticipated shortfall for skilled employment in the electricity supply industry.

“There is a current and anticipated shortfall for skilled employment in the electricity supply industry.”



THE MAIN PROBLEM

The main issue raised by leaders in the ESI interviewed for this report is the on-going, chronic skill shortage documented in past ESITO Gap Analysis studies.

There are just not enough skilled individuals to support industry in what it needs to accomplish.

The degree of the shortage differs from employer to employer and from one skill specialty to another, but overall, this shortage appears to be about 8-10% of total employment.

However, after years of concern, the industry is becoming more confident that the gap will be filled between skilled trades employees needed and the skilled trades employees available.

While the skills gap problem hasn't been forgotten, the industry has focused attention on several other frustrations with sourcing, training and retaining electricity supply employees.

- The need for field supervisors and contract or project managers
- High attrition rate observed among employees
- Difficulty in finding training providers, especially for the smaller specialties in the industry and non-existence of an e-learning option
- Poor motivation among employees who show little pride in their work
- The training system as a whole has been criticised as needing to be revamped

“There are just not enough skilled individuals to support industry in what it needs to accomplish.”

ELECTRICITY SUPPLY INDUSTRY EMPLOYERS TAKE CONTROL

ESI has not been idle over the last several years and employers have individually put in place policies to meet their skills gaps.

Some policies include hiring young adults who have come through taster courses or via career expos and training them up to fill gaps.

Some employers use existing private training establishments (PTEs) and apprenticeship programmes, while others have developed their own programmes and have even become PTEs in their own right.

While these policies have widened the pool of skills for the industry, many other recruitment activities industry employers have used can be, ultimately, counterproductive.

For example, employers have used recruiting companies to hire away individuals from other employers. They have competed on extravagant and unsustainable compensation packages. And they've hired from overseas. None of these methods actually fix the problem of not enough labour being trained here in New Zealand.

To add to the counterproductive recruitment activities, it seems few employer policies have been developed to deal with two of the most pressing problems:

- loss of skilled labour to overseas employers
- the ageing workforce that will shortly be retiring

“Many recruitment activities industry employers use can be... counterproductive”





AN INDUSTRY SKILLS STRATEGY for the New Zealand Electricity Supply Industry



MAJOR ISSUES

- 1.1 Coping with the Gap
- 1.2 Delayed demand for labour, shortage of engineers
- 1.3 Labour in other industries
- 1.4 Supervisors, project & contract managers
- 1.5 Looking outside to meet the skills gap
- 1.6 Meeting the skills gap from within
- 1.7 Which perspective?
- 1.8 Different motivations
- 1.9 Retaining employees
- 1.10 Looking offshore
- 1.11 Employees on the move
- 1.12 Employees leaving the ESI
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COPING WITH THE GAP

Although the skills gap is still severe, there appears to be a change in the mood of respondents and their ability to cope.

Three years ago, the industry could be best described as “panicked”, while the current mood, although still stressed, is a marked improvement. It seems the industry has learned it can successfully respond to the growing need for labour.

Specifically, the programmes put in place to hire new entrants to the industry and train them up have proven successful so that many companies feel more confident about the future.

Many of the new employees taken on three years ago at the start of current wave of industry spending have now completed their apprenticeships. There are others who are still training, so that over the next few years just enough skilled people may be available — assuming no adverse shocks to the industry.

DELAYED DEMAND FOR LABOUR

Some of the work anticipated to be started in 2006 appears to have been delayed.

A common view is that the current spurt in electricity asset investment, and the corresponding need for skilled trades labour, is to overcome under-investment during the 1990s and it will last about three more years. A good question is whether or not this is correct.

Many contractors take these estimates from asset owners with a grain a salt— and do not expect all major projects to go to the tight schedules anticipated by asset owners. Many contractors expect the wave of investment to spread out over five years rather than three. Several noted they geared up for the large waves of work promised, and had they not had the normal problems of loss of labour to overseas employers, these contractors might have actually become over supplied with skilled trades labour.

Although asset management plans are required for a 10 year period, realistically one cannot effectively forecast exact spending more than three years out. There might be potential need for additional spending well into the future, but until the current big projects are underway or completed, the industry will not be able to address these.

Industry investment, and the associated demand for labour, could continue well beyond the three to five years anticipated.

Shortage of Engineers

Although the shortage of skilled trades labour is severe, there appears to be a shortage of university-trained engineers who plan and design the most sophisticated parts of the work.

With bottle-necks of progress at the engineering level, some of the more ambitious projects have been delayed, spreading peaks in the labour flow across more years than originally anticipated.

LABOUR IN OTHER INDUSTRIES

The New Zealand Department of Labour releases regular reports that allow comparisons with other skilled trades labour markets. The department's Skills in the Labour Market report (25 May 2006) notes that there are labour shortages across all industries.

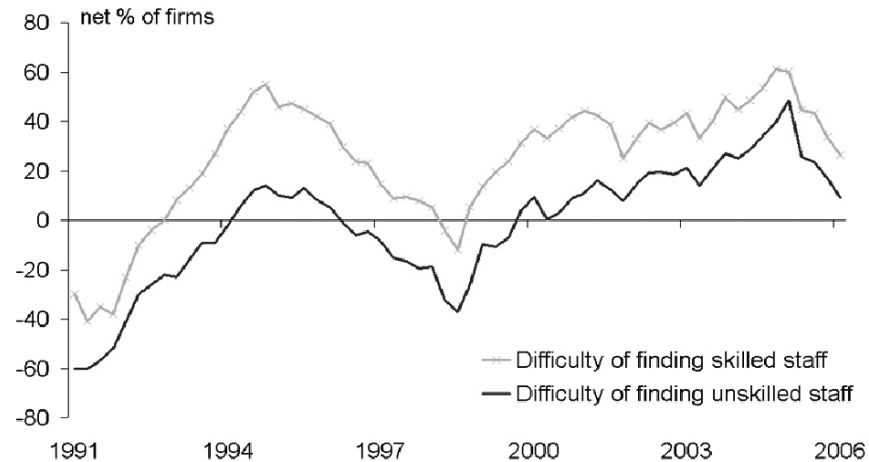
A net of 26% of employers report difficulties in finding qualified staff and 19% of firms report that finding skilled labour was the main constraint to expansion.

However, these were still modest numbers in comparison to the New Zealand electricity supply industry. All firms reported skilled labour shortages, both short and long term, and all could take on additional business had they had sufficient skilled labour.

This places the New Zealand electricity supply industry on the extreme edge of labour shortages compared to other New Zealand industries.

Although many in the industry are optimistic that basic skilled trade needs can be met in the future, there is more pessimism regarding higher level positions.

Difficulty in finding skilled and unskilled staff, 1986-2006



SUPERVISORS, PROJECT & CONTRACT MANAGERS

Skilled employees for field supervisory positions and other skilled positions such as project and contract managers are in high demand. These workers have traditionally been drawn from the trades.

The need for these employees has long been recognised in the industry, however, now that there is optimism for meeting demand for electricity supply trades employees, attention can be drawn to other problems like long-term succession management.

The root problem in this area stems from the underinvestment in labour by electricity supply employers in the 1990s. Few young individuals had been brought into the industry which left a clear age gap between the under-25s now increasingly common in the industry and the over-45s who are the bulk of the skilled labour force.

It is perceived that all current employees who are capable of filling field supervisory and other skilled positions - and who are motivated to do them - have already been identified.

The pool of potential people to move in to these higher level positions is currently rather small.

And because these supervisory, project and contract management roles have a great deal of impact and planning and overseeing the work, they typically determine the success of projects. Interviewee subjects reported a good field supervisor or project manager can work his way through labour shortages, but a poor one can use trades labour inefficiently and exacerbate already acute shortages.

Industry responses conflict over the causes and remedies for the lack of a labour pool to fill field supervisory and other skilled positions. Some view the shortage as endemic to changes in the New Zealand economy and education system over the last 30 years.

“The pool of potential people to move in to these higher level positions is currently rather small.”

LOOKING OUTSIDE TO MEET THE SKILLS GAP

Back in the days of the electricity department and power boards, many young people were attracted by the high level of training on offer, and they were also personally motivated to work in the complex, challenging industry.

Many did NZCE-oriented training, and these have, up to 30 years later, become the leaders of the industry today.

However, opportunities for New Zealand's current young people are far more varied with a much higher tertiary education participation rate than 30 years ago.

Indeed, the movement of New Zealand to a knowledge economy has opened up university-trained professions which were not as accessible in past decades.

As the Department of Labour's Future of Work: Work Trends shows, the percentage of New Zealanders 15 years or older in tertiary education rose from 9% in 1994 to 13% in 2001 and continues to rise.

To deal with the shortage of supervisory employees, many employers are looking outside the industry to fill these critical positions.

For example, some have established graduate training programmes taking graduates from university and polytechs and training them for work in the industry.

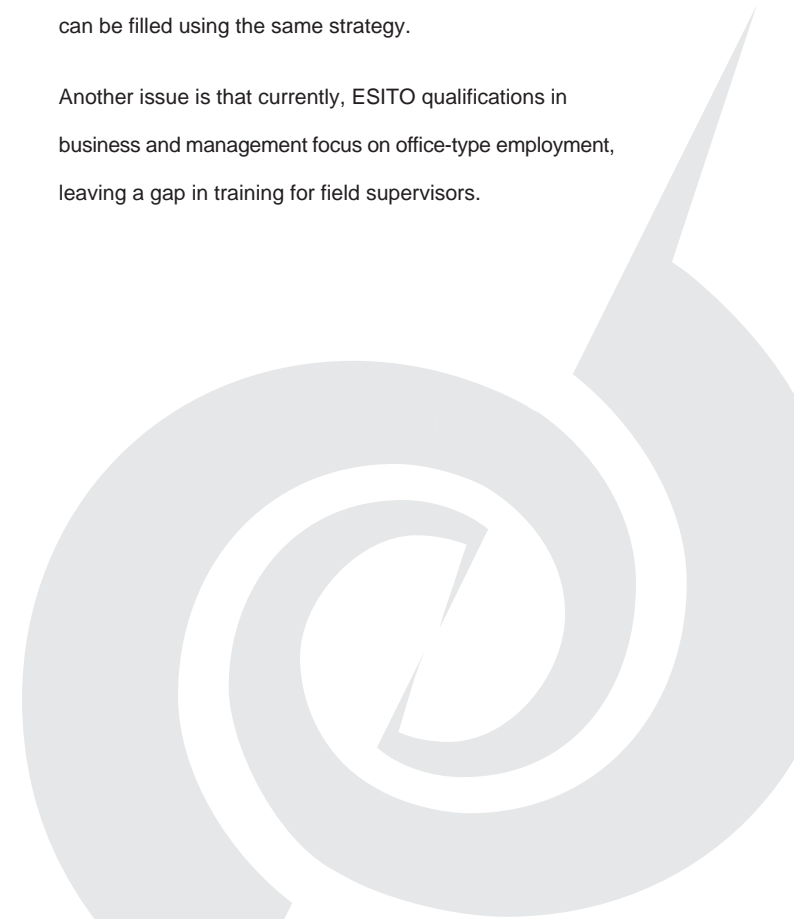
In many cases, these graduates are over-qualified for the roles, but the hope is that in several years they will know enough about the industry to move on to higher positions in the company or industry. The expectation is that the company will at least get two to three years work from these individuals before they move on.

Another trend is that in some of the most skilled trades like operators, some employers are focusing on university-trained recruits only. Although it is clear that the environment operators work in is increasingly complex, these employers need a higher skill level than what now comes from trade-trained individuals within the industry.

Trades-training is viewed as too "dumbed-down" compared to past decades.

Although the method of hiring university trained individuals may work for white collar jobs in the ESI, there is a perception of little hope that more hands-on field supervisory positions can be filled using the same strategy.

Another issue is that currently, ESITO qualifications in business and management focus on office-type employment, leaving a gap in training for field supervisors.



MEETING THE SKILLS GAP FROM WITHIN

The other view regarding the future of sourcing field supervisory and other skilled positions is more optimistic and some individuals feel that the traditional career path from trades to these positions to professionals is still a valid model.

These individuals fault the industry for not training its employees during the 1990s and argue that quality people are still attracted to the industry, especially if the industry encourages recruits to undertake university qualifications.

These respondents also highly valued NZCE-oriented training for the content of it, rather than the belief that at that time, quality people chose NZCE. These long term planners are typically asset owners and are the most critical of the training system currently used in the electricity supply industry.

WHICH PERSPECTIVE?

Although there appears to be a great deal of value in both perspectives, the reality is that few in the industry can actually take the long-term perspective approach.

For most contractors, three years might as well be eternity. Those contractors who work for asset owners with a long term perspective of growing supervisory labour need find that the pool of people the asset owners attract into supervisory roles is the cream from the contractors' labour pool.

This is a major sore point for contractors who work with a long-term planning asset owner.

Regardless of this debate over the big picture or long term perspectives, the 2005 ESITO Gap Analysis study indicates there are different motivations between trades and professional labour.

DIFFERENT MOTIVATIONS

Those in skilled trades positions normally show a pattern of being focused on money, hours and job stability, and view their jobs as something they need to do to earn a living and not something that defines who they are.

Professional employees, like engineers, managers, supervisors, and para-professionals are more focused on internal motivation and less on money or other external factors.

That is, they perform their job as part of their careers first and foremost because they like them. Money is still important, but only moderately.

Irrespective of their capability to take on higher level responsibility, there are fewer still throughout the industry who have the motivation required to move into supervisory and other contract and project management employment and do well.

RETAINING EMPLOYEES

Many employers continue to report high rates of attrition, with some contractors reporting as high as 100% staff turnover in some parts of their business in a calendar year.

This is a serious concern when a significant investment is made in training the employee.

Even if a company can recover the costs of training, or bond employees for a specific period of employment to offset the cost, money alone is not the largest problem. Instead, quick turnover of employees hinders greatly the ability to plan labour resources for future work.

Although smaller centres and outlying areas appear to have advantages in retention, it is harder to attract people to those areas, leaving them in a similar net skill gap to large centres.

“Quick turnover of employees hinders greatly the ability to plan labour resources for future work.”



LOOKING OFFSHORE

The major reason for the high attrition rate appears to be overseas recruitment of New Zealand trained labour.

Previous ESITO Gap Analyses report on the large interest in overseas employment and the large percentage of the workforce - up to one third - which has been contacted by an overseas recruiter.

Normally, one would expect those going overseas for jobs would be younger employees with lower skills. But the average age of electricity supply industry workers who go overseas to work is older.

Employees report they are attracted to overseas employment by the perceived higher wages offered. However, the amount of overseas recruiting New Zealand companies do overseas just about offsets the numbers leaving the industry.

“The amount of overseas recruiting New Zealand companies do overseas just about offsets the numbers leaving the industry.”

EMPLOYEES ON THE MOVE

Probably the most frustrating type of attrition reported is employees going from one contractor to another contractor - with both companies working for the same asset owner.

Usually, these individuals are chasing a small, short term wage increase and know that their skills are in great demand by other contractors. Because there is little new training needed, employers frequently take on these quickly moving individuals.

In some cases, employers report instances where individuals have switched from one contractor to the other for a few cents per hour, and then switched back within the calendar year to the original employer.

Contractor to contractor churn greatly impacts the ability to do longer term planning of labour – and it can be harmful to both the employee and industry.

Employers may doubt that the employee will stay long enough for the investment in training to be paid off and hold off advanced training. Therefore, the employee also must forgo the longer term wage increase commensurate with higher skill levels. Asset owners may set up the problem by having two or more parallel contractors and try to play them off against one another to keep prices down, but the result may be a general inflation in wages, and under-investment in training, such that this offsets any savings from competition between contractors.

“Contractor to contractor churn greatly impacts the ability to do longer term planning of labour – and it can be harmful to both employee and industry.”

EMPLOYEES LEAVING THE ESI

Some contractors have reported an inability to hold younger industry recruits beyond their apprenticeship or bonded time of employment.

Although the 2004 and 2005 ESITO Gap Analysis studies noted that voluntary industry exits to other industries had decreased to insignificant levels from higher levels in previous years, this type of exit from the industry may become more severe in the coming years.

Because employees who are young recruits were such a small percentage of the workforce in 2004 and 2005, it would be hard to see if there was a problem just around the corner.

However, as the group grows, their willingness to change to other industries is becoming more apparent and may constitute a trend. There is not one single direction these new recruits are going in, with some doing an OE, others changing to jobs outside the industry.

“There is not one single direction these new recruits are going in, with some doing an OE, others changing to jobs outside the industry.”

BECOMING AN “EMPLOYER OF CHOICE”

To stem attrition, several respondents expressed interest in becoming, or stated that they already were, an “employer of choice” for their industry.

This shows the impact of the Department of Labour’s report, Good Employee Practices Are Good for Your Business: Becoming an Employer of Choice, which suggested employers that attract high quality employees and have low attrition do well for three reasons. These are:

1. The formal dimensions of assessing employee performance and providing training.
2. The psychological dimensions of the employer-employee relationship, and;
3. The social dimensions of management behaviours.

Overall, most employers in the industry do well on formal dimensions because of the considerable training they provide, but the industry’s assessment on psychological and social dimensions is less positive.

Past ESITO Gap Analysis studies have pointed out failings for the industry in providing the appearance of job stability, a key component of the psychological dimension.

The current skills gap in the industry suggests that it is easy for any trained individual with an otherwise acceptable work history to get a highly paid job. That is, job stability is largely assured in the industry, probably more so than any others skilled trades areas in New Zealand, yet there persists a lack of trust between employers and skilled labour.

In addition, past ESITO Gap Analysis studies also indicate problems with those in supervisory positions, a key part of the social dimension, which is also an area of employment in great demand.

As noted by past ESITO Gap Analysis studies, one of the problems relating to job satisfaction is the contractor system. Those who work for contractors persistently have lower job satisfaction. Although rationally, the contractor system makes sense to economists and engineers, those who work in these systems cannot stand the constant changes or threat of changes.

The academic literature on job redesign and corporate restructure is clear and extremely negative on both employee job satisfaction and productivity.

There are severe psychological problems introduced by the contractor-asset owner system used in the New Zealand electricity supply industry that aggravates churn. Several respondents noted that they spend considerable efforts trying to inform employees about the benefits of the system to them as employees. These information attempts are not always successful.



POOR ATTITUDE & MOTIVATION

One frustration from some in the industry, especially asset owners, relates to extremely basic errors by field employees.

Some frustrations relate to the standard of the electricity supply work itself, and others to the ways in which end users of electricity are treated.

Small but important deviations in work practices can frequently be extremely costly.

One asset owner spends into seven figures to check for small errors, and then spends several times more than that fixing these errors. In most cases, having spent slightly more time, money or training to have done the work right the first time would have had extremely large paybacks.

“Small but important deviations in work practices can frequently be extremely costly.”

THE CAUSE OF SMALL, COSTLY ERRORS

One of the causes of these aggravating small errors goes back to the type of motivation becoming increasingly common in skilled trades in the electricity supply industry.

As past ESITO Gap Analysis studies show, skilled trades employees show a pattern of external motivation. To them, pay and job stability are the most important issues.

The second most important factor, supervisors and co-workers, related to the social aspects of the job. The importance of job-related factors, like technical challenge, access to training, advancement, job importance, and variety were all well down the list. That is, skilled trades employees did their jobs because they were paid, and not because they inherently enjoyed their jobs and took pride in them.

The focus on taking overseas electricity supply industry jobs also demonstrates the external motivation common in the industry.

As past ESITO Gap Analysis studies and interviews confirm, the primary motivation is money and not lifestyle, training, or issues related to the job itself. The ESITO Gap Analysis studies also routinely show modest loyalty to one's job, but low loyalty to their employer and the industry. Interviews tend to show that this orientation towards money may possibly be increasing in younger recruits.

“Skilled trades employees did their jobs because they were paid, and not because they inherently enjoyed their jobs and took pride in them.”

DESIGN & SUPPLY OF TRAINING

There is a high degree of frustration at the system of training as a whole and a desire for a more flexible system that allows more choice in how to package various qualifications.

The industry currently has an extremely varied set of skills it currently trains. Few other skilled trades have the kind of diversity of training participants seen in the electricity supply industry.

There is a reported issue with some training providers where employers are sometimes forced to take what training providers can teach not what employees and employers want.

While there's some tolerance of the system for those who are fairly close to it, as one takes more of an overview of the system, frustration mounts.

Industry participants appear to be in one of four segments with regards to the system level problems. Some, mostly smaller contractors, do not see major problems and focus on muddling through given the constraints. Another group is moderately frustrated, but not enough to do much about it. The next group is the most frustrated and is considering extremely expensive alternatives to gain more control of the system.

Finally, a small number of companies, all asset owners, have made large scale investments, in both time and money, into training, hoping to avoid the problems of the system - and not always have these investments worked the way they anticipated.

The kind of system that seems to make sense to most industry respondents is a modestly flexible menu-based system where employers can buy a specific course they need for their employees from a variety of providers, and string them together into standardised qualifications.

It is important to note that employers are not asking for complete customisation of qualifications, but instead reasonable flexibility. For example, the system currently insists that for electrical registration, commercial electrical work must be undertaken.

However, some companies don't undertake commercial contracts such that it allows trainees the exposure. It would make sense to find some kind of equivalent exposure that achieves the same end, even if the exposure is of more complex nature than typical commercial work.

SPECIALIST TECHNICAL TRAINING

It is often difficult to find providers of training courses for specialist technical positions because the numbers in each class are small and location of the training is a problem.

The core problem is that it is often not economically viable for training providers to deliver courses to small numbers of students. Yet the skilled trades are needed and a way has to be found to deliver the courses.

With the current upswing in investment, and the associated push to train more labour, the industry is in the midst of one of the largest training programmes it has seen in decades. But for all this effort, the economies of scale with regards to training is proving problematic.

Respondents reported it seems mostly chance as to why sometimes it is difficult to find a course and sometimes it isn't.

Some of the most extreme situations exist for operators, of which there are possibly no more than 100 full time positions in New Zealand, and rarely are there more than a dozen trained each year.

At least two companies employ in-house trainers specifically for their operators and one has a full simulation facility. Another company sends operators overseas to get their training.

Others provide what training they can cobble together. Still others seem to abdicate the responsibility for training and rely on hiring trained operators off others who do training.

For some specialist training such as that for technicians, the situation is not much better.

“To the asset owner, this was far less than the value of the course to the company, and they would have been happy to pay extra to make sure the course ran.”

POTENTIAL FOR e-LEARNING

To address the specialised training areas of the electricity supply industry, one option is to use e-learning strategies.

The idea is that if a trainee has a need for a specific type of training that isn't locally available, then e-learning might ease the difficulty of getting access to that training.

E-learning is currently becoming the delivery method of choice for distance learning overall. Although whole qualifications may not be deliverable by e-learning, some parts may be and should be seriously considered. However, there are two problems that need resolution.

Common platform

Although e-learning may have potential, one growing concern is the multiplicity of platforms.

At least one ESI employer has launched its own e-learning platform, and an industry association appears to be considering another one.

Ideally, the industry should have a common platform so that it can be shared to provide economies of scale. The ideal system would be one in which most of the computer-related problems are dealt with by one group, so that others can focus on supplying content. Also, by working together, government grants may be available to pursue this agenda.

Managing & supplying content

The more thorny issue is producing the content of e-learning systems.

In some ways, an e-learning system may be viewed as competing with private training providers, although private training providers are probably the most likely group to be able to create the content and commercialise it.

Before content development can happen, there will need to be a mindset change that embraces e-learning as a suitable supplement to the current system of training provision.

To be an effective system, e-learning elements need to be coordinated with other traditional classroom or on-the-job formats. An effective e-learning system may exacerbate friction between various providers of training content and employers because it would highlight departures from menu-based qualification systems.







MODERATE ISSUES

- 2.1 Ageing workforce
- 2.2 Qualifications & pathways
- 2.3 Providing & assessing training
- 2.4 Health & safety compliance
- 2.5 Qualifications for utility workers



AGEING WORKFORCE

Although most respondents viewed the ageing workforce as an issue, many did not find it a serious one.

This is a change from three years ago when the ageing workforce was considered as serious a problem as the skills gap.

One of the reasons is that the number of retirements that were expected has not materialised. Although there have been early retirements, and some retirements at the traditional age, others continue to work past 65.

With many employees in their 50s, there seems to be sufficient time to bring younger employees up to speed before the retirement of the more skilled, older employees.

There are still problems with the transfer of knowledge from the older hands to the younger ones, and few programmes are in place to harness and retain this knowledge.

Some companies aggressively document this knowledge, especially asset owners with highly specific, high value assets. Otherwise, informal transfer of knowledge takes place where senior skilled employees act as mentors for less experienced personnel.

Hopefully well-signalled retirements continue, and possibly they will so long as the industry respects these older and valued workers.

“There appears to be enough change and continuity in the workforce that ageing does not seem the threatening issue it was several years ago.”

QUALIFICATIONS & PATHWAYS

Employers voiced qualified concerns over the design of a variety of qualifications and pathways or requested that ESITO consider developing a specific qualification or pathway.

It is important to note that in most cases when concerns were raised about existing pathways, the caveat was made that ESITO stated that they were working on revising the pathways. Although there may still be concerns over individual pathways, a wider issue arises as to why these concerns persist over time.

Is it that the qualification or pathway problems are never resolved in the first place, or that different individuals in various companies want to take the qualifications or pathways in different directions?

The qualifications and pathways specifically mentioned that employers perceived as needing attention include: technicians (especially protection technicians), electrical fitters, and cable jointing.

Although several commented that distribution lines training was wanting in the past, employers commented this was improving, but needed to progress further.

Finding suitable or capable training providers or assessors continues to be difficult in many circumstances.

“Is it that the qualification or pathway problems are never resolved in the first place, or that different individuals in various companies want to take the qualifications or pathways in different directions?”

PROVIDING & ASSESSING TRAINING

Although there may be long lists of training providers for specific areas, the lists shorten considerably when one gets down to finding trainers for specific qualifications or unit standards. In more than one case, respondents reported they believed there was literally no-one to provide certain types of training.

One of the problems is that there seems to be the same ageing dynamic among trainers that exists for the rest of the industry. Trainers are getting older, too, and because of this their expertise is disappearing.

Some respondents report that they would be happy to continue certain types of training and have returned to providers who used to offer it, only to be told they couldn't provide that service any more.

Finding quality on-the-job trainers seems to be a problem as well.

Although many companies do have a good number of assessors, others have none and are finding it hard to develop them.

“In more than one case, respondents reported they believed there was no one to provide certain types of training.”

HEALTH & SAFETY COMPLIANCE

Concerns over compliance with health and safety regulations appear to be mounting.

It was pointed out by respondents that there is no underlying increase in accidents within the industry, but there is an increase in regulation.

Many respondents hold the view that the main driver behind these changes in regulation is changes in the risk tolerance for society rather than for the industry. That is, government is just not willing to accept the level of risks to industry workers than were accepted only a decade ago and seeks to lower the risks.

For employees, the increase in health and safety compliance brings up several problems.

First, new compliance measures run against accepted industry practices, especially by senior skilled employees.

If the most experienced person on the work crew does not respect the changes and finds them intrusive, few others on the crew will respect the new rules.

Second, the paperwork involved is considered a time intensive activity that is viewed as distracting field personnel from their basic jobs. It is hard to accept new compliance regulations when one is already pushed to be more productive.

“It was pointed out by respondents that there is no underlying increase in accidents within the industry, but there is an increase in regulation.”

QUALIFICATIONS FOR UTILITY WORKERS

Use of utility workers in the industry has increased dramatically with the recent upswing in electricity asset investment.

One reason for this is that a utility worker is frequently used to extend the expertise of a trained skilled trades employee.

However, with greater levels of health and safety compliance, especially for roading-related projects, more is being expected of utility workers.

In addition, utility workers have become the pool from which many new distribution linemen and cable jointers are coming. An issue is whether it is now time to develop a qualification aimed at utility workers.

“An issue is whether it is now time to develop a qualification aimed at utility workers.”





AREAS OF STRATEGIC FOCUS

3.1 Current Strategies

3.2 2007 Industry Strategic Action Plan & Direction



CURRENT STRATEGIES

Three-part numbers strategy

Feedback during the consultation process confirmed that the main recruitment strategy used by ESI employers, the three-part “numbers” strategy, is resulting in the engagement of sufficient numbers of skilled employees.

Industry employers:

- Take on young recruits
- Bring in skilled individuals from overseas
- Up-skill individuals crossing in from other industries

Companies are taking on new trainees at an exceptionally high rate. Normally this is about 15% of current staffing levels, which is the maximum most companies can do given the technically complex jobs they need to do, and health and safety considerations.

To take up the slack, companies have been hiring overseas from traditional sources of immigration like the United Kingdom or South Africa and new sources like Tonga and the Philippines.

The third aspect of the numbers strategy is to take on individuals with a complementary skill background and transition them into the electricity supply industry. For example, a firm might take on someone who might be a mechanical fitter with a heavy industry background and then upgrade his training to be an electrical fitter.

Training implications

The impact of the numbers strategy for training in the industry is that the focus has been on training up these three segments.

Trainee programmes like apprenticeships, which are oriented toward new recruits, have expanded greatly. Second, those coming from overseas need to get registered in New Zealand. This occasionally requires some up-skilling. Finally, those skilled individuals coming from outside the industry need additional training to transition.

The overriding focus on training has been on throughput of numbers, not quality. This theme is mimicked in the ESITO Gap Analysis studies. The focus was not on the quality of training or skills, or even the depth of cross training between specialties. Instead the reports followed industry practice in considering numbers in needed trades alone.

With the focus on numbers, it is not surprising that other issues like the quality of supervisors were not directly considered.

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Industry Feedback

On 18 October 2006, ESITO presented a report entitled “An Industry Skills Strategy for the New Zealand Electricity Supply Industry – An Interim Report October 2006” at an industry consultation forum in Hamilton. This was followed by presentations during the period 3-10 November 2006 at a series of meetings in Auckland, Hamilton, Wellington, Dunedin and Christchurch. Thirty-eight representatives from twenty-four ESI member companies attended the presentations. There was representation from all sectors of the ESI. Member companies were also invited to provide written or verbal feedback.

There was general agreement with the “Major Issues” identified by the external researcher.

While the chronic skill shortage remains the core issue, the focus of the discussion during the consultation process was on the following “Major Issues” identified in the Interim Report:

- Future of skilled positions, project and contract managers,
- Future of supervisors
- Industry pride

This suggests that industry is confident that the three part numbers strategy (take on young recruits, bring in skilled individuals from overseas and upskill individuals crossing in from other industries) is reducing the skills gap enabling them to focus on the “Major Issues”.

There was extensive discussion on the impact of the contracting model on industry pride. The majority of participants felt that aspects of the current model undermine industry pride. This may be more pronounced in an urban environment compared with rural areas. Issues that were identified as contributing to this were the number of ownership changes that some employees experienced, the branding of vehicles and uniforms with the asset owner’s name rather than the employer’s name.

A number of participants felt that steering groups would be an appropriate vehicle to further investigate the “Major Issues”. One group of Executives strongly recommended that the work of the steering groups be supported by information provided by external experts. This group also recommended that appropriate facilitation be used to ensure that the industry representatives act as a “steering group” as opposed to being a “working group”.

“Industry is confident that the three part numbers strategy is reducing the skills gap enabling them to focus on the ‘Major Issues’.”

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Another body of participants felt strongly that it was individual companies who needed to address certain parts of the “Major Issues”, particularly future of skilled positions, project and contract managers and future of supervisors. These participants identified factors within the “Major Issues” that enabled an individual employer to be an employer of choice and obtain or maintain a competitive advantage through this. They cautioned against undertaking activity that may have the effect of “averaging” the whole industry. .

A strong link was identified by participants between some of the “Major Issues”, particularly the future of supervisors and industry pride. Supervisors have a tremendous influence on driving efficiency, giving employees a sense of belonging and determining the culture of an entity. Some suggested that the steering groups be amalgamated into one to address all the issues. However, on the whole, while acknowledging the strong link between the issues, the feedback received by ESITO was to deal with the issues separately to ensure that they are addressed sufficiently. Some commonality between participants in each of the steering groups may assist the steering groups to benefit from the work of other steering groups.

While the issues have been identified, the feedback indicated that the steering groups need to undertake further work to identify the core of the issue before they identify solutions.

Participants felt that ESITO’s role was generally one of facilitation. However, industry representatives confirmed the researcher’s findings that ESITO has an active role to play in a component of the industry pride being the promotion of the industry to those outside the industry, particularly as part of the recruitment process.

There was a strong consensus that asset owners need to be involved in the steering groups.

“Feedback indicated that the steering groups need to undertake further work to identify the core of the issue before they identify solutions.”

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Action Plan

Based on the industry feedback, ESITO will undertake the following actions for Stage 1:

1. Develop terms of reference for three steering groups and propose a revised set of objectives for each steering group in line with feedback received.
2. Convene steering groups
3. Identify and provide effective facilitators for the steering groups
4. Require each steering group to identify external information sources (e.g. subject matter experts, research reports) that will inform the steering groups
5. Work with the steering groups to identify funding sources for obtaining the external information (if required)
6. Manage the ongoing facilitation and dissemination of the outcomes from each steering group

Stage 1

Future of skilled positions, project and contract managers steering group

ESITO will establish a steering group to consider the issues relating to a shortage of project and contract managers. This group will consider the debate between the “Meeting the skills gap from within” and the “Looking outside to meet the skills gap” perspectives and make recommendations regarding training programmes for skilled positions and project and contract managers in the electricity supply industry.

This group will consider which approach is best, or whether both perspectives are valid, depending on the situation for the employer.

The implications for training would be whether new training programmes or qualifications need to be considered or integrated into the current available training mix.

The composition of this steering group will be a mix of individuals from companies which have experience with both the “Big Picture” and “Long-Term” perspectives. It will also have a mix of asset owners and contractors because both employ project and contract managers.

Future of supervisors steering group

ESITO will form a steering group to address issues relating to the shortage of supervisors. This group will consider the career path of those who are needed to become field supervisors.

If the “Long-Term” perspective is assumed to hold here, then there may be little need to change or introduce qualifications. However, to the extent that the “Big Picture” perspective holds, there may need to be substantial changes.

The composition of this steering group will be predominately from contractors because they are the main employers of field supervisors. However, some asset owners may need to be involved because of the importance of the area.

Industry pride steering group

The focus on external motivation among skilled trades’ employees is alarming and has significant consequences. ESITO will form a steering group to address the issues relating to the lack of industry pride.

This steering group will be charged with identifying the causes of the focus on external motivation in the industry, the cost of it to employers, and finding ways to improve employee pride in their jobs, employers and the industry.

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The first step is information gathering to learn more about the problem. The second is to formulate solutions, if they are possible.

Composition of this task force will include a cross section of industry participants. The group may also include an outside researcher familiar with the industry and employee motivations.

Training provision facilitation

Industry has identified that ESITO needs to play a more active role in the facilitation of training.

ESITO is not able to provide training itself, and instead relies on private training providers and polytechnics to teach courses relevant for the industry.

However, to deal with the need for training programmes for small specialties, ESITO will, at a minimum, endeavour to find a system by which it can coordinate employers and training providers so that there are enough students to support the running of a course. If this is not possible, ESITO will find ways by which employers still have access to the training they need.

To assist this, ESITO proposes to provide a web based interactive training calendar, which will detail training providers and their courses, for the calendar year. This will be trialed in 2007 and re-assessed for suitability at the end of 2007.

Pathways and qualifications review

Industry reaffirmed the need for ESITO to continue to review and where necessary to make changes to pathways and qualifications.

ESITO will determine if the problem is that industry is not getting the qualifications it needs, or whether there is disagreement within the industry about what it needs.

It may be that ESITO is taking the middle path among competing interests in the industry, and this strategy pleases no one. Alternatively, it may be that other factors are keeping the industry from getting needed qualifications.

If the problem is disagreements within industry, ESITO will be proactive in making sure that industry knows its own disagreements are the problem, not ESITO or NZQA.

Also, one possible solution is the development of endorsements within qualifications so that different industry groups can get the unit standards within qualifications they need - without stopping others from getting the unit standards within qualifications that they need.

Re-examination of pathways will also merit careful consideration, especially given the limited choices apparently available from training providers.

As part of an ongoing review of the current qualifications, ESITO identified the need to review, via industry consultation, three of the prominent pathway options for the ESI.

1. Electrical Pathway
2. Line Mechanics Pathway
3. Cable Joints Pathway

The Electrical pathway review has been completed and the new qualifications have been submitted to NZQA for approval, in December 2006.

The Line Mechanics pathway has held its first consultation round with the Industry steering group, in November 2006, and initial recommendations are currently with a working group.

The industry steering group will reconvene in February 2007.

The Cable Joints pathway has held its first consultation round with the Industry steering group, in November 2006, and initial recommendations are currently with a working group. The industry steering group will reconvene in February 2007.

For all three reviews, ESITO is addressing any provision issues that are relevant.

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Stage 2

The researcher recommended steering groups be used to address the issues identified in Stage 2 – Training Sector Redesign and E-Learning. Stage 2 is dependent on recommendations from the pathways and qualifications review and addressing training provision issues.

Training sector redesign

To deal with the frustrations with the overall training system and change the system to more menu-driven, employer-responsive qualifications is something that many in the industry have already drawn out on paper. The problem is that implementing this within the overlapping groups involved is the hard part. To get to a more menu-driven qualification structure, different types of organisations will need to meet, share problems and agree on a new structure for training in the electricity supply industry. Upon completion of Stage 1, ESITO will determine if a training sector redesign review will be required.

E-Learning

The two areas of focus on e-learning are the platform and the content of e-learning. While the Stage 1 action plan is underway, ESITO proposes to undertake a research project in 2007 that will assist the industry to determine the role of e-learning in industry training going forward. This research is being undertaken in conjunction with the Waikato Institute of Technology and is being funded through the Ministry of Education's Tertiary e-Learning Fund.

ESITO will undertake a three phased research plan to assist in the development of solutions for e-Learning for vocational training.

Phase One

A literature review of e-Learning initiatives in industry/vocational training, nationally and internationally

Phase Two

Survey of Learning and Training Managers, at a range of vocational training organizations, to determine their organisations e-Learning policies and the extent to which e-Learning has been adopted within that organisation.

Phase Three

Conduct case studies with a minimum of three Industry Training Organisations, focusing on specific e-Learning initiatives undertaken and investigating participant perceptions of the effectiveness of the e-Learning delivered.



CONCLUSION

This report has spelled out the nature of several problems facing training in the electricity supply industry.

Although there appears to be a variety of problems, it bears remembering that the industry has done well in the last few years dealing with the major problem - not enough skilled labour in the industry.

There is no reason to believe that this should not still be the focus on training in the industry. However, the industry should begin formulating directions they need to consider to bring training in the industry up to the standard employers' desire it to be.

The industry consultation process highlighted the importance of ESITO looking at the Industry Skills Strategy as a long term strategy. The Interim Report titled "An Industry Skills Strategy for the New Zealand Electricity Supply Industry – An Interim Report October 2006" has been endorsed as the Industry Skills Strategy for 2007 with the proviso that ESITO address the future strategies in stages over the coming years.

For 2007, ESITO will form industry steering groups that will focus on the issues of the future of skilled positions - project and contract managers, future of supervisors and industry pride.

ESITO will utilise the services of the industry steering groups, to address the "points for consideration" raised in the document, and define ESITO's role in the process. Based upon recommendations from the respective steering groups, ESITO will facilitate outcomes. Meantime, ESITO will continue to support industry in the "three-part numbers strategy", which is assisting the ESI in reducing the current skills gap.

ESITO would like to acknowledge research undertaken for the purposes of creating this report by Dr Scott Koslow, Waikato University School of Management Research Centre.

