

FINAL REPORT

**SURVEYING THE CONSTRUCTION INDUSTRY REGARDING INTEGRATING FOREIGN
TRAINED WORKERS INTO THE BC CONSTRUCTION ELECTRICIAN TRADE**

Prepared for

BC Construction Industry Training Organization (CITO)

Prepared by

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EXECUTIVE SUMMARY

Foreign trained workers represent an important source of new workers for the trades, many of which are facing increasing challenges in meeting the demand for new workers as the current workforce nears retirement. Along with the demand for foreign trained workers, many of whom received their training in systems significantly different from the Canadian apprenticeship system, come concerns over the ability of these workers to meet industry recognized performance and safety standards. These concerns have led many jurisdictions to examine the way in which foreign trained workers are assessed and certified prior to entering the trades, and to implement new policies and procedures with respect to the certification of workers entering the trades from outside the Canadian apprenticeship system.

The goal of this research was to examine methods in which foreign trained Construction Electricians are certified in jurisdictions throughout Canada and to determine the degree of employer support for a proposal to change the procedure for certifying foreign trained electrical workers entering the Construction Electrician trade through the challenge route in BC.

This study addresses the following questions:

- 1) Are concerns held by BC employers the same as employers elsewhere in Canada?
- 2) Are other jurisdictions looking at alternative processes to certify foreign trained Construction Electricians?
- 3) Do employers who hire foreign trained Construction Electricians believe there is a need to review the certification process for such individuals?
- 4) Do electrical contractors and employers support the proposal to require successful challengers of the Red Seal Construction Electrician exam to work as a final term apprentice for up to one year?

This study consisted of two primary components:

- A review of policies and procedures regarding the certification of foreign trained electrical workers in other Canadian jurisdictions; and
- A survey of electrical employers and contractors in BC to determine industry support for the proposal to modify the certification of foreign trained electrical workers entering the Construction Electrician trade through the challenge route.

A literature review and key informant interviews with representatives of apprenticeship and certification bodies in other Canadian jurisdictions revealed that some provinces, particularly those that certify significant numbers of foreign trained workers, share the concerns regarding the abilities of foreign trained electrical workers expressed by the BC construction industry. In response, many jurisdictions have implemented measures to ensure that workers entering the trades outside of the apprenticeship system have the knowledge, skills, and experience necessary to work safely and proficiently in the trades. These measures include:

- validation of trade experience;
- requirements for Canadian work experience;
- employer declarations of an applicant's abilities; and
- practical assessments of an applicant's abilities.

A multi-modal (telephone, mail, online) survey was conducted with employers of construction electricians in BC to examine their opinions regarding the abilities of foreign trained electrical workers and the proposal to change the certification process for successful challengers of the Red Seal exam. 392 completed surveys were collected over a three week period in July and August 2011. Collectively, these companies account for 6,285 electrical workers from across all regions of BC. Of the companies who responded to the survey, 114 (30%) hire foreign trained electrical workers.

Opinions regarding the abilities of foreign trained electrical workers were mixed. Of those companies who hire foreign trained electrical workers, 36% agreed or strongly agreed with the statement that “foreign trained electrical workers are able to perform electrical work to industry recognized performance standards,” while 44% disagreed or strongly disagreed. Similarly, 41% of companies who hire foreign trained electrical workers agreed or strongly agreed with the statement that “foreign trained electrical workers are able to perform electrical work in accordance with industry recognized safety standards,” while 40% disagreed or strongly disagreed. Among those respondents who disagreed with the above statements, their reasons largely dealt with the quality of training in foreign jurisdictions, particularly with respect to preparing workers to understand and apply the Canadian Electrical Code.

Despite the mixed opinions regarding the abilities of foreign trained electrical workers, there was widespread support among all respondents for the industry proposal to require successful challengers of the Red Seal Construction Electrician exam to work as an apprentice for up to one year. 77% of respondents agreed or strongly agreed that “the industry proposal would be an effective mechanism for ensuring that foreign trained electricians are able to demonstrate they can perform electrical work to industry recognized performance and safety standards in Canada,” while an additional 3% agreed with the proposal in principle, but felt that the trial period should be longer than one year; only 12% of respondents disagreed or strongly disagreed with the proposal. Comments regarding the proposal included suggestions that challengers be required to complete courses specific to the Canadian Electrical Code, that language proficiency be a requirement, and that the length of proposed apprenticeship be extended beyond one year.

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SECTION 1: PROJECT OVERVIEW

1.1 Project Goals and Objectives

The goal of this research was to examine methods in which foreign trained Construction Electricians are certified in jurisdictions throughout Canada and to determine the degree of employer support for a proposal to change the procedure for certifying foreign trained electrical workers entering the Construction Electrician trade through the challenge route in BC.

This study addresses the following questions:

- 5) Do employers who hire foreign trained Construction Electricians believe there is a need to review the certification process for such individuals? (Are concerns as to the effectiveness of the current challenge route widespread or limited to a few employers?)
- 6) Are concerns held by BC employers the same as employers elsewhere in Canada? Are other jurisdictions looking at alternative processes to certify foreign trained Construction Electricians?
- 7) Do BC employers support the proposed one year “final term apprentice” requirement as proposed by the industry to ensure that foreign trained Construction Electricians can work at the journeyman level?

1.2 Research Overview

This study consisted of two primary components:

- Review of policies and procedures regarding the certification of foreign trained electrical workers in other Canadian jurisdictions. This consisted of a literature review and key informant interviews with representatives of apprenticeship training and certification bodies in most provinces and territories; and
- Survey of electrical employers and contractors in BC to determine industry support for the proposal to modify the certification of foreign trained electrical workers entering the Construction Electrician trade through the challenge route. A mail, internet, and telephone survey gathered opinions regarding the proposal from 392 employers of construction electricians in BC.

1.3 Report Structure

The results of both components of the research are presented in the following sections. Section 2 summarizes the processes used to certify foreign trained electrical workers in other Canadian jurisdictions. Section 3 presents the results of the survey of electrical employers and contractors. Tables of results and a copy of the survey instrument are found in the Appendices.

SECTION 2: CERTIFICATION OF FOREIGN TRAINED WORKERS IN OTHER CANADIAN JURISDICTIONS

2.1 Certification of Foreign Trained Workers

Workers trained in foreign jurisdictions represent an important source of new workers in many Canadian industries. In the context of trades, where certification as a journey person is often a requirement for being able to work in the industry, foreign trained workers must go through a process to prove that they can meet the required scope of work for their respective trade. As the certification of trades workers is under provincial/territorial jurisdiction in Canada, the process of certifying foreign trained workers varies from jurisdiction to jurisdiction, although the final step in the process is generally challenging either the provincial qualification exam or the interprovincial Red Seal exam. For purposes of this study, the focus is on certifying electricians to the Red Seal standard.

The Saskatchewan Apprenticeship and Trade Certification Commission (SATCC) recently released a comprehensive report on the assessment and recognition of foreign trained workers in all the Red Seal Trades.¹ The report describes the processes of credential assessment and trade experience assessment in each jurisdiction, and makes recommendations for aligning the processes on a national basis. The SATCC report also provides some statistics on the certification of foreign trained workers which provide some useful context for this research. Nationally, roughly 2% of new Permanent Residents and Temporary Foreign Workers applied to challenge provincial/territorial certification exams between 2007 and 2009. According to figures provided to SATCC by each province, BC ranks third in the number of challengers, behind Ontario and Alberta, and slightly ahead of fourth-place Quebec (Table 1). From the perspective of the CITO study, one of the key findings of the SATCC report is that the electrician trade was the most common trade among foreign workers applying for certification, followed by carpentry.²

Table 1. Actual or estimated number of foreign trained workers applying for certification exams

Year	BC	AB*	SK	MB	ON	QC	NS	NB	PEI	NL	YK	NT	Total
2007	550	2,415	17	186	3,260	400	25	3	1	2	3	0	6,862
2008	550	2,789	51	247	3,200	462	25	2	2	7	3	0	7,338
2009	550	631	99	155	3,030	520	25	1	7	11	3	1	5,033
Total	1,650	5,835	167	588	9,490	1,382	75	6	10	20	9	1	19,233

Source: Saskatchewan Apprenticeship and Trade Certification Commission (2011). Actual numbers provided for AB, NB, NT, PE, & SK; figures for remaining provinces are estimates.

*Alberta numbers are for Temporary Foreign Workers only

¹ Saskatchewan Apprenticeship and Trade Certification Commission (2011). *Understanding the Assessment and Recognition of Foreign Trained Workers in the Red Seal Trades: A Cross-Canada Review of the Methodology and Processes in Apprenticeship Systems to Assess and Recognize Credentials and Trade Experience*. Available at: http://www.saskapprenticeship.ca/siteimages/misc%20pamphlets_newsletters/FQR_Final_March2011.pdf

² Ibid.

2.2 Certification of Foreign Trained Electrical Workers in Other Canadian Jurisdictions

Attempts were made to contact representatives of apprenticeship and training bodies in all other provinces and territories to gather information regarding the certification of foreign trained electrical workers in other Canadian jurisdictions. Responses were provided during telephone Key Informant Interviews or by email responses to the questions. Each respondent was asked the following questions:

1. Are you aware of any concerns regarding the ability of foreign trained electrical workers to perform electrical work to industry recognized performance standards?
2. Are you aware of any concerns regarding the ability of foreign trained electrical workers to perform electrical work in accordance with industry recognized safety standards?
3. Are there any proposals or initiatives under consideration regarding changes to the process of certifying foreign trained electrical workers in [province/territory]?

While these questions served as interview guidelines, the interviews were informal and respondents generally also provided some background information on the current process for certifying foreign trained workers in their respective jurisdictions.

Representatives from seven provinces and one territory provided information regarding their experience with the certification of foreign trained electrical workers and any initiatives currently underway to modify the current certification process (Table 2). Based on the findings of the SATCC report, those jurisdictions who chose not to participate in the current study account for less than one percent of foreign trained workers in Canada.

Table 2. Response from other jurisdictions

Province / Territory	Organization	Nature of Response
Newfoundland & Labrador	Division of Institutional and Industrial Education	Telephone Interview
Prince Edward Island	Apprenticeship Branch, Department of Innovation and Advanced Learning	Telephone Interview
Quebec	Commission de la Construction Du Quebec	Telephone Interview
Ontario	Ministry of Training, Colleges and Universities; College of Trades	Telephone Interview
Manitoba	Apprenticeship Manitoba	Telephone Interview
Saskatchewan	Saskatchewan Apprenticeship & Trade Certification Commission	Telephone Interview
Alberta	Apprenticeship & Industry Training	Telephone Interview
Yukon	Advanced Education Branch	Email

2.2.1 Newfoundland and Labrador

There are few foreign trained workers in the Construction Electrician trade in Newfoundland and Labrador, and have been no concerns expressed regarding their ability to meet performance and safety standards. The certification of all tradespeople in Newfoundland and Labrador relies heavily on the Prior Learning Assessment Recognition (PLAR) process and places a strong emphasis on treating all applicants (foreign or domestic) equally. Applicants are required to

provide proof of work experience from former employers, and then enter the PLAR process. The PLAR will either determine that an applicant has the necessary skills to challenge the certification exam or identifies gaps in technical knowledge or work skills. If gaps are identified, the applicant must take courses in order to gain the required knowledge before being allowed to challenge the exam.

2.2.2 Prince Edward Island

There are very few foreign trained electrical workers in PEI and no concerns have been raised regarding their ability to meet performance and safety standards. Similarly there are no plans to change the current certification process. All applicants wishing to challenge the Red Seal exam are required to submit proof of 10,000 hours in the trade, as well as having a journeyperson (licensed in Canada) sign off on his/her abilities. Often, obtaining this sign-off entails an applicant registering as an apprentice for a minimum of three months to allow an employer to make the determination regarding the applicant's abilities.

2.2.3 Quebec

There are no significant concerns regarding the ability of foreign trained electrical workers to meet industry recognized performance standards in Quebec; however, there is not currently a shortage of electrical workers in the province, so many employers have a preference to hire domestically trained workers. There are no specific concerns regarding the ability of foreign trained electrical workers to meet industry safety standards, although ensuring workers understand the appropriate codes is essential to many trades. Since passing the provincial certification exam requires an understanding of the Canadian Electrical Code, applicants who pass the exam are understood to be able to work to code. The current process of certifying foreign trained electrical workers is based on assessing an applicant's experience, not on credential recognition. The process works well for applicants with significant (five years plus) experience in the trade, but there are some difficulties with less experienced applicants. While the Ministry of Education is responsible for assessing applicants with vocational training for the purpose of beginning an apprenticeship, there is currently no process to assess applicants with some trade experience to allow them to enter the second or third year of an apprenticeship. There are also no resources to permit such assessments.

2.2.4 Ontario

While there have been concerns expressed regarding the ability of foreign trained electrical workers to meet Canadian performance and safety standards, these concerns are not considered to be outstanding. A more significant concern in Ontario is ensuring that workers practicing compulsory trades in the field actually possess a valid Certificate of Qualification. All workers (foreign and domestic) are required to be treated equally with respect to registration in the trades and no tracking is done specifically of foreign trained workers.

Ontario recently completed an Apprenticeship Modernization Project resulting in the January 2011 implementation of a revised apprenticeship and certification process. Under this new process there is an enhanced focus on clients (i.e. applicants) and an emphasis on providing clients with the resources to produce high quality applications and to succeed in the qualifying exam. If clients are unable to provide verifiable evidence of their qualifications and work experience, they are not permitted to challenge the certification exam. In this case, a client would be required to begin an apprenticeship. Apprentices with previous experience are permitted to attempt challenge exams to gain exemptions from some educational components

of the apprenticeship. The Ontario College of Trades is in the process of being established to act as the regulatory body for the trades. Once established, the College will take on the role of reviewing applications for certification. It is anticipated that in the near term, the requirements for certification will remain largely unchanged.

2.2.5 Manitoba

While Apprenticeship Manitoba is aware of concerns regarding the ability of foreign trained electrical workers to meet Canadian performance and safety standards, it is thought that such concerns are limited to a few individual cases rather than a systemic issue. In some cases the concerns may relate more to language issues, and could be dealt with more appropriately through language, rather than trades training. The prior learning assessment process is intended to identify individuals who lack the necessary theoretical and experiential knowledge of their desired trade and direct them to training program prior to challenging the Red Seal exam.

While not specific to electrical workers, there are two initiatives currently underway in Manitoba to ensure foreign trained trades workers are prepared to write the provincial and/or Red Seal exams. These programs are recommended to workers who are assessed (through the prior learning assessment recognition) to be at between 50-70% of the required scope for their trade. The Workplace Integration of Skilled Newcomers in the Trades (WISNIT) program is intended to address workers' experiential gaps. Workers in this program are essentially treated as if they were in their final term of an apprenticeship and must work under an employer to fill the identified gaps in their experience. Once the employer determines that the worker has gained the necessary experience, the employer signs off and the worker can write the certification exam. The Bridge program is similar to the WISNIT program, but is focused on gaps in theoretical knowledge. The educational component of apprenticeship for each trade has been broken down into specific blocks of knowledge. An individual in the bridge program takes only those blocks that relate to identified gaps in their knowledge, and having successfully completed the program can challenge the certification exam. A pilot of the Bridge program is currently underway for electrical workers. Both programs include language training and an introduction to the Canadian workplace.

2.2.6 Saskatchewan

The Saskatchewan Apprenticeship and Trade Certification Commission reports no concerns regarding the ability of foreign trained electrical workers to meet industry recognized performance and safety standards. The Commission suggests this is due to the current policy of requiring foreign trained workers to work in the industry for a period of one year and be signed off by an employer prior to challenging the Red Seal exam. There are currently no plans to change the existing policy. There is a project getting underway to verify the qualifications of foreign trained trades workers. Applicants claiming education in another country are referred to an agency which verifies the existence of overseas schools along with the curriculum. While still in its early stages, this program has already identified cases where the schools listed on an application did not in fact exist.

2.2.7 Alberta

Alberta has a high number of foreign trained workers, including many in the electrical trades. In the latter half of the last decade, there was a very high demand for trades workers, resulting in many foreign trained workers seeking certification to work in Alberta. There were a number of concerns raised by the industry regarding the ability of foreign trained workers to meet industry

recognized performance and safety standards, including complaints specific to electrical workers. These complaints related to foreign trained workers who gained provincial or Red Seal qualifications in Alberta or other Canadian jurisdictions, but were found to be unqualified to work in the field. The complaints came to a head around 2007, resulting in an investigation and re-verification of applications by the Alberta Apprenticeship and Industry Training (AAIT). This investigation found a number of fraudulent applications and suspect documents, resulting in the revoking of some certifications and the denying of other applications.

At the time of the complaints, the process for a worker from outside the Canadian apprenticeship system to gain certification in Alberta was for an applicant to present evidence of required work experience. Once this experience was verified through contact with former employers, the applicant was allowed to challenge the Red Seal exam. In addition, workers with certification in another Canadian jurisdiction could present this certification to receive an Alberta equivalency document which resembled a provincial certificate of qualification. Several measures were implemented around 2009 to better ensure workers were qualified to practice in the trades. The practice of issuing Alberta equivalency documents was halted, but these workers were still permitted to work in the trades. If desired, workers were instead provided with an ID card specifying where they had received their Certificate of Qualification. A second measure was to require applicants to provide a declaration from a current employer (either from Alberta or known to AAIT) attesting that the applicant was working at the level of a journeyperson.

At the same time as AAIT was implementing changes, the union representing electrical workers in Alberta (IBEW) instituted a practical assessment requirement for workers who had entered the trade without completing a Canadian apprenticeship program. These workers were required to undergo a practical assessment (based on the U.S. model) prior to being sent to a job by the IBEW. Workers who did not possess the required skills were either required to enter an apprenticeship program (at various levels depending on skills) or were allowed to work for one year followed by a re-assessment.

In February 2011, AAIT modified their employer declaration requirements to make them more flexible, particularly for applicants without current employers (e.g. unemployed, self-employed). In addition, the requirement for an employer declaration is waived for applicants in those trades for which there is an industry-approved practical assessment (does not currently include electricians). In the future, AAIT plans to develop practical assessments for additional trades. A prototype practical assessment is currently being developed for the electrician trade, with plans to implement it within 12 months. It is intended that this assessment process will be more streamlined than the current IBEW assessment which is currently very time and resource intensive.

2.2.8 Yukon

The Yukon Advanced Education Branch is not aware of any issues with the ability of foreign trained electrical workers to meet industry recognized performance and safety standards, and thus has no initiatives underway to change the certification process. Currently, in order to be eligible to challenge the provincial qualification or Red Seal exam, a foreign trained electrical worker must provide evidence of having worked 1.5 times the required hours for an apprenticeship along with six months of work experience with a Canadian employer who can verify the applicant's understanding of and ability to interpret the Canadian Electrical Code.

2.2.9 Other Jurisdictions

The remaining four provinces and territories did not participate in the research effort, however information on the certification of foreign trained workers in Nova Scotia, New Brunswick, and the Northwest Territories can be found in the SATCC report.³

New Brunswick verifies an applicant's trade experience through contacting previous employers. There is no requirement for an individual to have Canadian work experience prior to applying to challenge the certification exam.

Nova Scotia has both a credential recognition and trade qualification process for determining eligibility for challenging the certification exam. Applicants with foreign credentials can apply to have these credentials recognized. Nova Scotia Apprenticeship will attempt to verify the credentials. For trade qualifiers, applicants are required to provide proof of the required number of hours of experience which is then verified with the employers. There is no requirement for Canadian work experience. The assessment process may include a competency conversation to attempt to determine the applicant's level of competence with the trade.

The Northwest Territories requires individuals wishing to challenge the Red Seal exam to work in the trade in the Northwest Territories for one year prior to challenging the exam. Applicants must also provide a declaration from a Canadian journeyman in the same trade attesting that the applicant is competent in the trade at the journeyman level.

2.2.10 Summary

In BC as in most Canadian jurisdictions, the assessment of foreign trained workers relies heavily on assessing an applicant's previous trade experience. Few jurisdictions place much emphasis on either recognizing or assessing trade credentials obtained in other countries. This is due in part to the vast number of potential credentials across many trades and jurisdictions and the time and effort required to assess the various credentials. Similarly, few jurisdictions conduct practical assessments to measure an applicant's skills and abilities in a particular trade. Again, this is largely due to the resources required to conduct such evaluations. Instead, applicants are required to provide evidence of hours worked in the trade and contact information for someone who can verify this evidence. Most trade certification bodies devote a significant amount of time and effort to verifying the trade experience submitted by applicants.⁴ Many other Canadian jurisdictions have policies in place which are similar to the current proposal regarding the certification of foreign trained electrical workers as Construction Electricians in BC. Applicants wishing to challenge the Red Seal or provincial exams are often required to provide proof of Canadian work experience, provide a declaration from an employer attesting to their skills, or work in the industry for a set period of time prior to challenging the exam. The primary difference between these programs in other jurisdictions and the proposed BC model is that the requirement for work experience takes place prior to an applicant challenging the certification exam rather than after a successful challenge. It should also be noted that, during the

³ Saskatchewan Apprenticeship and Trade Certification Commission (2011). *Understanding the Assessment and Recognition of Foreign Trained Workers in the Red Seal Trades: A Cross-Canada Review of the Methodology and Processes in Apprenticeship Systems to Assess and Recognize Credentials and Trade Experience*. Available at: http://www.saskapprenticeship.ca/siteimages/misc%20pamphlets_newsletters/FQR_Final_March2011.pdf

⁴ Ibid.

interviews, many jurisdictions emphasized that their requirements regarding certification / challenge of exams apply to anyone wishing to enter the trade outside the apprenticeship system and not just to foreign trained workers.

Table 3. Summary of other jurisdictions

Province / Territory	Requirement for Foreign Trained Workers to Serve with an Employer for a set Period of Time
Newfoundland & Labrador	No
Prince Edward Island	Requires Canadian journeyman to sign-off on an applicant's abilities; typically this requires an applicant working as an apprentice for minimum of 3 months
Nova Scotia	No
New Brunswick	No
Quebec	No
Ontario	No
Manitoba	Pilot project (WISNIT) for applicants with identified gaps in their experience to work as equivalent to final term apprentice pending sign-off from employer
Saskatchewan	Foreign trained workers must work in industry for one year and be signed-off by an employer prior to challenging Red Seal exam
Alberta	No set time, but applicants must provide a declaration from an employer known to AAIT that applicant can work at the level of a journeyman
Yukon	Requires six-months Canadian work experience who can verify applicant's understanding of and ability to interpret the Canadian Electrical Code
Northwest Territories	Applicant must work in the trade in the Northwest Territories for a minimum of 12 months and have a Canadian journeyman in the same trade sign-off on his/her abilities prior to challenging the exam

RESULTS OF THE SURVEY OF ELECTRICAL EMPLOYERS AND CONTRACTORS

2.3 Survey Development and Administration

The development of the survey was done in consultation with the CITO Steering Committee to ensure the questions gathered the desired information. The full survey instrument is found in the Appendices to this report. Once approved by the Committee, the survey instrument was programmed into the CallWeb to permit both telephone and online survey administration. A field test of the survey instrument was conducted via telephone and email / fax-return on July 21, 2011. No major issues with the survey instrument were identified during the field test.

The survey of electrical employers and contractors was conducted using multiple survey modes. Respondents were initially mailed a survey package consisting of a cover letter, survey instrument, and business reply envelope. Survey packages were mailed July 28, 2011 to the initial sample of 1,500 electrical employers and contractors. Respondents were provided with the option of returning the survey by mail or toll-free fax, or could select to complete the survey online. Follow-up telephone calls were carried out from August 8-19, 2011 in which respondents were offered the option of completing the survey over the telephone. In order to gather the necessary number of respondents within the time allocated for surveying, an additional sample employers and contractors who had not received the initial survey package were called and invited to participate in the telephone or online survey.

2.4 Sample

The sample for the *Survey of Electrical Employers and Contractors* was drawn from the list of licensed electrical contractors found on the BC Safety Authority website (n=4,775). This list represents those companies licensed to perform electrical work in BC. The phone numbers from this list were matched against business and residential telephone listings to obtain address information for the companies.⁵ Surveys were sent to all matching business listings (n=1,078) and a random sample of matching residential listings (n=422). In order to reach the target of 350-400 completed surveys, calls were made to an additional sample of 900 business and residential listings during the last two days of surveying. A total of 392 completed surveys from qualifying companies (i.e., those who hire certified construction electricians) were received by the end of the survey period, representing an overall response rate of 36.5%.⁶ Results reported for the entire sample have a margin of error of $\pm 4.5\%$ 19 times out of 20. Collectively, these companies account for 6,285 electrical workers. The survey was generally well-received with relatively few refusals. Reflective of the nature of the industry, a significant proportion of contractors contacted during survey administration were sole proprietorships (i.e., no employees) who thus did not qualify for participation in the survey. The timing of survey administration also likely contributed to surveyors being unable to contact a large number of potential respondents as the summer is a busy time for many employers in the construction industry. The results of the survey calling are shown in Table 4.

⁵ As many smaller contractors use their home number for business purposes, residential as well as business listings were included.

⁶ Calculated using the Marketing Research and Intelligence Association Formula. For details see <http://www.mria-arim.ca/STANDARDS/Response.asp>

Table 4. Results of surveying effort

Call Status	Frequency	Percentage	Valid Response*
Completion (includes telephone, mail, fax & online)	392	16.1%	21.0%
Respondent Refusal	124	5.1%	6.6%
Non-Qualifier (does not employ Construction Electricians)	453	18.6%	N/A
Unable to contact (not in service, wrong number, duplicate, language barrier)	121	5.0%	N/A
Other non-contact (no answer, left message, try again later, returned after deadline, etc.)	1351	55.3%	72.4%
Total	2441	100.0%	100.0%

*Completion / (Total sample less non-qualifier and unable to contact)

2.5 Characteristics of Respondents

Of those who responded to the question regarding registration with the Industry Training Authority (n=372), 70.7% indicated that they were registered as sponsors. The size of the companies surveyed ranged from single-employee business to larger contractors employing hundreds of workers (Table 5). In terms of age demographics, the percent of electricians under the age of 40 years was 50%.

Table 5. Company size and age distribution

	Total Workforce	Total Number of Electrical Workers (Including Apprentices)	Percent of Electrical Workers	
			< 40 years of age	40 years or older
N	381	377	366	366
Median	6	3	50%	50%
Minimum	1	1	0%	0%
Maximum	7000	1520	100%	100%

Table 6 shows the distribution of completed surveys throughout the province. While the regions outside the Lower Mainland and Vancouver Island were over-represented, this presents a good regional balance of surveys to examine regional differences.

Table 6. Completed surveys and labour force by development region

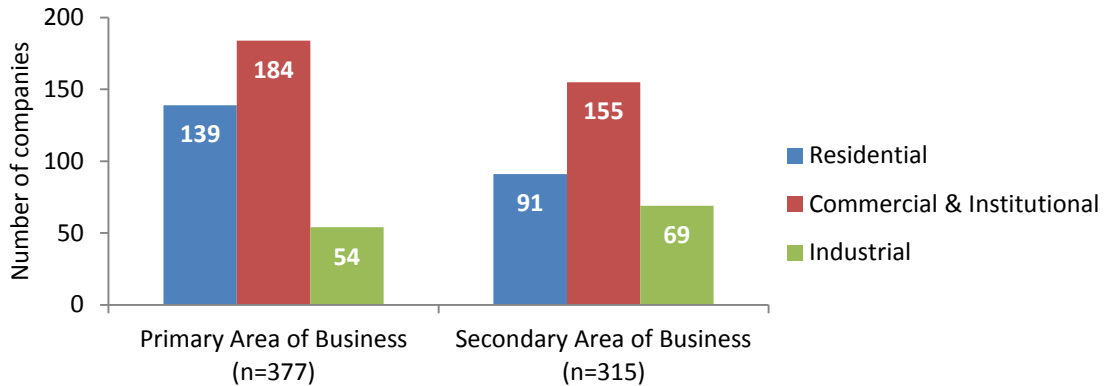
Region	2010 Labour Force (000s)^		Completed Surveys	
	#	%	#	%
Vancouver Island/Coast	409.7	16.8%	64	16.3%
Mainland/Southwest	1,503.0	61.5%	179	45.7%
Thompson-Okanagan	281.4	11.5%	77	19.6%
Other Regions	248.6	10.2%	68	17.3%
British Columbia	2,442.7	100.0%	392*	100.0%

^Source: Statistics Canada, Labour Force Survey prepared by BC Stats, February 2011

*Total includes 4 surveys in which respondent did not provide a region.

The primary and secondary areas of business are shown in Figure 1. Commercial and institutional electrical contractors account for the largest share of all electrical businesses in BC (both primary and secondary). A higher proportion of electrical contractors identify industrial electrical work as their secondary area of business.

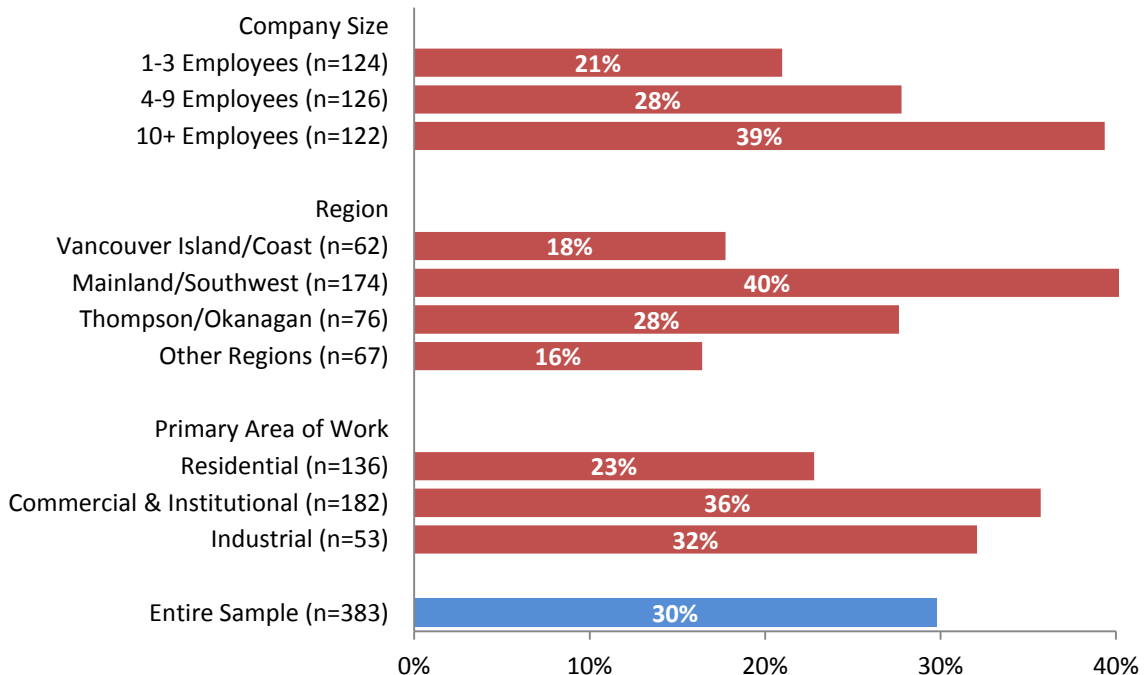
Figure 1. Primary and secondary area of business



2.6 Employment of Foreign Trained Electrical Workers

Of those surveyed, 114 companies (30%) stated that they employ foreign trained electrical workers (Figure 2). There was considerable variation in the hiring of foreign trained electrical workers, with larger companies, those in the Lower Mainland / Southwest region, and those whose primary area of business is Commercial / Institutional being more likely to employ foreign trained workers, than employers in other sectors and/or regions.

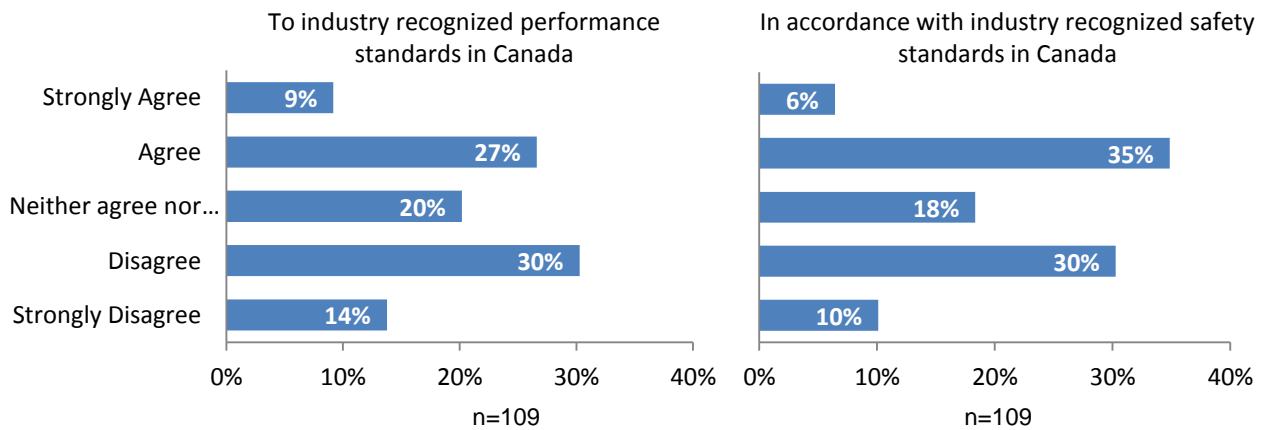
Figure 2. Employment of foreign trained electrical workers



2.7 Opinions Regarding the Hiring of Foreign Trained Electrical Workers

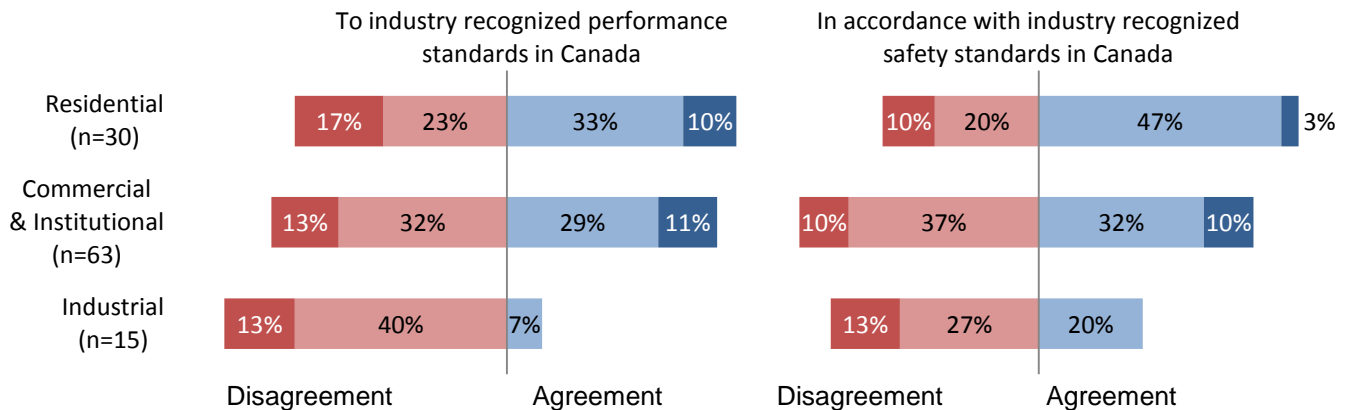
Employers who stated that they hire foreign trained electrical workers (n=114) were asked to state their level of agreement with two statements regarding the ability of foreign trained electrical workers to meet industry recognized performance and safety standards. Figure 3 shows the percentage of respondents who agreed with each of the two statements. On the whole, opinions were divided on both dimensions of this issue. In terms of performance, 36% of respondents agreed or strongly agreed that foreign trained electrical workers could meet performance standards, while 44% disagreed or strongly disagreed. For safety, 41% agreed or strongly agreed that foreign trained electrical workers could meet safety standards while 40% disagreed or strongly disagreed.

Figure 3. Agreement with statements that “Foreign trained electrical workers are able to perform electrical work”



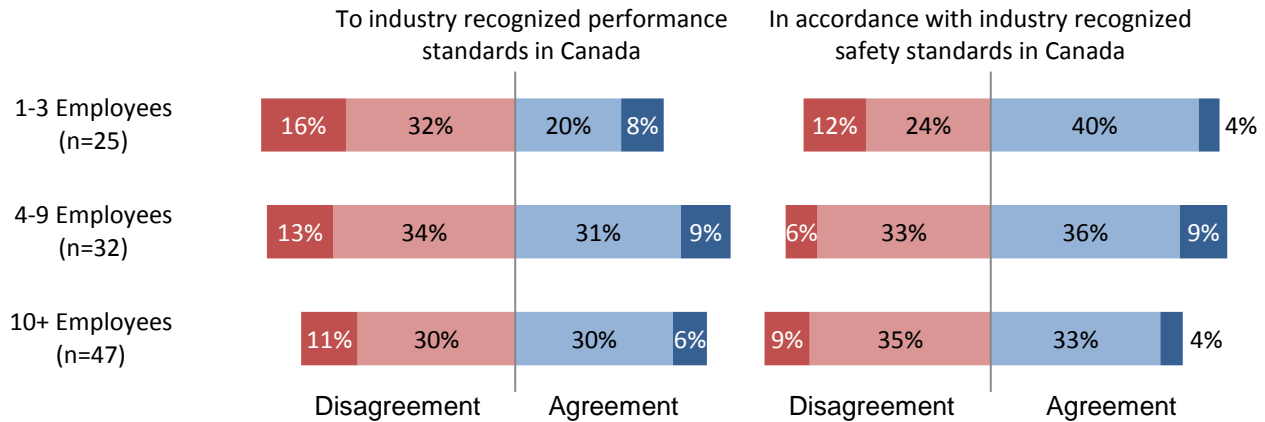
Agreement with the statements regarding the abilities of foreign trained electrical workers varies somewhat according to the primary business area of the companies (Figure 4). While it appears that fewer of those companies whose primary business area is Industrial agree with the statements, it is important to note that this finding is based on a very small sample within that area (n=15).

Figure 4. Agreement with statements that “Foreign trained electrical workers are able to perform electrical work” by primary area of work



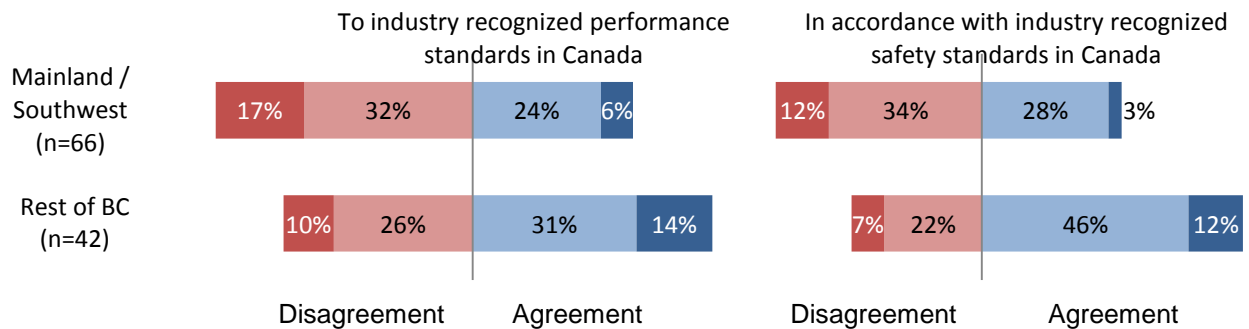
There is little variation in agreement with the statements regarding the abilities of foreign trained electrical workers when segmented by size of company (Figure 5), though smaller companies are less likely to agree that foreign trained electrical workers meet performance standards.

Figure 5. Agreement with statements that “Foreign trained electrical workers are able to perform electrical work” by size of company



Companies in the Mainland / Southwest region appear to be more in agreement with the statements regarding the abilities of foreign trained electrical workers than those in the rest of BC (Figure 6). This is also the region with the highest proportion of companies who employ foreign trained electrical workers.

Figure 6. Agreement with statements that “Foreign trained electrical workers are able to perform electrical work” by region



Respondents who disagreed with either of the statements regarding the abilities of foreign trained electrical workers were invited to provide open-ended comments to explain why they disagreed with the statements. Respondents appeared to make little distinction between the two dimensions of abilities (performance and safety) as responses to both were very similar. As can be seen in Table 7, the primary reasons for disagreeing with the statements regarding the abilities of foreign trained electrical workers center around differences in the quality of the training received in other countries and the relevance of this training to the Canadian electrical system. Many respondents suggested that codes and standards are much stricter in Canada than in many other countries, and the training provided in other countries often does not prepare electrical workers to meet Canadian safety standards. This problem is often exacerbated by language difficulties which can make it harder for foreign trained workers to understand the safety materials and properly interpret the requirements of the code.

Table 7. Reasons for disagreement with statements regarding the ability of foreign trained electrical workers

Reason for disagree / strongly disagree response	Number of respondents who disagree that foreign trained electrical workers are able to perform electrical work*	
	to industry recognized performance standards in Canada	in accordance with industry recognized safety standards in Canada
Differences in code / standards / equipment	29	25
Training in other countries is not up to Canadian standards / foreign trained electricians are not adequately trained	25	21
Language is a barrier	7	5
Other	4	7

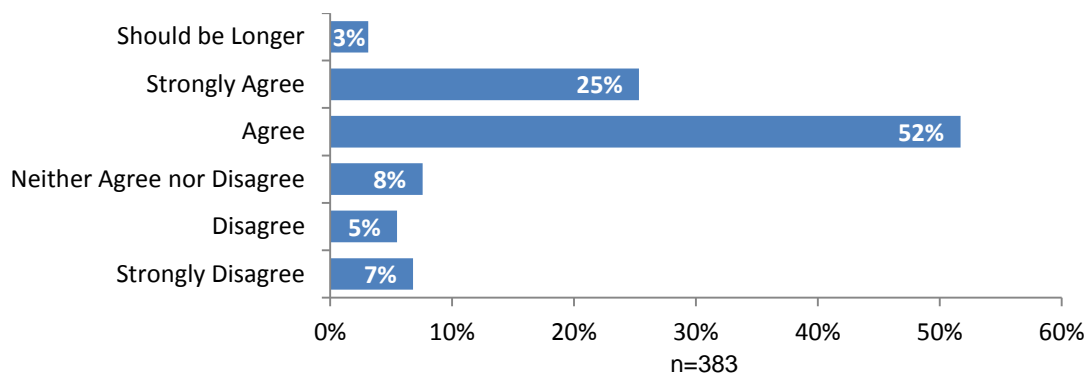
*Multiple responses allowed

2.8 Opinions Regarding Proposed Changes to the Certification of Foreign Trained Electrical Workers

Overall there was strong support for the proposal with 80% agreement that the proposal would be effective and only 12% disagreement.

The survey included a description of the current proposal to change the certification requirements for foreign trained workers wishing to challenge the Red Seal examination. Respondents were asked to indicate their agreement with the statement that “the industry proposal would be an effective mechanism for ensuring that foreign trained electricians are able to demonstrate they can perform electrical work to industry recognized performance and safety standards in Canada.” Respondents who disagreed with the proposal were asked a follow-up question to explain their reasons for disagreement (Table 8). Analysis of these explanations revealed that 12 of the 59 respondents who indicated disagreement with the proposal actually agreed with the concept of the proposal but felt that the proposed one year term as an apprentice should be extended. In the following analyses, these respondents who indicated the proposal should be longer have been included as agreeing with the proposal. Overall there was strong support for the proposal to require foreign trained electricians to work as an apprentice for up to one year, with 80% of respondents agreeing with the statement regarding the effectiveness of the proposal and only 12% disagreeing (Figure 7).

Figure 7. Agreement with the statement regarding the effectiveness of the industry proposal



Apart from the comments that the one year term as an apprentice was not long enough (described above), the most common reason for disagreeing with the industry proposal was that respondents felt there should be more of an emphasis on ensuring foreign trained workers had sufficient training and education, particularly with respect to understanding the Canadian Electrical Code. In addition, many respondents felt that foreign trained electrical workers should go through a full Canadian apprenticeship. Some respondents expressed concerns that the proposed system could be open to abuse by employers who may not be objective in determining whether or not to sign off on foreign trained workers.

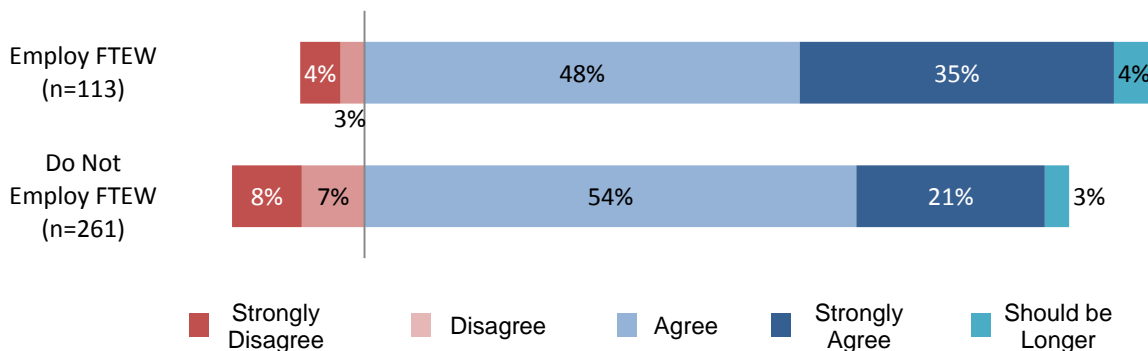
Table 8. Reasons for disagreeing that the industry proposal would be effective

Reason for Disagreement	Number of Respondents*
Should be longer than one year as an apprentice	12
Place more emphasis on training, courses, emphasize code	11
Foreign trained workers should be required to take a full apprenticeship	11
Focus on training / hiring Canadian workers instead of foreign	6
Employers may not be objective when assessing workers	6
Should be required to take apprenticeship courses and/or write exams	4
Should be a language requirement	3
Current system is OK	2
Other	10

*Multiple responses allowed

As shown in the following charts, support for the proposal is strong across all regions, company sizes, and areas of business. Agreement with the industry proposal (Figure 8) was significantly higher among those companies who employ foreign trained electrical workers (87%) than those who do not (77%).

Figure 8. Agreement with the statement regarding the effectiveness of the industry proposal by employment of foreign trained electrical workers



Similarly there was significantly higher support for the industry proposal among those companies who are currently registered with the ITA (84%) versus those who are not registered sponsors (72%) (Figure 9).

Figure 9. Agreement with the statement regarding the effectiveness of the industry proposal by ITA registration status

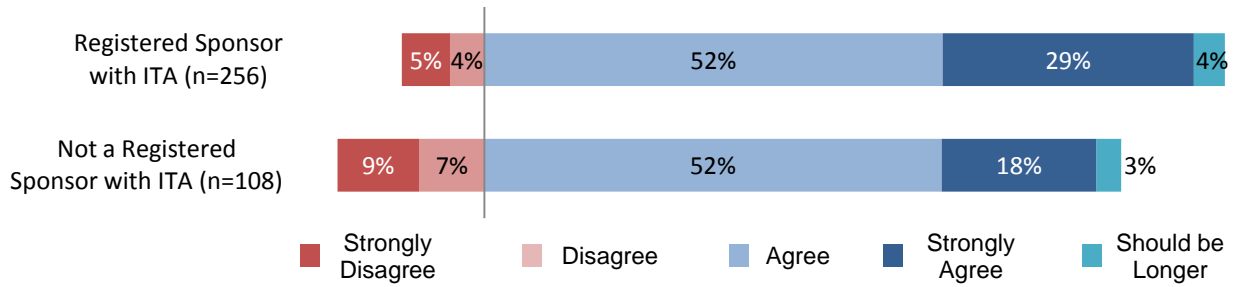


Figure 10 shows the agreement with the industry proposal according to the companies' primary area of business. Companies whose primary area of business is industrial reported significantly lower agreement (73%) with the statement that the industry proposal would be effective than did companies whose primary area of business is commercial / institutional (85%).

Figure 10. Agreement with the statement regarding the effectiveness of the industry proposal by primary area of business

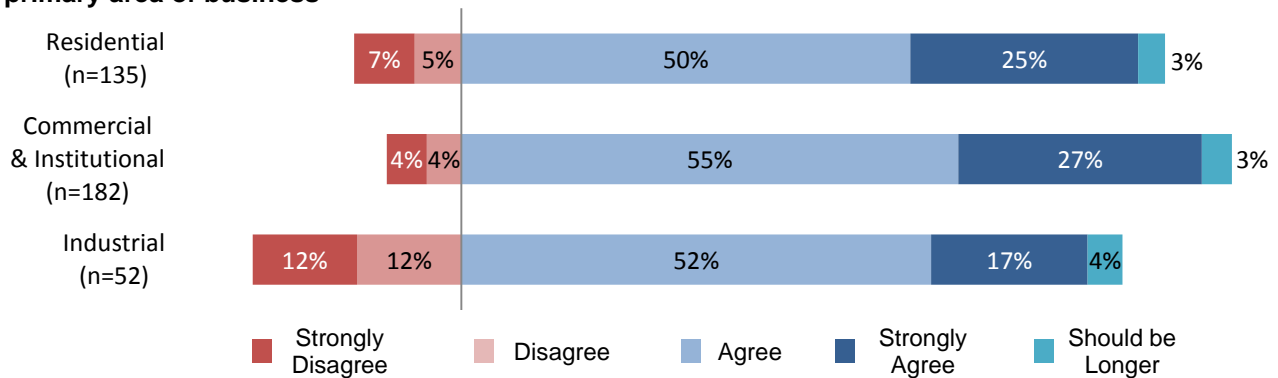
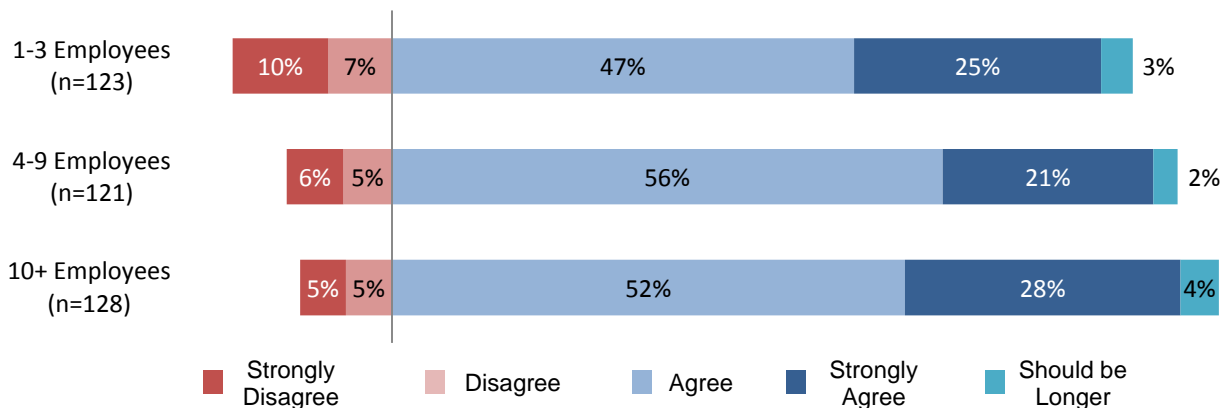


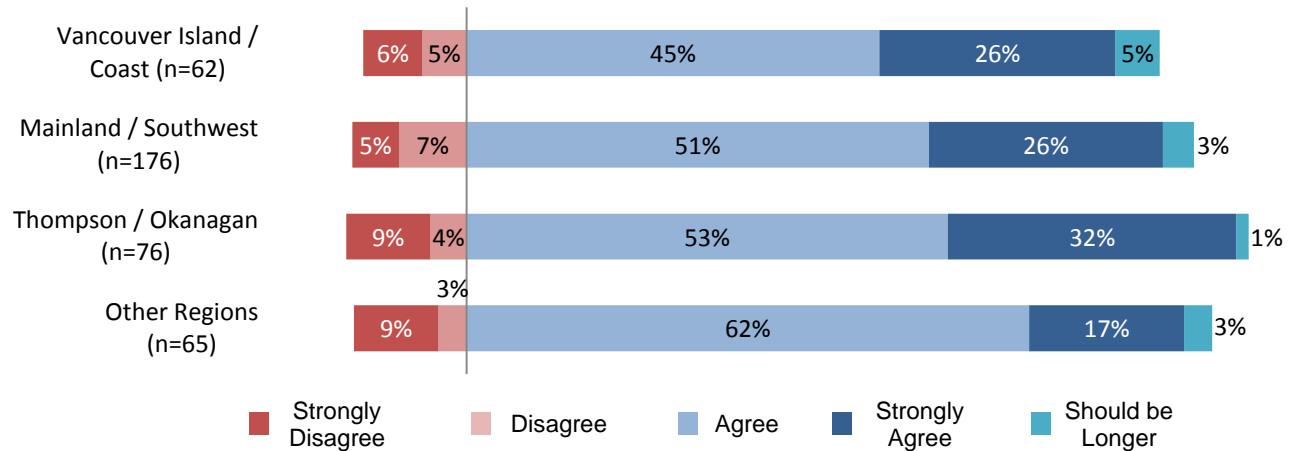
Figure 11 shows support for the industry proposal according to the different sizes of companies who responded to the survey. Larger companies appear to be slightly more likely to support the proposal than smaller ones; however, this difference is not statistically significant.

Figure 11. Agreement with the statement regarding the effectiveness of the industry proposal by size of company



Support for the industry proposal was consistently strong across all regions of the province, with the strongest support for the proposal found in the Thompson / Okanagan (Figure 12).

Figure 12. Agreement with the statement regarding the effectiveness of the industry proposal by development region



Agreement with the industry proposal can also be compared with how respondents felt about the abilities of foreign trained electrical workers to meet industry recognized performance and safety standards. All respondents who agreed that foreign trained electrical workers could meet industry recognized performance and safety standards also agreed with the industry proposal. Among those who disagreed that foreign trained electrical workers could meet industry recognized performance standards, only 71% supported the proposal. Similarly, among those who disagreed that foreign trained electrical workers could meet industry recognized safety standards, support for the proposal was at 73%. Reasons as behind this disagreement included feeling that foreign trained electrical workers should instead take the full apprenticeship, and concerns regarding the objectivity of employers when assessing workers.

2.9 Additional Comments

The final question on the survey was an open-ended question inviting respondents to provide any additional comments they may have regarding the industry proposal to modify the certification requirements for foreign trained electrical workers. Many of these comments were similar to the ones described above, including suggestions regarding an emphasis on training, language requirements, and a specific requirement to take a code course. The primary themes expressed in the comments are described in Table 9.

As this final question was open to all respondents, the comments in Table 9 can be compared on the basis of agreement or disagreement with the industry proposal. One of the significant differences is that a higher proportion of those respondents who disagree with the proposal suggested that foreign trained electrical workers should be required to do a full apprenticeship. An example of this kind of comment is:

- *Foreign electrical workers should have to go through an apprenticeship program. I find that it is very easy for foreign electrical workers in their home country to get their electrical license and I find that they're not trained properly and are not qualified to work in Canada. The education provided in other countries is not efficient enough for working standards in Canada.*

Table 9. Respondent comments

Comment	Number of Respondents*	% Among those who Agree with Proposal	% Among those who Disagree with Proposal
Agree with proposal	53	17.6%	0.0%
Focus on training / hiring Canadian workers instead of foreign	23	4.7%	15.3%
Should be a language requirement	23	5.1%	8.5%
Should be required to take a code course	22	6.1%	6.8%
Should be longer than one year	10	1.7%	3.4%
Should take full apprenticeship	7	0.7%	8.5%
Place more emphasis on training, courses	14	3.1%	8.5%
Require proof of (Canadian) work experience	11	2.7%	1.7%
Problems with the system / cannot trust employers to assess workers	10	2.7%	1.7%
Place more emphasis on skills assessment	9	2.0%	1.7%
Requirements should vary depending on country of origin	9	1.7%	1.7%
Current system is OK	7	1.4%	1.7%
There is a need for more workers	5	1.4%	0.0%
Other	41	9.2%	16.9%

*Multiple responses allowed

The other significant difference found in the general comments had to do with hiring Canadian versus foreign trained workers. Respondents who disagreed with the proposal were significantly more likely to suggest that more emphasis should be placed on training and hiring Canadian workers than those respondents who agreed with the industry proposal. This sentiment was one of the most common comments and appears to be linked to a perception that there is currently no shortage of available electrical workers. Some examples of comments include:

- *With all the foreign electricians coming in that would make it hard for Canadian electricians to find work. If the market can bear it hire foreign, otherwise restrict to Canadian workers. Too many workers available alters the wages.*
- *Emphasis should be on training Canadian workers instead of foreign workers. I would rather see money go into apprenticeship programs to bring these people along.*
- *In this economic time there is no need for hiring foreign workers. I can see how quickly our labour force gets eaten up and we may need people, but right now in the short term I see no need for it. I would rather see jobs kept for Canadians. However, we are forecasting a shortage in labour for the future, and it may become an issue then. I do recommend that they are signed off after a year of work, as stated in the proposal. Experience in other countries does not measure up to how we do things in Canada.*

Other comments such as requirements for foreign trained workers to take a code course or language training were also common, but did not differ significantly between those agreed with the proposal versus those who disagreed.

SECTION 3: SUMMARY

Foreign trained workers represent an important source of new workers for the trades with over 5,000 foreign trained workers challenging provincial and Red Seal exams annually. Among these trades, electricians have consistently been among the top three trades in terms of foreign challengers each year. Concerns have been expressed in BC and other jurisdictions regarding the ability of foreign trained electrical workers to work to industry recognized performance and safety standards. The results of the survey of electrical contractors and employers suggest that these concerns are shared by roughly 40% of employers of construction electricians in BC.

In response to these concerns, various jurisdictions have implemented measures to ensure that workers entering the trades outside of the apprenticeship system have the knowledge, skills, and experience necessary to work safely and proficiently in the trades. These measures include: validation of trade experience; requirements for Canadian work experience; employer declarations of an applicant's abilities; and, practical assessments of an applicant's abilities. The proposal under consideration by CITO is similar in that it would require successful challengers of the Red Seal exam to prove their abilities through working as a final term apprentice for up to one year. The survey of electrical contractors and employers reveals broad support for this proposal, with over three-quarters of those companies surveyed agreeing or strongly agreeing that the proposal would be effective in ensuring that foreign trained electrical workers are able to demonstrate they can perform electrical work to industry recognized performance and safety standards. It should be noted that among employers who disagreed with this proposal, many noted that they supported the proposed initiative in principle, but advocated for an apprenticeship period that would be longer than the proposed one year period. Additional suggestions for enhancing this proposal include the addition of requirements for training specific to the Canadian Electrical Code, along with provisions to ensure that language is not a barrier to safety.



APPENDIX A – Cover Letter

[DATE]

[NAME
[ADDRESS]

Attn: Licensed Contractor,

The BC Construction Industry Training Organization (CITO) is undertaking a survey of electrical contractors to collect information on the process currently used to assess foreign trained electrical workers who enter the trade by challenging the Interprovincial Red Seal examination.

CITO is the provincial Industry Training Organization responsible for 33 trades training programs in BC's Industrial, Commercial & Institutional construction sector. CITO works collaboratively with industry to support the development of a qualified and sustainable workforce. BC's construction industry is interested in hearing from electrical employers and contractors as to whether the challenge process is adequate for ensuring foreign trained electrical workers can meet industry performance and safety standards in BC.

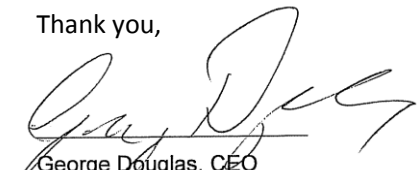
The research is designed to provide feedback on an industry proposal to classify successful challengers of the Interprovincial Red Seal examination as final term apprentices for up to one year. Under this proposal, trade certification would require sign off by a registered employer at any point during the final apprenticeship term. This requirement would only apply to foreign trained electrical workers seeking certification as a Construction Electrician.

Attached is a copy of the *Survey of Electrical Employers & Contractors*. You have the option of completing the attached questionnaire and returning it using either the self-addressed envelope or our toll-free fax number (1-888-384-2774). If you prefer to complete the survey online, please visit **ftce2011.malatest.net** and login with the ID number given at the top of this page. Otherwise, a representative from the research firm, R.A. Malatest & Associates Ltd., will be contacting you by telephone by August 19, 2011 to give you the opportunity to participate in the study by phone.

Your participation in the study is voluntary and individual data pertaining to any organization or person will not be published and will be treated as strictly confidential and anonymous. The survey will take between 5 and 10 minutes to complete.

If you would like more information about this research, please contact Jeff Moore of R.A. Malatest & Associates Ltd. at j.moore@malatest.com or toll-free 1-800-665-5848.

Thank you,


George Douglas, CEO
BC Construction Industry Training Organization



APPENDIX B – Survey Instrument

**Foreign Trained Construction Electricians in BC:
Survey of Electrical Employers & Contractors**

As a licensed electrical contractor in BC, you have been selected to participate in a survey regarding foreign trained construction electricians in BC. Thank you for your participation in this short, but important, survey!

Purpose of the Research: To collect information from a sample of electrical contractors (employers) in BC on the process used to assess foreign trained electrical workers entering the trade through the challenge route (Red Seal examination).

Confidentiality: All information treated as confidential and protected under provincial privacy legislation.

Who is carrying out the research: R.A. Malatest & Associates Ltd. is undertaking this research on behalf of the BC Construction Industry Training Organization.

Return Instructions: Completed surveys can be returned in the enclosed business reply envelope or faxed (toll free) to 1-888-384-2774. Please return your survey by August 19, 2011.

Online Option If you prefer to complete the survey online, visit **ftce2011.malatest.net** and login using the ID number at the top of this page.

Questions: If you have any questions about the survey, please contact:

Jeff Moore, Research Analyst
R.A. Malatest & Associates Ltd.
j.moore@malatest.com
1-800-665-5848

COMPANY BACKGROUND

1. Does your business employ certified construction electricians?

Yes – go to question 2

No – Thank you for your participation in this survey, however we are only seeking input from employers of construction electricians in BC

2. Company Name: (legal name) _____

3. Company Location: A) (address, city) _____

B) Is this a: Head Office Area Office

4. What is your job title? (job title) _____

5. Is your company a registered sponsor with the Industry Training Authority?

Yes

No

6. Please indicate your **primary** area of business (*check one box only*).

- Residential Commercial & Institutional Industrial

7. Please indicate your **secondary** area of business (*check one box only*).

- Residential Commercial & Institutional Industrial

8. Please indicate the current size of your company by number of employees (total workforce, electrical workforce, age of workforce).

Total Workforce	Electrical Workforce			
	Total Number of Electrical Workers (including apprentices)	Percent of electrical workers < 40 years of age	Percent of electrical workers 40 years or older	Don't Know
#	#	%	%	<input type="checkbox"/>

FOREIGN TRAINED ELECTRICAL WORKERS

9. Does your company employ, or has your company employed, certified electrical workers trained in other countries?

- Yes – go to question 10 No – go to question 13 Don't Know – go to question 13

10. Please indicate your agreement with the following statements pertaining to foreign trained electricians.

A) Foreign trained electricians are able to perform electrical work to industry recognized performance standards in Canada.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Don't Know / No Response
1	2	3	4	5	<input type="checkbox"/>

B) Foreign trained electricians are able to perform electrical work in accordance with industry recognized safety standards in Canada.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Don't Know / No Response
1	2	3	4	5	<input type="checkbox"/>

11. (Answer only if you selected "Disagree" or "Strongly Disagree" to Question 10A).

You indicated that you **disagreed** that foreign trained electricians are able to perform electrical work to industry recognized performance standards. Please explain.

12. (Answer only if you indicated "Disagree" or "Strongly Disagree" to Question 10B).

You indicated that you **disagreed** that foreign trained electricians are able to perform electrical work in accordance with industry recognized safety standards. Please explain.

CERTIFICATION OF FOREIGN TRAINED ELECTRICAL WORKERS

BC's electrical industry is examining the prospect of changing certification requirements for foreign trained electrical workers. In addition to successfully completing the Interprovincial Red Seal examination, the proposal involves classifying successful challengers as final term apprentices who would be required to work in the industry for up to one year and to be signed off by an ITA registered employer.

13. Please indicate your agreement with the following statement.

The industry proposal would be an effective mechanism for ensuring that foreign trained electricians are able to demonstrate they can perform electrical work to industry recognized performance and safety standards in Canada.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Don't Know / No Response
1	2	3	4	5	<input type="checkbox"/>

14. (Answer only if you indicated "Disagree" or "Strongly Disagree" to Question 13).

You indicated that you **disagreed** that the proposal would be effective. Please explain.

15. Please provide any final comment on the proposal to modify certification requirements for foreign trained electrical workers in BC.

Thank you for your input. For more information, please contact Jeff Moore at R.A. Malatest & Associates Ltd.

* You can fax back your response toll free to 1-888-384-2774



APPENDIX C – Results Tables

Table A1: Company Location

City	Frequency	Percent	Valid Percent
Abbotsford	11	2.8%	2.8%
Agassiz	1	0.3%	0.3%
Aldergrove	1	0.3%	0.3%
Altona	1	0.3%	0.3%
Ashcroft	1	0.3%	0.3%
Barriere	1	0.3%	0.3%
Bridge Lake	1	0.3%	0.3%
Burnaby	22	5.6%	5.7%
Burns Lake	1	0.3%	0.3%
Campbell River	3	0.8%	0.8%
Castlegar	3	0.8%	0.8%
Chase	1	0.3%	0.3%
Chemainus	1	0.3%	0.3%
Chilliwack	6	1.5%	1.5%
Christina Lake	1	0.3%	0.3%
Clearwater	1	0.3%	0.3%
Cobble Hill	1	0.3%	0.3%
Comox	3	0.8%	0.8%
Coquitlam	12	3.1%	3.1%
Courtenay	4	1.0%	1.0%
Cranbrook	2	0.5%	0.5%
Creston	1	0.3%	0.3%
Dawson Creek	6	1.5%	1.5%
Delta	5	1.3%	1.3%
Enderby	1	0.3%	0.3%
Errington	1	0.3%	0.3%
Fairmont Hot Springs	1	0.3%	0.3%
Fernie	2	0.5%	0.5%
Fort Nelson	2	0.5%	0.5%
Fort St. John	8	2.0%	2.1%
Fruitvale	1	0.3%	0.3%
Garibaldi Highlands	1	0.3%	0.3%
Gold River	1	0.3%	0.3%
Golden	3	0.8%	0.8%
Grand Forks	1	0.3%	0.3%
Hope	1	0.3%	0.3%
Invermere	1	0.3%	0.3%
Kamloops	14	3.6%	3.6%
Kaslo	1	0.3%	0.3%
Kelowna	19	4.8%	4.9%
Langley	16	4.1%	4.1%
Lillooet	1	0.3%	0.3%
Madeira Park	1	0.3%	0.3%
Maple Ridge	5	1.3%	1.3%
Merritt	1	0.3%	0.3%
Mission	2	0.5%	0.5%
Nanaimo	10	2.6%	2.6%
Nelson	2	0.5%	0.5%
New Westminster	1	0.3%	0.3%
North Vancouver	8	2.0%	2.1%
Okanagan Falls	2	0.5%	0.5%
Oliver	1	0.3%	0.3%
Parksville	3	0.8%	0.8%
Peachland	1	0.3%	0.3%
Pemberton	1	0.3%	0.3%

City	Frequency	Percent	Valid Percent
Pender Island	1	0.3%	0.3%
Penticton	7	1.8%	1.8%
Pitt Meadows	1	0.3%	0.3%
Port Alberni	1	0.3%	0.3%
Port Coquitlam	4	1.0%	1.0%
Port Mcneill	1	0.3%	0.3%
Port Moody	5	1.3%	1.3%
Powell River	1	0.3%	0.3%
Prince George	12	3.1%	3.1%
Princeton	1	0.3%	0.3%
Qualicum Beach	2	0.5%	0.5%
Quesnel	3	0.8%	0.8%
Revelstoke	1	0.3%	0.3%
Richmond	11	2.8%	2.8%
Roberts Creek	1	0.3%	0.3%
Rossland	1	0.3%	0.3%
Saanichton	2	0.5%	0.5%
Salmon Arm	8	2.0%	2.1%
Salt Spring Island	2	0.5%	0.5%
Saturna	1	0.3%	0.3%
Sechelt	1	0.3%	0.3%
Shawnigan Lake	1	0.3%	0.3%
Sidney	2	0.5%	0.5%
Slocan	1	0.3%	0.3%
Smithers	2	0.5%	0.5%
Sparwood	1	0.3%	0.3%
Squamish	2	0.5%	0.5%
Surrey	31	7.9%	8.0%
Terrace	1	0.3%	0.3%
Thornhill	1	0.3%	0.3%
Trail	2	0.5%	0.5%
Ucluelet	2	0.5%	0.5%
Vancouver	19	4.8%	4.9%
Vanderhoof	2	0.5%	0.5%
Vernon	12	3.1%	3.1%
Victoria	21	5.4%	5.4%
West Vancouver	1	0.3%	0.3%
Whistler	5	1.3%	1.3%
White Rock	3	0.8%	0.8%
Williams Lake	4	1.0%	1.0%
Windermere	1	0.3%	0.3%
Winfield	2	0.5%	0.5%
Winlaw	1	0.3%	0.3%
Wynndel	1	0.3%	0.3%
Total Valid	388	99.0%	100.0%
Missing	4	1.0%	
Total	392	100.0%	

Table A2: Is your company a registered sponsor with the Industry Training Authority?

Registered Sponsor	Frequency	Percent	Valid Percent
Yes	263	67.1%	70.7%
No	109	27.8%	29.3%
Total Valid	372	94.9%	100.0%
Missing	20	5.4%	
Total	392	100.0%	

Table A3: Please indicate your primary area of business.

Primary Area of Business	Frequency	Percent	Valid Percent
Residential	139	35.5%	36.9%
Commercial & Institutional	184	46.9%	48.8%
Industrial	54	13.8%	14.3%
Total Valid	377	96.2%	100.0%
Missing	14	3.6%	
Total	392	100.0%	

Table A4: Please indicate your secondary area of business.

Secondary Area of Business	Frequency	Percent	Valid Percent
Residential	91	23.2%	24.1%
Commercial & Institutional	155	39.5%	41.1%
Industrial	69	17.6%	18.3%
Total Valid	315	80.4%	83.6%
Missing	58	14.8%	
Total	392	100.0%	

Table A5: Does your company employ, or has your company employed, certified electrical workers trained in other countries?

Employ	Frequency	Percent	Valid Percent
Yes	114	29.1%	30.6%
No	269	68.6%	72.3%
Total Valid	383	97.7%	103.0%
Missing	9	2.4%	
Total	392	0.0%	

Table A6: "Does your company employ, or has your company employed, certified electrical workers trained in other countries?" by primary area of business

Employ	Residential		Commercial & Institutional		Industrial		Total	
	#	%	#	%	#	%	#	%
Yes	31	22.8%	65	35.7%	17	32.1%	113	30.5%
No	105	77.2%	117	64.3%	36	67.9%	258	69.5%
Total	136	100.0%	182	100.0%	53	100.0%	371	100.0%

Table A7: “Does your company employ, or has your company employed, certified electrical workers trained in other countries?” by company size

Employ	1-3 Employees		4-9 Employees		10+ Employees		Total	
	#	%	#	%	#	%	#	%
Yes	26	21.0%	35	27.8%	48	39.3%	109	29.3%
No	98	79.0%	91	72.2%	74	60.7%	263	70.7%
Total	124	100.0%	126	100.0%	122	100.0%	372	100.0%

Table A8: “Does your company employ, or has your company employed, certified electrical workers trained in other countries?” by region

Employ	Vancouver Island / Coast		Mainland / Southwest		Thompson / Okanagan		Other Regions		Total	
	#	%	#	%	#	%	#	%	#	%
Yes	11	17.7%	70	40.2%	21	27.6%	11	16.4%	113	29.8%
No	51	82.3%	104	59.8%	55	72.4%	56	83.6%	266	70.2%
Total	62	100.0%	174	100.0%	76	100.0%	67	100.0%	379	100.0%

Table A9: Agreement with the statement that “Foreign trained electrical workers are able to perform electrical work to industry recognized performance standards in Canada.”

Agreement	Frequency	Percent	Valid Percent
Strongly Disagree	15	3.8%	13.8%
Disagree	33	8.4%	30.3%
Neither agree nor disagree	22	5.6%	20.2%
Agree	29	7.4%	26.6%
Strongly Agree	10	2.6%	9.2%
Total Valid	109	27.8%	100.0%
Missing	5	1.3%	
Do not employ FTEW	278	70.9%	
Total	392	100.0%	

Table A10: Agreement with the statement that “Foreign trained electrical workers are able to perform electrical work to industry recognized performance standards in Canada” by primary area of business

Agreement	Residential		Commercial & Institutional		Industrial		All Areas	
	#	%	#	%	#	%	#	%
Strongly Disagree	5	16.7%	8	12.7%	2	13.3%	15	13.9%
Disagree	7	23.3%	20	31.7%	6	40.0%	33	30.6%
Neither agree nor disagree	5	16.7%	10	15.9%	6	40.0%	21	19.4%
Agree	10	33.3%	18	28.6%	1	6.7%	29	26.9%
Strongly Agree	3	10.0%	7	11.1%	0	0.0%	10	9.3%
Total	30	100.0%	63	100.0%	15	100.0%	108	100.0%

Table A11: Agreement with the statement that “Foreign trained electrical workers are able to perform electrical work to industry recognized performance standards in Canada” by company size

Agreement	1-3 Employees		4-9 Employees		10+ Employees		All Sizes	
	#	%	#	%	#	%	#	%
Strongly Disagree	4	16.0%	4	12.5%	5	10.6%	13	12.5%
Disagree	8	32.0%	11	34.4%	14	29.8%	33	31.7%
Neither agree nor disagree	6	24.0%	4	12.5%	11	23.4%	21	20.2%
Agree	5	20.0%	10	31.3%	14	29.8%	29	27.9%
Strongly Agree	2	8.0%	3	9.4%	3	6.4%	8	7.7%
Total	25	100.0%	32	100.0%	47	100.0%	108	100.0%

Table A12: Agreement with the statement that “Foreign trained electrical workers are able to perform electrical work to industry recognized performance standards in Canada” by region

Agreement	Vancouver Island / Coast		Mainland / Southwest		Thompson / Okanagan		Other Regions		All Regions	
	#	%	#	%	#	%	#	%	#	%
Strongly Disagree	1	9.1%	11	16.7%	2	9.5%	1	10.0%	15	13.9%
Disagree	5	45.5%	21	31.8%	4	19.0%	2	20.0%	32	29.6%
Neither agree nor disagree	3	27.3%	14	21.2%	4	19.0%	1	10.0%	22	20.4%
Agree	1	9.1%	16	24.2%	8	38.1%	4	40.0%	29	26.9%
Strongly Agree	1	9.1%	4	6.1%	3	14.3%	2	20.0%	10	9.3%
Total	11	100.0%	66	100.0%	21	100.0%	10	100.0%	108	100.0%

Table A13: Agreement with the statement that “Foreign trained electrical workers are able to perform electrical work in accordance with industry recognized safety standards in Canada.”

Agreement	Frequency	Percent	Valid Percent
Strongly Disagree	11	2.8%	10.1%
Disagree	33	8.4%	30.3%
Neither agree nor disagree	20	5.1%	18.3%
Agree	38	9.7%	34.9%
Strongly Agree	7	1.8%	6.4%
Total Valid	109	27.8%	100.0%
Missing	5	1.3%	
Do not employ FTEW	278	70.9%	
Total	392	100.0%	

Table A14: Agreement with the statement that “Foreign trained electrical workers are able to perform electrical work in accordance with industry recognized safety standards in Canada” by primary area of business

Agreement	Residential		Commercial & Institutional		Industrial		All Areas	
	#	%	#	%	#	%	#	%
Strongly Disagree	3	10.0%	6	9.5%	2	13.3%	11	10.2%
Disagree	6	20.0%	23	36.5%	4	26.7%	33	30.6%
Neither agree nor disagree	6	20.0%	8	12.7%	6	40.0%	20	18.5%
Agree	14	46.7%	20	31.7%	3	20.0%	37	34.3%
Strongly Agree	1	3.3%	6	9.5%	0	0.0%	7	6.5%
Total	30	100.0%	63	100.0%	15	100.0%	108	100.0%

Table A15: Agreement with the statement that “Foreign trained electrical workers are able to perform electrical work in accordance with industry recognized safety standards in Canada” by company size

Agreement	1-3 Employees		4-9 Employees		10+ Employees		All Sizes	
	#	%	#	%	#	%	#	%
Strongly Disagree	3	12.0%	2	6.1%	4	8.7%	9	8.7%
Disagree	6	24.0%	11	33.3%	16	34.8%	33	31.7%
Neither agree nor disagree	5	20.0%	5	15.2%	9	19.6%	19	18.3%
Agree	10	40.0%	12	36.4%	15	32.6%	37	35.6%
Strongly Agree	1	4.0%	3	9.1%	2	4.3%	6	5.8%
Total	25	100.0%	33	100.0%	46	100.0%	104	100.0%

Table A16: Agreement with the statement that “Foreign trained electrical workers are able to perform electrical work in accordance with industry recognized safety standards in Canada” by region

Agreement	Vancouver Island / Coast		Mainland / Southwest		Thompson / Okanagan		Other Regions		All Regions	
	#	%	#	%	#	%	#	%	#	%
Strongly Disagree	1	9.1%	8	11.9%	1	4.8%	1	11.1%	11	10.2%
Disagree	2	18.2%	23	34.3%	5	23.8%	2	22.2%	32	29.6%
Neither agree nor disagree	4	36.4%	15	22.4%	0	0.0%	1	11.1%	20	18.5%
Agree	3	27.3%	19	28.4%	12	57.1%	4	44.4%	38	35.2%
Strongly Agree	1	9.1%	2	3.0%	3	14.3%	1	11.1%	7	6.5%
Total	11	100.0%	67	100.0%	21	100.0%	9	100.0%	108	100.0%

Table A17: Agreement with the statement that “The industry proposal would be an effective mechanism for ensuring that foreign trained electricians are able to demonstrate they can perform electrical work to industry recognized performance and safety standards in Canada.”

Agreement	Frequency	Percent	Valid Percent
Strongly Disagree	26	6.6%	6.8%
Disagree	21	5.4%	5.5%
Neither agree nor disagree	29	7.4%	7.6%
Agree	198	50.5%	51.7%
Strongly Agree	97	24.7%	25.3%
Agree but should be longer	12	3.1%	3.1%
Total Valid	383	97.7%	100.0%
Missing	9	2.3%	
Total	392	100.0%	

Table A18: Agreement with the statement that “The industry proposal would be an effective mechanism for ensuring that foreign trained electricians are able to demonstrate they can perform electrical work to industry recognized performance and safety standards in Canada” by employment of foreign trained electrical workers

Agreement	Employ FTEW		Do Not Employ FTEW		All	
	#	%	#	%	#	%
Strongly Disagree	5	4.4%	20	7.7%	25	6.7%
Disagree	3	2.7%	18	6.9%	21	5.6%
Neither agree nor disagree	7	6.2%	21	8.0%	28	7.5%
Agree	54	47.8%	141	54.0%	195	52.1%
Strongly Agree	39	34.5%	54	20.7%	93	24.9%
Agree but should be longer	5	4.4%	7	2.7%	12	3.2%
Total	113	100.0%	261	100.0%	374	100.0%

Table A19: Agreement with the statement that “The industry proposal would be an effective mechanism for ensuring that foreign trained electricians are able to demonstrate they can perform electrical work to industry recognized performance and safety standards in Canada” by ITA registration status

Agreement	Registered Sponsor with ITA		Not a Registered Sponsor		All	
	#	%	#	%	#	%
Strongly Disagree	14	5.5%	10	9.3%	24	6.6%
Disagree	10	3.9%	8	7.4%	18	4.9%
Neither agree nor disagree	17	6.6%	12	11.1%	29	8.0%
Agree	133	52.0%	56	51.9%	189	51.9%
Strongly Agree	73	28.5%	19	17.6%	92	25.3%
Agree but should be longer	9	3.5%	3	2.8%	12	3.3%
Total	256	100.0%	108	100.0%	374	100.0%

Table A20: Agreement with the statement that “The industry proposal would be an effective mechanism for ensuring that foreign trained electricians are able to demonstrate they can perform electrical work to industry recognized performance and safety standards in Canada” by primary area of business

Agreement	Residential		Commercial & Institutional		Industrial		All Areas	
	#	%	#	%	#	%	#	%
Strongly Disagree	9	6.7%	8	4.4%	6	11.5%	23	6.2%
Disagree	7	5.2%	7	3.8%	6	11.5%	20	5.4%
Neither agree nor disagree	14	10.4%	12	6.6%	2	3.8%	28	7.6%
Agree	67	49.6%	100	54.9%	27	51.9%	194	52.6%
Strongly Agree	34	25.2%	49	26.9%	9	17.3%	92	24.9%
Agree but should be longer	4	3.0%	6	3.3%	2	3.8%	12	3.3%
Total	135	100.0%	182	100.0%	52	100.0%	369	100.0%

Table A21: Agreement with the statement that “The industry proposal would be an effective mechanism for ensuring that foreign trained electricians are able to demonstrate they can perform electrical work to industry recognized performance and safety standards in Canada” by company size

Agreement	1-3 Employees		4-9 Employees		10+ Employees		All Sizes	
	#	%	#	%	#	%	#	%
Strongly Disagree	12	9.8%	7	5.8%	6	4.7%	25	6.7%
Disagree	8	6.5%	6	5.0%	6	4.7%	20	5.4%
Neither agree nor disagree	10	8.1%	11	9.1%	8	6.3%	29	7.8%
Agree	58	47.2%	68	56.2%	67	52.3%	193	51.9%
Strongly Agree	31	25.2%	26	21.5%	36	28.1%	93	25.0%
Agree but should be longer	4	3.3%	3	2.5%	5	3.9%	12	3.2%
Total	123	100.0%	121	100.0%	128	100.0%	372	100.0%

Table A22: Agreement with the statement that “The industry proposal would be an effective mechanism for ensuring that foreign trained electricians are able to demonstrate they can perform electrical work to industry recognized performance and safety standards in Canada” by region

Agreement	Vancouver Island / Coast		Mainland / Southwest		Thompson / Okanagan		Other Regions		All Regions	
	#	%	#	%	#	%	#	%	#	%
Strongly Disagree	4	6.5%	9	5.1%	7	9.2%	6	9.2%	26	6.9%
Disagree	3	4.8%	13	7.4%	3	3.9%	2	3.1%	21	5.5%
Neither agree nor disagree	8	12.9%	14	8.0%	1	1.3%	4	6.2%	27	7.1%
Agree	28	45.2%	89	50.6%	40	52.6%	40	61.5%	197	52.0%
Strongly Agree	16	25.8%	45	25.6%	24	31.6%	11	16.9%	96	25.3%
Agree but should be longer	3	4.8%	6	3.4%	1	1.3%	2	3.1%	12	3.2%
Total	62	100.0%	176	100.0%	76	100.0%	65	100.0%	379	100.0%