

Contents

Message from the Officers

1. About the National Electrical Trade Council 1

CECA-IBEW Partnership

Mandate

Human Resource Tools & Products

2. National Occupational Standards 3

Interprovincial Standards Red Seal Program

Amendments to Chapter 7 of the Agreement on Internal Trade (AIT):
Impact on the Red Seal Program

Red Seal Program's Proposed Occupational Performance Standards (OPS) Model

Trade Splintering

Common Core Curriculum and Common Sequencing

Compulsory Certification & Enforcement

Integration of Essential Skills into National Standards

3. NETCO-CSA Personnel Certification Program- Construction Electrician Solar Photovoltaic Systems Certified..... 11

4. Apprenticeship & Journeyperson Skills Training 13

Joint Apprenticeship & Training Committees (JATC)

Apprenticeship Completion

On-the-Job Training & Mentoring


Journeyperson Skills Training


Diversity/Equity

National Electrical Trade Council

170 Attwell Drive, Suite 460

Toronto, ON M9W 5Z5

 1-800-387-3226 or 416-675-3226

 416-675-7736

@ netco@ceca.org

 www.ceca.org/netco

Message from the Officers



Phil Flemming

NETCO President &
International Vice-President, First District, Canada
International Brotherhood of Electrical Workers (IBEW)






Eryl Roberts

NETCO Treasurer &
Executive Secretary
Canadian Electrical Contractors Association (CECA)

The National Electrical Trade Council (NETCO) is the national voice of the electrical industry in Canada. Government Affairs is an integral element of our mandate. The IBEW-CECA partnership empowers NETCO to speak on policy issues of importance to electrical contractors and IBEW Local Unions representing electrical apprentices and journeypersons in every province and territory.

New and emerging policies set by governments (federal, provincial/territorial) have a significant impact on workforce skills development in the electrical industry. As a communications tool, *Red Seal Electrical Trades in Canada: A Policy Framework on National Standards, Apprenticeship and Journeyman Skills Training* is designed to:

-  brief politicians, bureaucrats and others involved in policy making.
-  articulate the electrical industry's overarching values and interests on high-priority issues.
-  support NETCO's strategic lobbying initiative.

This policy framework was first developed in consultation with electrical industry stakeholders across Canada in 2009-2010. It was updated in February 2011. Thank you to those in the IBEW and CECA communities who participated in the *Electrical Industry Policy Conversations* that NETCO sponsored in Toronto (Nov. 2009), Halifax (Dec. 2009) and Victoria (Feb. 2010).



1. About the National Electrical Trade Council

CECA-IBEW Partnership



The National Electrical Trade Council (NETCO) is a joint Labour-Management partnership of the International Brotherhood of Electrical Workers (IBEW), First District, Canada and the Canadian Electrical Contractors Association (CECA). It provides leadership through national coordination on workforce skills development and public policy issues of importance to the electrical industry in Canada.

NETCO is industry-driven and industry-funded. Phil Flemming (IBEW International Vice-President, First District, Canada) and Eryl Roberts (CECA Executive Secretary) serve as NETCO's President and Treasurer respectively.

The CECA-IBEW partnership positions NETCO as an authoritative, pan-Canadian voice for electrical contractors and IBEW Local Unions representing electrical apprentices and journeypersons working in every province and territory.

“The CECA-IBEW partnership positions NETCO as an authoritative, pan-Canadian voice for electrical contractors and IBEW Local Unions representing electrical apprentices and journeypersons working in every province and territory.”

The Canadian Electrical Contractors Association (CECA):

- is the national voice of electrical contractors.
- is a federation of provincial and territorial electrical contractor groups.
- represents the interests of more than 8,000 electrical contractors who directly employ 70,000 people and generate over \$5 billion in revenue.

The International Brotherhood of Electrical Workers, First District, Canada:

- has represented electrical apprentices and journeypersons for over 100 years.
- has approximately 90 Local Unions representing 58,000 members in Canada.
- represents organized electrical apprentices and journeypersons working across Canada in industries such as such construction, utilities, manufacturing, government, health care and railroads.

1. About the National Electrical Trade Council

Mandate

Connecting the Electrical Industry is the slogan that best describes NETCO's purpose. Its mandate is to:

- ✓ promote national standards, apprenticeship and journeyman skills training for the electrical industry in Canada, with a focus on the three Red Seal electrical trades (i.e., Construction Electrician, Industrial Electrician, Powerline Technician).
- ✓ serve as a national voice on public policy issues of importance to electrical contractors and IBEW Local Unions representing those working and learning in the electrical industry as apprentices and journeymen.

NETCO facilitates information-sharing and networking among electrical training professionals and develops resources for use in electrical trades training. NETCO is building on the strength of the IBEW-CECA partnership to implement a government affairs strategy. NETCO is uniquely positioned to have impact and influence as a united national voice for the electrical industry in Canada.

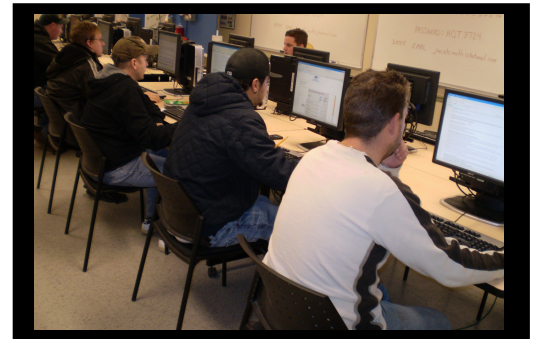
Human Resource Tools & Products

NETCO offers a suite of *Human Resource Tools & Products* to support professionals involved in electrical trades training (e.g., Joint Apprenticeship & Training Committees, community colleges). (See www.ceca.org/netco)



These resources are designed to enhance the electrical industry's focus on human resource issues linked to national standards, apprenticeship and journeyman skills training.

Approximately 350 apprentices at the Toronto Joint Apprenticeship Council pilot tested *Numeracy Power*—NETCO's on-line assessment of foundation numeracy skills linked to success in apprenticeship.



2. National Occupational Standards

Interprovincial Standards Red Seal Program www.red-seal.ca

NETCO's mandate to promote national standards, apprenticeship and journeyman skills training has a particular focus on the Red Seal electrical trades. The following three electrical trades are designated under the Interprovincial Standards Red Seal Program (a.k.a. Red Seal Program):

- Construction Electrician;
- Industrial Electrician;
- Powerline Technician.

NETCO strongly supports the Red Seal Program. For over 50 years it has maintained a record of success as a model for labour mobility. Through the program tradespeople are able to obtain a Red Seal endorsement on their provincial/territorial Certificates of Qualification and Apprenticeship by successfully completing a Red Seal exam.

The Red Seal endorsement is widely recognized and respected as a standard of excellence by electrical industry stakeholders across Canada. The Red Seal symbolizes:

- ✓ opportunity for youth considering a career in the electrical trades.
- ✓ employability and lifelong learning for journeymen.
- ✓ workforce skills competence for electrical contractors looking to expand their market.
- ✓ quality assurance and standards of excellence for consumers.

The electrical industry is a significant stakeholder in the Red Seal Program. Construction Electrician is the top Red Seal trade in terms of number of Interprovincial Exams written and number of Red Seals issued annually. For example, in 2009 there were 6,677 examination attempts made and 4,636 Construction Electrician Red Seals issued.¹

The Canadian Council of Directors of Apprenticeship (CCDA)—comprised of the 13 provincial and territorial directors of apprenticeship and two representatives from Human Resources and Skills Development Canada—is responsible for the Red Seal Program. While NETCO has enjoyed a productive working relationship with the CCDA to date, it is seeking enhanced opportunities for stakeholder communication.



“The electrical industry is a significant stakeholder in the Red Seal Program. Construction Electrician is the top Red Seal trade in terms of number of Interprovincial Exams written and number of Red Seals issued annually.”

Phil Flemming
NETCO President

¹ Human Resources and Skills Development Canada, *CCDA 2009 Annual Report* (pg. 18). Government of Canada, http://www.red-seal.ca/images/2009_AR_English.pdf (accessed Feb. 6, 2011.)

2. National Occupational Standards

Amendments to Chapter 7 of the Agreement on Internal Trade (AIT): Impact on the Red Seal Program

In Canada education is a provincial/territorial responsibility. The federal government does not have regulatory power over training and certification in the skilled trades. That is why industry views the Red Seal Program as a critically important pan-Canadian vehicle for inter-jurisdictional coordination of apprenticeship. The Canadian reality is that 13 distinct provincial/territorial apprenticeship systems operate in parallel.

The Agreement on Internal Trade (AIT) is an intergovernmental trade agreement signed by Canadian First Ministers that came into force in 1995. Its purpose is to reduce and eliminate, to the extent possible, barriers to the free movement of persons, goods, services, and investment within Canada and to establish an open, efficient, and stable domestic market.²

In August 2009 amendments to Chapter 7 of the AIT dealing with labour mobility went into effect. Compliance is mandatory for all signatory parties (i.e., federal government and all provinces/territories except Nunavut which maintains observer status). Changes to Chapter 7 of the AIT altered the landscape for regulated occupations in Canada and redefined the context in which the Red Seal Program operates.

In 2009 the Red Seal Program lost its fifty-year-old standing as the primary vehicle for interprovincial mobility of tradespersons. The AIT compels jurisdictions to recognize trade credentials from all other jurisdictions. It provides recognition of certified workers without the Red Seal endorsement as long as the scope of practice is equivalent. Formerly, skilled tradespersons certified in a Red Seal designated trade who held a provincial/territorial certificate without a Red Seal endorsement could be subject to a skills assessment prior to being certified to practice the same trade in another jurisdiction.

In this new paradigm, provinces/territories are legally obliged to recognize trade certifications issued by other jurisdictions based on provincial/territorial occupational standards—as opposed to the national occupational standards at the heart of the Red Seal Program—as long as the scope of practice is equivalent. This is of concern to the electrical industry in Canada because it erodes the power of national occupational standards and further fragments the apprenticeship systems in Canada.

“Changes to Chapter 7 of the AIT altered the landscape for regulated trades in Canada and redefined the context in which the Red Seal Program operates.

In 2009, the Red Seal Program lost its fifty-year-old standing as the primary vehicle for interprovincial mobility of tradespersons. This is of concern to the electrical industry in Canada.”

Eryl Roberts

NETCO Treasurer

² Industry Canada, *Internal Trade Secretariat-The Agreement on Internal Trade*, Government of Canada, http://www.ait-aci.ca/index_en.htm (accessed Feb. 6, 2011)

2. National Occupational Standards

Red Seal Program’s Proposed Occupational Performance Standards (OPS) Model

Changes to Chapter 7 of the AIT opened the doors for the Red Seal Program to explore new models for standards and assessment. The Canadian Council of Directors of Apprenticeship (CCDA) is considering transformational change to the Red Seal Program by making a transition to a model based on Occupational Performance Standards (OPS). In 2010 the CCDA launched a stakeholder consultation process on what it has branded as its *Strengthening the Red Seal Program* initiative.

It is understood that the need to address Foreign Qualifications Recognition (FQR) is a key driver of the OPS framework. The electrical industry shares this interest with Canada’s First Ministers and the CCDA. NETCO would welcome the opportunity to partner with the CCDA in developing a pan-Canadian practical assessment for the Red Seal designated occupation of Construction Electrician.

Table 1 provides an overview comparison between the current Red Seal model and the proposed OPS model.³

Table 1: Comparing the Current Red Seal Model and the OPS Model

Current Red Seal Model	OPS Model
Based on the development of National Occupational Analyses (NOA).	Based on industry-set OPS designed to more broadly to support both skill acquisition and skill recognition. A library of OPS, each reflecting work activity in a particular setting or occupation, is central to this model.
Task Analysis & Competency Statements.	Work Activity Analysis & Competency Statements & Performance Criteria.
Based on one whole standard per trade.	OPS developed in blocks or units that together build a picture of competence. Trade certification represents a particular combination of these units, with some units appearing in multiple trades.
NOA does not allow for credits for particular competencies to be transported between occupations.	Individuals achieve credit for competency at the unit level. This contributes towards the relevant certification.
NOA used to develop multiple-choice exam questions.	OPS used to develop multiple forms of assessment such as portfolios of evidence, written tests, oral interviews and practical assessments.

“It is understood that the need to address Foreign Qualifications Recognition (FQR) is a key driver of the OPS framework. NETCO shares this interest with Canada’s First Ministers and the CCDA.

NETCO would welcome the opportunity to partner with the CCDA in developing a pan-Canadian practical assessment for the Red Seal designated occupation of Construction Electrician.”

³ Human Resources and Skills Development Canada. *Discussion Paper: A Fully Integrated Occupational Performance Standards Model*, CCDA. <http://strengtheningtheredseal.ascentum.com/en> (accessed Feb. 6, 2011)

2. National Occupational Standards

NETCO will continue to engage in meaningful dialogue with the CCDA regarding the proposed introduction of an OPS model. It has participated in all of the stakeholder consultations sponsored to date.

NETCO is committed to enhancing the Red Seal Program and asserts that the proposed OPS model is but one of several options that may be explored. At this preliminary juncture, NETCO is concerned that an OPS model appears to facilitate trade splintering (see pg. 7). Additionally, the degree to which each form of assessment equally and consistently provides a true measure of individual competency is uncertain as is the potential for abuse.

In the interests of transparency and accountability, NETCO urges the CCDA to provide financial information on the costs of revising the Red Seal Program to an OPS model and the return on investment. Practical questions related to the funding source(s) and whether funds will be redirected from training budgets are outstanding. Similarly, it is important that the CCDA, in consultation with industry stakeholders, considers ways in which the proposed investments may more appropriately be used to refine the existing Red Seal model.

The CCDA is rightfully examining its approach to developing and maintaining strong linkages with key apprenticeship stakeholders and partners. Industry’s expectation is that any efforts to strengthen the Red Seal Program—regardless of the specific model under discussion—must be supported by an effective two-way communications strategy.

For more information on *Strengthening the Red Seal Program* visit <http://strengtheningtheredseal.ascentum.com/en>.

Home About FAQ Resources Contact Us

Fransais

STRENGTHENING THE Red Seal Program

Strengthening The Red Seal Program
from CCDA

08:06 vimeo

For 50 years, Canada's provinces and territories have worked together to build the Red Seal Program, a system of common standards for the skilled trades. A Red Seal certificate signals excellence to employers, instills pride in skilled workers, and promotes geographic labour mobility.

The Canadian Council of Directors of Apprenticeship (CCDA), the sponsor of the Red Seal Program, is developing a plan to strengthen the Program – by evolving it into a model that provides even greater support for skills acquisition and skills

Newsfeed

A Closer Look at the Strengthening the Red Seal Program Initiative

Posted By Joe Black on Wednesday, October 6th 2010

As face-to-face consultations on the *Strengthening the Red Seal Program* initiative continue with national industry representatives, a number of questions have arisen around who and what is behind the proposed pan-Canadian project. Here we provide further explanation to a couple of the most commonly asked questions we have received since June.

More...
Read More | Comment

The Dialogue Continues

Posted By Joe Black on Thursday, September 9th 2010

Over the past four months, the Canadian Council of Directors of Apprenticeship (CCDA) has been holding facilitated consultation sessions with member jurisdictions and industry stakeholders across Canada to gather input and feedback on the proposed pan-Canadian *Strengthening the Red Seal Program* initiative.

More...

2. National Occupational Standards

Trade Splintering

NETCO supports full-scope training—training designed to build skills in all tasks outlined in the National Occupational Analysis (NOA) for each Red Seal trade (www.red-seal.ca). NETCO does not support trade splintering—training to a general knowledge area/skills set that represents a partial list of the tasks outlined in a NOA.

The electrical trades are susceptible to skills poaching by other trades. In some jurisdictions, liberal use of exemptions has been used to mask a failure to enforce trade regulations. As a result, non-electrical trades may be empowered to do electrical work without prerequisite training or experience. Additionally special interest groups are lobbying to create new trades based, in part, on the skills sets embedded in electrical training standards (e.g., fire alarm installers, entertainment electricians, neon sign electricians).

NETCO believes that trade splintering compromises public and worker safety. The inherent dangers of working with electricity require a standard of excellence benchmarked to the full range of competencies assessed by Red Seal electrical exams. Trade splintering undermines the integrity of national standards and the Red Seal Program and poses barriers to labour mobility.

NETCO supports specializations within a compulsory trade achieved through recognized training that leads to endorsements. For example, in Ontario the Fire Alarm certification is an endorsement to the electrical trade achieved through recognized training. This reinforces that competencies associated with a specialization do not form a stand-alone occupation but rather build on competencies already in place. They overlay the existing standards outlined in Red Seal National Occupational Analyses. The use of endorsements encourages lifelong learning. Industry supports this as a strategy in adapting to technological change and in preparing contractors to open new markets.

“NETCO supports full-scope training—training designed to build skills in all tasks outlined in the National Occupational Analysis (NOA) for each Red Seal trade.

NETCO does not support trade splintering—training to a general knowledge area/skills set that represents a partial list of the tasks outlined in a NOA.”

2. National Occupational Standards

Common Core Curriculum and Common Sequencing

The Red Seal Program encourages standardization of provincial/territorial apprenticeship training and certification programs. This includes using a common terminology for occupational titles for trades in jurisdictions across Canada (e.g., Construction Electrician vs. Construction & Maintenance Electrician).

Emphasis on improving the mobility of apprentices is required to promote the successful completion of apprenticeship. Common sequencing and common core curriculum are helpful in removing some of the barriers to mobility faced by apprentices. Apprenticeship is 85% on-the-job training and many apprentices must work in different jurisdictions to obtain the hours needed.

Although entry-level educational requirements for entry into a Red Seal electrical apprenticeship vary across provinces and territories, many jurisdictions use a Grade 10 standard. NETCO believes that this is inadequate given the technological change in the electrical industry. Additionally, a lack of a harmonized approach to educational prerequisites across Canada decreases the focus on national standards and labour mobility.

NETCO promotes establishing a minimum of Grade 12 or equivalent as the prerequisite for electrical apprenticeship. This comparatively higher requirement promotes completion of apprenticeship and a better return on training investments. Classroom apprenticeship training is delivered through Canada's community college system which receives significant public funding.

“Common sequencing and common core curriculum are helpful in removing barriers to mobility faced by apprentices.”

2. National Occupational Standards

Compulsory Journeyman Certification & Enforcement

NETCO supports compulsory journeyman certification in all jurisdictions for the three trades in the Red Seal electrical family. Compulsory certification refers to a prevailing provincial/territorial legislative requirement in which persons entering or working in a designated trade must possess a Certificate of Qualification or be registered as apprentices in order to work in that trade.

The Ellis Chart, produced by Human Resources and Skills Development Canada (HRSDC) in consultation with the Canadian Council of Directors of Apprenticeship (CCDA), provides an interprovincial overview of the 13 apprenticeship systems across Canada. As per the Ellis Chart (accessed Feb. 6, 2011) the occupation of:

- Construction Electrician is voluntary (i.e., not compulsory) in BC, NT, YT and NU;
- Industrial Electrician is voluntary in NL, NS, NB, ON and BC;
- Powerline Technician is voluntary in NL, NS, PE, NB, ON, SK, AB, BC, NT, YT, NU.

NETCO's position that all Red Seal trades should be compulsory in all 13 provincial/territorial jurisdictions is linked to concerns about public safety, worker safety and productivity. The mandatory training and assessment protocols in place for compulsory trades (e.g., on-the-job training, in-school training, examinations and standards of excellence related to safety) contribute to the overall efficiency of the electrical industry. There should be standardized criteria for issuing provisional licenses that include a demonstration of skills. The spirit and intent of compulsory certification is undermined when provisional licensing is not based on a competency-based assessment of qualifications.

The issue of enforcement is critical to the success of any system of compulsory certification. Enforcement is vital to ensure that workers have appropriate licenses. Provincial/territorial governments should muster the political will to allocate the resources needed for an effective enforcement regime that supports applicable laws and regulations. Vigilant enforcement of compulsory certification curtails the underground economy and thus yields dividends with respect to increased public revenue and improved safety records. Once compliance is achieved consideration should be given to increasing standards.

NETCO supports enforcement of trade qualifications through a broad-based approach to inspection services. Cooperation and coordination across government departments and from government to government (i.e., inter-provincial & intra-provincial) are critical in this regard.

2. National Occupational Standards

Integration of Essential Skills into National Standards

With the support of the Canadian Council of Directors of Apprenticeship (CCDA), Human Resources and Skills Development Canada (HRSDC) prepared Essential Skills Profiles for 44 Red Seal trades. There is an Essential Skills Profile for each of the three Red Seal electrical trades. In 2011, NETCO assisted in validating revised Essential Skills Profiles for Construction Electrician, Industrial Electrician and Powerline Technician.

The Red Seal Program web site (www.red-seal.ca) posts Essential Skills Profiles alongside corresponding National Occupational Analyses. The CCDA also developed a number of trade-specific Essential Skills tools to promote success in apprenticeship.

NETCO is a leader in the integration of Essential Skills into National Standards for Red Seal electrical trades. In 2003 it published a pivotal research study--*Essential Skills Needs Assessment of IBEW Members in Canada, Construction & Utility* (MacLeod, Carol). It subsequently developed a suite of Essential Skills Tools such as Numeracy Power—an on-line assessment of foundation numeracy skills to address barriers to success in apprenticeship related to the Essential Skill of Numeracy. (See www.ceca.org/netco.)

“NETCO is a leader in the integration of Essential Skills into National Standards for Red Seal electrical trades. NETCO is keenly interested in applying its expertise to the realm of Foreign Qualifications Recognition.”

NETCO is interested in applying its Essential Skills expertise to the realm of Foreign Qualifications Recognition (FQR) and is open to partnership building in this regard. NETCO is the first national trade organization to adopt Essential Skills benchmarks as national standards (as opposed to viewing them as helpful companion data). NETCO believes that the Essential Skills standards for each Red Seal occupation should be the reference point in assessments of foreign-trained workers to identify and address related learning needs. Foreign-trained workers often have learning needs related to the Essential Skills of Oral Communication and Reading Text. They need a supportive assessment and training plan that facilitates the achievement of national occupational standards.

NETCO proposes that a model for Foreign Qualifications Recognition (FQR) should include assessments based on the Canadian Language Benchmarks (CLB) with the results referenced to the occupational Essential Skills requirement for each particular Red Seal trade. In recent years, the Canadian Centre for Language Benchmarks (CCLB) developed a methodology for preparing Occupational Language Analyses that correlates data in a National Occupational Analysis (NOA) and corresponding Essential Skills Profile to the Canadian Language Benchmarks.

3. NETCO-CSA Personnel Certification Program-Construction Electrician (NOC 7241)- Solar Photovoltaic (PV) Systems Certified



NETCO's National Solar Photovoltaics (PV) Strategy

Renewable energy technologies (e.g., solar, wind, thermal) are opening markets for electrical contractors and creating work opportunities for qualified electricians who augment their existing skills.

In 2009 NETCO launched a *National Solar Photovoltaics (PV) Strategy* and recruited a blue-chip *Solar PV Committee* to support implementation. The strategy responds to the electrical industry's desire for a nationally-coordinated approach to workforce skills development, as well as public policy and regulatory issues, associated with a projected increase in demand for renewable energy sources.

Development of National Occupational Standards

In July 2010, NETCO's *Solar PV Committee* concluded the development of a National Occupational Analysis. This research applies exclusively to the occupation of Construction Electrician (NOC 7241). It articulates tasks that **all** qualified journey-person Construction Electricians carry out in applying their trade skills to installing Solar Photovoltaic (PV) Systems. As such, the task analysis is a companion piece to the *National Occupational Analysis (NOA) for Construction Electrician (2008)*.

NETCO National Solar PV Committee

Front Row Left to Right: Dave Cribb, IBEW, Local 586; John Salmon, A.R. Milne Electric Ltd.; Randall Benson, Electrical Industry Training Centre of Alberta; Garry Fitzpatrick, Fitzpatrick Electrical Contractor Inc.; Robert Nelson, Canadian Standards Association; Susan Boorman, Canadian Electrical Contractors Association; Marty Riesberg, National Joint Apprenticeship & Training Committee for the Electrical Industry.

Back Row Left to Right: Committee Chair Andy Cleven, Electrical Joint Training Committee, (IBEW, Local 213 & ECABC); Todd Stafford, National Joint Apprenticeship & Training Committee for the Electrical Industry; Michael Boersma, Net Electric Ltd.; Bill Daniels, IBEW, 1st District, Canada; Peter Olders, IBEW-Construction Council of Ontario; Jason Campbell, Black & McDonald.

Not Shown: Ted Olechna, Electrical Safety Authority; Carol MacLeod, NETCO Occupational Analyst/Facilitator.



3. NETCO-CSA Personnel Certification Program-Construction Electrician (NOC 7241)- Solar Photovoltaic (PV) Systems Certified

NETCO's national standards reflect the electrical industry's position that the installation of solar PV equipment should be performed by Red Seal qualified electricians. It does not constitute a stand-alone occupation. Electrical journeymen have at least 8,000 hours of on-the-job electrical installation training and 800 hours of classroom instruction acquired through a regulated apprenticeship. This becomes the foundation for additional training on specific solar PV installation requirements.

NETCO Partnership with CSA Standards to Develop Personnel Certification Program

The growth in the market for solar photovoltaic (PV) installations, the shortage of skilled labour and the need for safe and effective installation of PV systems accelerated the requirement to identify and formally recognize competent system installation personnel.

In August 2010 NETCO announced a partnership with CSA Standards (CSA), a leading standards-based solutions organization, to develop a national, third-party, independent personnel certification program for Construction Electricians installing solar PV equipment in Canada.

The *Construction Electrician (NOC 7241) Solar Photovoltaic (PV) Systems Certified* personnel certification program is the first national program designed to meet the needs of workers, industry, regulators, and the general public by:

- helping ensure that Construction Electricians who install and maintain Solar PV systems have the demonstrated knowledge and skills to perform the tasks required for this line of work.
- promoting national standards across Canada aiming to enhance the safety, quality, reliability and consumer acceptance of solar PV installations.

The certification aims to help ensure the safe and effective installation of solar PV equipment and to help reduce the risk of serious accident and injury. It will also help promote energy efficiency and increased public confidence in solar PV installations.

The personnel certification program for Construction Electricians-Solar PV Systems is funded by NETCO on behalf of the electrical industry. It is the first program in Canada to offer a certification based on the tasks that qualified Construction Electricians carry out in applying their skills to the installation of solar equipment. The program is expected to be available by summer of 2011.

“In August 2010 NETCO announced a partnership with CSA Standards, a leading standards-based solutions organization, to develop a national, third-party, independent personnel certification program for Construction Electricians installing solar photovoltaic (PV) equipment in Canada.

The program is expected to be available by summer of 2011.”

4. Apprenticeship & Journeyperson Skills Training

Joint Apprenticeship & Training Committees (JATC)

In the organized electrical construction industry, IBEW Local Unions and electrical contractors share a proud tradition of excellence in apprenticeship and journeyperson skills training. Each Joint Apprenticeship & Training Committee⁴ (JATC) exists as a Labour-Management partnership between an IBEW Local Union and contractors within a defined geographic area.

Within NETCO there are approximately 16 JATCs across Canada. Additionally, several IBEW Local Unions (construction and utility) own and operate training centres. The primary purpose of a JATC is to meet the unionized electrical construction industry's demand for a highly trained and skilled workforce. All JATCs facilitate apprenticeship by recruiting, selecting, assessing, counseling and overseeing or delivering apprenticeship training. Some JATCs also focus on journeyperson skills training.

JATCs are founded on industry-based Training Trust Funds derived from multi-employer collective agreements. Over the years, this sustainable financing has enabled JATC training infrastructures to become highly effective and sophisticated. Training Trust Funds are legal entities and own training facilities which are recognized as Centres of Excellence.

The stability of industry funding has enabled JATCs to grow and develop through careful long-term planning. Another reason for the success of JATCs is that they are jointly controlled by electrical contractors/employers and IBEW Local Unions—the primary parties involved in the supply of and demand for qualified tradespersons.

“Joint Apprenticeship & Training Committees (JATC) are founded on industry-based Training Trust Funds derived from multi-employer collective agreements.

Over the years, this sustainable financing enabled JATC training infrastructures to become highly effective and sophisticated. Training Trust Funds are legal entities and own training facilities which are recognized as Centres of Excellence.”

⁴ This term is widely used across Canada; however, other terms such as Joint Apprenticeship Council, Joint Apprenticeship Committee and Local Apprenticeship Committee are also used. NETCO recommends using Joint Apprenticeship & Training Committee.

4. Apprenticeship & Journeyperson Skills Training

Apprenticeship Completion

NETCO continues to engage industry stakeholders in discussions about how to increase apprenticeship completion in the three Red Seal electrical trades. The Red Seal trades in the electrical family are: Construction Electrician; Industrial Electrician; and Powerline Technician.

Construction Electrician is consistently among the top five Red Seal trades based on the number of Red Seals issued. Data from Canadian Council of Directors of Apprenticeship (CCDA) Annual Reports (www.red-seal.ca) indicate that the:

- failure rate for apprentices who wrote the Construction Electrician Red Seal exam was 28% in 2008 (1,266 apprentices), 29% in 2007 (1,221 apprentices) and 32% in 2006 (1,319 apprentices)
- failure rate for *trade qualifiers who wrote the Construction Electrician Red Seal was 52% in 2008 (1,299 trade qualifiers), 46% in 2007 (986 trade qualifiers) and 42% in 2006 (608 trade qualifiers).

* A trade qualifier is a tradesperson who has accumulated sufficient practical work experience to meet the established criteria to challenge the certification examination.

There are many barriers to accessing and completing apprenticeship training in Canada. In consultation with electrical industry stakeholders, NETCO identified some of the root causes associated with failing Red Seal electrical exams. These include poor reading and foundation math skills as well as a lack of experience on the multiple-choice test format used in Red Seal exams.

NETCO offers several Human Resource Tools that electrical training professionals may consider using to assist apprentices and journeypersons in passing Red Seal exams such as a curriculum on *Test Taking Strategies for Red Seal Electrical Exams* and *Numeracy Power*—an on-line assessment of foundation math skills linked to success in apprenticeship.

“NETCO continues to engage industry stakeholders in discussions about how to increase apprenticeship completion in the three Red Seal electrical trades.”

4. Apprenticeship & Journeyman Skills Training

On-the-Job Training & Mentoring

NETCO endorses the use of Mentoring as part of an overall strategy to maximize the quality and quantity of on-the-job teaching and learning. The construction and utility sectors are expected to lose a significant number of their most experienced workers due to workforce demographics. On-the-job training that engages qualified workers in building the workforce of tomorrow is an effective strategy for transferring skills and knowledge. While the quality of teaching skills is central to the success of this strategy, experience shows that those who are qualified to perform a job are not always effective in teaching others.

Historically, the job of a journeyman was to work and teach while the job of an apprentice was to work and learn. In the electrical construction industry, the journeyman-apprentice relationship used to be synonymous with teacher-learner. Only 15% of an apprentice's time is spent learning in the classroom; 85% of learning occurs on-the-job.

Today, the original vision of journeymen as teachers has become eroded. NETCO's research suggests that there are three main barriers to involving journeymen in facilitating learning with apprentices on-the-job. It is clear that a joint approach is required to address them. They include the:

- attitude held by some journeymen that apprentices are there to carry their tools and get the coffee;
- absence of on-the-job teaching skills that enable journeymen to facilitate learning among apprentices; and,
- competitive environment in which electrical contractors operate, leading to severe time pressures that are not always conducive to teaching and learning.

“NETCO endorses the use of Mentoring as part of an overall strategy to maximize the quality and quantity of on-the-job teaching and learning.”

4. Apprenticeship & Journeyman Skills Training

Journeyman Skills Training

The impact of technological change on the electrical construction industry has been enormous. An ongoing commitment to journeyman skills training is an important change-management strategy. It ensures that contractors have a skilled workforce available to compete in new markets.

NETCO strongly endorses ongoing journeyman skills training and a culture of lifelong learning. Trades training should be viewed as a continuum that starts with apprenticeship training and continues with ongoing journeyman training to maintain skills currency. Learning should not stop when a tradesperson achieves journeyman status. There are, however, challenges in promoting continuous learning among journeymen.

Practical mechanisms to facilitate continuous learning for journeymen should be enhanced. Particular efforts should be made to provide preparatory training for journeymen with a provincial/territorial certificate who want to acquire a Red Seal endorsement. NETCO offers a curriculum (1.5 hour unit of instruction) on *Test Taking Strategies for Red Seal Electrical Exams*. This curriculum may be integrated into Red Seal preparatory training for apprentices and journeymen.

Diversity/Equity

NETCO endorses strategies to attract, train and retain people who have traditionally been under-represented in the three Red Seal electrical trades such as women, immigrants and Aboriginals. There should also be a focus on integrating injured and disabled workers into the workforce and modifying work for reasonable accommodation

With the influx of foreign-trained workers into the industry more attention needs to be paid to integrating them into the workforce. Diversity training should be introduced at the grass roots level in apprenticeship training and continue in ongoing journeyman skills training.

NETCO is open to exploring models to promote diversity and equity that are linked to regional labour market demographics and build on the strength of the electrical industry's trades training infrastructure.