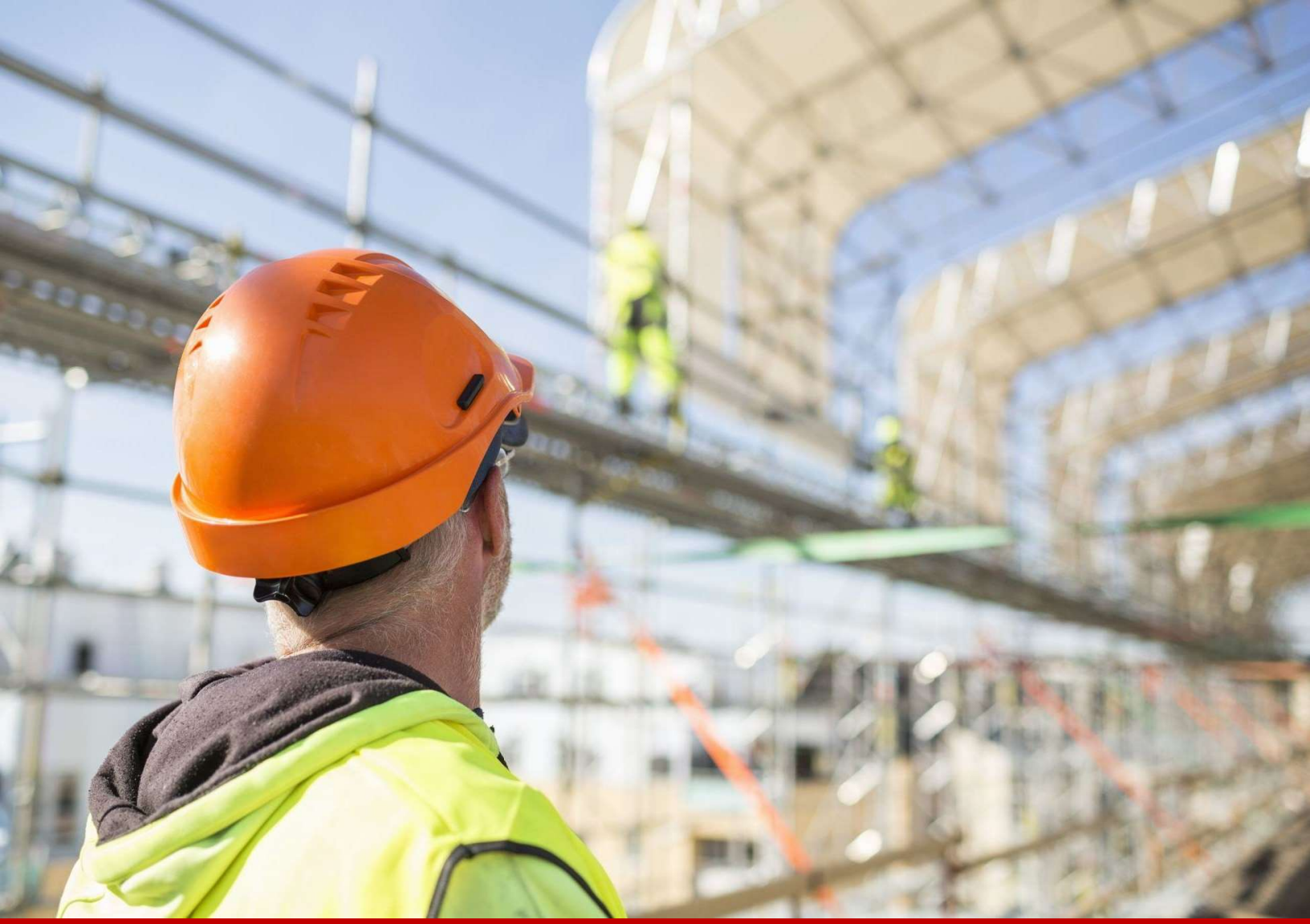

Pan-Canadian Analysis on Electrical Contractor Licensing & Regulations - 2nd Edition

NETCO
IBEW - CECA | NATIONAL ELECTRICAL TRADE COUNCIL

CNMIE
FIDE - ACEE | CONSEIL NATIONAL DES MÉTIERS DE L'INDUSTRIE ÉLECTRIQUE

Commissioned By: Brian Gibson
Government & Stakeholder Relations
National Electrical Trade Council - NETCO

Image Courtesy of Microsoft Office

July 16th, 2021

Acknowledgments

The National Electrical Trade Council (NETCO) received support from eight Provincial Electrical Contractor Associations across the country and the Canadian Electrical Contractors Association (CECA) to address the issues regarding the Licensing, Regulations & Standards, and Enforcement & Inspections for Electrical Contractors. NETCO also received support and information from varying government organizations and industry partners.

This report analyzes the licensing processes of electrical contractors in each jurisdiction across the country. The report breaks down the basic licensing requirements, regulations & standards, and enforcement & inspection practices in each jurisdiction. From this, the issues are highlighted with potential solutions and recommendations on how to standardize and harmonize the processes between jurisdictions.

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Mandate

The Canadian Electrical Contractors Association (CECA) and its respective provincial Electrical Contractor's Associations (ECA) expressed concern over regulations, standards, and enforcement of Electrical Contractor Licensing across the country. Upon discussion with other ECAs, Executive Directors and Presidents of their respective ECAs concluded each provincial and territorial jurisdiction had vastly different standards and regulations when it came to the enforcement and licensing of electrical contractors.

With some jurisdictions in Canada having strict standards and regulations with enforcement agencies, to jurisdictions with limited standards and no formal enforcement agencies, there is minimal inter-jurisdictional unity. This has caused uncertainty and concern for CECA and its respective provincial ECA members. With the limited qualification, quality, and safety standards in some jurisdictions, it can lead to poor quality and standards of work and safety.

Additionally, with the introduction of the Canadian Free Trade Agreement (CFTA) in July of 2017, electrical contractors have been given the ability to perform work in some other jurisdictions with greater ease, signifying the importance for unified standards in each jurisdiction.

In November 2020, CECA requested National Electrical Trade Council (NETCO) perform a pan-Canadian jurisdictional analysis on electrical contractor licensing, standards, regulations, and enforcement. This analysis would include an overview of the key findings on issues such as enforcement, licensing qualifications, standards, and regulations in each Canadian jurisdiction. Additionally, the analysis would highlight key issues in each jurisdiction when it comes to the key focus areas.

The scope of this analysis will specifically focus on the requirements Electrical Contractors endure in each jurisdiction in Canada. These requirements stem from the three specific categories mentioned earlier. Further from the analysis of the requirements, the scope of this analysis will also focus on key recommendations and steps to improve cross-jurisdictional standards and increase and unify basic requirements in each jurisdiction.

Executive Summary

In November 2020, the National Electrical Trade Council (NETCO) was requested to perform a pan-Canadian jurisdictional analysis of licensing and regulations with the focus on electrical contractors. NETCO performed a thorough analysis on each jurisdiction in Canada by reviewing applicable legislation, regulations, and mandates. Each jurisdiction was evaluated using three

focus categories: Licensing, Regulations & Standards, and Enforcement & Inspections. Licensing includes the basic qualifications one needs to meet to be eligible for an electrical contractor's license. Regulations & Standards focused the basic qualifications an electrical contractor must meet and adhere by. Enforcement & Inspection focused on ministries or designated authorities that carried out the duties of enforcement and inspections of regulations, standards, and licensing.

In addition to the three key categories that were examined, each jurisdiction was examined using basic statistical numbers and standards, common to each jurisdiction. Using these statistics and standards, jurisdictions can easily be compared as to where they sit on certain topics i.e., Construction Industry GDP, minimum years of experience, license costs, etc. From this, key findings were drawn as to what makes the jurisdiction unique, where it may exceed compared to other jurisdictions and where it may fall behind compared to other jurisdictions. From this information, a summary evaluation of the jurisdiction was performed, and a recommendation was given.

From the statistics, standards, and evaluations of each jurisdiction, a final evaluation on the Electrical Contractor Licensing landscape across the country was provided. It was found that there are significant differences between each jurisdiction, leading to an uneven, inordinate landscape in Canada. Some jurisdictions fall extremely behind in regulations & standards, whereas others fall behind in enforcement & inspections. Certain jurisdictions fall behind in all categories, where a few excel in all categories. Additionally, a vast difference in numbers provided by provincial and territorial governments versus the federal government highlighted underlying issues with the access of public statistical information and the correctness of information that can be found. Five national and nineteen jurisdictional recommendations are given as to how Industry can move forward to address these issues and standardize the landscape from jurisdiction-to-jurisdiction.

Methodology

In this report, each jurisdiction is individually examined using both statistics and information regarding regulations, standards, legislation, and enforcement. Each jurisdiction is compared to each other using common qualification and quantification statistics from both the jurisdictional government and the federal governments. (The formal list of common statistics can be found in each jurisdictional analysis). After examining the key statistics from each jurisdiction, the key highlights from each jurisdiction are noted, including the unique efficiencies and/or deficiencies a jurisdiction may face. Finally, each jurisdiction will be given a summary that will focus on key areas of improvement and assist in aligning and unifying standards, regulations, legislation, and enforcement in each jurisdiction. Please note, some information was neither derived from statistics or legislation, but was instead derived from direct verbal or virtual (e-mail, Zoom, etc.) consultation with an ECA, Ministry or other Industry Stakeholder.

Jurisdictional Numbers

Throughout this report, each jurisdiction is given two sets of numbers for each of the following categories: Apprentices, Journeypersons, and Electrical Contractors. One set of numbers is from the Federal Government and the second set of numbers is from the respective jurisdictional government. These numbers are included in this report for two reasons. The first reason is to reflect the industry size within a given jurisdiction. The second reason the numbers are included in this report is to highlight the disparity between the Federal Government and jurisdictional governments on both numbers, and access to public information.

The set of numbers obtained from the Federal Government were collected from *Statistics Canada*, *Job Bank Canada*, and *Innovation, Science and Economic Development Canada*. These numbers are all publicly available on their respective websites. However, after industry consultation, several concerns were raised that the number provided by the Federal Government were indeed false. These concerns raised many red flags and caused concern as to whether or not the size of the industry was being truly reflected in this report.

Considering the number of industry stakeholders across several different jurisdictions that expressed their concern with the numbers from the Federal Government, it was determined that the report also include numbers from jurisdictional ministries, agencies, and authorities to better reflect the size of the industry. However, in doing this, another barrier was raised; this information is not as easily available to the public compared to the numbers from the Federal Government. Only a handful of Jurisdictions published the respective and corresponding numbers in documents such as Annual Reports. For most jurisdictions, numbers had to be obtained via either E-Mail or a “Freedom of Information” (FOI) Request.

In the collection of the jurisdictional numbers through annual reports, e-mails, and FOI requests, another issue was noted. It was found that the methods and qualifiers that indicate where the data is to be compiled from varied between jurisdictions. Further, certain jurisdictions did not compile any data whatsoever for certain categories. Taking these two issues into account, there is potential for a bias in the data from jurisdiction-to-jurisdiction as there is little-to-no standard in the collection of data, and the methods and qualifiers as to which the data is collected.

Furthermore, it should be noted that not all jurisdictions responded with their own respective corresponding numbers. For a jurisdiction that did not respond, or does not have information on a specific number, there is a "-" located in the respective box to indicate the missing information. Further from this, recommendations regarding this issue are made in the *Recommendations* section of this report.

Please note, for the per capita data found with each jurisdiction, the numbers are based off the jurisdictional numbers per the population of the respective jurisdiction. If a jurisdiction did not have their own numbers, but simply numbers from the federal government, the federal numbers were used in the calculations of the per capita data.

Disclaimer

Please note, the original version of this report was published in January 2021. Some of the statistics and legislation in this report may be out of date. To ensure the information is up-to-date, please consult the relevant statistics or applicable legislation.

National Summary

On a National Landscape, the Electrical Industry is diverse between jurisdictions. While some jurisdictions may be similar to each other, no two jurisdictions are the same. This is understandable considering the unique challenges each jurisdiction faces. Populations, the number of electrical contractors, the number of electricians and the industry GDP in each jurisdiction is different. Though the disproportionate alignment of standards, regulations, and licensing requirements between jurisdictions is extremely alarming. There is substantial work that needs to be done in each jurisdiction (some more than others) to even introduce them to basic standards and regulations. Because of this, the need to introduce national standards to the licensing of Electrical Contractors is extremely prevalent.

There are considerable amounts of work that need to be addressed in each jurisdiction in the country. The leadership and collaboration of industry stakeholders, respective Electrical Contractor Associations and national entities is essential to the success of introducing consistent standards in each jurisdiction. Providing the resources and tools that industry stakeholders may need to advocate for licensing standards is necessary for its success.

Further from the work that needs to be done on a jurisdictional level, there is a significant amount of work that must be completed on a national level. To address the Canadian Free Trade Agreement, and the concerns surrounding the difference in requirements for Electrical Contractors in each jurisdiction, industry stakeholders from each jurisdiction coming together in collaboration with national associations and advocacy groups is the first step towards standardization of the industry.

To address the issues each jurisdiction faces and how to unify/standardize licensing requirements across the country, a list of recommendations has been laid out. Further from this, it is formally recommended that a committee, consisting of industry stakeholders (both jurisdictional and federal), be established to generate a strategic plan in tackling the issue before us. Once this committee and strategic plan are created, industry associations, advocates and other stakeholders can move forward in a unified manner to standardize the licensing of electrical contractors.

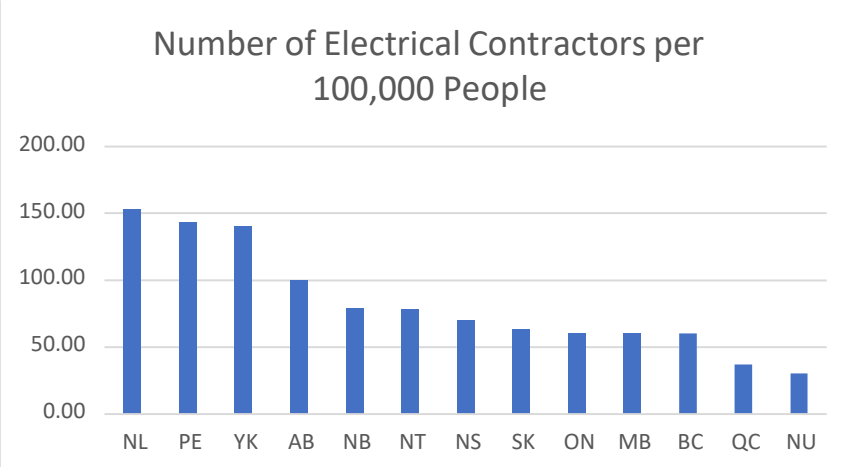
National Overview

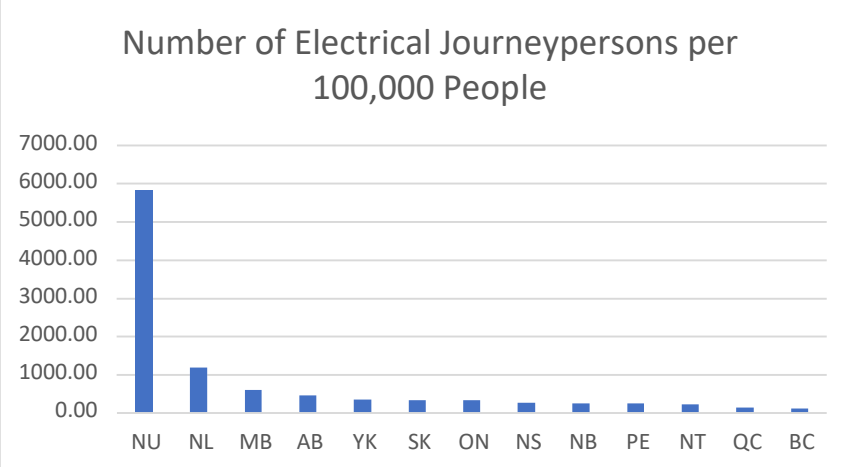
Below is a chart that provides a brief overview of each province and territory compared to each other against the nine following categories. The checkmarks indicate that the category on the left is something the corresponding province or territory has in place.

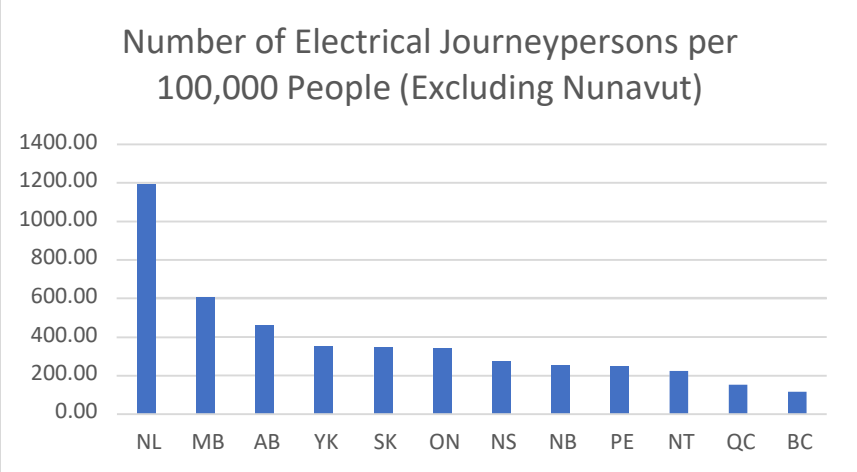
	NB	NS	PE	NL	QC	ON	MB	SK	AB	BC	YT	NT	NU
Master Electrician Requirement:					✓	✓			✓				
Journeyperson Requirement:	✓	✓	✓	✓			✓	✓			✓	✓	✓
Specialty Requirement:										✓*			
Years of Experience Requirement:	✓		✓	✓		✓		✓	✓	✓	✓		
Bond Requirement:					✓			✓			✓		
Code of Conduct:						✓							
Municipal Jurisdiction:							✓		✓	✓			
Contractor License Requirement:	✓		✓	✓	✓	✓		✓	✓	✓	✓		
Designated Third-Party Authority:					✓	✓		✓	✓	✓			

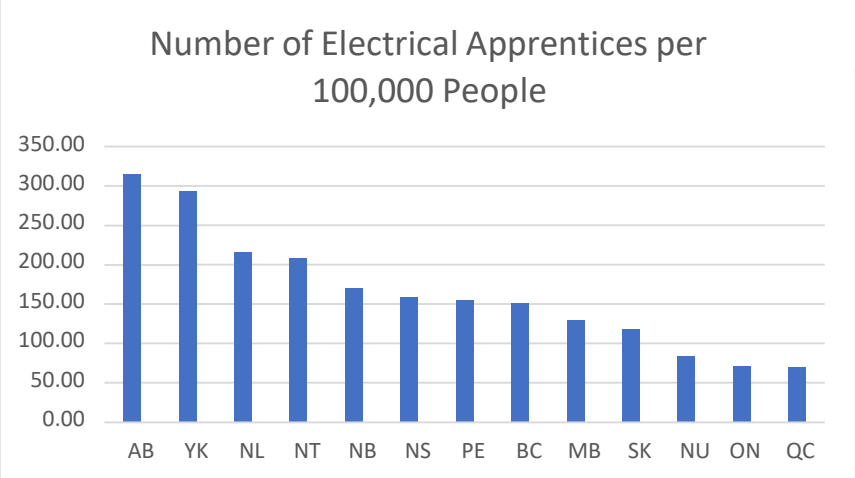
*BC has a Field Safety Representative (FSR) requirement.

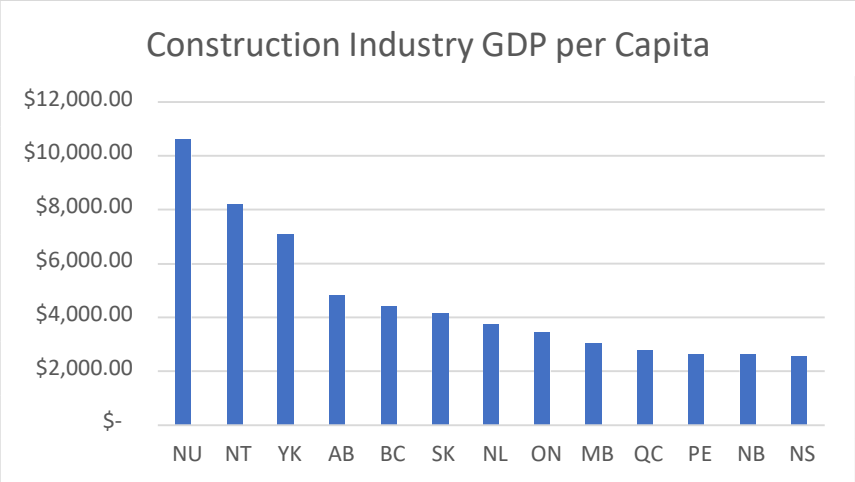
Below are six graphs that compare each jurisdiction on four sets of data they all share. Two of these graphs exclude a certain geographic area due to their respective data points being outliers compared to the average jurisdictional data.

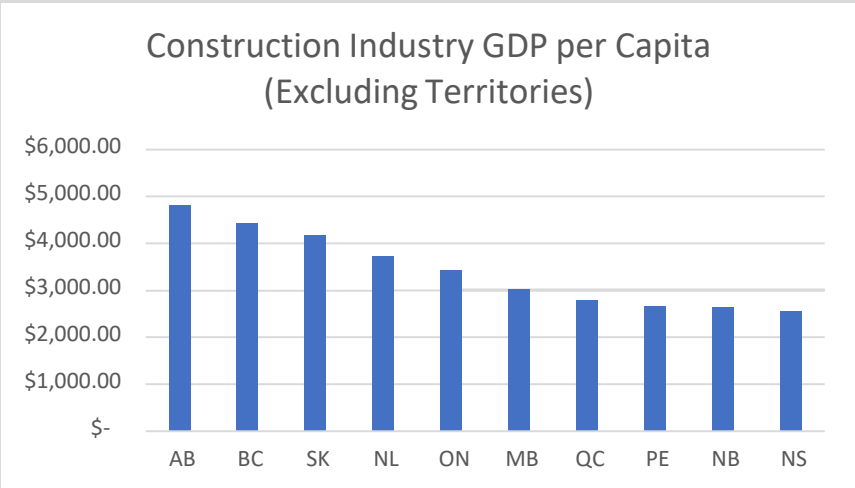

Number of Electrical Contractors per 100,000 People
200.00
150.00
100.00
50.00
0.00
NL
PE
YK
AB
NB
NT
NS
SK
ON
MB
BC
QC
NU


Number of Electrical Journeypersons per 100,000 People
7000.00
6000.00
5000.00
4000.00
3000.00
2000.00
1000.00
0.00
NU
NL
MB
AB
YK
SK
ON
NS
NB
PE
NT
QC
BC


Number of Electrical Journeypersons per 100,000 People (Excluding Nunavut)
1400.00
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
NL
MB
AB
YK
SK
ON
NS
NB
PE
NT
QC
BC


Number of Electrical Apprentices per 100,000 People
350.00
300.00
250.00
200.00
150.00
100.00
50.00
0.00
AB
YK
NL
NT
NB
NS
PE
BC
MB
SK
NU
ON
QC


Construction Industry GDP per Capita
$12,000.00
$10,000.00
$8,000.00
$6,000.00
$4,000.00
$2,000.00
$-
NU
NT
YK
AB
BC
SK
NL
ON
MB
QC
PE
NB
NS


Construction Industry GDP per Capita (Excluding Territories)
$6,000.00
$5,000.00
$4,000.00
$3,000.00
$2,000.00
$1,000.00
$-
AB
BC
SK
NL
ON
MB
QC
PE
NB
NS

New Brunswick

By the Numbers:

	# of Electrical Contractors	# of Electricians	# of Apprentices	2020 Industry GDP ($ Billion)
Federal Numbers	461[1,2]	1,600[3]	1,335[4]	$2.07[5,6]
Jurisdictional Numbers	618[7]	2,008[8]	-	N/A
Difference (Federal to Provincial)	157	408	-	N/A
Numbers Per 100,000 (GDP Per Capita)	78.60[9]	255.38[10]	169.79[11]	$2,634.33[12]

Overview:

Required Electrical Qualification:	Journeyperson	**Min. Years of Experience:**	2
Is there a Bond Requirement? Yes or No	No	**Is there a Code of Conduct? Yes or No**	No
License Renewal Time Frame & Cost:	$250.00 - $400.00/Annually	**Do Municipalities have Jurisdiction?**	No

[1] https://www.ic.gc.ca/app/scr/app/cis/businesses-entreprises/23821;jsessionid=0001ja-6-jH9XlNb2DsAQLCE0OP:-24P7QV
[2] This statistic does not stipulate as to what classifies an "electrical contractor".
[3] https://www.jobbank.gc.ca/marketreport/outlook-occupation/20684/NB
[4] Statistics Canada. Table 37-10-0023-01 Number of apprenticeship program registrations DOI: https://doi.org/10.25318/3710002301-eng
[5]https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610040202&pickMembers%5B0%5D=3.47&pickMembers%5B1%5D=2.2&cubeTimeFrame.startYear=2020&referencePeriods=20200101%2C20200101
[6] This is the GDP for specifically the Construction Industry.
[7] Chief Electrical Inspector, "Re: Follow-Up: Numbers", Department of Justice and Public Safety, March 2nd, 2021. E-Mail.
[8] Ibid.
[9] Population Data is collected from Statistics Canada, "Canada's population clock (real-time model)". URL: https://www150.statcan.gc.ca/n1/pub/71-607-x/71-607-x2018005-eng.htm
[10] Ibid.
[11] Ibid.
[12] Ibid.

Does the Contractor need a License?	Yes	**Ministry Responsible:**	Justice & Public Safety
Designated Authority/Department Responsible:	Technical Inspection Services	**Governing Legislation:**	Public Safety Act & Electrical Inspection & Installation Act

Key Findings:

Rankings:

- 5th Largest number of electrical contractors per 100,000 people.
- 9th Largest number of electricians per 100,000 people.
- 5th Largest number of electrical apprentices per 100,000 people.
- 12th Highest industry GDP per capita.

Licensing:

- To obtain a permit, one needs to be a registered and licensed Electrical Contractor.
- Types of Licenses:
  - Electrical Contractors License Group 3
  - Sign Installer Contractors License
- There are basic requirements for Electrical Contractors, namely, that there needs to be at least one journeyperson with a minimum of 2 years' experience.
- There are no bond requirements.

Regulations & Standards:

- New Brunswick has minimal regulations & standards, including no Code-of-Conduct. (No formal Code-of-Conduct in line with most other jurisdictions.)
- New Brunswick has an "Electrical Safety Advisory Committee".
  - The Electrical Contractors Association of New Brunswick holds one of the ten seats on the Committee.

Enforcement & Inspections:

- No formal third-party designated authority in charge of licensing, enforcement, standards and inspections.
- Current body in-charge is a division of the ministry. No industry oversight i.e., a board of directors, advisory committee, etc.

Summary:

New Brunswick is expecting a labour shortage in the Skilled Trades sector over the next several years.[13] As new individuals enter the Electrical Skilled Trades over the next several years, there is the potential for an increase in new Electrical Contractors. With the push to introduce people to the Skilled Trades and train them in a short period of time, the need for proper standards in training, qualifications, and practice is extremely important; especially when it comes to Electrical Contractors.

In New Brunswick, the standards and qualifications for a contractor to become licensed are limited, especially when compared to other jurisdictions across the country. There are two key reasons for this issue. The first reason being is the limited requirements outlined in the Electrical Inspection & Installation Act. The second reason being that the "Electrical Safety Advisory Committee" in New Brunswick holds very little representation from Electrical Contractors.

The need for proper regulations, standards, experience, and qualifications is extremely necessary to promote proper, safe, and quality electrical work in New Brunswick. The "Electrical Safety Advisory Committee" in New Brunswick needs to be restructured and reformed. There needs to be more proportionate representation from industry stakeholders such as the Electrical Contractors Association of New Brunswick. Further, a committee needs to form with a mandate and key focus on introducing basic and consistent standards and qualifications for Electrical Contractors.

[13] Shelley Steeves, "N.B. facing shortage of almost 3,000 trades workers by 2028: construction association", Global News, October 11th, 2019. URL: https://globalnews.ca/news/6020483/trades-worker-shortage-2/

Nova Scotia

By the Numbers:

	# of Electrical Contractors	# of Electricians	# of Apprentices	2020 Industry GDP ($ Billion)
Federal Numbers	691[14,15]	2,300[16]	1,779[17]	$2.54[18,19]
Jurisdictional Numbers	-	2,690[20]	1,570[21]	N/A
Difference (Federal to Provincial)	-	390	(209)	N/A
Numbers Per 100,000 (GDP Per Capita)	69.95[22]	272.29[23]	158.92[24]	$2,566.57[25]

Overview:

Required Electrical Qualification:	Journeyperson	**Min. Years of Experience:**	N/A
Is there a Bond Requirement? Yes or No	No	**Is there a Code of Conduct? Yes or No**	No
License Renewal Time Frame & Cost:	N/A	**Do Municipalities have Jurisdiction?**	No

[14] https://www.ic.gc.ca/app/scr/app/cis/businesses-entreprises/23821;jsessionid=0001ja-6-jH9XlNb2DsAQLCE0OP:-24P7QV
[15] This statistic does not stipulate as to what classifies an "electrical contractor".
[16] https://www.jobbank.gc.ca/marketreport/outlook-occupation/20684/NS
[17] Statistics Canada. Table 37-10-0023-01 Number of apprenticeship program registrations DOI: https://doi.org/10.25318/3710002301-eng
[18]https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610040202&pickMembers%5B0%5D=3.47&pickMembers%5B1%5D=2.2&cubeTimeFrame.startYear=2020&referencePeriods=20200101%2C20200101
[19] This is the GDP for specifically the Construction Industry.
[20] Prism Economics & Analysis, (2021), *Nova Scotia Skilled Trades: Apprenticeship in the Time of COVID-19.*
[21] Nova Scotia Apprenticeship Agency (NSAA), (2020), *NCAA Statistics Report: 2019-2020.*
[22] Population Data is collected from Statistics Canada, "Canada's population clock (real-time model)". URL: https://www150.statcan.gc.ca/n1/pub/71-607-x/71-607-x2018005-eng.htm
[23] Ibid.
[24] Ibid.
[25] Ibid.

Does the Contractor need a License?	No	**Ministry Responsible:**	Labour & Advanced Education
Designated Authority/Department Responsible:	Nova Scotia Power (With jurisdictional exceptions)	**Governing Legislation:**	Electrical Installation & Inspection Act

Key Findings:

Rankings:

- 7th Largest number of electrical contractors per 100,000 people.
- 8th Largest number of electricians per 100,000 people.
- 6th Largest number of electrical apprentices per 100,000 people.
- 13th Highest industry GDP per capita.

Licensing:

- Electrical Contractors do not need to be licensed to perform electrical work in Nova Scotia.
- To obtain a permit for installation, or other electrical work, the individual must have their "Certificate of Qualification", otherwise known as a Journeyperson.
- Certificates of Qualification are issued by the Department of Labour & Advanced Education.
- No minimum years of experience is needed to obtain a permit in Nova Scotia.

Regulations & Standards:

- There are no formal regulations & standards for Electrical Contractors set out in provincial legislation.

Enforcement & Inspections:

- Enforcement, inspections, and permits are provided through the local utility company in Nova Scotia.
- In total, Nova Scotia has seven electrical utility companies.[26]

[26] https://nsuarb.novascotia.ca/mandates/electricity/list-utilities-electricity

Summary:

Nova Scotia remains far behind its jurisdictional counterparts on licensing, regulations, standards, and qualifications. From having no licensing requirements for electrical contractors to perform electrical work, to poor enforcement and inspection standards, there is a lot of work that needs to be done in Nova Scotia to bring it on par with the rest of the country.

In Nova Scotia, all licensing, regulations, standards, and qualifications strictly surround the individual electrician, not the contractor. Nova Scotia has average standards for their journeypersons, and Certificate of Qualification standards; but nothing beyond the individual. Individuals in Nova Scotia can obtain permits, with no liability protection or work standards, so long as they hold their Certificate of Qualification. This proves to be continually troubling as the individual Electrician also holds no license. Electricians face minimal consequences or repercussions for violating Electrical Code or any provincial acts & regulations.

When it comes to actual registered electrical contractors; the only licensing and operating standards they must abide by is business licensing regulations and standards as set out by the Jurisdiction and/or any applicable municipal jurisdiction. This leads to poor quality of work, standards, and reliability for both residential consumers and commercial and industrial clients. It is recommended that an industry-based group or committee be established to formulate a strategic plan and produce advocacy efforts to introduce proper regulations and standards in Nova Scotia.

Prince Edward Island

By the Numbers:

	# of Electrical Contractors	# of Electricians	# of Apprentices	2020 Industry GDP ($ Billion)
Federal Numbers	117[27,28]	400[29]	300[30]	$0.43[31,32]
Jurisdictional Numbers	231[33]	-	251[34]	N/A
Difference (Federal to Provincial)	114	-	(49)	N/A
Numbers Per 100,000 (GDP Per Capita)	142.96[35]	247.55[36]	155.33[37]	$2,647.29[38]

Overview:

Required Electrical Qualification:	Journeyperson	**Min. Years of Experience:**	2
Is there a Bond Requirement? Yes or No	No	**Is there a Code of Conduct? Yes or No**	No
License Renewal Time Frame & Cost:	$250.00/Annually	**Do Municipalities have Jurisdiction?**	No

[27] https://www.ic.gc.ca/app/scr/app/cis/businesses-entreprises/23821;jsessionid=0001ja-6-jH9XlNb2DsAQLCE0OP:-24P7QStatistics Canada. Table 37-10-0023-01 Number of apprenticeship program registrations DOI: https://doi.org/10.25318/3710002301-engV

[28] This statistic does not stipulate as to what classifies an "electrical contractor".

[29] https://www.jobbank.gc.ca/marketreport/outlook-occupation/20684/PE

[30] Statistics Canada. Table 37-10-0023-01 Number of apprenticeship program registrations DOI: https://doi.org/10.25318/3710002301-eng

[31]https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610040202&pickMembers%5B0%5D=3.47&pickMembers%5B1%5D=2.2&cubeTimeFrame.startYear=2020&referencePeriods=20200101%2C20200101

[32] This is the GDP for specifically the Construction Industry.

[33] Chief Electrical Inspector, "Re: Number of Electrical Contractors", March 1st, 2021. E-Mail.

[34] Government of Prince Edward Island, "Re: Request for Numbers", March 22nd, 2021. E-Mail.

[35] Population Data is collected from Statistics Canada, "Canada's population clock (real-time model)". URL: https://www150.statcan.gc.ca/n1/pub/71-607-x/71-607-x2018005-eng.htm

[36] Ibid.

[37] Ibid.

[38] Ibid.

Does the Contractor need a License?	Yes	**Ministry Responsible:**	Agriculture & Land
Designated Authority/Department Responsible:	Inspection Services	**Governing Legislation:**	Electrical Inspection Act

Key Findings:

Rankings:

- 2nd Largest number of electrical contractors per 100,000 people.
- 10th Largest number of electricians per 100,000 people.
- 7th Largest number of electrical apprentices per 100,000 people.
- 11th Highest industry GDP per capita.

Licensing:

- Contractors must adhere to basic licensing qualifications, namely have at least one or be a journeyperson with at least two years' experience.
- All licensing is handled by the ministry and its respective department, Inspection Services.

Regulations & Standards:

- PEI holds no strict or extraordinary regulations and standards other than what is outlined in the Electrical Inspection Act and the Electrical Inspection and Code Regulations.

Enforcement & Inspections:

- All enforcement and inspections are handled by the Ministry and their department, Inspection Services.
- All permits must be obtained by a licensed and registered Electrical Contractor in PEI.

Summary:

For the number of Electrical Contractors and Electricians in the Jurisdiction, PEI has clear and very simple licensing requirements and regulations. For a jurisdiction with not only a small land-size, but a small population and industry GDP, PEI has robust and progressive standards relative to its size. In fact, PEI has stricter licensing requirements and regulations than some jurisdictions with a larger contractor and electrician capita, as well as a higher industry GDP capita. Furthermore, PEI will soon require Electrical Contractors to provide proof that they have access to or have a copy of the PEI Electrical Code.

However, PEI does not have any strict or extraordinary standards of work and operations for electrical contractors, which can lead to a discrepancy in the quality and unified standard of work among all electrical contractors in PEI. Along with this issue, PEI's enforcement, inspection, and licensing body, *Inspection Services,* is part of a broad ministry that hosts a variety of portfolios.

PEI is far ahead of many other jurisdictions, especially considering the size of the Jurisdiction's Electrical Industry. Keeping this in mind, PEI still has a long way to go to modernize and standardize Electrical Contractors. It is recommended that industry stakeholders work with the Ministry to introduce a set of contractor standards, such as a "Code-of-Conduct", to ensure that the best quality of work and standard of safety is put forward from each contractor.

Newfoundland & Labrador

By the Numbers:

	# of Electrical Contractors	# of Electricians	# of Apprentices	2020 Industry GDP ($ Billion)
Federal Numbers	335[39,40]	1,650[41]	2,289[42]	$1.94[43,44]
Jurisdictional Numbers	798[45,46]	6,196[47]	1,121[48]	N/A
Difference (Federal to Provincial)	463	4,546	(1,168)	N/A
Numbers Per 100,000 (GDP Per Capita)	153.32[49]	1,190.45[50]	215.38[51]	$3,734.64[52]

Overview:

Required Electrical Qualification:	Journeyperson	**Min. Years of Experience:**	2
Is there a Bond Requirement? Yes or No	No	**Is there a Code of Conduct? Yes or No**	No
License Renewal Time Frame & Cost:	$200.00/Annually	**Do Municipalities have Jurisdiction?**	Yes

[39] https://www.ic.gc.ca/app/scr/app/cis/businesses-entreprises/23821;jsessionid=0001ja-6-jH9XlNb2DsAQLCE0OP:-24P7QV
[40] This statistic does not stipulate as to what classifies an "electrical contractor".
[41] https://www.jobbank.gc.ca/marketreport/outlook-occupation/20684/NL
[42] Statistics Canada. Table 37-10-0023-01 Number of apprenticeship program registrations DOI: https://doi.org/10.25318/3710002301-eng
[43]https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610040202&pickMembers%5B0%5D=3.47&pickMembers%5B1%5D=2.2&cubeTimeFrame.startYear=2020&referencePeriods=20200101%2C20200101
[44] This is the GDP for specifically the Construction Industry.
[45] https://www.gov.nl.ca/dgsnl/files/licenses-electrical-list-of-electrical-contractors.pdf
[46] Does not include electrical contractors registered in the City of St. John's.
[47] Government of Newfoundland and Labrador, "Re: Request for Numbers", March 23rd, 2021. E-Mail.
[48] Ibid.
[49] Population Data is collected from Statistics Canada, "Canada's population clock (real-time model)". URL: https://www150.statcan.gc.ca/n1/pub/71-607-x/71-607-x2018005-eng.htm
[50] Ibid.
[51] Ibid.
[52] Ibid.

Does the Contractor need a License?	Yes. Referred to as "Registration Certificate"	**Ministry Responsible:**	Digital Government & Service NL
Designated Authority/Department Responsible:	Office of the Chief of Electrical Systems	**Governing Legislation:**	Public Safety Act

Key Findings:

Rankings:

- Largest number of electrical contractors per 100,000 people.
- 2nd Largest number of electricians per 100,000 people.
- 3rd Largest number of electrical apprentices per 100,000 people.
- 7th Highest industry GDP per capita.

Licensing:

- Basic licensing requirements, fees and renewal time frame.
- There are three types of licenses: restricted, unrestricted and residential.
- The City of St. John's licenses its own Electrical Contractors. The requirements are similar to Newfoundland & Labrador's Jurisdictional requirements.

Regulations & Standards:

- Registration number must be displayed with all company advertisements.
- There are no other formal regulations & standards other than what is outlined in Provincial Legislation.

Enforcement & Inspections:

- A registered contractor may have a designated representative that can inspect and certify work performed by the contractor.
- This designated representative must meet the following requirements:
  - Holds an electrical certificate of qualification.
  - Is an employee of the registered contractor.
  - Has at least 4 years' experience.

    OR
  - Holds a degree in Electrical Engineering and is in good standing with the Association of Professional Engineers and Geoscientists with at least 2 years' experience.

- If a registered contractor does not have a designated representative, the Chief Inspector's office will certify the work.
- The City of St. John's carries out its own inspections and permits.

Summary:

As a jurisdiction with a large industrial and residential electrical sector, Newfoundland & Labrador holds more standards and regulations for electrical contractors compared to the rest of its Atlantic Canada neighbours. Its licensing requirements may hold equivalent to some but are advanced compared to others in Atlantic Canada. Additionally, the operating and inspection standards are more advanced than other jurisdictions in the Atlantic.

The one regulated operating standard that sets Newfoundland apart from its provincial counterparts in the East Coast is that it requires all its registered electrical contractors to display their registration number with any company advertisements. This is an often-sought-after requirement as it allows predominantly residential and small-commercial customers to know they are hiring a properly licensed and certified Electrical Contractor. Additionally, this allows the consumer to look-up or report an electrical contractor for whatever reason it may be.

Inspections in Newfoundland & Labrador are particularly unique compared to its Atlantic counterparts. Like every jurisdiction, there is an inspection agency and body that will conduct inspections and certify projects. Though, in Newfoundland, an electrical contractor can 'inspect and certify themselves' if they have a designated representative. As much as the requirements for a designated representative are strict, the threat of corruption, impropriety, and improper inspections by an employee of the contractor still looms.

As much as Newfoundland & Labrador holds more progressive measures in terms of its licensing requirements, standards, and regulations for Electrical Contractors, there is more that can be done. Newfoundland needs to focus on enhancing its operating standards and regulations for Electrical Contractors. As well, they should introduce enhanced and greater protected inspection measures, specifically focused on designated representatives with a certain contractor. Newfoundland's first steps should be establishing a formal Electrical Contractors Association and working closely with the Ministry on these issues.

Quebec

By the Numbers:

	# of Electrical Contractors	# of Electricians	# of Apprentices	2020 Industry GDP ($ Billion)
Federal Numbers	4,175[53,54]	12,750[55]	15,273[56]	$23.91[57,58]
Jurisdictional Numbers	3,190[59]	13,081[60]	5,982[61]	N/A
Difference (Federal to Provincial)	(985)	331	(9,291)	N/A
Numbers Per 100,000 (GDP Per Capita)	37.07[62]	152.02[63]	69.52[64]	$2,778.80[65]

Overview:

Required Electrical Qualification:	Master Electrician	**Min. Years of Experience:**	N/A
Is there a Bond Requirement? Yes or No	Yes. ($20,000.00-$40,000.00)	**Is there a Code of Conduct? Yes or No**	No

[53] https://www.ic.gc.ca/app/scr/app/cis/businesses-entreprises/23821;jsessionid=0001ja-6-jH9XlNb2DsAQLCE0OP:-24P7QV
[54] This statistic does not stipulate as to what classifies an "electrical contractor".
[55] https://www.jobbank.gc.ca/marketreport/outlook-occupation/20684/QC
[56] Statistics Canada. Table 37-10-0023-01 Number of apprenticeship program registrations DOI: https://doi.org/10.25318/3710002301-eng
[57]https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610040202&pickMembers%5B0%5D=3.47&pickMembers%5B1%5D=2.2&cubeTimeFrame.startYear=2020&referencePeriods=20200101%2C20200101
[58] This is the GDP for specifically the Construction Industry.
[59] https://www.pes.rbq.gouv.qc.ca/RegistreLicences/Recherche?mode=RegionTypeTravaux
[60] Commission de la Construction du Québec, "Statistiques Annuelles de L'Industrie de la Consutrction 2019" April 2020. URL: https://www.ccq.org/-/media/Project/Ccq/Ccq-Website/PDF/Recherche/StatistiquesHistoriques/2019/Faits_saillans_tableaux.pdf
[61] Ibid.
[62] Population Data is collected from Statistics Canada, "Canada's population clock (real-time model)". URL: https://www150.statcan.gc.ca/n1/pub/71-607-x/71-607-x2018005-eng.htm
[63] Ibid.
[64] Ibid.
[65] Ibid.

License Renewal Time Frame & Cost:	New: $756.40 - $1,492.83 Annual Renewal: $481.13 - $869.78	**Do Municipalities have Jurisdiction?**	No
Does the Contractor need a License?	Yes	**Ministry Responsible:**	Municipal Affairs & Housing
Designated Authority/Department Responsible:	Regie du Baitment (RBQ)	**Governing Legislation:**	Building Act

Key Findings:

Rankings:

- 12th Largest number of electrical contractors per 100,000 people.
- 12th Largest number of electricians per 100,000 people.
- 13th Largest number of electrical apprentices per 100,000 people.
- 10th Highest industry GDP per capita.

Licensing:

- Bond Requirements in Quebec are higher than other jurisdictions who hold bond requirements.
- Licensing fees are significantly higher than every other jurisdiction in the country.
  - Quebec allows for a “priority” application processing option with a higher fee.
- One of only a handful of jurisdictions to have a Master Electrician requirement for Electrical Contractors.

Regulations & Standards:

- The RBQ is a third-party organization responsible for licensing, regulations, and enforcement of Electrical Contractors as designated by the Ministry in Quebec.
- Contractors must undergo a “Professional Competency” examination by the RBQ in the following areas:
  - Administration
  - Construction site safety management
  - Project and site management
  - Carrying out of construction work

- An individual must act as a guarantor of an Electrical Contractor and undergo a "Professional Competency" examination in the areas listed above.
    - This individual can act as a guarantor for more than one contractor.

Enforcement & Inspections:

- All inspections are carried out by the RBQ.
- In 2019, the RBQ carried out 4100 inspections.
- The inspectors per 100,000 people ratio is 0.40[66].
    - Inspections per inspector ratio is 134.[67]

Summary:

For the new electricians entering the field, Quebec has stronger regulations and standards for its contractors than most jurisdictions in the country. Any new individual or individuals who wish to become and electrical contractor will have to become a Master Electrician which includes comprehensive testing in practical, theoretical, performance based and basic business standards areas of focus. This is important to have in general, but more so for a jurisdiction that will see a surge in new electricians over the next decade.

Furthermore, those who wish to become an Electrical Contractor will have to apply, test with and pay fees to the Regie du Baitment. Quebec is one of five jurisdictions to have a designated, third party authority in charge of licensing, enforcement and standards (Ontario, Alberta, Saskatchewan, and B.C. being the other four jurisdictions). When one goes to pay their fees for their Electrical Contractor license, they will pay some of the highest fees in the country. There may be mixed reviews regarding higher license fees as to the benefits versus the consequences they have. It is common for a designated third-party authority such as the RBG to have higher fees because often organizations such as the RBG must be financially self-sustainable. An argument can be made that having higher license fees can weed out illegitimate contractors who wish to pay a small fee and perform below-standard work, versus more legitimate contactors who wish to generate proper clientele and reputation by performing above-standard work. Though a counterargument can be that the fee is extremely high which can be discouraging to a new electrical contractor who has no clientele or reputation. Additionally, the renewal fee can be particularly troubling to an electrical contractor, or multiple contractors who have faced a tough season in work due to economic conditions where income may be limited.

[66] Nicolas Plant, "Étude pancanadienne protant sur les pratiques d'inspection des installations et travaux électriques", Raymond Chabot Grant Thorton, Page 11, April 30th, 2018.
[67] Nicolas Plant, "Étude pancanadienne protant sur les pratiques d'inspection des installations et travaux électriques", Raymond Chabot Grant Thorton, Page 16, April 30th, 2018.

However, there is a particularly troubling issue with the RBQ, and that is the Enforcement & Inspections branch of the RBQ. The RBQ have not only some of the lowest inspection numbers, but some of the lowest number of inspectors compared to other jurisdictions in the country. The RBQ has the lowest inspectors per 100,000 people ratio (n = 0.40) compared to Ontario's (n=1.86) and Alberta's (n=3.69).[68] and inspections per inspector ratio is among the lowest compared to Ontario and Alberta.[69] The regulations and standards that electrical contractors must adhere to in Quebec are ultimately useless with little-to-no enforcement.

Quebec has the foundation to bring proper standards to not only Electrical Contractors in the Jurisdiction, but the Industry as well. Through regulations such as the Master Electricians requirement and bond requirements for Electrical Contractors, the ability to have a high quality, standardized industry in Quebec is not far from sight. Unfortunately, when the RBQ does not enforce these standards, or anything for that matter, Quebec might as well have no standards, regulations or licensing practices. It is recommended that CMEQ work with the RBQ to introduce better enforcement and inspection practices.

[68] Nicolas Plant, "Étude pancanadienne protant sur les pratiques d'inspection des installations et travaux électriques", Raymond Chabot Grant Thorton, Page 11-16, April 30th, 2018.
[69] Ibid.

Ontario

By the Numbers:

	# of Electrical Contractors	# of Electricians	# of Apprentices	2020 Industry GDP ($ Billion)
Federal Numbers	9,988[70]	32,100[71]	18,075[72]	$50.88[73,74]
Jurisdictional Numbers	8,973[75]	50,455[7677]	10,476[7879]	N/A
Difference (Federal to Provincial)	(1,015)	18,355	(7,599)	N/A
Numbers Per 100,000 (GDP Per Capita)	60.47[80]	340.04[81]	70.60[82]	$3,428.92[83]

Overview:

Required Electrical Qualification:	Master Electrician	**Min. Years of Experience:**	3
Is there a Bond Requirement? Yes or No	No (Only Liability Insurance Requirement)	**Is there a Code of Conduct? Yes or No**	Yes

[70] https://www.ic.gc.ca/app/scr/app/cis/businesses-entreprises/23821;jsessionid=0001ja-6-jH9XlNb2DsAQLCE0OP:-24P7QV
[71] https://www.jobbank.gc.ca/marketreport/outlook-occupation/20684/ON
[72] Statistics Canada. Table 37-10-0023-01 Number of apprenticeship program registrations DOI: https://doi.org/10.25318/3710002301-eng
[73]https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610040202&pickMembers%5B0%5D=3.47&pickMembers%5B1%5D=2.2&cubeTimeFrame.startYear=2020&referencePeriods=20200101%2C20200101
[74] This is the GDP for specifically the Construction Industry.
[75] https://esasafe.com/assets/files/esasafe/pdf/Corporate_Reports/ESA-AR2020-Final.pdf
[76] Ontario College of Trades, "Re: Information Request", March 1st, 2021. E-Mail.
[77] Numbers represent Ontario 309A and 309C Electricians.
[78] Ontario College of Trades, "Re: Information Request", March 1st, 2021. E-Mail.
[79] Numbers represent Ontario 309A and 309C Electricians.
[80] Population Data is collected from Statistics Canada, "Canada's population clock (real-time model)". URL: https://www150.statcan.gc.ca/n1/pub/71-607-x/71-607-x2018005-eng.htm
[81] Ibid.
[82] Ibid.
[83] Ibid.

License Renewal Time Frame & Cost:	$446.33/Annually License Renewal: 5 Years	**Do Municipalities have Jurisdiction?**	No
Does the Contractor need a License?	Yes	**Ministry Responsible:**	Consumer & Government Services
Designated Authority/Department Responsible:	Electrical Safety Authority (ESA)	**Governing Legislation:**	Electricity Act

Key Findings:

Rankings:

- 9th Largest number of electrical contractors per 100,000 people.
- 7th Largest number of electricians per 100,000 people.
- 12th Largest number of electrical apprentices per 100,000 people.
- 8th Highest industry GDP per capita.

Licensing:

- Ontario has some of the strongest licensing requirements in the country.
  - Ontario has a Master Electrician requirement, one of a handful of jurisdictions to have this requirement.
- Licensing Renewal time is one of the longest compared to other jurisdictions.
- Electrical Contractors must submit an annual fee to maintain their license and sign a declaration form that they meet all requirements of their license.

Regulations & Standards:

- Ontario is the only jurisdiction to have a formal 'Code of Conduct'. It is referred to as the License Holder Standards of Conduct. The Standards of Conduct include:
  - Expectation of Practice
    - Business Standards
    - Professionalism
  - Training Expectations
  - Compliance with the Law & Regulations
- Ontario, via the Standards of Conduct, is one of the few jurisdictions that requires a contractor's license number to be displayed with all company advertisements.

Enforcement & Inspections:

- Ontario is one of five jurisdictions to have a designated third-party authority in charge of licensing, enforcement, and standards.
- The Electrical Safety Authority (ESA) is a third-party organization that is financially independent.
- ESA has an advisory council, ECRA (Electrical Contractor Registration Agency), that is formulated by the Electrical Contractors.
    - ECRA provides advice on all matters pertaining to Electrical Contractors.

Summary:

Ontario has some of the most robust licensing regulations, standards, enforcement, and inspections; with stringent regulations for electrical contractors through the "Standards of Conduct" to the requirements that need to be met for one to become an electrical contractor. Ontario has thousands of apprentices that will enter the electrical industry over the next five years. Having strong standards, qualifications, and regulations in place can ensure that new apprentices and journeypersons will be held to the highest of standards.

Where the concerns and issues lie in Ontario are not with licensing requirements nor regulations & standards. Rather, Ontario's issue lies with their designated third-party authority, the Electrical Safety Authority (ESA). The ESA is an organization established through provincial legislation as a third-party, financially independent institution in charge of administering the Electrical Code, licensing, enforcement, and inspections. The ESA is overseen by 12 individuals that form a Board of Directors. Eight members of the board of directors are appointed by the Board. This is particularly troubling that the majority of the Board is not appointed by industry stakeholders.

Additionally, ESA oversees the Electrical Contractor Registration Agency (ECRA). ECRA previously was a designated third-party in charge of regulations for electrical contractors and administering the Master Electrician exams via the Examination Committee. Over the years, ESA has assumed control of ECRA and turned them from a regulatory body to an advisory committee. It is often the case that the concerns voiced by ECRA are not acknowledged by the ESA. This has led to electrical contractor regulations and licensing being formulated by individuals who do not come from the electrical contractor industry groups (ECAO, OEL, etc.).

Furthermore, ESA's mandate has come to a conflicting point that raises flags. ESA oversees the administration of the Ontario Electrical Safety Code, licensing of Electrical Contractors and Master Electricians, electrical distribution safety, and electrical product safety; this also includes enforcement and inspections. In addition to this mandate, ESA is mandated to be a financially

independent institution. Thus, ESA must both enforce and generate revenue, causing concern as to whether enforcement and inspections or generating revenue is ESA's key priority.

It is recommended that key industry stakeholders such as ECAO work with the Provincial Government and the Ministry to revisit the master framework surrounding ESA's Board of Directors composition, mandate and its tasks. Additionally, the relationship between ECRA and the ESA should be revisited and re-mandate ECRA with more regulatory duties for Electrical Contractors, rather than an advisory mandate.

Manitoba

By the Numbers:

	# of Electrical Contractors	# of Electricians	# of Apprentices	2020 Industry GDP ($ Billion)
Federal Numbers	833[84,85]	3,600[86]	2,487[87]	$4.81[88,89]
Jurisdictional Numbers	-	8,361[90]	1,787[91]	N/A
Difference (Federal to Provincial)	-	4,761	(700)	N/A
Numbers Per 100,000 (GDP Per Capita)	60.17[92]	603.93[93]	129.08[94]	$3,021.02[95]

Overview:

Required Electrical Qualification:	Journeyperson	**Min. Years of Experience:**	N/A
Is there a Bond Requirement? Yes or No	No	**Is there a Code of Conduct? Yes or No**	No
License Renewal Time Frame & Cost:	N/A	**Do Municipalities have Jurisdiction?**	Winnipeg Only

[84] https://www.ic.gc.ca/app/scr/app/cis/businesses-entreprises/23821;jsessionid=0001ja-6-jH9XlNb2DsAQLCE0OP:-24P7QV
[85] This statistic does not stipulate as to what classifies an "electrical contractor".
[86] https://www.jobbank.gc.ca/marketreport/outlook-occupation/20684/MB
[87] Statistics Canada. Table 37-10-0023-01 Number of apprenticeship program registrations DOI: https://doi.org/10.25318/3710002301-eng
[88]https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610040202&pickMembers%5B0%5D=3.47&pickMembers%5B1%5D=2.2&cubeTimeFrame.startYear=2020&referencePeriods=20200101%2C20200101
[89] This is the GDP for specifically the Construction Industry.
[90] Inspection and Technical Services, "Re: Request for Numbers", March 12th, 2021. E-Mail.
[91] Apprenticeship Manitoba, "Re: Request for Numbers", March 2nd, 2021. E-Mail.
[92] Population Data is collected from Statistics Canada, "Canada's population clock (real-time model)". URL: https://www150.statcan.gc.ca/n1/pub/71-607-x/71-607-x2018005-eng.htm
[93] Ibid.
[94] Ibid.
[95] Ibid.

Does the Contractor need a License?	No	**Ministry Responsible:**	Labour & Immigration (Office of the Fire Commissioner)
Designated Authority/Department Responsible:	Inspection & Technical Services / Manitoba Hydro	**Governing Legislation:**	Electrician's License Act & Manitoba Hydro Act

Key Findings:

Rankings:

- 10th Largest number of electrical contractors per 100,000 people.
- 3rd Largest number of electricians per 100,000 people.
- 9th Largest number of electrical apprentices per 100,000 people.
- 9th Highest industry GDP per capita.

Licensing:

- In Manitoba, to obtain a permit for electrical work, an individual does not necessarily need to be an electrical contractor, provided the individual has their Journeypersons license.
- Electrician's must be licensed and must fill out annual renewal forms and payments. The licensing of electricians is carried out by Inspection & Technical Services Manitoba.
    - There are three types of licenses issued:
        - Master Electrician's License
        - Journeyperson's License
        - Limited Specialized Trade License
- For electrical work to be carried out in Manitoba, a permit must be obtained. All permits are obtained from Manitoba Hydro.
- Winnipeg is the only municipality with the exception to all licensing in Manitoba.
    - To perform electrical work in the City of Winnipeg, one must have an Electrical Contractor's license.
        - Electrical Contractor's licenses are issued to individuals, not a company or entity.
        - An individual may obtain an Electrical Contractor's license on behalf of a company or an entity.

- To be issued a license, one must be a journeyperson (and hold the appropriate license) to be issued either a "Contractor A or B" License.
    - A License: Unrestricted License
    - B License: allows an individual to perform work on property owned, leased or managed by an entity provided they are working for that same entity.
- An individual can obtain a "C'' license from a Limited Specialized Trade License.
- All individuals must pass the Electrical Contractor Exam and pay a fee every one or three years. The fees range from $176.00-$742.00 depending on type of license and renewal length.

Regulations & Standards:

- No formal regulations & standards are present for Electrical Contractors or Electricians in Manitoba & Winnipeg other than what is outlined in the Electrician's License Act, Winnipeg Electrical By-Law and Manitoba Electrical Code.

Enforcement & Inspections:

- Enforcement of the requirements of an Electrician's license is carried out by Inspection and Technical Services in association with Manitoba Hydro.
- Enforcement and Inspection of permits and electrical work is carried out by Manitoba Hydro.
- The City of Winnipeg carries out its own inspections on Electrical Contractors and permits obtained in city limits.

Summary:

In Manitoba, the carrying out of electrical work is an uneven landscape. From having a municipality with its own jurisdiction on licensing and permits, to limited requirements and standards for electricians and electrical contractors. Industry regulations & standards are extremely juvenile for the size of the industry in Manitoba. Individuals do not need to be a registered electrical contractor nor need to work for a registered Electrical Contractor to obtain permits in Manitoba, all they need is their electrical license. Further, there is no minimum experience requirement for individuals to obtain permits and perform electrical work in Manitoba. This can lead to grave effects of inexperience and incompetence in the Electrical Industry by newly licensed Journeypersons.

Additionally, Contractors and Electricians in Manitoba must deal with the discrepancy of the City of Winnipeg's own jurisdiction on electrical work, permits and licensing. All work being performed in the City of Winnipeg must adhere to Winnipeg's Electrical By-Law, follow different permit rules and licensing qualifications and regulations. For example, if a contractor is performing work with all necessary licenses and permits in Gimli, Manitoba, then wants to perform work in Winnipeg, they must pay additional fees for additional license requirements. This is because Winnipeg has a requirement that Electrical Contractors must have a license. Having jurisdictional discrepancies inside a specific jurisdiction can lead to additional costs, bureaucracy, and different performance standards.

It is recommended that the industry work the Provincial Government and Manitoba Hydro to introduce proper licensing, regulations, and standards for Electrical Contractors in the Jurisdiction. Additionally, it is recommended that the industry work with the Jurisdiction to correct the jurisdictional discrepancy with the City of Winnipeg to assist in unifying licensing, regulations & standards, and enforcement & inspections throughout the Jurisdiction.

Saskatchewan

By the Numbers:

	# of Electrical Contractors	# of Electricians	# of Apprentices	2020 Industry GDP ($ Billion)
Federal Numbers	1,099[96,97]	4,100[98]	2,082[99]	$4.92[100,101]
Jurisdictional Numbers	750[102]	-	1,395[103]	N/A
Difference (Federal to Provincial)	(349)	-	(687)	N/A
Numbers Per 100,000 (GDP Per Capita)	63.49[104]	347.07[105]	118.09[106]	$4,164.22[107]

Overview:

Required Electrical Qualification:	Journeyperson	**Min. Years of Experience:**	2
Is there a Bond Requirement? Yes or No	Yes (min. of $10,000.00)	**Is there a Code of Conduct? Yes or No**	No
License Renewal Time Frame & Cost:	1-year or 3-year renewals. $85.00 or $255.00 respectively	**Do Municipalities have Jurisdiction?**	No

[96] https://www.ic.gc.ca/app/scr/app/cis/businesses-entreprises/23821;jsessionid=0001ja-6-jH9XlNb2DsAQLCE0OP:-24P7QV
[97] This statistic does not stipulate as to what classifies an "electrical contractor".
[98] https://www.jobbank.gc.ca/marketreport/outlook-occupation/20684/SK
[99] Statistics Canada. Table 37-10-0023-01 Number of apprenticeship program registrations DOI: https://doi.org/10.25318/3710002301-eng
[100]https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610040202&pickMembers%5B0%5D=3.47&pickMembers%5B1%5D=2.2&cubeTimeFrame.startYear=2020&referencePeriods=20200101%2C20200101
[101] This is the GDP for specifically the Construction Industry.
[102] Technical Safety Authority Saskatchewan, "Re: Electrical Contractors", March 18th, 2021. E-Mail.
[103] https://saskapprenticeship.ca/wp-content/uploads/2020/11/SATCC-Annual-Report.pdf
[104] Population Data is collected from Statistics Canada, "Canada's population clock (real-time model)". URL: https://www150.statcan.gc.ca/n1/pub/71-607-x/71-607-x2018005-eng.htm
[105] Ibid.
[106] Ibid.
[107] Ibid.

Does the Contractor need a License?	Yes	**Ministry Responsible:**	Corrections, Public Safety & Policing
Designated Authority/Department Responsible:	Technical Safety Authority of Saskatchewan (TSASK)	**Governing Legislation:**	Electrical Licensing Act

Key Findings:

Rankings:

- 8th Largest number of electrical contractors per 100,000 people.
- 6th Largest number of electricians per 100,000 people.
- 10th Largest number of electrical apprentices per 100,000 people.
- 6th Highest industry GDP per capita.

Licensing:

- There are five types of licenses for Electrical Contractors in Saskatchewan:
  - Full (Unrestricted)
  - Restricted
  - Limited (Remote Community/Rural)
  - Electrical Employers
  - Electrical Supply House
- Full, Restricted and Limited Licensees must have an Electrical Contractor's Surety Bond in the minimum amount of $10,000.00.
- An Electrical Contractor must employ at least one licensed Journeyperson with a minimum of two years' experience.
- Saskatchewan is currently reviewing the framework for potentially introducing a Master Electrician requirement.

Regulations & Standards:

- No formal set of Regulations & Standards i.e., Code of Conduct, Standards of Conduct, etc. exist. The only requirements an Electrical Contractor must adhere to are the requirements that must be met for licensing.

Enforcement & Inspections:

- Enforcement & Inspections and permits are currently carried out by TSASK.

Summary:

Saskatchewan is the only jurisdiction in Canada that is actively addressing its problems with licensing and enforcement & inspections. It is unifying both branches of licensing with enforcement & inspections into an already existing designated third-party authority. Saskatchewan will become the fifth jurisdiction in Canada to do so, along with Quebec, Ontario, Alberta and B.C. Having an appropriate authority mandated with licensing, regulations & standards, and enforcement & inspections will unify the industry and increase the standards of operation and quality of electrical work performed in Saskatchewan.

It does not mean that there are not weak spots in Saskatchewan. Regulations and standards that Electrical Contractors must adhere to virtually do not exist. There are no strict standards of operation, or any code of conduct to which registered and licensed Electrical Contractors must adhere when carrying out work.

It is recommended that the industry work closely with TSASK, along with the Ministry and Provincial Government to introduce sets of regulations and standards that Electrical Contractors abide by. This is critically important as the responsibility for enforcement and inspections changes hands in the coming months.

Alberta

By the Numbers:

	# of Electrical Contractors	# of Electricians	# of Apprentices	2020 Industry GDP ($ Billion)
Federal Numbers	4,446[108,109]	20,400[110]	14,037[111]	$21.40[112,113]
Jurisdictional Numbers	-	-	7,965[114]	N/A
Difference (Federal to Provincial)	-	-	(6,072)	N/A
Numbers Per 100,000 (GDP Per Capita)	99.82[115]	457.90[116]	315.14[117]	$4,805.45[118]

Overview:

Required Electrical Qualification:	Master Electrician	**Min. Years of Experience:**	3
Is there a Bond Requirement? Yes or No	No	**Is there a Code of Conduct? Yes or No**	No
License Renewal Time Frame & Cost:	N/A	**Do Municipalities have Jurisdiction?**	Yes
Does the Contractor need a License?	Only a Business License. (Issued by province)	**Ministry Responsible:**	Municipal Affairs

[108] https://www.ic.gc.ca/app/scr/app/cis/businesses-entreprises/23821;jsessionid=0001ja-6-jH9XlNb2DsAQLCE0OP:-24P7QV
[109] This statistic is defined by Innovation, Economic and Science Canada as "Employers".
[110] https://www.jobbank.gc.ca/marketreport/outlook-occupation/20684/AB
[111] Statistics Canada. Table 37-10-0023-01 Number of apprenticeship program registrations DOI: https://doi.org/10.25318/3710002301-eng
[112]https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610040202&pickMembers%5B0%5D=3.47&pickMembers%5B1%5D=2.2&cubeTimeFrame.startYear=2020&referencePeriods=20200101%2C20200101
[113] This is the GDP for specifically the Construction Industry.
[114] Apprenticeship and Industry Training, (2021), "Statistical Profiles 2020", Government of Alberta. Page 2.
[115] Population Data is collected from Statistics Canada, "Canada's population clock (real-time model)". URL: https://www150.statcan.gc.ca/n1/pub/71-607-x/71-607-x2018005-eng.htm
[116] Ibid.
[117] Ibid.
[118] Ibid.

Designated Authority/Department Responsible:	Varies by municipality	**Governing Legislation:**	Safety Codes Act

Key Findings:

Rankings:

- 4th Largest number of electrical contractors per 100,000 people.
- 4th Largest number of electricians per 100,000 people.
- Largest number of electrical apprentices per 100,000 people.
- 4th Highest industry GDP per capita.

Licensing:

- No formal licensing for Electrical Contractors exists.
- The only formal license an Electrical Contractor needs is a business license.
  - Business licenses must be obtained by the respective municipality.
  - Various municipalities will waive the license fee if the electrical contractor belongs to a local Electrical Contractor Association, the ECAA, or is a regulatory member.
- Formal requirements come into play when obtaining permits.
  - Individuals who obtain permits must be registered master electricians.
  - Master electricians must have a minimum of three years' experience as a Master electrician to obtain a permit.
- The Safety Codes Council is responsible for administering the Master Electricians certification.
  - To obtain this certification, you must:
    - Have worked as a journeyperson for three out of the last five years.
    - Write a two-part exam, obtaining at least 75% with no less than 60% on either part.

Regulations & Standards:

- Alberta has a "Pre-Paid Contractor" requirement.

- Any contractor who requests pre-payment or progress payments must be registered with the Provincial Government as a “Pre-Paid Contractor”.
- All Master Electricians are required to take an ethics course.
- Master Electricians are liable for the respective permits obtained, not the Electrical Contractor.

Enforcement & Inspections:

- Enforcement & Inspections are performed through municipalities and third-party organizations in Alberta.
- Organizations and municipalities are accredited by the Safety Codes Council to carry out organizations.
- The Safety Codes Council certifies ‘Safety Code Officers’ to carry-out inspections with municipalities and third-party organizations.
- Safety Codes Council hosts an appeal process for issues pertaining to permits and inspections.
- Homeowners can apply and pull their own electrical permits providing they reside in a single-family dwelling.
    - This policy is currently under review, including a review on what constitutes a “single-family dwelling”.

Summary:

Alberta is an extremely unique jurisdiction in relation to its electrical industry. The licensing requirements, regulations & standards, and enforcement & inspections operate on a platform not seen in other jurisdictions. These processes and systems are extremely progressive and address many concerns that other jurisdictions see. Electrical contractors do not need to be licensed in Alberta, nor are they necessarily able to obtain permits. To obtain permits, one needs to be a master electrician registered with the Safety Codes Council. There are strict requirements master electricians face to obtain electrical permits. Additionally, Alberta’s Electrical Contractors Association is seen as an advocacy body for electrical contractors, with the responsibility of awarding designations to electrical contractors and master electricians such as the Professional Electrical Contractor (PEC), Certified Master Electrician (CME) and Registered Master Electrician (RME) titles. They work closely with the Safety Codes Council.

As much as Alberta is among other jurisdictions to have a master electrician designation and requirement, it is the only jurisdiction to put as much liability and responsibility on the master electrician as it does. A master electrician must meet strict licensing and standards requirements in Alberta. A master electrician may become an electrical contractor or work for an electrical contractor if they wish, but that contractor must have a business license from their

respective municipality to operate. Furthermore, Alberta is the only jurisdiction to have “pre-paid contractor” designation issued by the provincial government. This helps ensure consumers in choosing an approved and registered electrical contractor.

Enforcement & Inspections in Alberta are also unique to the Jurisdiction. Alberta is the only jurisdiction in Canada to leave all permits, inspections, and enforcement in the hands of its municipalities. In conjunction with municipalities, registered third-party organizations may perform inspections. The Safety Codes Council (equivalent to TSBC, TSASK, ESA & RBQ) is responsible for making sure that all municipalities and third-party organizations abide by their standards, to ensure unity in the Jurisdiction. The Safety Codes Council is also responsible for awarding designations to municipalities, third-party organizations, and individuals to ensure they are accredited and abide by regulations and legislation when providing permits and carrying out inspections.

There are two areas that Alberta has room for improvement. The first area that needs attention is master electricians and exclusivity. Master electricians are the only individuals who can obtain electrical permits. They can do it for a job they are working on themselves, or they can obtain it for an electrical contractor. In specific, master electricians can obtain permits for multiple electrical contractors. They are signing permits for a company they have no ownership of and assuming liability. This can lead to liability issues, insurance issues and poor quality of work if the master electrician is not actually overseeing the job for which they obtained the permit. It is recommended that the industry work with the Safety Codes Council to ratify this issue and ensure there must be some form of liability and exclusivity between the electrical contractor and the master electrician.

The second issue that must be noted in Alberta is that electrical contractors do not have to meet any safety qualifications to start an electrical business or obtain a license. This can lead to severe consequences beyond poor standards of practice and operation. These consequences can be things such as health & safety consequences for the client, consumer or potentially any employees of the electrical contractors. Simply put, electrical contractors in Alberta do not assume enough liability over safety, and basic standards of safe practice and operation.

British Columbia

By the Numbers:

	# of Electrical Contractors	# of Electricians	# of Apprentices	2020 Industry GDP ($ Billion)
Federal Numbers	4,294[119,120]	14,750[121]	10,473[122]	$23.03[123,124]
Jurisdictional Numbers	3,125[125]	6,119[126]	7,892[127]	N/A
Difference (Federal to Provincial)	(1,169)	(8,631)	(2,581)	N/A
Numbers Per 100,000 (GDP Per Capita)	60.10[128]	117.67[129]	151.77[130]	$4,429.27[131]

Overview:

Required Electrical Qualification:	Field Safety Rep. (FSR)	**Min. Years of Experience:**	Varies depending on level of FSR Classification
Is there a Bond Requirement? Yes or No	Yes. ($10,000.00)	**Is there a Code of Conduct? Yes or No**	No

[119] https://www.ic.gc.ca/app/scr/app/cis/businesses-entreprises/23821;jsessionid=0001ja-6-jH9XlNb2DsAQLCE0OP:-24P7QV
[120] This statistic does not stipulate as to what classifies an "electrical contractor".
[121] https://www.jobbank.gc.ca/marketreport/outlook-occupation/20684/BC
[122] Statistics Canada. Table 37-10-0023-01 Number of apprenticeship program registrations DOI: https://doi.org/10.25318/3710002301-eng
[123]https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610040202&pickMembers%5B0%5D=3.47&pickMembers%5B1%5D=2.2&cubeTimeFrame.startYear=2020&referencePeriods=20200101%2C20200101
[124] This is the GDP for specifically the Construction Industry.
[125] Technical Safety BC, "Re: FOI Request March 25th, 2021". April 27th, 2021. E-Mail.
[126] Ibid.
[127] Technical Safety BC, (2021), "Industry Training Authority: Quarterly Performance Report". URL: https://www.itabc.ca/sites/default/files/docs/about-ita/corporate-reports/ITA%20Quarterly%20Performance%20Report%202020_21_Q3_FINAL.pdf
[128] Population Data is collected from Statistics Canada, "Canada's population clock (real-time model)". URL: https://www150.statcan.gc.ca/n1/pub/71-607-x/71-607-x2018005-eng.htm
[129] Ibid.
[130] Ibid.
[131] Ibid.

License Renewal Time Frame & Cost:	$203.00 (New Registration) $168.00/Annually	**Do Municipalities have Jurisdiction?**	Yes (Eight municipal jurisdictions)
Does the Contractor need a License?	Yes	**Ministry Responsible:**	Attorney General & Housing
Designated Authority/Department Responsible:	Technical Safety BC (With the exception of eight municipalities)	**Governing Legislation:**	Safety Standards Act & Safety Authority Act

Key Findings:

Rankings:

- 11th Largest number of electrical contractors per 100,000 people.
- 13th Largest number of electricians per 100,000 people.
- 8th Largest number of electrical apprentices per 100,000 people.
- 5th Highest industry GDP per capita.

Licensing:

- Electrical Contractors must apply for their license from TSBC.
- There is a bond requirement of $10,000.00.
- All Electrical Contractors must have a BC Business Registration number.
- To get a license, an Electrical Contractor must have a Field Safety Representative (FSR).
- An FSR is:
  - The Electrical Contractor's 'inspector'.
  - Signs off on work performed by the Contractor.
  - Responsible for:
    - Ensuring work is following the Safety Standards Act and Electrical Safety Regulation.
    - Requesting inspections.
    - Following qualifications and supervision requirements for individuals doing work under the permit.
  - There are 13 classes of FSRs.
- For an individual to obtain a Master Electrician Class A FSR Certificate, one must meet the following requirements:
  - Interprovincial Red Seal Electrician designation.
  - Minimum of two years' experience as a journeyperson.

    - Complete a minimum of three high voltage installations.
- BC has a Master Electrician Class A FSR designation gives an individual the same powers as an FSR Class B plus the ability to examine, oversee and validate electrical work, and identify and correct non-compliances.
- The Master Electrician Class A FSR Designation is not mandatory to become an Electrical Contractor.

Regulations & Standards:

- Electrical Contractors must display their License Number on all company advertisements and vehicles.
- No additional codes of conduct exist, besides what is found in the basic qualification, legislation, and regulations for Electrical Contractors, FSRs, and Master Electricians.

Enforcement & Inspection:

- TSBC is responsible for issuing electrical permits and performing assessments in all areas of BC except for the following municipalities:
    - City of Burnaby
    - City of Maple Ridge
    - City of North Vancouver
    - District of North Vancouver
    - City of Surrey
    - City of Vancouver
    - City of Victoria
    - District of West Vancouver

Summary:

Like Alberta, BC has unique licensing qualifications and requirements that other jurisdictions do not have. In specific, the Field Safety Representative (FSR) requirement for Electrical Contractors. Most jurisdictions have a basic Master Electrician or Journeyperson requirement, whereas BC's requirement is a step up. A Field Safety Representative must be a journeyperson with at least two years' experience and additional education with specific knowledge of Safety Standards and Electrical Regulations to be an FSR. In addition to needing an FSR, an Electrical Contractor must also be a registered business, a requirement held by very few jurisdictions. Finally, BC is one of a few jurisdictions to require their license number to be displayed on all company advertisements.

BC's licensing and regulations fall heavily on FSRs, not necessarily electrical contractors. FSRs must go through a thorough examination and have extensive knowledge beyond the Canadian and BC Electrical Code. From this, FSRs also host a lot of liability for the permits they obtain for

electrical contractors. An issue with this though, is where FSRs fall in the line of inspections with TSBC. Like the rest of BC, the way inspections are carried out in BC are also unique. FSRs are responsible for signing off on permits, declaring that all work was performed to all applicable regulations, standards, and legislation. One could say this is a form of the 'honor system'. These thrust inordinate amounts of liability on an FSR, an individual who does not necessarily hold any ownership of the company they obtain and signed the permit for. Additionally, this can lead to impropriety, poor quality of work and potentially an extremely corrupt and dangerous system.

TSBC does not focus predominantly on inspections, but rather has a heavy focus on education. As much as education is important, not prioritizing inspections raises many flags considering TSBC is the organization that oversees inspections for most of BC. It is recommended that the Electrical Industry work with the Ministry and other industry stakeholders to promote the importance of third-party inspections and TSBC's role in overseeing such inspections.

Yukon

By the Numbers:

	# of Electrical Contractors	# of Electricians	# of Apprentices	2020 Industry GDP ($ Billion)
Federal Numbers	60[132,133]	150[134]	126[135]	$0.30 [136,137]
Jurisdictional Numbers	-	-	-	N/A
Difference (Federal to Provincial)	-	-	-	N/A
Numbers Per 100,000 (GDP Per Capita)	139.98[138]	349.96[139]	293.97[140]	$7,090.03[141]

Overview:

Required Electrical Qualification:	Journeyperson	**Min. Years of Experience:**	Dependent on Classification of License
Is there a Bond Requirement? Yes or No	Yes	**Is there a Code of Conduct? Yes or No**	No
License Renewal Time Frame & Cost:	N/A	**Do Municipalities have Jurisdiction?**	No
Does the Contractor need a License?	Yes	**Ministry Responsible:**	Community Services

[132] https://www.ic.gc.ca/app/scr/app/cis/businesses-entreprises/23821;jsessionid=0001ja-6-jH9XlNb2DsAQLCE0OP:-24P7QV
[133] This statistic does not stipulate as to what classifies an "electrical contractor".
[134] https://www.jobbank.gc.ca/marketreport/outlook-occupation/20684/YT
[135] Statistics Canada. Table 37-10-0023-01 Number of apprenticeship program registrations DOI: https://doi.org/10.25318/3710002301-eng
[136]https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610040202&pickMembers%5B0%5D=3.47&pickMembers%5B1%5D=2.2&cubeTimeFrame.startYear=2020&referencePeriods=20200101%2C20200101
[137] This is the GDP for specifically the Construction Industry.
[138] Population Data is collected from Statistics Canada, "Canada's population clock (real-time model)". URL: https://www150.statcan.gc.ca/n1/pub/71-607-x/71-607-x2018005-eng.htm
[139] Ibid.
[140] Ibid.
[141] Ibid.

Designated Authority/Department Responsible:	Office of the Chief Electrical Inspector & Building Safety	**Governing Legislation:**	Electrical Protection Act & Building Standards Act

Key Findings:

Rankings:

- 3rd Largest number of electrical contractors per 100,000 people.
- 5th Largest number of electricians per 100,000 people.
- 2nd Largest number of electrical apprentices per 100,000 people.
- 3rd Highest industry GDP per capita.

Licensing:

- Yukon has five classes of Electrical Contractor licenses (classes A through E). Each class has a restriction as to the amount of power that can be worked on and the type of electrical work i.e., Fire Systems.
  - Each class of Electrical License has a minimum experience qualification ranging from 2-6 years.
- Yukon has a bond requirement for electrical contractors, an amount could not be found.

Regulations & Standards:

- Yukon has no formal regulations and standards for electrical contractors.

Enforcement & Inspections:

- Homeowners can perform electrical work on their own home providing they pass the Homeowner's Electrical Test.
- Inspections are performed by the Department of Building Safety.

Summary:

Yukon, like most of the territories, has minimal licensing requirements and regulations & standards. Though, as Canada's territory with the lowest industry GDP and third smallest electrical contractor and electrician pool, Yukon has more licensing requirements than some jurisdictions with higher pools and a larger industry GDP. In fact, Yukon's minimum years of

experience requirements are some of the longest in the country. Besides this, the rest of the licensing requirements, regulations & standards, and enforcement & inspections are standard and on par for a government and territory of this size.

Like all jurisdictions, there is still room for improvement, namely Yukon's regulations & standards. Yukon has no standards of work, code of conduct or basic operational regulations for electrical contractors. This is a large area needed for improvement. Unfortunately, Yukon has a very small pool of electrical contractors and electricians, so there is next to no industry organizations such as an Electrical Contractors Association to work with the government in standardizing the industry. This is a common issue in every territory.

Northwest Territories

By the Numbers:

	# of Electrical Contractors	# of Electricians	# of Apprentices	2020 Industry GDP ($ Billion)
Federal Numbers	35[142,143]	100[144]	93[145]	$0.37[146,147]
Jurisdictional Numbers	-	-	-	N/A
Difference (Federal to Provincial)	-	-	-	N/A
Numbers Per 100,000 (GDP Per Capita)	78.13[148]	223.23[149]	207.61[150]	$8,181.53[151]

Overview:

Required Electrical Qualification:	Journeyperson	**Min. Years of Experience:**	N/A
Is there a Bond Requirement? Yes or No	No	**Is there a Code of Conduct? Yes or No**	No
License Renewal Time Frame & Cost:	$82.00/Every 3 Years	**Do Municipalities have Jurisdiction?**	No

[142] https://www.ic.gc.ca/app/scr/app/cis/businesses-entreprises/23821;jsessionid=0001ja-6-jH9XlNb2DsAQLCE0OP:-24P7QV
[143] This statistic does not stipulate as to what classifies an "electrical contractor".
[144] https://www.jobbank.gc.ca/marketreport/outlook-occupation/20684/NT
[145] Statistics Canada. Table 37-10-0023-01 Number of apprenticeship program registrations DOI: https://doi.org/10.25318/3710002301-eng
[146]https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610040202&pickMembers%5B0%5D=3.47&pickMembers%5B1%5D=2.2&cubeTimeFrame.startYear=2020&referencePeriods=20200101%2C20200101
[147] This is the GDP for specifically the Construction Industry.
[148] Population Data is collected from Statistics Canada, "Canada's population clock (real-time model)". URL: https://www150.statcan.gc.ca/n1/pub/71-607-x/71-607-x2018005-eng.htm
[149] Ibid.
[150] Ibid.
[151] Ibid.

Does the Contractor need a License?	No	**Ministry Responsible:**	Infrastructure
Designated Authority/Department Responsible:	Electrical & Mechanical Safety	**Governing Legislation:**	Electrical Protection Act

Key Findings:

Rankings:

- 6th Largest number of electrical contractors per 100,000 people.
- 11th Largest number of electricians per 100,000 people.
- 4th Largest number of electrical apprentices per 100,000 people.
- 2nd Highest industry GDP per capita.

Licensing:

- Licensing in the Northwest Territories does not exist for electrical contractors, other than becoming a registered business with one's respective municipality.

Regulations & Standards:

- There are no standards of operation or code of conduct for Electrical Contractors. Journeypersons must abide by the Electrical Code.

Enforcement & Inspections:

- Permits and Inspections are carried out by the Department of Electrical & Mechanical Safety.

Summary:

The Northwest Territories hold no licensing requirements for electrical contractors, only Journeypersons. Journeypersons may perform work and obtain permits with no minimum experience requirement, providing they have their license which costs $82.00 every three years. Regulations & Standards do not exist beyond the Canadian Electrical Code. Enforcement & Inspections in the Northwest Territories are extremely basic.

For an industry so small, the lack of basic requirements, regulations, and standards are on par in comparison with other jurisdictions. It is still recommended that the Northwest Territories introduce a basic set of regulations and standards for electrical contractors, though with no industry representation, this is extremely difficult. It is recommended that the industry form a cross-territorial alliance to introduce better representation with their respective governments.

Nunavut

By the Numbers:

	# of Electrical Contractors	# of Electricians	# of Apprentices	2020 Industry GDP ($ Billion)
Federal Numbers	12[152,153]	50[154]	33[155]	$0.42[156,157]
Jurisdictional Numbers	-	2310[158]	-	N/A
Difference (Federal to Provincial)	-	2,260	-	N/A
Numbers Per 100,000 (GDP Per Capita)	30.28[159]	5,828.48[160]	83.26[161]	$10,614.89[162]

Overview:

Required Electrical Qualification:	Journeyperson	**Min. Years of Experience:**	N/A
Is there a Bond Requirement? Yes or No	No	**Is there a Code of Conduct? Yes or No**	No
License Renewal Time Frame & Cost:	N/A	**Do Municipalities have Jurisdiction?**	No
Does the Contractor need a License?	No	**Ministry Responsible:**	Community & Government Services

[152] https://www.ic.gc.ca/app/scr/app/cis/businesses-entreprises/23821;jsessionid=0001ja-6-jH9XlNb2DsAQLCE0OP:-24P7QV
[153] This statistic does not stipulate as to what classifies an "electrical contractor".
[154] https://www.jobbank.gc.ca/marketreport/outlook-occupation/20684/NU
[155] Statistics Canada. Table 37-10-0023-01 Number of apprenticeship program registrations DOI: https://doi.org/10.25318/3710002301-eng
[156]https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610040202&pickMembers%5B0%5D=3.47&pickMembers%5B1%5D=2.2&cubeTimeFrame.startYear=2020&referencePeriods=20200101%2C20200101
[157] This is the GDP for specifically the Construction Industry.
[158] Government of Nunavut, "Re: Electrician Numbers", January 25th, 2021. E-Mail.
[159] Population Data is collected from Statistics Canada, "Canada's population clock (real-time model)". URL: https://www150.statcan.gc.ca/n1/pub/71-607-x/71-607-x2018005-eng.htm
[160] Ibid.
[161] Ibid.
[162] Ibid.

Designated Authority/Department Responsible:	Safety Services	**Governing Legislation:**	Electrical Act

Key Findings:

Rankings:

- 13th Largest number of electrical contractors per 100,000 people.
- Largest number of electricians per 100,000 people.
- 11th Largest number of electrical apprentices per 100,000 people.
- Highest industry GDP per capita.

Licensing:

- There are no licensing requirements for Electrical Contractors. Permits can be obtained by licensed Journeypersons.

Regulations & Standards:

- No regulations and standards exist beyond the Canadian Electrical Code.

Enforcement & Inspections:

- Inspections are carried out by Safety Services.

Summary:

Nunavut holds no licensing requirements for electrical contractors, only Journeypersons. Journeypersons may perform work and obtain permits with no minimum experience requirement, providing they have their license which costs $31.50 every three years. Regulations & Standards do not exist beyond the Canadian Electrical Code. Enforcement & Inspections in Nunavut are extremely basic.

For an industry so small, the lack of basic requirements, regulations, and standards are on par in comparison with other jurisdictions. It is still recommended that Nunavut introduce a basic set of regulations and standards for electrical contractors, though with no industry representation, this is extremely difficult. It is recommended that the industry form a cross-territorial alliance to introduce better representation with their respective governments.

National Recommendations

Establish a National Standardization Committee

A national committee composed of industry stakeholders with the focus and mandate of standardization efforts will allow for industry to have a collective and authoritative voice in the advocacy efforts of standardizing regulations across Canada. This will specifically target and assist the effort to harmonize the licensing requirements and processes for electrical contractors across Canada.

Introduce a National Master Electrician Requirement & Standard

A national Master Electrician requirement and standard will harmonize the requirements and qualifications of electrical contractors across the country. Electrical contractors will be subject to a shared set of standards applicable to all electrical contractors who wish to perform inter-jurisdictional electrical work.

Introduce a National Code of Conduct for Electrical Contractors

A national Code of Conduct will ensure that all electrical contractors including those who perform inter-jurisdictional work, will abide by the same set of rules, practices, and operations as those from other jurisdictions.

Form an Industry-Based Advocacy Organization in the Territories

The introduction of an industry-based advocacy organization, similar to ECAs, will allow electrical contractors to provide collective industry representation to territorial jurisdictions in Northern Canada. This will also allow better advocacy efforts for those electrical contractors in their respective jurisdictions.

Introduce a National Database for Electrical Statistics

Through the introduction of a national database for electrical statistics will ensure that the public, including industry stakeholders will have access to accurate and up to date statistics pertaining to the electrical industry. This database will also ensure that statistics are collected according to a regulated standard of methods and qualifiers.

Jurisdictional Recommendations

New Brunswick

Recommendation 1.0: That industry stakeholders such as the Electrical Contractors Association of New Brunswick work with the Ministry to reform the "Electrical Safety Advisory Committee" with the mandate of introducing standards and qualifications for Electrical Contractors.

Recommendation 1.1: That industry stakeholders such as the Electrical Contractors Association of New Brunswick work with the Ministry to restructure the "Electrical Safety Advisory Committee" to include proper and proportionate industry representation.

Recommendation 1.2: That industry stakeholders such as the Electrical Contractors Association of New Brunswick work with the Ministry to create an industry oversight body such as an Advisory Committee to oversee enforcement and inspections in the electrical industry.

Nova Scotia

Recommendation 2.0: That industry stakeholders work with the Ministry and Nova Scotia Power to create an industry oversight body such as an Advisory Committee to recommend regulatory standards for Electrical Contractors.

Recommendation 2.1: That industry stakeholders such as the Electrical Contractor Association of Nova Scotia work with the Ministry and Nova Scotia Power to introduce licensing for both Journeypersons and Electrical Contractors.

Prince Edward Island

Recommendation 3.0: That industry stakeholders form an advocacy body such as an Electrical Contractors Association.

Newfoundland & Labrador

Recommendation 4.0: That industry stakeholders form an advocacy body such as an Electrical Contractors Association.

Recommendation 4.1: That industry stakeholders work with the Ministry to require all final inspections and signing of permits to be performed by a third-party rather than a contractor's designated representative.

Quebec

Recommendation 5.0: That industry stakeholders such as Corporation des Maîtres Électriciens du Québec advocate for stronger and more frequent inspections to be performed by RBQ.

Ontario

Recommendation 6.0: That industry stakeholders such as the Electrical Contractors Association of Ontario work with the Ministry to re-mandate the Electrical Contractor Registration Agency with an independent regulatory role, rather than an advisory role.

Recommendation 6.1: That industry stakeholders such as the Electrical Contractors Association of Ontario work with the Ministry to re-compose the Board of Directors of the Electrical Safety Authority to better represent industry stakeholders and Electrical Contractors.

Manitoba

Recommendation 7.0: That industry stakeholders such as the Electrical Contractors Association of Manitoba work with the Ministry to unify the provincial requirements and standards for ElectricalContractors with the City of Winnipeg.

Saskatchewan

Refer to National Requirements.

Alberta

Recommendation 9.0: That industry stakeholders such as the Electrical Contractors Association of Alberta work with the Ministry to introduce exclusivity for Master Electricians.

Recommendation 9.1: That industry stakeholders such as the Electrical Contractors Association of Alberta work with the Ministry to introduce a provincial Electrical Contractor License requirement.

> Recommendation 9.1.1: That industry stakeholders such as the Electrical Contractors Association of Alberta work with the Ministry to introduce a set of safety qualification that Electrical Contractors must meet to obtain their license.

British Columbia

Recommendation 10.0: That industry stakeholders such as the Electrical Contractors Association of British Columbia work with the Ministry to re-compose the Board of Directors of Technical Safety B.C. to better represent industry stakeholders and Electrical Contractors.

Recommendation 10.1: That industry stakeholders such as the Electrical Contractors Association of British Columbia work with the Ministry and Technical Safety B.C. to prioritize inspections.

Recommendation 10.1: That industry stakeholders such as the Electrical Contractors Association of British Columbia work with the Ministry to require all final inspections and

signing of permits to be performed by a third-party such as Technical Safety B.C. rather than a contractor's Field Safety Representative.

Yukon

Refer to National Recommendations.

Northwest Territories

Refer to National Recommendations.

Nunavut

Refer to National Recommendations.

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