### Wednesday June 7, 8:30 AM - 3:30 PM @ TRU

Online participants can login to the virtual meeting space beginning at 8:00. Please change your name to include your school/Institution in order to get access to the meeting – see login link below.

Join Zoom Meeting

https://bcit.zoom.us/j/66073594908?pwd=WGxTUjNgRVovUE5PTWIQOU5LUTNVdz09

Meeting ID: 660 7359 4908

Password: 549651

#### 1. Call to Order, Introductions, and review meeting Etiquette

Meeting called to order at 8:41am

In person attendees: Nathan Chapin (BCIT), Jeremiah Williamson (OC), AJ Wearmouth (Selkirk), Baldev Pooni (TRU, SLP), Amie Schellenberg (TRU), Mike Turley (TRU), Mason Dragovan (TRU), Jason Dabner (TRU), Ben Lovely (TRU), Mike Finch (TRU), Carmen deGoey (Camosun), Cameron Thiessen (CMC), Clarence Burlock (BCIT), Ron Murray (KPU), Shane Dalager (VIU), Trevor Petr (NIC), Emma Baggott (KPU), Mike Mann (KPU), Todd Leskie (OC), Myles Andrews (UFV), John McMillan (N.Caledonia), Steve Dockery (KPU), Colleen Rogan (STBC), Vern Weber (STBC).

Online attendees: Dave Murdoch (COTR), David Johns (NIC), Gerry Sherk (TRU), and Ark Tsisserev (Guest).

Regrets: Ted Simmons (BCIT), Andy Amboe (NLC), Daniel Smythe (UFV), Joel Feenstra (UFV) and Charles Davis (BCIT).

Big thank you to TRU and all members who helped arrange for this years meeting.

## 2. Territorial Acknowledgment of Institutions in digital format - PowerPoint

### 3. Institutional Reports - EAC Members

- Reports submitted ahead of time.
- 5-minute summary from each institution

General discussion regarding Skills Canada Competitions and age restrictions.

#### 4. System Liaison Person (SLP) Report – Baldev Pooni

• Report submitted ahead of time.

Skill Plan was discussed, they are federally and provincially funded. Information is available at https://skillplan.brightspace.com/d2l/home/7330

Morning Coffee

### 5. Skilled Trades Certification – all EAC members

Discussion about the new pathway

**Motion #1**: Be it moved that the Electrical Articulation Committee has safety concerns and does not support the challenge pathway as it is currently laid out. To address these safety concerns a practical assessment must be included in each level of the electrical challenge pathway and the challenge pathway be completed sequentially beginning with Level 1.

Motion made by Clarence B, seconded by Cam T. Nathan C moved to amend the motion, seconded by Cam.

Motion passed unanimously.

**Motion #2**: Be it moved that the Electrical Articulation Committee will continue to support the development and maintenance of the electrical challenge and standard level exams if a practical assessment is included in each level of the electrical challenge pathway and the challenge pathway is required to be completed sequentially beginning with Level 1.

Motion made by Clarence B, seconded by Mike F.

Motion passed unanimously.

**Action Item:** EAC Chair and volunteers to write a letter to STBC summarizing the concerns discussed within the EAC regarding the Electrical Challenge Pathway on the STBC website.

#### Concerns:

- Practical Testing
- Sequential levels
- Number of re-writes and time between
- A greater focus on Code and Prints/Drawings for challengers on top of theory and practical testing?
- Concern about watering down a Red Seal Endorsement
- SLE's were explicitly NOT going to be used for Challenge purposes at the time of their development
- Minimal stakeholder involvement

Lunch

### 6. Code Presentation on Electric Vehicle Requirements - Ark Tsisserev - AES Engineering

Ark Tsisserev presented on the development of requirements and current state of Electric Vehicle Energy Management Systems (EVEMS) according to CSA and part 1 of the CEC.

Many thanks to Ark for his time, expertise and passion.

## 7. Cengage Canada - Chris Cirella - Account Executive

- Textbook updates
- Updating materials in current resources
- Marketing Updates

Presentation about the current textbooks and learning platform options provided by Cengage.

There are 3 Cengage representatives for BC's training providers: Chris Cirella, Chris Adamache, and Daniel Bae.

A new version of Delmar's Standard Textbook of Electricity now available for order where all references have been updated with Canadian Codes and Standards.

#### Thursday June 8 @ TRU

Meeting called to order at 8:41 am.

Discussion regarding University tenure processes and thanks to EAC members who have participated.

#### 8. (Formerly item 6) 2021 CEC Feedback – all EAC members

- Updates and general discussion on Part 1 on the CEC
- Best practices

Institutions discussed how they teach code in their classes.

**Action Item for the Curriculum Sub-Committee:** Look at code calculations and targeted interpretations to ensure consistent outcomes practices across the province.

#### 9. (formerly item 8) Construction Electrician SLE Exam – all EAC members

- Best practices
- Formula sheet and Acronyms

Discussion of how classes are prepared for the SLE exam, such as exposure to the STBC formula and acronym sheet and the advantages and disadvantages of online vs paper exams.

Concerns with inconsistent SLE invigilation practices were discussed. Bathroom breaks, permitted code book markings, among other things were inconsistent and created stress for students.

Action Item: To connect with STBC regarding consistency and clarity for exam invigilation practices.

#### 10. Construction Electrician I.P. - all EAC members

Best practices

Discussion of useful resources and practices for IP Exam preparation, such as CEPE, the Canadian Electrical Trade Study Guide, practice IPs, and starting students earlier in their apprenticeship.

### 11. Curriculum Sub-Committee Update - Nathan Chapin

Report submitted ahead of time.

Nathan notified the group that the committee is looking for a new Chair.

The committee is focusing on fixing noted errors and identifying missing/mixed up content in levels 1-3.

Anyone interested in writing, please reach out to the Sub-committee.

## Morning Coffee

### 12. Skilled Trades BC Presentation – Colleen Rogan and Vern Weber

• Report submitted ahead of time.

STBC Report attached.

There was extensive discussion around STBC's Challenge Exam Pathway – specifically where apprentices are able to self-declare hours and experience to start challenging; and where levels can be challenged in an un-sequential order. As an example, an apprentice can self-assess at level 3, then challenge Level 3 without completing or challenging levels 1 or 2. The committee has concerns with that process.

The committee is also concerned about the lack of practical assessment in the challenge pathway.

Colleen had concerns that members of the EAC were not qualified to create a practical assessment and questioned the validity of a practical assessment, though said that she would bring our concerns forward.

**Motion #3:** Be it moved that the Electrical Articulation Committee requests that all Electrical Standard Level Exams have 75 questions with a maximum timeframe of 3 hours in order to align with the Interprovincial Examination time allocation standards.

Motion made by Myles A, seconded by AJ W.

Motion passed unanimously.

#### Lunch

#### 13. Electrical Learning Resources – all EAC members

Next steps

There is an appetite from the group to continue to support the Binder Packages.

There are concerns about the maintenance of the binders, and the creation of the missing modules.

Discussion regarding compensation for writers.

## 14. Challenges and successes in training – all EAC members

• Open discussion for all members to share with group.

Group discussion of what is being used to teach and practice PLC's.

#### 15. Co-chair election

A review of current practices regarding the succession of Co-Chair to the Chair position took place. The floor was opened for discussion and nominations.

**Motion 4:** Be it moved that Jeremiah Williamson be elected to the position of Co-chair for the Electrical Articulation Committee for the 2023/2024 term then the position of Chair for the Electrical Articulation Committee for the 2024/2025 term.

Jeremiah Williamson was nominated by Carmen D, seconded by Cam T.

Motion carried by acclamation.

#### 16. Minutes

Minutes will be distributed to the group for approval before they are submitted to BCCAT for posting after a 30 day period occurs with no changes being required.

#### 17. Next year's host institution

Trevor Petr from North Island College generously volunteered to host next years Annual EAC meeting in Campbell river.

# 18. Adjournment

Meeting adjourned at 2:35

#### Electrical PAC SLP Update June 5, 2023

Baldev Pooni, Dean Trades & Technology TRU

- STBC
- Phase 1. 10 Skilled Trades Certification trades under implementation.
- Phase 2. The governance committee set up to consult and recommend next round of Skilled Trades Certifications trades
- Develop clear strategic role for TTBC & BCATTA

#### 2. BCATTA

- Skill Plan preparation tool for Apprentices and Foundation students. Math assistance. Free to BC institutions for 2 years. Many trades areas are taking advantage. Presentation at BCATTA. Talk to your rep.
- Mission, Vision and Strategic workplan under development.

#### 3. TTBC

- Hiring CEO/Secretariat
- Input to Future Skills: 14 recommendations made across the following four areas:
  - a. Increase seats in targeted, high demand trades.
  - b. Establish a supply cost supplement.
  - c. Increase access, participation, and completion rates among under-represented groups.
  - d. Green focus to trades training
- 4. System wide
  - a. Difficulty hiring instructors.
  - b. Mental health & disabilities Student accommodation.
  - c. Delivering programming in community
  - d. Micro-credentials BCIT given provincial lead "Trade UP".
  - e. "Don't be a Bystander" Training. Workplace harassment

#### **CURRICULUM SUBCOMMITTEE ANNUAL REPORT – June 2023**

#### **Year 4 Learning Resources:**

Our year began with a request from Skilled Trades BC (STBC) for funding for work to be done on the Electrician Apprenticeship Program Binders and clarification regarding the inclusion of Open School BC (OSBC) for the 2022/2023 year. Further requests were made regarding the future of the copyright of the electrical binders.

Clarifications and requests were not addressed until later in the year. This has now led to the executive committee at STBC recently being willing to release funds for the development of the electrical binders. Interested writers need to write a letter of intent which includes what they want to write and what the timeframe would be. A comprehensive list of the required work for all four levels will hopefully be completed shortly after our meeting this June.

Corrections can still be made on the BCTradesModules website. Though at this time the corrections will only be incorporated into the binders once OSBC becomes involved again and the work on each individual level in progress has been completed.

### Other Projects:

Audio book resources were discussed. there are some electrical resources available from BC Campus with audio voice overs of electrical content as well as materials from different publishers.

A letter was written and sent to the ITA regarding the Standard Level Exams (SLEs) on November 17 2022. A response was received mid January 2023 and a meeting was setup with the curriculum subcommittee to review the Level 2 SLE marks. This meeting also let to the peer review process of the Level 3 SLE which had regional representation for electrical instructors across the province.

We plan on conducting an IP Exam writing workshop, led by Joel Feenstra with University of the Fraser Valley (UFV), in the two days prior to the Annual Articulation Meeting.

## In Conclusion:

This past year has been difficult due to a lack of communication from STBC however, there has still been some forward movement on projects and it was good for many instructors to see STBCs SLE writing and review process. Hopefully STBC will come through with releasing funds for the Electrician Apprenticeship Program binders this following year.

Many thanks to the members this past year: AJ Wearmouth, Andrew Amboe, Cameron Thiessen, Carmen deGoey, Dave Murdoch, Jeremiah Williamson, Daniel Smythe, John MacMillan, Mike Turley, Orlando Wall, Shane Dalager, and Trevor Petr.

Sincerely,

Curriculum Subcommittee Chair, Nathan Chapin.



# Report for Electrician Articulation Committee Meeting

JUNE 8, 2023

#### 1. Overview

This report is intended to provide the Articulation Committee with information pertaining to their programs, such as updates to Program Outlines, harmonization, transition plans, and exam statistics.

We in Program Standards want to continue to build ongoing communication and collaboration with our partners in training delivery. The best way to do this is to have regular contact between SkilledTradesBC's Program Standards team and the Chair, Co-chair, and System Liaison Person (SLP) of the Articulation Committee to address concerns as they come up throughout the year.

Any issues or concerns that arise from the Articulation Committee Meeting or throughout the year can be directed to the Committee Chair and SLP to bring forward to the Manager of Program Standards.

# 2. SkilledTradesBC Updates

#### SKILLED TRADES CERTIFICATION

Skilled Trades Certification\* will be implemented in B.C. for 10 trades: four mechanical, three electrical, and three automotive.

Trade workers working in the **electrical and mechanical** Skilled Trades Certification trades need to either be a registered apprentice or a certified journeyperson before **December 1, 2023**. Electrical trades include Construction Electrician, Industrial Electrician, and Powerline Technician. Mechanical trades include Refrigeration and Air Conditioning Mechanic, Gasfitter A & B, Steamfitter/Pipefitter, and Sheet Metal Worker.

Implementation of Skilled Trades Certification started on December 1, 2022. Each trade has at least a **one-year transition** period. This will allow time for:

- Workers not yet registered to get certification through level challenger and trade qualifier pathway or registering as an apprentice
- Businesses to prepare for implementation by registering apprentices and make any adjustments necessary

Please refer to the website for more information.

\*Commonly referred to as mandatory or compulsory trades across Canada

## SKILLED TRADES DESIGNATION PROCESS

On behalf of the Government of B.C., SkilledTradesBC is introducing a process to add more trades to the list of designated mandatory trades. Applications may come from B.C. businesses, labour organizations, industry associations, Indigenous organizations and communities that work in, or have an interest in, the trades.



A maximum of ten trades will be selected to move from the application to the detailed assessment phase. At that time, industry will be further consulted by SkilledTradesBC on the identified trades. Final recommendations will be made to Government in early 2024. Please refer to the website for more information.

# 3. Electrician Program Updates

#### HARMONIZED PROGRAM

The harmonized Program Outlines and Program Profiles are posted on the Construction Electrician and Industrial Electrician webpages on the SkilledTradesBC website. The Program Outline underwent revisions in September 2022 to move Motor Starters and Controls back into Level 1, although the competency will continue to be taught in Levels 2 and 3 as well. Corresponding adjustments were then made to the Time Allocation Charts and Assessment Guidelines. Also, references to the CEC have been added to the Program Outline where it was deemed to be helpful. All changes are open to immediate implementation, and exacting details of all changes are available as a summary reference at the back of the Program Outline.

#### TRANSITION TO THE HARMONIZED PROGRAM

Training Provider support from Skilled TradesBC Training Investment remains available for gap training of pre-harmonized CE/IE Level 2-to-Harmonized Level 3, and for pre-harmonized CE Level 3-to-Harmonized Level 4.

# 4. Apprenticeship Numbers

#### Legend

**Reporting/active** = an apprentice for whom activity has been logged in the SkilledTradesBC Portal System **within** the last 18 months, e.g., course marks uploaded, or work-based hours reported

**Non-reporting/inactive** = an apprentice for whom  $\underline{no}$  activity has been logged in DA within the last 18 months

TT= technical training (in-school)

**OTT** = apprentices who have a sponsor and have registered with SkilledTradesBC, but have not achieved any level of technical training

1TT/2TT/3TT/4TT = the highest level that an apprentice has achieved

## CONSTRUCTION ELECTRICIAN APPRENTICESHIP NUMBERS

Pre-harmonized program	0TT	1TT	2TT	3TT	4TT	Total
Reporting:	0	0	0	0	318	318
Non-reporting:	0	0	0	0	394	394
Total:	0	0	0	0	712	712

Data is as of April 1, 2023



Harmonized program	0TT	1TT	2TT	3TT	4TT	Total
Reporting:	1900	2029	1531	1334	920	7714
Non-reporting:	1890	1029	542	261	98	3820
Total:	3790	3058	2073	1595	1018	11534

Data is as of April 1, 2023

## HARMONIZATION NUMBERS BY REGION

Regional numbers are based on an apprentice's address, not the school they attend. For a definition of College Regions, see *Appendix A*.

	REGION	0TT	1TT	2TT	3TT	4TT	Total
1	North	292	232	151	129	61	865
2	South East Interior	651	473	343	274	129	1870
3	Island	635	489	351	239	214	1928
4	Lower Mainland	2090	1755	1150	901	593	6489
	??	83	69	45	35	17	249
	Other	39	40	33	17	4	133
	Total	3790	3058	2073	1595	1018	11534

### INDUSTRIAL ELECTRICIAN APPRENTICESHIP NUMBERS

Pre-harmonized program	0TT	1TT	2TT	3TT	4TT	Total
Reporting:	0	0	0	0	5	5
Non-reporting:	0	0	0	0	14	14
Total:	0	0	0	0	19	19

Data is as of April 1, 2023

Harmonized program	0TT	1TT	2TT	3TT	4TT	Total
Reporting:	109	70	59	80	22	340
Non-reporting:	68	26	19	36	2	151
Total:	177	96	78	116	24	491

Data is as of April 1, 2023

## HARMONIZATION NUMBERS BY REGION

Regional numbers are based on apprentice's address, not the school they attend. For a definition of College Regions, see *Appendix A*.

	REGION	0TT	1TT	2TT	3TT	4TT	Total
1	North	29	15	12	18	0	74
2	South East Interior	47	27	20	26	7	127
3	Island	9	9	6	16	0	40
4	Lower Mainland	86	41	39	49	16	231
	??	5	3	1	3	1	13
	Other	1	1	0	4	0	6
	Total	177	96	78	116	24	491

#### 5. Electrician Exams

#### **UPDATES**

In March, a week-long workshop was held at SkilledTradesBC offices to peer review the harmonized Level 3 Standard Level Exam. We worked with a team of 11 Subject Matter Experts (SMEs), including 6 instructors from 6 different Training Providers across all BC regions. The participants wrote all 3 forms of the exam, then reviewed them as a group, looking at pilot stats, pilot feedback, Quality Assurance notes, and previous SMEs revisions and feedback. Each question item was covered in detail and discussed in depth. The feedback from participants on the process and experience was very positive. Participants left feeling confident about the quality of the Level 3 exam.

The same group also had time to look at 31 items that were flagged from the Level 2 exam. 16 of those items were edited. As well, we looked at 26 flagged items from the Level 1 exam and edited 13 of those.

All in all, it was a very productive week, and we are certain that the SLEs are substantially improved.

The revised Level 3 exam will launch for classes starting on or after July  $21^{st}$ . An OPSN will be sent out to Deans following this meeting.

#### **EXAM STATISTICS INTERPRETATION**

When reviewing the statistics, the following should be considered:

Pass Rate The percentage of candidates who passed the exam

**Average Exam Mark** The mean final exam percentage of the total group

GAC Average The mean percentage scored on each General Area of

Competency by the total group

Standardized Level Exams (SLE)

- BC-only exam (developed and written in BC, content based on the Program Outline)
- Unless stated otherwise, all statistics are of first-time writes, for those writing with a class



• Challenger results are not included in these stats

## Interprovincial Standard Exam (IPSE)

National Pass Rate includes apprentice **and** challenger writes for all jurisdictions

#### **Number of Writes**

The validity of the statistics increases with the number of writes (i.e. when there is a larger sample size). Therefore, if an exam has a low number of writes (fewer than 100), the statistics alone cannot be used to determine the quality of the exam. This is because outliers (very low or high marks) will skew the results of the group with lower number of writes.

To determine exam quality, statistics must be analyzed in context with other factors including: student feedback on the exam, attributes of the student cohort, and extenuating circumstances.

This is especially important when comparing statistics across periods of time or for different groups. For example, a pass rate of 61% on 250 writes is not comparable with a pass rate of 34% on 50 writes.

#### **EXAM STATISTICS**

Electrician Common Core Level 1								
Year	2021*	2022						
Number of Writes	101	414						
Pass Rate	57%	47%						
Average Exam Mark	72%	69%						
BC Apprentice Average per GAC A – Use Electrical Circuit Concepts	72%	69%						
BC Apprentice Average per GAC AA – Install Voice/Data/Video (VDV) Systems	50%	51%						
BC Apprentice Average per GAC B – Use Personal Protection Equipment (PPE) & Safety Equipment	75%	71%						
BC Apprentice Average per GAC C –	65%	57%						



Use Measuring & Testing Equipment		
BC Apprentice Average per GAC D – Interpret Plans, Drawings and Specifications	87%	85%
BC Apprentice Average per GAC G – Use Mentoring Techniques	93%	90%
BC Apprentice Average per GAC H – Install Single-Phase Consumer/Supply Services & Metering Equipment	80%	78%
BC Apprentice Average per GAC I – Install Ground Fault, Arc Fault & Surge Protection Devices	69%	65%
BC Apprentice Average per GAC J – Install Low Voltage Distribution Equipment	64%	68%
BC Apprentice Average per GAC L – Install Grounding & Bonding Systems	78%	73%
BC Apprentice Average per GAC Q – Install Conductors & Cables	70%	65%
BC Apprentice Average per GAC R – Install Luminaires	57%	56%

<sup>\*</sup> SLEs were waived until September 2021 due to COVID-19

Electrician Common Core Level 2							
Year	2021*	2022					
Number of Writes	285	827					
Pass Rate	41%	45%					
Average Exam Mark	66%	67%					
BC Apprentice Average per GAC A – Use Electrical Circuit Concepts	69%	68%					
BC Apprentice Average per GAC D – Interpret Plans, Drawings & Specifications	88%	88%					
BC Apprentice Average per GAC H – Install Single-Phase Consumer/Supply Services & Metering Equipment	78%	82%					
BC Apprentice Average per GAC I – Install Overcurrent Protection Devices	85%	86%					

BC Apprentice Average per GAC L – Install Grounding & Bonding Systems	73%	73%
BC Apprentice Average per GAC N – Install Renewable Energy Generating & Storage Systems	73%	75%
BC Apprentice Average per GAC P – Install Extra-Low & Low-Voltage Single-Phase Transformers	57%	61%
BC Apprentice Average per GAC Q – Install Conductors & Cables	61%	61%
BC Apprentice Average per GAC R – Install Luminaires	51%	52%
BC Apprentice Average per GAC S – Install HVAC Systems & Controls	47%	48%
BC Apprentice Average per GAC T – Install Exit & Emergency Lighting Systems	64%	67%
BC Apprentice Average per GAC U – Install Cathodic Protection Systems	60%	61%
BC Apprentice Average per GAC V – Install Motor Starters & Controls	63%	68%

<sup>\*</sup> SLEs were waived until September 2021 due to COVID-19

## **RED SEAL**

A new Construction Electrician Red Seal IP exam has been released and will be active in BC as of **August 15, 2023.** The new exam is based on the 2021 RSOS and is compliant with both the 2021 CEC, Part 1 and the 2018 CEC, Part 1.

Also, SkilledTradesBC has earmarked funding to cover the cost of an additional 2 training days that Training Providers can tack on to Construction Electrician Level 4 intakes, in order to help prepare apprentices to write the IP Exam. Please reach out to Gwyn MacGregor in Training Investment for more information re: STC refreshers and funding additional intakes.

Construction Electrician IPSE – aligned to 2015 RSOS											
2016 <sup>1</sup> 2017 2018 2019 2020 2021 2022											
BC Apprentice Number of Writes	255	942	1044	1167	1136	1055	989				
BC Apprentice Pass Rate	82%	79%	77%	77%	64%	60%	71%				
Summary National Pass Rate <sup>2</sup>	61%	52%	54%	52%	50%	50%	53%				



BC Apprentice Average Exam Mark	78%	76%	76%	75%	72%	71%	74%
BC Apprentice Average per MWA A Performs Common Occupational Skills	79%	78%	79%	82%	80%	80%	83%
BC Apprentice Average per MWA B Installs, Services & Maintains Generating, Distribution & Service Systems	83%	78%	77%	72%	72%	67%	71%
BC Apprentice Average per MWA C Installs, Services & Maintains Wiring Systems	77%	79%	76%	77%	74%	75%	78%
BC Apprentice Average per MWA D Installs, Services & Maintains Motors & Control Systems	67%	69%	73%	73%	66%	63%	66%
BC Apprentice Average per MWA E Installs, Services & Maintains Signalling & Communication Systems	82%	78%	77%	77%	73%	75%	79%

<sup>12016</sup> statistics are limited to writes of exams aligned to 2015 RSOS

BC apprentice statistics are for first time writes for those writing with a class

Industrial Electrician IPSE – aligned to 2016 RSOS							
Year	2018 B <sup>1</sup>	2019	2020	2021	2022		
BC Apprentice Number of Writes	19	42	39	35	40		
BC Apprentice Average Exam Mark	73%	74%	74%	74%	75%		
BC Apprentice Pass Rate	58%	69%	67%	77%	74%		
Summary National Pass Rate <sup>2</sup>	32%	41%	45%	42%	47%		
BC Apprentice Average per MWA A – Performs Common Occupational Skills	78%	82%	79%	88%	87%		
BC Apprentice Average per MWA B – Installs & Maintains Generating, Distribution & Service Systems	77%	77%	78%	75%	74%		
BC Apprentice Average per MWA C -	70%	72%	73%	70%	72%		

<sup>&</sup>lt;sup>2</sup>Summary National Pass Rate includes apprentices and challenger writes for all jurisdictions

Installs & Maintains Wiring Systems					
BC Apprentice Average per MWA D – Installs & Maintains Rotating & Non-Rotating Equipment & Control Systems	64%	69%	67%	71%	74%
BC Apprentice Average per MWA E – Installs & Maintains Signalling & Communication Systems	62%	65%	62%	59%	58%
BC Apprentice Average per MWA F – Installs & Maintains Process Control Systems	79%	79%	78%	78%	76%

<sup>&</sup>lt;sup>1</sup> 2018 B statistics are limited to writes of exams aligned to 2016 RSOS

BC apprentice statistics are for first time writes for those writing with a class

<sup>&</sup>lt;sup>2</sup> Summary National Pass Rate includes apprentices and challenger writes for all jurisdictions



# Appendix A: College Regions

## **REGIONS**

- 1.NORTH
- 2. SOUTH EAST INTERIOR
- 3. ISLAND
- 4. LOWER MAINLAND

COLLEGE REGION	Abbrev.	Region
Camosun (Victoria, Sooke, Sidney, Brentwood Bay, Galiano)	CM	3
Capilano (West Vancouver, North Vancouver, Whistler, Bowen Island)	CP	4
Douglas (Burnaby, Coquitlam, Maple Ridge, New Westminster, Anmore)	DG	4
Fraser Valley (Abbotsford, Chilliwack, Hope, Mission, Yale)	FV	4
Kwantlen (Delta, Langley, Richmond, Surrey, White Rock, Aldergrove)	KW	4
New Caledonia (Burns Lake, Mackenzie, Prince George, Vanderhoof)	NC	1
North Island (Campbell River, Comox, Courtenay, Port Alberni, Tofino)	NI	3
Northern Lights (Dawson Creek, Fort St John, Tumbler Ridge, Taylor)	NL	1
Northwest (Terrace, Smithers, Prince Rupert, Houston, Aiyansh, Kitimat)	NW	1
Okanagan (Kelowna, Penticton, Salmon Arm, Vernon, Oliver, Osoyoos)	OK	2
Rockies (Cranbrook, Creston, Fernie, Golden, Invermere)	RK	2
Selkirk (Nelson, Castlegar, Trail, Kaslo, Grand Forks, Robson, Rossland)	SL	2
Thompson Rivers (Kamloops, Williams Lake, Merritt, Lytton, Clinton)	TR	2
Vancouver	VC	4
Vancouver Island (Nanaimo, Gabriola, Parksville, Nanoose Bay, Duncan)	VI	3
Undefined (out-of-province = AB, ON, SK, YT)	unde	OTHER
Not mapped to a college region	3.5	<b>??</b>