

## Level Two

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Compulsory Workplace Competency Standards assessed using the assessment guides in this Workplace Logbook		
Code	Title	Credit
IE122-2WC	Communicate technical information clearly and check for understanding	2
IE132-2WC	Install electrical equipment	20
IE146-2WC	Install lighting controls and equipment	5

## **Communicate technical information clearly and check for understanding**

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### **Specification**

People credited with this standard are able to:

**Read technical documents, interpret them correctly, and clearly communicate technical information verbally and in writing to others in the workplace.**

### **Credit 2**

#### **Prerequisite**

Competency Standard IE120-1TC, Demonstrate knowledge of workplace communications standards; and

Competency Standard IE121-1TC, Demonstrate knowledge of professional behaviour

#### **Definitions**

*Active listening* – the skills of listening. These skills may include but are not limited to – questioning, reading and responding to body language, use of silence, paraphrasing, reflecting feelings, summarizing.

#### **Tasks**

##### **Task 1**

Read technical documents and demonstrate correct interpretation.

##### **Task 2**

Clearly communicate technical information verbally and in writing to others in the workplace.

### **Assessment**

With training and guidance you will acquire the skills and knowledge to enable you to competently demonstrate completion of these tasks to your assessor. You must keep a record, on the diary pages included, of the details of the work done when completing the tasks to help the assessor see the experience you have gained prior to the assessment decision being made.

### **Evidence**

Assessment of this standard requires the following types of evidence be gathered by you and presented by you to your assessor:

- Completed apprentice work diary for each task – add more pages if you need to
- Observation by the assessor of you completing the relevant tasks
- Task verification – another person who has observed you completing the tasks to the appropriate standard
- Copies of work records, where applicable, or reference to work records to show when the tasks were completed.

The specific evidence requirements you must present are listed on the following pages.

**Communicate technical information clearly and check for understanding**

**Task 1: Read technical documents and demonstrate correct interpretation.**

This requires you to read and act on technical documentation and specifications.

Identify/select a technical specification or company technical definition type specification used in your workplace that **you** have been required to interpret: (1.1)

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Complete the diary below to demonstrate your interpretation and actions.

**Apprentice Diary – Reading and interpreting technical documents**

Date/s	Description of interpretation and actions	
	When did you use the specification and what was its purpose? (1.1)	
	Briefly summarize the technical information.	
	Identify short written technical documents that you are required to interpret and the dates that you have interpreted them. For example work orders, maintenance records, company logs, project plans. What actions have you taken in accordance with these technical communications? (1.2)	

**Communicate technical information clearly and check for understanding**

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**Assessor Observation – Reading and interpreting technical documents**

(To be completed by the assessor after the apprentice has performed the tasks competently in the workplace)

I confirm I have seen the apprentice perform the following task to the standard outlined and attest to his or her competence. *Tick the boxes you have observed*

Used and correctly interpreted manufacturer and company specifications and technical documentation. (1.1)

Used and correctly acted on written communications in the workplace. (1.2)

*Tick which of the following examples you observed:*

- work orders
- maintenance records
- company logs
- project plans
- other \_\_\_\_\_.

All apprentice's explanations, descriptions, and activities complied with current legislation, including the Canadian Electrical Code, WorkSafeBC or other applicable regulations, and industry practice.

Assessor Name (Printed) \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_





**Communicate technical information clearly and check for understanding**

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**Assessor Observation – Clearly communicating technical information verbally and in writing**

(To be completed by the assessor after the apprentice has performed the tasks competently in the workplace)

I confirm I have seen the apprentice perform the following task to the standard outlined and attest to his or her competence. *Tick the boxes you have observed*

Spoke clearly and audibly, and suit the content and tone to the listener(s). (2.1)  
Including:

- used appropriate vocabulary
- used appropriate body language
- used appropriate tone of voice.

Confirmed that the listener understood: (2.2)

- the listener received the same message as the apprentice was delivering.

Apprentice clearly communicated information in writing. (2.3)

All apprentice's explanations, descriptions, and activities complied with current legislation, including the Canadian Electrical Code, WorkSafeBC or other applicable regulations, and industry practice.

Assessor Name (Printed) \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**Communicate technical information clearly and check for understanding****Additional Supporting Evidence**

(To be completed by the apprentice and signed by the assessor)

Describe what workplace records are available to verify you performed this work.

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Describe where a moderator can locate these records to verify your work when doing a quality check.

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Name and describe the CEC rules required when you performed these tasks.

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Which manufacturer guidelines were followed when doing these tasks?

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Apprentice Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**Additional Questions**

Attach written notes of any additional questions asked of the apprentice and answers given. Ensure they are signed and dated by both the apprentice and assessor.

**Task verification**

Obtain confirmation from a third party who will verify you have carried out the tasks as assigned to the standard described.

Name of task verifier: \_\_\_\_\_

Position in the company: \_\_\_\_\_

Signature of task verifier: \_\_\_\_\_

Date: \_\_\_\_\_

Apprentice Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**Specification**

People credited with this standard are able to:

**Install distribution panels, cable trays, cable conduit and explosion proof equipment to CEC rules and manufacturer specifications. They are also able to install and maintain grounding circuits, bonding circuits and protect circuits using cathodic protection.**

**Credit 20**

**Prerequisite**

Competency Standard IE131-1TC, Demonstrate knowledge of installing electrical equipment

**Assessment**

For assessment purposes, all explanations, descriptions, and activities must comply with current legislation, including the Canadian Electrical Code, WorkSafeBC or other applicable regulations and industry practice.

**Quality Assurance**

Any assessor assessing against this competency standard must be a qualified electrician with Red Seal endorsement and industrial experience; and have completed the assessor registration competency.

**References**

The Canadian Electrical Code, Part I, Canadian Standards Association, most current edition (CEC)  
WorkSafeBC Occupational Health and Safety (OHS) regulations.

**Definitions**

*Properly* – to CEC rules and in a manner that complies with WorkSafeBC regulations.

**Tasks**

**Task 1**

Install distribution panels to CEC rules, which are easily serviced and accurately match design specifications.

**Task 2**

Install equipment for use in hazardous locations to CEC specifications and standards.

**Task 3**

Properly install conduit and cable tray to safely route cable to designed specification and CEC rules.

**Task 4**

Install and maintain grounding, bonding and cathodic protection circuits to CEC rules.

**Task 5**

Install cable and protection to CEC requirements, neatly and efficiently, ensuring protected circuits can withstand environmental stresses.

**Task 6**

Terminate conductors factoring environmental requirements, and to CEC rules and those set by applicable regulatory codes.

**Task 7**

Label and document wiring to CEC rules and those set by applicable regulatory codes.

**Task 8**

Splice wiring to CEC rules.

### **Assessment**

With training and guidance you will acquire the skills and knowledge to enable you to competently demonstrate completion of these tasks to your assessor. You must keep a record, on the diary pages included, of the details of the work done when completing the tasks to help the assessor see the experience you have gained prior to the assessment decision being made.

### **Evidence**

Assessment of this standard requires the following types of evidence be gathered by you and presented by you to your assessor:

- Completed apprentice work diary for each task – add more pages if you need to
- Observation by the assessor of you completing the relevant tasks
- Task verification – another person who has observed you completing the tasks to the appropriate standard
- Copies of work records, where applicable, or reference to work records to show when the tasks were completed.

**Note:** This competency standard covers many aspects of electrical installation and will need to be worked through progressively over a period of time. For the purposes of assessment the tasks should be assessed individually when the apprentice is thought to be ready or competent in accordance with workplace activities. Because of the scope of this unit, the assessment includes a separate section for supporting evidence and verification for each task instead of only one section for the whole competency standard.

The specific evidence requirements you must present are listed on the following pages.





**Additional Supporting Evidence – Installing panels**

(To be completed by the apprentice and signed by the assessor)

Describe what workplace records are available to verify you performed this work.

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Describe where a moderator can locate these records to verify your work when doing a quality check.

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Name and describe the CEC rules required when you performed these tasks.

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Which manufacturer guidelines were followed when doing these tasks?

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Apprentice Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**Additional Questions**

Attach written notes of any additional questions asked of the apprentice and answers given. Ensure they are signed and dated by both the apprentice and assessor.

**Task verification**

Obtain confirmation from a third party who will verify you have carried out the tasks as assigned to the standard described.

Name of task verifier: \_\_\_\_\_

Position in the company: \_\_\_\_\_

Signature of task verifier: \_\_\_\_\_

Date: \_\_\_\_\_

Apprentice Signature: \_\_\_\_\_

Date: \_\_\_\_\_





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**Additional Supporting Evidence – Installing explosion proof equipment**

(To be completed by the apprentice and signed by the assessor)

Describe what workplace records are available to verify you performed this work.

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Describe where a moderator can locate these records to verify your work when doing a quality check.

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Name and describe the CEC rules required when you performed these tasks.

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Which manufacturer guidelines were followed when doing these tasks?

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Apprentice Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**Additional Questions**

Attach written notes of any additional questions asked of the apprentice and answers given. Ensure they are signed and dated by both the apprentice and assessor.

**Task verification**

Obtain confirmation from a third party who will verify you have carried out the tasks as assigned to the standard described.

Name of task verifier: \_\_\_\_\_

Position in the company: \_\_\_\_\_

Signature of task verifier: \_\_\_\_\_

Date: \_\_\_\_\_

Apprentice Signature: \_\_\_\_\_

Date: \_\_\_\_\_





**Additional Supporting Evidence**

(To be completed by the apprentice and signed by the assessor)

Describe what workplace records are available to verify you performed this work.

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Describe where a moderator can locate these records to verify your work when doing a quality check.

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Name and describe the CEC rules required when you performed these tasks.

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Which manufacturer guidelines were followed when doing these tasks?

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Apprentice Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**Additional Questions**

Attach written notes of any additional questions asked of the apprentice and answers given. Ensure they are signed and dated by both the apprentice and assessor.

**Task verification**

Obtain confirmation from a third party who will verify you have carried out the tasks as assigned to the standard described.

Name of task verifier: \_\_\_\_\_

Position in the company: \_\_\_\_\_

Signature of task verifier: \_\_\_\_\_

Date: \_\_\_\_\_

Apprentice Signature: \_\_\_\_\_

Date: \_\_\_\_\_







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**Additional Supporting Evidence – Install and maintain grounding, bonding and cathodic protection**

(To be completed by the apprentice and signed by the assessor)

Describe what workplace records are available to verify you performed this work.

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Describe where a moderator can locate these records to verify your work when doing a quality check.

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Name and describe the CEC rules required when you performed these tasks.

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Which manufacturer guidelines were followed when doing these tasks?

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Apprentice Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**Additional Questions**

Attach written notes of any additional questions asked of the apprentice and answers given. Ensure they are signed and dated by both the apprentice and assessor.

**Task verification**

Obtain confirmation from a third party who will verify you have carried out the tasks as assigned to the standard described.

Name of task verifier: \_\_\_\_\_

Position in the company: \_\_\_\_\_

Signature of task verifier: \_\_\_\_\_

Date: \_\_\_\_\_

Apprentice Signature: \_\_\_\_\_

Date: \_\_\_\_\_





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**Additional Supporting Evidence – Installing cables**

(To be completed by the apprentice and signed by the assessor)

Describe what workplace records are available to verify you performed this work.

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Describe where a moderator can locate these records to verify your work when doing a quality check.

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Name and describe the CEC rules required when you performed these tasks.

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Which manufacturer guidelines were followed when doing these tasks?

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Apprentice Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**Additional Questions**

Attach written notes of any additional questions asked of the apprentice and answers given. Ensure they are signed and dated by both the apprentice and assessor.

**Task verification**

Obtain confirmation from a third party who will verify you have carried out the tasks as assigned to the standard described.

Name of task verifier: \_\_\_\_\_

Position in the company: \_\_\_\_\_

Signature of task verifier: \_\_\_\_\_

Date: \_\_\_\_\_

Apprentice Signature: \_\_\_\_\_

Date: \_\_\_\_\_





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**Additional Supporting Evidence – Terminating conductors**

(To be completed by the apprentice and signed by the assessor)

Describe what workplace records are available to verify you performed this work.

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Describe where a moderator can locate these records to verify your work when doing a quality check.

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Name and describe the CEC rules required when you performed these tasks.

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Which manufacturer guidelines were followed when doing these tasks?

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Apprentice Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**Additional Questions**

Attach written notes of any additional questions asked of the apprentice and answers given. Ensure they are signed and dated by both the apprentice and assessor.

**Task verification**

Obtain confirmation from a third party who will verify you have carried out the tasks as assigned to the standard described.

Name of task verifier: \_\_\_\_\_

Position in the company: \_\_\_\_\_

Signature of task verifier: \_\_\_\_\_

Date: \_\_\_\_\_

Apprentice Signature: \_\_\_\_\_

Date: \_\_\_\_\_





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**Additional Supporting Evidence – Labelling and documenting wiring**

(To be completed by the apprentice and signed by the assessor)

Describe what workplace records are available to verify you performed this work.

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Describe where a moderator can locate these records to verify your work when doing a quality check.

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Name and describe the CEC rules required when you performed these tasks.

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Which manufacturer guidelines were followed when doing these tasks?

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Apprentice Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**Additional Questions**

Attach written notes of any additional questions asked of the apprentice and answers given. Ensure they are signed and dated by both the apprentice and assessor.

**Task verification**

Obtain confirmation from a third party who will verify you have carried out the tasks as assigned to the standard described.

Name of task verifier: \_\_\_\_\_

Position in the company: \_\_\_\_\_

Signature of task verifier: \_\_\_\_\_

Date: \_\_\_\_\_

Apprentice Signature: \_\_\_\_\_

Date: \_\_\_\_\_





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**Additional Supporting Evidence – Splice wiring**

(To be completed by the apprentice and signed by the assessor)

Describe what workplace records are available to verify you performed this work.

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Describe where a moderator can locate these records to verify your work when doing a quality check.

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Name and describe the CEC rules required when you performed these tasks.

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Which manufacturer guidelines were followed when doing these tasks?

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Apprentice Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**Additional Questions**

Attach written notes of any additional questions asked of the apprentice and answers given. Ensure they are signed and dated by both the apprentice and assessor.

**Task verification**

Obtain confirmation from a third party who will verify you have carried out the tasks as assigned to the standard described.

Name of task verifier: \_\_\_\_\_

Position in the company: \_\_\_\_\_

Signature of task verifier: \_\_\_\_\_

Date: \_\_\_\_\_

Apprentice Signature: \_\_\_\_\_

Date: \_\_\_\_\_

## Specification

People credited with this standard are able to:

**Determine lighting installation requirements and select and install lighting equipment and controls in accordance with CEC and manufacturer guidelines.**

**Credit 5**

### Prerequisite

Competency Standard IE145-2TC, Demonstrate knowledge of lighting systems and design

### Assessment

For assessment purposes, all explanations, descriptions, and activities must comply with current legislation, including the Canadian Electrical Code, WorkSafeBC or other applicable regulations and industry practice.

### Quality Assurance

Any assessor assessing against this competency standard must be a qualified electrician with Red Seal endorsement and industrial experience; and have completed the assessor registration competency.

### References

The Canadian Electrical Code, Part I, Canadian Standards Association, most current edition (CEC)  
WorkSafeBC Occupational Health and Safety (OHS) regulations.

### Definitions

*CSA* – Canadian Standards Association

*ULC* – Underwriters Laboratories of Canada

*Properly* – to CEC rules and in a manner that complies with WorkSafeBC regulations.

### Tasks

#### Task 1

Select and install lighting equipment and controls appropriate for the application and in accordance with CEC and manufacturer standards and guidelines.

### Assessment

With training and guidance you will acquire the skills and knowledge to enable you to competently demonstrate completion of these tasks to your assessor. You must keep a record, on the diary pages included, of the details of the work done when completing the tasks to help the assessor see the experience you have gained prior to the assessment decision being made.

### Evidence

Assessment of this standard requires following evidence:

- Completed apprentice work diary for each task – add more pages if you need to
- Observation by the assessor of completion of the relevant tasks
- Task verification – another person who has observed you completing the tasks to the appropriate standard
- Copies of work records, where applicable, or reference to work records to show when the tasks were completed.

The specific evidence requirements you must present are listed on the following pages.







**Additional Supporting Evidence**

(To be completed by the apprentice and signed by the assessor)

Describe what workplace records are available to verify you performed this work.

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Describe where a moderator can locate these records to verify your work when doing a quality check.

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Name and describe the CEC rules required when you performed these tasks.

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Which manufacturer guidelines were followed when doing these tasks?

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Apprentice Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**Additional Questions**

Attach written notes of any additional questions asked of the apprentice and answers given. Ensure they are signed and dated by both the apprentice and assessor.

**Task verification**

Obtain confirmation from a third party who will verify you have carried out the tasks as assigned to the standard described.

Name of task verifier: \_\_\_\_\_

Position in the company: \_\_\_\_\_

Signature of task verifier: \_\_\_\_\_

Date: \_\_\_\_\_

Apprentice Signature: \_\_\_\_\_

Date: \_\_\_\_\_