



ELECTRICAL DESIGN SUBMISSION GUIDELINES

I What are the Procedures for Electrical Design Submissions?

Electrical designs must be included in the 'Blue Print' drawings of any new building construction. Electrical designs must adhere to the National Fire Protection Association (NFPA) 70 safety standards for electrical equipment and wiring, as well as, the guidelines shared in BEL's Electricity Service Installation Manual.

Adhering to the NFPA 70 and BEL's manual reduces delays in PUC approvals and inspection process, and BEL's connection of new electricity service to the building.

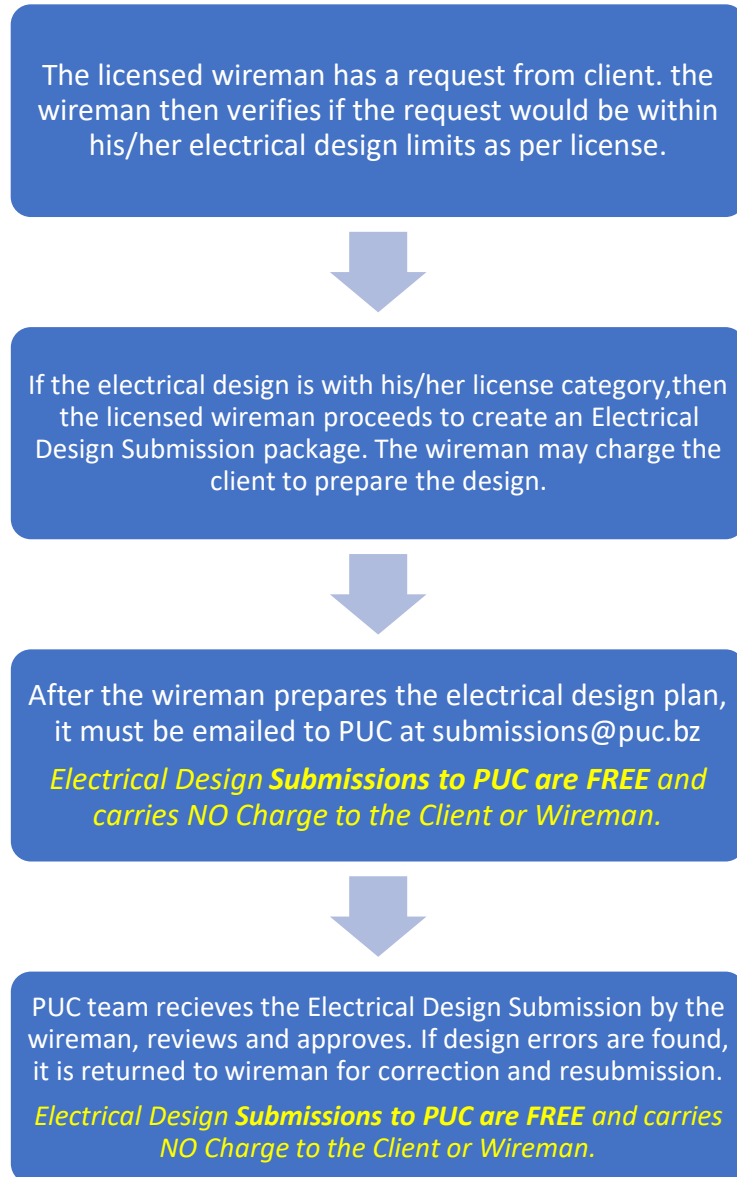
1. Electrical Design Submission to PUC - *"Know the Process: Navigating Electrical Submissions & Inspections with Confidence"*

Here are the Steps:

- i. Persons considering construction of a new building must first contract someone or a company to design the new building (residential, commercial or industrial).
- ii. During the design phase, the contractor will include the electrical design along with the design for the physical structure. *Note: an electrical design is a set of drawings & calculations of an electrical system for use in residential, commercial or industrial applications.*
- iii. Once the design is completed, the contractor or a designate will submit the entire design plan to the Central Building Authority (CBA) of Belize for review and approval. Home renovations or extensions to an existing building will also follow this process. Visit [CBA Belize](#) for more information.

- iv. In cases where only an electrical upgrade is being done to an existing building, or request for Temporary Connection (TC) or Service Entrance upgrade is being done, the licensed wireman electrical design plan is submitted directly to the PUC. Submission follows the steps outlined in 'Section V' below.
- v. The electrical design plan must also be submitted by a **licensed wireman** to the Public Utilities Commission (PUC) for review and approval or return for corrections.

Here is that process:



2. When must an Electrical Design Submission be made?

An Electrical Design **must be submitted to the PUC whenever** there is:

- Installation of an electrical system for a **new** residential, commercial or industrial application
- **Alteration, modification or upgrade** of an existing electrical system
- Meter relocation and service entrance upgrades
- Temporary Connection (TC) for construction phase and social events

3. Who can make Electrical Design Submissions?

Only a PUC licensed wireman can make Electrical Design Submissions. The design submissions must be done according to the licensed category of the wireman. **Reminder:** only a PUC licensed wireman can engage in any electrical installation works at a project site.

• PUC Licensed Wireman Categories

There are three types of wiremen license issued. Always ask to see the license before hiring for any electrical work and submission to PUC. This will reduce delays and ensure you hire the right person to complete your electrical works.



Can submit electrical system designs up to **24kVA, Single Phase, Residential**.

Can work alone on systems up to **30kVA, 500V<, Single Phase, Residential**.

Must be supervised by Electrical Technician or Engineer on Systems that exceed above.



Can submit electrical system designs up to **150kVA, 600V< Residential or Commercial**.

Can work alone on systems up to **500kVA, 100V<, Residential or Commercial**.

Must be supervised by Engineer on Systems that exceed above.



Can submit electrical system designs of **Any Size and Voltage**.

Can work alone on systems of **Any Size and Voltage**

4. Where must Electrical Design Submissions be made?

All Electrical Design Submissions are to be **done via email to PUC** at submissions@puc.bz and **carries no fee or charge** to both the property owner and licensed wireman.

II PUC TIMELINES FOR REVIEW/APPROVAL OF ELECTRICAL DESIGN SUBMISSIONS

- i. Electrical Design submissions received by the Public Utilities Commission (PUC) during standard working hours are reviewed. Standard working hours are Monday to Thursday from 8:00 a.m. to 5:00 p.m., and Fridays 8:00 a.m. to 4:30 p.m.
- ii. Electrical Design submissions sent to PUC on Saturdays and Sundays or during a holiday will be reviewed on the next working day.
- iii. Review/Approval timeline for Electrical Design submissions :
 - up to 48kVA requires 1 to 5 work days
 - above 48kVA but up to 225kVA requires 6 to 10 work days
 - above 225kVA requires 10 and 5 work days

III CONDITIONS FOR 'RETURN FOR CORRECTIONS' OF ELECTRICAL DESIGN SUBMISSIONS

Electrical Design submissions are returned for corrections for the following reasons:

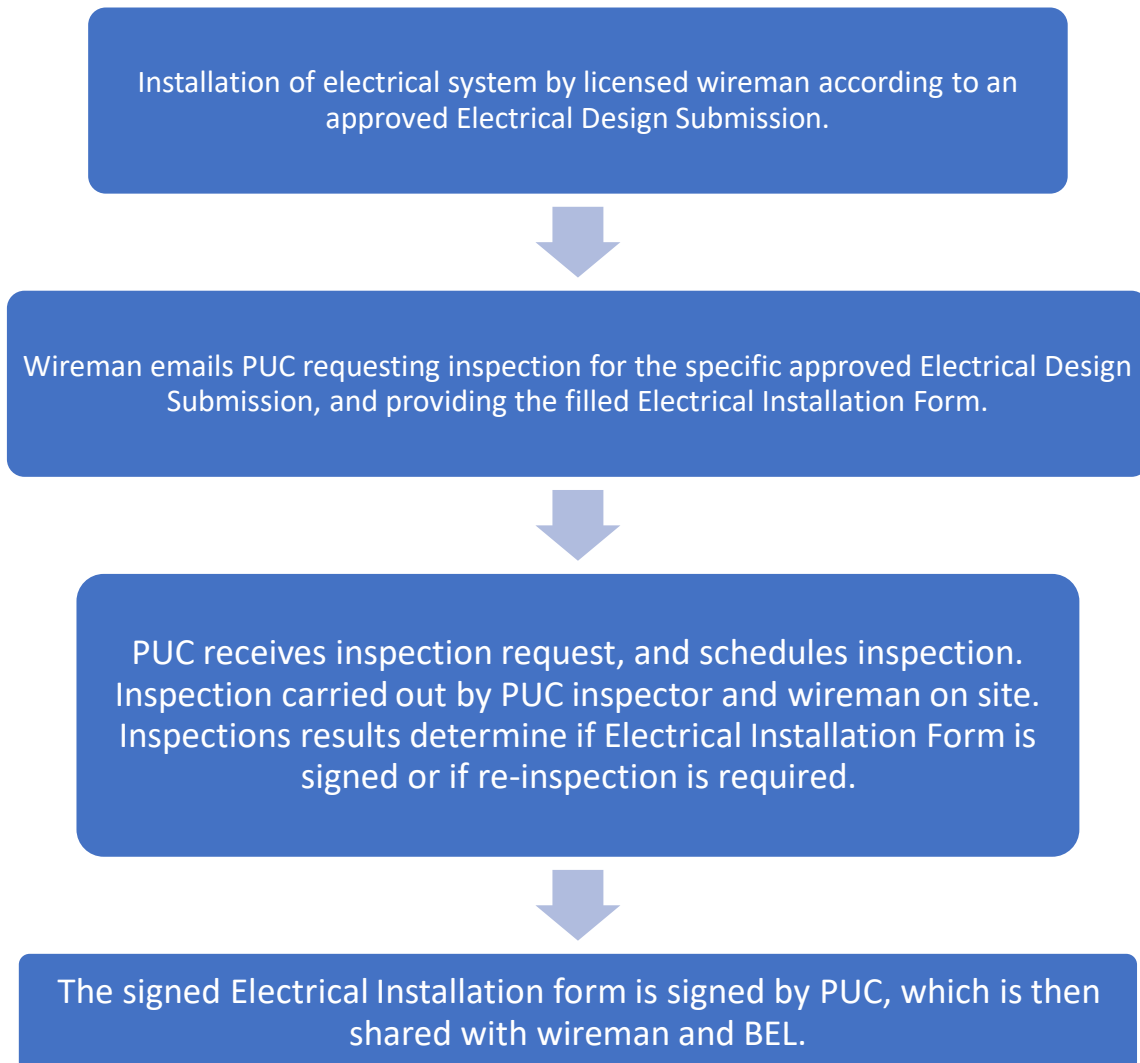
1. Highly contradicting information found. For example:
 - too many mismatches in cable sizes, service requirements etc.,
 - single line drawing mismatch with load schedules, load requirements etc., or
 - incorrect calculations.
2. Incomplete submissions. For example, missing required pages related to the design.
3. Unclear writing and/or scans.
4. The submissions exceed the wireman category.

IV PROCEDURES RELATED TO ELECTRICAL INSPECTION

Electrical plan designs that have passed PUC's initial review will be returned to the **licensed wireman** with a note of "approval".

Once received, the licensed wireman must submit a request for inspection of the property site. This is sent by the wireman via email to PUC at elecinspections@puc.bz and is free. ***Subsequent inspections following a failed inspection of an approved electrical design may carry a fee payable only to the PUC.***

Here are the steps for the electrical inspection process:



V PUC Timelines for Review/Approval of Electrical Inspections

- i. Requests for Electrical Inspections received by the Public Utilities Commission (PUC) during standard working hours are reviewed. Standard working hours are Monday to Thursday from 8:00 a.m. to 5:00 p.m., and Fridays 8:00 a.m. to 4:30 p.m.
- ii. Electrical Inspection requests sent to PUC on Saturdays and Sundays or during a holiday will be reviewed on the next working day.
- iii. Review/Approval timeline for Electrical Inspections:
 - Social Event Temporary Connections (TC) requires 1 work day
 - Temporary Construction Connection (TCC) and Electrical System up to 48kVA requires 2 work days
 - Electrical Systems above 48kVA requires 3 to 5 work days

VI Conditions for Failure of an Electrical Inspection

An Electrical Inspection at the site may not pass if:

1. The installation does not follow the “Approved” design
2. Major portions of the installations are incomplete
3. Unable to access the installation as required
4. If issues cannot be fixed during the inspection