

CIA Form Modification Guide

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1. General Information and Software Requirements

This guide is written in a way to allow Section 1 and Section 2 to be given to a customer in case any issues arise with the CIA form.

1.1 Software Requirement

- Recommend to customers the use of Adobe Acrobat Reader to fill out the form to ensure the best user experience. The software is free to download and use.
- To make modifications to the form template, Adobe Acrobat Pro is required.

1.2 General Information and Basic Navigation

Adobe Acrobat Reader and Adobe Acrobat Pro have a similar layout and user interface, but Adobe Acrobat Pro has some additional modules. One of these modules is the “Prepare Form” module, which is required to create and modify the CIA form.

At the end of this guide, you will become more familiar with the following modules:

Customer Tools:

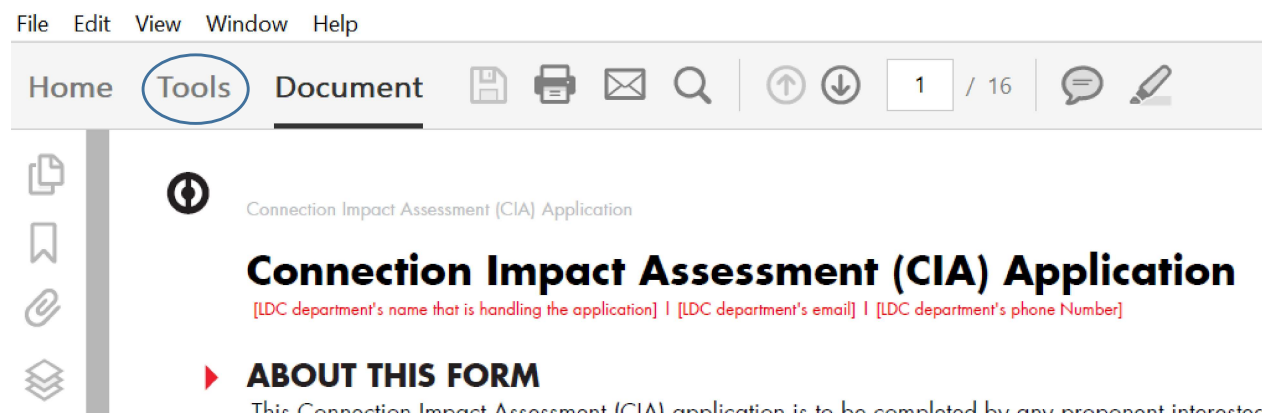
- **Fill and Sign:** This module is used by the client to fill and sign the form
- **Stamp:** used by customer to create a stamp (example: P. Eng. Stamp)

Form Editor Tools

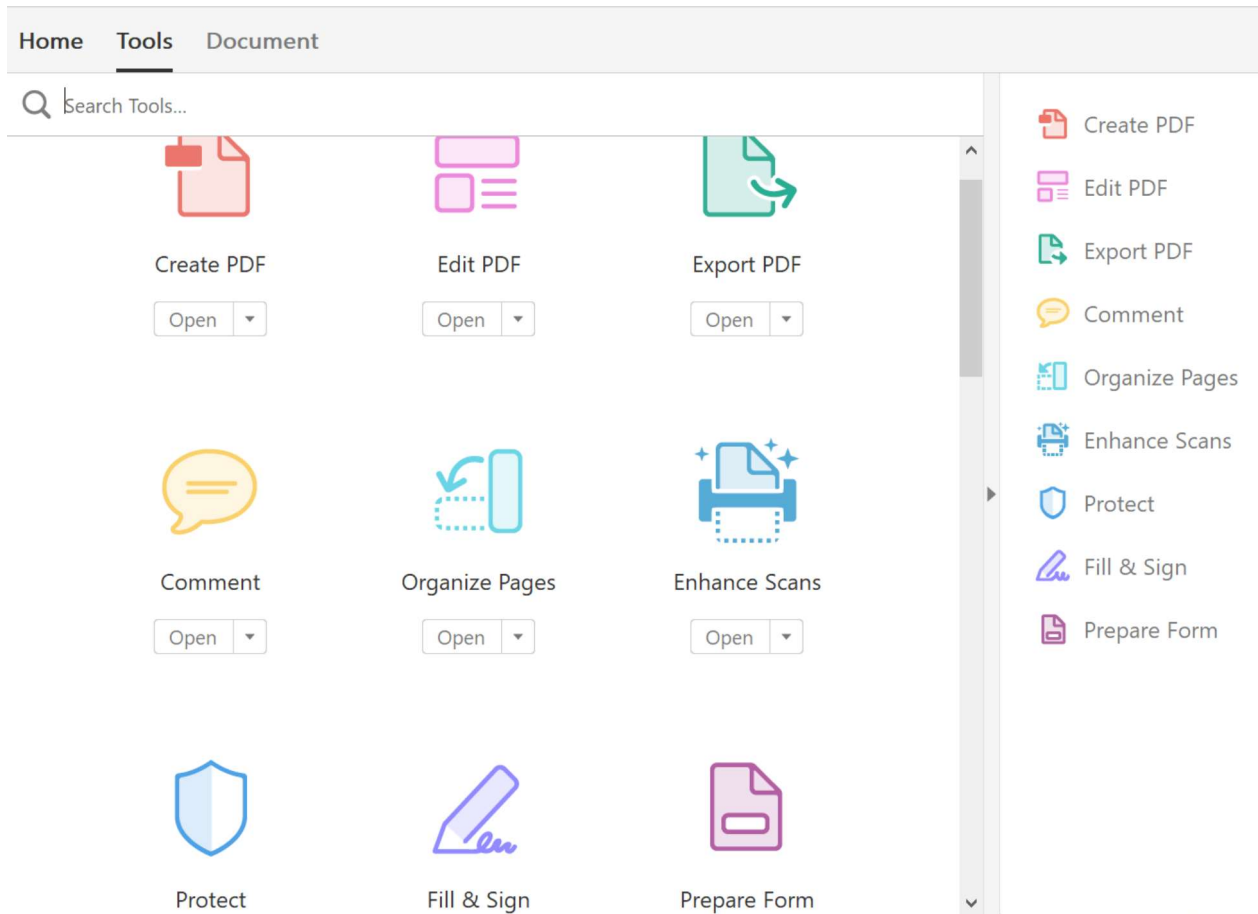
- **Edit PDF:** Used to edit the layout of the form fields and text that appears above or beside the form fields.
- **Prepare Form:** where all of the JavaScript coding is written for each form field. This module is used to create radio buttons, check boxes, lists, and the formatting for the type of input required for each field, etc.
- **Organize Pages (optional):** This is not required, but can be used to add templates, such as creation of the Add Page button on page 8 of the CIA form. It is considered beyond the scope of this guide.

To access these modules:

Open the document in Adobe Acrobat Pro (or Adobe Reader) → Tools → [choose required module]



The modules appear both as an icon view (on the left) or a list view (on the right). I recommend the icon view because the list view at times hides some of the modules/tools. Select the required module.



Note: Pressing "Document" tab above returns the user to the document (CIA form) if no module selection is required.

2. The Customer Experience

2.1 General Information about the “Fill and Sign” Module

Adobe has an easy user experience for the customer when it comes to filling out the form.

To verify all required fields are filled and for help with placing signatures, this form is equipped with features to guide the customer along.

- The document automatically launches in the “Fill and Sign” module where the customer is able to both fill the document and electronically sign it. More on this in [later](#). The customer can begin filling out the form immediately without any understanding of the various Adobe modules.
- We also added the following features to help the customer:
 - Validate Form: ensures all required items are filled out by the customer
 - Clear Form: Resets all of the form fields (to blank) to ensure old information from a different project are not accidentally used
 - “Important Notes” discusses what the customer is expected to do

Document

[LDC department's name that is handling the application] | [LDC department's email] | [LDC department's phone number]

Validate Form
Clear Form

▶ **ABOUT THIS FORM**

This Connection Impact Assessment (CIA) application is to be completed by any proponent interested in connecting a Distributed Energy Resources (DER) with a project size over 10 kilowatts (kW) to [LDC name]. This includes DER applying for a new CIA or for revision(s) to their original CIA. This form expresses an intent to enter into an agreement between [LDC name] and the customer (or host customer* for load displacement projects) for completion of a CIA associated with connecting a DER to the [LDC name] distribution grid. The CIA Application shall be part of the required servicing (electrical installation, maintenance, and operating) agreements between [LDC name] and the proponent. Through this process, [LDC name] will be the proponent's contact with the transmission system provider (e.g. Hydro One Networks Inc.) and, if necessary, the provincial market operator, namely, the Independent Electricity System Operator (IESO).

*For Load Displacement projects, the term “host customer” refers to the owner of the load facility. The term “DER owner” refers to the owner of the DER facility.

Emergency Backup Generators should use the Emergency Backup Generation Application Form available at: [LDC link to application]

▶ **TECHNICAL REQUIREMENTS**

For technical requirements of [insert LDC]'s DER projects, refer to the “DER Technical Interconnection Requirements Interconnections at Voltages 50kV and Below”, available at: [LDC link to “DER Technical Interconnection Requirements Interconnections at Voltages 50kV and Below” application]

▶ **SUBMISSION INSTRUCTIONS**

Please return the completed form, fees and other required documents by mail to:

[LDC name]
Attn: [LDC department's name that is handling the application]
Generation Connection Application
[Address]
[City], [Province] [Postal Code]

▶ **IMPORTANT NOTES**

- An engineering stamp and all red box fields (on electronic version of form) are mandatory. Incomplete applications may be returned by [LDC name] and will result in delays in processing your application. Click the “Validate Form” button on the top right of this page to ensure all required information is filled. If any of the required fields are not applicable to your project, type “N/A” in any required text field or “0” in any required numerical field

2.2 Form Validation

2.2.1 The Validate Button

This button, found on the top right corner of page 1 of the CIA form, checks for any required fields (outlined in red). The picture below shows examples of required fields, optional fields, and read only fields.

- **Required Fields:** the customer must fill these fields. Checked by the “Validate Form” button to ensure completion. They appear as a blue box/radio buttons and outlined in red.
- **Optional Fields:** These fields are helpful to the LDC, but are not necessary for completion of evaluation. They appear as a blue box/radio buttons.
- **Read Only Fields:** These fields are greyed out to the user based on other selections made in the form. They appear as white boxes/radio buttons.

For certain application type selections, please complete the required fields:

Original CIA Project ID # *XX,XXX*

Revised Fields *list the fields that have changed from your previous application*

▶ SECTION B: PROJECT LOCATION

Address

City / Town / Township

Postal Code

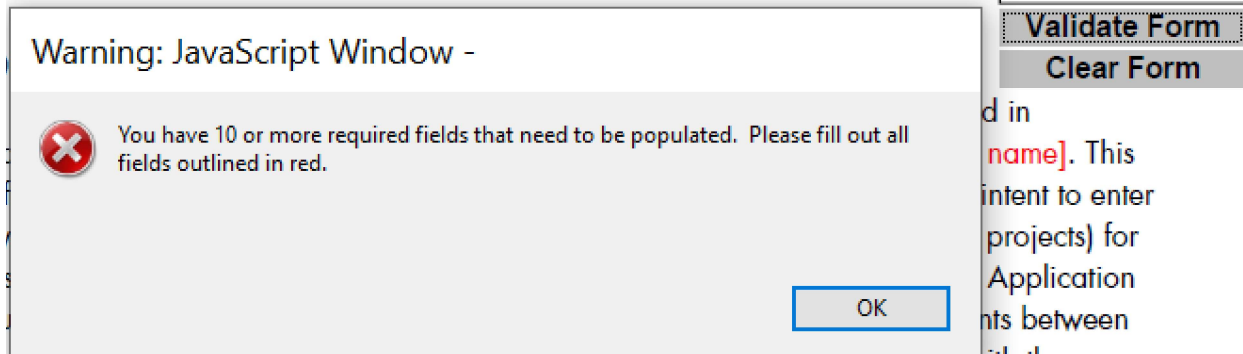
Lot Number(s)

Concession Number(s)

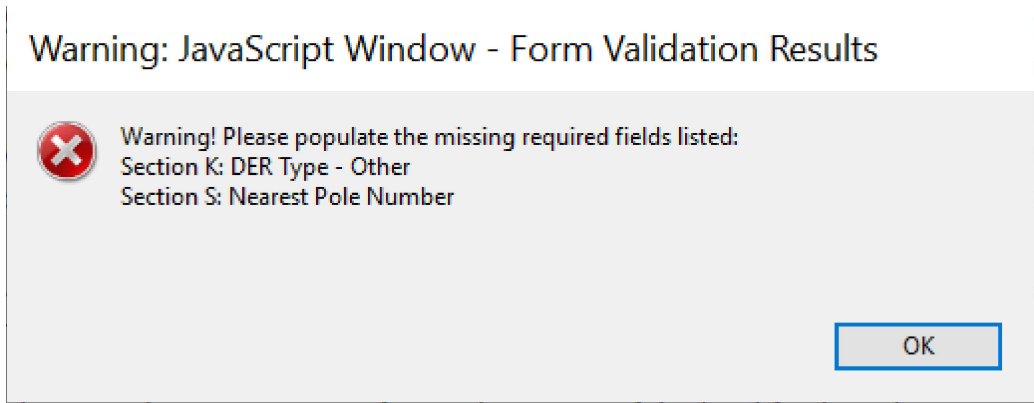
2.2.2 Validation Results

When pressing the “Validate Form” button, one of three messages is presented to the user:

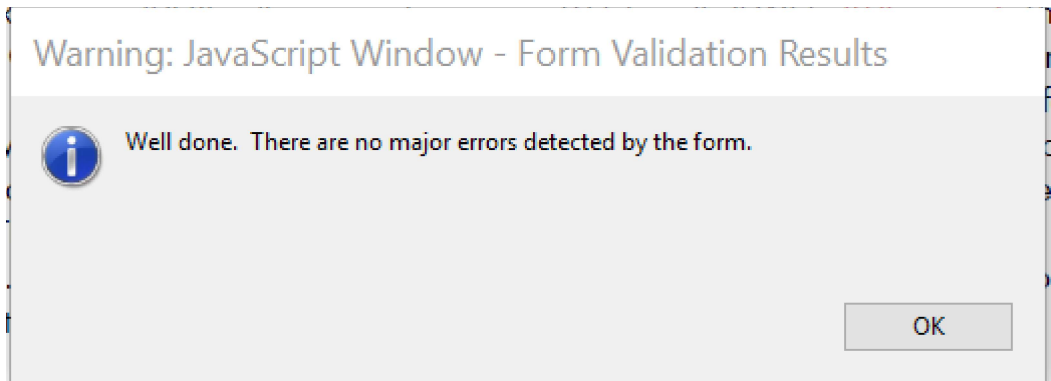
Message 1: if 10 or more required fields are missing:



Message 2: less than 10 missing fields. The form specifies the missing fields:



Message 3: If all required fields are populated. An information message is shown:



2.3 P. Eng. Stamp and Digital Signature

Once a stamp and signature are created, adding them to the document is a simple two-step process that should take less than a minute. The form assumes the customer has no prior experience with this process, hence, a step-by-step guide is provided in the form.

▶ SECTION A: APPLICATION INFORMATION

Engineering Stamp

Application Type *choose one*

Capacity Increase Request

Date *mm*

Program Type/Purpose *choose one*

Load Displacement

Program

Project Name

IESO Contract Number *F-XXXXXX-XXX-XXX-XXX*

IESO Rel

Ontario Corporate Number or Business Identification Number

Proposed In Service Date *mm/dd/yyyy*

If this project is a subdivision project, please complete the following fields:

Subdivision Project Name

Number of Lots

When the user clicks on the question mark, the following message appears to guide the user:

Warning: JavaScript Window - Engineering Stamp and Electronic Signature



The following is a general guideline for applying an electronic P. Eng stamp and signature. The steps vary slightly for Adobe Acrobat Reader/Pro). Note the 'Engineering Stamp' field is broken down into (1) The stamp and (2)the signature/date areas.

Step 1: Creating a Stamp in Adobe (only needs to be done once):

- 1.1 Scan your stamp (in accordance with PEO guidelines).
- 1.2 Crop the stamp and save the image as a pdf (recommended), jpeg, or png.
- 1.3 In the 'Tools' tab, choose the 'Stamp' module.
- 1.4 From 'Stamp' module, choose 'create' under the 'Custom Stamps' menu.
- 1.5 Find the custom stamp created in step 2 and confirm the selection. The next screen allows you to name the step and choose a category. The category should be 'Business Standard'.

Step 2: Applying the P. Eng Stamp:

- 2.1 Open PDF file to be stamped.
- 2.2 In the 'Tools' Tab, choose the 'Stamp' module.
- 2.3 Locate the stamp created under the 'Stamp' menu. The stamp is saved in the 'Business Standard' section.
- 2.4 Resize the stamp to fit in the square box provided.

Step 3: Applying the Digital Signature (makes document read only):

- 3.1 After filling the entire document, click on the signature space under the stamp created above.
- 3.2 If you have a signature created, choose it, otherwise, follow Adobe's instructions on creating a 'digital ID'. The type of ID chosen is optional.
- 3.3 Once applied, save the document. All fields are now read only. If you require future changes, you have the ability to right click on the signature and 'clear signature'.

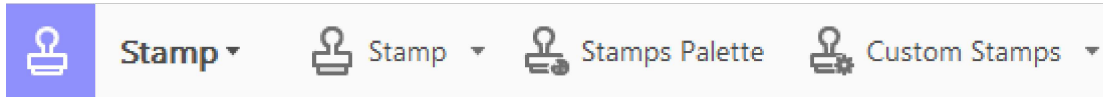
OK

Below are some of the steps shown:

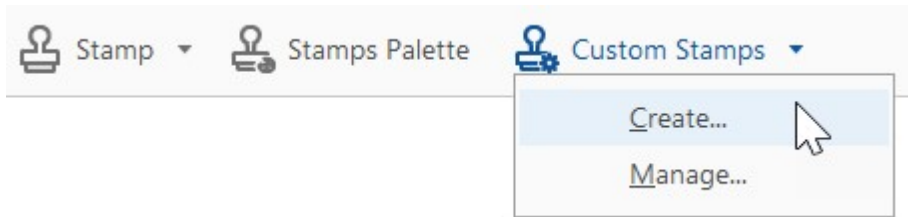
Access the “Stamp” module as described section 1.2. Below are some screenshots from some of the steps above

The menu appears as follows in Adobe Acrobat Reader 2017:

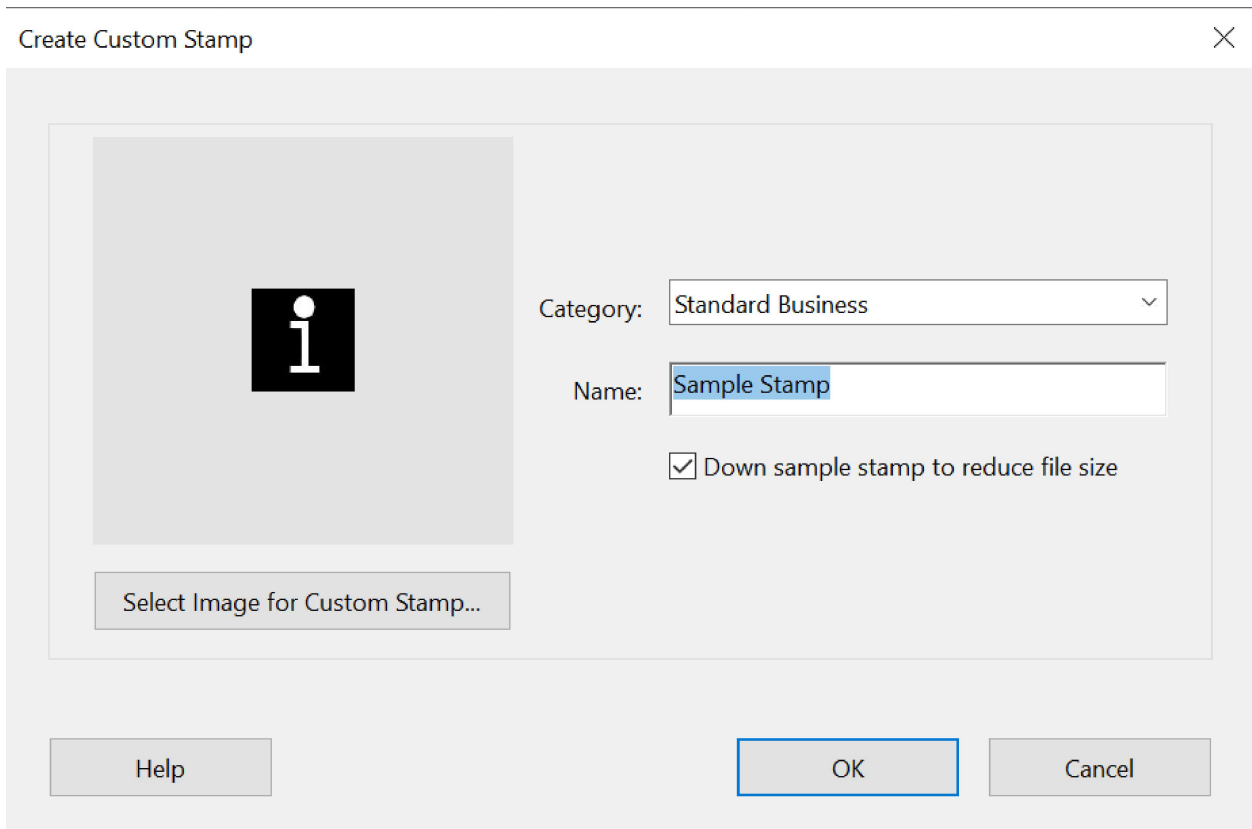
Step 1.3: The Stamp module/tool



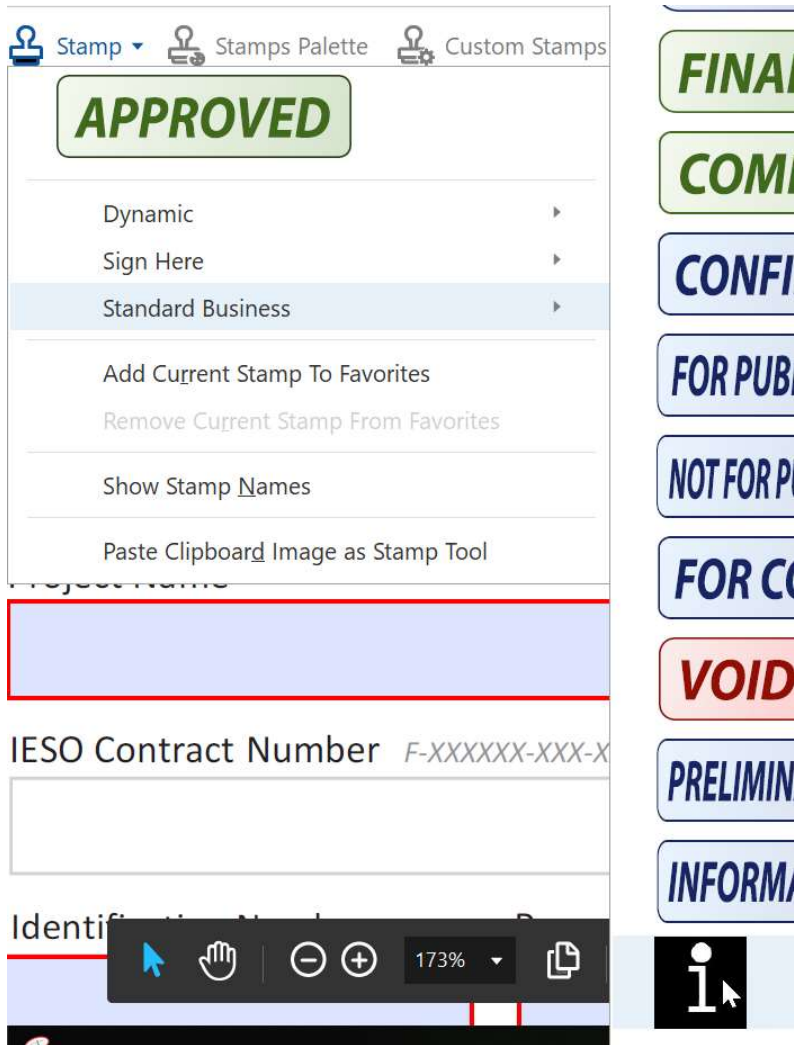
Step 1.4: create a new stamp



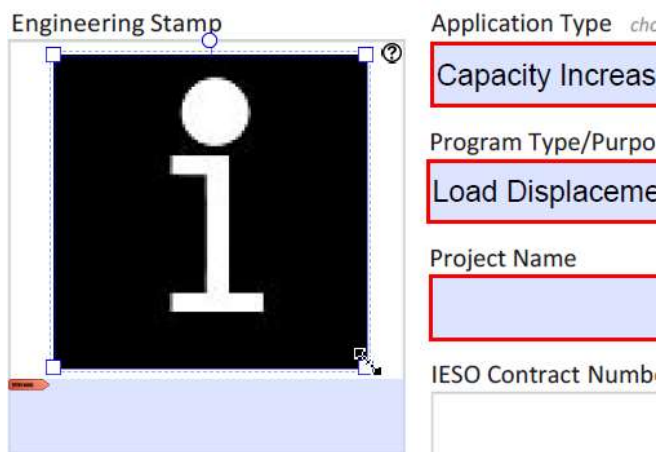
Step 1.5: choose “Standard Business” in Category (The “i” image in this demo would be replaced by a P. Eng stamp image that is scanned).



Step 2.3: Stamp → Standard Business → Select the stamp (P. Eng Stamp) created in step 1.5



Step 2.4: resize stamp to fit stamp area



Step 3.1:

Engineering Stamp

Application Type *choose one*
Capacity Increase Reque

Program Type/Purpose *choose*
Load Displacement

Project Name

IESO Contract Number *F-XXXX*

Section A: Digital Signature (Click to sign)

Step 3.2: This is a certificate issued by me. Other more secure methods can be used, but not required for the CIA form submission. Adobe guides the user with the creation process.

Sign Document

Sign As: Samer Matti (Samer Matti) 2025.11.13

Issued by: Samer Matti More Details

Appearance: Standard Text

Samer Matti Digitally signed by Samer Matti Date: 2020.11.16 11:18:37 -05'00'

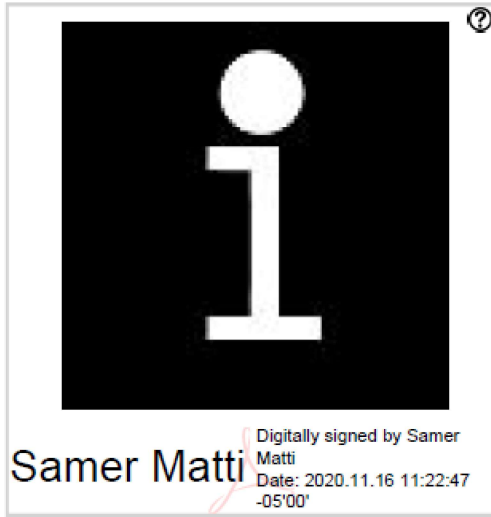
Click Review to see if document content may affect signing Review...

Enter certificate password and click the 'Sign' button

Help Sign Cancel

Step 3.3: the resulting document is read-only with the digital signature and stamp applied

Engineering Stamp



Application Type *choose one*

Capacity Increase Request

Program Type/Purpose *choose one*

Load Displacement

Project Name

IESO Contract Number *F-XXXXXXX-XXX-XXX-XXX*

3. Preparing the Form

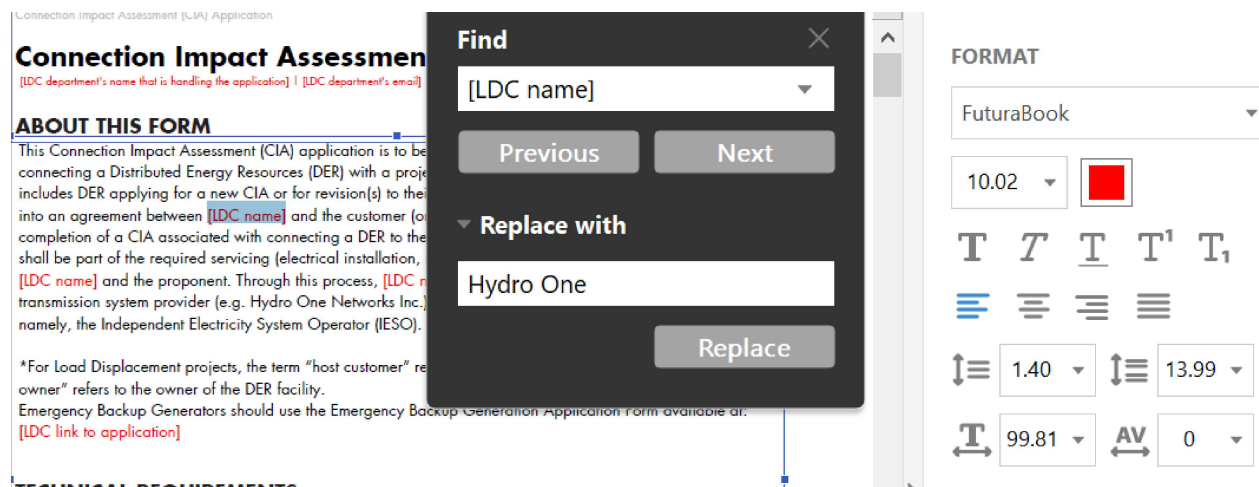
3.1 The “Edit PDF” Module

This module is required to edit the layout and text that appears in the form. Access this module as shown in section 1.2.

IMPORTANT NOTE: prior to making any edits, please create a backup copy of the document. Also, save the file frequently. Adobe Acrobat Pro can crash or cause unintended changes that are hard to recover at times. It is advised to create backup copies along the way if making any significant changes.

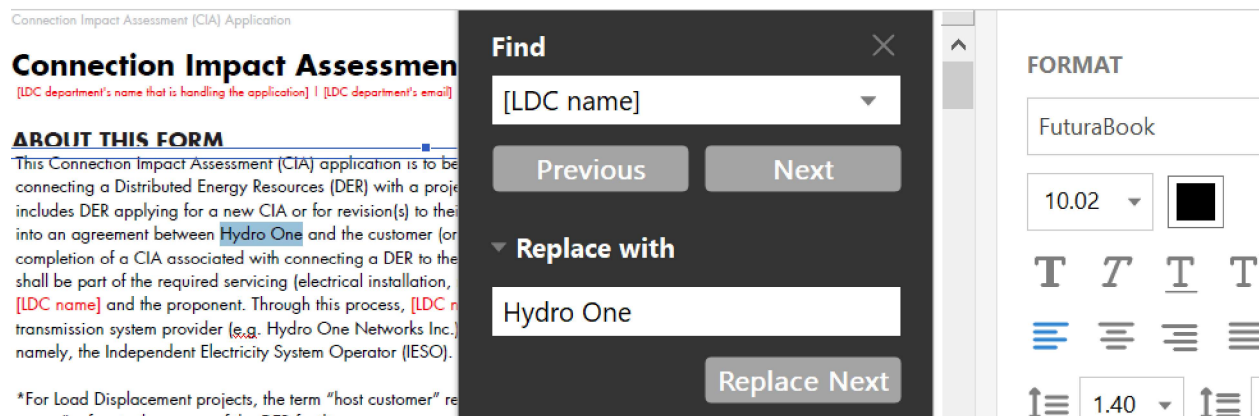
You will require the use of this module when changing all of the red text to match your company’s information:

Example:



In the example above, “[LDC name]” is being replaced with “Hydro One”. On the right side, the FORMAT section should be used to change the text that appears in red to black.

The resulting change:



3.2 The “Prepare Form” Module

This module is required to create/modify form fields. Access this module as shown in section 1.2.

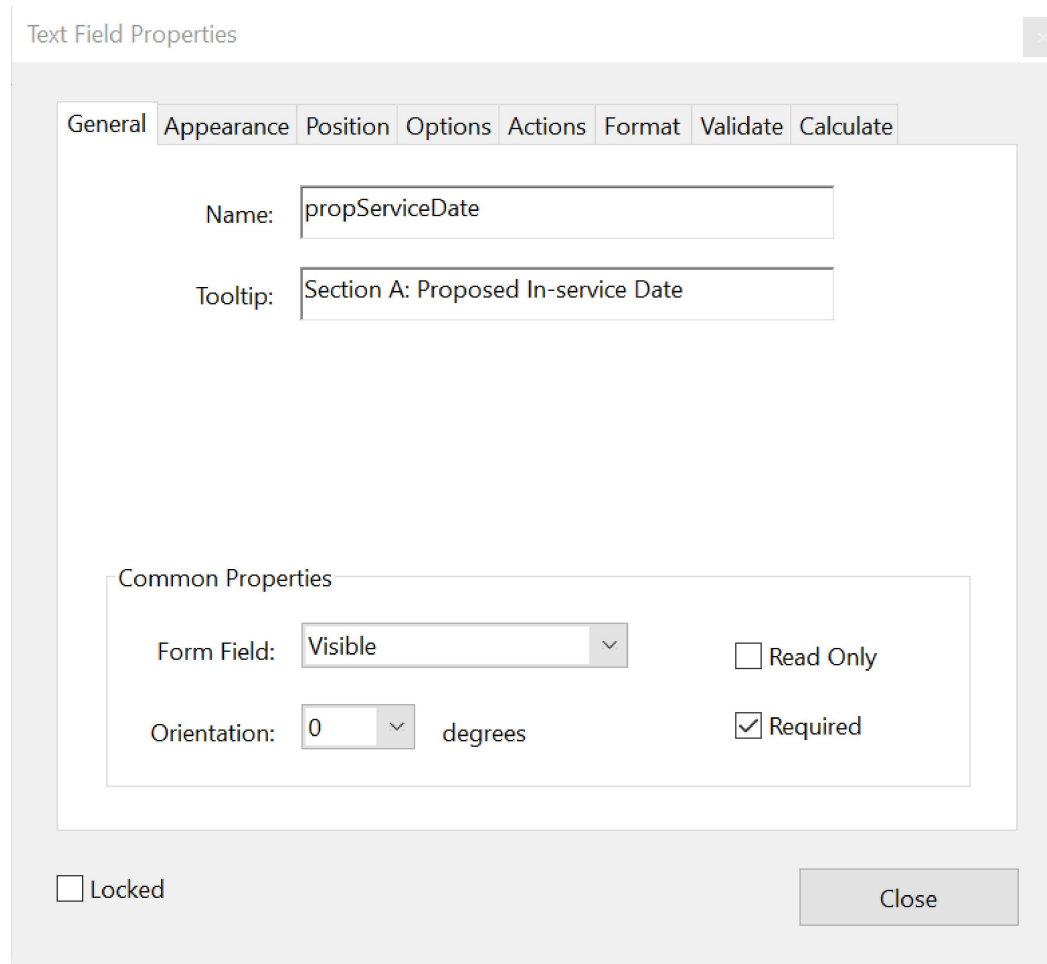
IMPORTANT NOTE: prior to making any edits, please create a backup copy of the document. Also, save the file frequently. Adobe Acrobat Pro can crash or cause unintended changes (especially in the this module) that are often hard to recover. It is advised to create backup copies along the way if making any significant changes.

The best way to understand how these fields work is to double click an existing field.

Taking a look at a sample field from CIA form’s Section A:



The first tab is the “General” information section:



Name: the “variable name” that the coding is based on. Example, if a certain variable is true then do this. You can see this in action shortly in section 3.2.1.

ToolTip: this is the text that shows up in the validate button. It lets the user know where they missed a field. The validate button searches for the “required” fields, which can be seen in the bottom right side of the general tab. Note that the “read only” and “required” can either be set in this “General” tab or they can be based on conditions in the “Action” or “Calculate” tabs.

The “Appearance” tab allows you to choose things link font, colour, and text size.

The “Format” tab allows you to choose the format of the field, such as date format, number format, text field, etc.

3.2.1 Example using JavaScript (in “Prepare Form” Module)

Let us look at the Existing Project Number from CIA form’s Section E:

The “Existing Project Number” is only available if there is an existing DER at the PCC. Hence, the answer to the first question determines if the “Existing Project Number” is required.

▶ SECTION E: EXISTING DER

Are there existing DER at the point of common coupling (PCC)?



Yes



No

Existing Project Number

Double click on the “existingDER” field and navigate to the “Calculate” tab. Choose “Edit...”:



- General
- Appearance
- Position
- Options
- Actions
- Format
- Validate
- Calculate

Value is not calculated

Value is the of the following fields:

Pick...

Simplified field notation:

Edit...

Custom calculation script:

```
else{
  event.target.required = false;
  event.target.readonly = true;
  event.target.value = "";
}
```

Edit...

Locked

Close

This is the code that appears:

```

if(getField("existingGenerator").valueAsString === "yes"){
    event.target.required = true;
    event.target.readonly = false;
}
else{
    event.target.required = false;
    event.target.readonly = true;
event.target.value = "";
}

```

Part of Code	Explanation
existingGenerator	Notice “existingGenerator” is the variable name that determines the condition. existingGenerator would be the “Name” in the general tab for that particular field, which is being used here to determine if this “existingDER” field is required or not (read only). Reading further below will make this more clear.
event.target.required = true	Sets the field as required.
event.target.readonly = false	Sets the field as a fillable field (not read only)

Putting it all together, the code above looks at the question above that reads “Are there existing DER at the point of common couple (PCC)? Yes or No.

If “yes” is selected, the existingGenerator value is set to yes (will be shown below). When that condition is true, Existing Project Number (assigned the variable “existingDER”) is required to be filled via “event.target.required = true;”, hence it will be checked by the “Validate Button” and “event.target.readonly = false;” makes sure that the field is available for data entry (not greyed out).

Otherwise (via the “else” statement), If “no” is selected, the existingGenerator value is set to no (will be shown below). When that condition is false, Existing Project Number (assigned the variable “existingDER”) is NOT required to be filled via “event.target.required = false;”, hence it

will NOT be checked by the “Validate Button” and “event.target.readonly = true;” makes sure that the field is greyed out and NOT available for data entry.

For completeness, here is how the “existingGenerator” variable’s value is passed on to the code above:

▶ SECTION E: EXISTING DER

Are there existing DER at the point of common coupling (PCC)?

Yes

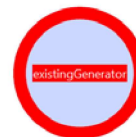
No

The radio buttons above both have the variable name “existingGenerator”, which can be seen when enlarging the field or in the “general” tab:

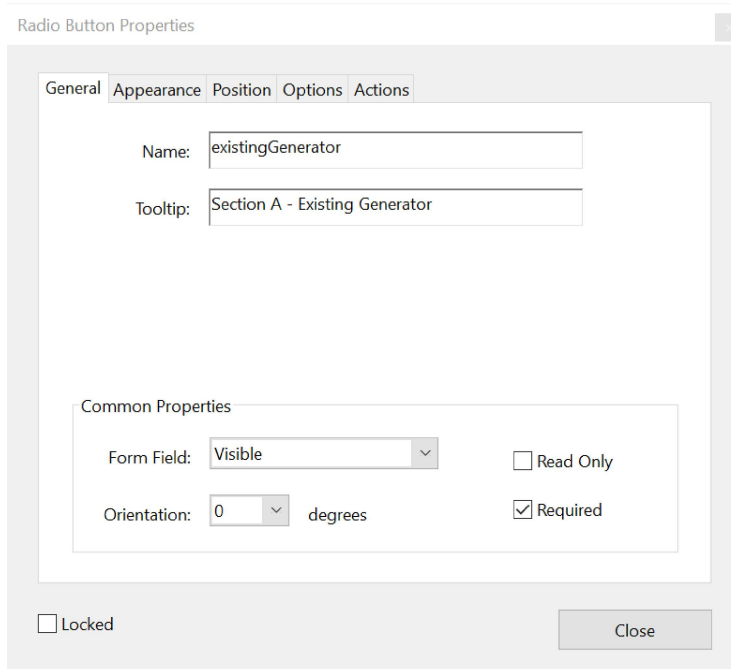
Are there existing DER



Yes



or



Navigating to the “Options” tab for the “yes” radio button:

Radio Button Properties

General Appearance Position Options Actions

Button Style: Circle

Radio Button Choice: yes

Button is checked by default

Buttons with the same name and choice are selected in unison

Note that the radio button choice is case sensitive. Since it is lower case here, it must be typed exactly the same way in the code shown for the existingDER on page 17. If the “no” radio button is selected, that radio button’s “Radio Button Choice” is programmed to “no”. Since both radio buttons have the same variable name (“existingGenerator”), the software only allows one button to be selected at one time.