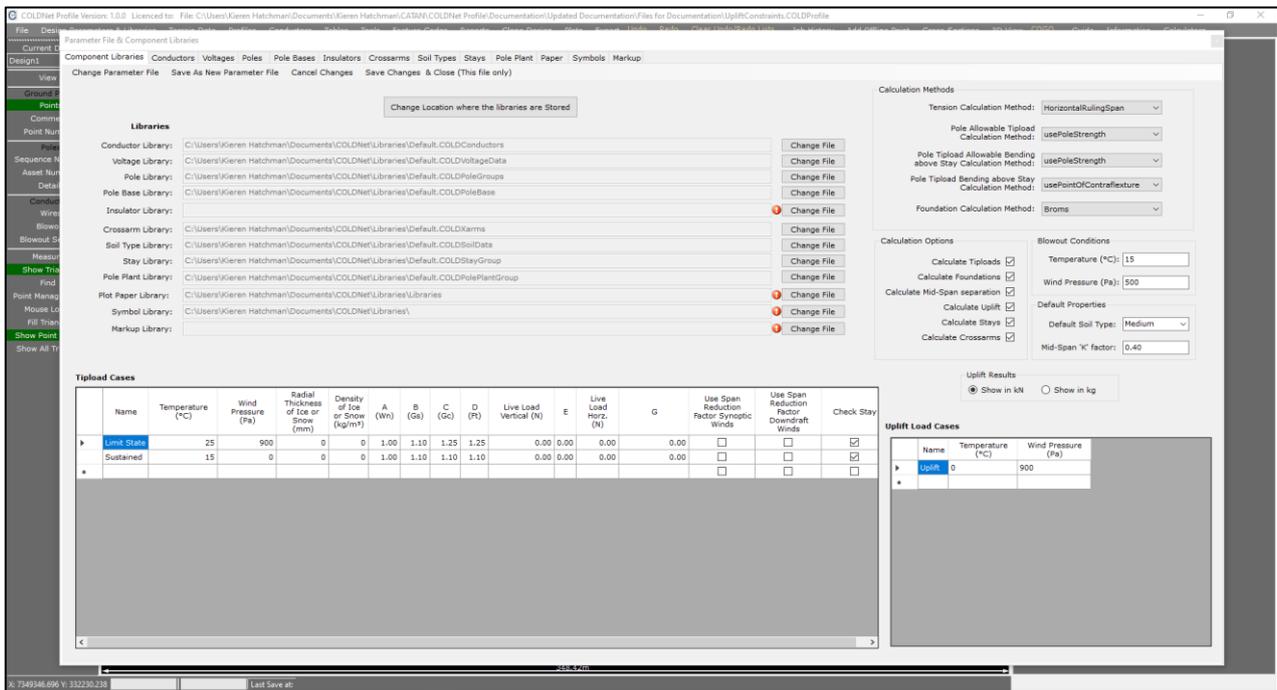
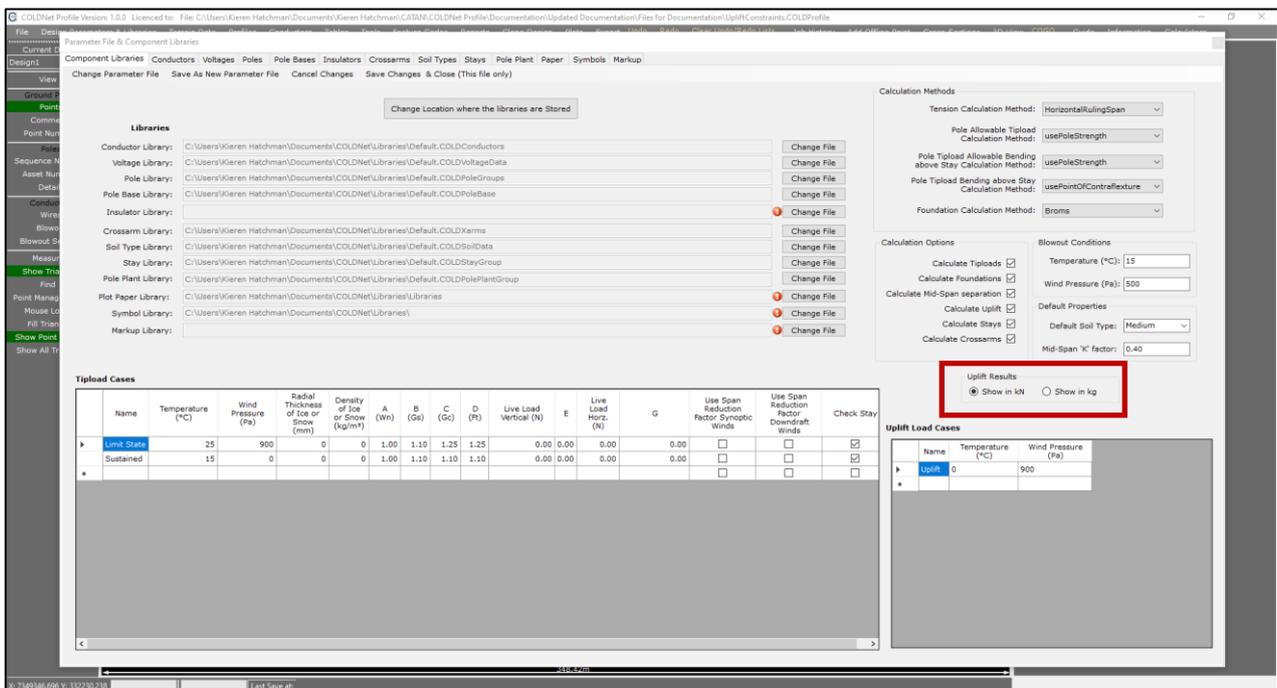


COLDNet Profile – Uplift Constraints

1. Open the earlier project that we created called **WalkthroughCSVImport**
2. Select **File>Save As** and give the new project the name **UpliftConstraints**
3. Select **Design Parameters & Libraries** from the top tool bar menu. The following window will open



4. Uplift results can either be displayed in **kN** or **kg** as shown in red below



COLDNet Profile – Uplift Constraints



- Uplift constraints can be added two ways, either at the Insulator level or at the Crossarm level. If there are no insulators specified on the crossarm then set the uplift capacity at the crossarm level. Select the **Crossarms** Tab
- Find the crossarm you wish to add uplift constraints on. For this example we are going to filter the **Crossarm Group>Standard, Attachment Type>Strain, Voltage>11 & Number of wires>3**. We are looking at crossarm **“Strain 3Ph 2400 x 150 x 100”**
- We are going to **Ignore Uplift Capacity** on this crossarm by selecting the check-box provided. This means that all uplift constraints will be ignored on this crossarm. The results will still be displayed but they won't be marked red as failing if they exceed the **Uplift Capacity**
- Now filter the **Crossarm Group>Standard, Attachment Type>Pin, Voltage>11 & Number of wires>3**. We are looking at crossarm **“Delta Inter. 3Ph 2400 x 100 x 100”**
- We are going to set an **Allowable Uplift** on this crossarm. Enter an **Allowable Uplift** of **‘17’**. This uplift capacity will now be used as the allowable uplift limit for this crossarm for each of the wires if no insulators have been selected for the crossarm. If the calculated uplift exceeds this value it will be marked red as failing. If insulators have been added to the crossarm the **Allowable Uplift** on the Insulator Library will be used.
- Close the form and select **“Yes”** to saving the changes. This will save the changes we just made to those two crossarms local to the job only. If you want the changes to save to your Crossarm Library for future use select **Save** on the **Crossarms** Tab before exiting the form
- If the crossarms have already been added to the design before we established the uplift constraints you will need to reselect them in your design. If no crossarm have been added to the design before this point you don't need to do anything, continue with your design. In this case crossarms had already been selected on the design so will therefore need to be re-selected to update the changes we just added
- Once returned to the main form select the **Profiles** option from the top toolbar menu. A new window will open

The screenshot displays the Profile software interface. On the left, there are input fields for Chainage (0.000), Asset No (4137255), Group (Wood), Length (12.5 m), and Strength (5 kN). Below these are foundation settings like Setting Depth (2.00) and Soil Passive Resistance (1800). A table at the bottom left shows 'Typical Results' and 'Foundation Utilization' with columns for Description, Result, and Values (kN).

The main area shows a profile view of a power line with poles and wires. The profile is plotted against height above ground. A table at the top right lists crossarms and their properties:

Profile	Circuit	Attachment Type	Conductor to Next Strain Pole	Everyday Load (%CB.L)	Crossarm Group	Crossarm	Part No.	Crossarm Angle (°)	Kingbolt Height Locked	Kingbolt Height (m)	Lowest Wire Height Locked
Profile 1	1	Strain	11 Libra x 3	12.0	Standard	Strain 3Ph 2400x150x100	11S3/3/L1B/	202	<input type="checkbox"/>	11.100	<input checked="" type="checkbox"/>
Profile 2	2	Strain	LV SC/AC 3/2.75 x 4	10.0	Standard	LV Strain 3Ph.	LVS/51/AC	202	<input type="checkbox"/>	9.100	<input type="checkbox"/>

At the bottom right, there is a 'Defects by Pole' table listing pole numbers and asset numbers.

- Make sure the first pole in the profile is highlighted with a transparent grey background.

COLDNet Profile – Uplift Constraints



14. Select any other **Crossarm** for Circuit 1 from the dropdown list apart from the original crossarm we had on the job and then reselect our crossarm **“Strain 3Ph 2700 x 150 x 100”**. By doing this the changes we made to this crossarm will now be updated on our design.
15. Under the Results grid you will be able to see the uplift for Circuit 1 is no longer marked as failing as we selected to **Ignore Uplift** on this crossarm
16. Repeat the process for Circuit 1 on Pole 3 with the Pin Crossarm **“Delta Inter. 3Ph 2700 x 100 x 100”** on Circuit 1
17. Under the Results grid you will be able to see the uplift for Circuit 1 is no longer failing because the calculate uplift of 0.13kN is less than the allowable **Uplift Capacity** that we set of 17kg (0.166kN) as shown below

The screenshot displays the Profile Profile1 software interface. On the left, design parameters are set, including Chainage (92.064), Asset No (45137258), and Strength (5 kN). The main window shows a table of Circuits & Crossarms:

Profile	Circuit	Attachment Type	Conductor to Next Strain Pole	Everyday Load (%CBL)	Crossarm Group	Crossarm	Part No.	Crossarm Angle (°)	Kingbolt Height (m)	Kingbolt Height Locked	Lowest Wire Height Locked
Profile1	1	Pin	11 Libra x 3	12.0	Standard	Delta Inter. 3Ph 2400x100x100	11DP3/L/LIB/	159	10.295	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Profile1	2	Pin	LV SC/AC 3/2.75 x 4	10.0	Standard	LV Pin 3Ph.	LVP3/SO/AC	159	8.295	<input type="checkbox"/>	<input type="checkbox"/>

Below the table is a wire diagram showing poles 1 through 8 with various wire types (W12.5 m/5 M) and sag curves. On the right, a 'Defects by Pole' panel lists asset numbers for each pole. At the bottom left, a 'Results' table is shown:

Description	Result
Uplift (m is up)	
Loadcase	Utilisation (%) Values (kN)
Limit State	35.08 3.16 / 9.00
Sustained	14.99 0.37 / 2.50
Foundation Utilisation	
Loadcase	Utilisation (%) Values (kN)
Limit State	20.27 3.16 / 15.57
Uplift (m is up)	
Loadcase	Uplift (kN)
Uplift Circuit 1	0.13
Uplift Circuit 2	0.15

The other method of adding uplift constraints is on the **Insulator Library** using the **Allowable Uplift** field. If insulators are to be used on the design they must be selected in the **Crossarm Library** from the **Insulator Group & Insulator Type** dropdown provided. These dropdowns will automatically be populated from the Insulator **Voltages** that match the **Voltage** of the Crossarm. If Insulators are added to the crossarm the Insulator Allowable Uplift will be used instead of the Crossarm Allowable Uplift in the calculations.