

COMMON INFORMATION MODEL

Guide to Importing CIM Profiles

DIgSILENT 2019

Approval

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Document revision and review

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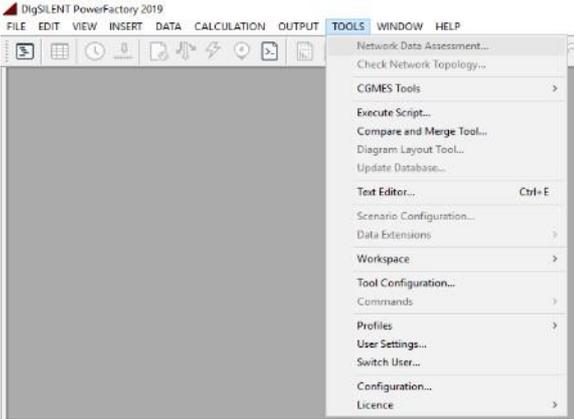
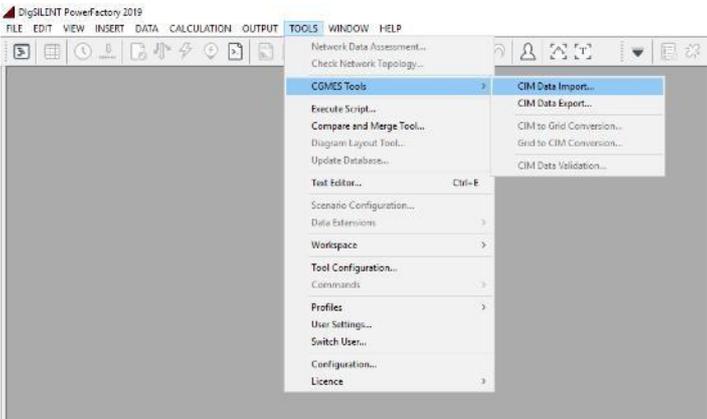
1. Introduction

To successfully import CGMES Common Information Model (CIM) profiles into DigSILENT¹ and perform load flow analysis. The following tasks are performed:

- CGMES Tools – use the CGMES Tools function in DigSILENT to perform an import of CIM profiles from a zip archive file.
- Grid conversion – upon successful import of the CIM profiles, the data will need to be converted to “Grid” format to allow the data to be accessed and power system studies to be performed.

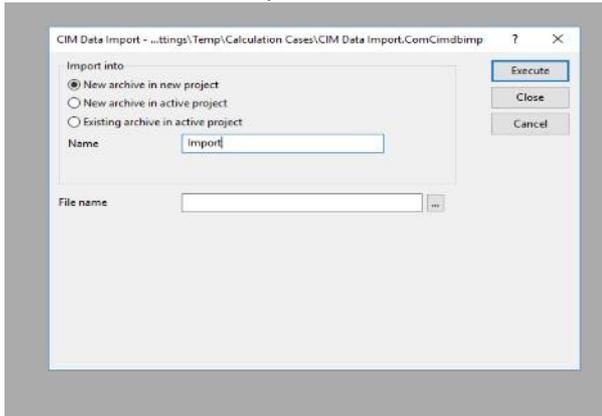
2. Process

2.1.Importing CIM profiles to DigSILENT

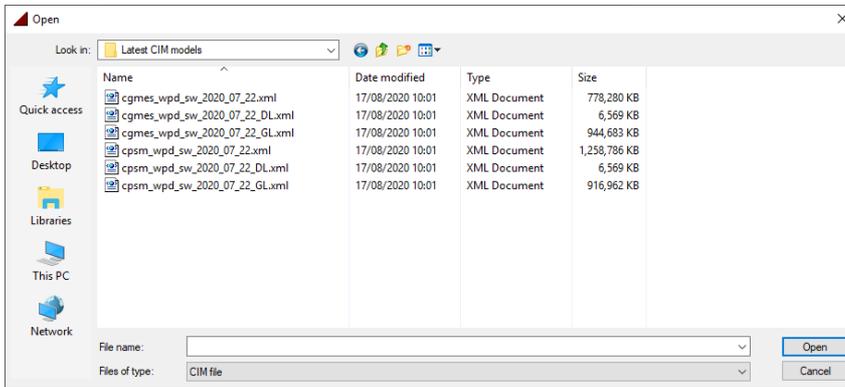
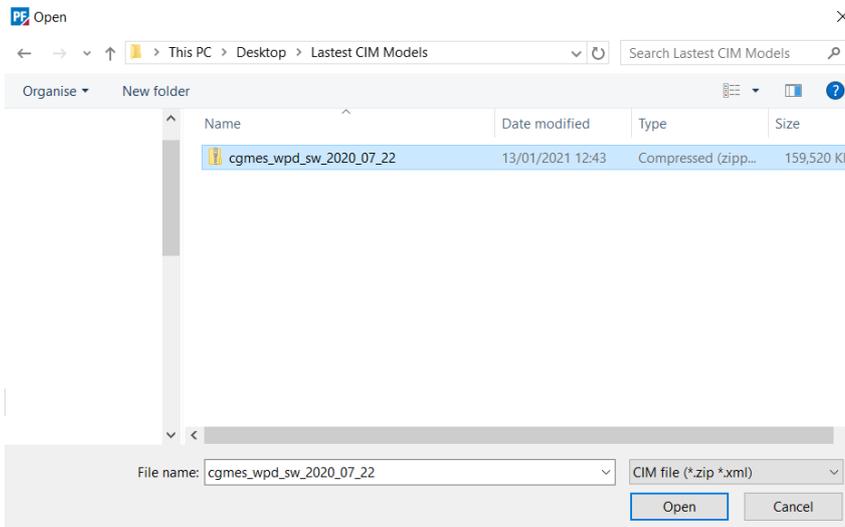
Step	Instruction
1.	Open DigSILENT Powerfactory and select the relevant licence. To import the profiles, click on the ‘Tools’ button on the taskbar of the window. 
2.	This will then produce a drop down menu. 
3.	Select the “CGMES Tool” followed by the “CIM Data Import”. 

¹ <https://www.digsilent.de/en/powerfactory.html>

4. This window will be produced which will allow you to name your project.



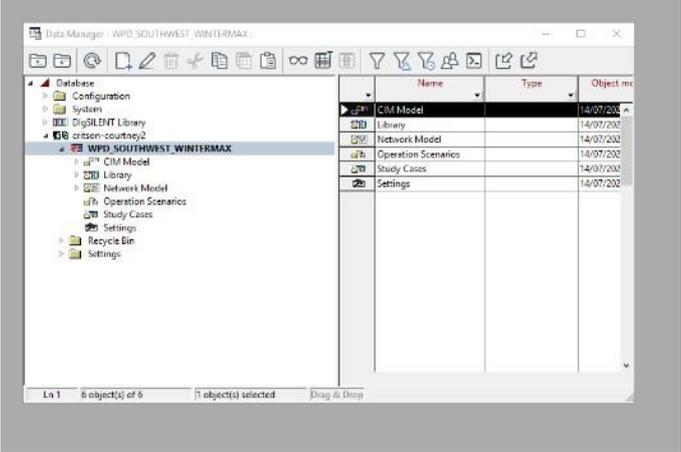
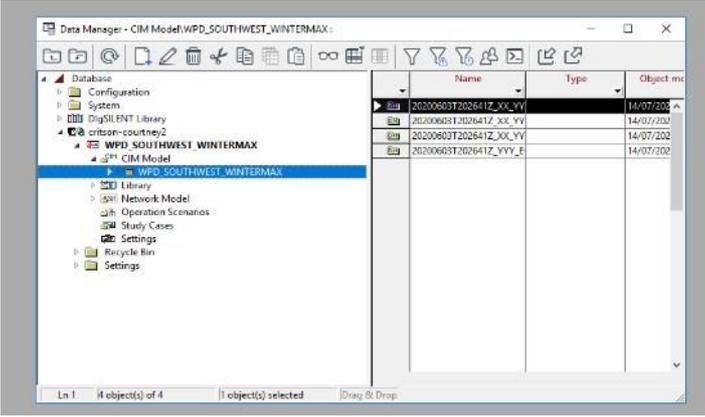
5. Select the relevant zip folder CIM file for import and click “Open”.



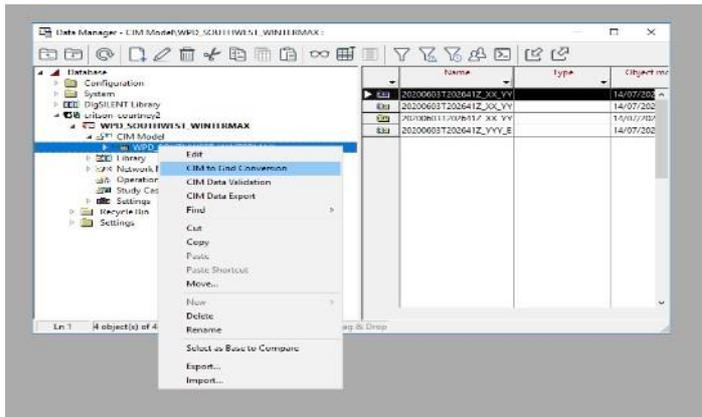
6. Once the CIM model is imported, the control window at the bottom of the screen should read “CIM Data Import finished”.



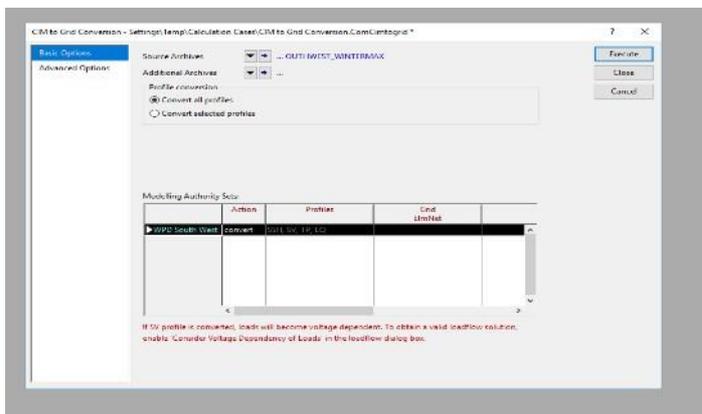
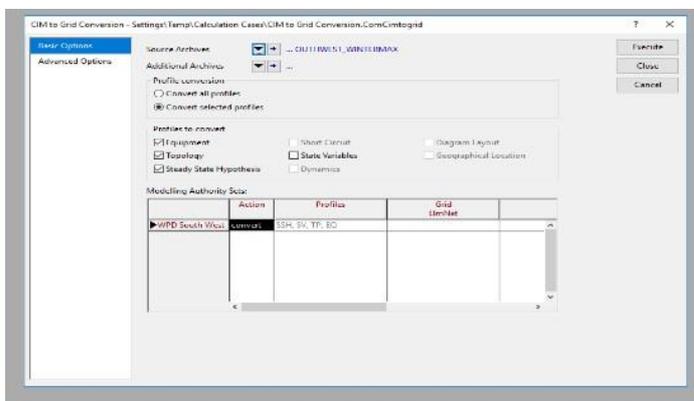
2.2. CIM to grid conversion

Step	Instruction																					
1.	<p>Click the  button to view the “Data manager”, click the drop down menu next to the project you have just imported.</p>  <p>The screenshot shows the 'Data Manager' window for project 'WPD_SOUTHWEST_WINTERMAX'. The left pane shows a tree view with 'CIM Model' selected. The right pane shows a table with the following data:</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Type</th> <th>Object m...</th> </tr> </thead> <tbody> <tr> <td>CIM Model</td> <td></td> <td>14/07/202...</td> </tr> <tr> <td>Library</td> <td></td> <td>14/07/202...</td> </tr> <tr> <td>Network Model</td> <td></td> <td>14/07/202...</td> </tr> <tr> <td>Operation Scenarios</td> <td></td> <td>14/07/202...</td> </tr> <tr> <td>Study Cases</td> <td></td> <td>14/07/202...</td> </tr> <tr> <td>Settings</td> <td></td> <td>14/07/202...</td> </tr> </tbody> </table>	Name	Type	Object m...	CIM Model		14/07/202...	Library		14/07/202...	Network Model		14/07/202...	Operation Scenarios		14/07/202...	Study Cases		14/07/202...	Settings		14/07/202...
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Settings		14/07/202...																				
2.	<p>Click on the CIM Model button to bring down a secondary drop down menu</p>  <p>The screenshot shows the 'Data Manager' window with the 'CIM Model' button expanded. The left pane shows 'WPD_SOUTHWEST_WINTERMAX' selected. The right pane shows a table with the following data:</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Type</th> <th>Object m...</th> </tr> </thead> <tbody> <tr> <td>20200603T20264TZ_XX_YY</td> <td></td> <td>14/07/202...</td> </tr> <tr> <td>20200605T20264TZ_XX_YY</td> <td></td> <td>14/07/202...</td> </tr> <tr> <td>20200607T20264TZ_XX_YY</td> <td></td> <td>14/07/202...</td> </tr> <tr> <td>20200609T20264TZ_YY_E</td> <td></td> <td>14/07/202...</td> </tr> </tbody> </table>	Name	Type	Object m...	20200603T20264TZ_XX_YY		14/07/202...	20200605T20264TZ_XX_YY		14/07/202...	20200607T20264TZ_XX_YY		14/07/202...	20200609T20264TZ_YY_E		14/07/202...						
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20200609T20264TZ_YY_E		14/07/202...																				

- Right click to access drop down menu and select CIM to Grid Conversion.



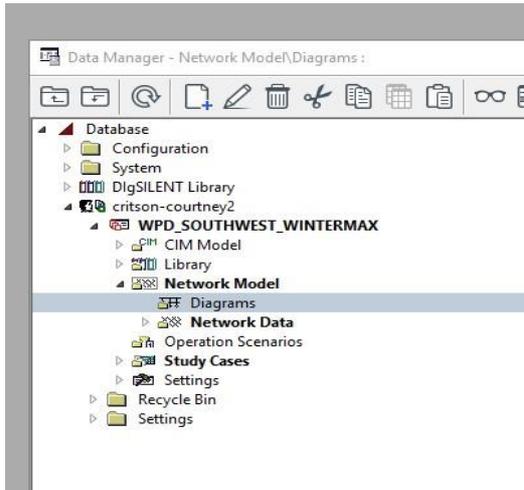
- This will produce the following window, in order to convert the CIM select "Convert all profiles". Click 'Execute'.



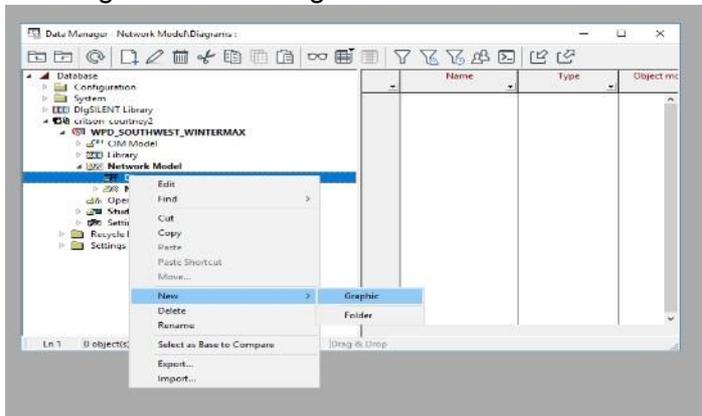
- When the conversion is complete the following information point will be displayed.



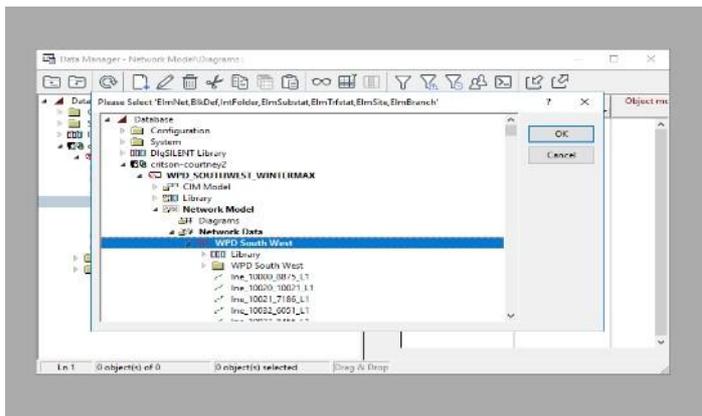
6. Following that, click “Data Manager” and then click the project name to drop down the menu. After that, click the network model drop down menu



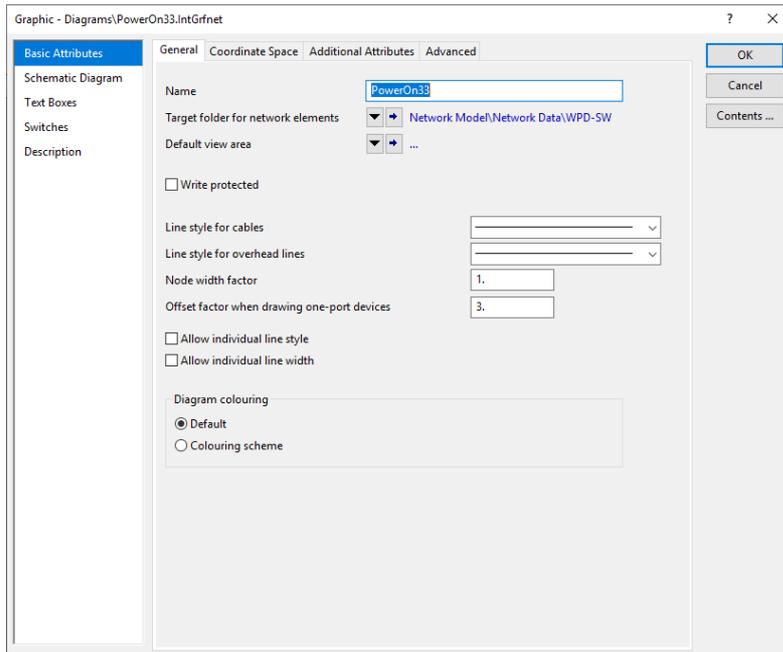
7. Then right-click on “Diagram” and choose “New” and “Graphic” on the menu.



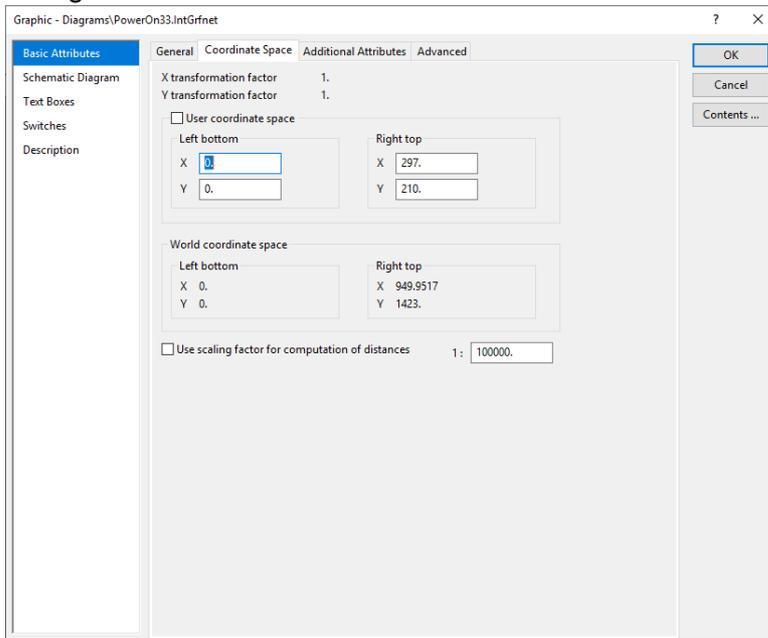
8. From the box on the screen select the relevant network data and click “OK”.



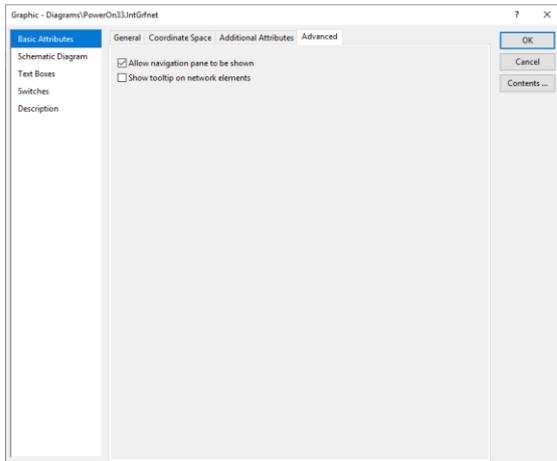
9. Then specify all the following settings and then press “OK”:



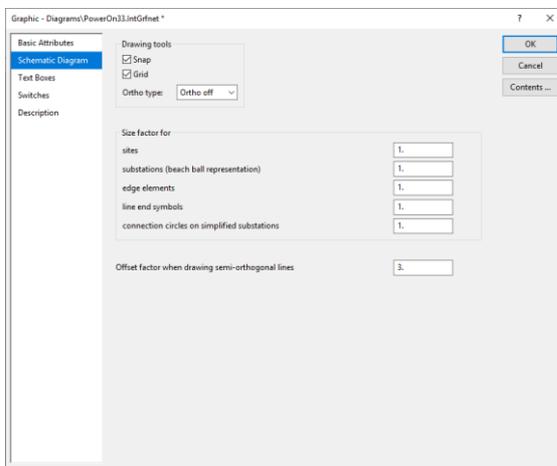
In “Basic Attributes” make sure that “Coordinate Space” has settings as shown below.



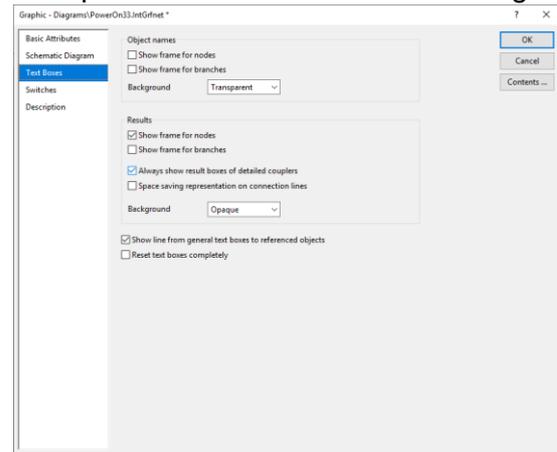
In “Advanced” tab, click to “Allow navigation pane to be shown”.



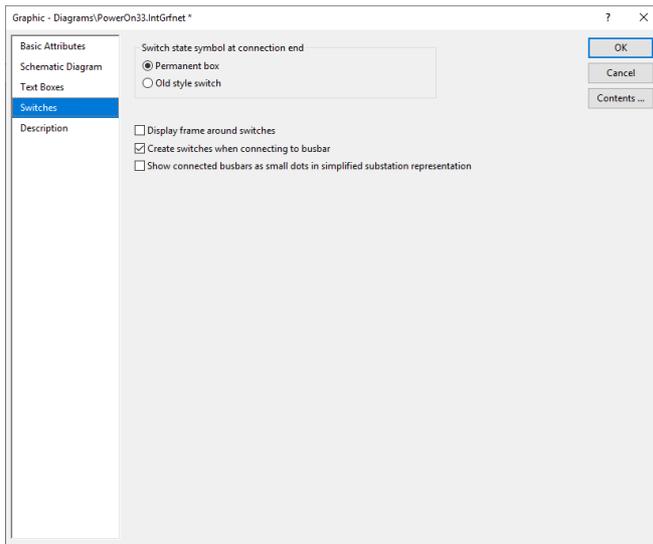
In the “Schematic Diagram” make sure that following settings are adopted.



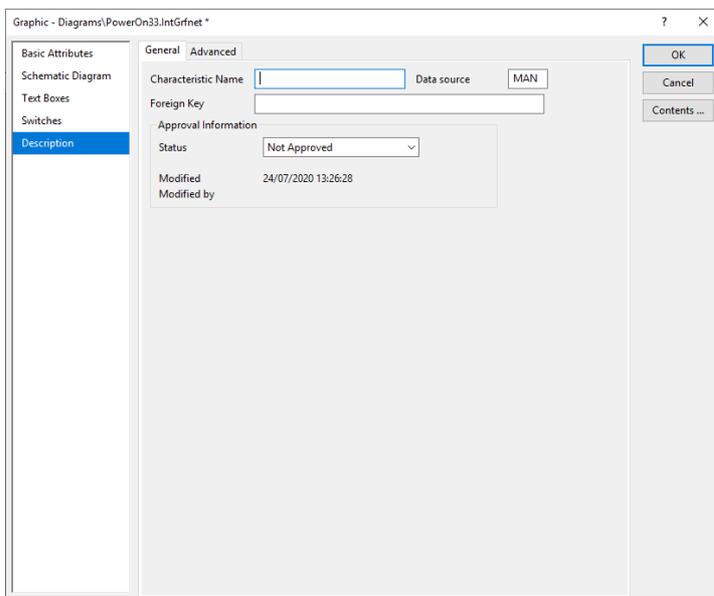
In “Text Boxes”, choose under “Label” background to be “Transparent” and under “Results” background to be “Opaque”.

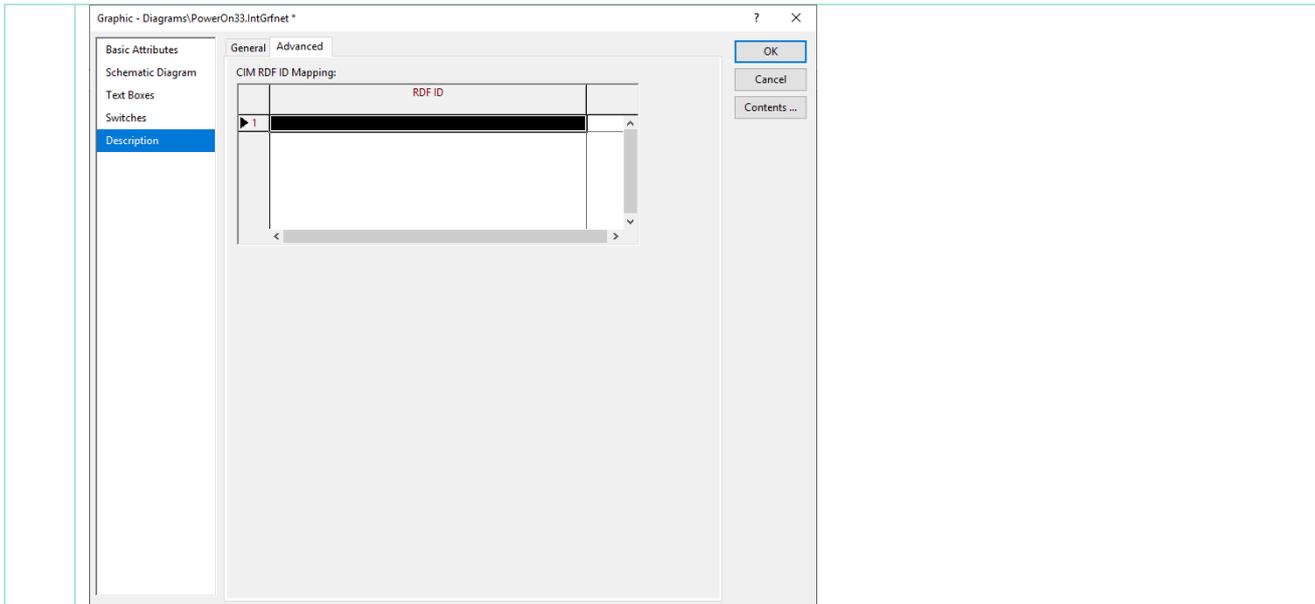


In “Switch”, choose option to “Create switches when connecting to busbar”.

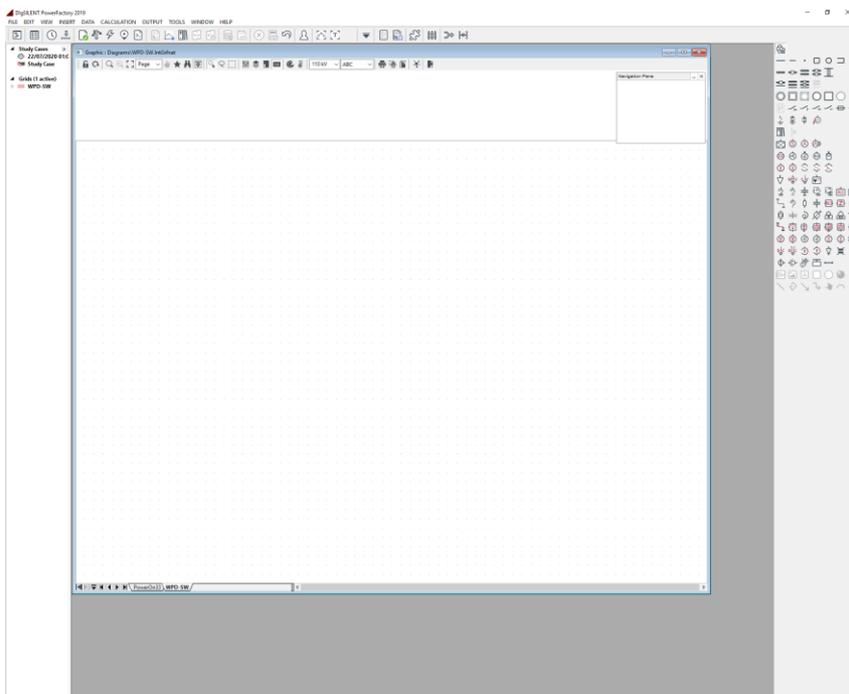


Under “Description” make sure that “General” and “Advanced” tab has the same settings as shown below.

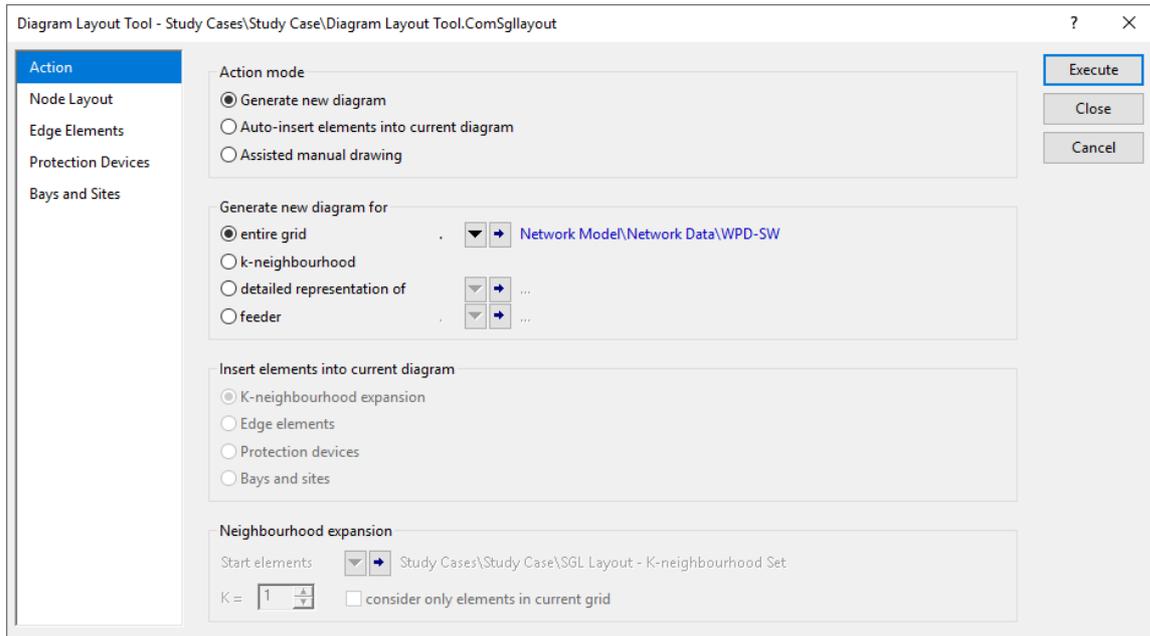




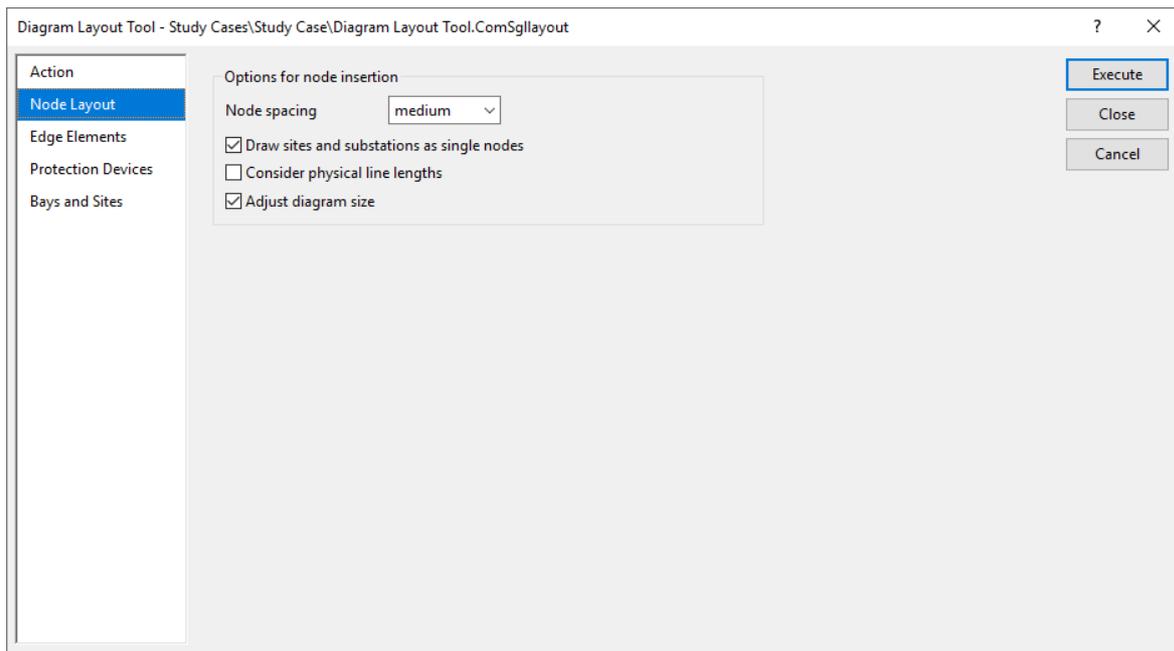
10. This will produce a seemingly blank grid



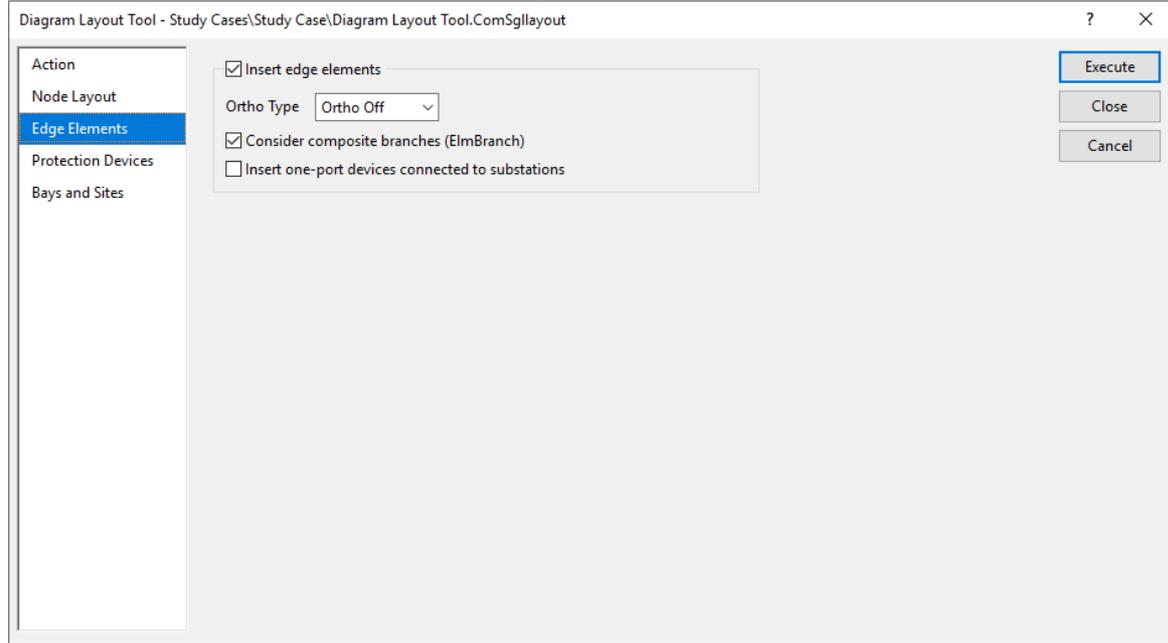
11. However, then go to diagram layout tool. This will give the below boxes. Click the specified settings and click “Execute”.



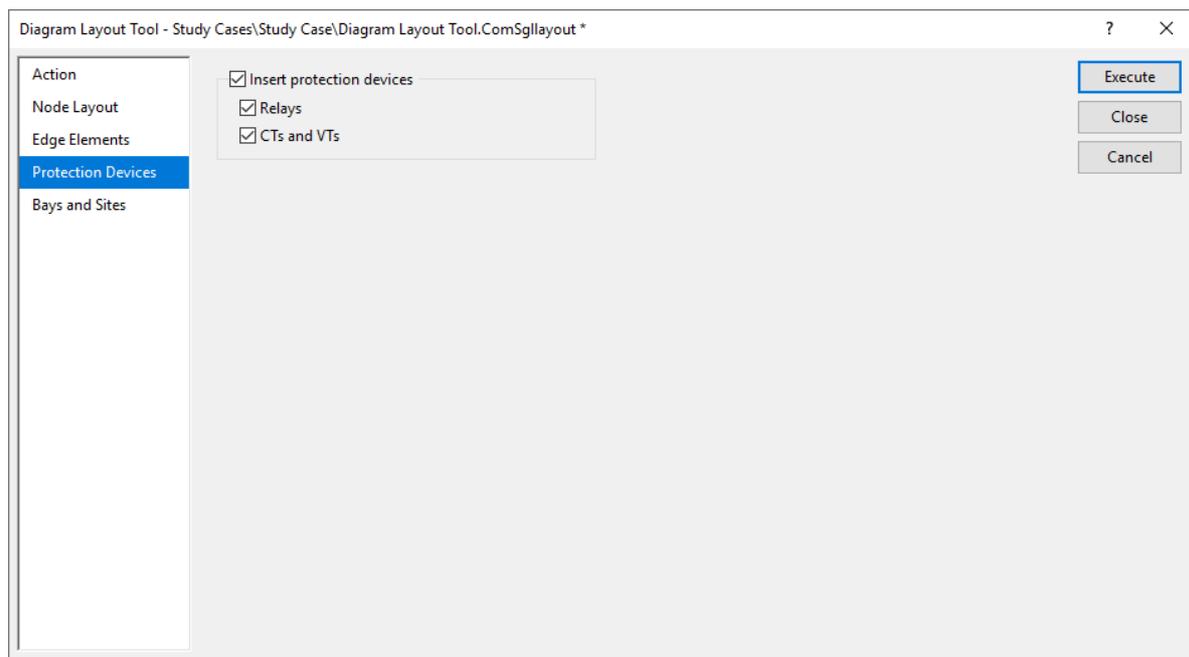
First setting to adopt is “Node Spacing” to be “Medium” in the “Node Layout”.



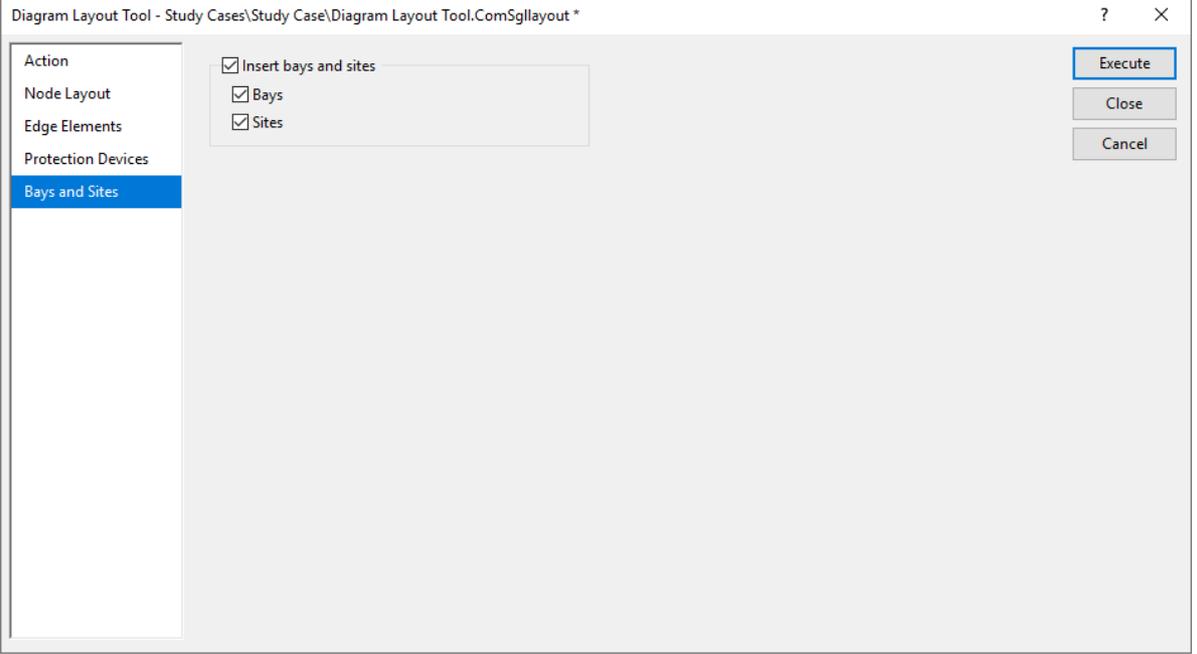
In the “Edge Element” choose “Insert Edge Elements” and “Ortho Type” to be “Ortho Off”



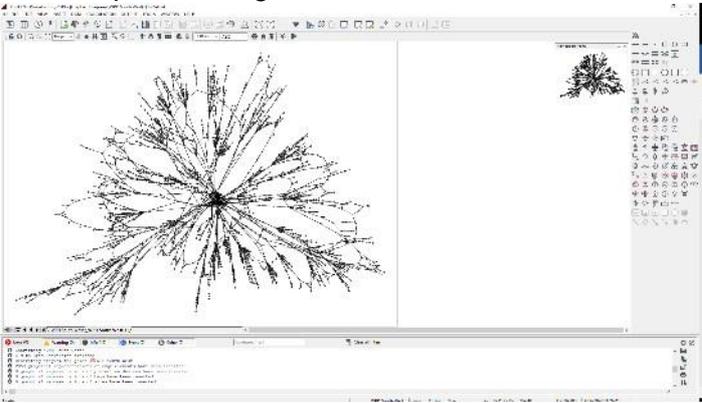
In “Protection Devices” allow to “Insert protection devices” and choose “Relays” and “CTs and VTs”.



In “Bays and Sites” allow to “Insert bays and sites” and then, allow both “Bays” and “Sites”. After that, click “Execute”.



12 This will produce a grid, as shown below:



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Western Power Distribution (South West) plc, No2366894
Western Power Distribution (South Wales) plc, No2366985

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