BiGER Nordic Tutorial

June 27, 2025

1 Simulation steps: Nordic System with GFL-VSC

1.1 FILES

1) .ecf file
2) Script folder containing file .dwj

1.2 LOAD FLOW AND CALCULATION OF INITIAL CONDITIONS

- Deactivate the GFL-VSCs blocks and activate **Load-flow and initialization block**. Ensure both GFL-VSCs and Load-flow and initialization block have same name. This has to be done for all VSCs in the system in sequence.
- **Simulate** $->$**Simulation Options** $->$ Tick on **Find Load-Flow solution**.
- **Run** the load-flow calculation.
- A file (.net) and a folder (_pj) are automatically created in the same folder where .ecf file is saved.

This is just a one-time process when in a new place .ecf file is copied when folder(_pj) is not there.

1.3 Simulation

After the load flow calculation, deactivate the Load-flow and initialization blocks next to all VSCs and then activate all GFL-VSC blocks. In order to run the simulation, follow the following steps:

- **Simulate** $->$**Simulation Options** $->$ Tick on **Find Load-Flow solution**.
- For each of the GFL-VSC blocks:

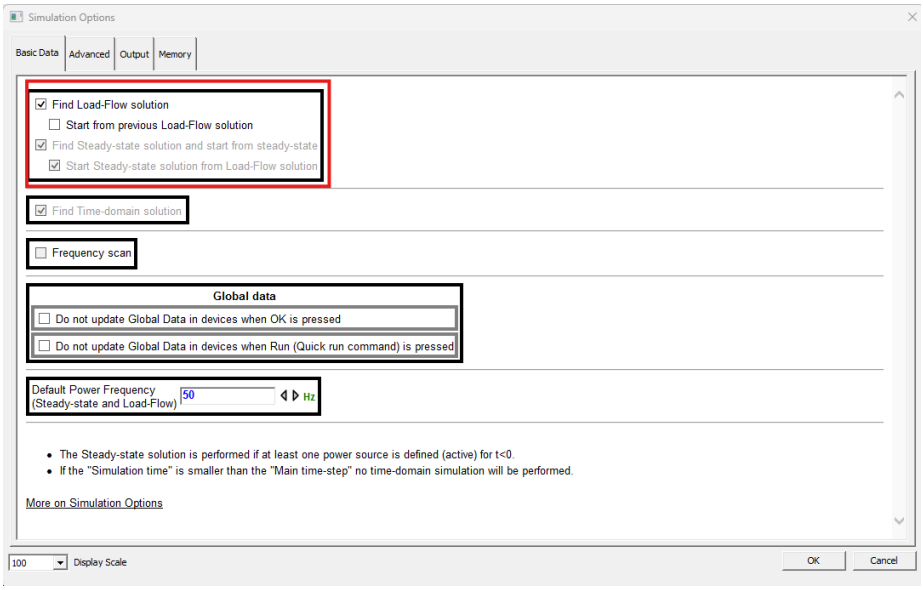

Figure 1: Load flow

- Double-click on each **GFL-VSC block**.
- And then Click-**OK**.

In the **console** block the initial calculation will be visible.

- After all VSCs have been initialized, **run** the simulation. As a result, the load flow solution is now available for the .ecf file in the Case web and Load-Flow web or in the folder (_pj)
- To get the steady-state solution and run the time-domain simulation:
  - **Simulate**– >**Simulation Options**– >UnTick on Find Load-Flow solution and Tick on the **Find Steady-state solution and start from steady-state** and also tick on **Start Steady-state solution from Load-Flow solution.**
  - Double-click on each **GFL-VSC block**. And then Click-**OK.**
- **Run** the simulation. The simulation status can be viewed in the View Steady-State.

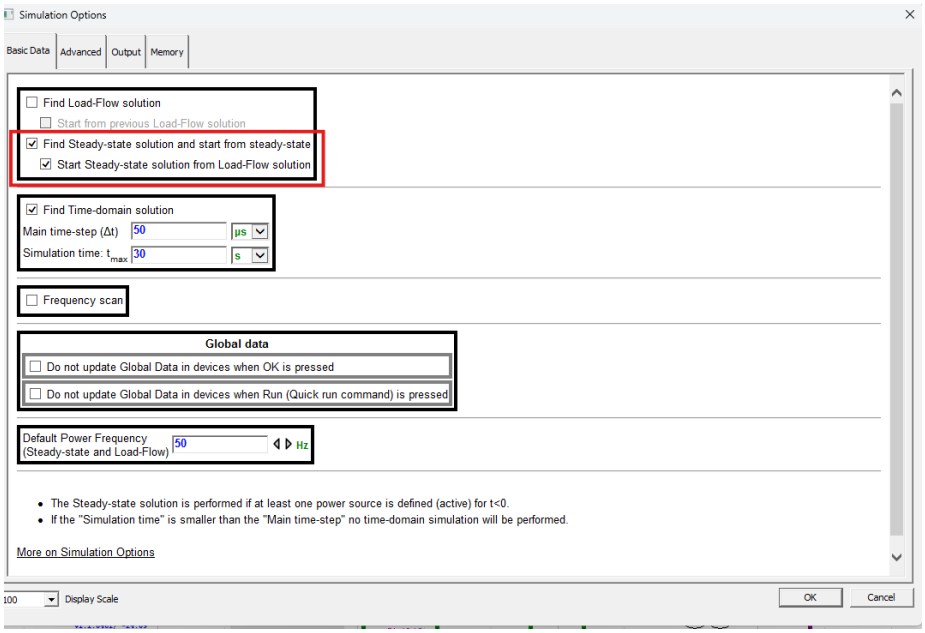

Figure 2: Steady-state

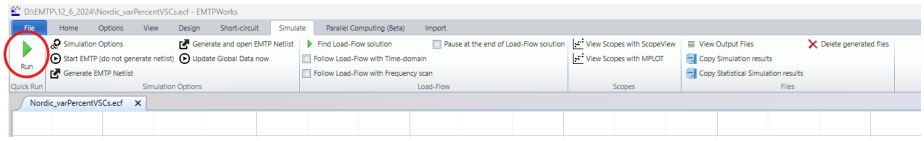

Figure 3: Run