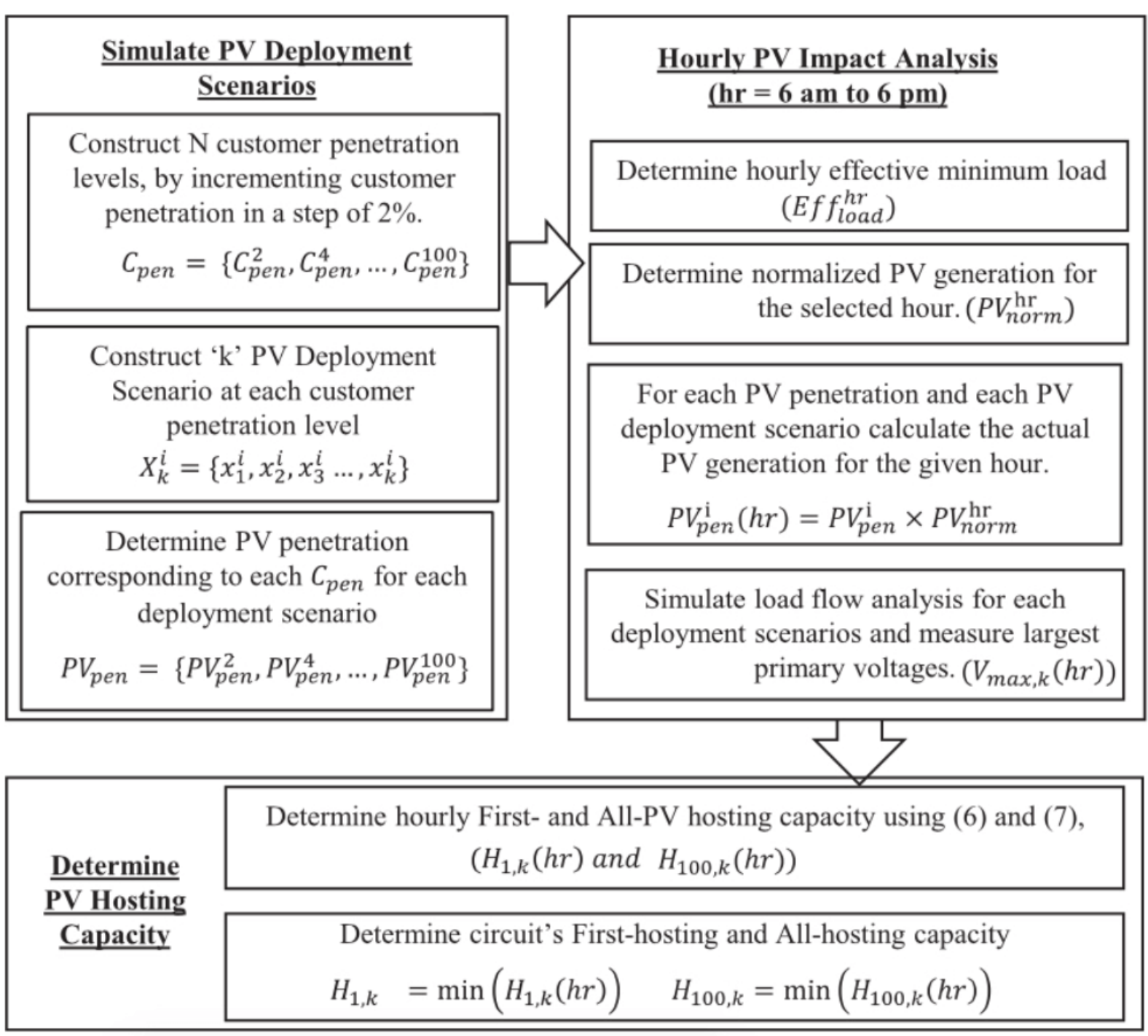
Simulate PV Deployment Scenarios
Construct N customer penetration levels, by incrementing customer penetration in a step of 2%.
$C_{pen} = \{C_{pen}^2, C_{pen}^4, \dots, C_{pen}^{100}\}$
Construct 'k' PV Deployment Scenario at each customer penetration level
$X_k^i = \{x_1^i, x_2^i, x_3^i \dots, x_k^i\}$
Determine PV penetration corresponding to each C_{pen} for each deployment scenario
$PV_{pen} = \{PV_{pen}^2, PV_{pen}^4, \dots, PV_{pen}^{100}\}$
Hourly PV Impact Analysis (hr = 6 am to 6 pm)
Determine hourly effective minimum load (Eff_{load}^{hr})
Determine normalized PV generation for the selected hour. (PV_{norm}^{hr})
For each PV penetration and each PV deployment scenario calculate the actual PV generation for the given hour.
$PV_{pen}^{i}(hr) = PV_{pen}^{i} \times PV_{norm}^{hr}$
Simulate load flow analysis for each deployment scenarios and measure largest primary voltages. ($V_{max,k}(hr)$)
Determine PV Hosting Capacity
Determine hourly First- and All-PV hosting capacity using (6) and (7), ($H_{1,k}(hr)$ and $H_{100,k}(hr)$)
Determine circuit's First-hosting and All-hosting capacity
$H_{1,k} = \min\left(H_{1,k}(hr)\right)$ $H_{100,k} = \min\left(H_{100,k}(hr)\right)$