

Power system model validation

SC B5 PS 1 Q 1.07

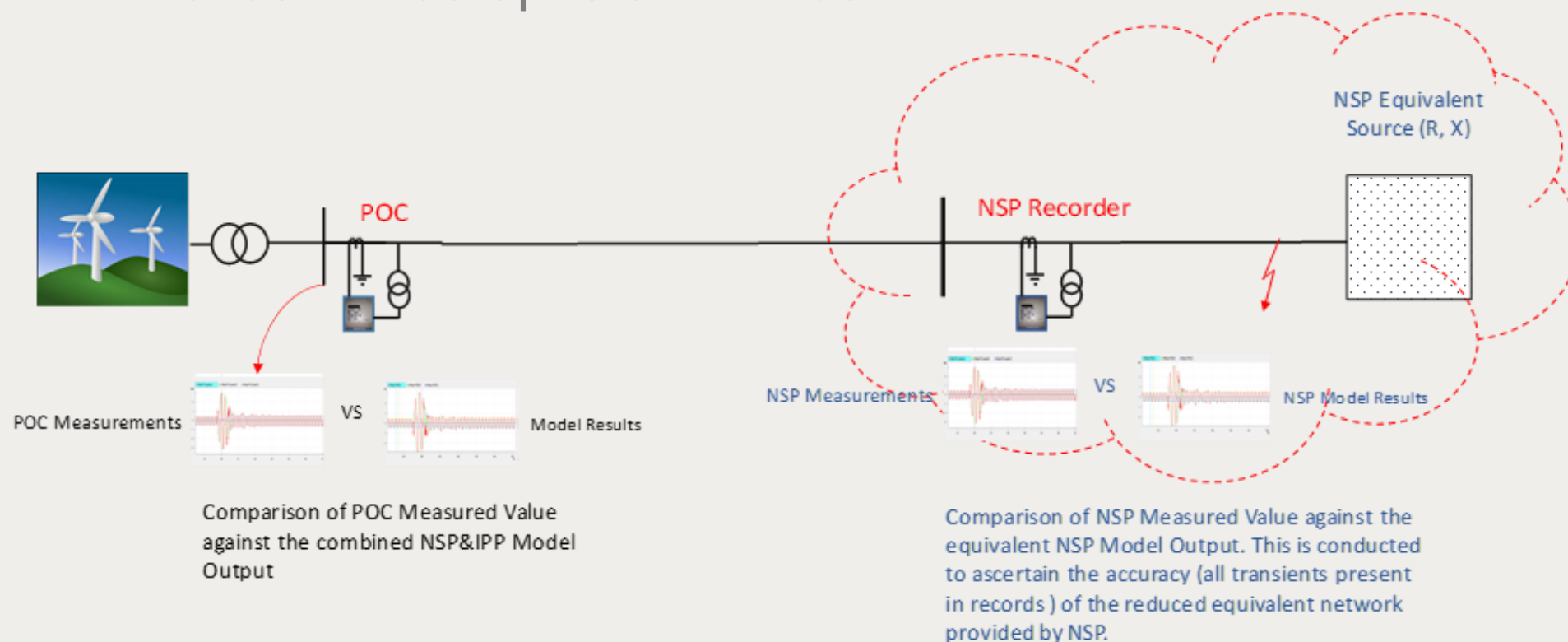
What consideration should be given to ongoing model verification as compared to validation prior to or immediately after commissioning of Wind and solar PV power plants?

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What consideration should be given to ongoing model verification as compared to validation prior to or immediately after commissioning of Wind and solar PV power plants?

- Currently, we do not conduct ongoing power plant model verification.
- Model validation is required after commissioning the wind and solar PV power plants. Our validation process is quite stringent.
- We require recorders that can sample at more than 1kHz at the point of connection. These recorders trigger for network faults, and the POC circuit breaker must not operate.
- The small portion of the network where the fault occurred is modelled and embedded into the power plant EMT model to replay the faults.
- A comparison of the recorded signals and simulated oscillography is made. Successful validation is confirmed when the traces match up closely within specified limits.
- The requirement is for accurate as-built model for RMS simulations to be made available after commissioning, validated within 6 months. No validations are done during commissioning for the protection relays.

- The EMT validation setup is shown below:-



- We do perform static network model validation once a year against information from disturbance recorders for specific network event to ensure that the model correctly captures the ongoing addition of power plants and their behaviour.
Group Discussion Meeting

- The EMT data requirements and process flow for model validation is indicated below:

