Additional Information on GENTPJ Model

GENTPJ Model

- **APPROVAL ITEM**
  - Remove GENSAL model from WECC-approved models
  - Convert GENSAL models to GENTPJ models

- History
  - GENSAL is a legacy model from analog computer era
    - Saturation is modeled as an additive flux component
  - WECC staff and BPA programs never had GENSAL
  - All generators were modeled with GENTPF model
    - Saturation is represented by changing reactances
  - GENTPJ is identical to GENTPF + model of leakage reactance saturation as a function of stator current
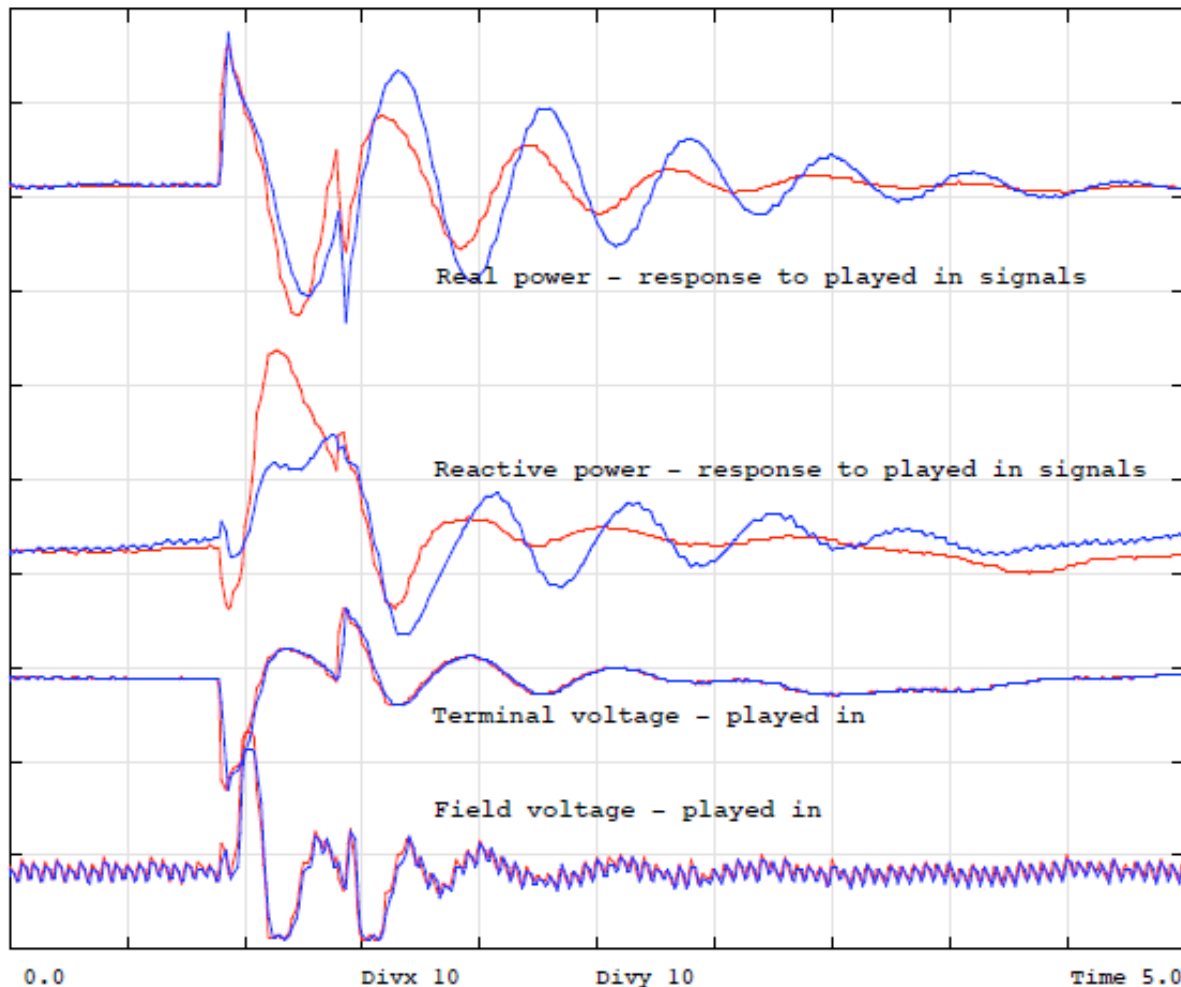   - Important for salient pole hydro generators

GENTPJ Model

- ## Dynamic model validation

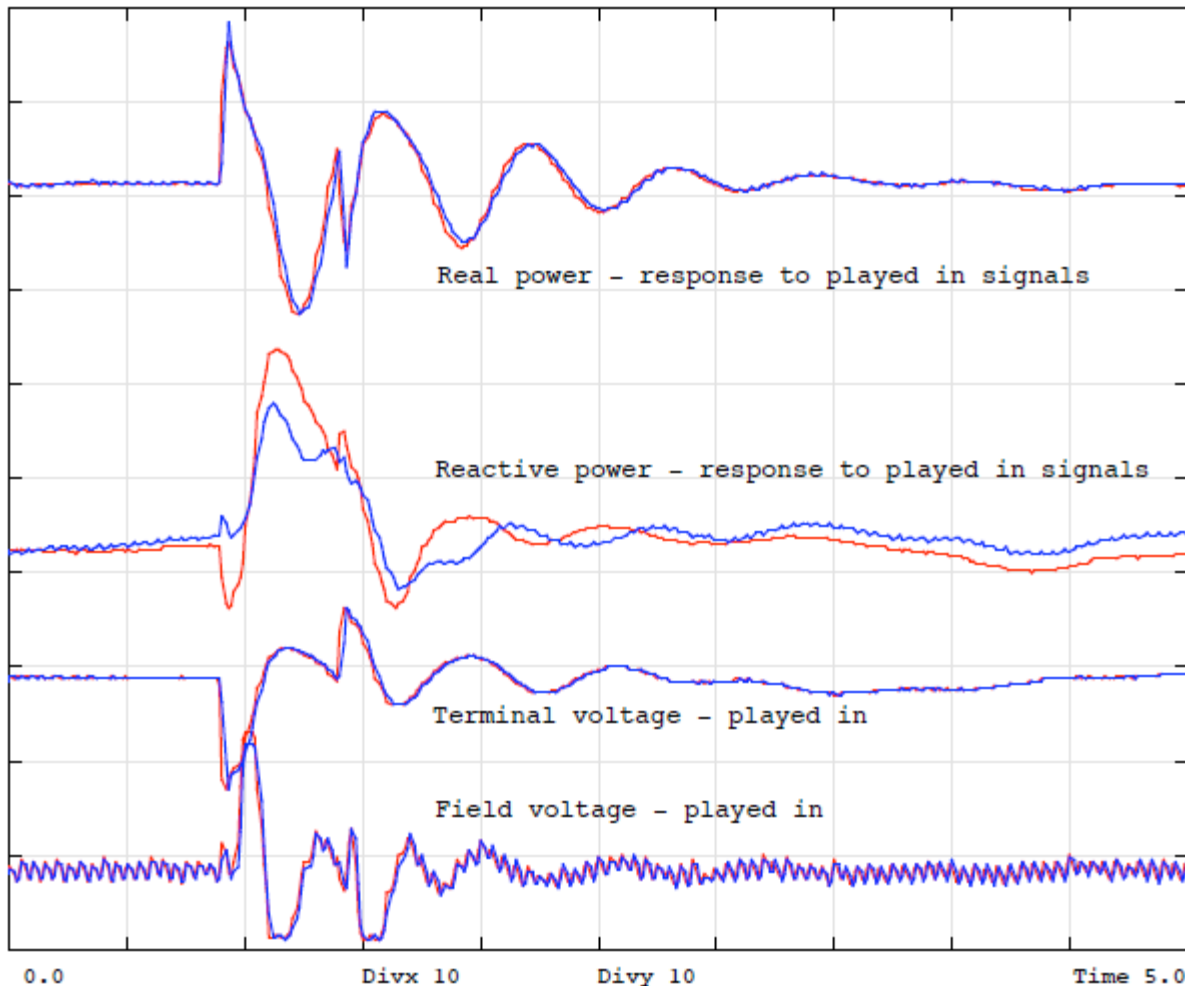Chief Joseph
disturbance
playback

GENSAL

BLUE = MODEL
RED = ACTUAL

GENTPJ Model

- Dynamic model validation

Chief Joseph disturbance playback

GENTPJ

BLUE = MODEL
RED = ACTUAL