PSS®E Update - WECC Modeling and Validation Subcommittee Meeting
May 24-26, 2023

SIEMENS

PSS®E – Recent and upcoming releases

Current release

- PSS®E 35.5.3 April 2023
- PSS®E 34.9.5 November 2022

Upcoming Releases

- PSS®E 35.6 June 2023 (Planned as early as)
- PSS®E 36.0 November 2023 (Planned as early as)

PSS®E Steady State & Dynamics Enhancements

Contingency Analysis and Node Breaker:
The load throwover file has been revamped to accommodate the moving of all or portions of loads to specified in service buses, nodes or loads when the original equipment is placed out of service due to a contingency event. The original syntax of `BUS,BUS` is still recognized. A few examples of the new syntax include:

```
throw bus 154 node 10 to bus 205 node 6
bus 154 load 2 bus 154 node 4 16 MW
154 load 3 152 node 12 50 PERCENT
```

(all load at node 10 of bus 154 moved to node 6 of bus 205)
(16 MW of load 2 of bus 154 moved to node 4 of bus 154)
(50% of load 3 of bus 154 moved to node 12 of bus 152)

Dynamic Load Modularization Status Update:

- Infrastructure added into PSS®E – support for APIs for accessing this feature is all ready
- Currently working on creating the components (breaking the existing CMPLD model into individual components)

New Dynamic Models :

- IEEE 421.5 models – PSS3C, Power Factor Controller models
- REGFM_A beta version developed (model not yet in PSS®E)
- REGC_C will officially be in 35.6 (along with documentation)
- REEC_E, REPC_D currently being developed

PSS®E v36 Key Features

Version Independent UDM:

- Highlight of v36 will be Version Independent dll for User Defined Models (model dll created for v36 would be usable for all future versions of PSS®E without the need for creating the dll again for use in v37 and beyond

Steady State Enhancements:

- Bypass option is added for branch records
- Each device (machine/load/fixed shunt/switched shunt/induction machine) can have a name up to 40 characters or blank. If not blank, it must be unique within the devices in the same type.
- A load type table will be added. Each load type has a unique name of 12-characters and description of 72-characters.
- Loads can be assigned to a load type or None, and the loads can be grouped by a load type.
- Interface flow models will be added. An interface flow model consists of branches/transformers/loads/generators etc.

Thank you!

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