

PSS®E Update - WECC Modeling and
Validation Subcommittee Meeting
May 16-19, 2022 (Remote)

PSS®E – Recent and upcoming releases

Current release

- PSS®E 35.3.3 March 2022
- PSS®E 34.9.3 February 2022

Upcoming Releases

- PSS®E 35.4 May 2022
- PSS®E 36.0 April 2023 (Planned)

PSS®E Steady State Enhancements (35.4)

Time Series Power Flow

- Load/generation profile and planned Outages, and profile data importer
- Creating and solving cases automatically with robust power flow solution methods
- Results in Plots/spreadsheet tables/reports

Harmonic Analysis:

- Frequency Scan at subsystem buses
- Voltage and Current Distortion calculations
- Total Harmonic Distortion (THD) factors of V and I

Node Breaker:

- Unique node names and unique station switching device names, within a substation, are enforced. This will allow for names to be used as unique identifiers
- Substation ampere report now available; Substation results now available in spreadsheet table and diagram
- Support for node-breaker models, including switching actions, in N-1-1 and Multi-level ACCC analysis
- Speed improvements in performance (~ 10 %) when running node-breaker switching actions in contingency analysis

Contingency Analysis:

- Ability to report monitored branch angle difference;
- Added contingency category feature (e.g., P1, P2 etc.)
- Report breaker actions triggered by the contingency event

PSS®E Dynamics Enhancements

New Models in 35.4:

- WTGWGOA, WTGIBFFRA, WTDTB, WTPTB, REPCC, VHVDC1
- ST2C, ST3C

New Models for future release of 35.x:

- OEL3C, and whatever few IEEE 421.5 2016 models are left for implementation
- New HYGOV model (called HYGOVW):
 - Similar to the PSLF HYGOV model, includes the ability to specify gate-power curve (which was not in the PSS®E HYGOV model)
 - includes logic for Hdam correction

PSS®E Dynamics Enhancements

Status of Load Modularization:

- implementation is currently in progress (screen shot below)

Network data		Dynamics data												
Bus	Bus	Id	Equipment	Load Main Model	Model	Load Distribution Model	Model	Load C1 Model	Model	Description	Load C2 Model	Model		
153	MID230	230.00	1	<input checked="" type="checkbox"/>	MAINBL1	<input checked="" type="checkbox"/>	DISTBL1	<input checked="" type="checkbox"/>	MCMPBL1	<input checked="" type="checkbox"/>	Comp3ph1	MCMPBL1	<input checked="" type="checkbox"/>	
154	DOWNTN	230.00	1	<input checked="" type="checkbox"/>	None	<input type="checkbox"/>	None	<input type="checkbox"/>	MCMPBL1	<input checked="" type="checkbox"/>	Comp3ph1	MCMPBL1	<input checked="" type="checkbox"/>	
154	DOWNTN	230.00	2	<input checked="" type="checkbox"/>	None	<input type="checkbox"/>	None	<input type="checkbox"/>	None	<input type="checkbox"/>	No Description	None	<input type="checkbox"/>	
203	EAST230	230.00	1	<input checked="" type="checkbox"/>	None	<input type="checkbox"/>	None	<input type="checkbox"/>	None	<input type="checkbox"/>	No Description	None	<input type="checkbox"/>	
205	SUB230	230.00	1	<input checked="" type="checkbox"/>	None	<input type="checkbox"/>	None	<input type="checkbox"/>	None	<input type="checkbox"/>	No Description	None	<input type="checkbox"/>	
3005	WEST	230.00	1	<input checked="" type="checkbox"/>	MAINBL1	<input checked="" type="checkbox"/>	DISTBL1	<input checked="" type="checkbox"/>	None	<input type="checkbox"/>	No Description	None	<input type="checkbox"/>	
3007	RURAL	230.00	1	<input checked="" type="checkbox"/>	MAINBL1	<input checked="" type="checkbox"/>	DISTBL1	<input checked="" type="checkbox"/>	None	<input type="checkbox"/>	No Description	None	<input type="checkbox"/>	
3008	CATDOG	230.00	1	<input checked="" type="checkbox"/>	MAINBL1	<input checked="" type="checkbox"/>	None	<input type="checkbox"/>	None	<input type="checkbox"/>	No Description	None	<input type="checkbox"/>	
*				<input checked="" type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	

Navigation: < | << | >> | CTS | Switched Shunt | LoadCh - Bus | LoadCh - Owner | LoadCh - Zone | LoadCh - Area | LoadCh - All | **LoadCmp - Bus** | LoadCmp - Owner | LoadCmp - Zone | LoadCmp - Area | LoadCmp - All | Branch | 2 Winding | 3 Winding |

Device Models | Protection Models | Other Models | Data |

Thank you!

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