WECC Approved Dynamic Model Library

Version September 2026: Effective date is 9/18/26

NOTES:

WECC needs to input the data to the PSLF program, with conversion to the PSS/E program. Therefore, model data must be submitted that can be input to PSLF.

* The PSLF models are converted to these PSS/E models by PTI's conversion program

Where different variants of the same model exist, the preferred version for submittal to WECC is highlighted in green. Where only one model is available for a certain piece of equipment, no highlighting is used.			
These models currently are not converted from PSLF to PSS/E.			
These models are not approved for use in WECC.			

EXCITATION SYSTEM MODELS (Volt/Var Control Models)

GE PSLF	PTI PSS/E*	PowerWorld Simulator	IEEE Standard	Status	Comments	Modifications/Actions Needed	PTI/GE/PowerWorld Comments
exac1	EXAC1	EXAC1	AC1A	approved 8/11/06	Brushless AC		Differs from IEEE AC1A -- does not have OEL/UEL inputs and multiplies output by speed.
esac1a	ESAC1A	ESAC1A	AC1A	approved 1/21/11	2005 IEEE standard - updated AC1A with OEL/UEL inputs		In all programs
exac1a	EXAC1A	EXAC1A		approved 8/11/06	exac1 with altered rate feedback source		
exac1m	ESURRY	ESURRY		approved 12/2/21			
esac1c	AC1C	AC1C	AC1C	approved 4/22/20			
exac2	EXAC2	EXAC2		approved 8/11/06	HIR Brushless		Differs from IEEE AC2A -- no OEL/UEL inputs; different field current limit; speed multiplier
esac2a	ESAC2A	ESAC2A	AC2A	approved 1/21/11	2005 IEEE standard - updated AC2A		In all programs
exac3	EXAC3	EXAC3		never approved	Not used in WECC database		In all programs
esac2c	AC2C	AC2C	AC2C	approved 4/22/20			
exac3a	ESAC3A	EXAC3A	AC3A	approved 8/11/06	GE Alterrex (rare)		Differs from IEEE AC3A -- no OEL/UEL inputs; different field current limit; speed multiplier, PSS/E Model same as IEEE AC3A model
esac3a	ESAC3A	ESAC3A	AC3A	approved 1/21/11	2005 IEEE standard - updated AC3A		In all programs
esac3c	AC3C	AC3C	AC3C	approved 4/22/20			
exac4	EXAC4	EXAC4	AC4A	approved 8/11/06	Rotating AC with controlled rectifier (Althyrex) (rare)		Differs from IEEE AC4A -- no OEL/UEL inputs
esac4a	ESAC4A	ESAC4A	AC4A	approved 1/21/11	2005 IEEE standard - updated AC4A		In all programs
esac4c	AC4C	AC4C	AC4C	approved 4/22/20			
esac5a	ESAC5A	ESAC5A	AC5A	approved 1/21/11	Simplified brushless exciter		In all programs
esac5c	AC5C		AC5C	approved 4/22/20			
exac6a	ESAC6A	EXAC6A	AC6A	never approved	Alternator, noncontrolled rectifier, lead-lag		Differs from IEEE AC6A -- no OEL/UEL inputs; speed multiplier, not a new model for PSS/E (model already exists)
esac6a	ESAC6A	ESAC6A	AC6A	approved 1/21/11	2005 IEEE standard - updated AC6A		In all programs
esac6c	AC6C	AC6C	AC6C	approved 4/22/20			
esac7b	AC7B	ESAC7B and AC7B	AC7B	approved 1/21/11	2005 IEEE standard - new		In all programs
esac7c	AC7C	AC7C	AC7C	approved 4/22/20			
exac8b	ESAC8B	EXAC8B	ESAC8B	approved 8/11/06	Brushless exciter with PID voltage regulator		Differs from IEEE AC8B -- no exciter upper limit; added input limits and speed multiplier
esac8b	AC8B	ESAC8B_GE and AC8B	AC8B	approved 1/21/11	2005 IEEE standard - updated AC8B		In all programs
esac8c	AC8C	AC8C	AC8C	approved 4/22/20			
esac9c	AC9C	AC9C	AC9C	approved 4/22/20			
esac10c		AC10C	AC10C	approved 4/22/20			
esac11c	AC11C	AC11C	AC11C	approved 4/22/20			
exbbc	BBSEX1	EXBBC and BBSEX1		approved 8/11/06	Static with ABB regulator		In all programs
exdc1	IEEEX1	EXDC1 and IEEEX1	DC1A	approved 8/11/06	Rotating DC		Differs from IEEE DC1A -- no UEL inputs; speed multiplier
esdc1a	ESDC1A	ESDC1A	DC1A	approved 1/21/11	2005 IEEE standard - updated DC1A		In all programs
esdc1c	DC1C	DC1C	DC1C	approved 4/22/20			
exdc2	EXDC2	EXDC2_GE and EXDC2_PTI		approved 8/11/06	Rotating DC with terminal fed pilot, alternate feedback		
exdc2a	EXDC2	EXDC2A and EXDC2_PTI	DC2A	approved 8/11/06	Rotating DC with terminal fed pilot		Differs from IEEE DC2A -- no UEL inputs; speed multiplier
esdc2a	ESDC2A	ESDC2A	DC2A	approved 1/21/11	2005 IEEE standard - updated DC2A		In all programs
esdc2c	DC2C	DC2C	DC2C	approved 4/22/20			
exdc4	IEEET4	EXDC4 and IEEET4	DC3A	approved 8/11/06	Rotating, noncontinuous - minor differences between models		If Kr = 0, should convert to IEEEX4 (IEEE DC3A). Model added in PSS/E -32.
esdc3a	DC3A	ESDC3A and DC3A	DC3A	approved 1/21/11	Rotating, noncontinuous		In all programs
esdc4b	DC4B	ESDC4B	DC4B	approved 1/21/11	Rotating DC with PID		In all programs
esdc4c	DC4C	DC4C	DC4C	approved 4/22/20			
exeli	EXELI	EXELI		approved 8/11/06	Static PI transformer fed excitation system		
exst1	EXST1	EXST1_GE and EXST1_PTI	ST1A	approved 8/11/06	Static with double lead/lag		Differs from IEEE ST1A -- no OEL/UEL inputs; added Xe Ifd loading; RFB before field current limiter.
esst1a	ESST1A	ESST1A and ESST1A_GE	ST1A	approved 1/21/11			In all programs
esst1c	ST1C	ST1C	ST1C	approved 4/22/20			
exst2	EXST2	EXST2		approved 8/11/06	SCPT - lead/lag block (Tc, Tb) added		
exst2a	ESST2A	EXST2A	ST2A	approved 8/11/06	lead/lag block (Tc, Tb) is included to match the WECC FM		Differs from IEEE ST2A -- no UEL inputs; added lead/lag.
esst2a	ESST2A	ESST2A	ST2A	approved 1/21/11	2005 IEEE standard - updated ST2A		
esst2c	ST2C	ST2C	ST2C	approved 4/22/20			
exst3	EXST3	EXST3	ST3	approved 8/11/06			
exst3a	ESST3A	EXST3A	ST3A	approved 8/11/06	Use for GE Generex		Differs from IEEE ST2A -- no UEL inputs; fewer time constants.
esst3a	ESST3A	ESST3A	ST3A	approved 1/21/11	2005 IEEE standard - updated ST3A		
esst3c		ST3C	ST3C	approved 4/22/20			
exst4b	ESST4B	EXST4B	ST4B	approved 8/11/06	GE EX2000 bus fed potential source, static compound and Generrex-PPS or -CPS, and SILCOmatic 5 excitation systems, with proportional plus integral (PI) voltage controller		Differs from IEEE ST2A -- no OEL/UEL inputs
esst4b	ESST4B	ESST4B	ST4B	approved 1/21/11	2005 IEEE standard - updated ST4B		In all programs
esst4c	ST4C	ST4C	ST4C	approved 4/22/20			
esst5b	ST5B	ESST5B and ST5B	ST5B	approved 1/21/11	Variation of ST1A (New IEEE Model)		In all programs
esst5c	ST5C	ST5C	ST5C	approved 4/22/20			
esst6b	ST6B	ESST6B and ST6B	ST6B	approved 1/21/11	Variation of ST4B with field current limit (New IEEE model)		In all programs
esst6c	ST6C	ST6C	ST6C	approved 4/22/20			
esst7b	ST7B	ESST7B and ST7B	ST7B	approved 1/21/11	Static with limiters (Alstom) (New IEEE model)		In all programs
esst7c	ST7C	ST7C	ST7C	approved 4/22/20			
esst8c	ST8C	ST8C	ST8C	approved 4/22/20			
esst9c	ST9C	ST9C	ST9C	approved 4/22/20			
esst10c	ST10C	ST10C	ST10C	approved 4/22/20			
ieeet1	IEEET1	IEEET1		approved 8/11/06	Old type 1		
mexs	Not used	mexs		never approved	Manual excitation control with field circuit resistance		

pfqrg	Not used	PFQRG		never approved	Power factor / Reactive power regulator		The output of this model feeds into an exciter as the stabilizer input, thus this model can not be used in conjunction with another stabilizer
rexs	REXSYS	REXS		approved 8/11/06	General Purpose Rotating Excitation System Model		
scrx	SCRX	SCRX		approved 8/11/06	intended for use where negative field current may be a problem		
sexs	SEXS	SEXS_GE and SEXS_PTI		never approved	for use where details of the actual excitation system are unknown and/or unspecified		PSS/E has a SEXS (simplified excitation system) model (which is similar to the PSLF sexs model but without the PI control block)
texs	Not converted (9)	TEXS		never approved	Transformer Fed Excitation System Model	replace with esst6b	we don't convert this. Per our notes from previous M&V meetings, this model was not to be used in WECC.
oel1	Not converted (277)	OEL1		approved 4/27/12	Over excitation limiter		Please note that this is not an IEEE standard model. GE developed this model for WECC use. If we have to provide a corresponding PSS/E model, we have to get the block diagram from GE. Presentation at March 2012 M&VWG meeting, use OEL1. Has required functionality.
oel2c	OEL2C	OEL2C	OEL2C	approved 4/22/20			
oel3c		OEL3C	OEL3C	approved 4/22/20			
oel4c		OEL4C	OEL4C	approved 4/22/20			
oel5c	OEL5CU1	OEL5C	OEL5C	approved 4/22/20			
basoel2	BASOEL2	BASOEL2		approved 5/7/26			
uel1	UEL1	uel1	UEL1	approved 4/27/12	Under excitation limiter		
uel2	UEL2	uel2	UEL2	approved 4/27/12	Under excitation limiter		
uel2c	UEL2C	UEL2C	UEL2C	approved 4/22/20			

GENERATOR MODELS

GE PSLF	PTI PSS/E*	PowerWorld Simulator	IEEE Standard	Status	Comments	Modifications/Actions Needed	PTI/GE/PowerWorld Comments
gentpf	GENTPF	GENTPF		unapproved 1/27/2022	MVS encourages the use of the GENQEC Model. WECC is transitioning to the GENQEC model and GENTPF will no longer be accepted after December 31, 2024. Please see the Retirement Plan for GENTPJ document https://www.wecc.org/wecc-document/3431	This model is still approved but should be transitioned to GENQEC model after future testing.	
genrou	GENROU/IEEEVC	GENROU		approved 8/11/06	Round rotor generator model.		
gensal	GENSAL/IEEEVC	GENSAL		retired 1/11	Salient pole generator model, Use for Hydro generator models, no longer approved Jan 2011, staff converts to gentpj with KIS=0	No longer approved 2011	
gentpj	GENTPJU1, GENTPJ1	GENTPJ		unapproved 1/27/2022	MVS encourages the use of the GENQEC Model. WECC is transitioning to the GENQEC model and GENTPJ will no longer be accepted after December 31, 2024. Please see the Retirement Plan for GENTPJ document https://www.wecc.org/wecc-document/3431	This model is still approved but should be transitioned to GENQEC model after future testing.	Available in PSS/E version 33.2
gencc	GENROU/IEEEVC	GENCC		.	Cross Compound generator model	This model is still approved but should be transitioned to GENQEC model after future testing.	
genqec	GENQEC	GENQEC		approved 12/3/20			Available in PSLF 22.0.2 fixed. PSS/E 34.9.1 & 35.3.2 PowerWorld 21 & 22 TSAT 21.0.19
genqej	GENQEJ	GENQEJ		approved 1/30/26			
gencls	PLBVFU1 (for playback model), GENCLS (for classical generator model)	GENCLS		never approved	Used to force a signal, or classical generator model		We have a GENCLS model. The PSLF model gencls does get converted to the PSS/E model GENCLS. [Forcing signal (playback) feature not needed in library datasets.]

PSS MODELS

GE PSLF	PTI PSS/E*	PowerWorld Simulator	IEEE Standard	Status	Comments	Modifications/Actions Needed	PTI/GE/PowerWorld Comments
wsccst	ST2CUT	WSCCST and ST2CUT		approved 8/11/06	Dual input PSS - Old WSCC model		
pss2a	PSS2A	PSS2A	PSS2A, PSS3	approved 8/11/06	Dual input PSS (delta P-omega)		
pss2c	PSS2C	PSS2C	PSS2C	approved 4/22/20			
ieeest	IEEEST	IEEEST	PSS1A	approved 8/11/06	Single input PSS, dual lead lag		
psssb	PSS2A	PSSSB	PSS2A, PSS3	approved 8/11/06	pss2a + transient stabilizer		
pss1a	IEEEST	PSS1A	PSS1A	approved 11/17/16	Generic single input PSS		
pss2b	PSS2B	PSS2B	PSS2B	approved 8/11/06	Dual input PSS - Extra lead/lag (or rate) block added at end (up to 4 lead/lags total)		In all programs
pss2c	PSS2C	PSS2C	PSS2C	approved 4/22/20			
pss3b	PSS3B	PSS3B	PSS3B	approved 8/11/06	Thyripol, Unitrol		In all programs
pss4b	PSS4B	PSS4B	PSS4B	approved 8/11/06	ABB multi-band		In all programs
pss3c		PSS3C	PSS3C	approved 4/22/20			
pss4c		PSS4C	PSS4C	approved 4/22/20			
pss5c		PSS5C	PSS5C	approved 4/22/20			
pss6c	PSS6C	PSS6C	PSS6C	approved 4/22/20			
pss7c	PSS7C	PSS7C	PSS7C	approved 4/22/20			
psssh		PSSSH		never approved	Siemens H infinity PSS		

LOAD MODELS

GE PSLF	PTI PSS/E*	PowerWorld Simulator	IEEE Standard	Status	Comments	Modifications/Actions Needed	PTI/GE/PowerWorld Comments
alwscc	IEELAR	WSCC assigned to an area		approved 8/11/06	Area load model		
blwscc	IEELBL	WSCC assigned to a bus or load		approved 8/11/06	Bus load model		

cmpldw	CMLDBLU1	CMPLDW and CMPLDWNF (with a separate Distribution Equivalent Model)		approved 1/25/13	Composite Load Model		
cmpldwg	CMLDBLDGU2			approved 6/13/19	Composite Load Model with distribuitive Generation		
ld1pac	ACMTBLU1	LD1PAC		approved 8/11/06	Single-phase AC model (performance based model)		
motor1	CIMTR4	MOTOR1		approved 8/11/06	Induction machine, represented in load flow as generator. Use to represent motor start-up. Should use generic wind model for wind machine		
motorw	CIMWBL	MOTORW		approved 8/11/06	Induction Motor Model		
perc1	PERCBL1	PERC1		approved 9/18/26			

TURBINE/GOVERNOR MODELS

GE PSLF	PTI PSS/E*	PowerWorld Simulator	IEEE Standard	Status	Comments	Modifications/Actions Needed	PTI/GE/PowerWorld Comments
g2wscc	WSHYDD	G2WSCC and WSHYDD		retired 12/2/21	Use hyg3 for new models/ WECC wont accept this model after 6/1/22		
gast	URGS3T	GAST_GE and URGS3T		retired 5/11/18			
ggov1	GGOV1	GGOV1		approved 8/11/06			
gpwscc	WSHYGP	GPWSCC and WSHYGP		retired 12/2/21	Use hyg3 for new models/ WECC wont accept this model after 6/1/22		
h6b		H6B		retired 6/15/16	Replaced by h6e		
h6e	H6EU1	h6e		approved 5/11/18			
hyg3	HYG3U1	HYG3		approved 8/11/06			
hygov	HYGOV	HYGOV		approved 8/11/06			
hygov4	IEEEG3	HYGOV4		approved 8/11/06		Need new acceptable model in PSS/E	
hygovr	HYGOVR	HYGOVR		approved 2008	Added in 2008		
ieeeg1	WSIEG1	IEEEG1 and WSIEG1		approved 8/11/06			
ieeeg3	IEEEG3	IEEEG3		retired 12/2/21	Use hygov 4 for new models / WECC wont accept this model after 6/1/22		
lcfb1	LCFB1	LCFB1 and LCFB1_PTI		approved 8/11/06			
pidgov	PIDGOV	PIDGOV		retired 12/2/21	Use hyg3 for new models/ WECC wont accept this model after 6/1/22		
tgov1	TGOV1	TGOV1		approved 8/11/06			
ggov2		GGOV2		never approved	new in GE PSLF		We have the new GGOV2 model in a user written format. We will see if this can be given to users as a user model in the next point release. We hope to make it a standard model for the next major release.
ggov3		GGOV3		approved 2010	new in GE PSLF		
	GGOV1DU/GGOV1D	GGOV1D		approved 11/2019			General governor/turbine model with speed deadband
	IEEEG1SDU/IEEEG1CDU/IEEEG1D	IEEEG1D		approved 11/2019			IEEE type 1 speed-governing model with speed deadband
	IEESGODU/IEESGOD	IEESGOD		approved 11/2019			IEEE standard model with speed deadband
	WESGOVDU/WESGOVD	WESGOVD		approved 11/2019			Westinghouse digital governor for gas turbine model with speed deadband
	WPIDHYDU/WPIDHYD	WPIDHYD		approved 11/2019			PID hydro governor model with speed deadband
	GASTWDDU/GASTWDD	GASTWDD		approved 11/2019			Gas turbine model with speed deadband
	GAST2ADU/GAST2AD	GAST2AD		approved 11/2019			Gas turbine model with speed deadband
	GASTDU/GASTD	GASTD		approved 11/2019			Gas turbine-governor with speed deadband
	HYGOVDU/HYGOVD	HYGOVD		approved 11/2019			Hydro turbine-governor model with speed deadband
	TGOV1DU/TGOV1D	TGOV1D		approved 11/2019			Steam turbine-governor model with speed deadband
	IEEEG3DU/IEEEG3D	IEEEG3D		approved 11/2019			IEEE type 3 speed-governing model with speed deadband
DEGOV1	DEGOV1DU/DEGOV1D	DEGOV1D		approved 11/2019			Diesel governor model with speed deadband
	PIDGOVDU/PIDGOVD	PIDGOVD		approved 11/2019			Hydro turbine-governor model with speed deadband
	TGOV3DU/TGOV3D	TGOV3D		approved 11/2019			Modified IEEE type 1 speed-governing model with fast valving and speed deadband
	HYGOV2DU/HYGOV2D	HYGOV2D		approved 11/2019			Hydro turbine-governor model with speed deadband

RENEWABLE ENERGY MODELS

GE PSLF	PTI PSS/E*	PowerWorld Simulator	IEEE Standard	Status	Comments	Modifications/Actions Needed	PTI/GE/PowerWorld Comments
regfm_a1	REGFMA1	REGFM_A1		approved 9/27/23	Droop-Controlled, Grid Forming Inverter		
regfm_b1	REGFMB1	REGFM_B1		approved 5/23/24			
regfm_c1	REGFMC1	REGFM_C1		approved 9/11/25	Hybrid Invert Control Model		
pvd1		PVD1		approved 3/19/14	Distributed Photovoltaic system model		
der_a	DERAU1	DER_A		approved 1/26/18	Distributed Energy Resource model		
regc_a	REGCAU1, REGCA1	REGC_A		approved 3/19/14	Generator/converter model for Generic IBR		
regc_b	REGCBU1, REGCB1	REGC_B		approved 8/25/20	Generator/converter model for Generic IBR		
wt1g	WT1G1	WT1G and WT1G1		approved 1/21/11	Wind Type 1 generic generator model		
wt2g	WT2G1	WT2G and WT2G1		approved 8/28/09	Wind Type 2 generic generator model		
wt2e	WT2E1	WT2E and WT2E1		approved 8/28/09	Wind Type 2 generic excitation/controller model		
reec_a	REECAU1, REECA1	REEC_A		approved 3/19/14	Renewable energy electrical control model for Generic IBR		
reec_c	REECCU1, REECC1	REEC_C		approved 3/18/15	Renewable energy electrical control model for Energy Storage Devices		
reec_d	REECDU1, REECD1	REEC_D		approved 8/25/20	Renewable energy electrical control model for Photovoltaic		
reec_e	REECEU1, REECE1	REEC_E		approved 9/11/25			
wt1t	WT12T1	WT1T and WT12T1		approved 1/21/11	Wind Type 1 generic turbine model		
wt1p_b	WT12A1U_B	WT1P_B		approved 3/19/14	Wind Type 1 & Type 2 Pitch controller model/Pseudo Gov aerodynamics		That is WT12A1U_B is the equivalent model in PSS®E, and it is available in versions 34.6 and up
wt2t	WT12T1	WT2T		approved 8/28/09	Wind Type 2 generic turbine model		
wtgt_a	WTDTAU1, WTDTA1	WTGT_A		approved 3/19/14	Drive train model for Wind type 3/4		
wtga_a	WTARAU1, WTARA1	WTGAR_A		approved 3/19/14	Aerodynamic model for Wind type 3		
wtgp_a	WTPTAU1, WTPTA1	WTGPT_A		approved 3/19/14	Pitch control model for Wind type 3		
wtgq_a	WTTQAU1, WTTQA1	WTGTRQ_A		approved 3/19/14	Torque control model for Wind type 3		
wtgwgo	WTGWGOAU	WTGWGO_A		approved 12/1/21	weak grid model		
wtgibffr_a	WTGIBFFRA	WTGIBFFR_A		approved 1/26/22	auxiliary control feature that is available from many wind turbine manufacturers is the so-called inertial-based fast-frequency response		
wtgp_b	WTPTBU1	WTGPT_B		approved 12/1/21	Pitch control model		

wtgt_b	WTDTBU1	WTGT_B		approved 12/1/21	drive - train "emulation" model <Public>		
repc_a	Type 4: REPCAU1 (v33), REPCA1 (v34) Type 3: REPCTAU1 (v33), REPCTA1 (v34)	REPC_A		approved 3/19/14	Power Plant Controller for Photovoltaic, Wind type 3/4, Energy Storage		
repc_b	PLNTBU1 Names of other models for interface with other devices: REA3XBU1, REAX4BU1- for interface with Type 3 and 4 renewable machines SWSAXBU1- for interface with SVC (modeled as switched shunt in powerflow) SYNAXBU1- for interface with synchronous condenser FCTAXBU1- for interface with FACTS device	REPC_B		unapproved 1/29/26	This model is being phased out. Please use repc_d going forward. The model will be fully retired 8/23/26		
repc_c	REPCCU	REPC_C		approved 12/1/21	Plant Controller Model - which interfaces to a single aggregated WTG model		
repc_d	HPLNTD	REPC_D		approved 1/24/24	Plant Controller Model - this model builds on REPC_C to make it like REPC_B for controlling multiple aggregated renewable sytems downstream, but without some of the limiations of REPC_B		
repc_e	HPLNTE + REAXD	REPC_E		approved 9/17/26	Plant Controller Model - this model is based on the existing REPC_D model, which can interface with multiple downstream aggregated inverter models.		
repcgfm_c1	REPCGFMC1	REPCGFM_C1		approved 9/11/25	Plant Controller Model -		
genwri	Vestas manufacturer specific models can be downloaded from PSS/E user support web page	GENWRI		never approved	Vestas Wind turbine generator, 1 instance in 08HS3 base case	Should be replaced with generic wind models	We need details of this model This will be replaced by generic Type 2 WTG generator model.
gewtg	GEWTG manufacturer specific models can be downloaded from PSS/E user support web page	GEWTG		never approved	GE Wind turbine generator	Should be replaced with generic wind models	We can convert this
wt3g	WT3G1	WT3G and WT3G1		retired 4/22/20	Wind Type 3 generic generator model (GE Technology). Please reference the EPRI "Model User Guide for Generic Renewable Energy System Models" at this link for information on Renewable Phase 2 Models and conversion from Phase 1 to Phase 2.	No longer approved April 2020	
wt4g	WT4G1	WT4G and WT4G1		retired 4/22/20	Wind Type 4 generic generator model. Please reference the EPRI "Model User Guide for Generic Renewable Energy System Models" at this link for information on Renewable Phase 2 Models and conversion from Phase 1 to Phase 2.	No longer approved April 2020	
exwtg1	Not converted (1)	EXWTG1		never approved	Excitation system model for wound-rotor induction wind-turbine generator	Should be replaced with generic wind models	We need details of this model This is a crude Vestas V80 model. This model is obsolete; a generic model should be used. PSS/E version 32 has support for all 4 types of generic wind models
exwtge	Not used	EXWTGE		never approved	Excitation (converter) control model for GE wind-turbine generators	Should be replaced with generic wind models	PSS/E version 32 has support for all 4 types of generic wind models
wt3e	WT3E1	WT3E and WT3E1		retired 4/22/20	Wind Type 3 generic excitation/controller model (GE Technology). Please reference the EPRI "Model User Guide for Generic Renewable Energy System Models" at this link for information on Renewable Phase 2 Models and conversion from Phase 1 to Phase 2.	No longer approved April 2020	
wt4e	WT4E1	WT4E and WT4E1		retired 4/22/20	Wind Type 4 generic excitation/controller model. Please reference the EPRI "Model User Guide for Generic Renewable Energy System Models" at this link for information on Renewable Phase 2 Models and conversion from Phase 1 to Phase 2.	No longer approved April 2020	
reec_b	REECBU1, REECB1	REEC_B		retired 6/13/19	Renewable energy electrical control model for Photovoltaic		
wt2p	WT12A1	WT2P		retired 4/22/20	Wind Type 2 generic Pitch controller model/Pseudo Gov;aerodynamics. Please reference the EPRI "Model User Guide for Generic Renewable Energy System Models" at this link for information on Renewable Phase 2 Models and conversion from Phase 1 to Phase 2.	No longer approved April 2020	
wt3t	WT3T1	WT3T and WT3T1		retired 4/22/20	Wind Type 3 generic turbine model (GE Technology). Please reference the EPRI "Model User Guide for Generic Renewable Energy System Models" at this link for information on Renewable Phase 2 Models and conversion from Phase 1 to Phase 2.	No longer approved April 2020	
wt3p	WT3P1	WT3P and WT3P1		retired 4/22/20	Wind Type 3 generic Pitch controller model. Please reference the EPRI "Model User Guide for Generic Renewable Energy System Models" at this link for information on Renewable Phase 2 Models and conversion from Phase 1 to Phase 2.	No longer approved April 2020	
wt4t	transient features are inside the WT4E1 model	WT4T		retired 4/22/20	Wind Type 4 generic turbine model. Please reference the EPRI "Model User Guide for Generic Renewable Energy System Models" at this link for information on Renewable Phase 2 Models and conversion from Phase 1 to Phase 2.	No longer approved April 2020	
wndtge	part of package for GE manufacturer specific models which can be downloaded from PSS/E user support web page			never approved	Wind turbine and turbine control model for GE wind turbines	Should be replaced with generic wind models	
wt1p	WT12A1	WT1P and WT12A1		retired 4/22/20	Wind Type 1 generic Pitch controller model/Pseudo Gov;aerodynamics. Please reference the EPRI "Model User Guide for Generic Renewable Energy System Models" at this link for information on Renewable Phase 2 Models and conversion from Phase 1 to Phase 2.	No longer approved April 2020	

OTHER MODELS

GE PSLF	PTI PSS/E*	PowerWorld Simulator	IEEE Standard	Status	Comments	Modifications/Actions Needed	PTI/GE/PowerWorld Comments
ccomp	COMPCC	CCOMP and COMPCC		retired 6/19	Cross & Joint current compensation model	No longer approved 2019	Use ccomp4
ccomp4	CCOMP4U1	CCOMP4		approved 3/17/2015			
Not Used	Not Used	ATRRELAY		approved 3/17/2015	Colstrip Acceleration Trend Relay (ATR)		
colatr	not converted (1)	Not Used		never approved	Colstrip ATR relay		was developed for WECC. We don't have a PSS/E model for this, need details

dcmt	PDCNSU, PDCSNU	For 3-terminal version of PDCI: MTDC_PDCI, CONV_CELILO_E, CONV_CELILO_N, CONV_SYLMAR; For IPP model: MTDC_IPP, CONV_IntMtnPP, CONV_Adelanto		approved 8/11/06	Intermountain DC model		We have just developed two new models (north to south and south to north) for the PDCI. GE needs details for data conversion to PSLF. All of these models originated as user-written models in GE using EPCL. Note: the PDCI model will be going away as the CELILO converters are being replaced. Full documentation describing the IPP model can be found at http://www.powerworld.com/files/clientconf2014/06DC%20Line%20Model%20of%20IPP.pdf
		DISTRELAY		approved 6/15/17	Distance Relay		
chvdc2	CHVDC2U1	CHVDC2		approved 10/5/17	Generic Line Commutated Converter HVDC model. It applies only to 2-terminal dc line records.		
vhvdc1	VHVDC1	VHVDC1		approved 8/11/21			
epcdc	CDC6	EPCDC and CDC6		approved 8/11/06	new PDCI DC model		
gp1	not converted (4)	GP1		approved 6/13/19	Generator Protection relay		We don't have a PSS/E model for this, need details
gp2		GP2		approved 6/13/19			
gp3	NRCGP3U	GP3		approved 4/23/20			
lhfrt	FRQTPAT, FRQDCAT	LHFRT		approved 8/9/13	Low/High frequency ride-through generator protection		
lhvrt	VTGTPAT, VTGDCAT	LHVRT		approved 8/9/13	Low/High voltage ride-through generator protection		
locti	TIOCR1	LOCTI and TIOCR1		approved 8/9/13	Branch overcurrent relay with inverse time characteristic		
lsdt1	LDS3BL	LSDT1 and (LDS3 assigned to a load)		approved 8/11/06	Underfrequency relay		
lsdt2	LVS3BL	LSDT2 and (LVS3 assigned to a load)		approved 8/11/06	Undervoltage relay		
lsdt9	LDS3BL	LSDT9 and (LDS3 assigned to a load)		approved 8/11/06	Underfrequency relay		
ooslen	not converted (11)	OOSLEN		approved 8/11/06	3 zone out of step relay	low priority	We don't convert this. The reason is not because we don't have a model. PSS/E has a double circle or lens out-of step line relay model called 'CIROS1' (please note that like any other relay model, this also is a generic line-relay model not representing any particular manufacturer). The reason that the data is not converted is probably because the data requirements of the PSLF 'ooslen' model do not match the data requirements of the PSS/E 'CIROS1' model. However, this does not prevent the PSS/E users to create a DYR data record and include the CIROS1 model for every occurrence of the PSLF 'ooslen' model.
scmov		SCMOV		approved 5/8/2025	Series capacitor MOV and bypass model		In PSLF and PowerWorld
stcon	not converted (2)	STCON		not approved	Static synchronous condenser		We don't convert this. This model, per our notes from the previous M&V meetings, was not to be used in WECC. This also is a generic model not representing any particular manufacturer. PSS/E also has two generic static condenser models - the CSTATT (use of this requires a generator model in load flow), and the CSTCNT (use of this requires a FACTS device model in load flow). We can not convert the PSLF STCON to PSS/E CSTATT or the CSTCNT models because the data requirements are different.
svcwsc	CSVGN5, CSVGN6	SVCWSC, CVSGN5 and CVSGN6		retired 2012	Static Var Source model, replace with appropriate generic model	No longer approved 2012	
svsmo1	SVSMO1U2, SVSMO1T2	SVSMO1		approved 1/21/11	Generic Static Var Source model (continuous control)		
svsmo2	SVSMO2U2, SVSMO2T2	SVSMO2		approved 8/26/11	Generic Static Var Source model (discrete control)		
svsmo3	SVSMO3U2, SVSMO3T2	SVSMO3		approved 8/26/11	Generic STATCOM model (continuous control)		
msc1	SWSHNT	MSC1 and SWSHNT		approved 1/21/11	Mechanically Switched Shunt model, links to svsmo models		
msr1		msr1		approved 3/17/2015	Mechanically Switched Reactor		
mslr1		mslr1		pending approval	Model Spec only was approved 3/17/15.		
tiocrs		TIOCRS		approved 8/9/13	Over-current relay		
tlin1	not converted (114)	TLIN1		approved 8/11/06	under frequency or under voltage line relay	Investigate better method for pump (Generator) tripping	We don't convert this, because PSS/E does not have the under frequency or under voltage line relay model. Our consulting group has a user written model and we can include it in PSS/E. We will add this in our list of task to do. As an interim solution we can check if we can make this available as a user written model before it becomes a PSS/E standard model. However, given the fact that this also is a generic model, the data requirements of the PSLF 'tlin1' may not match the data requirements of the PSS/E model, and hence we may not be able to convert from the PSLF to the corresponding PSS/E model. Nonetheless, a model can be made available for WECC PSS/E users.
vwscc	CSVGN5	VWSCC		approved 8/11/06	Static Var Source model		
		SCL1C	SCL1C	approved 4/22/20			
		SCL2C	SCL2C	approved 4/22/20			
			PF1	approved 4/22/20			
			PF2	approved 4/22/20			
			VAR1	approved 4/22/20			
			VAR2	approved 4/22/20			

The **fmeta**, **vmeta**, and **monit** PSLF metering models were removed from the Approved Dynamic Models list in June 2015 due to the fact that different manufacturers have different monitoring mechanisms, thus making it impossible to convert these models from one software program to another. Even though these models aren't approved, it's okay to use them in the WECC MDF since they provide metering functions only.