

**WECC**

Electric Reliability and Security for the West

**Data Preparation Manual Change Request
System Review Subcommittee (SRS)****12 Ratings**

Change Summary

PSLF 23 (old GUI) now supports 12 ratings for branches and transformers (primary, secondary, and tertiary windings). Current versions of PSS/e and Power World already support 12 ratings. It no longer makes sense to adjust the ratings supplied to just eight and then back to 12. WECC staff is requesting that the SRS formally update the ratings definitions so we no longer have to shift one entity's ratings one way, and another entity's ratings a different way.

Schedule

Incorporate language into DPM: August 2024.

Adherence to revised DPM language: Same as 2025 DPM.

Detailed Description

In the past, PSLF supported eight ratings for branches and the primary windings of transformers (only three ratings for secondary and tertiary windings). PSS/e only supported three ratings for everything. Power World has supported more ratings than this in the past. The DPM defined what season and rating type each rating represented. This created the need to shift ratings during data conversions. PSS/e now supports 12 ratings for everything—but different data submitters have defined what each rating should mean. This has led to two different sets of transformations to the data as it moved into and out of eight ratings. With the (planned) move to PSLF 23 at WECC, the desire is for all 12 ratings to be defined, and for all entities to conform their submissions to the new definitions. After receiving feedback on Versions 1, 2, and 3 of this request, the following adjustments were made:

- Ratings 1–8 are all now specified and required in this request.
- All WECC data submitters would need to populate the ratings from now on—no ratings would be shifted.
- Ratings 9–12 have been updated to be “not specified.” Ratings 9–12 would be available for any use deemed necessary.
- Anyone who used a different scheme in the past would be asked to conform to this approach from now on.

Benefits

The following benefits are intended by completing the proposed DPM change request:

- Ratings will be defined the same for everyone—there will be no confusion as to which rating means what. Anyone who used the original eight ratings scheme would not need to shift their data to align with the “new” WECC DPM format.
- No more conversions with data loss. Dropping four of 12 ratings for some entities leads to those ratings potentially being lost.
- No more ratings being shifted with the possibility of errors. Each time we move to a new PSLF version, WECC staff has to go back and possibly update the converter code, which can lead to errors.
- Four additional ratings (9–12) are available to use for whatever purpose each entity deems appropriate.

Cost

The following “costs” may be incurred by completing the proposed DPM change request:

- Data submitters may need to adjust their ratings when submitting data if their practices do not conform to the DPM.

Alternatives

- Continue using only eight ratings and shifting the data submitted.
- Abandon the ratings definitions for the entire case and require a ratings definition guide be submitted by each area for every case.

Proposed Edits

The following modifications to the presently approved DPM are proposed to implement the change being requested. Existing language is identified in blue and change language in red:

AC Transmission Lines

5. Normal and emergency thermal rating fields must be populated for all AC Transmission Line models. Any seasonal ratings that are not explicitly defined by the data submitter should be filled with data that would be used. For example, if only summer ratings are defined by an entity, then all seasonal ratings should be filled with the summer ratings.
6. ~~PSS@E base case data includes 12 facility ratings for transmission lines. If directed, WECC staff will move ratings into the appropriate seasonal ratings columns for the PSLF version of the base case being developed.~~



DPM Change Request

Field	Description	Requirements	Measure
Rating MVA 1	Summer Normal Branch Rating (MVA)	Line rating required.	Rating MVA>0
Rating MVA 2	Summer Emergency Branch Rating (MVA)	Line rating required.	Rating MVA>0
Rating MVA 3	Winter Normal Branch Rating (MVA)	Line rating required	Rating MVA>0
Rating MVA 4	Winter Emergency Branch Rating (MVA)	Line rating required	Rating MVA>0
Rating MVA 5	Spring Normal Branch Rating (MVA)	Line rating required	Rating MVA>0
Rating MVA 6	Spring Emergency Branch Rating (MVA)	Line rating required	Rating MVA>0
Rating MVA 7	Fall Normal Branch Rating (MVA)	Line rating required	Rating MVA>0
Rating MVA 8	Fall Emergency Branch Rating (MVA)	Line rating required	Rating MVA>0
Rating MVA 9	Not Specified		
Rating MVA 10	Not Specified		
Rating MVA 11	Not Specified		
Rating MVA 12	Not Specified		

Connectors

Field	Description	Requirements	Measure
Rating MVA 1	Summer Normal Connector Rating (MVA)		Rating MVA>0
Rating MVA 2	Summer Emergency Connector Rating (MVA)		Rating MVA>0
Rating MVA 3	Winter Normal Connector Rating (MVA)		Rating MVA>0



DPM Change Request

Field	Description	Requirements	Measure
Rating MVA 4	Winter Emergency Connector Rating (MVA)		Rating MVA>0
Rating MVA 5	Spring Normal Branch Connector (MVA)		Rating MVA>0
Rating MVA 6	Spring Emergency Connector Rating (MVA)		Rating MVA>0
Rating MVA 7	Fall Normal Connector Rating (MVA)		Rating MVA>0
Rating MVA 8	Fall Emergency Connector Rating (MVA)		Rating MVA>0
Rating MVA 9	Not Specified		Rating MVA>0
Rating MVA 10	Not Specified		
Rating MVA 11	Not Specified		
Rating MVA 12	Not Specified		

Transformers

5. Normal and emergency thermal rating fields must be populated for all AC Transmission Line models. Any seasonal ratings that are not explicitly defined by the data submitter should be filled with data that would be used. For example, if only summer ratings are defined by an entity, then all seasonal ratings should be filled with the summer ratings.
6. ~~PSS®E cases use ratings 1 and 2 for seasonal normal and emergency ratings corresponding to the season of the case. If directed, WECC staff will move ratings 1 and 2 into the appropriate seasonal ratings columns for the PSLF version of the base case being developed.~~

Field	Description	Requirements	Measure
Rating 1	Summer Normal Branch Rating (MVA) (primary winding for 3-winding xfmr)	Transformer rating required.	Rating > 0



DPM Change Request

Field	Description	Requirements	Measure
Rating 2	Summer Emergency Branch Rating (MVA) (primary winding for 3-winding xfmr)	Transformer rating required.	Rating > 0
Rating 3	Winter Normal Branch Rating (MVA) (primary winding for 3-winding xfmr)	Transformer rating required.	Rating > 0
Rating 4	Winter Emergency Branch Rating (MVA) (primary winding for 3-winding xfmr)	Transformer rating required.	Rating > 0
Rating 5	Spring Normal Branch Rating (MVA) (primary winding for 3-winding xfmr)	Transformer rating required.	Rating > 0
Rating 6	Spring Emergency Branch Rating (MVA) (primary winding for 3-winding xfmr)	Transformer rating required.	Rating > 0
Rating 7	Fall Normal Branch Rating (MVA) (primary winding for 3-winding xfmr)	Transformer rating required.	Rating > 0
Rating 8	Fall Emergency Branch Rating (MVA) (primary winding for 3-winding xfmr)	Transformer rating required.	Rating > 0
Rating 9	Not Specified		
Rating 10	Not Specified		
Rating 11	Not Specified		
Rating 12	Not Specified		
TO Winding Rating MVA 1	Summer Normal Branch Rating (MVA) (secondary winding for 3-winding xfmr)		Rating > 0



DPM Change Request

Field	Description	Requirements	Measure
TO Winding Rating MVA 2	Summer Emergency Branch Rating (MVA) (secondary winding for 3-winding xfmr)		Rating > 0
TO Winding Rating MVA 3	Winter Normal Branch Rating (MVA) (secondary winding for 3-winding xfmr)		Rating > 0
TO Winding Rating MVA 4	Winter Emergency Branch Rating (MVA) (secondary winding for 3-winding xfmr)		Rating > 0
TO Winding Rating MVA 5	Spring Normal Branch Rating (MVA) (secondary winding for 3-winding xfmr)		Rating > 0
TO Winding Rating MVA 6	Spring Emergency Branch Rating (MVA) (secondary winding for 3-winding xfmr)		Rating > 0
TO Winding Rating MVA 7	Fall Normal Branch Rating (MVA) (secondary winding for 3-winding xfmr)		Rating > 0
TO Winding Rating MVA 8	Fall Emergency Branch Rating (MVA) (secondary winding for 3-winding xfmr)		Rating > 0
TO Winding Rating MVA 9	Not Specified		
TO Winding Rating MVA 10	Not Specified		
TO Winding Rating MVA 11	Not Specified		



DPM Change Request

Field	Description	Requirements	Measure
TO Winding Rating MVA 12	Not Specified		
Tert Wind. Rating MVA 1	Summer Normal Branch Rating (MVA) (tertiary winding for 3-winding xfmr)		Rating > 0
Tert Wind. Rating MVA 2	Summer Emergency Branch Rating (MVA) (tertiary winding for 3-winding xfmr)		Rating > 0
Tert Wind. Rating MVA 3	Winter Normal Branch Rating (MVA) (tertiary winding for 3-winding xfmr)		Rating > 0
Tert Wind. Rating MVA 4	Winter Emergency Branch Rating (MVA) (tertiary winding for 3-winding xfmr)		Rating > 0
Tert Wind. Rating MVA 5	Spring Normal Branch Rating (MVA) (tertiary winding for 3-winding xfmr)		Rating > 0
Tert Wind. Rating MVA 6	Spring Emergency Branch Rating (MVA) (tertiary winding for 3-winding xfmr)		Rating > 0
Tert Wind. Rating MVA 7	Fall Normal Branch Rating (MVA) (tertiary winding for 3-winding xfmr)		Rating > 0
Tert Wind. Rating MVA 8	Fall Emergency Branch Rating (MVA) (tertiary winding for 3-winding xfmr)		Rating > 0
Tert Wind. Rating MVA 9	Not Specified		



DPM Change Request

Field	Description	Requirements	Measure
Tert Wind. Rating MVA 10	Not Specified		
Tert Wind. Rating MVA 11	Not Specified		
Tert Wind. Rating MVA 12	Not Specified		

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