

## Change Summary

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Some WECC and SRS members have expressed interest in having the ability to provide injection groups as an **optional** data item in base cases. WECC staff and SRS leadership have requested a structure for injection groups to ensure data consistency. This supplemental data would be **optional** for members, and **not a data requirement**.

## Schedule

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**Option 1:** Incorporate language into the Data Preparation Manual (DPM): February 2024 for a mid-cycle DPM update, for those wishing to provide this optional data with this naming structure.

**Option 2:** Incorporate language into DPM: February 2024 for inclusion in 2025 DPM.

**Option 3:** Incorporate into the WECC Base Case business practices document.

**Option 4:** Similar to Option 2, Incorporate language into DPM: February 2024 for inclusion in 2025 DPM, but provide notification to those wishing to begin submitting this optional data that the data is acceptable, using the provided format that will be updated in the 2025 DPM.

## Detailed Description

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Injection groups can be a useful modeling and study tool for summarizing case information, providing report summaries, use in Remedial Action Scheme (RAS) models, scaling (plants, load areas, resource types, etc.), use for display purposes in one-lines, contingency definitions, and source and sink for various analyses.

Injection groups are an aggregation of objects: typically load and generation objects. This construct is currently supported in PowerWorld and PSLF. Siemens PTI/PSSE has a similar, but non-interchangeable concept called "Subsystem."

## Benefits

The following benefits are intended by completing the proposed DPM (or BP) change request:

- Data is optional—only those who use (and benefit) from injection groups can provide this data as desired; if a utility does not use injection groups or does not wish to include their injection groups, it is not a requirement.

- Injection groups (as currently in use by multiple utilities) can be integrated into the WECC base case process and shared with consistent names with neighboring utilities.
- Consistent injection group names can lead to consistent contingency definitions, displays, RAS.
- Cases can be more easily summarized—especially in areas with large, multi-unit plants.
- PSLF and PowerWorld support injection group use.

## **Cost**

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

- Data Submitters will have to populate and maintain additional data from their existing dataset.
- PSSE presently does not have the desired object types and fields; users (including PSSE users) would not be required to submit this optional data.

## **Alternatives**

The alternatives are:

1. Do nothing—members can submit data without a formal naming structure.
2. Modify the naming structure from what is proposed.
3. Add the naming structure in the DPM **OR** the WECC Base Case Business Practice Manual
4. Add the naming for use this year **OR** wait until 2025.
5. Incorporate language into the 2025 DPM, but accept data in accordance with the naming format now.

## **Proposed Edits**

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The following modifications to the presenting approved DPM (or Business Practice Manual) are proposed to implement the change being requested. Change language is in **red**:

### **Supplemental Data**

Data for injection groups is not required to be provided for WECC base cases (except for when used in RAS models), but sharing this information may have benefits for member coordination in harmonizing contingency definitions, display files, and other study tools. For members who would like to provide injection groups as part of WECC base cases, the injection group name string should identify the data owner by naming the group models with the member system abbreviation and an underscore at the front. If a secondary owner identifier is desired, a forward slash character '/' may be used.

Naming examples include:

- CHPD\_Rocky Reach
- PACE\_Gadsby
- BPA/USBR\_Grand Coulee



- PSE/IPP\_Skookumchuck Wind



## Examples

PSLF EPC format:

Name

Data Maintainer

```

injgroup data { 1 }
"CHPD_Big Gen Plant" : "WECC"
injgrpelem data { 3 }
"CHPD_Big Gen Plant" GEN 12341 "ALPHA" " 14.40 "1" " : 0 147.800003 " "
"CHPD_Big Gen Plant" GEN 12342 "BETA" " 14.40 "1" " : 0 148.500000 " "
"CHPD_Big Gen Plant" GEN 12343 "GAMMA" " 14.40 "1" " : 0 148.500000 " "
```

Participation point method (typically a '1' to use pmax)      Participation factor value (if used for scaling)

prfcalcopt = 0 to use the user defined value of <prf>  
prfcalcopt = 1 indicates to use generator pmax as the value of prf  
prfcalcopt = 2 indicates to use generator pmax-pgen reserve as the value of prf  
prfcalcopt = 3 indicates to use generator pgen-pmin reserves as the value of prf  
prfcalcopt = 4 indicates to use load pmax as the value of prf  
prfcalcopt = 5 indicates to use shunt qmax as the value of prf  
prfcalcopt = 6 indicates to use shunt up reserve (pmax-q) as the value of prf  
prfcalcopt = 7 indicates to use shunt down reserve (q-qmin) as the value of prf  
prfcalcopt = 8 indicates to use a given field/member from the object as the value of prf  
prfcalcopt = 9 indicates to use the output of a model expression as the value of prf

PowerWorld AUX format:

```

InjectionGroup (Name,DataMaintainer)
{
  "CHPD_Big Gen Plant" "Chelan PUD"
}

PartPoint (GroupName, Object, AutoCalcMethod, PartFact, AutoCalc)
{
"CHPD_Big Gen Plant" "Gen '12341' '1'" "MAX GEN MW" 85.500002 "YES"
"CHPD_Big Gen Plant" "Gen '12342' '2'" "MAX GEN MW" 85.500002 "YES"
"CHPD_Big Gen Plant" "Gen '12343' '3'" "MAX GEN MW" 85.500002 "YES"
}

```

Initial Value	ParFac
MAX GEN MW	85.50
SPECIFIED	
MAX GEN INC	
MAX GEN DEC	
MAX GEN MW	

