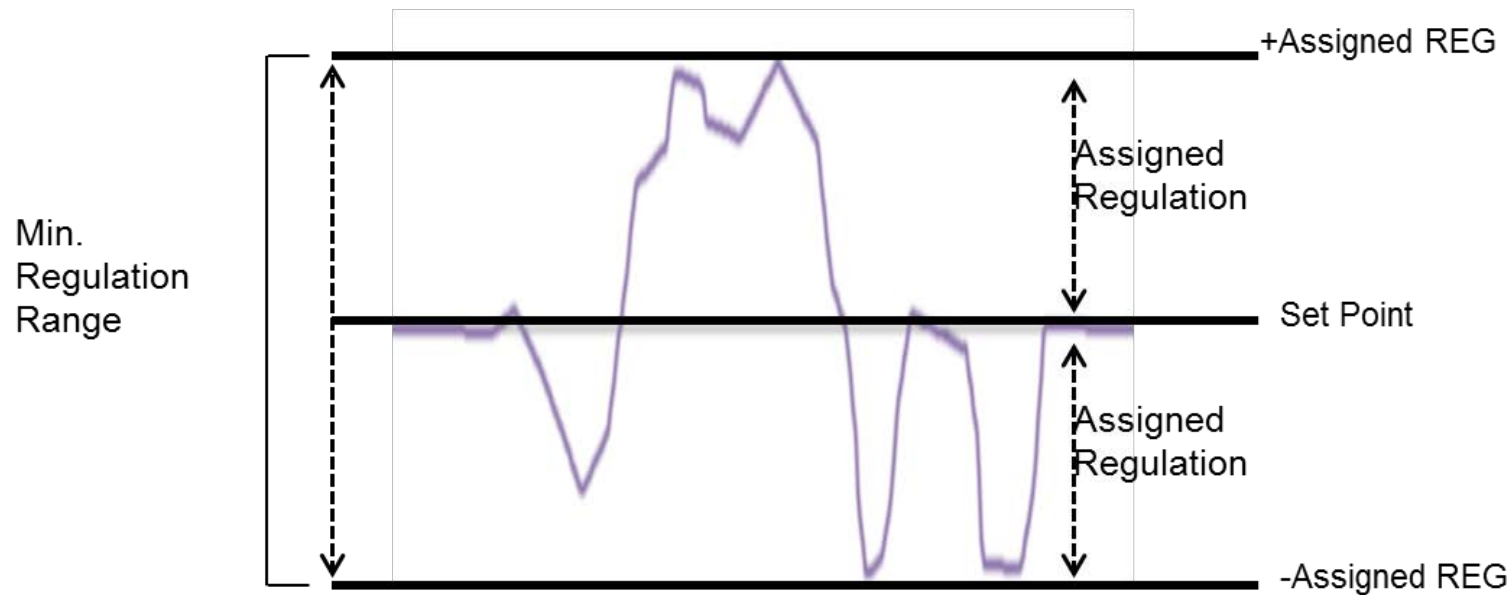




Manual 12 Updates

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- Description of the regulation range and assigned regulation to state a resource is required to symmetrically provide the total amount of Regulation assigned
 - Regulation Range cannot allow a DSR to inject energy into the BES



- Details on the initial evaluation performed to ensure all underlying regulation obligations and testing requirements have been met prior to performance scoring
 - 40 minutes of regulation, achieve regulation range, set and hold basepoint, no fleet resource in regulation during test
- Further defined basepoint language
 - The MW-value basepoint the unit will be regulating around

Under Section 4.4.1 PJM RTM Regulation Market Obligations:

The PJM RTO requires that the Regulation range of a resource is at least twice the amount of Regulation assigned, **and that the resource can symmetrically provide the total amount of Regulation assigned (a full raise and lower of assigned regulation from set-point) as illustrated in Exhibit 12 below.**

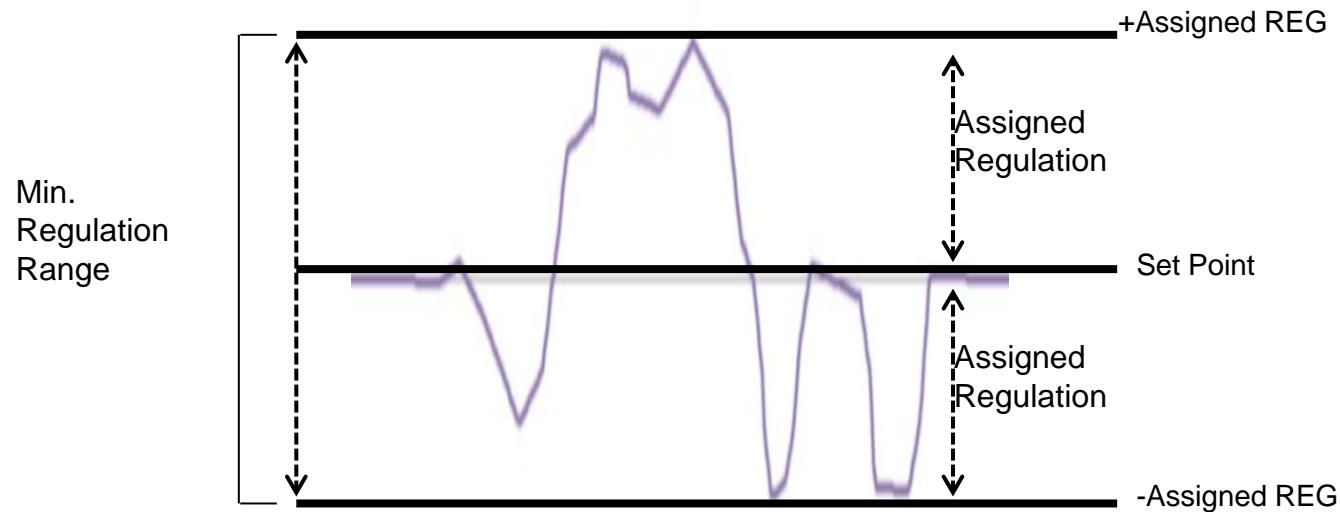


Exhibit 12. Assigned Regulation and Regulation Range requirements

Under Section 4.4.1 PJM RTM Regulation Market Obligations (Cont.):

Demand Response resources providing Regulation are required to fulfill the regulation range requirements without injecting energy into the Bulk Electric System (BES).

Under Section 4.4.2 Regulation Signals

- Demand Response resources are expected to provide PJM with their MW-value basepoint they are regulating around.

Under Section 4.5 - Qualifying Regulating Resources:

PJM Performance Compliance will **evaluate test results against the PJM RTO Regulation Market Obligations as described in Section 4.4.1 &** score the test using the performance score calculation as described in Section- 4.5.6 Performance Score Calculation of this manual within three business days of the test.

Under Section 4.5.1- Regulation Qualification Test:

Once an AR test is announced, a Resource Owner is not permitted to change any resource's Regulation assignment.

Following the testing period an initial evaluation will be performed to ensure all underlying regulation obligations and testing requirements have been met. This will include verifying the resource (1) was providing regulation for the duration (40 minutes) of the test, (2) can achieve its full regulation testing range (+/- TREG), (3) has held its regulation base loading for the full duration of the test and (4) that no other resources within the testing fleet were in the regulation market during the testing period.

Under Section 4.5.1- Regulation Qualification Test:

The AR test is run during a continuous 40-minute period when, in the judgment of PJM test administrator, economic or other conditions do not otherwise change the base loading of the resources that are being tested. **All resources performing a regulation test must set and hold for the test duration the MW-value base point that the resource is regulating around.** Changes in base loading for a resource during the test period invalidates the test for that resource. A separate set of tests are required for qualification for the traditional signal (RegA) and the dynamic signal (RegD). The test follows a simulated **RegA regulation** signal. The test will last for 40 minutes.

Under Section 4.5.2 and 4.5.4 under Member Actions:

For any tests performed by the members for the purpose of certification, the member will supply the resource, the time of the test, amount of MW being tested, **the MW-value** basepoint **the unit will be regulating around**, and the signal type the resource is following to RegulationTesting@pjm.com