

**Grid Code  
Modification  
Recommendation Form**



**Title of Recommended Proposal:**

Correction of Connection Voltage Graphs for 110kV and 220KV Systems under PPM1.6.3.4

**MPID:** MPID 279

**Date:** 10 August 2020

**Recommended at GCRP Meeting No.:** 02 July 2020

**Grid Code Version:** 8.0

**Grid Code Section(s) Impacted by  
Recommended Proposal:** PPM1.6.3.4

**The Reason for the Recommended Modification:**

The purpose of this modification is to correct an error in clause PPM1.6.3.4.

PPM1.6.3.4 shows a maximum voltage withstand capability of 1.12p.u. for connections at 110 kV and 220 kV. In the case of 110kV and 220 kV, this would require equipment to have the capability to continually withstand 123.2kV and 246.4 kV respectively.

As per clause CC.8.3.2, the maximum transmission system voltages during a transmission fault for 110kV and 220kV are nominally 123kV and 245kV respectively. This equates to an upper voltage limit of 1.118p.u. for 110kV transmission systems and 1.114p.u. for 220kV transmission systems. The values in clause PPM1.6.3.4 should be aligned with the values stated in clause CC.8.3.2.

To rectify this Grid Code inconsistency, we propose separating out the graphs for 110kV and 220kV and correcting the upper voltage limits within them to state 1.118p.u. for 110kV systems and 1.114p.u. for 220kV systems.

It should also be noted that the European Commission Regulation 2016/631 establishing a network code on requirements for grid connection of generators (RfG), Article 16.2 requires the maximum voltage limit for 110kV to 300kV inclusive to be 1.118p.u, which would require a continuous voltage rating of 246 kV for 220 kV plant. We consider that this is an error in the network codes and we have requested a derogation from the CRU to reflect the voltage limits, as defined in CC.8.3.2.

**History of Progression through GCRPs, Working Group and/or Consultation:**

On the 2 July 2020 this modification proposal was presented to the GCRP members.

No comments or objections to the proposed amendment were received from members.

It was recommended by the GCRP members that the TSO issue a modification recommendation paper to the CRU for their review and approval.

**Summary Note of any Objections to the Recommended Change from GCRP Members or Consultation Responses:**

No objections were raised by the GCRP members in relation to the recommended change.

**Outcome of any GCRP Meeting Actions Relating to the Recommended Modification:**

There were no GCRP meeting actions raised in relation to the recommended modification.

**Red-line Version of Impacted Grid Code Section(s) - show recommended changes to text:**

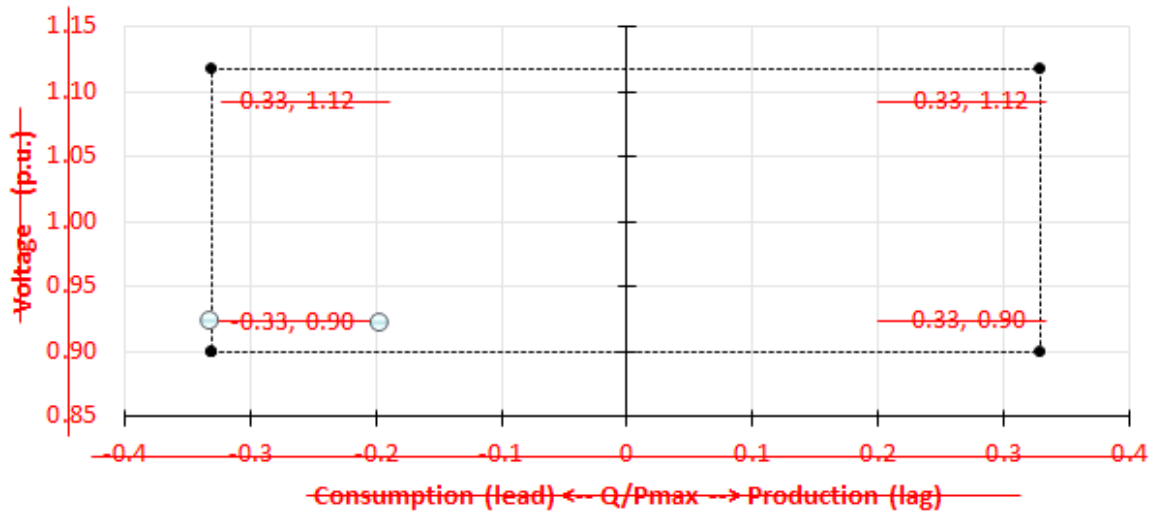
Deleted text in ~~strike-through red font~~ and new text highlighted in **blue font**



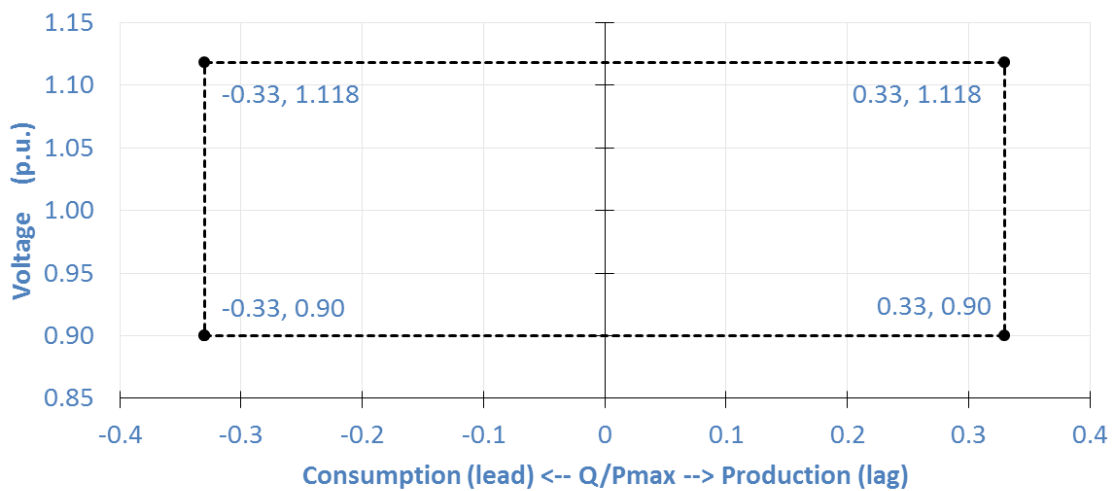
PPM1.6.3.4

Without prejudice to PPM1.6.3.1, **Controllable PPMs** shall comply with the following **Reactive Power** requirements at **Registered Capacity** at the **Connection Point**;

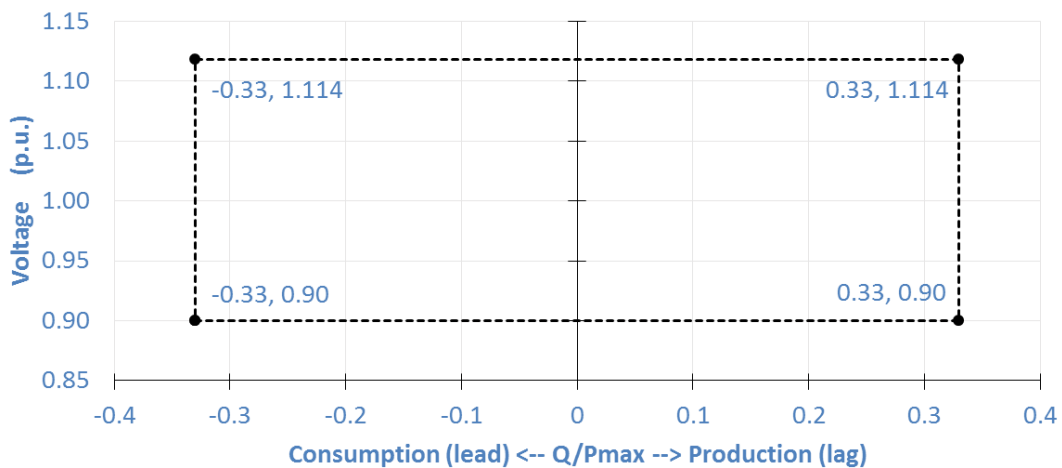
~~110kV and 220kV Connection Voltage~~



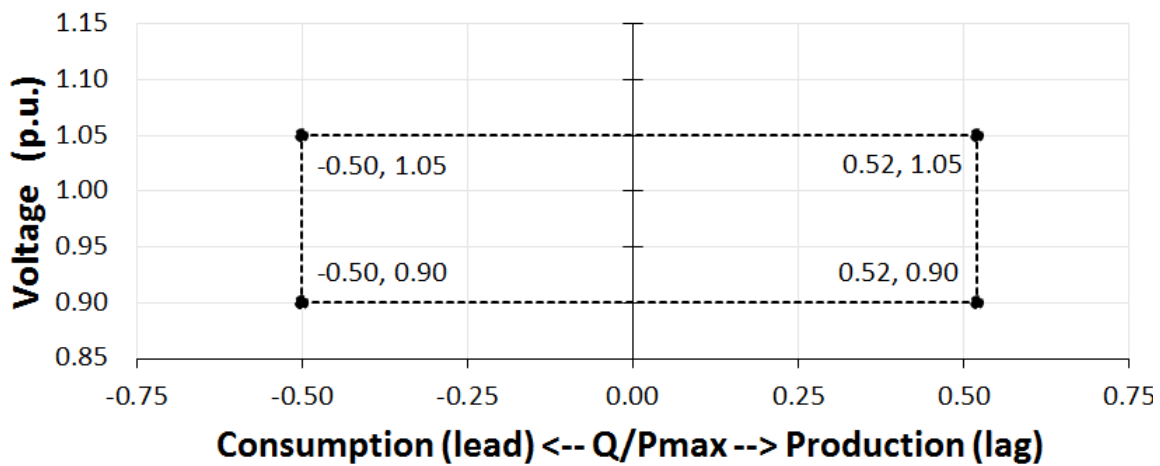
**110kV Connection Voltage**



220kV Connection Voltage



400kV Connection Voltage

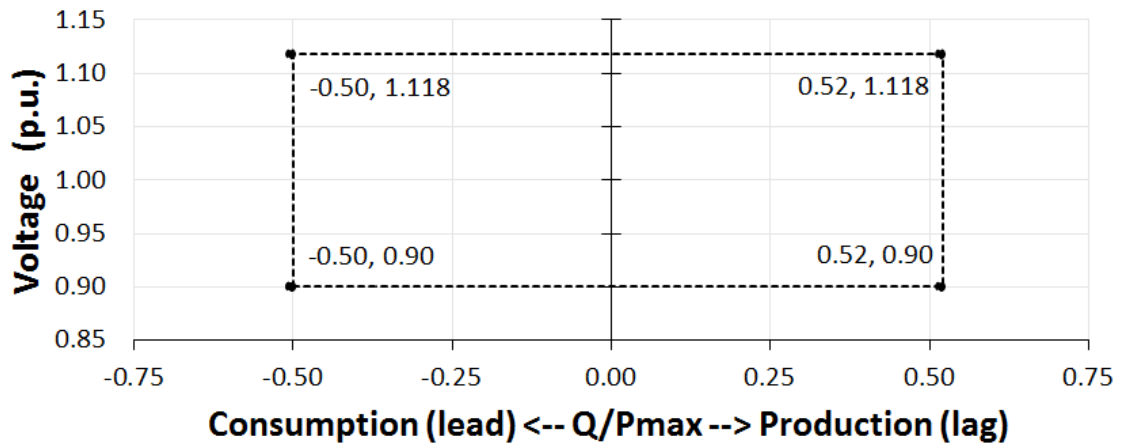




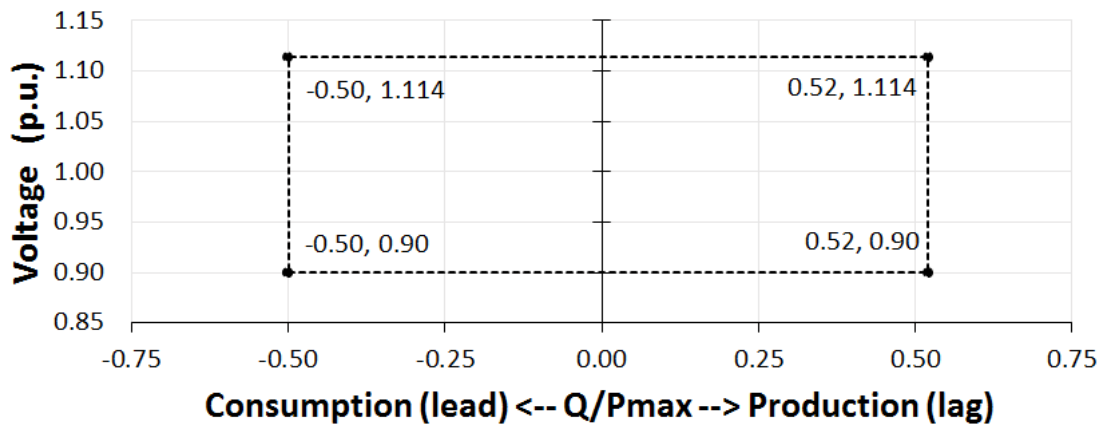
PPM1.6.3.4

Without prejudice to PPM1.6.3.1, **Controllable PPMs** shall comply with the following **Reactive Power** requirements at **Registered Capacity** at the **Connection Point**;

**110kV Connection Voltage**



**220kV Connection Voltage**



### 400kV Connection Voltage

