

Towards high levels of RES in French Insular Systems

Ensuring the LVRT capability

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MANY CHALLENGES RELATED TO VARIABLE RES INTEGRATION...





A key point for the green transition : LVRT capabilities of VRES and BESS



ENSURING THE VRES LVRT CAPABILITY FOR A SAFER SYSTEM

 Since 2008 : Mandatory Operation Capability for all installations > 10 kVA



- New requirement since 2018 : for all installations interfaced by power electronics and > 10 kVA
 - Momentary cessation capability (zero current) after the fault detection
 - Reinject the power at least 100 ms after the fault elimination

OK, but what happens in real life ?

Example from Guadeloupe (2020) : abrupt disconnection of renewable energy production during a short circuit:





On field tests in Corsica and Guadeloupe



Mobile testing device cause intentional low voltage and assess the LVRT capabilities of all VRES and BESS connected to the substation

Several voltage dips of short duration carried out, with a level and duration that respects the required template



Most of the neighboring solar and wind generators did not withstand the requirement causing 10 to 20 MW lost for each test !

➔ Industrial process has been launched to carry out regular test campaign

« DETECT » : Complete solution for VRES and BESS LVRT capability tests and continue monitoring









