

## SolarTech Power Solutions

# Paraguay Communications BESS Power Station Recommendation



## Overview

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Who should verify a Bess & hybrid power plant dynamic model?

GOs, Generation Operators (GOP), and developers of each BESS and hybrid power plant (in coordination with their TP, PC, and equipment manufacturer) should verify that the dynamic models fully represent the expected behavior of the as-built facility.

How does a Bess system work?

BESS systems usually involve short, high ampacity underground runs from the battery rack containers to the inverters or DC/DC converters. In order to avoid excessive cable derates and resulting in larger cables and costs for short underground runs, you will need to consider:.

Who should be involved in interconnecting Bess & hybrid power plants?

Newly interconnecting GOs of BESS and hybrid power plants should work closely with their respective TOs, Balancing Authorities (BA), Reliability Coordinators (RC), TPs, and PCs to ensure all entities have an understanding of the operational capabilities and limitations of the facilities being interconnected.

How do I choose a Bess battery?

When designing and selecting a BESS the project engineer will deal with a battery specialist who will try to select the correct battery package for the application. This will involve creating a usage profile for the system, with an assumed program of charge and discharge cycles.

How do I model the charging capability of a Bess generator?

Charging Operation: Charging capability can be modeled by setting the equivalent BESS generator with an appropriate negative value for the active power limit,  $P_{min}$ . Note that the maximum charging limit ( $P_{min}$ ) may be different from the maximum discharging limit ( $P_{max}$ ).

What type of connection should a Bess use?

The type of connection should be decided early. If the BESS shall connect to a LV or MV connection point. Most battery systems will not exceed 1500 V DC, as this would bring them into the HV classification range and entail increased equipment and operational demands.

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