

A stylized map of the Asia-Pacific region (APAC) in white, overlaid with a network of yellow lines and dots representing a global or regional communication network. The background is a dark teal color with a subtle geometric pattern of light blue lines and dots.

# APAC Sales Meeting

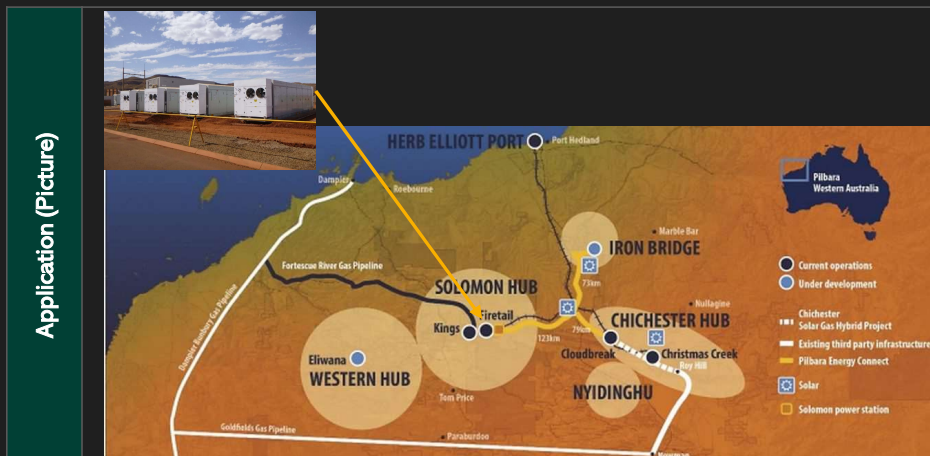
Dec 2022  
CapTech  
George Kotenko

# Project overview



<b>Project</b>	BESS for Solomon Hub Pilbara Generation Project	<b>Start</b>	2021
<b>Customer</b>	Fortescue Metal Group (FMG)	<b>Value</b>	40,000AUD
<b>Project Phase</b>	<ul style="list-style-type: none"> <li>Operational</li> </ul>		
<b>Customer Goals</b>	<ul style="list-style-type: none"> <li>FMG's emissions reduction goal to achieve carbon neutrality by 2030</li> </ul>		

<b>Project Description</b>	<ul style="list-style-type: none"> <li>BESS with total capacity of 42MW (13 MWh) is the largest BESS for mining application in Australia</li> <li>BESS to store energy from solar farms and supply electricity to Fortescue's Pilbara iron ore mines.</li> </ul>		
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# At a glance



## Customer problem

Earth fault protection for BESS is mandatory

## Solution

Insulation monitoring device iso685-D

## Benefit for the customer

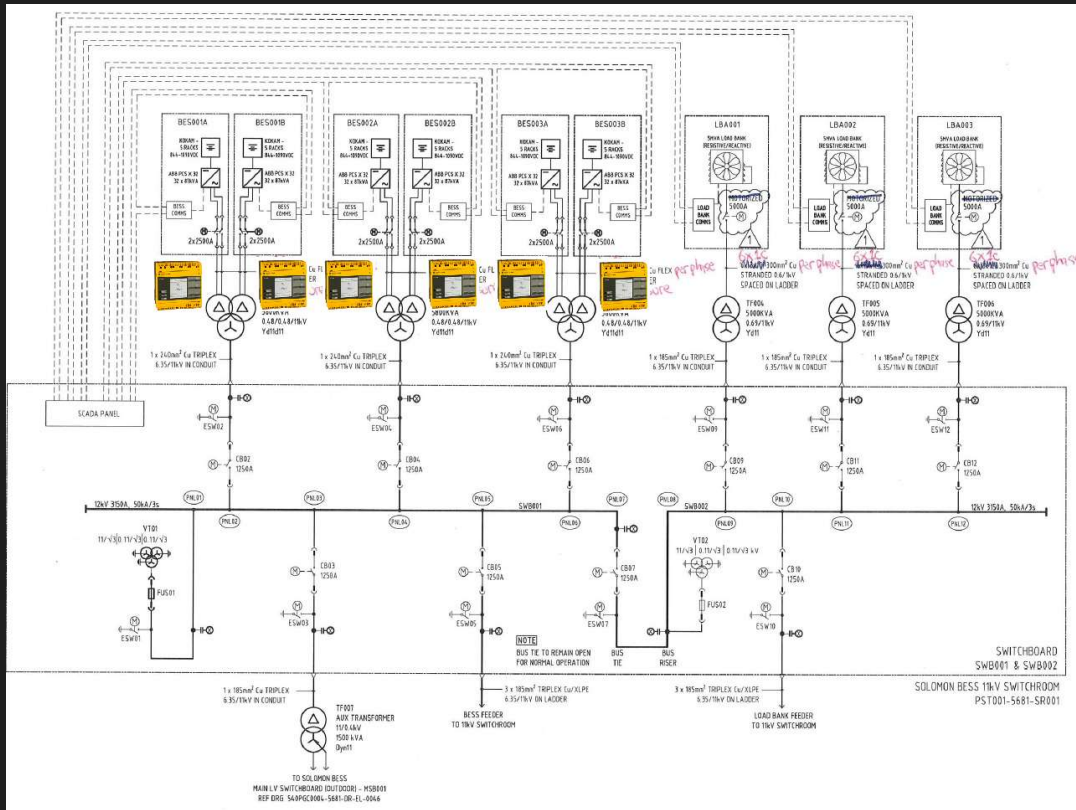
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## Project scope

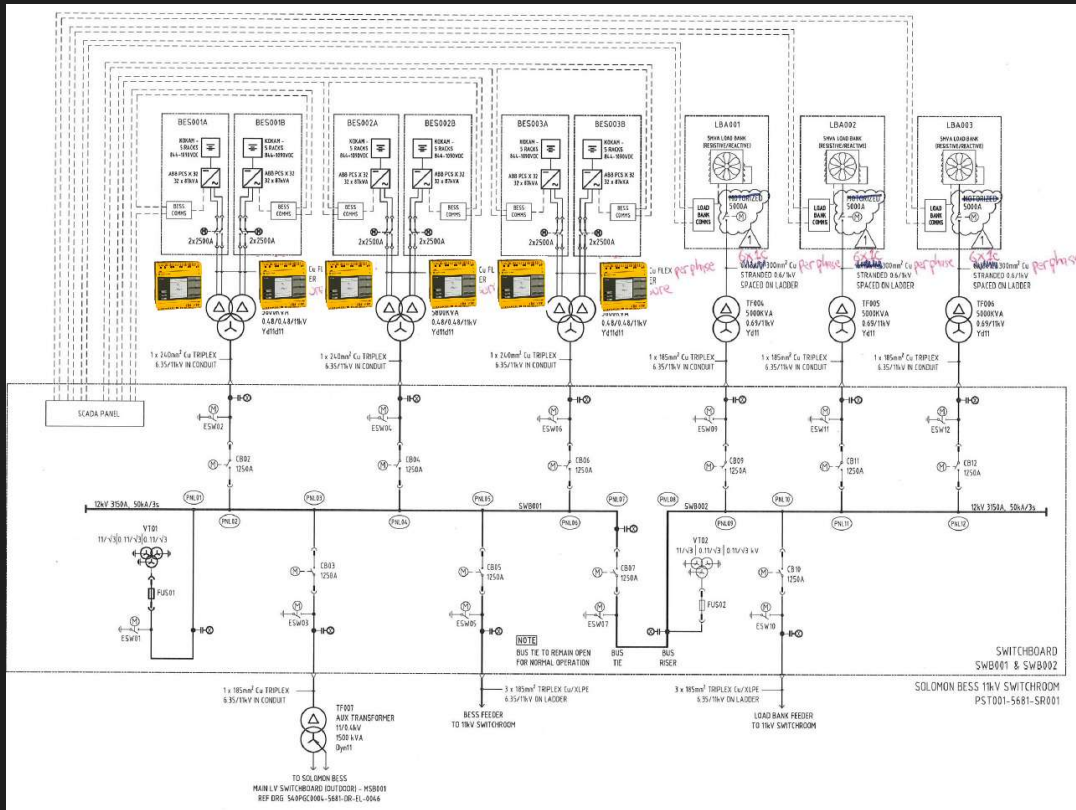
Help with selection of the right solution  
Support during commissioning



# BESS for Solomon Hub



# BESS for Solomon Hub



## Inherently low insulation resistance

**AC Side Insulation Monitor Relay**

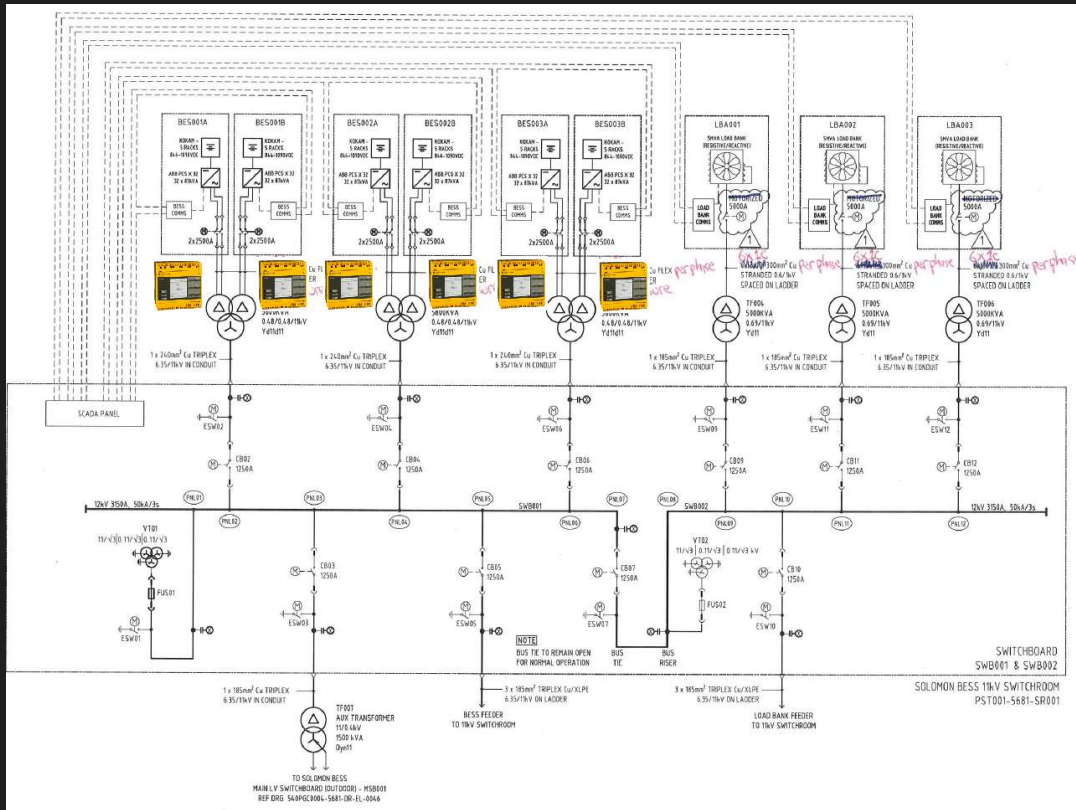
**Alarm**

- Insulation Fault Alarm ●
- Insulation Monitor Lost Comms Alarm ●
- IMR Insul. Alarm1 Warning Alarm ●
- IMR Insul. Alarm2 Trip Alarm ●
- IMR Device Error Alarm ●
- IMR Device Common Alarm ●
- IMR Symmetrical Fault Alarm ●

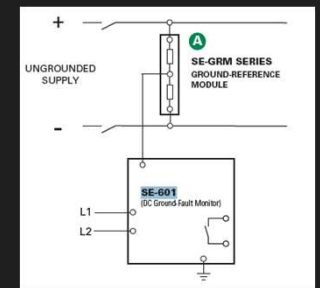
**Analog Status**

IMR Voltage L1 -PE Actual	283.00 V
IMR Voltage L2 -PE Actual	277.00 V
IMR Voltage L3 -PE Actual	280.00 V
IMR Insul. Resistance Actual	19000.00 Ohm
IMR Min. Insul Value Actual	15000.00 Ohm
IMR Sys Leakage Cap. Actual	Inf F

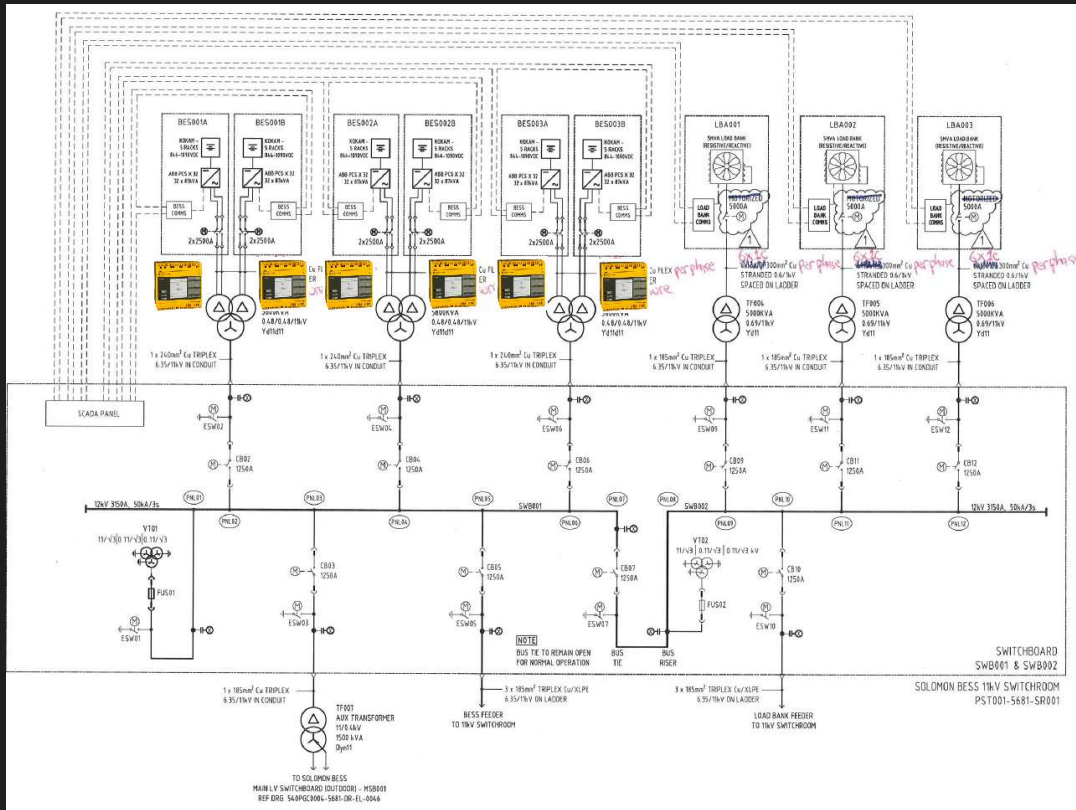
# BESS for Solomon Hub



Battery banks from Kokam with built-in Earth Leakage detection Littelfuse SE-601



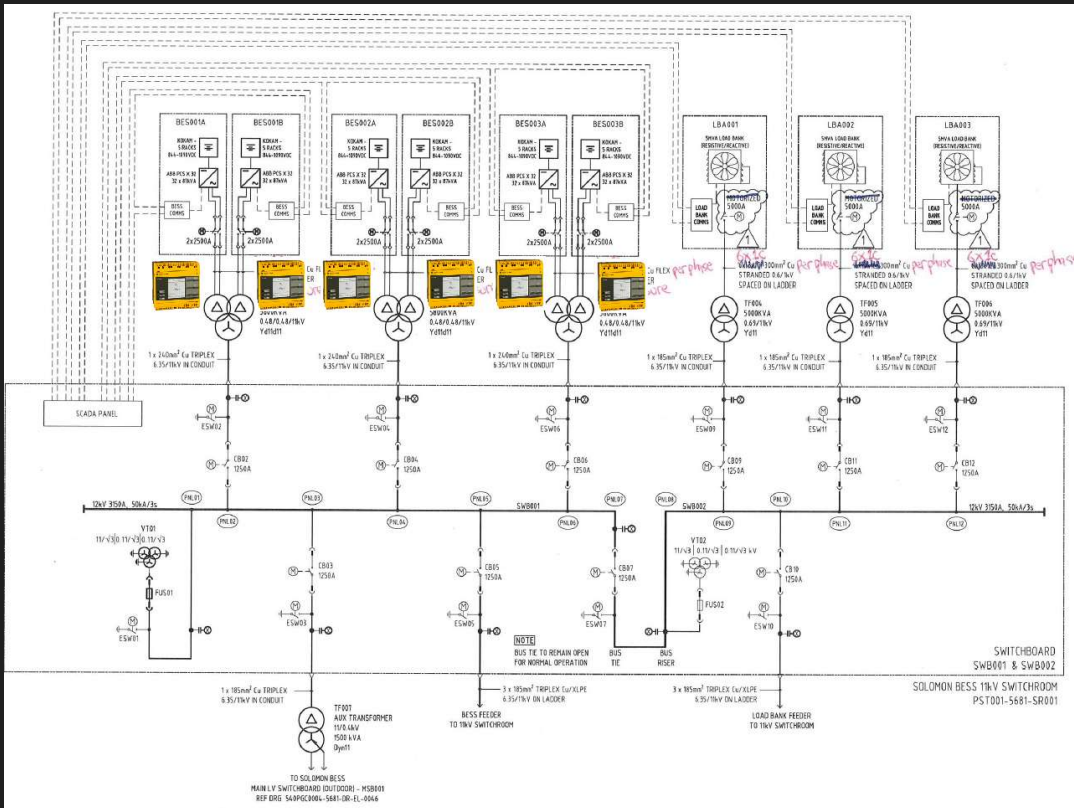
# BESS for Solomon Hub



32 x ABB PCS100 per BES

ABB advised that each PCS100 has two parts (DC RFI board and Type C module) with resistance to earth of 1.1M $\Omega$  each

# BESS for Solomon Hub



**AC Side Insulation Monitor Relay**

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