

# SOLAR - CORRECTING BUILD QUALITY

## IDENTIFYING POOR DESIGN AND BUILD QUALITY

RES has identified a number of distressed solar farms which have been poorly designed and rapidly built by contractors for clients keen to achieve the benefits of the Feed in Tariff. The due diligence visual survey the client had obtained was insufficiently thorough to identify multiple issues which RES as the new asset manager quickly identified. On a 1.6 MWp solar farm in southern England, RES provided a Final Acceptance Test (FAT) inspection with costed solutions. This enabled the client to make informed decisions on the costs to rectify problems versus the long term yield. The site was in such a poor condition that in order for it to function for the expected 25 year lifespan it required:

- » Strengthening and rectification of the non-standard and corroded support structure
- » Replace non-compliant solar panel clamping system which was causing varied panel orientations and cracking
- » Prevention of water ingress to cables connectors and re-routing cabling to reduce distress
- » Essential spare parts replenished. This included string inverters, solar panels, cable connectors, isolators and cables

**Our costed solutions enable decisions on investment versus yield. We provide structural solutions to maintain the asset value over 25 years.**

## PROVIDING THE SOLUTION

The support structure height was adjusted to align and level it. The vertical supports had been inserted into the ground at varying heights creating a waveform on the panels. Instead of a correctly specified panel support structure, recycled rail sleepers had been used. The support rails had no thermal expansion gaps which caused the rails to flex and expand during hotter weather, which could lead to panel cracking. The structure was also showing signs of corrosion. RES introduced thermal expansion gaps in the support rails, supported by splice kits to accommodate material expansion. All untreated and corroded metal received anti corrosion treatment. RES replaced corroded and uncompliant fixing clamps on the panels by an approved clamping system. All faulty cable connectors which were susceptible to water ingress and failing, were replaced using good quality connectors.

## NOW FULLY COMPLIANT

The panel and cable connectors now comply with BS EN 50521 and all DC cabling routed and supported in accordance with BS7671. These are UK national standards for electrical safety compliance for electrical installations. Following the inspection report we helped the client secure access to utilise the original contractors bonds to carry out these corrective solutions.



Thermal expansion gaps inserted



The solar farm had uneven supports



Proprietary clamping system

## FIND OUT HOW WE CAN HELP YOU IDENTIFY AND RECTIFY BUILD QUALITY ISSUES

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