

Initiated by: Dave Emrich

Project Manager: Tom Booler

Proposed Priority: Fast Track Normal

Title: Post-installation shielding of BFIF and batteries at LB tiles

Affected item(s):

56 Long-baseline tiles at MRO

Technical description:

During early commissioning of the 56 long-baseline tiles it was discovered that solar heating was contributing a significant amount to the internal temperature of the BFIF units, and we decided to procure custom solar shields made from 3mm aluminium sheet to be fitted to the west end of the solar frame covering the BFIF. We decided to also fit flat sheets to the eastern end of the solar frame to reduce direct solar exposure to the batteries. The shield pieces were screwed to existing structures using Teks screws. GCo Electrical crews were able to fit all 56 shield sets within four days from 2017-Oct-30 to 2017-Nov-2.

It is difficult to quantify the exact benefit, but examining the graphs of temperature differentials between the BFIF and beam-former at each long-baseline tile for approximately two weeks prior to, and two weeks after the solar shields were fitted seems to indicate a significant reduction for early to mid-afternoon peak differential temperatures which were reaching nearly 30 degrees on many occasions prior. Results were checked for "A" and "B" group tiles and for all 16 tiles across the two groups, significant reductions in temperature differentials were observed.

Photo of a typical installation shown in figure 1 overleaf.

Effective Date: 2017-11-02
(dd-mm-yyyy)

Reason for given effective date: Date of completion of fitting the solar shields.

Expected impact on cost (\$AUD): Cost of manufacture of solar shields was \$3861.40 from XWEngineering in Geraldton

Impact on schedule: Minor since GCo were already visiting multiple LB tiles for commissioning purposes.

Other impacts: None apparent.

Attached Document(s):

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Signature:



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Date:

2018-06-27

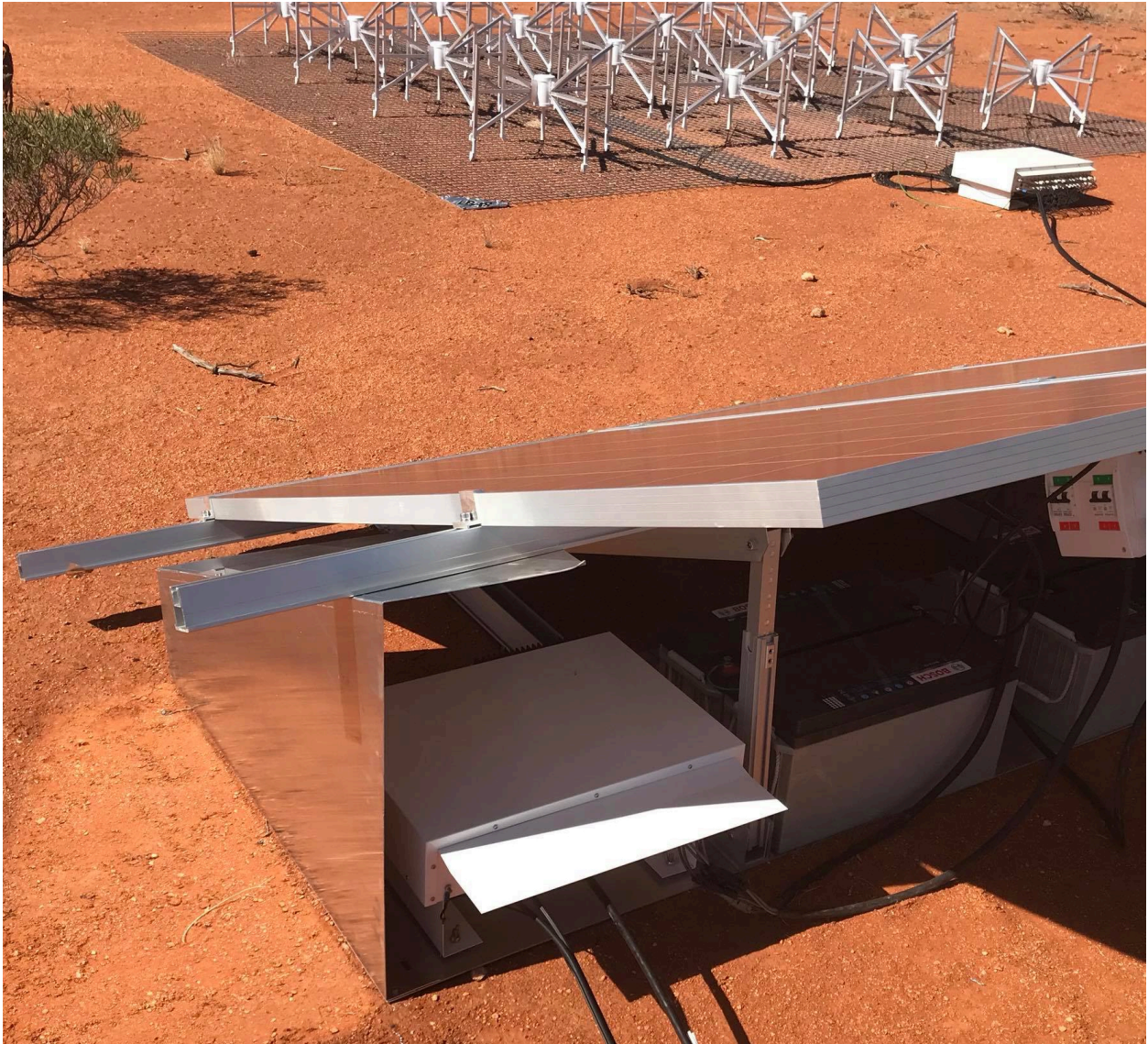


FIGURE 1: ALUMINIUM FOLDED-SHEET SUN SHIELD FITTED ON THE WEST SIDE.