

**RESPONSE TO THE PARKES - NARRABRI SECTION OF INLAND RAIL
ENVIRONMENTAL IMPACT STATEMENT
BY SIDING SPRING OBSERVATORY, COONABARABRAN**

1. BACKGROUND

Siding Spring Observatory (SSO) is Australia's national facility for optical astronomy. Situated on a high ridge in the Warrumbungle Mountains, it hosts a suite of more than 20 telescopes operated by the Australian National University (ANU) and other agencies, including significant international collaborations. Among the facilities are the two telescopes of the Australian Astronomical Observatory (AAO), a division of the Commonwealth Department of Industry, Innovation and Science. One of them (the 3.9-metre Anglo-Australian Telescope) is the largest optical telescope in Australia, and is expected to remain so for the foreseeable future. The total infrastructure investment at SSO is in excess of \$110 million at today's costs.

The preservation of a night sky unpolluted by artificial light is imperative to the future operation of Siding Spring, which continues to attract infrastructure investment from domestic and international scientific institutions. The protection of the night sky under NSW planning legislation is one of the main reasons for Australia's success in attracting these ventures to the site. This legislation consists of the *Environmental Planning and Assessment Amendment (Siding Spring Observatory) Regulation 2016* and its subsidiary documentation, in particular the associated *Dark Sky Planning Guideline*.

These mandate the implementation of the provisions of the *Guideline* in four local government authorities within 100 kilometres of the observatory (Coonamble, Dubbo, Gilgandra and Warrumbungle), and on State Significant developments on land within 200 kilometres.

2. RESPONSE TO THE EIS

This submission is a response to the exhibition of the Inland Rail Parkes-Narrabri Section Environmental Impact Statement (EIS) made by the Siding Spring Dark Sky Committee on behalf of the Australian Astronomical Observatory, the Australian National University and other stakeholders on the Siding Spring site.

We acknowledge the cooperation of the Australian Rail Track Corporation (ARTC) and its willingness to engage with the Siding Spring Dark Sky Committee in order to mitigate the damaging effects of light sources associated with the project. ARTC has been at pains to have an open discussion with the Committee, which is greatly valued.

While the Parkes-Narrabri Section of the Inland Rail project is beyond the local government areas with development controls for lighting, its location within 200 kilometres of the observatory and its designation as State Significant Infrastructure mean that the provisions of the *Dark Sky Planning Guideline* must be implemented.

The good lighting design principles outlined in the *Guideline* must therefore be followed during construction and operation of this section of the Inland Rail network. These are relatively straightforward, and include the use of full cut-off luminaires (i.e. those emitting no light above the horizontal plane) and light sources with a correlated colour temperature of less than 3500K. Details may be found in the *Guideline*, a copy of which is submitted with this response.

The Siding Spring Dark Sky Committee recognises the many benefits of the Inland Rail project, and is keen to support it. The challenge is to carry out the activities required in constructing and operating the network while, at the same time, preserving the near-pristine environment of Siding Spring so it can continue as a major contributor to the nation's scientific well-being. That being so, we are keen to continue working with ARTC to minimise any detrimental impact on the observatory from the project, and will make resources available to achieve that.

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