

Outline plans for target stations at the ISIS-II facility

The ISIS Neutron and Muon Source is based at the Rutherford Appleton Laboratory in the UK and is owned and operated by the Science and Technology Facilities Council, one of the councils that forms UK Research and Innovation (UKRI). Since production of first neutrons in 1984, ISIS has continued to develop its capabilities while growing and supporting the neutron scattering and muon science communities. ISIS-II is the proposal for a next-generation neutron source as the successor for ISIS. Although ISIS will continue to operate for many years to come, plans will be developed over the next decade in order to be ready for construction of the new facility, which is expected to be operational in the 2040s and will support cutting-edge science into the latter part of the century. [1]

In order to maximise capacity and breadth of science, the intention is for ISIS-II to be constructed and operational with two neutron production target stations (one at high and one at low repetition rate) from day one. The feasibility of an additional stand-alone muon target station is also under investigation, as is how best to provide irradiation facilities to support the growing programme in that area.

This paper will provide details of what such a facility might look like, where it might be located and why the two target station strategy is favoured.

References:

[1] Roger Eccleston's ISIS facility overview at ICANS XXIV

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