附件

**SKA低频望远镜购电协议技术咨询服务**

**工作范围（英文）**

**1.Background:**

The SKA-Low site will be powered from a central location, with power distributed across the site through an 11 kV HV network.

Power will be provided in two phases to meet the site power demand, being:

• Central Power Station Phase 1 (CPS-Phase1): A 5MVA-peak diesel-powered station being designed and constructed by SKAO and commissioned in 2025.

• Central Power Station Phase 2 (CPS-Phase2): A hybrid power station consisting of renewables, battery energy storage and diesel generation, provided by the successful Independent Power Producer (IPP) in 2028.

SKAO prefers that the independent power producer (IPP) takes over the diesel power station (CPS-Phase1) and expands it to incorporate renewable energy generation and energy storage (CPS-Phase 2) as part of the Power Purchase Agreement (PPA).

**2.Scope of work:**

SKAO wish to engage a consultant to advise and assist with two key areas of the Invitation to Tender (ITT) procurement process for the Central Power Station Phase 2 PPA:

• Part 1: Development of the key PPA terms and conditions

• Part 2: Development of the PPA technical specification

SKAO’s preference is to engage one consultant to provide the complete works. However, depending on the capability and resources of interested consultants, the works may be separated and awarded to different consultants. A key technical element in the selection of the IPP is demonstrating understanding of the SKAO radio frequency interference requirements.

**2.1 Part 1 - Development of PPA terms and conditions**

The consultant is to provide:

• Advice on the key contract terms that will form the PPA term sheet;

• Assistance with developing and drafting key commercial terms to meet SKAO’s objectives;

• Advice on other important contractual terms and conditions that SKAO should define or outline the desired intent;

• Advice on strategies to maximise the level of renewable energy and assistance to implement those strategies;

• Support during the SKAO invitation to tender process to review and comment on PPA terms proposed by tenderers and to answer tenderer requests for information; and

• Recommendations on the preferred tenderer/s based on the consultant’s review and assessment of the tender submissions.

**2.2 Part 2 - Development of tender technical specification**

The consultant is to:

• Develop the electrical, civil, structural and mechanical technical specification for the project with the SKAO power team;

• Review the SKAO technical specifications from the design and installation of the SKA-Low infrastructure including the CPS Phase 1 power station projects and apply the relevant specifications to the PPA technical specification;

• Review the lessons learnt from the design and installation of the SKA-Low infrastructure and CPS Phase 1 power station projects and apply those learnings to the PPA technical specifications;

• Incorporate further guidelines from the SKAO technical teams in the specifications;

• Review the details of key equipment used in the SKA-Low infrastructure and CPS Phase 1 power station projects and assess whether the same equipment should be used including:

• Specifying where the same equipment shall be used;

• Providing equipment and vendor information for alternative equipment to assist tenders (their choice whether to use or not);

• Develop the tender drawing set consisting of general, electrical and civil drawings;

• Review and develop the Interface Control Documents (ICD’s);

• Assist with defining the RFI risk profile and allocating a clear risk owner for each element;

• Develop the performance testing and verification requirements for the system(expected to be a hybrid solar PV/BESS/diesel generator);

• Provide technical support during the SKAO invitation to tender process to review and answer tenderer technical queries; and

• Review and assess tenderer technical submissions to provide a recommendation on the preferred tenderer/s.