



Overview of the PEP phase of the SKA

Project Execution Plan



- A plan for the Pre-construction phase of the SKA
- Multiple authors from SPDO and various contributing Institutions: ASTRON (Netherlands), Cornell (USA), CSIRO (Australia), ICRAR (Australia), NRC (Canada), NRF (South Africa), U. Cambridge (UK), U. Oxford (UK).

PEP Goals (1)



- 1) Progress the SKA design to the point that Production Readiness Reviews have been successfully completed and contracts for construction of major sub-systems have been let.
- 2) Advance the infrastructure roll-out on the selected site to the point where sub-systems can be deployed (assuming the funds for infrastructure development are made available)

PEP Goals (2)



- 3) Mature the SKA legal entity into an organization capable of carrying out the construction, verification, and operation of the telescope.

Work package 5 in the PEP



- Covers Dishes and Dish Array
 - WP5.1 – Engineering and Management
 - WP5.2 – Reviews Management
 - WP5.3 – Dish Development and Testing Program
 - WP5.4 – Single Pixel Feeds and Receivers
 - WP5.5 – Phased Array Feeds Design and Development
 - WP5.6 – SKA1 Dish Array Procurement

PEP WP5 dates (1)



- Covers the period 2012Q1 to 2016Q2
- SKA1 Dish review dates:
 - CoDR 2014Q2
 - PDR 2014Q1
 - CDR 2015Q2
- SKA1 feeds review dates:
 - PDR 2014Q2
 - CDR 2014Q3

PEP WP5 dates (2)



- PAF review dates:
 - 2014Q1: decide if they will be deployed in SKA1
 - 2016Q1: decision on use in SKA2
- Procurement document completion dates:
 - Dishes: 2016Q1
 - SKA1 feeds: 2016Q2

Work Package Contractors

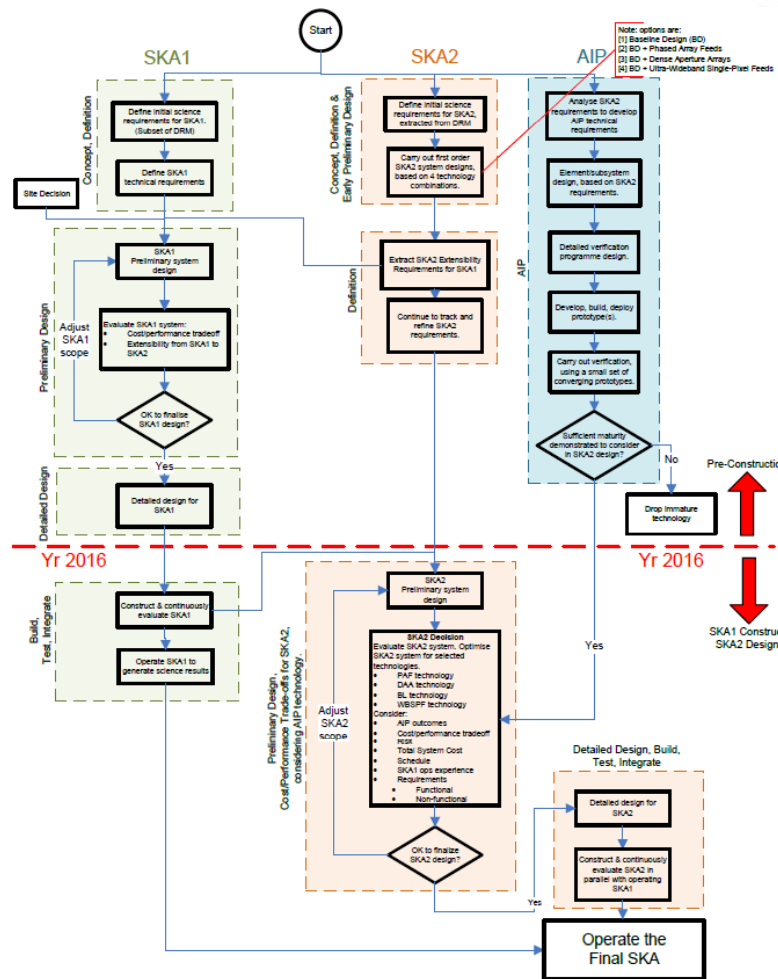


- ‘The expectation is that consortia of Participating Organizations and industry will be required to deliver successfully the large work packages.’
- ‘The size and complexity of the SKA indicates that an industry culture in managing and costing the project is essential and that there is close engagement of industry throughout the pre-construction phase.’
- Work package contractors will be expected to work with the SKA Project Office (SPO) on sub-system definition and establishing the detailed work program.
- The work package consortia will carry the risk associated with their deliverables. The SPO will manage risk at the system level.

SKA design and construction



- 3 tracks:
 - Phase 1
 - Phase 2
 - AIP (next slide)



Exploring the Universe with the world's largest radio telescope

Advanced Instrumentation Program (AIP)



- In conjunction with the detailed design and pre-construction work on the SKA1 system
- Further develop the new technologies:
 - Phased Array Feeds on dishes
 - Ultra-wideband feeds on dishes
- ‘These technologies will be assessed in terms of science impact, cost and technical readiness, and deployed in SKA2 if shown to be feasible and cost-effective.’

AIP technologies in SKA1



- ‘... these technologies might be sufficiently well developed to be deployed on SKA1 to enhance its capabilities’
- ‘This will be assessed at Critical Milestones (in particular SKA1 PDR) and, if adopted following an impact analysis, will require a formal change to the SKA1 baseline design.’

Plans to proceed to the PEP phase



- One of the questions for this review is:
- ‘ Is the overall plan (including the identification of the tasks, effort, resources, costs, schedule and risk mitigation needed) to complete the subsequent project phases credible?’