MWA Facility Workshop
University of Washington
1 – 2 November 2010

RFG 28Sep10

Introduction:

This workshop is being called to discuss the installation of basic 512T facilities. It includes mains power distribution from a central hub to the receivers, fiber optics distribution from a central hub to the receivers, mounting pads for hub and receiver components, and trenching to facilitate wiring from the hubs to the receivers. The detailed distribution of tiles needs to be finalized so that we know where to put the receivers and access roads thereto.

We will not, at this workshop, get into the details of how we deliver the receivers and tile hardware to the site, nor how we will install and test those components, nor how we will install and test the correlator and RTC components in the CSIRO building. That is all fodder for a future workshop.

Prerequisites:

- Ground Penetrating Radar survey of bedrock distribution
- Budgetary quote/proposal from Oceans-to-Outback on trenching, HVAC, and fiber installation
- Paper on science criteria for tile distribution for EOR science
- Paper on science criteria for tile distribution for Solar science

Agenda

Mon AM — Science considerations for the distribution of tiles
- For each major science task, which parameters are important?
- Which artifacts must be avoided?

Mon PM — Tile placement
- Required accuracy of placement: X-Y-Theta
- Constraints on elevation changes over the array
- Constraints on zenith alignment of a single tile
- Considerations of water flow (staking cables?), heritage areas, vegetation removal
- Vehicle access roads to receivers and power/fiber hubs

Receiver locations to support the desired tile distribution
- Minimizing trench length (primary goal)
- Minimizing tile-to-receiver lengths (secondary goal)

Tue AM — Trench specifications
- Depth, number of 220V mains, number of fibers/receiver

Receiver pad design
- Physical pad parameters: area, height, tie-down considerations
- Trailer-park utility connections (HVAC & fiber)

Core design
- 6KV transformer & distribution panel

- Fiber patch panel

Tue PM 32T End-of-life Planning
- Expectations of use in current form (replace coax after trenching)
- Moving donga/genny to core site
- Using these components while waiting for CSIRO facility to come on-line
- Disposal or reuse of 32T tiles

Outcomes:
- Basics of Facility Requirements and Design document (this needs to be written by Dave with help from Bob, but we won't try write-by-committee)
  - Map of proposed core, receiver, and tile locations
  - Sensitivity analysis of tile relocation due to local impediments
  - Wiring diagram for both HVAC and fiber
- Inputs to Program Plan
  - Estimates of time, resources, & phasing for major tasks

Parking Lot (for a future Workshop or just plain individual tasks)
- Facility requirements document needs to address
  - Regulatory requirements
  - CSIRO specs and site regulations
  - Safety requirements; hazard identification/analysis
  - Environments design baseline
  - Housing for workforce
- MWA on-site management staffing requirements during this construction phase
- Tile deployment
  - Verification plan
  - Spares and test tools
- Data Processing Facility (aka CSIRO building)
  - Rack layout
  - Installation considerations (e.g.: power, data distribution)
  - Commissioning