

# ATNF Operations

## ATUC

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CSIRO Astronomy and Space Science

[www.csiro.au](http://www.csiro.au)



# Current Issues (previous report)

External funding principles – Lewis

Early Science – Lisa

Parkes Receivers

Parkes remote observing – Phil

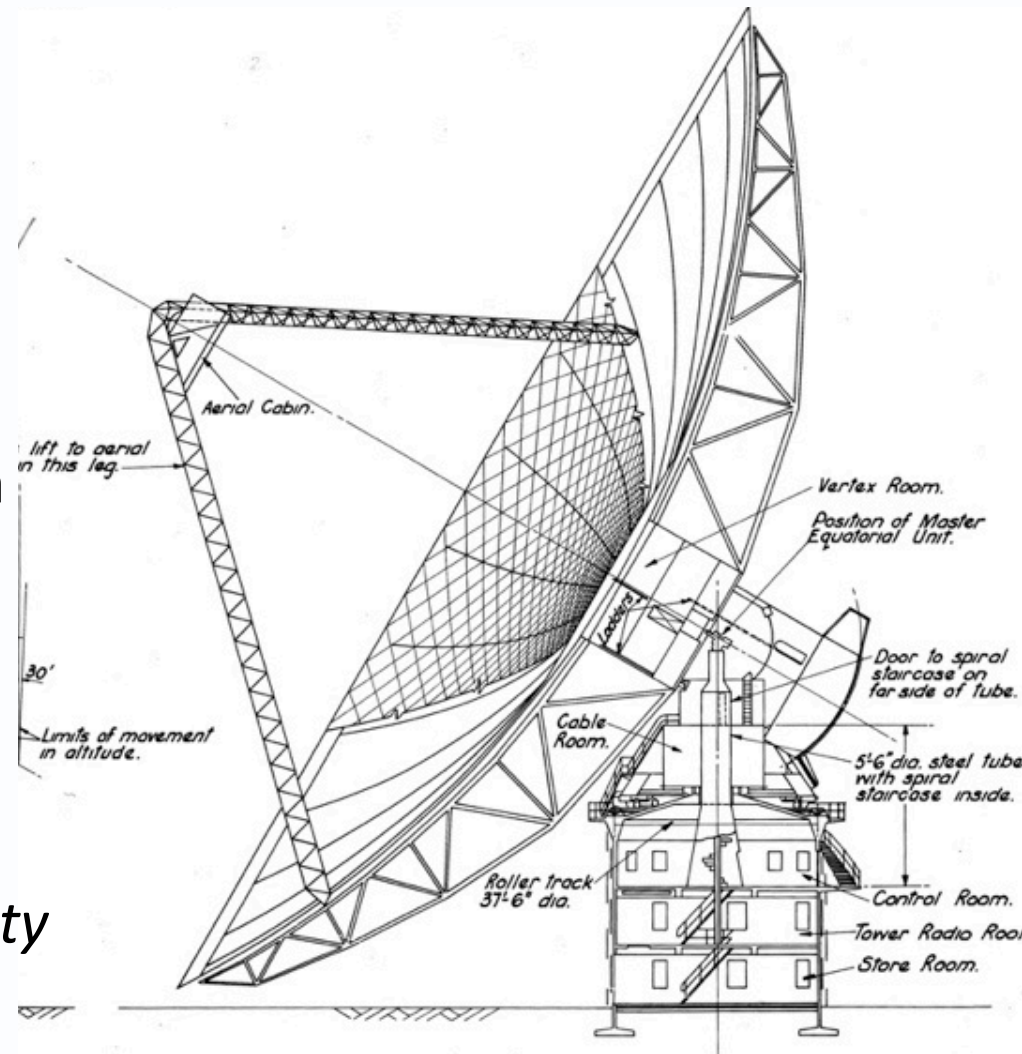
CASA for the ATCA – Douglas

TAC comments on large projects  
(grade survival > 1 yr?) – Phil

c. At a public science-day discussion, coordinated with the next ATUC meeting, each group will present their case.	CASS is supporting the meeting, organised by ATUC.	Green
<b>Remote Observations with the Parkes Telescope</b>		
d. The users request regular updates on the status of the project (and future projects of this nature from all of the ATNF facilities)	Parkes users have been provided with updates by email, and in information provided with the release of the schedule for next semester. We will also continue to provide updates in the ATNF newsletters and at ATUC meetings	Green
e. As requested in the October 2012 ATUC report (and promised for the June 2013 meeting), the users would appreciate clarification on the remote observations policy, and observer training and support, as it is fully developed.	Now that the normal place for Parkes observing is the Marsfield SOC, remote observers will remain qualified by observing from the SOC (or Parkes) at least annually. Further information on remote observing policy, training and support is given in the Parkes user guide: <a href="http://www.parkes.atnf.csiro.au/observing/documentation/user_guide/">http://www.parkes.atnf.csiro.au/observing/documentation/user_guide/</a>	Green
f. At future meetings, ATUC would appreciate updates on telescope efficiency in the remote observation era. In the event of a decrease of efficiency, ATUC recommends that discretionary time be allocated to enable re-scheduling of time lost by high-priority projects.	Such a report will be provided at the next meeting; if relevant, mitigations will be considered.	Green
<b>Parkes Spectral-Line Observations</b>		
g. ATUC requests that priority be given to developing high spectral resolution modes on HIPSR as a replacement of MBCORR.	Efforts are underway to identify the resources and expertise required for this task, as the personnel from UWA that made a start on this are no longer available.	Yellow
<b>4. Australia Telescope Compact Array</b>		
a. ATUC requests that the ATNF completes the 4 MHz zoom band modes with CABB.	Operational testing of the 16MHz modes will commence during the first half of 2014. A detailed assessment of the additional work required to deliver the 4MHz zoom modes will then be carried out. A decision on whether to proceed with the 4MHz modes will be made on the basis of that	Yellow

# Changes to the Parkes Model

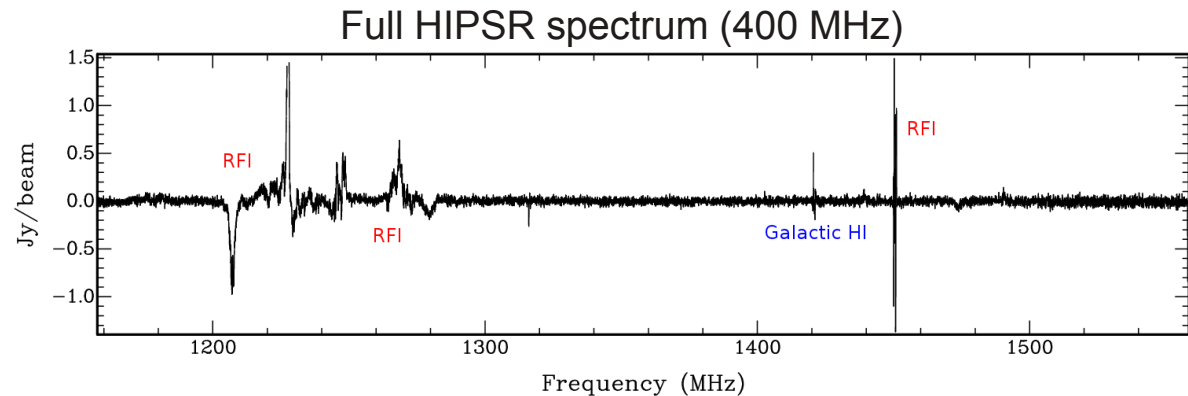
- Reduced number of receiver changes
- Default remote observing (from the SOC)
- Project experts provide team “self-support”
- Stow until morning
- *Data quality responsibility of the observer*
- *Telescope safety responsibility of the observatory*



# HIPSR on Parkes (UWA, Swinburne, Curtin, Oxford, CSIRO)

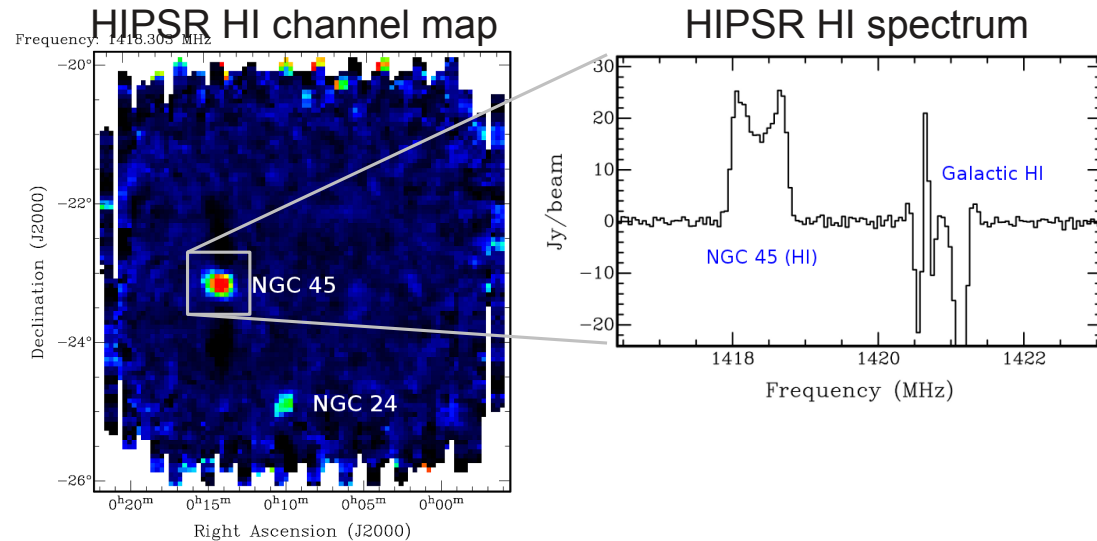
## HIPSR observations:

- Parkes MB HI observations, **HIPSR** and **MBCORR** in parallel.
- HIPSR: **400 MHz**, 8192 channels
- MBCORR: **8 MHz**, 1024 channels



## HIPSR data reduction:

- New hdf5-to-sdfits converter by **Danny Price**.
- Uses calibration information from MBCORR header.
- Standard bandpass calibration and imaging with **Livedata** / **Gridzilla**.



- Results:**
- HIPSR + MBCORR observations great success; **local** and **extragalactic** HI observations can be done **simultaneously**!
  - Limitations due to strong **RFI** below 1300 MHz ( $z = 0.1$ ).



# Software and Computing Highlights

## Consolidation of the new group

- More cohesive software development group across all ATNF

## ASKAP Development

- Monitoring and Control and Science Data Processing software in production and in use during BETA commissioning
- Upcoming integration of Queue Observing system in BETA
- Software development for ADE
- CSIRO ASKAP Science Data Archive (CASDA) project - talk by Jessica Chapman

## Improvements in Web application development:

CABBScheduler, FROG

Evaluation of off-the-shelf technologies to upgrade Fault Report system completed, moving soon to the implementation phase

# CASA for CABB update

## CASA evaluation for CABB

- Adoption of CASA for CABB data is currently low
- No major issues, except for large mosaics (NRAO aware of the problem)

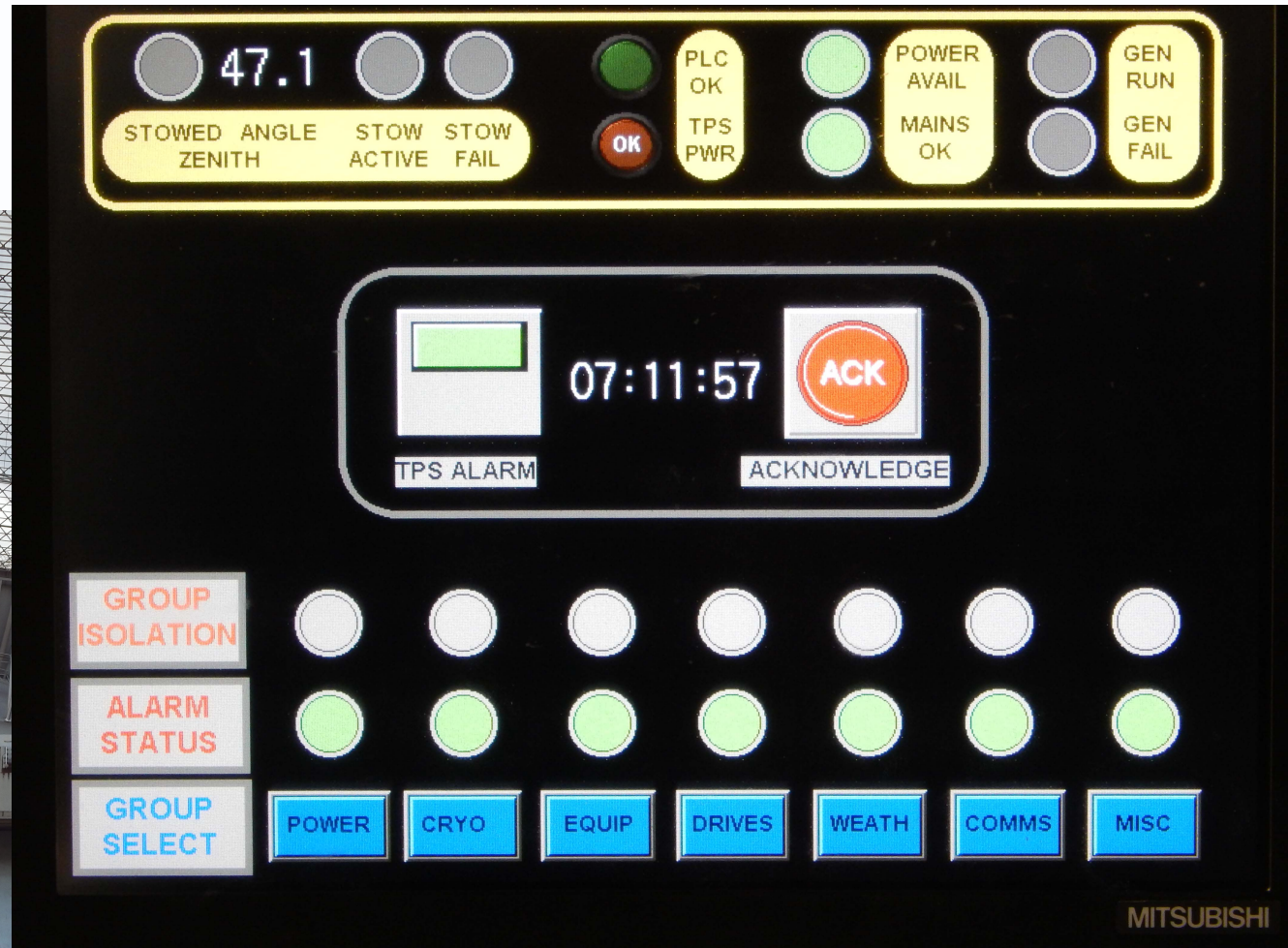
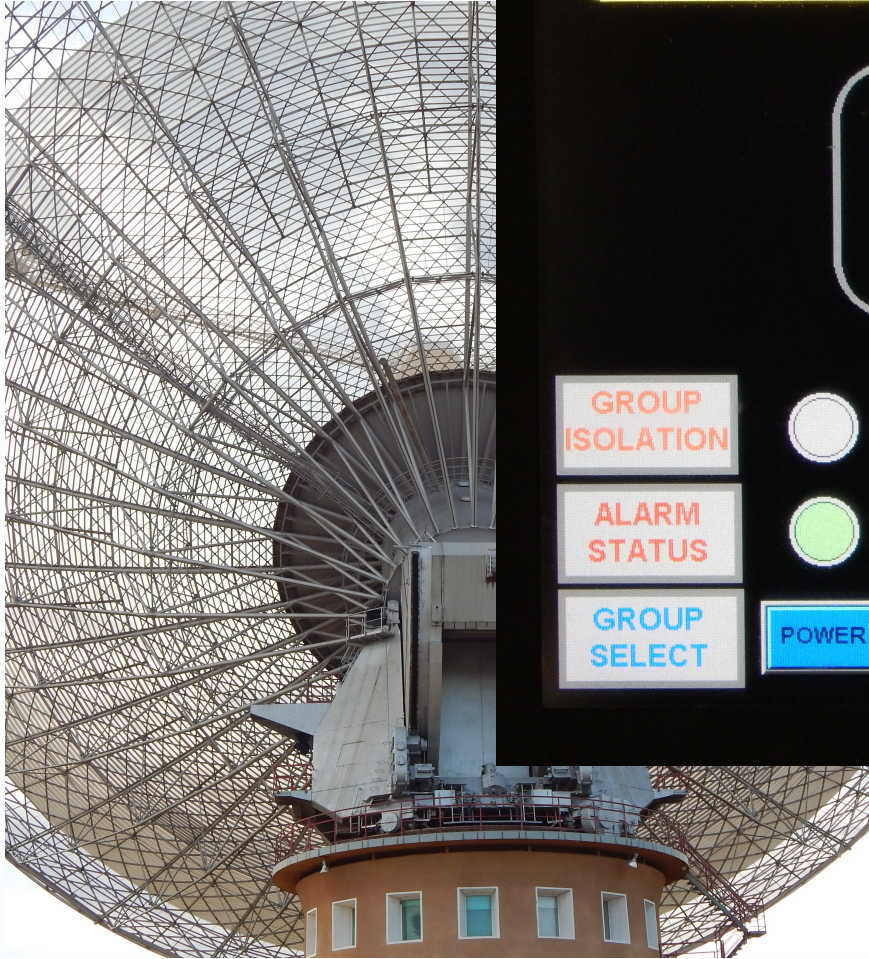
## Still positioning CASA to complement Miriad, not to replace it

- A converter to CASA MeasurementSet already available
- Cookbook and user documentation under development

## Next Steps

- Invest in CASA user support (0.2 FTE/year) and CASA code development (0.5 FTE/year)
- Complete CASA/Miriad user documentation and cookbook
- Formalise our collaboration with NRAO in CASA software development, including bug reporting and escalation when issues are ATCA related

# Parkes TPS



■ 'teething' issues, but OK



# ASKAP Ops Support



27m RFI tower



2 x 500kVA, synchroniser + telemetry

# Compact Array Standby Power

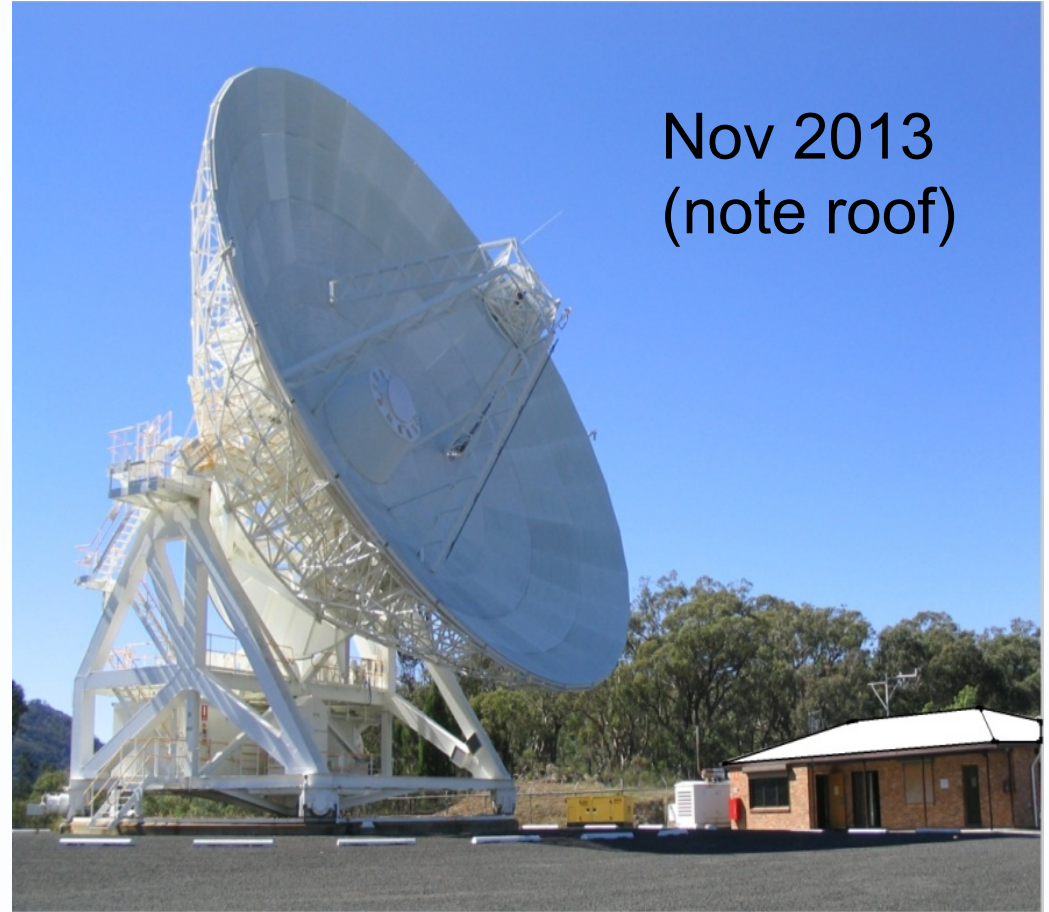


- New 350kVA unit replaces 'the Lemon'
  - Auto Synchroniser
  - Full MoniCA monitoring (unlike Lemon)
- Upgrade to standard of CA01-CA06, Mopra and Parkes
- Plan to commission by June 2014

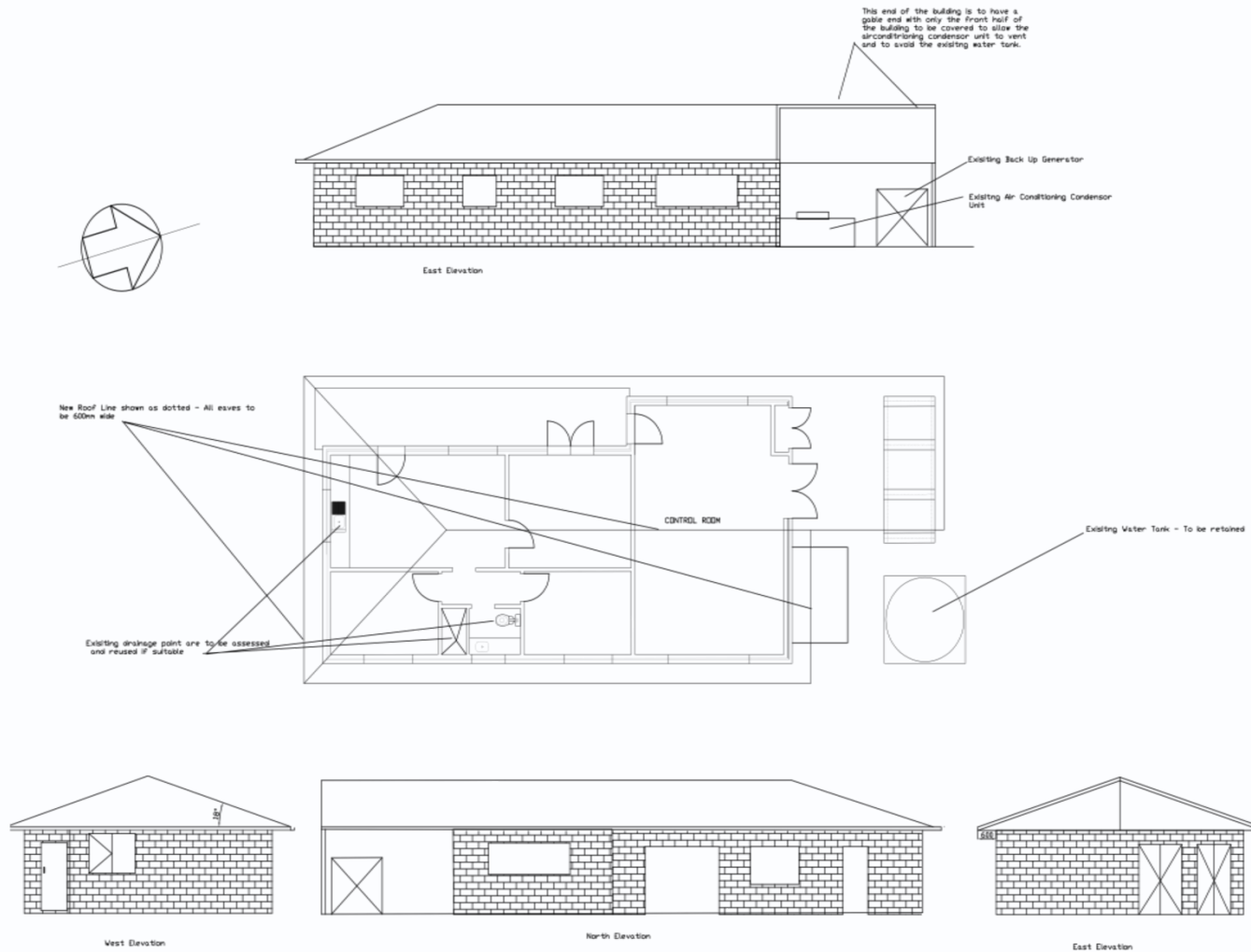




# Mopra Restoration



# Mopra control building



# ASKAP Commissioning and Early Science Team (ACES)

Joint team (led by Dave McConnell) to deliver:

Commissioning – led by John Reynolds

Early Science, Science Demonstration – led by Lisa Harvey-Smith)

Telescope Operations & Support – led by Phil Edwards

Allows for rapid staff redeployment and retention of expertise in operations phase

Emphasis will change over time (currently commissioning)

## ASKAP Commissioning and Early Science Team (ACES)



# ACES secondments

6-8 FTE-years secondments (or similar) to ASKAP Commissioning and Early Science (ACES) team

Bring in expertise for ASKAP and return ASKAP-specific expertise to the SSTs

Funded by subcontracts to Universities

Any concurrent research fractions to be funded by Universities

Priority areas include high dynamic range radio interferometry, HI imaging techniques, radio transients, polarimetric calibration

Additional roles will include scheduling, observing, enabling data access, improving documentation, training and supporting users

▪For further information: Dave McConnell



# Operations staff update

## Geraldton

- Farewell to Barry Turner, Geraldton/MRO Site Manager
- Shaun Amy, Acting Site Manager
- New staff: Tom Cox – Electronics; Ryan McConigley – Computing Infrastructure
- Offer made to Electrical Engineer

## Marsfield

- Daniel Mitchell – Imaging and Calibration expert
- Ettore Carretti relocated from Parkes
- Chris Phillips, Acting Head Computing Infrastructure

“Hiring” freeze may have some impacts on the level of visitor support in coming months

# ATNF Operations top priorities

Sustainable funding

Complete Parkes model transition

Sustainable WA operations

Supporting ASKAP commissioning

*While maintaining high impact of ATCA, Parkes, Mopra, LBA*

*We acknowledge the Wajarri Yamatji people as  
the traditional owners of the Murchison Radio-Astronomy  
Observatory site.*

# Thank you

**Astronomy & Space Science**

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