



# ATNF Operations

ATUC

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CSIRO Astronomy and Space Science  
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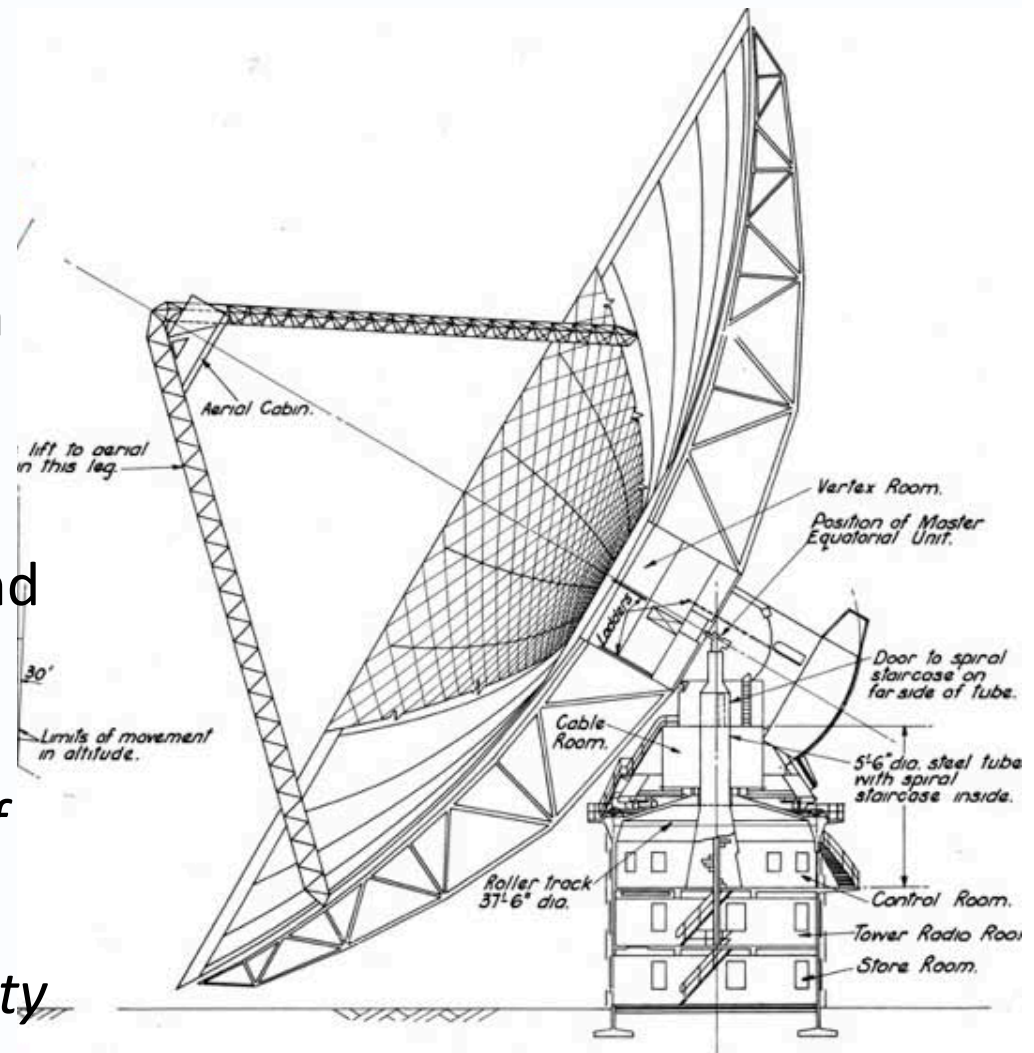
# Changes to the Parkes Infrastructure

- Major program of Electricity reliability upgrades complete
- UPS for Parkes drives (park dish safely)
- Remote control of instrumentation and drives
- Timing system , incl. new maser enclosure
- Telescope protection system, incl. drive stability monitor
- New digital backend (UWA etc.)
- (**BUT** no new receivers)



# Changes to the Parkes Model

- Default remote observing (from the SOC)
- Project experts provide team “self-support”
- Stow until morning
- New performance metrics and targets that capture down time.
- *Data quality responsibility of the observer*
- *Telescope safety responsibility of the observatory*



# Parkes Observing from the SOC (Sydney)



- Operational Readiness Review (ORR) 24 June
- Remote observing expected to become routine after that



# Parkes receivers – ATUC priorities?

1. The Pulsar Timing Array (PTA) is a key science area for Parkes. The telescope must be equipped with a **world-leading Pulsar receiver**, like the present 10-50 cm receiver.
2. The top spectral line use currently is studies of **HI to trace galaxy evolution**, from the MW and MCs to distant galaxies, using a range of techniques including intensity fluctuation mapping.
3. **Methanol and NH<sub>3</sub>** are important **star formation tracers**, and Parkes is the only large single-dish telescope readily available in the southern hemisphere to map these lines.
4. **Polarisation surveys** with Parkes have become an important use of the telescope in recent years, and this is likely to continue.
5. **VLBI** remains a crucial application, as Parkes is the only large aperture that is consistently available in the LBA, which is the only southern hemisphere VLBI facility.

# Parkes Downtime due to Zenith Brakes

## ISSUE SUMMARY

- April/May: Intermittent fault with potentially serious consequences
- Root Cause: Change to brake actuator calibration procedure, complicated by:

The many MCP/UPS/TPS/SERVO multiple upgrade/system changes;

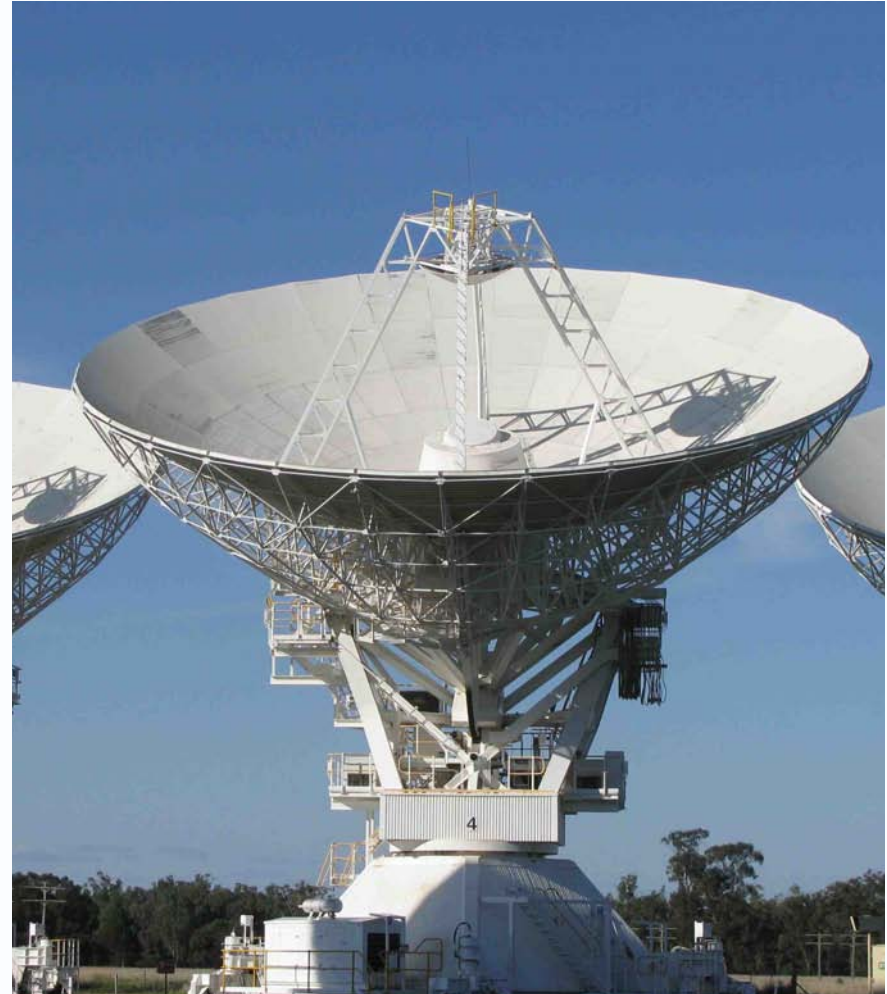
reduction of staff numbers with 64m drive system expertise;

> **ACTION:** Upgrade of existing Fault Reporting & Tracking and a new Work Order System will enforce configuration management.



# ATCA Support Infrastructure

- ATCA Control Building  
Airconditioning:  
Currently being  
replaced
- ATCA Power Reliability:  
'The Lemon' standby  
generator about to be  
replaced with a near  
new 250kVA unit.



# S-band Wireless Rollout

## OUTCOMES

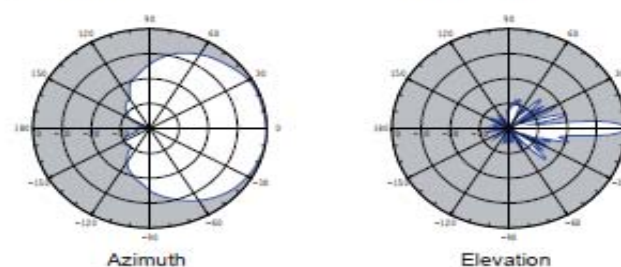
- 200 NSW NBN base stations coordinated under an NDA
- some RFI impact on PKS observing

successful negotiations reduced worst case RFI levels by  $\sim 20\text{dB}$ ;

NBN agreed to remove one base station altogether;

agreed changes to antenna type & orientation for a further 12 stations

a template for future NBN rollouts



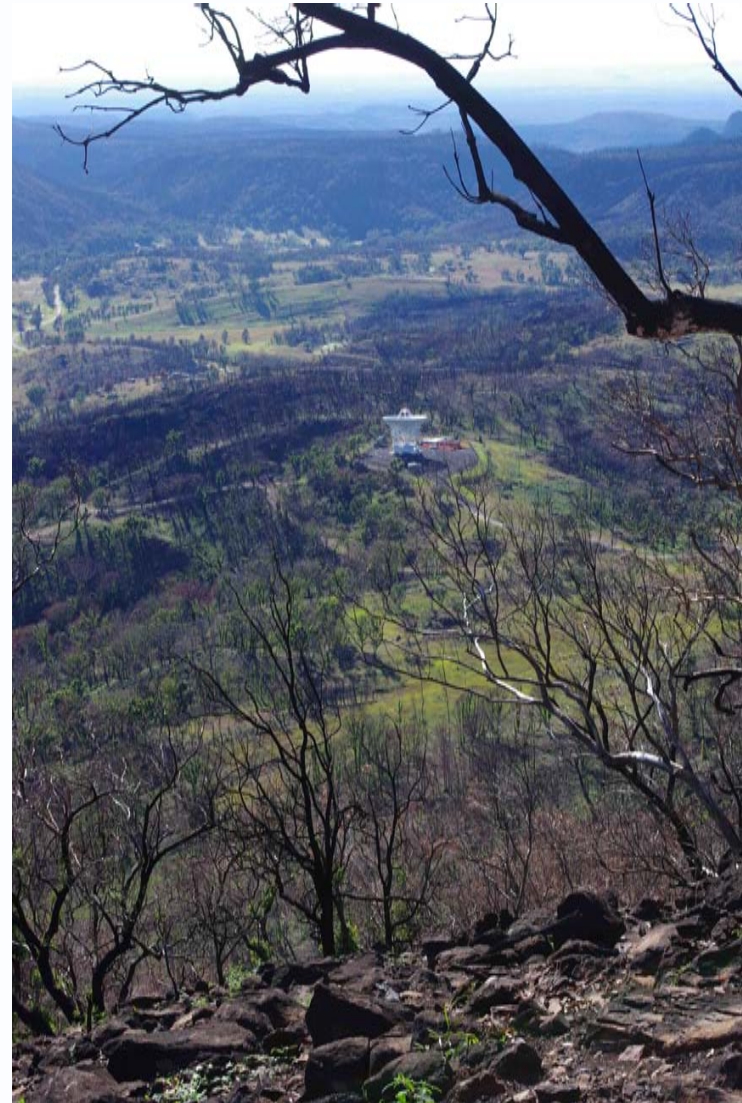


# Mopra update

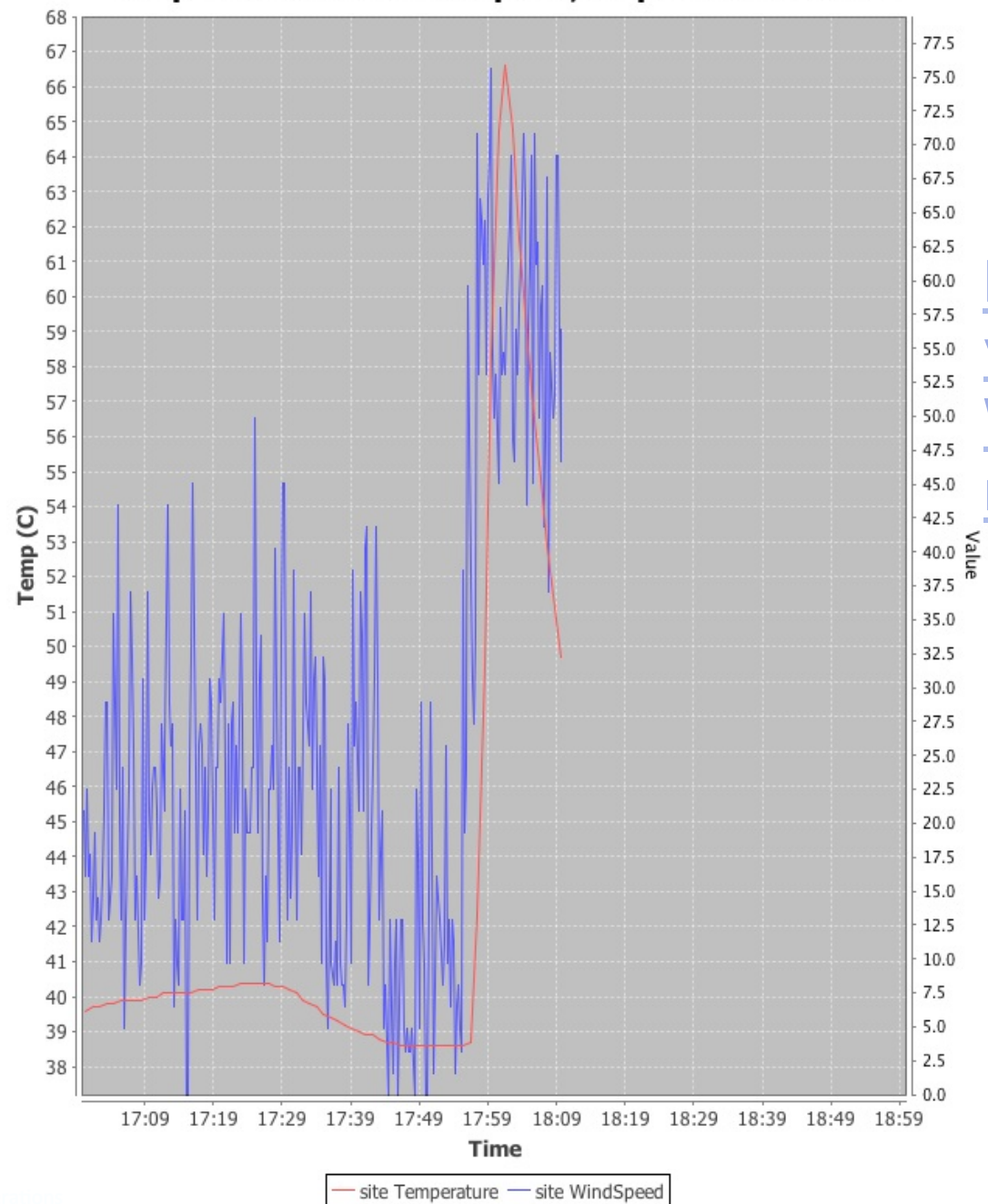
- Bushfire on 13 January (insured)
- Observing restarted 6 May
  - Electronics and surface OK
  - VLBI fringes found to Narrabri
- Contracts with NAOJ and UNSW (+Adel) signed (first “year” 13 months)
- No May call for community time; next call (Dec) for 2014 Apr-Oct

# Mopra Restoration

- Site cleanup, mains power, switchboards, standby generator + control systems, cryo leaks, drive system hydraulics, correlator, computers, smoke damaged instrumentation.
- Access to clean water, sanitation, protection from the elements for visiting staff & contractors.



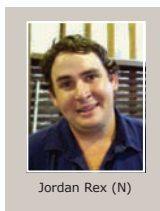
## Temperature and Wind speed, Mopra 13 Jan 2013



<http://youtu.be/WIHP9J1UPrs>

# Operations staff update

- Software and Computing Group (Juan Carlos Guzman)
  - Telescope Monitor and Control (JC Guzman)
  - Science Data Processing (Ben Humphreys)
  - Science Data Management (Jessica Chapman)
- Deputy Head, ATNF Operations (Kate Brooks)
- Geraldton/MRO (Site Manager, Barry Turner) and Software & Computing groups have moved to operations
- Jordan Rex (Mech.) and Murray Tindal (Elec./property) new staff members at Narrabri



Jordan Rex (N)



Murray Tindal (N)



# ATNF Operations Staffing Transition

Work area (FTEs)	2013-14	2015+ (baseline plan)
ASKAP – engineering & site	12	12 (currently 9)
ATCA/Mopra – engineering & site	12	12
Parkes – engineering & site	9	9
Marsfield engineering support	2	2
Telescope ops and science Serv.	7	12
Visitor services	5	5
Computing infrastructure	7	7
Software and computing	13	10 *
Theme management	1	1
<b>Total</b>	<b>69</b>	<b>71</b>

# ATNF Operations top priorities

Sustainable funding

Complete Parkes model transition

Sustainable WA operations

Supporting ASKAP commissioning

# Information & Input opportunities

- ATNF Community Meeting; ASA Tue 9 July at 5:45pm
  - University visits beginning in August
1. ASKAP progress and scope
  2. ASKAP early science
  3. Options for the ATNF Observatories

# Up all night with ATCA

[http://www.youtube.com/watch?  
feature=player\\_embedded&v=Gvd68kIPf3E](http://www.youtube.com/watch?feature=player_embedded&v=Gvd68kIPf3E)



<http://www.youtube.com/watch?v=TCVmacSNfQM>

<http://www.youtube.com/watch?v=NqGVv6JKC3c>



*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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