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# Parkes remote operations

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# History

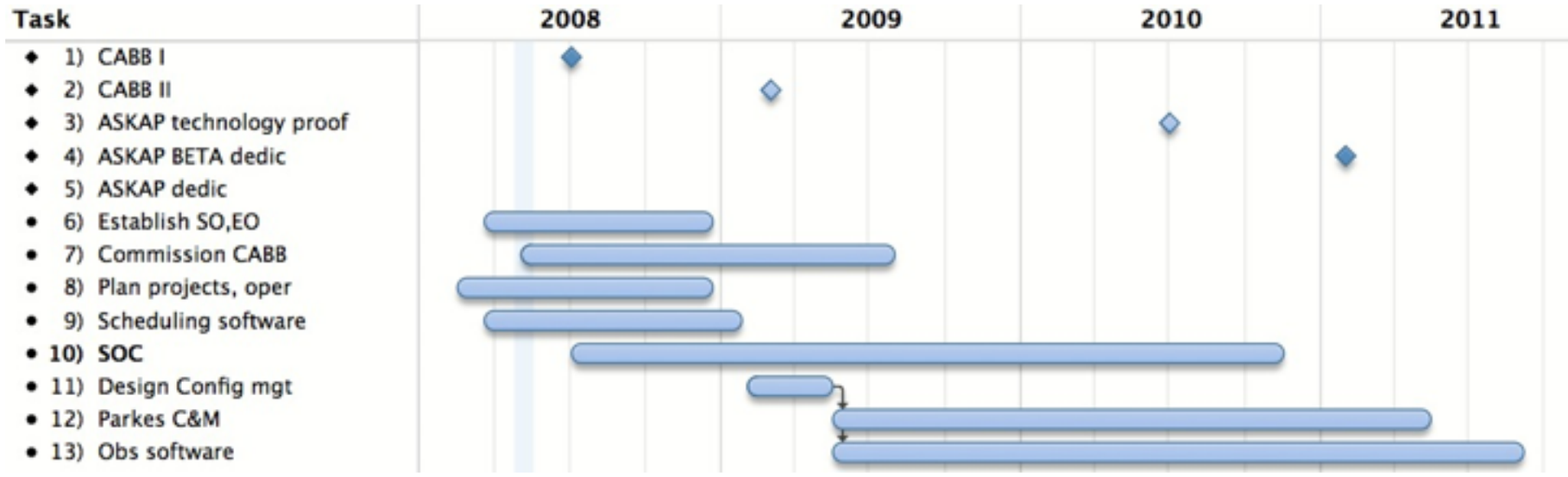
**May 2007**:
There may also be implications for astronomer access to the telescopes. The level of remote observing possible, the location of observing "control rooms" and operations support staff will all be questioned in the process of setting the new model.

**Nov 2007**:
Projects being planned to address

- Automation
- Telescope safety
- Scheduling
- SOC facility

# History II

**May 2008**




**May 2009**

Aims to decrease the amount of manual configuration and monitoring of equipment during and between observing sessions

- Manual Control Panel gets more computer control
- Increased monitoring and control of focus cabin equipment
- Improved computer-controlled rf switching for signal path configuration

These measures, necessary for any future model including remote observations, will make current modes of operation more efficient and reliable.

# Recent progress (projects PDC, PECM)

Recent progress towards remote operability and diagnosis

- Telescope Drive System
- Signal switching matrix
- Monitoring and control
- Power synchroniser

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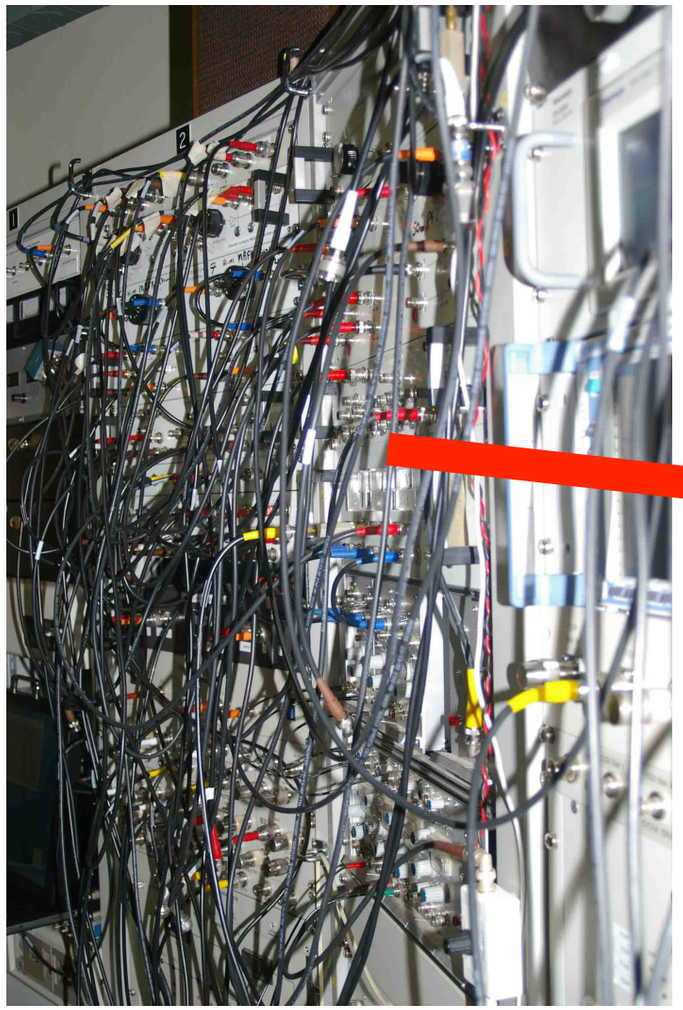

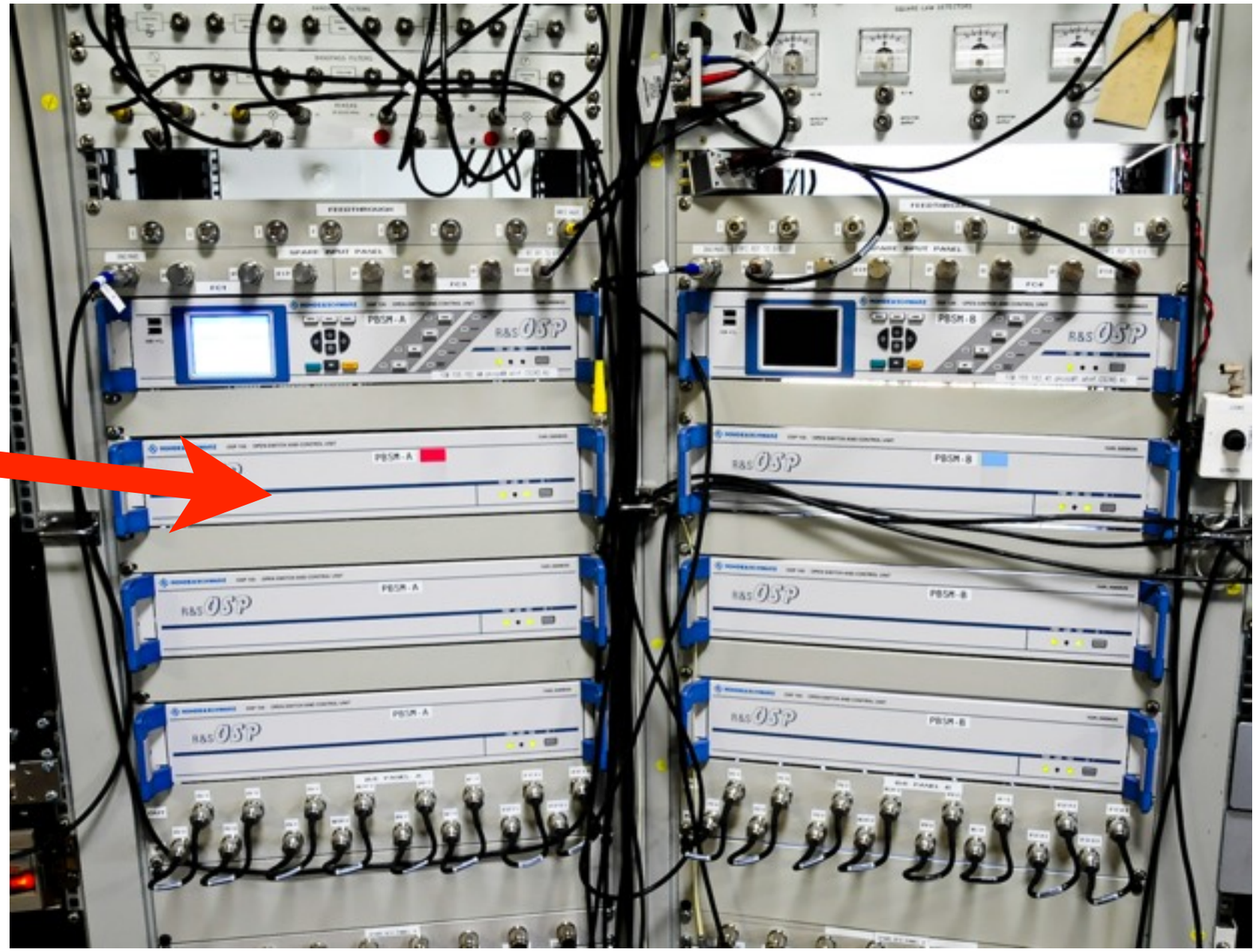

# Recent progress (projects PDC, PECM)

## Monitor and control

- We now have common monitoring software (MoniCA) at all ATNF telescopes, including ASKAP
- In the past 2 years, an additional 1000 points in the Parkes instrumentation are being monitored.
- Additional computer controls have been added, for example to enable remote starting of the generator.

# Recent progress (projects PDC, PECM)

**Power synchroniser**

A power synchroniser has been installed to enable smooth transition from mains to generator power. This greatly reduces interruptions to computer and digital equipment, decreasing downtime and improving reliability.

# Remote Access to the Parkes Telescope

## RAPT

To implement the remaining components in the system to allows remote access to the Parkes Telescope for scientific use.

# Approach rests on this principle

*The safety of the telescope is the responsibility of automated protection systems.*

*The efficient use of the telescope and, by implication, the integrity and quality of the astronomical data, is the responsibility of the operator.*

# Project Aims

1. To allow safe operation of the telescope with only one person on "close call" but not in the tower.
2. To protect the telescope and its systems automatically.
3. To allow the operator to control the telescope via an internet connection.
4. To allow the operator to receive advice and support from CSIRO staff, not necessarily co-located.

# What to expect?

- The project will proceed in two threads:
  - Design and construction of the Telescope Protection System (TPS)
    - Built on elements already in place
    - Analogous to the Narrabri PMON and to MAPS
  - Establish computer interfaces and software for remote observing
    - Follow methods used for ATCA and Mopra (VNC)
    - Run trials as soon as possible and in advance of an operating TPS, with personnel present in the Telescope to guard telescope safety.

# Project aims (more detail)

1. To allow safe operation of the telescope with only one person on “close-call”, but not in the tower.
2. To protect the telescope and its systems automatically:
    1. to monitor all critical systems and recognise conditions that threaten the telescope;
    2. to place the telescope in a safe state (normally stowed) when appropriate;
    3. to notify CASS staff of threats to the telescope and of actions taken;
    4. to record all critical monitor and warning data.
3. To allow the operator to control the telescope via an internet connection:
    1. to provide the operator with all controls normally needed during standard observations;
    2. to provide the operator with the information needed to assess the progress of the observation, with respect to proper operation of telescope systems and data quality;
    3. to provide the operator with any information critical to the safety of the telescope.
4. To allow the operator to receive advice and support from CSIRO staff, not necessarily co-located.