

## Project Profile

# Transmission Hall Reroof and Refurbishment



<b>Client</b>	BAI Communications
<b>Location</b>	Sydney, NSW
<b>Duration</b>	June 2017– August 2017
<b>Contract</b>	Construct Only
<b>Cost</b>	\$425,000

## Project Overview

Broadcast Australia – Gore Hill is the main control headquarters for 650 television and radio broadcasting sites around Australia, housing critical equipment to manage these sites as well as to broadcast National and Commercial television and radio services for all of Sydney.

The key objective of this project was to re-design the roof to allow for a 1 in 100-year rainfall and ensure that the building is water tight. With the intention of installing a new roof and drainage, the client also decided to undertake general maintenance and upgrades to the building, including installing insulation throughout.

Due to the change in technology over the years, the cooling systems within the building had been upgraded from air-cooled ventilation to water-cooled, although the redundant system remained in-situ. With highly sensitive and powerful radio frequency

### McMahon Services

Head Office

T (08) 8203 3100 F (08) 8260 5210

E [adelaide@mcmservices.com.au](mailto:adelaide@mcmservices.com.au)

W [mcmservices.com.au](http://mcmservices.com.au)



equipment within the building, water ingress and maintaining a calculated internal temperature was integral.

BAI Communications required the removal of the air-cooled ducting system and any associated obsolete equipment including ducting.

### Scope of Work

The scope of works itself needed to be prioritised with the obsolete ducting being the most sensitive, completed first. This work required the assistance of two radio frequency engineers on site, ensuring that work on and around the highly sensitive equipment was performed in accordance with the project's Safe Work Method Statement and Methodology Plan. With these works completed, all focus could be directed to the rest of the scope.

The McMahon Services Roofing Division was responsible for the removal, supply and installation of the insulation, roof sheets, flashings, gutters and downpipes. The Site Supervisor assessed the scope and plans provided by the client, and suggested with the use of technical data as evidence, a change in product for certain materials, resulting in optimal performance for the components of these works.

After these two main items within the scope were completed, the remaining works were undertaken:

- › Remedial paint works
- › Installation of new Aluminium windows and doors
- › Installation of new Velux Skylight
- › New downlights and flood lights in certain areas
- › Removal of redundant antennas
- › New stainless-steel wire balustrading
- › New panel rib soffit lining for the entire building
- › Sealant beading of 30 Windows
- › Removal, supply and reinstatement of 200m<sup>2</sup> of suspended ceiling tiles
- › Concrete pad, and install structural post to support Cable Tray.

### Project Challenges

Due to the circumstances and importance of this sites productivity, the works to be completed needed to be delivered whilst the main Control Centre within the building was occupied by technicians and Broadcast Australia employees. These employees worked 24 hours a day, 7 days a week, with this element of the works requiring extensive planning and management to ensure minimal disruption to their continuous work cycles.

Due to the presence of Broadcast Australia employees needing to be present on site and consequently, within the construction zone, all personnel were required to be inducted into both the construction zone site induction specific to McMahon Services as well as BAI Communications' operational requirements. All employees were made aware of the works occurring each day and how the works would affect them directly and the work they undertake at the site.

Delineation zones, site signage, personal protective equipment, personnel inductions and effective communication channels were established to ensure that the site would be as safe as possible whilst remaining on schedule and efficient.

Due to an infestation of rodents and their excessive excretions, the ceiling space throughout the whole building became a biologically contaminated area. This issue was highlighted very late into the project program, and was the catalyst to a change in programming as variation works were required to remove the affected area, decontaminate and reinstate the ceiling.

With this occurring near the original project completion date, the final date of handover was delayed by three weeks. Originally met with hesitation due to the necessity of having the building occupied and functioning, but BAI Communications understood the occupational health and safety requirements for rodent proofing and rendering the building safe for occupancy.

### Plant and Equipment

#### McMahon Services

Head Office

T (08) 8203 3100 F (08) 8260 5210

E [adelaide@mcmservices.com.au](mailto:adelaide@mcmservices.com.au)

W [mcmservices.com.au](http://mcmservices.com.au)



McMahon Services 16t Franna Crane was utilised to handle the roofing materials onto the roof as safely as possible. This allowed the laydown area of materials to be close at hand for the installers during their work, without having to manually handle equipment from the ground to the roof.

A Scissor Lift was utilised for personnel to access the roof safely, for the personnel to be able to transport materials for the installation, and to contain and carry the old redundant material down from the roof to the ground safely. The Scissor Lift was also used to access 30 windows at a height of 4.0m off the ground, allowing the personnel to remove the existing rubber seals and install a water tight sealant beading.

A Straight Boom was used to remove and reinstate the soffit lining on the perimeter of the building, which has undulating terrain that a Scissor Lift could not safely access. The redundant antennas on the edge of the roof was also removed using the Straight Boom.

### Delivery Performance

Over 250m<sup>3</sup> of site materials was removed, with 100m<sup>3</sup> being able to be recycled.

78% of this project was self-delivered with an accumulation over 2330 work hours, with the peak workforce being 10 personnel, including one Indigenous employee.

