



SAF Australia is the official national representative of the European microwave radio manufacturer SAF Tehnika. Based in Salamander Bay, NSW and Brisbane, QLD, **SAF Australia** together with our regional distributors supply SAF microwave radios systems as well as a full package of services to customers across the country. SAF microwave radios provide wireless data and voice transmission solutions to major fixed and mobile operators, ISPs, councils, utilities companies, schools/universities and many other customers in nearly 100 countries worldwide, including Australia.



Microwave Radio Network for Hunter Water Australia, NSW, Australia

“We required a cost-effective, highly reliable network infrastructure. Microwave was attractive to our organisation as it offered high bandwidth without the high ongoing costs of leased fibre optic links. We initially installed a single 155Mbps link to trial the reliability and speed of SAF equipment. This link worked flawlessly and subsequently we have deployed a further three links using SAF microwave equipment.”

Shane Bullen

IT Manager

Hunter Water Australia

THE CUSTOMER

Hunter Water Australia (HWA) is located in the Newcastle area. Newcastle is the second largest city in New South Wales after Sydney and the largest coal exporting harbour in the world. HWA is a specialist water and wastewater company. It operates throughout regional Australia providing support to water authorities, local government and industry as well as servicing major international clients. Hunter Water Australia is directly involved in the operation of over 50 water and wastewater treatment plants, providing a full range of engineering and specialist consultancy services, and operate an advanced environmental laboratory.



Grahamstown Dam, Australia

DRIVERS

HWA was using 2.4GHz and 5GHz class-licensed links to connect its main sites. Whilst these had provided good service over a number of years, frequency congestion in the Newcastle area was starting to impact link reliability. The continuing growth in class licensed services was expected to make this issue progressively worse. Additionally, the throughput of the class-licensed links was limited to a maximum of 25Mbps half-duplex.



Newcastle, NSW, AUSTRALIA

CHALLENGES

Hunter Water Australia's main requirements were:

- High levels of reliability (better than 99.999%)
- 155 Mbps full-duplex data rates between sites
- A fault tolerant architecture to prevent a single failure from impacting service delivery
- A cost effective solution
- Effective back-up and support

SOLUTION

Based upon these requirements SAF Australia`s solution was:

- SAF CFQ 155 Mbps full-duplex radio links engineered to 99.9996% availability or better
- A self-healing ring architecture between three of HWA sites. In the event of a failure traffic is automatically re-directed without users being affected. The ring is completed by an existing 100Mbps fibre-optic cable between two of the sites. The fourth site is linked by using a 1+1 solution with duplicated radios and antennas at each end to provide full equipment redundancy.
- SAF Australia guarantee the following response time for faults (time until onsite):
 - maximum 4 hours in the event of faults with major impact on network performance;
 - maximum 1 business day in the event of faults with minor impact on network performance;
- SAF Australia`s solution was the most cost-effective offer received by HWA.

Prior to committing to the full solution, HWA successfully trialled a single SAF link for 6 months to verify the performance and reliability of the proposed equipment.

EQUIPMENT DEPLOYED IN THE NETWORK

SAF CFQ	13GHz 155Mbps 1+0	120cm/60cm antennas	2 Links
SAF CFQ	15GHz 155Mbps 1+0	60cm antennas	1 Link
SAF CFQ	23GHz 155Mbps 1+1	30cm antennas	1 Link

LINKS

SAF CFQ 155Mbps equipment was used in all links. For the two longer links over 10 kilometres 13GHz frequency band is being used, the two shorter links utilise 15 and 23 GHz bands. A twelve metre tower was installed at Waratah Reservoir to provide line of sight between sites.

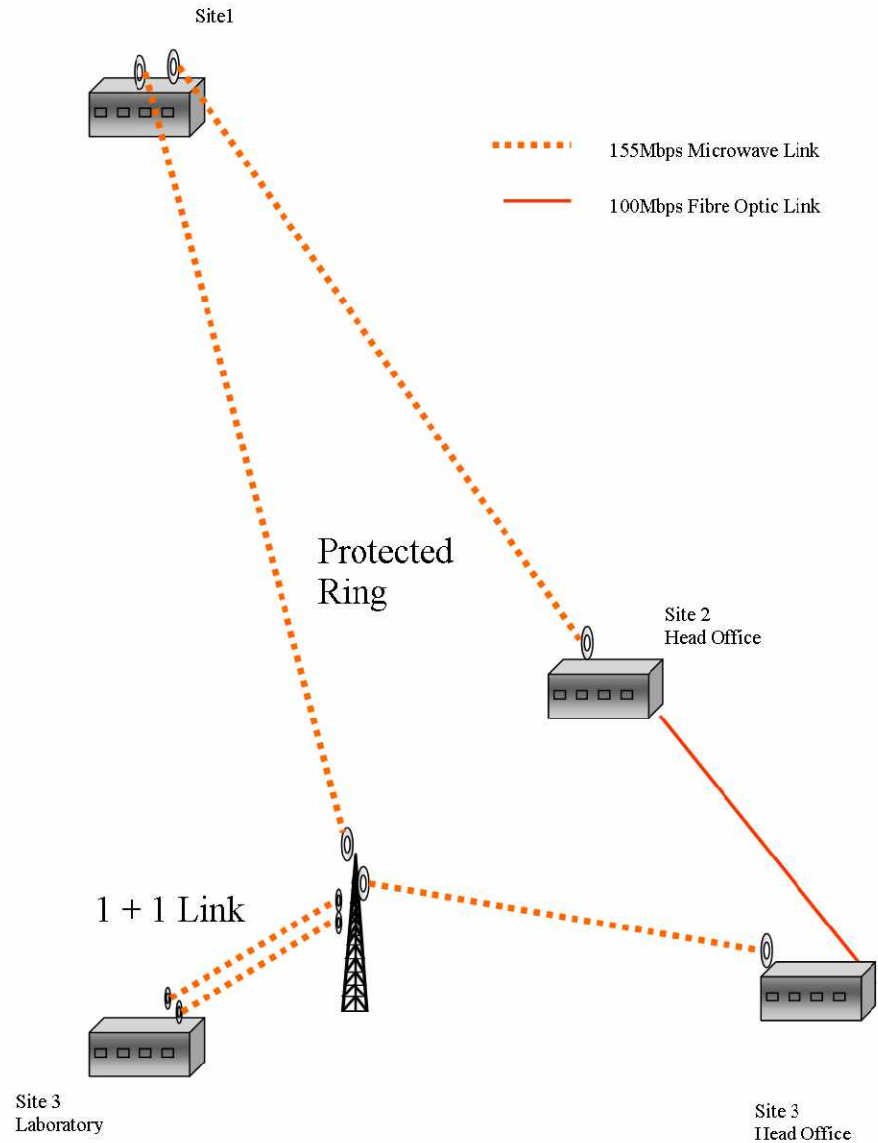


TOP 10 Reasons To Choose SAF

1. Great Product
2. Full Outdoor Solution available
3. Proven Track Record
4. Local Presence
5. Experience & Knowledge
6. Great Local Support & Personal Approach
7. Short Lead Times
8. Flexible Warranty Terms
9. Excellent Value For Money
10. Two Month Equipment Trial on Sale or Return Terms



CFQ (TDM/IP) 155Mbps



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