



A HIGH-SPEED INTERNET CONNECTION FOR BLUFF.

As part of The Australian Government's Regional Connectivity Program to build faster Internet connectivity across regional Australia, QCN Fibre and our partners are laying fibre and connecting the towns of Bluff, Duaringa and Dingo in Queensland. This will mean that, for the first time, your town will have Internet connection at the same speed and reliability as people who live in Brisbane and other major cities around the world.

Part of this build means that we need to erect a tower in Bluff to enable you to connect to the Internet from your homes, school and anywhere else in town.

There are some people who are worried that this could be dangerous. This brochure is detailing exactly what it is we want to do and the science around radio waves and wireless networks, also known as the electromagnetic spectrum.

What kind of a tower do we need to build?

QCN Fibre and our principal contractor, Channel Wireless, has submitted a Development Application to build a tower in Bluff that will offer a similar low impact technology to fixed wireless nbnCo – only faster.

This is not a 5G or mobile network, it is a fixed wireless network tower.

The technology being rolled out is the same as standard home Wi-Fi, using low power levels to distribute the signals. The power levels and antenna placement of a wireless Internet Service Provider network ensures that there is no health risk to anyone from radio signals. In fact, none of the transmitters will have power higher than one watt, as opposed to mobile phone base stations that can transmit over one hundred times more power.

The tower height is 30m and designed to get above the tree line to connect to as many homes and businesses as possible in Bluff. Fixed wireless system antennas focus the signal to put it exactly where it is needed, keeping most of it away from where it isn't. This creates a higher "effective radiated power" (ERP) in one direction, while the ERP is lower in other directions.

A mobile phone tower's antenna, in contrast, transmits in all directions – towards the base station and uses far more power and microwave signals.

The fixed wireless signals are so weak that they cannot penetrate a house, or even through trees, which is why they need to have a clear line of sight to the receiver on the rooftop.



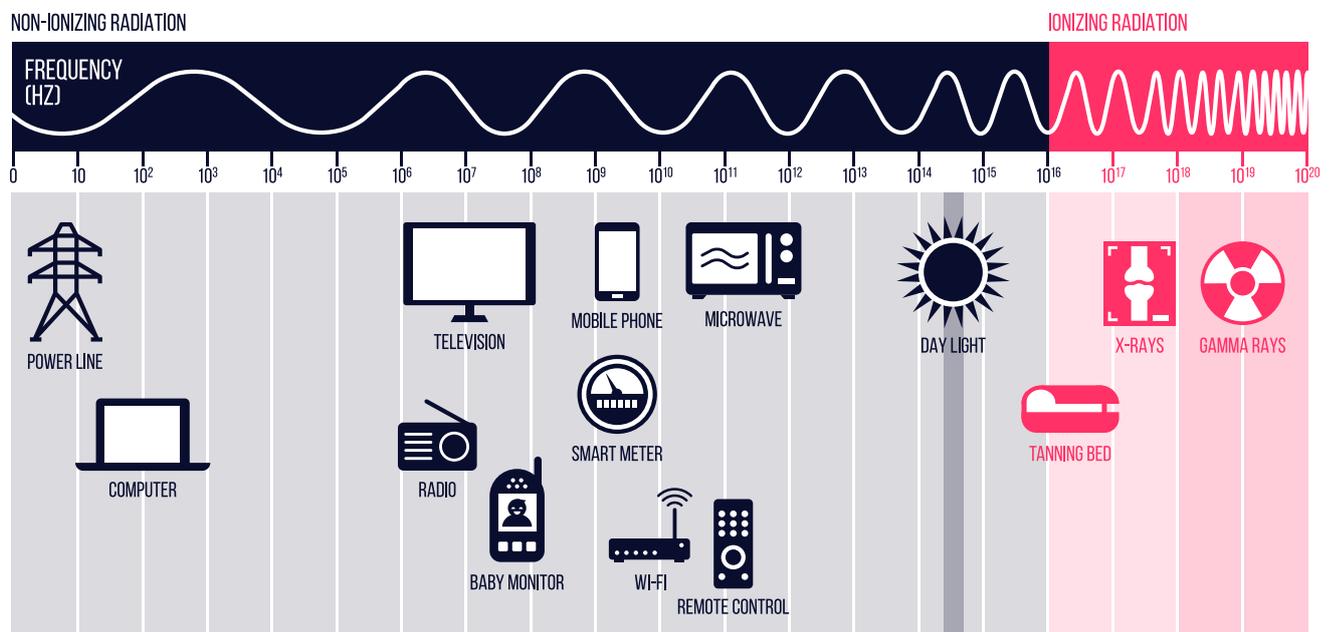


About Electro Magnetic Radiation

Electricity is the movement of an electric charge. This movement creates both electric and magnetic fields that carry energy through space. This process is called electromagnetic radiation.

People get concerned about the word RADIATION as it relates to nuclear energy and the harmful and potentially lethal health issues such as radiation sickness.

What types of electromagnetic radiation are there?



THESE TYPES OF RADIATION DO NOT DISRUPT THE MOLECULES IN YOUR BODY



VISIBLE LIGHT – a light bulb, fireworks or a glow stick you might use at a party and the light that comes off your laptop or computer screen so you can see what's on.



INFRARED – the warmth you feel from the sun (not the harmful UV rays, just that warmth you feel when you sit in the window on a sunny winter's day), a fire or the footpath in summer when it is too hot to step on.



MICROWAVE – like the microwave oven that you use at home. Microwaves push around the water molecules in your food, heating the food up. They use around 10,000 times the power of your home Wi-Fi.



RADIO – telecommunications networks, your mobile phone, radars used to guide planes, remote controlled cars, and the radio you listen to!

As the frequency gets higher, we can send more information, but the signal gets interrupted by solid things like concrete in buildings. The frequencies which come from mobile towers is less than those that come from visible light – the light that you see when you turn on a light in your house.

Radiation that can cause health issues



Very short wavelengths (these are the highest "frequency") – can be harmful because they can damage the actual atoms in your body. These are UV light, which includes UVB – the harmful rays from the sun that cause you to burn and can cause skin cancer, X-rays, and Gamma rays. That is why you must wear a hat and sunscreen in the sun and sometimes a heavy lead apron if you have an x-ray.



Research on radio frequency and health

Health authorities around the world, including the World Health Organization, have examined the scientific evidence regarding possible health effects from the radio frequency electromagnetic energy emitted by wifi or mobile base stations. Current research indicates that there are no established health effects from the low exposure to the radio frequency electromagnetic energy from wifi or base station antennas. (Refer to [Wi-Fi and health](#) | ARPANSA, [Mobile phone base stations and health](#) | ARPANSA).

If you would like more information, please go to our website:

<https://www.qcnfibre.com.au/regional-connectivity-program/>

There are loads of great links here and more information about our program.

FURTHER READING:

www.eme.gov.au

[EME and You](#) | Department of Infrastructure, Transport, Regional Development and Communications, Australian Government

[What is radiofrequency EME \(RF EME\) and how do we use it to communicate?](#) | Department of Infrastructure, Transport, Regional Development and Communications, Australian Government

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