

What is EMC?

EMC stands for Electromagnetic Compatibility.

This is the ability of electrical equipment to continue functioning satisfactorily in the presence of electromagnetic fields – of the type generated around high voltage infrastructure such as electricity pylons and electrified railways.

Why do we need it?

We have been designing and installing electrified overhead line equipment (OLE) for the Midland Main Line for several years. The masts and wiring are now in place between Bedford and Kettering/Corby in readiness for operating electrified services from December 2020.

We surveyed the route being electrified and designed our OLE so that no interference will occur. Once electrified, we will perform further testing to ensure our system performs as expected and limits the electromagnetic emissions from the railway.

Is EMC dangerous?

Whilst OLE carries 25,000 Volt AC voltage and is extremely dangerous, there is no danger to any persons as they remain outside the railway boundary (fence). EMC itself is not dangerous and electrified sections of railway are in widespread use throughout the UK and Europe.

Will this affect my TV – satellite etc

If your TV is located more than 10m from the railway tracks there should be no issues. Our testing will be carried out in accordance with the EN 50121-2 standard which sets limits of the maximum emissions produced by the railway.

Once switched on, will it be noisy?

Noise from overhead line equipment is very rare at the 25,000 Volt AC voltage. Even at electrical substations – which are located away from residences - it is comparable with a quiet conversation and should cause no undue disturbance.

Will it affect my Wi-fi or phone connection?

The standards to which the OLE is designed mean there should not be any significant impact on Wi-Fi or phone systems. Wi-Fi operates at significantly higher radio frequencies than those which will be produced by the electrified railway. Interference between these systems is therefore very rare.

With such large amounts of power, will we experience power cuts in the area?

Power is not being drawn from the local low voltage distribution network operator managed infrastructure so there will be no impact on power cuts local to the area. The power for the overhead line is taken from National Grid at 400 kV and then distributed along the overhead line at 25,000 Volt AC voltage.

Are there any risks to wildlife in the area?

The risk is no different to the overhead power lines used by National Grid to transfer power across the country to industry and homes. Wildlife travelling through electromagnetic fields should not experience adverse effects due to the length of time they are exposed to the fields. In order for

electricity to flow there needs to be a difference in potential (i.e. line to earth). If a bird lands on the overhead line it will be at one potential and it will be unharmed.