

**From:** [Ian Campbell](#)  
**To:** [Fergus Reid](#)  
**Cc:** [Michael Byrne](#)  
**Subject:** Re: Consumer General Matter  
**Date:** 07 March 2022 16:00:52  
**Sensitivity:** Private

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Hi Fergus

Many thanks – I have read the attached which was well written and thought through. Here are my thoughts which are closely aligned to your paper.

Sometimes advances in technology have a downside and your document poses an interesting challenge. How does one provide access to emergency services (999) during a prolonged power outage?

Some context:

Copper based phone networks were designed around 140 years ago and were designed to provide a highly reliable voice communication service. Many homes in that era either did not have power or were connected to an unreliable power source. Therefore the telecom service was standardised to include a self-powered system to the home. i.e. it ran independently of the domestic mains power. Thus the telecoms industry had a voice communication system with an uptime of 99.999% (spec we worked to when I was at Sure) and this technology has served us well for 100 plus years.

Today we are moving to a world of high speed data via both 'fixed wire' fibre and mobile connectivity.

Fixed wire fibre requires a transmitter / receiver (router) in the home to convert the fibre light signals to electronic digital pulses to feed the home network. The router requires a mains power supply. In the event the home has a power cut then the fibre router ceases to work thus rendering the home network inoperable.

The challenge for the telecoms industry and regulators is how to provide users with a reliable access to emergency services ( 999 etc) during a prolonged power outage on a par with the old copper service – the purpose of your discussion document

Solutions for both fixed and wireless:

There is no easy simple solution for either fixed fibre or mobile..

Looking at mobile. Assuming the core network is protected via UPS and generators, the risk for the mobile network operator is providing sufficient power to the base stations during a prolonged power outage. A long power outage exceeding the battery time in the local base station will result in the base station going 'off the air', thus mobiles connected to that offline base station will continually attempt to find any network. In the event a user dials 999, the phone will connect to the nearest mobile network and enable the call. For example, a Sure phone cannot 'see' its Sure base station due to a long power outage but 'sees' a JT base station, it will initiate the 999 call via JT (assuming in this example the JT base station has a longer battery life, therefore still be operational). There are other variables such as coverage etc that come into this.. i.e. [✂]

– this is irrelevant to the user making the 999 call as the mobile will latch onto any network it can find – its network agnostic. So the risk with mobile 999 calls is relatively low due to the fact we have three networks with various levels of ‘power resilience’ and coverage. It would be wise to check the operators have this ‘fail-over’ for other emergency service numbers, i.e. non 999 numbers.

With regards fibre to the home.

A seemingly simple fix as stated in your report is to install a UPS battery backup to the home fibre router (note. a UPS has a limited lifespan 3-5 years). As mentioned in the report there is the added complexity that most home based fixed base stations are cordless and therefore require power, this adds to the challenge and consumer education is the answer here.

Summary

Having written the above and as your report states, about 95% of the population have access to mobile services with one of the three network providers on the island (some actually permanently roam here using UK operators). The three networks have differing levels of power resilience built into their base stations and have varying levels of coverage around their base stations. Therefore the risk of not being able to make a 999 call from a mobile during a prolonged power outage is relatively minimal.

Ultimately then we are left with a small but important minority of users who do not have access to mobile and rely on their landlines. We then rely on the fact that these users have a battery backup to their new fibre service and that the battery backup is regularly serviced / checked. One should assume this segment of the population are the most vulnerable, least technical, financially challenged and most likely to require a working service in the event of a prolonged power outage. One could also assume that these users have a cordless phone which is an added complexity.

There is no easy robust solution to protect these minority users other than education to their friends and family with regards the cordless issues and stipulating the use of a reliable battery UPS technology for the fibre router and cordless base station. With regards the UPS, they don't last forever as stated above, therefore it is recommended that a maintenance schedule for vulnerable users be put in place – ultimately it is possible to monitor battery status remotely (telematics) to ensure battery life / robustness – how far do you go?

Hope this is helpful, happy for you to use elements or disregard – also happy to discuss.

With kind regards,

Ian

Ian Campbell

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