Proposed guidance consultation

Question	Your response
Question 1: Do you consider the measures in the proposed guidance relating to the resilience of the physical infrastructure domains to be appropriate and proportionate?	No. Long duration power outages will become more common due to climate change. Communications networks need resilience to this, by design.
Question 2: Do you consider the measures in the proposed guidance relating to the resilience at the Control Plane to be appropriate and proportionate?	Yes. However it is unclear how good practice will be enforced in practice.
Question 3: Do you consider the measures in the proposed guidance relating to the resilience of the Management Plane to be appropriate and proportionate?	Yes. However a resilient out of band management plane should be a requirement. The ceasing of PSTN and ADSL will require extensive work by all operators to create resilient OOB management planes. The resilience requirement for the management plane should include resilience to power outages of duration 5 days minimum.
Question 4: Do you consider the measures in the proposed guidance relating to communications providers' own managed services to be appropriate and proportionate?	Yes.
Question 5: Do you consider the measures in the proposed guidance relating to communications providers' arrangements for preparing for adequate process, skills and training to be appropriate and proportionate?	Yes.

Call for Input

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CFI question 1: Does this framework accurately capture the factors relevant to assessing what is an appropriate and proportionate measure for MNOs to take with regards to power resilience for RAN cell sites?	Confidential? – N. The framework does not sufficiently take into account lack of resilience to extended power outage of both the fixed and mobile broadband networks. Personal and other alarm services, currently relying on PSTN which normally has resilience to extended power outages need a resilient solution. Current replacement option of fixed broadband with mobile back-up will fail after, at most, a couple of hours in an area power outage irrespective of the provision of maintained power at the customer site. What is needed is a solution that is resilient to a 5 day area power outage at minimum- 30 day would be preferable.
CFI question 2: Do you agree that at a minimum MNO's networks should be able to operationally withstand short term power-related incidents?	The minimum should be set to a level reflecting the increase in climate related longer term power outages. Access for 5 days minimum, to low data rate and VoIP services should be mandatory, with a 30 days preferred. This does not require that all sites shall be so maintained, merely that limited service should be available over the full area through for example 2G only provision.
CFI question 3: What mobile services should consumers be able to expect during a power outage, what consumer harms should power backup up focus on mitigating and does this vary depending on the type or duration of the outage?	The minimum should be set to a level reflecting the increase in climate related longer term power outages. Access for 5 days minimum, to low data rate and VoIP services should be mandatory, with a 30 days preferred. This does not require that all sites shall be so maintained, merely that limited service should be available over the full area through for example 2G only provision.

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CFI question 4: What technical choices are available to MNOs to reduce power consumption, and should be considered as part of assessment of appropriate and proportionate measures?	Operate a limited data rate, wide coverage service only, eg 2G. This would require maintained power at a limited number of sites only. Also, share provision duty between all MNOs during long term power outages.
CFI question 5: How many sites would it be feasible to upgrade and maintain and why?	Larger sites, dating from 2G era could be upgraded to 30 day maintained power using diesel generators. This would be a proportionate response. Small sites, where only battery back-up is feasible, should have 1 day back-up capability.
CFI question 6: Do you consider that providing a minimum of 1 hr backup to all RAN cell sites would to be proportionate to meet the security duties under s.105A to D of the Communications Act 2003?	No. 1hr is quite inadequate to address area power outages, where many RAN sites are affected. 1 day for small sites and 5day or preferably 30 day for larger sites would be a proportionate response to climate change induced storm outages. Power demand reduction by limiting service to low data rate (2G) and VoIP can be employed.
CFI question 7: What cost effective solutions do you consider could meet consumers' needs during a power outage?	Power demand reduction by limiting service to low data rate (2G) and VoIP can be employed. Network design could be mandated to reduce number of dependency points on local powering.
CFI question 8: **a) Is it more cost efficient to increase power backup up to any space, weight, or planning limitations, i.e., increasing power backup as much as is feasible provides the lowest £ per hour?** **b) do the benefits of any power backup solution have diminishing returns, i.e., the benefit per hour decreases as you increase the amount of power backup?**	a) No. Many small sites could sustain on solar charged battery power and remote power over fibre technology. Power back-up solutions should be tailored to site size and data rate reduction, eg 5G cessation could be used to reduce power consumption. b) No. 30 day maintained power for a network of wide area coverage, low data rate (2G) sites shared between MNOs would be a cost-effective response to area power outages.

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CFI question 9: Does the mobile market fail to capture the value or importance of power backup, and if so, why?	Yes. MNOs and fixed broadband operators are not currently required by Ofcom to guarantee any duration of availability of their network during power outages. They therefore are not incentivised to provide maintained power at their sites. If MNOs had to specify their resilience to power outages, an incentive to improve performance would exist.
CFI question 10: Should improvements in power backup be focused on solutions at sites which are identified as higher risk of outages?	Yes. Emphasis should be placed on sites which depend on overhead power line feed, which is particularly likely to fail due to storm damage.
CFI question 11: Why would any requirement lower than a minimum of 1 hour be sufficient in future? What duration do you consider would be sufficient and why?	1 hour is quite insufficient, given that experience of storm damage in recent years is that power outages lasting for many days occurs. 1 day minimum for small sites and 5 day, preferably 30 days for large sites would be more appropriate. Use of limitation to low data rate/VoIP only can reduce power consumption to make these durations easier to achieve.
CFI question 12: Over what time period could industry make upgrades to provide a minimum of 1 hour at every cell site or other cost-effective solutions to address potential consumer harm?	See answer to Q. 11. Mandating 1 hour at every site does not address the lack of resilience to the longer term storm-induced outages that will become more frequent with climate change. A more efficient solution is to mandate 30 day limited data rate/VoIP coverage of areas affected by power outages.

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