Superfast Electricity

The Future of Service Cables Consultation Responses Summary October 2020



1 Overview

Western Power Distribution (WPD) is the distribution network operator (DNO) for the Midlands, South West and South Wales. We are responsible for delivering electricity to approximately 7.9 million customers in the UK.

This document summarises our consultation responses to our proposal to make three phase service cables our standard service cable for all new connections.

Our consultation generated 18 responses through our website and another 3 directly submitted to us. Respondents included Energy/Utility companies, Developers, Local Authorities, Consultants and Domestic Customers.

In the remainder of this document we have added a commentary against each of the consultation questions. The commentary pulls out the theme of each set of individual answers that were received.

Our Next Steps

Respondents were broadly supportive of our plans to introduce three phase service cables as a standard. We will now begin work to amend our standard network design policies.

Our respondents did comment on the disparity that the change would bring, with new customers enjoying a three phase service cable but existing customers not having the same facility available to them. We will also work on our polices relating to upgrades and LCTs to offer similar solutions to our existing customers. We are fully committed to building the right network now to support the needs of our current and future customers



2 Key Benefits Questions

What are your views on the four key benefits of three phase service cables?

All respondents broadly agreed with the benefits. Some noted that they are limited to new connections and others noted that single phase loads cannot achieve the balancing benefit. The move to Net Zero prompted others to support this as a step on the path to meeting that commitment. One respondent contrasted that fibre connectivity is now the expected norm for telecoms and this makes an electrical service change inevitable.

If applicable, how should these be improved, expanded or refocussed?

An expansion of the scope of the works to include retro fitting to existing properties was noted by some respondents. Application of the change at a national level was supported, as was changes to standard earthing arrangements for connections. Whilst transport demands were noted in the consultation respondents pointed to heating demands as another key element for the future. "These are substantial benefits which could have a significant impact on the ease and affordability of connecting low carbon technologies and therefore be very important in facilitating the transition to net zero."

Local Authority respondent

Questions:

- 1a. What are you views on the four key benefits of three phase service cables WPDS has identified?
- 1b. Do you agree these are the correct benefits?
- 1c. How could these be improved, expanded or refocussed?



3 Technical Questions

Have we identified the correct technical benefits of three phase services?

Whilst respondents agreed, some noted the additional benefits of participation in flexibility markets and the voltage benefits of three phase connections over single phase variants.

Are there other benefits or considerations to make?

No particular benefits were drawn out here. Respondents commented on the additional capacity potentially available for multiple EVs, heat pumps or battery storage units. This was balanced by concerns over the addition of more joints/connections to our network mains and the added costs to developers.



Are there any aspects missing from our current assumptions?

Respondents commented on the 2050 targets, expecting them to be brought forward so work needs to be done now. Embedded networks, and their design, was also noted. Space required for the termination equipment was noted. "Additional savings could be realised through customer bills as the increased revenues form flexibility and DSR markets can be shared with customers to drive down energy bills"

Developer respondent

Questions:

- 2a: Have we identified the correct technical benefits of three phase services?
- 2b: Are there other benefits or considerations to make?
- 2c: Are there any aspects missing from our current assumptions?

4 Accessibility Questions

Have we identified the right areas of increased accessibility?

Respondents agreed with the areas and highlighted the benefits of acting on installation over the subsequent revisit of a later upgrade. It was noted that changes to Building Regs or other statutory requirements could help to support changes, but that other areas such as insulation improvements also have a part to play in the overall future.

If applicable, what other areas should we consider?

The requirement to upgrade existing properties was noted here. There was also a view that this could ensure all customers gain the benefits of capacity rather than it being allocated to early adopters. Isolator switches should be fitted to allow us to completely remove the need to revisit properties. Three phase connections assist with balancing of networks and, as they are already commonplace in Europe, are likely to be requested in the UK as European manufacturers provide equipment which makes use of three phases. It was noted that our plans should be cognisant of the Ofgem Significant Code Review.

What are your views on our proposal to work now to avoid revisits and upgrades in the future?

Most respondents agreed, citing the simple fact that works completed at the time of installation are much more economic than revisiting later. One respondent queried the requirement, expecting that a future home with green technologies may use less grid power, not more.

Are there any aspects missing from our current approach?

Application of this as a national standard was noted as a missing item. The extension to existing connections was also noted. Changes to earthing arrangements to support easier LCT connections was highlighted. Availability of Smart Meters for three phase was noted, including the skill set of meter operators who would be required to work on them. "These are excellent, forward thinking proposals that will save time and money in the long-run as well as enabling climate change mitigation."

Local Authority respondent

Questions:

3a: Have we identified the right areas of increased accessibility?

- 3b: If applicable, what other areas should we consider?
- 3c: What are your views on our proposal to work now to avoid revisits and upgrades in the future?

3d: Are there any aspects missing from our current approach?

5 Sustainability Questions

Is sustainability an important enabler for developing future capacity?

Respondents agreed that sustainability is important. Some discussed whether the service cable or the Low Carbon Technologies are the enabler, but many saw this as a key to a low carbon future.

Are we making progress in the right areas?

Whilst respondents felt that WPD was making progress, it was clear that this topic was one which needs to move quickly. There was frustration that this consultation was slowing acceleration in this area as many homes required for 2050 are being built right now.

Are there any aspects missing from our current approach?

Respondents commented on the treatment of existing connections.

"Sustainability by definition enables future capacity as it is about planning for the long-term."





Questions:

- 4a: Is sustainability an important enabler for developing future capacity?
- 4b: Are we making progress in the right areas?
- 4c: Are there any aspects missing from our current approach?

6 Efficiency Questions

What are your views on plans to make use of the initial build work?

Most respondents agreed, citing the simple fact that works completed at the time of installation are much more economic than revisiting later. One respondent noted that installing ducting alone would allow targeted upgrades as required. It was also noted that we should consider our existing customers and how we support them.

What are your views of the installation requirements and costings?

Views on the costings varied, but a theme in responses was the reduction of future costs for a revisit. Respondents also commented that we should ensure that there was suitable and adequate space to terminate the new cables. The effect of three phase to a house installation was noted, although this is not a requirement of the proposed change.



Should this change become a National Standard?

All respondents supported the development of a National Standard.

Should this change be used to promote three phase installations and appliances in domestic houses as standard?

Respondents agreed that this could be used as a promotion for appliances and installations. Terminology might need addressing as three phase is often associated with industrial connections. Additional safety measures for three phase in homes were noted. A recommendation to work with house developers was noted.

Are there any aspects missing from our current approach?

Respondents commented on the skills availability for three phase installations. This should also not detract from works to provide a network with less faults. Shared ducting for electricity and telecoms was noted. Cable sizes should be mandated as a national standard to support capacity. One respondent recommended plans to change all single phase services by 2050.A three phase installation does increase the cost of connection but only in relatively low terms. The cable used is around £5/m more expensive than the single phase alternative. To offer space for metering and termination equipment a larger meter box is also required.

"Installing cables during build stage or rebuild stage is most cost effective."

Domestic Customer Respondent

"This would make perfect sense as there would be no disruption to the householder."

Local Authority respondent

Questions:

- 5a: What are your views on plans to make use of the initial build works?
- 5b: What are your views of the installation requirements and costings?
- 5c: Should this change become a National Standard?
- 5d: Should this change be used to promote three phase installations and appliances in domestic houses as a standard?
- 5e: Are there any aspects missing from our current approach?



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