CONSULTATION ON MIC CHARGING METHODOLOGY

CALL FOR EVIDENCE

06/08/2018

Contents

1. EXECUTIVE SUMMARY

In 2016 the Utility Regulator for Northern Ireland (UR) hosted a public consultation on the Electricity Distribution and Transmission Connection Policy. It was recognised that a connections market which works well for Northern Ireland consumers is essential for a developing economy. Getting connected easily and at a fair price is important for both demand and generation customers and it is important that other network consumers only pay what is necessary for their energy. It was believed that the lack of capacity on parts of the network is presenting challenges for new customers getting access to the distribution electricity network.

The 2016 consultation asked what should be done to improve the connection process without the need to build additional network which is not always economically justifiable.

In their Consultation on Next Steps, published in April 2017, the UR set out a list of actions on the issues which stakeholders felt important with the expectation that NIE Networks consider what steps they need to take, and to begin delivering on these actions.

One of the key actions identified through the process was the recovery of unused network capacity. In section 1.25 of the Next Steps paper, UR requested that NIE Networks considers the incidence of underutilisation and considers appropriate and proportionate measures to release capacity if it is being persistently underused.

This call for evidence intends addressing this request and specifically considers how NIE Networks may release unused capacity to facilitate better utilisation of the networks and lower connection charges for existing and new customers.

Table 1a below gives an initial outline of the consultation process and associated timescales. Please note that these timescales will be kept under review and are subject to change as the scope of the consultation will be largely dependent on the responses and input of stakeholders. NIE Networks are keen to ensure that all stakeholders have the greatest possible opportunity to input into and shape the consultation.

Key Milestones	Proposed Dates
Call for Evidence Release	6th August 2018
Call for Evidence Close	7th September 2018
Publication of Consultation Paper	October 2018
Consultation Paper Close	November 2018
Decision Paper	Q1 2019

Table 1a

2. INTRODUCTION

2.1 Background

In 2016 the Utility Regulator for Northern Ireland (UR) held a public consultation of Electricity Distribution and Transmission Connection Policy. It was recognised that a connections market which works well for Northern Ireland consumers is essential for a developing economy. Getting connected easily and at a fair price is important for both demand and generation customers and it is important that other network consumers only pay what is necessary for their energy. It was believed that the lack of capacity in parts of the network is presenting challenges for new customers getting access to the distribution electricity network.

The 2016 consultation asked what should be done to improve the connection process without the need to build additional network which is not always economically justifiable.

In their Consultation on Next Steps, published in April 2017, the UR set out a list of actions on the issues which stakeholders felt important with the expectation that NIE Networks consider what steps they need to take, and to begin delivering on these actions.

One of the key actions identified through the process was the recovery of unused network capacity. In section 1.25 of the Next Steps paper, UR requested that NIE Networks considers the incidence of underutilisation and considers appropriate and proportionate measures to release capacity if it is being persistently underused.

This paper addresses demand customers who are restricting access for other users through their underutilisation of their contracted capacity or by utilising more than their contracted capacity without NIE Networks approval.

There are approximately 5,200 medium and large business customers connected to NIE Networks' distribution network. These customers have demands greater than 70kVA and are currently charged a capacity charge based on their maximum demand in kVA. Analysis of their consumption patterns since October 2016 show:

- Approximately 4,700 customers have an aggregated total of actual customer maximum demand of circa 600MVA lower than their total contracted MIC;
- More than three quarters of these customers (approximately 3,700 customers) have an actual capacity demand below 80% of their contracted MIC; and
- Almost 500 customers are exceeding their MIC, using a total of 28MVA of unauthorised capacity.

Diagrams 1 and 2 on the following page summarises this information showing the number of customers and the under/over used capacity.

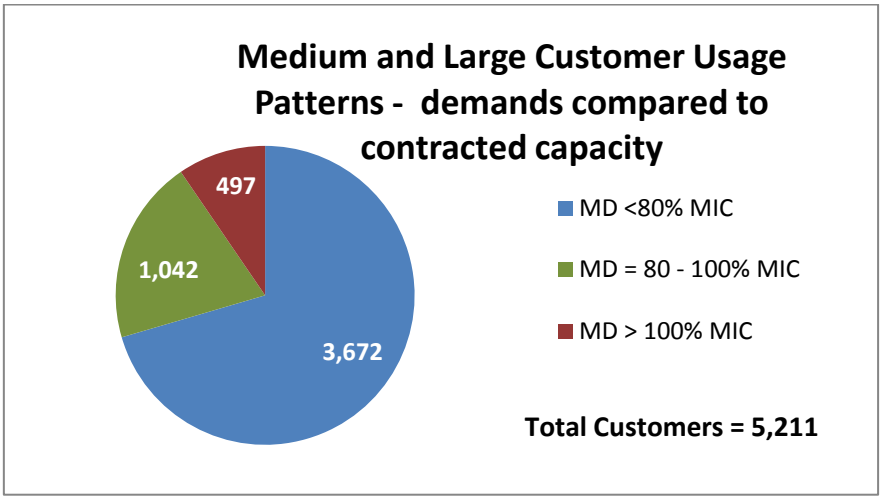

FIGURE 1

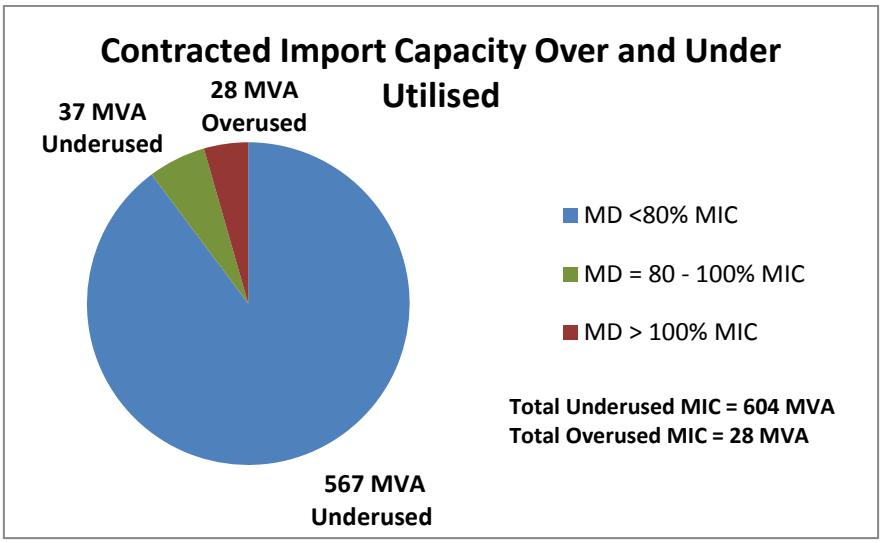

FIGURE 2

2.2 The Impact of Capacity Hoarding

The effect of underutilisation of the MIC is to block available capacity to new customers applying to be connected to the network. When customers apply for new connections, the contracted MIC of existing customers connected to the same section of the network is taken into account as part of a network design for the new load. This is to ensure that NIE networks' contracted obligation to existing customers is maintained while safeguarding the performance of the network following the connection of the new load. NIE Networks has both a licence and statutory obligation to maintain standards of safety and performance through the appropriate design and operation of the network. To manage the new load while maintaining contracted obligations to existing customers potentially requires additional network reinforcement resulting in higher cost for the connecting party. NIE Networks cannot ignore contracted obligations to existing customers to facilitate lower cost connections. In the scenario that NIE Networks were to base a connection charge for new customer on the usage of existing customers rather than their MIC, the new customer may receive a lower cost for connection but the liability for future network reinforcement should existing customers realise their MIC would rest with the Northern Ireland customer base through the existing regulatory funding mechanism.

Similarly, a customer exceeding their MIC restricts available network capacity for other potential users. Customers exceeding their MIC create a potential safety issue through overloading network assets and also impact on the quality and security of supply for other customers. They are also hoarding capacity that they have not paid for at the expense of new applicants who are willing to pay for access to the same capacity.

2.3 Purpose of this Paper

Forming the initial step of the consultation, this call for evidence seeks to identify and scope key concepts which will be further explored during the process. The aim is to introduce a charging mechanism which will provide cost recovery from those customers not fully utilising their contracted MIC and to one that will send a strong signal to customers to encourage more closely aligning their actual demand to their contracted MIC. The process should be such that it will encourage and enable customers to reduce the MIC value, thereby releasing potential capacity and reducing costs for future connectees. This will also reduce future costs for the general customer body with the avoidance of unnecessary network reinforcement.

It is proposed that the consultation paper will consider the following;

- Capacity charges based on customer MIC – the consultation will review the potential to change the basis of our capacity charges from customer maximum demand (MD) to the customer contracted MIC. Capacity charges based on customers' MIC would provide a strong incentive for medium and large business customers to reduce their MIC to align with their actual demand needs.

- The impact on customers – the consultation will consider the impact on customers' DUoS bills if we move to MIC based capacity charges. In general it is anticipated that customers with MICs which reflect their actual demands will benefit from a reduction in their capacity charges while customers who retain significant unused network capacity in their MIC will face higher capacity charges.

- Review of Penalties for overutilisation – the consultation will also review the effectiveness of charging signals to prevent customers putting the network at risk by exceeding their contracted MIC.

- The timing of the introduction of the new structure - If through the consultation process NIE Networks gets agreement to proceed, the change to the tariff structure will be implemented for the 2019/20 tariff year (commencing 1 October 2019).

- Opportunity to review individual charges – the consultation will also consider how customers will be notified of the changes and how they will have an opportunity to review their contacted MIC.

The consultation paper due to be published in September will seek to scope and shape the output of this call for evidence into potential new approaches to the application of MIC charges.

3. CURRENT CHARGING STRUCTURE

NIE Networks' Distribution Use of System (DUoS) charges are set annually to recover our regulated Distribution Allowances. DUoS charges look to provide users with signals about how their behaviours can increase or reduce costs on the network such as investment and operational costs.

The price signals should incentivise network users to make decisions on how and when they use the network to achieve the most economically efficient outcome. If customers change their behaviours in response to the price signals, this will ultimately reduce future network costs for all users.

NIE Networks' DUoS tariffs for customers with a demand greater than 70kVA are made up of standing charges (per charging period), unit charges (per kWh & kVarh) and capacity charges (per kVA). In general standing

charges are set to recover fixed costs per user such as the cost of meters and meter reading, while unit and capacity charges are set to recover the cost of network development, maintenance and operation.

This paper looks at the use of capacity charges as a means to encourage efficient use of network capacity.

3.1 Capacity Charging Mechanisms

Capacity charges are charged on a site basis. The most common types of capacity charging arrangements are:

- **Capacity Charges based on customer MD** – a charge is applied in relation to the highest maximum demand (MD) recorded in kVA by the customer over a defined period of time. The price signal intended by this type of DUoS charge is to encourage customers to improve their load factor and reduce demand on the network which could lead to network reinforcement.
- **Capacity Charges based on customer MIC** – a charge is applied in relation to the customer's agreed maximum import capacity (MIC). The MIC will be agreed at the time the customer is connected or when an increase is approved. The price signal intended by this type of DUoS charge is to encourage efficient use of available network capacity by incentivising customers to reduce their unused MIC.

NIE Networks currently apply capacity charges to customers with a connected capacity greater than 70kVA based on the customer's MD. The customer's MD in kVA is recorded between 0800 and 2230. The highest MD recorded in the current or last tariff year is referred to as the customers' chargeable service capacity (CSC). A monthly charge is applied for each kVA of CSC.

Under NIE Networks' current capacity charging arrangements, if a customer's active or reactive demand spikes in a single half hour, they can be charged the CSC charge based on that peak for a maximum period of two years, i.e. to the end of the following tariff year.

NIE Networks' capacity charges for medium and large business customers account for on average 39% of their DUoS bill. In 2018/19 tariff year these capacity charges are anticipated to recover approximately £21.7m in DUoS revenue from their suppliers.

3.2 Connections Design Process

As part of the connections process new applications are received with all demand details outlined by the customer or their appointed consultant. In the initial design phase discussions will take place regarding potential options with the applicant and a high level review of the requested MIC to ensure they have not under or over estimated their power requirements.

In completing a design NIE Networks studies the new requested MIC against the system actual load and the larger contracted MICs already allocated on that section of network. As NIE Networks are contractually obliged to provide the MIC all new designs must be completed with this fully connected.

Historically, sites initially use the majority of the requested MIC however as time progresses and the nature of the business changes or the premise is sold to another party these MICs may not reflect the new requirements of the business.

As there is no incentive for MICs to be reduced generally customers retain the higher MIC than is required for their site. Therefore NIE Networks may need to charge additional works to the connecting customer which may not be required if other customers reduced their MIC in line with their requirements.

4. ANALYSIS OF MIC

4.1 MIC Utilisation

DUoS charges for network capacity currently apply to customers requiring a maximum import greater than 70kVA. There are currently 5,211 customers in this category. The analysis of network capacity utilisation for the purpose of this consultation was based on customer metered data from October 2016 to May 2018. This compared the MIC figure recorded for each customer in this category with their individual highest actual usage figure recorded since October 2016.

We recognise that customers do not continually operate at exactly their contracted MIC level and also that new business may take a period of time between the dates of connection to full operational output. Consequently, in order to demonstrate the extent of continuous underutilisation, our analysis looked at identifying where there is significant underutilisation of capacity and where this underutilisation has been sustained continuously.

Diagram 3 shows the results of this analysis and from this we can see that there are 3,289 customers with MDs greater than 70kVA who have been operational for more than 5 years and who are still using less than 80% of their contracted capacity. The unused MIC capacity associated with these customers is 499MVA.

Figure 2 in the Introduction section of this paper, shows the unused contracted capacity for all medium and large business customers who are using less than 80% of their MIC to be 567MVA. This includes the unused MIC capacity associated with customers who have been operational for less than 5 years.

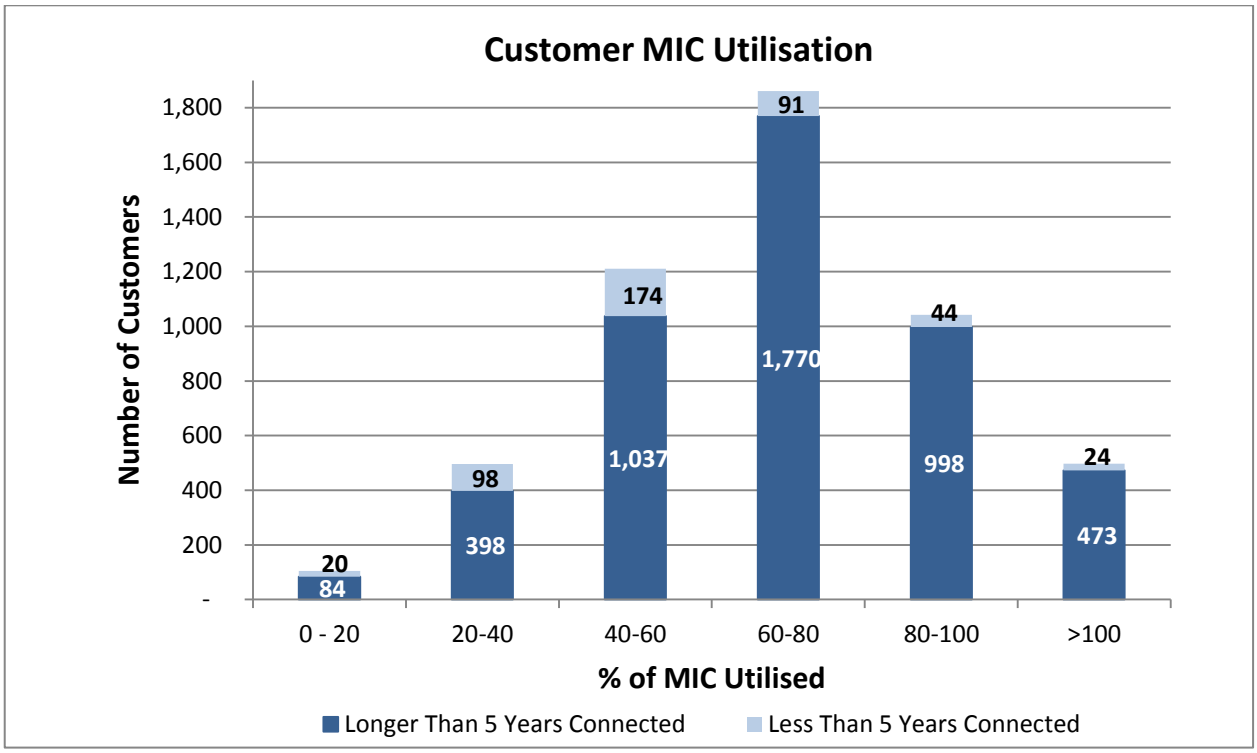

FIGURE 3

4.2 Potential Approaches Moving Forward

4.2.1 Do Nothing

Under the NIE Networks 'Distribution Licence' Condition 27 there is a requirement for NIE Networks to design and operate an efficient network. Consequently, there is an obligation on NIE Networks to address the underutilisation of the network and the potential for unnecessary reinforcement being charged to new connectees. This requirement has been further set out in the URs Consultation on Next Steps, published in April 2017, requesting that NIE Networks considers the incidence of underutilisation and considers appropriate and proportionate measures to release capacity if it is being persistently underused.

For this reason NIE Networks need to consider what actions need to be taken to free up capacity on the existing network infrastructure to allow future customers to connect without incurring high and sometimes unnecessary reinforcement charges.

4.2.2 Capacity Charges Based on Customer MIC

In Great Britain and the Republic of Ireland, the DNOs apply capacity charges to business customers based on their contracted MIC to encourage efficient use of available network capacity. NIE Networks could adopt a similar approach and base the current capacity charges on customer MIC rather than customer MD to introduce this price signal.

In 2018/19 tariff year NIE Networks' capacity charges are anticipated to recover approximately £21.7m in DUoS revenue from medium and large business customers. Changing the basis upon which capacity charges are applied would provide a strong incentive to customers to reduce their MIC to align with their actual demands. This would release the unused MIC capacity for other customers to connect or increase supply, and avoid unnecessary network reinforcement, ultimately leading to a reduction in future costs for the general customer body.

Total customer MIC capacity is naturally higher than their aggregated MD in kVA. As NIE Networks' regulated distribution allowances are fixed, changing the basis of capacity charges to the customer's MIC would be facilitated by a reduction in our price per kVA. This would ensure the same total DUoS revenues are recovered from charges based on higher capacity volumes (MIC versus MD).

The impact on individual customer electricity bills would depend on the relativity between (i) the amount the customer's chargeable capacity increases, i.e. their MIC versus MD, compared to (ii) the reduction applied in the capacity price for their tariff group. The potential step change in customer capacity charges is summarised as:

- Customers with MICs which closely reflect the network capacity that they actually use will be rewarded with reduced capacity charges (due to the reduction in capacity price); and

- Customers who retain significant unused network capacity in their contracted MIC will receive higher capacity bills because the increase in the kVA to which the capacity charge applies will be greater than the reduction in the DUoS tariff capacity price.

Before NIE Networks' would implement a change to capacity charging, we would propose contacting all impacted customers to give them the opportunity to confirm their MIC or to agree a lower MIC to reduce their future capacity charge. Customers wishing to increase their MIC will be required to make application through the normal connection process.

Q1 Should demand metered customers be required to pay for requested capacity rather than the associated network costs being met through higher unit costs or higher reinforcement costs for those applying to be connected?

Q2 Should NIE Networks consider reviewing the additional capacity charging structure to encourage connected customers to reduce their contracted MIC to a level closer to their typical usage pattern?

Q3 Options being considered are the replacement of the actual demand usage charging mechanism to one where the capacity charge is based on the MIC similar to GB & ROI. Do you consider these as appropriate mechanisms for NIE Networks to deploy to encourage more efficient use of the available capacity from existing assets?

Where stakeholders disagree with any of the above approaches, please provide a full explanation for doing so and provide an alternative approach that would be worth considering further and also comply with NIE Networks statutory and licence obligations.

5. EXCEPTION CHARGES FOR EXCEEDING MIC

5.1 Current Arrangements

A customers' MIC is established at the time of connection and is based on the information provided at the time by the customer to NIE Networks. This information includes the type and size of electrical equipment the customer will be using and the likelihood of its simultaneous usage. This establishes the load profile for the site and the potential peak demand which is used by NIE Networks to size the equipment required to connect the customer and to ensure that there is capacity in the deeper network for the additional load. This peak demand requirement is then agreed as the sites MIC.

Should a customer subsequently connect additional equipment resulting in the exceedance of the agreed MIC, there is the real risk of one or all of the following;

- Thermally overloading network assets resulting in a reduced asset life and potential for failure, potentially catastrophic.
- Low network voltages and voltage fluctuations resulting in damage to equipment connected at the customers site and to other customers connected to the same section of the network
- Using up additional network capacity for which they have not paid and effectively blocking access to the same capacity for new applicants who would be willing to pay.

Based on the May 2018 metered data, there were 497 customers exceeding their MIC with a combined total of 28MVA of additional capacity above their MIC limit.

Ultimately, NIE Networks have the right to disconnect customers who are putting the networks at risk through such actions, particularly where there is a potential health & safety risk. However, this is considered an option of last resort. To avoid such action NIE Networks try at an earlier stage to discourage customers from exceeding the agreed MIC by applying exception charges. These are additional capacity charges which are applied to each kVA above the MIC and are applied on a monthly basis until the customer reduces their demand back to the MIC or makes application to NIE Networks for the increased capacity. At present NIE Networks puts the exception charges on hold if the customer makes an application to NIE Networks for the additional capacity. During this period the risks outlined above are potentially impacting on the operation and performance of the network. NIE Networks experiences further problems where some customers who continue to exceed their MIC make successive applications to avoid the exception charges being applied.

5.2 Impact of MIC Charging Proposal

The proposal for basing NIE Networks' capacity charging on customer MIC rather than their MD will reduce the impact of capacity exception charges. Under the current charging arrangements customers pay a capacity charge on the kVA they use, including the amount above their MIC. This charge is in addition to NIE Networks' charge for excess capacity i.e. capacity used by a customer above their MIC allowance.

Under the proposed MIC capacity charging mechanism, customers who are exceeding their MIC will benefit from lower capacity charges because their MIC is lower than the capacity they are actually using. To counteract this, and to ensure customers do not receive financial benefit when over-using their network capacity, NIE Networks' excess capacity charges should increase

5.3 Potential Options for Exception Charging Going Forward

If a change in MIC policy is proposed and accepted resulting in a reduction in the penalty for exceedance, the current mechanism to discourage customers from such action will be diminished. This raises the real possibility that we may see more customers exceeding their MIC and for longer periods with a fairly weak tariff signal to encourage them back to the agreed capacity limit. Such a position will push NIE Networks having to resolve the situation with the treat of, and ultimate, disconnection. This is not a position NIE Networks wishes to be in.

Consequently, if NIE Networks are to change the capacity charging policy, additional measures need to be put in place to continue to discourage customers from exceeding their MIC. The first option would be to continue to apply exception charges to all customers even where they have entered the process for increasing the existing supply capacity. In such circumstances the charges will continue to be applied while the customer continues to exceed their MIC and will only be removed once the new increase capacity arrangement has been energised.

Secondly, NIE Networks may need to review the value of the exception charge to ensure that there is a sufficient penalty to customers who do exceed their MIC. This may involve an increase in the per kVA charge. It may also involve moving from a flat rate charge which is applied until the customer's usage is reduced back to the contracted MIC or a new MIC is agreed following the completion of any necessary reinforcement, to an escalating charge which is increased following successive notification points.

Q4 Should NIE Networks continue to discourage customers from exceeding their MIC through the application of appropriate tariff signals to avoid reaching the point where they are forced to disconnect to protect the network?

Q5 Should NIE Networks consider removing the concession on the application of exception charges for customers currently in the application process?

Q6 Should NIE Networks consider increasing the exception charges to ensure an appropriate penalty is being applied for a more effective deterrent? This can be achieved by either;

a) **Applying a flat rate until the customer's usage is reduced back to the MIC or a new MIC is agreed, or**

b) **Applying an escalating rate, i.e. if the customer fails to reduce following each notification point, a higher charge is applied.**

In your response to this question you should indicate a preference and the reasons why.

Where stakeholders disagree with any of the above approach, please provide a full explanation for doing so and provide an alternative approach that would be worth considering further and also comply with NIE Networks statutory and licence obligations.

6. NEXT STEPS

This Call for Evidence is the first step in collaborating with key industry stakeholders on a new MIC Charging methodology in Northern Ireland. This new methodology considers how NIE Networks may release unused capacity to facilitate better utilisation of the network and lower connection charges for existing and new customers. NIE Networks are keen to ensure that all stakeholders have the earliest possible opportunity to input into this change in charging methodology. Responses to this Call for Evidence will provide industry views which in turn will help shape the forthcoming consultation paper.

Table 1b below gives an initial outline of the consultation process and associated timescales. Please note that these timescales will be kept under review and are subject to change as the scope of the consultation will be largely dependent on the responses and input of stakeholders.

6.1 Proposed Timetable

Key Milestones	Proposed Dates
Call for Evidence Release	6th August 2018
Call for Evidence Close	7th September 2018
Publication of Consultation Paper	October 2018
Consultation Paper Close	November 2018
Decision Paper	Q1 2019

Table 1b

7. SUMMARY OF CALL FOR EVIDENCE QUESTIONS

NIE Networks wish to encourage successful engagement by opening this Call for Evidence to allow all stakeholders to formally submit evidence and have an influence on how we might address the issue of freeing up network capacity.

We have outlined the following 2 key areas that we encourage stakeholders to consider and provide written response including supporting evidence for the suggested approach:

Solutions for effective capacity charging

Exception Charges for exceeding your MIC

We have included ‘Suggested points for consideration’ under our two main headings. Please feel free to expand on and include information on other points outside of these suggested points for consideration.

7.1 Solutions for Effective Capacity Charging

We welcome all responses on how, given the issues detailed in Section 4 of this paper on underutilisation of capacity, we might overcome those issues.

Response questions and suggested points for consideration:

Q1 Should demand metered customers be required to pay for requested capacity rather than the associated network costs being met through higher unit costs or higher reinforcement costs for those applying to be connected?

Q2 Should NIE Networks consider reviewing the additional capacity charging structure to encourage connected customers to reduce their contracted MIC to a level closer to their typical usage pattern?

Q3 Options being considered are the replacement of the actual demand usage charging mechanism to one where the capacity charge is based on the MIC. Do you consider these as appropriate mechanisms for NIE Networks to deploy to encourage more efficient use of the available capacity from existing assets?

7.2 Exception Charges for Exceeding MIC

We also welcome all responses on how, given the issues detailed in Section 5 of this paper on overutilisation of capacity, we might overcome those issues.

Q4 Should NIE Networks continue to discourage customers from exceeding their MIC through the application of appropriate tariff signals to avoid reaching the point where they are forced to disconnect to protect the network?

Q5 Should NIE Networks consider removing the concession on the application of exception charges for customers currently in the application process?

Q6 Should NIE Networks consider increasing the exception charges to ensure an appropriate penalty is being applied for a more effective deterrent? This can be achieved by either;

a) Applying a flat rate until the customer's usage is reduced back to the MIC or a new MIC is agreed, or

b) Applying an escalating rate, i.e. if the customer fails to reduce following each notification point, a higher charge is applied.

In your response to this question you should indicate a preference and the reasons why.

Where stakeholders disagree with any of the above approach, please provide a full explanation for doing so and provide an alternative approach that would be worth considering further and also comply with NIE Networks statutory and licence obligations.

8. REQUEST FOR COMMENT

NIE Networks invite interested parties to respond to this Call for Evidence. Whilst NIE Networks welcome all comments they particularly welcome comments on the questions that are embedded within this document. Responses should be sent electronically to Carl.Hashim@nienetworks.co.uk by **4pm on Friday 7th September 2018.**

NIE Networks will handle all information in accordance with the NIE Networks Privacy Statement. (http://www.nienetworks.co.uk/privacy)

Please note that it is intended to publish all responses to this paper on the NIE Networks website (www.nienetworks.co.uk). Respondents who wish that their response to remain confidential should highlight this when submitting the response.

NIE Networks may share responses with UR. Respondents should be aware that as UR is a public body and non-ministerial government department, the UR is required to comply with the Freedom of Information Act (FOIA)[1].

[1] The effect of FOIA may be that information contained in consultation responses that is shared with UR is required to be put into the public domain. Hence it is possible that all responses made to this consultation that may be shared with UR will be discoverable under FOIA, even if respondents ask for the responses to be treated as confidential. It is therefore important that respondents take account of this and in particular, if asking that the responses are treated as confidential.