

ENA Guidance on Phased Capacity Sites

Supporting efficient capacity management

19/12/2022

Capacity Phasing – Contents

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1. Background

Working in partnership with the Office of Zero Emission Vehicles (OZEV), ENA has developed a common approach for Distribution Network Operators (DNOs) to provide large connection customers with opportunity to facilitate optimum network solutions where electricity usage is forecast to grow over an extended period of time. This capacity phasing approach provides:

- Opportunity for larger developments to connect to the distribution network and grow on a managed basis.
- Assurance that capacity will be available for anticipated future demand, as and when it is needed (subject to factors that are out of DNOs' control).
- Application of use of system capacity charges in line with anticipated maximum usage as load grows
- A common framework that will be made available for use by other technologies/customer types.

Note:

- This proposal has been developed using processes already in place in DNOs across GB.
- The Access SCR decision supports this approach.

2. Delivering on Access SCR Requirements

The Access SCR direction required DNOs to consider “more explicit treatment for connections where phased or future expansion may be the most appropriate approach for both the customer and DNO”. Further, the direction required DNOs to:

1. Clarify that where capacity caters for future expansion, rather than the immediate requirements of an end user, i.e., for subsequent phases of a project, it does not always have to be treated as a speculative development. This should be subject to DNO discretion based on an evidence-based assessment of the timing and confidence in delivery of future phases of work.
2. Clarify that phased developments do not always have to be treated as speculative developments, where the customer can provide sufficient relevant evidence to support this treatment. This should include providing greater clarity on what information is required to determine what is a ‘speculative phase’ and an ‘initial phase’ and how the distinction is made.
3. Consider introducing a methodology for connections with planned phases or future expansion which would otherwise be deemed speculative, where a case can be made for the cost efficiency and wider network benefit of not treating them as such.

Subject to Ofgem’s approval, the Access SCR comes into effect for new connection applications made from 1st April 2023. The phased capacity management solution will fully come into effect on this date in cases where the solution requires reinforcement. Where an application is received by the DNO for a phased capacity solution prior to 1st April 2023, charging of reinforcement costs will be based on the existing connection charging rules. All other aspects will be aligned with this guidance.

3. Phased Capacity (Distinction from Speculative Development)

With changes to access and charging arrangements anticipated in April 2023, treatment of a development as speculative creates an incentive for customers to apply for connections on a piecemeal basis. By encouraging phased capacity, DNOs will encourage better visibility of future loads from customers reducing need to treat reinforcement as speculative.

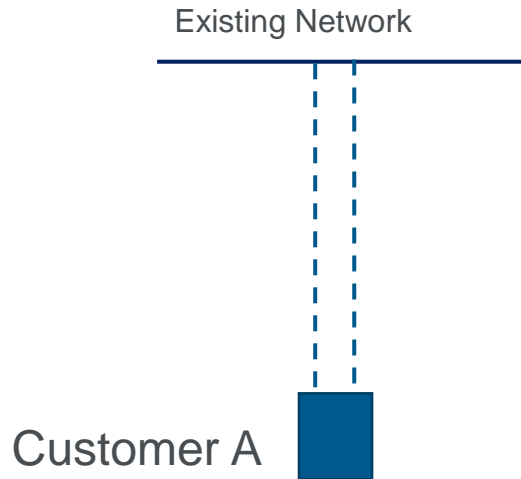
- A phased approach, as outlined here, delivers the most efficient path to network development
- Subject to the terms of the connection contract(s) between the DNO and the customer(s), capacity phasing future-proofs grid connection capacity for at least 10 years, with an opportunity to go beyond depending on site specific requirements. The DNO is responsible for ensuring the capacity is available based on the agreed demand profile, which may be varied throughout this period by mutual agreement.
- Reinforcement will take place and be managed by the DNO to ensure capacity is available, based on annual reviews between the applicant and DNO. The extension assets may be future-proofed upfront.
- Customers with an agreed phased capacity profile will pay the relevant annual distribution use of system (DUoS) charge, in accordance with the capacity stated in their Connection Agreement for that specific year.
- Customers will pay capitalised Operation and Maintenance (O&M) charges in circumstances where they have specified a requirement for oversized extension assets.
- The capacity phasing management solution will be delivered under Section 16 of the Electricity Act 1989.

4. Oversizing Extension Assets (on request)

- Customers may wish to adopt a ‘build once’ approach to the sizing of extension assets, ensuring they meet future forecast connection capacity requirements. The customer will pay the capital cost of these assets in full.

Example:

- The customer requests 33kV extension assets (the blue dashed circuits) where 11kV assets would have otherwise serviced its initial requirements. This represents a request for an enhanced scheme.
- Based upon the customer’s forecast phased capacity profile, the 33kV assets would only become the minimum scheme at a future date (plus X years post connection).
- The DNO will commit to providing the customer’s capacity in accordance with the agreed phased capacity profile.**
- The DNO will not commit to reserving the physical assets for the sole use of the MSA.**

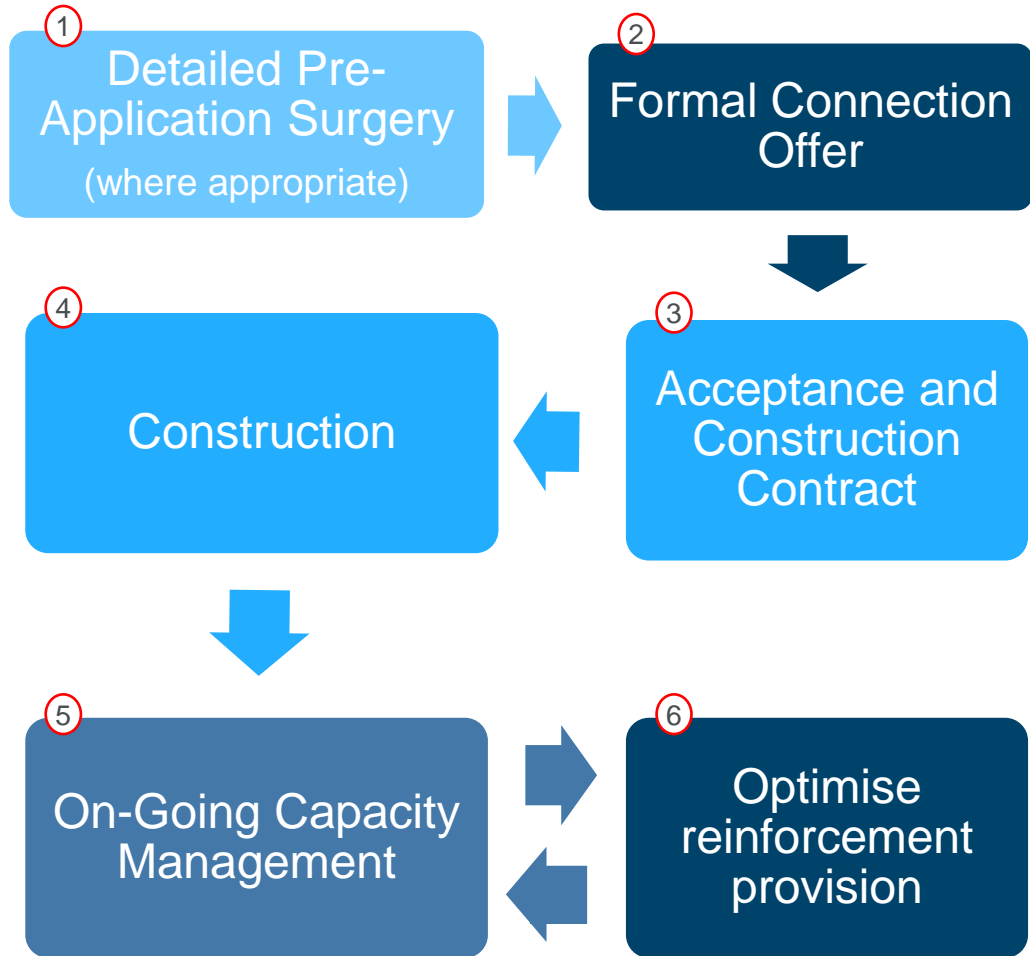


DNOs are obligated under Section 9 of the Act to “develop and maintain an efficient, coordinated and economical system of electricity distribution”.

5. Who can apply for Phased Capacity?

- All major customers with capacity requirements that are forecast to grow over a number of years can apply for phased capacity.
- DNOs must apply appropriate logic consistently to keep to the principle of efficient network development.

6. Core Process Overview



Key Principles

- Process should support the DNOs' obligation to develop and maintain an efficient, coordinated and economical system
- Must be available to all major customers

Process Detail

Connection surgeries will be available to all customers seeking to explore connection opportunities where a phased capacity profile is required. As the process matures alternatives to the surgeries may be agreed, e.g. detailed correspondence to gather all required information.

①
Detailed Pre-Application Surgery

Surgery purpose

- Opportunity for customers to discuss connection options with the DNO to assess a project’s viability in advance of making a formal application
- Surgery output will be a budget estimate report outlining connection options

Parties to appoint single point of contact where multiple network connections are sought

- Key contact and single nominated customer to manage connection and on-going commitment

Pre-surgery requirements (where appropriate)

- Customer to provide min. pre-application surgery requirements, including:
- Initial power requirement and date required
- Phased capacity requirements in line with projections

Process Detail

2 Formal Connection Offer

3 Acceptance and Construction Contract

DNO forwards connection offer for initial capacity (following receipt by DNO of competent connection application)

- Long-term-capacity extension assets as required
- Contestability clearly defined
- Construction milestones will apply prior to energisation, according to DNO policy
- Application of capitalised O&M to extension assets above minimum scheme for initial phase

Annex (or similar) to connection offer

- To include proposed phased capacity profile
- Noting ability to review profile if actual take-up is slower than anticipated
- Noting faster phasing of capacity will only be accommodated if/when capacity is available currently or through reinforcement
- Commitment for DNO to manage to the latest agreed phased profile

Customer acceptance of offer and construction agreement

- Contestable works and network owner defined
- Connection Agreement / Bilateral Connection agreement pre-energisation

Construction

- Nominated provider constructs contestable extension assets
- As required, reinforcement assets constructed
- Supply Energised and MPAN(s) provided
- Site owner arranges energy supply contracts

Connection Agreement

- Connection Agreement initiated for directly-connected customer (or [Bilateral Connection Agreements for IDNOs](#))
- Max available capacity for year 1 as connection offer – sets DUoS capacity charge
- Phased capacity profile sets future DUoS capacity charge

Process Detail



On-Going Capacity Management

- Customer-driven annual review usage of forward requirements (relevant to single connection point). Where there are multiple end users the DNO will drive review.
- 2-way discussion between customer and DNO:
 - If capacity is not forecast to be used, the customer may discuss with the DNO amendments to its phased capacity profile. Where agreed to reduce the capacity profile, any released capacity will be made available to wider network users
 - If increased phasing of capacity is required, DNO will make available immediately if no network constraints or advise when reinforcement or flexibility can provide capacity
- DUoS capacity charge for following year revised to reflect outcome

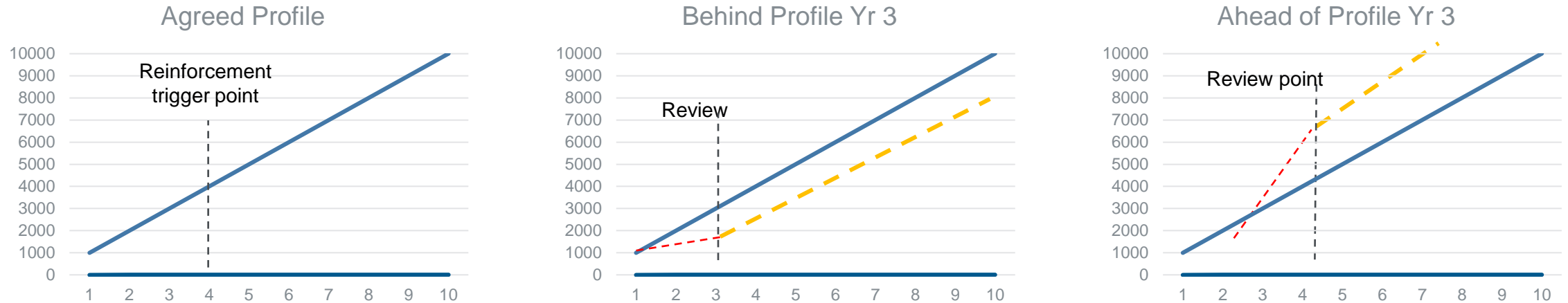
Optimise Reinforcement Provision

- DNO will continually review whole system cost to provide capacity for all commitments
- Customers impacted by reinforcement and/or flexibility procurement lead times, if applicable, will be advised upon connection application or through annual review of phased capacity
- Reinforcement and flexibility procurement operate as business-as-usual functions

7. Scenarios relevant to the application of phased capacity

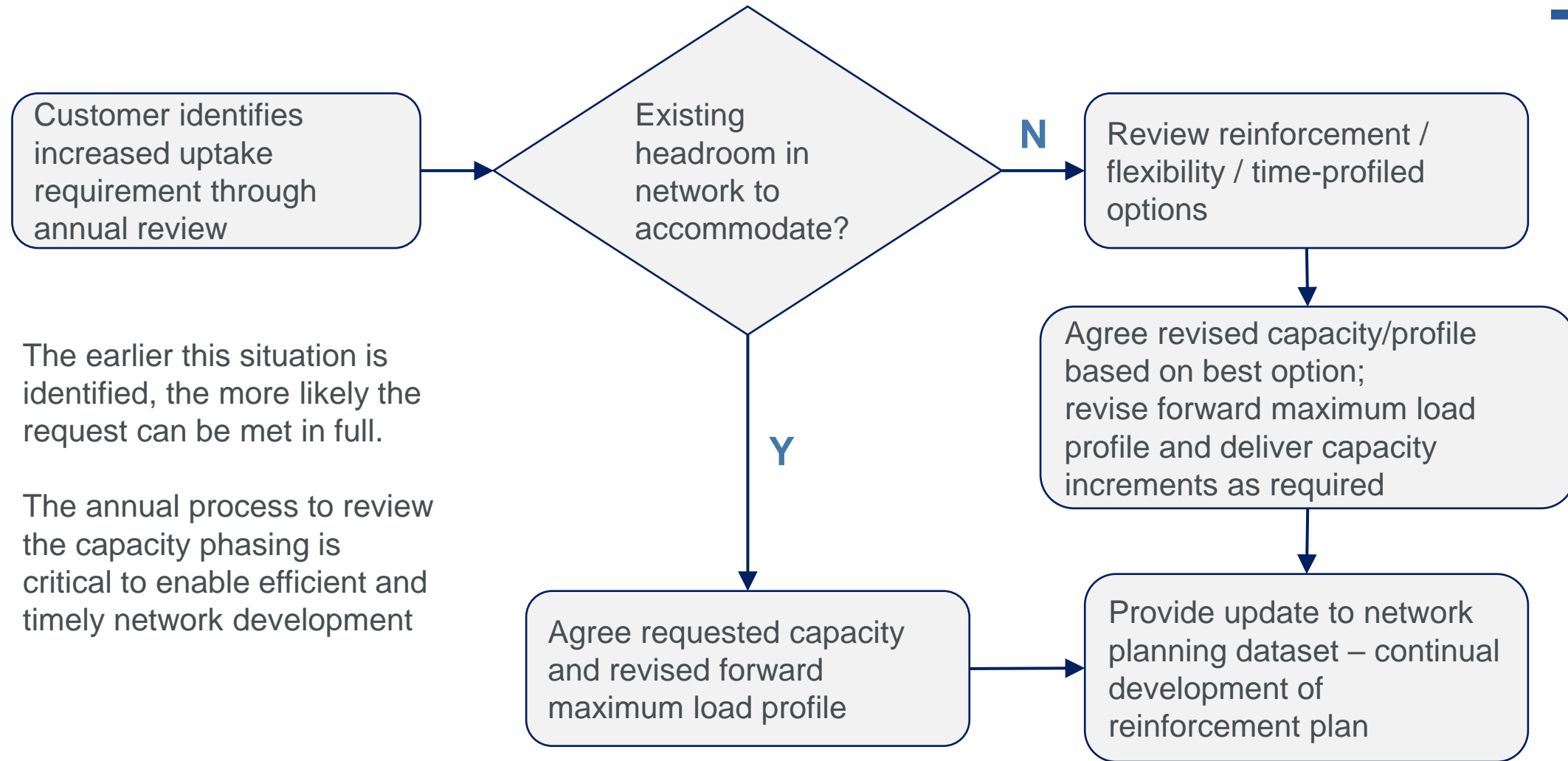
- Scenario 1 – What happens if I increase my capacity ahead or behind initial schedule?
- Scenario 2A – What happens if a subsequent customer requests a connection using existing commissioned extension assets?
- Scenario 2B – What happens if a subsequent customer requests a connection requiring a shared asset connection / reinforcement?

Scenario 1 – What happens if I increase my capacity ahead or behind initial schedule?

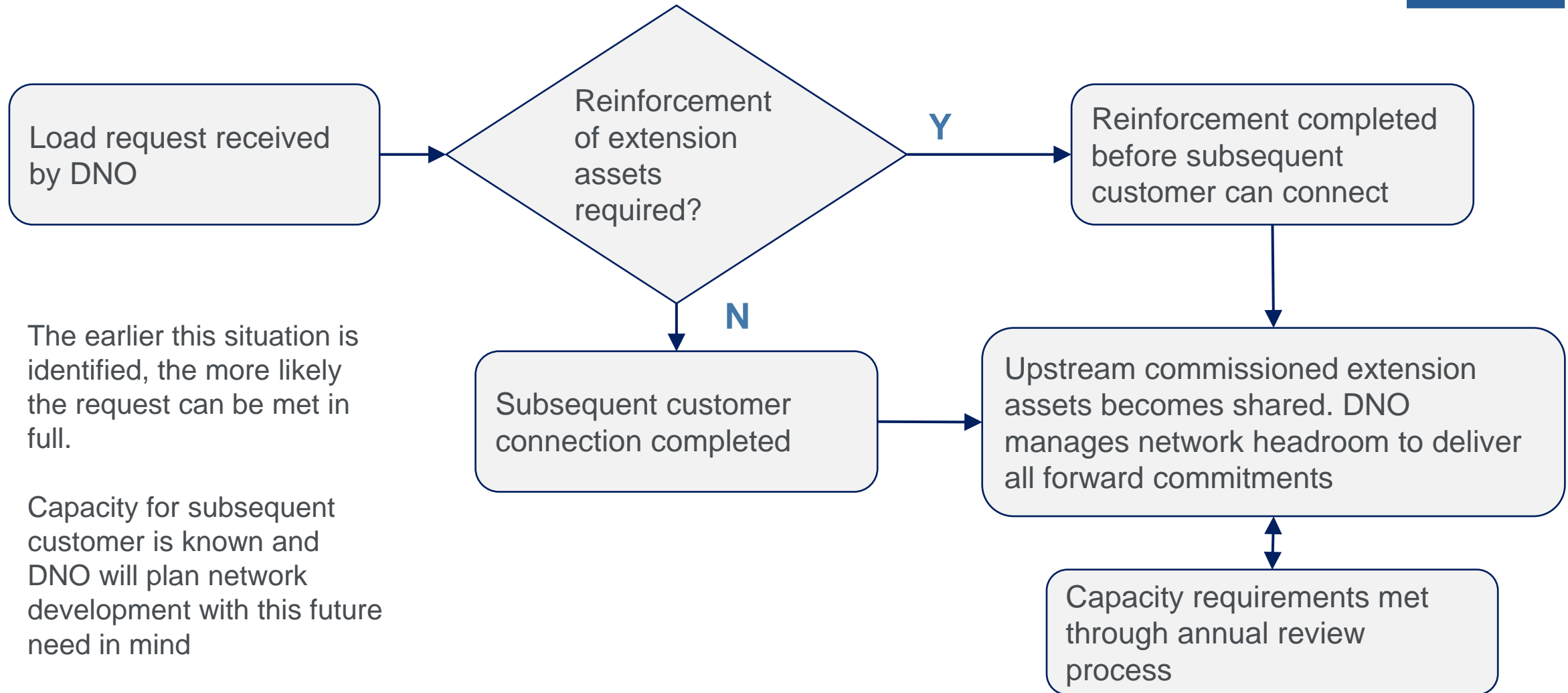


- The DNO will agree an initial 10-year phased capacity profile with the customer. This will be reviewed on an annual basis, focusing on the customer's forecast usage for the following 10-year period.
- Annual phased capacity will automatically update on the anniversary of the energisation of the connection, in line with the agreed profile (as contained in the Connection Agreement). Changes to agreed profile:
 - If a customer is behind their expected profile, subject to agreement, the DNO may reduce the capacity for subsequent years
 - If a customer is ahead of their expected profile, they would be liable for excess capacity charges and may be restricted pending any upstream reinforcement that could be required
- **Customer to initiate annual review** - Early engagement and updated forecast beneficial to best ensure capacity availability.
- Beyond 10 years, further visibility provided to DNO to plan further reinforcement.

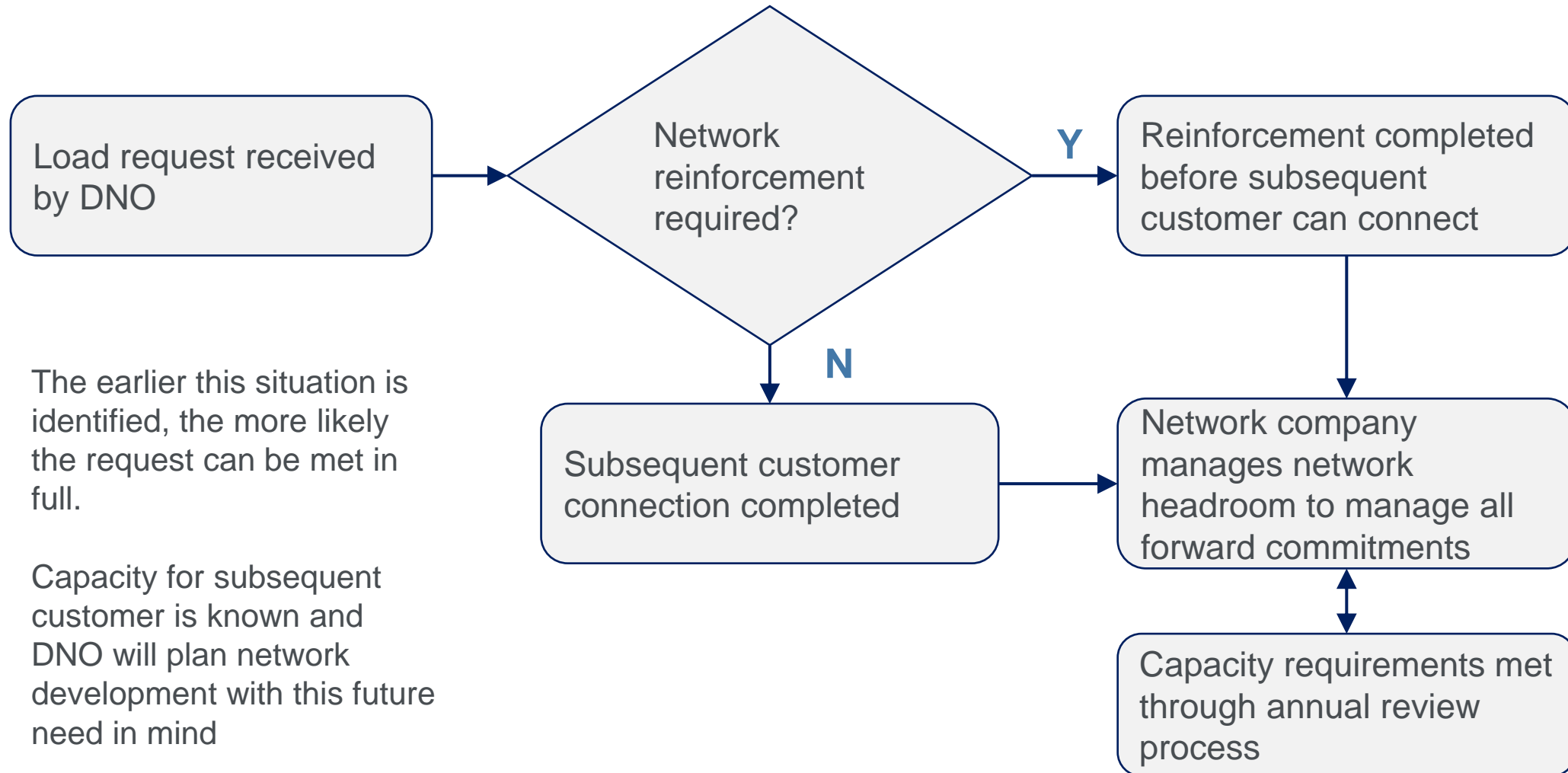
Scenario 1 – What happens if I increase my capacity ahead of my initial schedule?



Scenario 2A – What happens if a subsequent customer requests a connection using existing commissioned extension assets?

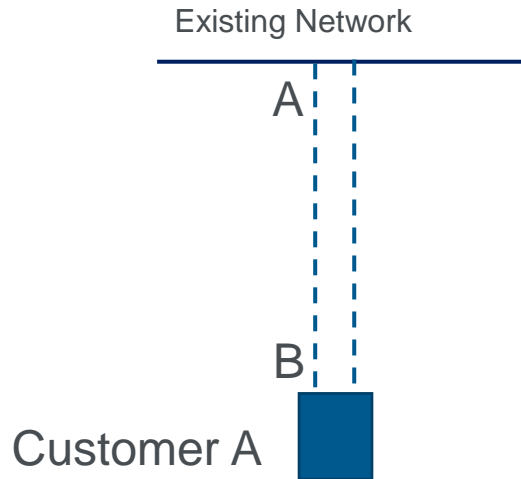


Scenario 2B – What happens if a subsequent customer requests a connection requiring network reinforcement?



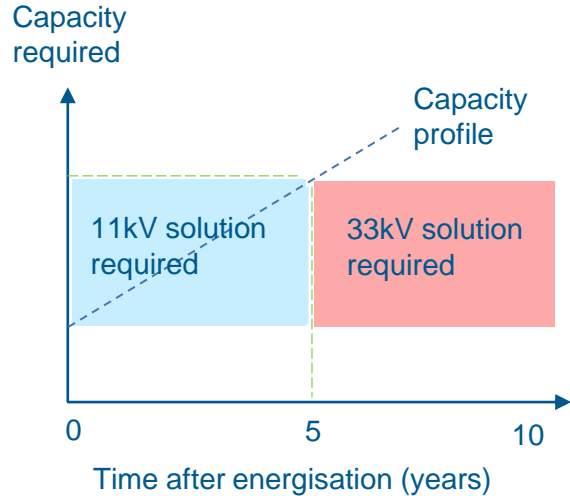
8. Application of Capitalised Operation & Maintenance (O&M)

- Capitalised O&M charges will be applied to oversized extension assets, recovering the additional costs of operation and maintenance that would otherwise not be recovered through use of system charges.



- The capitalised costs will be derived from the annualised estimated costs of O&M relating to the additional/over-sized assets for the connection.
- The time period will be based upon the duration the DNO anticipates using larger assets than would otherwise be required to meet minimum scheme requirements (in accordance with the agreed phased capacity profile).

9. Calculation of Capitalised Operation & Maintenance (O&M)



Worked Example:

- 5km cable run from upstream sub-station feeding customer owned on-site sub-station
- 11kV and 33kV feed can be taken from the same upstream sub-station
- Total installation cost for 11kV solution: £1,500,000
- Total installation cost for 33kV solution: £2,200,000
- The asset life in this example is 20 years
- The duration the DNO anticipates using larger assets than would otherwise be required to meet minimum scheme requirements is 5 years

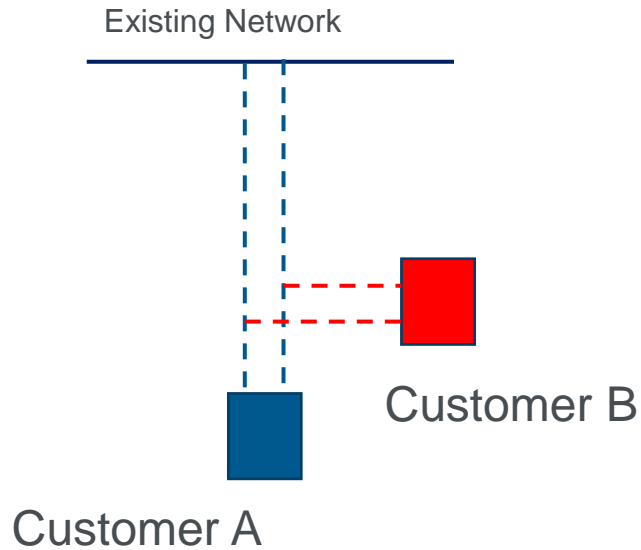
O&M charge is:

- Proportion of asset lifetime x installation cost difference x DNO O&M charge in Connection Charging Methodology Statement
- $O\&M\ charge = \frac{5}{20} \times (£2,200k - £1,500k) \times 21\% = £36.8k$

Note:

The costs represented in this illustration may vary significantly depending on the scale of installation cost difference and/or DNO O&M percentage (details of which can be found in each DNO’s company specific section of their connection charging methodology).

10. Treatment of Future Connections



Where a future customer connects utilising assets previously provided to facilitate an earlier customer's connection:

- The DNO will honour its existing commitments in respect of providing the initial customer's agreed phased capacity profile.
- In such circumstances, and where the Electricity Connection Charge Regulations (ECCR) apply, the subsequent customer shall contribute to the initial customer's original costs of connection.
- The apportionment of costs will be subject to the initial customer's maximum future agreed capacity requirement.

11. Phased Capacity – Beyond 10 Years

- DNOs are obliged to maintain and develop an efficient electricity network, providing access to capacity to those who request it on fair, consistent terms as stipulated by legislation and licence conditions
- It is in the interests of DNOs to understand a projection of load growth in order to manage the efficient development of the network. This is particularly the case as, from April 2023, customers requesting demand connections will generally not contribute to the cost of reinforcement, giving the DNOs the opportunity to plan reinforcement more strategically taking account of the whole of the local network future needs
- On request, DNOs will consider options for providing oversized extension assets to meet the longer-term requirements of the connecting customer (beyond the 10 years)
- In respect of reinforcement, it is in DNOs' interests to gain longer-term visibility to plan their networks efficiently. However, longer-term capacity projections are seldom reliable. For this reason, customers will be required to provide, on an enduring and annual basis, a 'rolling' 10-year projection of future load (capacity) growth, for agreement with the DNO, until such times as maximum capacity requirements have been achieved.

12. DUoS Charges

Tariff name	Open LLFCs	PCs	U Red/black unit charge p/kWh	U Amber/yellow unit charge p/kWh	U Green unit charge p/kWh	F Fixed charge p/MPAN/day	C Capacity charge p/kVA/day	Exceeded capacity charge p/kVA/day	Reactive power charge p/kVArh
HV Site Specific Band 1	91	0	2.023	0.111	0.000	0.00	7.67	8.62	0.204

Distribution Use of System (DUoS) Charges are incorporated of:

F Fixed element

C Capacity Charge (the MIC)

U Unit Rate (RAG)

Customers with an agreed phased capacity profile will pay the relevant annual DUoS Capacity Charge, in accordance with the capacity profile stated in their Connection Agreement.

The Targeted Charging Review (TCR) band will be reallocated as if it was a new site at each annual milestone (and not based on final capacity). TCR Transmission Network Use of System (TNUoS) banding will be applied on the same basis. More details on TCR can be found at: [tcr-implementation-faqs-v51-003.pdf](https://www.chargingfutures.com/tcr-implementation-faqs-v51-003.pdf) ([chargingfutures.com](https://www.chargingfutures.com))