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Consultation on the issue of timely connection to the electricity transmission network

National Grid welcomes the opportunity to respond to this consultation letter. We recognise that the issue of timely connection spans both Project Transmit and RIIO-T1 and therefore this wider consultation is helpful.

The consultation highlights the important issue of timely connections, but we also note the importance of the timely completion of wider transmission reinforcement works to ensure that total (investment and operational) cost to consumers is minimised.

Responses to the questions raised in the consultation document are attached. We have also included our response to the information request contained in annex 2 of the consultation as an appendix to this response with an associated note.

Please do not hesitate to contact me if you wish to further discuss any aspect of this response.

Yours sincerely,

Paul Whittaker
Director of UK Regulation

Factors which affect desired connection dates

- **We seek views from industry, and network companies and their users, in particular, on the importance and impact of these factors on connection dates.**

The introduction of the connect & manage access regime has made a significant impact on connection dates with the majority of customers now receiving a connection date which is much closer to their initially desired timescales than would otherwise be the case.

National Grid's Transmission Networks Quarterly Connections Update[1] includes a chapter on connection timescales.

It shows that for connections at existing transmission substations, we would anticipate completing the connection within 4 years, whereas for connections which are remote from existing substations and require new overhead lines, we would anticipate completing the connection in 4 to 7 years. This increase is a direct result of the planning and consents issues associated with new overhead lines.

The document also includes a map of Great Britain which highlights the areas in which it is not possible to complete the local works within 4 years. These areas and the causes of delay are summarised in the table below.

Area	**Reason for delay**
Shetland Isles	HVDC undersea cables required for connection. Completion by 2016.
Western Isles	HVDC undersea cables required for connection.
South West Scotland	Large reinforcement required covering 8 sites. Completion late 2013.
North East	There are a significant number of offshore connections triggering reinforcement.
Mid Wales	The works present a number of challenges relating to the planning and consents required for the new substations and 400kV overhead line route. Completion date 2015.
South East England	An area of high offshore wind and nuclear connection activity.

In addition to the impact of planning and consents issues on connection dates, the increased demand for outages associated with a rising capital plan is also a significant factor.

As part of the development of our well justified business plan, we intend to explore a full range of options and associated costs to facilitate the provision of earlier connection dates with our stakeholders.

[1] http://www.nationalgrid.com/NR/rdonlyres/F2F6A6C6-67D0-4BD3-931B-81D585AF8560/44058/TNQCUOctober10PDFv10.pdf

Factors affecting the delivery of a desired connection date

- **We seek views from network companies and their users on the importance and impact of these factors on the delivery of a timely connection.**

  By far the most significant factor in the delivery of a timely connection is the length of time required to achieve planning permission and consent, or in some cases failure to achieve the necessary planning permission and consents.

  Whilst transmission owner performance can impact planning decisions, ultimately the final decision is beyond the control of the transmission owners. Given the current lack of experience with the new planning regime and the scope for further changes, we do not currently believe that exposing transmission companies to planning risk would be in the best interests of consumers. However, we appreciate that this will be a key issue for RIIO-T1 and will be exploring potential options as part of our ongoing stakeholder engagement.

  The potential to be exposed to significant compensation costs associated with connections which require the construction of major transmission in environmentally or publicly sensitive areas would introduce a significant cashflow risk which will need to be taken into account in setting other financial parameters for RIIO-T1.

  More broadly, whilst we appreciate that the regime may benefit from the introduction of a financial incentive on transmission owners to meet contracted connection dates, we do not believe that the lack of such an incentive has been a significant factor in the delivery of timely connections to date. Transmission owners already prioritise the timely delivery of connections, incurring the costs associated with rescheduling other construction and maintenance activities as necessary.

  It should also be noted that customers are currently provided with the flexibility to delay connection dates in order to align with changes to their own project development programme. Indeed in the majority of cases over the last 20 years, customers have revised their connection dates backwards from their original contracted position, leading to the transmission works being available in advance of the actual connection date.

  This can result in significant costs for transmission owners in re-optimising resource and outage plans. In extreme examples, asset replacement work has been deferred to facilitate timely connections, customers have then delayed their connection date but by that stage it has been too late to bring the asset replacement forward and further delays have resulted.

  The first-come-first served arrangements for enabling works can be a factor in the timely delivery of a connection, although this is a less significant issue following the introduction of the connect & manage access regime. In many instances, the delivery of the outage programme for connection works is a factor in determining the earliest possible connection date for a new connection. However, this in turn may be determined by the existing outage programmes for previous connections, with the most recently requested connection at the back of the queue. Again, the flexibility to delay provided to customers can be an issue here, as it can cause lost opportunities for other generators in the same enabling works queue.

  Our current intention is to explore the value that our customers place on this flexibility as part of our ongoing RIIO-T1 stakeholder engagement.

Other factors that can affect the delivery of a timely connection include customer actions (e.g. the provision of land, site access, etc.).

The definition of enabling works was introduced recently through the DECC consultation on connect & manage. During this process we understand that it was recognised that an absolute definition would be extremely difficult to codify without unintended consequences, either unacceptable end consumer costs or delays in customers' connections dates. Therefore a criterion based approach was adopted by DECC following consultation. This allowed National Grid to adopt a flexible approach to balancing end consumer risk with meeting customers' aspirational dates.

We do not believe that the situation has significantly changed since DECC consulted on the issues. Without clear evidence that the present approach has led to either excessive costs or unreasonable delays, we do not believe that a further review, leading to more uncertainty, is required at present. The criteria are contained within the CUSC and therefore individual users can bring forward alternative proposals should they feel the current arrangements do not meet CUSC objectives.

RIIO-T1 discussions

- **We seek views from network companies on the method of performance measure and how might this vary with the number of connections.**

  It is important to assess transmission owner performance against customer requirements and expectations rather than in absolute terms. Whilst this may be more complex (To what extent are customer requirements realistic? To what extent are customer expectations set by what transmission owners are telling them?), it is crucial that transmission owners are not penalised for delivering long lead-time connections if this is in line with customer requirements and expectations.

  In circumstances where delays to the connection date are in response to a request from the customer, it would also be important to ensure that transmission companies are not penalised.

  This means that a 'menu' approach is likely to be preferable to a 'one-size-fits-all' uniform approach, with the latter likely to be impractical given the range of connection types and locations that transmission owners are required to deliver.

  The types of connection described in National Grid's Transmission Networks Quarterly Connections Update (see above) may be helpful in establishing baseline connection delivery performance.

Factors which affect incentive arrangements

- **We seek views from industry, and network companies in particular, on the importance and impact of these factors on the delivery of timely connection. In particular:**
  - **What is 'efficient' behaviour in the context of the C&M regime and how can it be assessed (e.g. against average connection timeframes, new connections etc.)?**
  - **Where should the compensation for the generator come from if the required connection timeframe is not met?**
  - **What is the slope of the penalty beyond target connection date (i.e. does it get steeper after a set period of time, and if so what is the period)?**

- **Should we set symmetric rewards / penalties for performance against connection timescales?**
- **Should there be a dead band around rewards / penalties and should they be capped?**

As part of the development of our well justified business plan, we will seek to identify the costs associated with delivering connections to particular timescales and seek views from our stakeholders on the 'efficient' level. We are currently processing a wide range of connections for different fuel types with a huge range on both the size of project and the distance from existing infrastructure, and given these differences, we do not support the use of an average.

It is reasonable for transmission owners to be exposed to compensation payments when the timely delivery of the connection is within their control. Given the current lack of experience with the new planning regime and the scope for further changes, we do not currently believe that exposing transmission companies to planning risk would be in the best interests of consumers, but we intend to explore this as part of our ongoing RIIO-T1 stakeholder engagement.

There may also be an argument for a sharing arrangement between the transmission owner and consumers, implemented with a fixed percentage share or a cap/collar arrangement. As described above, full uncapped exposure to compensation payments for connections in environmentally or publicly sensitive areas is likely to represent a significant cashflow risk which will need to be taken into account in setting other financial parameters for RIIO-T1.

Symmetrical incentives would be more consistent with the RIIO framework. A symmetrical incentive would need to be carefully designed to avoid creating an incentive to provide connections ahead of customer requirements. Customers accept a connection date and align their programme as necessary. It is therefore unlikely that incentivising transmission owners to deliver an earlier connection is in the customer's interest since it will not be possible for the customer to utilise it.

In order to achieve a symmetrical incentive, a combination of rewards for the provision of earlier connection dates (where these dates are aligned with customer requirements) and penalties for late delivery will be required.

Options

- **We invite views on the options presented and on other possible models that respondents consider may deliver timely connections.**

We welcome the initial options presented in the consultation which provide a useful starting point for further debate and development.

The high-level options contrast a commercial and incentivised approach. We would expect a commercial approach to be favoured by customers since this provides compensation to those customers that have connections delayed, rather than all customers.

The high-level commercial approach includes a transmission owner bearing the full gain/loss associated with the timely delivery of a connection whereas the incentivised approach includes a sharing arrangement between transmission owners and consumers. We would also be interested to explore potential hybrid options.

We note that in a number of the options presented, protection against planning and consents risk is provided by trigger or clock start date for consents. Given the current lack of experience with the new planning regime and the scope for further changes, we do not currently believe that exposing transmission companies to planning risk would be in the best interests of consumers, but we intend to explore this as part of our ongoing RIIO-T1 stakeholder engagement.

As mentioned above, it may be worth considering options which provide a reward for earlier connection dates, and penalties for late delivery of those dates. Rewarding earlier delivery when this cannot be utilised by users would not be helpful.

In terms of whether these arrangements should be bilateral or codified in a framework agreement, we would prefer codification if possible since this provides greater transparency for customers.

We look forward to working with Ofgem and other stakeholders to develop these options further as we develop our well justified business plan.

Appendix

1. **Please provide recent information on timescales for connections in your area. Please break this down by stages of the process: i.e.**
    - **Offer**
    - **Enabling works**
    - **Wider works**

    Please see the attached note.

2. **Please provide information on how connection times can vary be location. Please provide examples.**

    Please see the attached note.

    The location of a connection scheme and associated works is the single greatest issue that impacts on connection timescales. When considering the location of a connection we need to be aware of the many aspects relating to the location of the connection. The key aspects to consider are:

    - **Proximity to nearest existing transmission infrastructure** – unsurprisingly the location of the connection site with respect to the nearest existing transmission infrastructure is a major factor. For a standard connection scheme the connection time usually increases the further you are from any transmission infrastructure. Generally the further you are from transmission infrastructure the more work is required to provide a connection.
    - **Geographic location with respect to centres of load** – in addition to the distance from the existing network, another major issue is the location on the network. Connections into already congested areas result in a greater level of transmission reinforcement being required to fully accommodate the connection. Connect and Manage has to some extent reduced the amount of works needed to facilitate connection even in congested areas – however continued connections into congested areas ultimately lead to works being defined as enabling, and hence will impact on connection timescales.
    - **Environmental and local impact** – where a connection requires works which go through environmentally of publicly sensitive areas (e.g. around National Parks or Areas of Outstanding Natural Beauty, or through populated areas) the extent of work and the timescales required to achieve planning permissions and consents is greater than where works are confined to individual sites, or in more industrial areas.

3. **Please provide information on how connection times can vary by type of connection e.g. overhead or underground line and/or type of generation source. Please provide examples.**

    Please see the attached note.

    The main impact of the type of generation on connection timescales is the location in which the generation is seeking to connect, and the extent to which the generation type drives that location. For example:
    - **Thermal** – traditionally located near to fuel sources and water supplies, generally tend to be close to existing Transmission infrastructure;
    - **Nuclear** –located close to coast line, at extremities of Transmission network, most new nuclear to be replanted at existing sites close to existing s/s with some free capacity;

- **Onshore Wind** - generally located in remote areas with little existing transmission infrastructure driving significant local infrastructure, also often located at significant distance from load centres driving wider infrastructure investment;
- **Offshore Wind** – Interface points mostly located either remote from existing infrastructure or close to currently congested areas of existing infrastructure driving significant local and wider investment requirements

With regard to the type of connection (e.g. overhead line or cable), in general National Grid will seek to develop connections utilising overhead line on the basis that this is usually the most economic technology to use, with underground cable options at 400kV costing approximately 12-17 times as much. As a result, any connections requiring significant lengths of new circuit will go through a consultation process to achieve consent, which is anticipated to take of the order of 4 years, but may take longer.

Construction times vary between overhead line and cable. For delivery of a brand new overhead line of reasonably significant length (e.g. of the order of 50 or 60km) could be delivered in 2 years. Installation of underground cable can take considerably longer – a rural installation of cable of even a short section (a few km) of cable can take a year, with urban installation requiring tunnelling taking considerably longer. As a result, the length of time taken to construct a new circuit is dependent on a number of factors relating to the location of installation, the type of technology and the length of public consultation process required.

4. Please provide information on how connection times can vary by size of connection. Please provide examples.

Please see attached note.

The size of a connection can vary the connection time depending on the amount of work the connection triggers.

- **Smaller connections** - generally require fewer reinforcements and construction works and therefore generally have shorter connection times.
- **Large connections** – generally require more connection works which can lead to longer construction times. In addition, the larger the connection, the more likely the scheme is to trigger the need for major substation rebuilds, which can themselves take 2-3 years. May also trigger wider system works adding to the overall connection time of the scheme.

5. Please highlight key issues that impact timetable for delivery of a connection.

The key issues that can impact the timetable for delivery of a connection scheme are:

- **Planning Consents** – the most significant issue that impacts the time for connection is the need to obtain planning consent. Therefore on schemes that trigger work which needs planning consent to be obtained the connection times are much longer. At present National Grid is undertaking public consultation and stakeholder engagements processes as part of the process to achieve planning consent. The combination of public and stakeholder consultation, environmental impact assessment, planning application timelines and the work required before embarking on the process mean that the planning timescale for major infrastructure projects is, as a minimum, of the order of 4 years.
- **Outages** – another issue that can have an impact on the delivery of a connection scheme is the availability to take outages to complete and connection works. On certain points of the transmission network it can be very difficult to get circuits out on outage, which mean there are a limited number of 'windows' available to deliver works to facilitate conenctions. This directly

impacts the connection time as the construction work cannot be completed without the relevant circuits being on outage.

- **Construction** – the level and nature of construction required for a connection scheme also has an impact on the timetable for the delivery of the connection. On a large, complex connection where more development and construction is required the connection time will be increased accordingly. For smaller connection schemes which do not require long construction phases and too much development then the connection time will be much shorter.