



The Sequencing of Transmission Projects

An Information Note by EirGrid

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Introduction

EirGrid, in its role as Transmission System Operator (TSO) for Ireland, is responsible for developing Ireland's transmission network in accordance with its statutory obligation to develop a safe, secure, reliable, economical and efficient electricity transmission system. Transmission projects can be broadly divided into three categories; Capital Works, Connection Works and Maintenance Works.

Capital Works

EirGrid develops Ireland's transmission network under a five year regulatory revenue cap regime which sets out the envelope of expenditure available for capital purposes for the period. Associated Transmission Reinforcements (ATRs) are a subset of transmission Capital Works and are those projects which are linked to the provision of Firm Access Quantities (FAQ) for individual generators.

Connection Works

EirGrid is also responsible for delivering transmission works which are required solely to connect customers to the transmission system.

Maintenance Works

In addition to system development, EirGrid is responsible for ensuring that the transmission system can operate in a safe, secure and reliable manner on an ongoing basis, and in order to do so there is a continual programme of Maintenance Works undertaken.

EirGrid considers the relative priority of all transmission works when developing the baseline transmission projects schedule and when changes to this schedule are necessary. This note sets out the general basis upon which EirGrid openly and transparently schedules the development of transmission projects. It is a general guideline note and should be treated as such; as with any complex infrastructure programme there can and always will be exceptions to the general approach.

Scheduling of Transmission Projects

In general the baseline schedule for Capital Works projects is dictated by long term network planning studies which identify the need to reinforce the transmission system by a particular date based on assumptions regarding generation and demand levels. This schedule is largely based on standard lead times for the project type and is influenced by factors including *inter alia* contractor resources, capacity in the statutory consenting system, the ability of the TSO to provide the necessary outages without compromising system security and the availability of commissioning resources.

New Connection Works projects differ in that the driver for progressing the project is linked to the provision of a connection to a third party applicant (or sub-group of applicants). The baseline

schedule for these projects is derived from the Commission for Energy Regulation (CER) approved standard lead times as detailed in a customer's Connection Agreement. It is worth noting that EirGrid takes account of customer requirements and seeks, where possible, to align the completion of the Connection Works with the programme for the customer's facility.

Transmission maintenance is undertaken in accordance with the EirGrid Asset Maintenance Policy. On an annual basis, transmission maintenance activities in accordance with the EirGrid Asset Maintenance policy, along with work identified from analysis of plant condition and work carried over from the previous year combine to form the total maintenance requirements for the year. Further information on Transmission Equipment Maintenance is available on the EirGrid Website ([here](#)).

Approach taken to Project Prioritisation

The extent to which prioritisation may impact on the project schedule varies significantly and depends on the project type as well as the extent of progress within its lifecycle. Where conflicts arise which require prioritisation of transmission projects, the following order of precedence is employed by EirGrid in determining which works to progress:

1. Those works necessary to ensure safety of people, plant and equipment.
2. Projects required to meet security of supply standards.
3. Projects required to connect new transmission or distribution directly connected demand.
4. Projects required to connect new generation.
5. Projects which maximise the amount of generation that can be exported onto the transmission system.
6. General backbone transmission projects not covered by or associated with the above.
7. Refurbishment of existing assets not associated with the above.
8. Projects required to facilitate and/or connect distribution system demand growth (subject to 2 above, where such demand may be required to meet security of supply standards).

Where a project falls into more than one of the categories described above, overall priority will be based upon the category of highest priority attributable to each project.

Prioritising between Projects which Affect/ Deliver ATRs

When a change to the baseline delivery schedule has the potential to affect an ATR project completion date, an impact assessment is carried out to ensure that customer impacts are identified and mitigated where possible. In the first instance priority is given to those projects which are ATRs for contracted pre-Gate 3 generators.

In some cases FAQ is provided to a generator upon the completion of multiple ATR projects and it is possible to reschedule an ATR project without impacting FAQ. Where this cannot be facilitated the choice is, in general, on the basis of those which will facilitate the provision of the greatest amount of FAQ; this is informed by studies undertaken by EirGrid¹.

Overall Programme Optimisation

Ultimately EirGrid aims to produce a works programme that is the most economic and efficient one as a whole. It does so in the context of there being a very large number of projects at various stages of progression as well as a changing generation and demand landscape which means that the plan is continually seeking to account for a set of constantly moving parts.

A number of practical considerations, when applied, influence the sequencing and prioritisation of projects. Examples of these practical considerations include:

- A desire where possible to sequence projects in a way which minimises the overall cost of operating the transmission system and, in particular, having regard to the cost borne by the TUoS and generator customers.
- An opportunity to bring forward projects which may ultimately be of lower priority but which can be facilitated as part of the overall programme at an earlier stage with minimal adverse impact elsewhere.
- Sequencing of projects must have regard to availability of human, material, financial and any other necessary resources.
- Due regard is given to the extent of advancement of projects, expected time to completion and effects of prioritisation on same.

¹ Studies undertaken in preparation for the 2012 re-study of Gate 3 FAQ indicated that in most parts of the country a combination of reinforcements was required to release firm access, meaning that the relative priority of individual uprate projects within the same or similar region was found not to have a significant impact on the provision of firm access. In cases where prioritisation is required between projects which release firm access in isolation versus projects which are a subset of a larger scheme, priority is generally, where practicable, given to the former.

Further to the above, note should be taken of the 'EirGrid Policy for Prioritising Use of Outage Windows' (available [here](#)), which seeks to fulfil the following objectives;

- A desire where possible to align outages with generator and demand customer outages.
- Where an outage causes a significant increase in system constraint costs and this can be alleviated by moving the outage, possibly into the following year.
- Where an outage causes a significant increase in risk to system security and this can be alleviated by moving the outage into the following year (this could arise where the expected completion of another system reinforcement project will make this outage less risky to execute the following year).

Summary

Sequencing and delivery of electricity transmission infrastructure is very complex incorporating multiple interactions and potentially competing priorities. This note sets out the general basis employed by EirGrid in fulfilling its statutory mandate. This note is a guideline note and therefore while it sets out the general approach there can, and will, be exceptions to this as would be expected with any complex infrastructure programme.