

# Gate 3 constraint modelling



Update to Liaison group on Gate 3 constraint modelling

04/10/2011

# Key issues identified to date



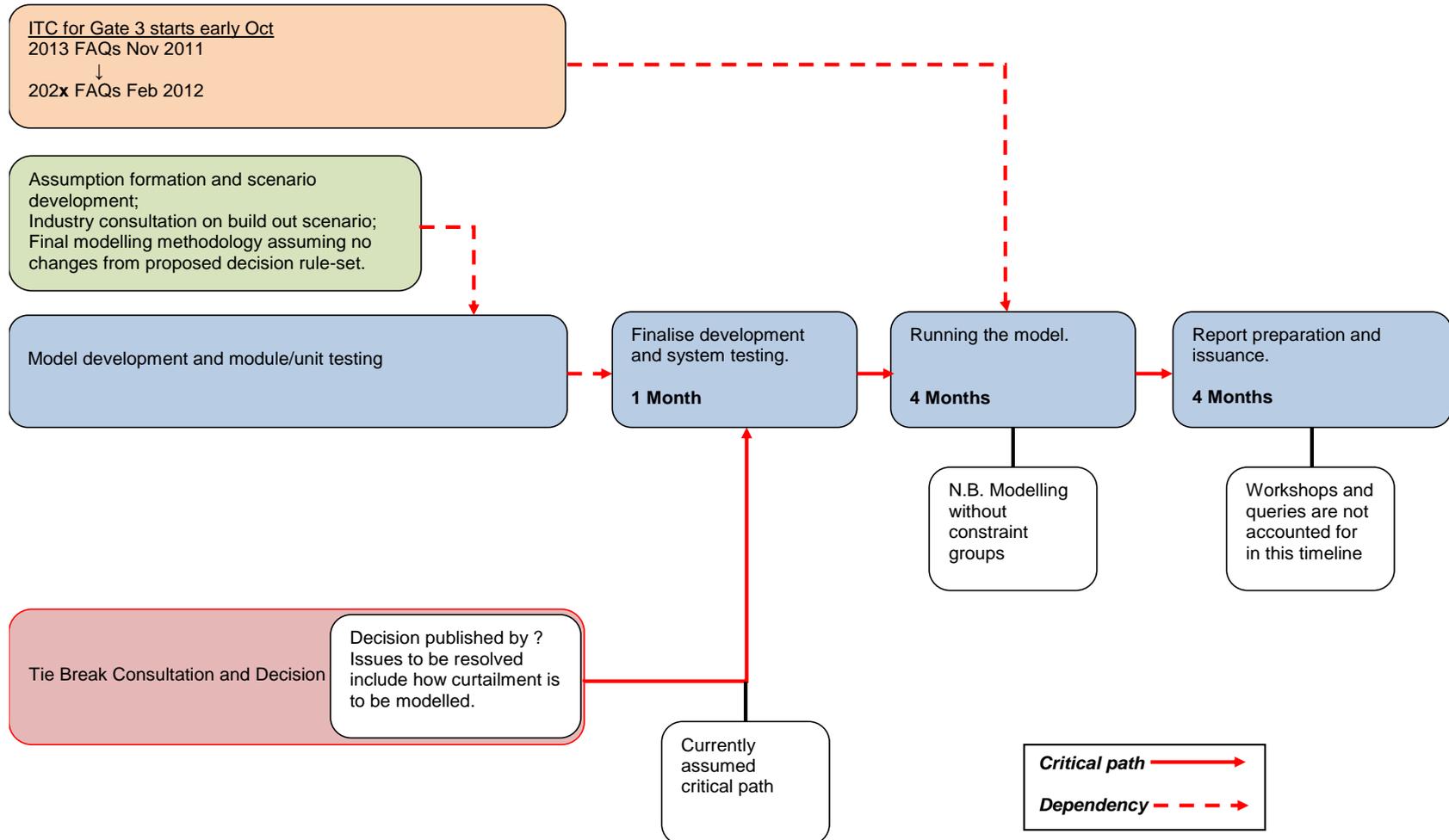
- Should modelling proceed before final decision is made?
- How is the pro-rata curtailment applied?
- The model will account for more constraint groups than may be practical in real time operations.
- Agreement on set of input assumptions.
- How many scenarios and what scenarios are examined?
- 'Realistic' build out rate, if we are studying this scenario.
- How do we issue our reports (level of detail, schedule, Pre-Gate 3)?

# Key issues: Modelling



- Should modelling proceed before final decision is made?
  - We don't think we can proceed
- How is the pro-rata curtailment applied?
  - Awaiting outcome of SEM committee decision

# Constraint Modelling Timelines



# Key issues: Constraint Groups

- The model accounts for all tie break situations whether they are in a constraint group or not.
- The constraint groups are defined by:
  - (a) where tie breaks occur as defined by the same congestion points and
  - (b) where it is practical to implement in real time operations.
  - Constraint groups may change over time both in size and location. There is no established methodology for predicting these in advance.

# Constraint Groups (1)

- An analysis of **2014** test case indicates the following:
  - 42 individual tie break situations have been identified and occur over 4,500 hours in the year.
  - 14 crude constraint groups identified based on geographic area.
- The above analysis is based on the 100% take up scenario so it is potentially unrealistic compared to the take up and build out that may happen.

## Constraint Groups (2)

- There is a limit to what is practically implementable in real time operations in the NCC.
- It is uncertain if the constraint groups can be reliably and accurately identified over a ten year horizon.
- A possible modelling option that could be considered for the tie break situations is to provide a range of constraint estimates based on whether the node was in or out of a constraint group.
  1. Pro-rata constraint applied to all windfarms in a tie break situation – similar to approach in PGOR reports
  2. Constraint categories rules apply to all windfarms in a tie break situation

# Key issues: Inputs



- Agreement needed on set of input assumptions and a data freeze date.
- How many scenarios and what scenarios are examined?
  - There are two build out scenarios currently being proposed with the possibility of a 50% uptake scenario for summary info on curtailment only.
- ‘Realistic’ build out rate (if we are studying this scenario).
  - If this is to be done properly, the data gathering, processing and consultation will take time.

# Scenario 1: Shallow connection leadtimes



- This will be based on:
  - an assumed report issuance schedule
  - Offer acceptance period of 50 business days
  - SO estimates of shallow connection leadtimes

# Build out scenario 1



- Typical transmission shallow connection works:
  - RTU only (9 months)
  - Substation work requiring planning permission (19-41 months)
  - Upgrading substation components (10-96 months)
  - New multi-bay station w/ significant OHL/UGC (26-96 months)
  - 220kV or 110kV loop in >1km (21-59 months)
  - Transmission works in a GIS station (19-41 months)
- We could assume some delays in this for a more realistic scenario?

## Scenario 2: Realistic build out



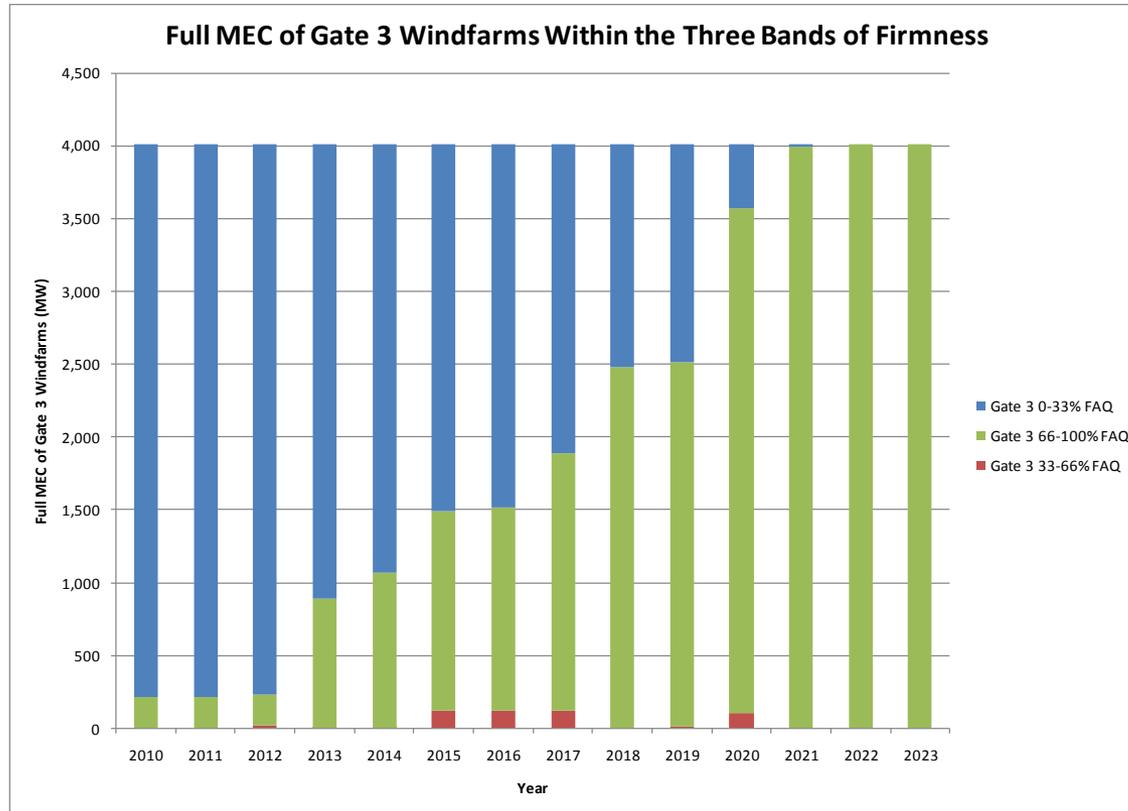
- A proposed approach was presented at the last meeting (14<sup>th</sup> Sept). If this is acceptable then the following timeline is suggested for developing this realistic build out scenario.
- Plan:
  - Work with industry to identify realistic build out for each Gate 3 applicant by the end of Oct.
  - Propose to seek comments on scenario in Nov but only accept changes based on matters of fact e.g. WF incorrectly categorised such as not having planning permission.

# Key issues: Reporting



- Level of reporting detail in constraints reports.
  - EirGrid are proposing nodal info broken down into the three constraint categories.
- In what order and over what period of time are the constraint reports issued?
  - The assumption is that applicants will have 50 business days after issuing the constraint reports to decide on their connection offer.

# Firm Access Quantities\*



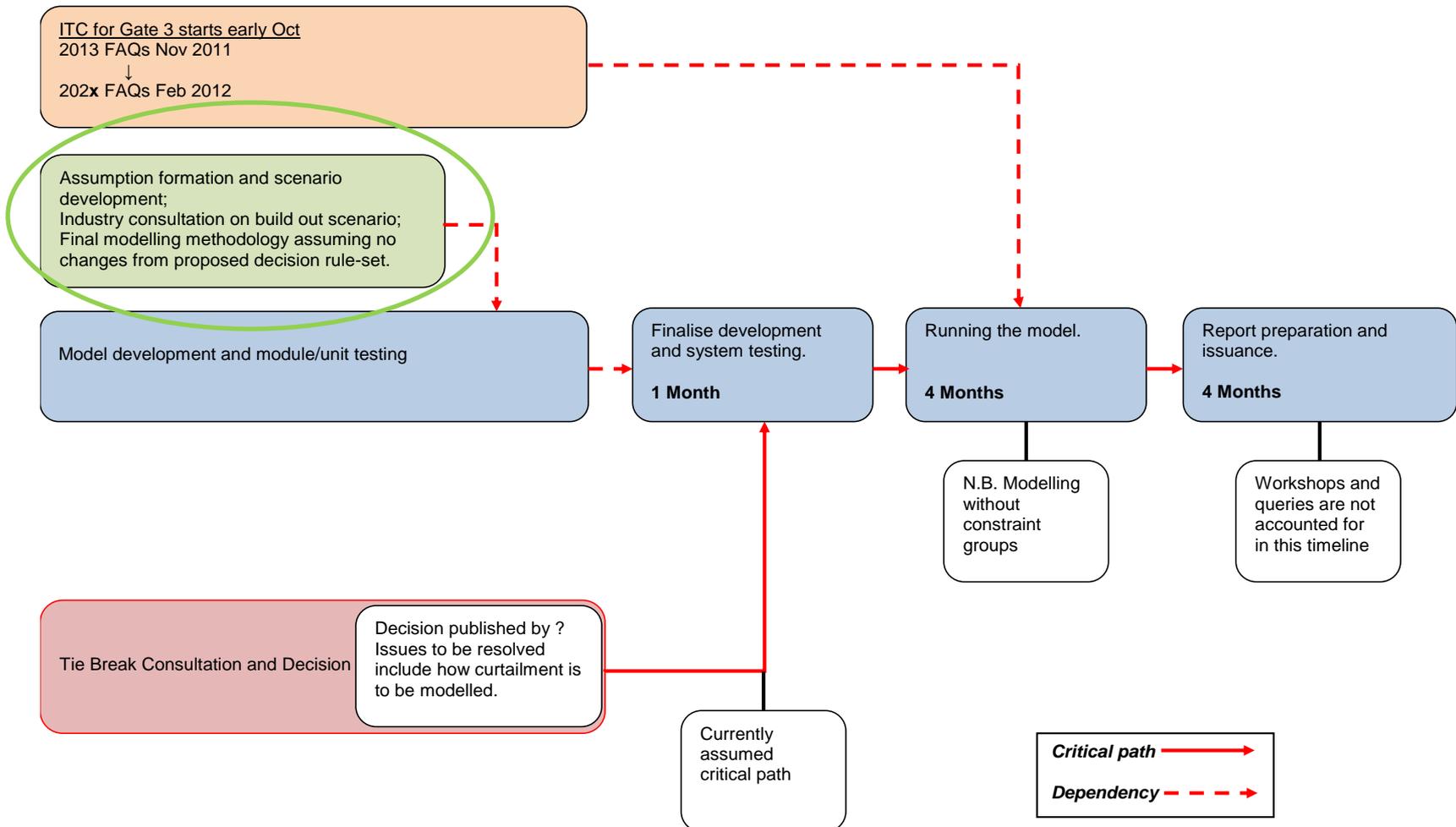
- Given the limited number of partial firms in the first ITC run, we propose to issue nodal reports by the three constraint categories.

\* Based on original ITC run that was used for the PGOR reports

# Reporting (1)

- Level of detail: **Nodal broken into the three constraint categories**
- Schedule: **Order as per PGORs, timetable TBC**
- Offer acceptance period: **50 business days**
- Queries and Workshops: **None assumed in our accelerated timeline outlined earlier**
- Issuing of reports to pre-Gate 3 windfarms: **Not assumed in timeline**

# Constraint Modelling Timelines



# Key issues



- Should modelling proceed before final decision is made?
- How is the pro-rata curtailment applied?
- The model will account for more constraint groups than may be practical in real time operations.
- Agreement on set of input assumptions.
- How many scenarios and what scenarios are examined?
- ‘Realistic’ build out rate (if we are studying this scenario).
- How do we issue our reports (in what order and in what period of time)?

# Next steps

- Regulatory authorities to give an indication on the timelines for a final SEM committee decision.
- Agree a date on which the industry will respond to the issues raised.
- Initiate a process to develop a realistic take up scenario.
- Agree data freeze date.
- Review modelling issues raised at the next Liaison group meeting if feasible.
- Agreement on resourcing issues with CER.

