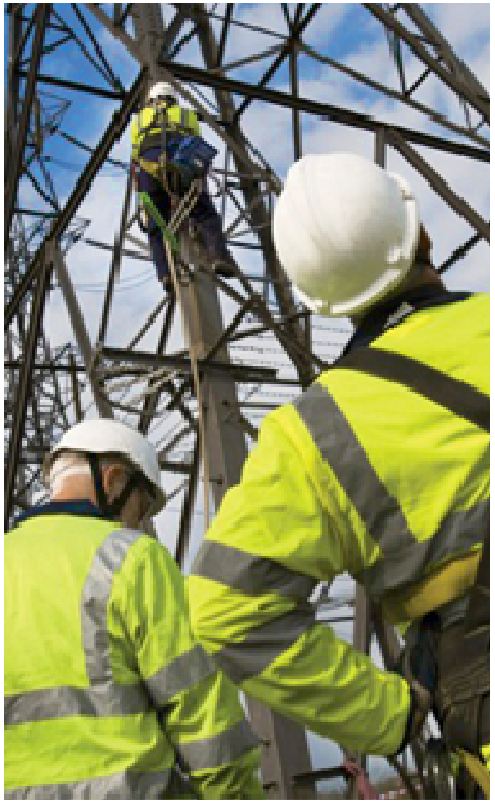
Exit Capacity Substitution and Revision

Workshop 3: 7th April 2010



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Agenda

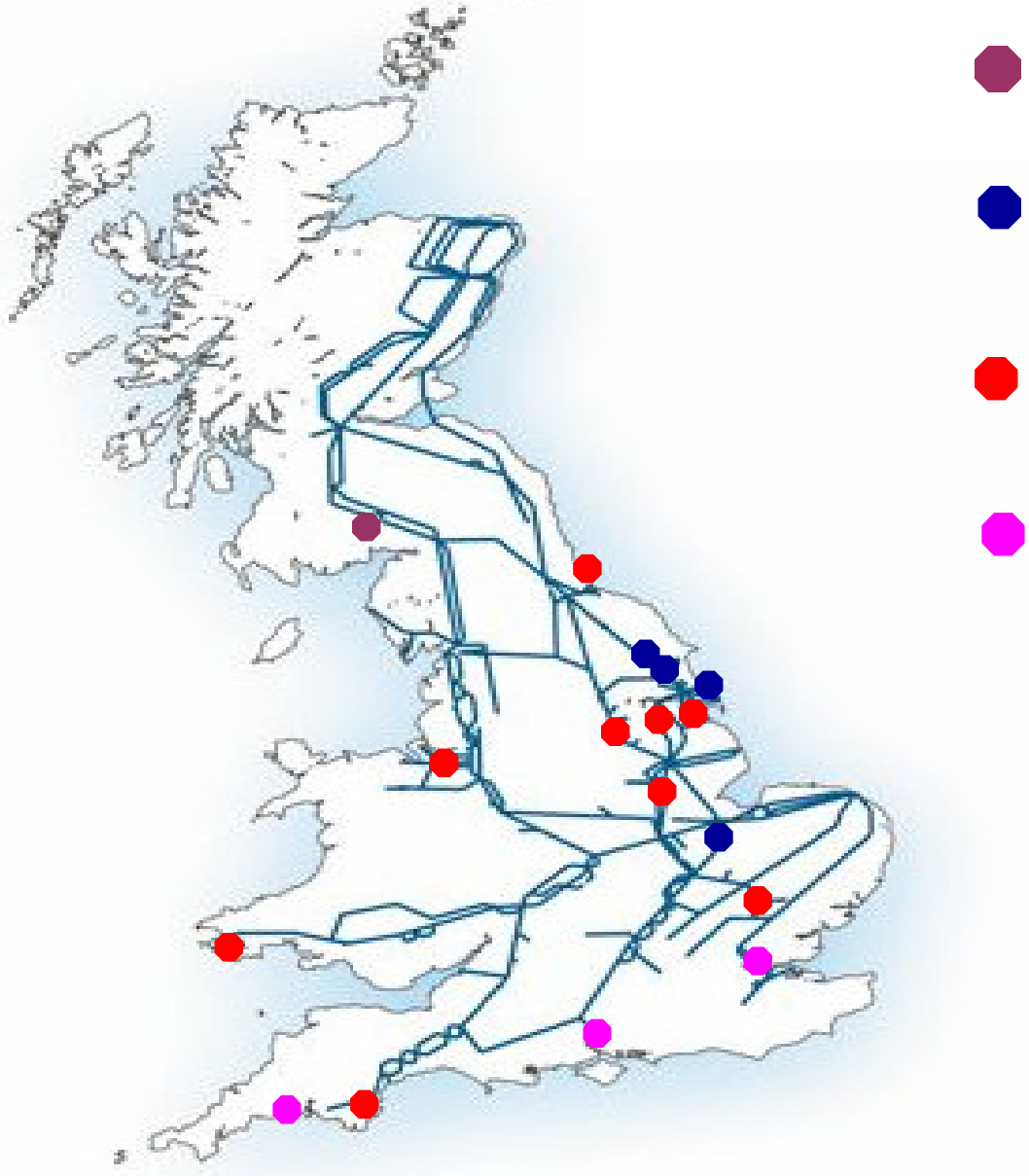
- Address actions from workshop 2.
- Initial Proposed Methodology
    - basis for future analysis.
- Substitution examples for workshop 4 (25th May 2010).
- Issues update.
- Review timeline / next workshop.

Action: “Spare” Capacity.

Workshop 1 Action 3: National Grid to consider whether information can be provided on the extent of “spare” capacity.

- At workshop 4 detailed worked examples of incremental capacity release in different parts of the network will be provided. These should illustrate the availability of spare capacity that could be allocated before substitution is applied in these locations.
- Spare capacity was allocated following the 2009 application window. Locations are shown on the next slide. This may indicate where additional spare capacity is available.
- The charging model can also be used to indicate where spare capacity may be available.
  - If a proposed new exit point is created in the model and gas supplies are increased at the next supply group (see Charging Methodology), and this does not increase flow rates in the vicinity of the new exit point then spare capacity may be available.
  - The charging model is available from National Grid.

Incremental Capacity released in July 2009



- Inter-connector - no revenue driver
- Storage – no revenue driver
- Power station – no revenue driver
- Power station with revenue driver

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Action: Entry / Exit Investment

- Workshop 2 Action 7 :Identify whether a further breakdown of investment can be made available.
- Workshop 2 Action 8 : Consider whether forecast investment figures can be provided for 10/11 and 11/12.

TYS 2009: Table 5.3.3.

Projects Approved for Construction in 2010

Project	Scope	Driver
Kirriemuir Compressor Station	New Unit	Emissions Reduction
Gilwern Offtake	Uprating for higher pressure	Exit South Wales
Wormington to Sapperton Pipeline	44km x 900 mm	Exit South West
Easington to Paull	26.2 km x 1200 mm	Entry
Cambridge multijunction modifications	Modifications for flexible flow configurations	Entry

TYS 2009: Table 5.3.4.

Projects Approved for 2011 onwards

St. Fergus Compressor Station	New Units	Emissions Reduction
Hatton Compressor	New Unit	Emissions Reduction
Warmingham to Elworth	3-4km x 900mm	Entry
Hatton Compressor	Modifications for higher flows	Entry

TYS can be found at http://www.nationalgrid.com/uk/Gas/TYS/current/TYS2009.htm

Action: Revenue Driver

- Workshop 2 Action 9: Clarify when a revenue driver is sought.

- When National Grid receives/expects an application for incremental capacity, network analysis is undertaken to identify whether this can be accommodated within the capability of the existing infrastructure whilst complying with existing obligations.
- Where:
  - the existing network cannot accommodate the additional capacity request, or
  - National Grid believes the additional capacity request will not be met by substitution,

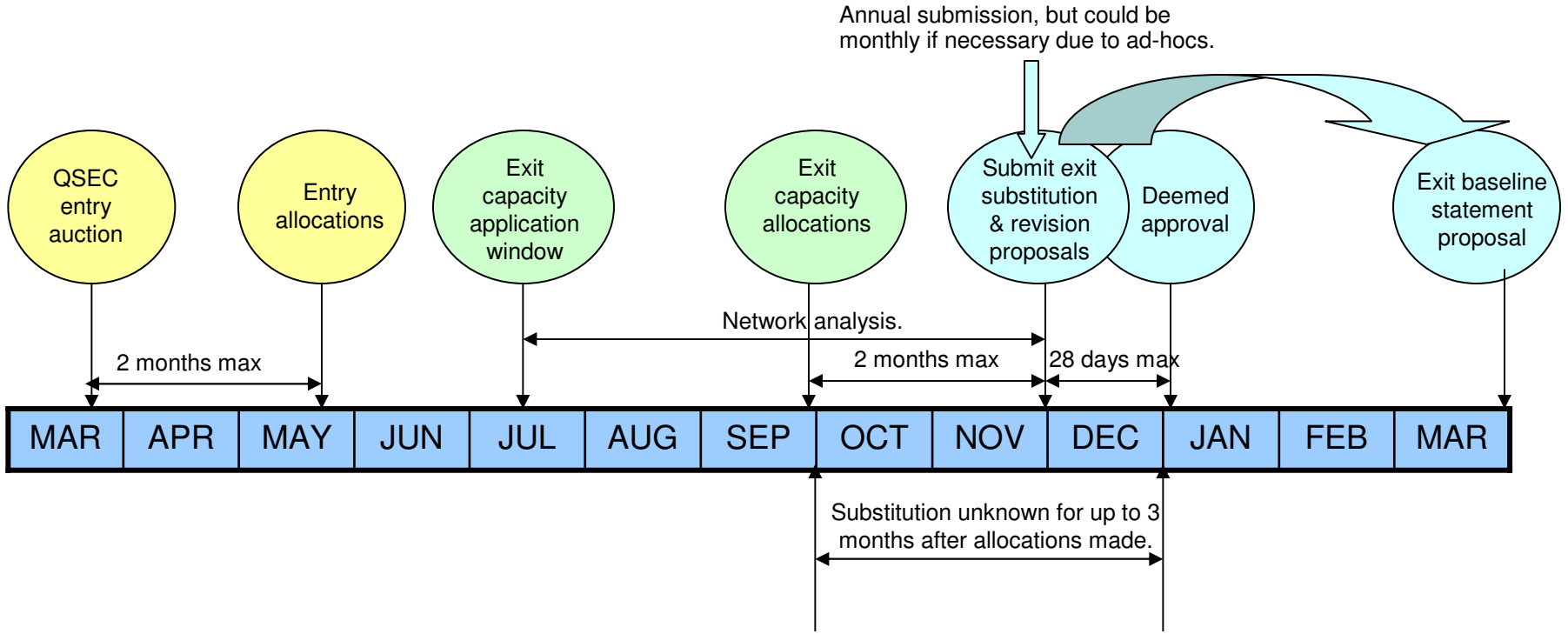
  National Grid will carry out further network analysis to identify/cost the necessary investments which would normally be expected to inform revenue driver calculations.

Actions

- Workshop 2 Action 11: Monitor European legislation for potential impact on exit substitution proposals.
  - National Grid is not aware of any relevant developments.
- Workshop 2 Action 14: Ofgem to confirm the extent to which the licence permits exit substitution proposals to be vetoed and how this compares to entry substitution.

Allocation and Substitution Timeline

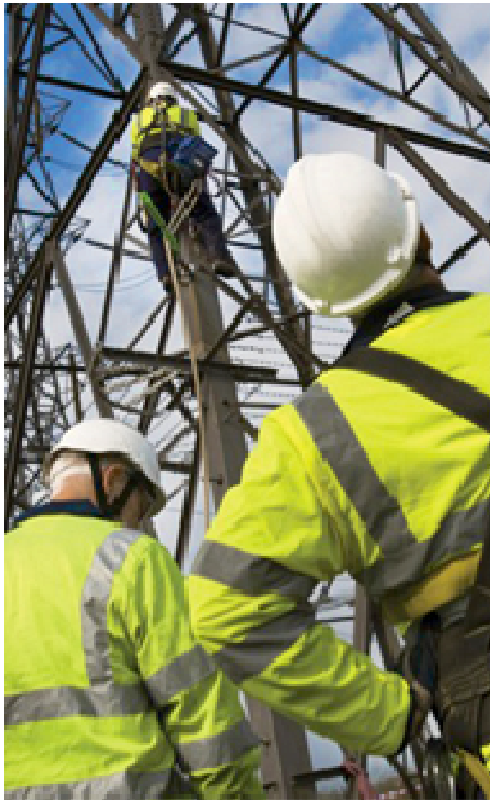
- Workshop 2 Action 15: Amend the allocation timeline to include QSEC processes.



- Revised baselines from substitution/revision feed through to unsold capacity level.
- Allocations are made end Sept but new baselines may not be approved until end Dec.
- For period Oct-Dec it is assumed proposals will not be vetoed. Analysis may be affected by ad-hoc or ARCA applications in this period.

Exit Capacity Substitution and Revision

Initial Proposals.



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Exit Capacity Substitution & Revision: Initial Proposals

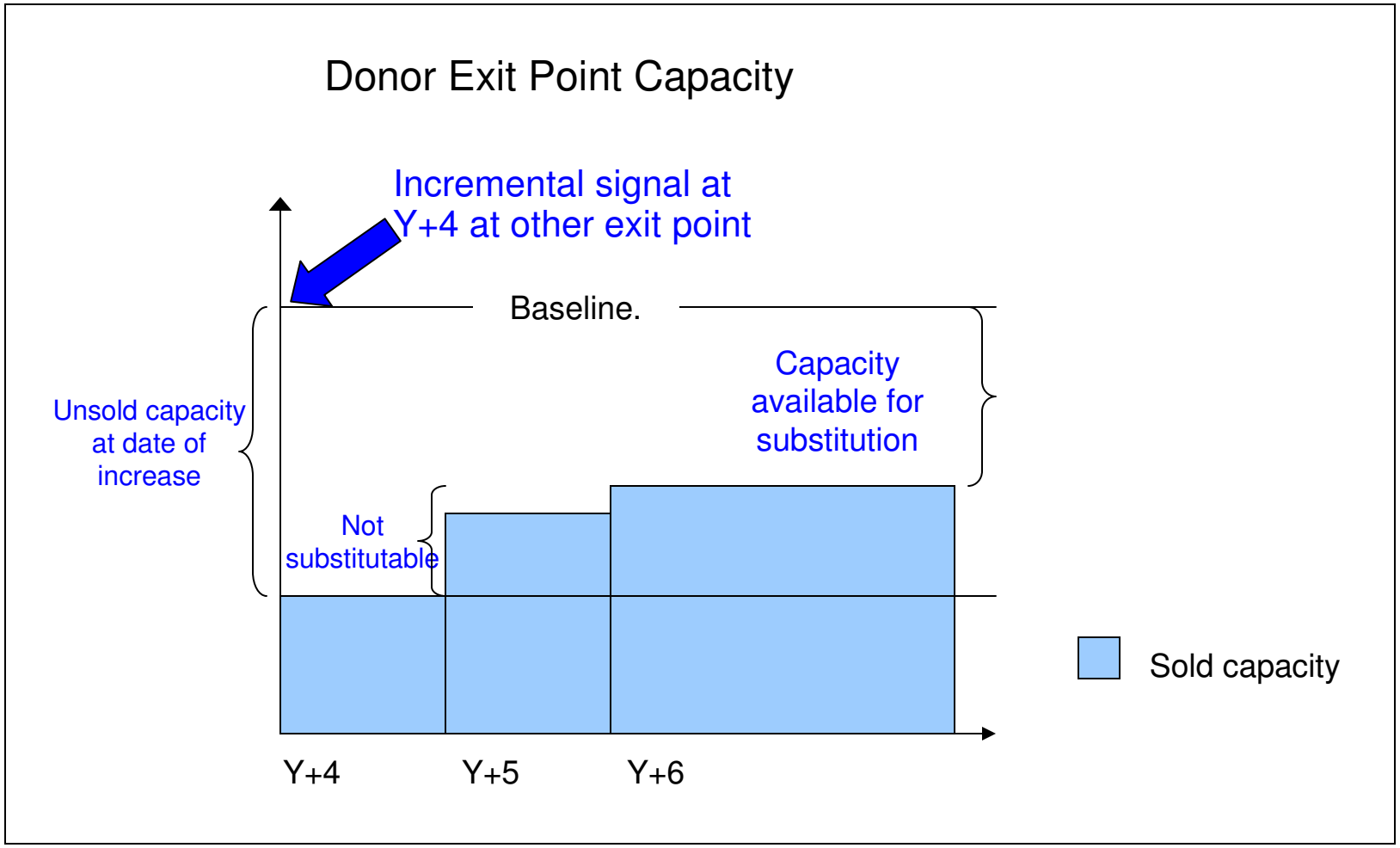
- **Key Features of Exit Capacity Substitution**
  - These initial proposals represent National Grid's current thoughts on the exit capacity substitution and revision methodologies. They may be changed prior to, or as a result of, the planned informal and formal industry consultations.
  - Substitution will only be triggered by the release of NTS obligated incremental exit flat capacity (as defined in the Licence).
    - Effectively capacity in excess of the baseline excluding discretionary release.
    - NTS obligated incremental exit flat capacity can only be allocated to Users as Enduring Annual NTS Exit (Flat) Capacity.
    - Released via ad-hoc, ARCA or annual window application.
  - Substitution will only be considered if the incremental capacity cannot be satisfied from the current physical system capability.
    - i.e. allocate spare capacity before substitution, then investment/contract.

Exit Capacity Substitution & Revision: Initial Proposals

- **Key Features of Exit Capacity Substitution**
  - Only unsold NTS baseline exit flat capacity will be considered for substitution. This capacity must be available indefinitely.
    - If there is no unsold capacity available National Grid may consider reduction requests (i.e. substitution of sold capacity). The most efficient reduction will be undertaken, i.e. Users cannot specify a reduction / incremental substitution combination.
  - Substitution will be applied from no earlier than Y+4 (except where a permit is played).
    - Substitution is intended to minimise the release of NTS obligated incremental exit flat capacity which requires investment and is released from the default Y+4 lead-time.
  - Partial substitution will only be considered where a revenue driver has been agreed for the residual incremental capacity release.
    - Substitutions will be subject to optimisation of residual investment.

Exit Capacity Substitution: Capacity Available for Substitution

- At a potential donor exit point, capacity will only be considered available for substitution if it is unsold from the effective date of the proposed substitution.



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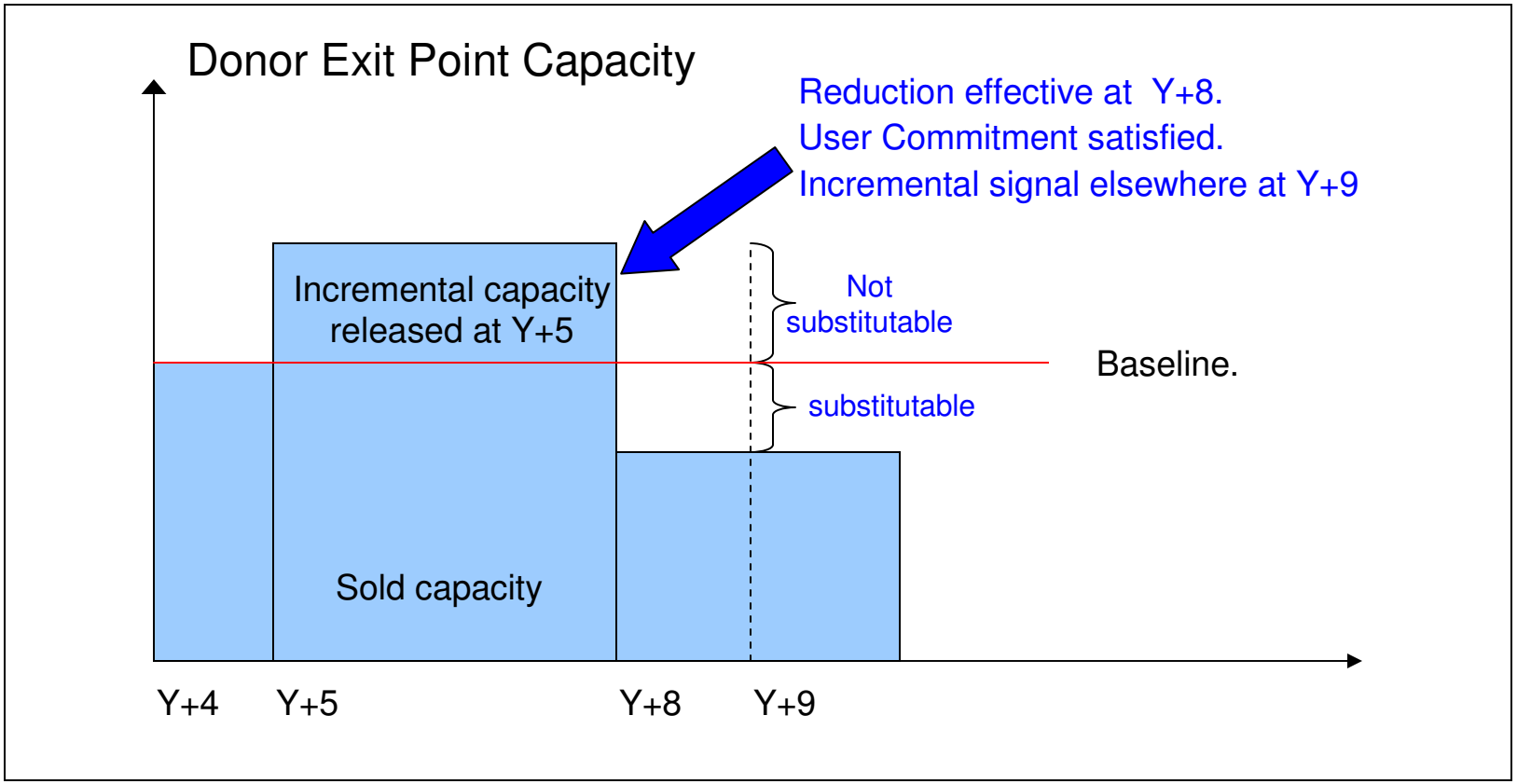
Exit Capacity Substitution: Donor Exit Points

- All exit points will be treated equally:
  - However, need to monitor European Regs (for interconnectors). Special arrangements will only be introduced if needed to comply with legislation.
- No special arrangements to protect unsold capacity from substitution:
  - If capacity is not sold it will be considered for substitution.
- Identified in the order of:
  - Furthest downstream exit point first:
    - more efficient in terms of capacity utilisation due to lower pressure further downstream. May need to re-assess up/downstream throughout analysis.
    - Exit points on same feeder before connected pipelines first. Simplifies analysis.
  - Extend upstream until incremental satisfied, or no remaining downstream exit points.
  - Upstream exit points (as far into system as compressor boundary or beach ASEP.

Exit Capacity Substitution: Capacity Available for Substitution

- Where, at a potential donor exit point, **incremental** capacity has been released and later reduced, only unsold baseline will be substitutable.
  - The incremental capacity given up will not be substitutable; unless and until it moves into the baselines (expected to be after 5 years).
- Capacity reduction will be based on incremental first, then baseline.
  - E.g. Shipper A triggers incremental; then Shipper B reduces (by no more than Shipper A's increment); the reduced capacity will be **incremental** and so does not become substitutable.



Exit Capacity Substitution: Exchange Rates

Workshop 2 Action 10: National Grid to consider whether exit capacity substitution is possible with an exchange rate less than 1:1.

- No limits to be put on exchange rates.
  - Any limits could prevent efficient substitutions from taking place.
    - If capacity is not sold it is considered to be not needed and has no value at the exit point. Hence high exchange rates are not considered inefficient.
  - Exchange rates optimised by applying a location specific methodology, rather than zones.
  - Actual exchange rates determined by analysis and will be dependant on the specific location and circumstances.

Exit Capacity Substitution & Revision: Initial Proposals

- **Key Features of Exit Capacity Revision**
  - Considers the impact of the release of funded incremental obligated entry capacity (i.e. entry investment) on exit capacity. Hence revision is triggered by capacity bids in the QSEC auction (ad-hoc and annual).
  - Where revision is applied the NTS baseline exit flat capacity will be increased. There will be no corresponding decrease at other exit points.
  - Assessment will normally be undertaken after the July exit capacity application window.
    - Allows efficient matching of entry and exit applications.
    - However, earlier analysis may be undertaken where there are suitable ad-hoc exit applications that can be satisfied from entry proposals.

Exit Capacity Substitution & Revision: Initial Proposals

- **Key Features of Exit Capacity Revision**
- Revision will be applied in the following sequence:
  - To meet exit capacity increase requests; nearest (by pipeline distance) exit points to the relevant entry point will be considered first; then
  - Baseline increased at nearest exit point.
- Where the entry increment is at a bi-directional site, revision will be first applied at that location (it is the nearest) provided that the exit point exists in the licence.
  - A one to one relationship between entry and exit capacity is not certain.

Exit Capacity Substitution & Revision: Initial Proposals

- **Key Features of Exit Capacity Revision**
- Workshop 2 Action 13: Clarify when revised exit baselines will become effective following exit capacity revision.
- Exit baseline revisions will be normally be expected to be effective from when the entry capacity is made available, i.e. 42 months from the QSEC auction (subject to permits).
- However,
  - Before committing to increased exit capacity obligations National Grid will need to be convinced that gas flows associated with the incremental entry capacity request are reliable.
    - Otherwise there is a risk of non-compliance with exit capacity revision objectives.
  - Hence exit capacity revisions will (at National Grid discretion) be dependant on assessment of flows (minimum 2 years).
    - E.g. Mar 2012 QSEC, incremental entry capacity released Oct 2015, exit capacity baselines will be revised approx Oct 2017.
    - Discretionary release available as soon as investment commissioned (~ Oct 2015).

Exit Capacity Substitution & Revision: Notice of revised baselines

- Workshop 2 Action 12: Clarify when the industry will be notified of exit baselines changes resulting from the release of incremental obligated entry capacity.

- New baselines determined after July window and Sept re-applications.
- Proposals finalised in Oct - Nov, but subject to 28 day Ofgem veto period.
  - In the period from 1st Oct until the Authority responds to substitution / revision proposals, future capacity release will assume that proposals will not be vetoed.
  - If proposals are still being developed and have not been submitted then National Grid may ignore, for the purpose of substitution / revision analysis, any ad-hoc / ARCA applications received after the application window period.
- National Grid expects that revised baselines and available (unsold) quantity will be confirmed following response to capacity release proposals from the Authority (approx Dec for annual submission). Revised baselines will also be published, by 1st April, in the NTS exit capacity baseline statement (subject to two month Ofgem veto period).

Exit Capacity Substitution & Revision: Revenue Drivers

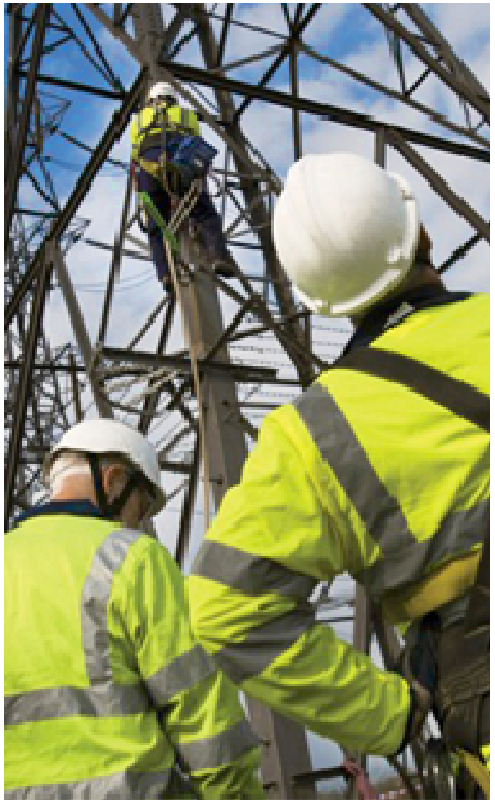
- A revenue driver is not normally required when incremental capacity is satisfied completely from existing capability or substitution of baseline capacity.
  - but National Grid may require a revenue driver to be in place before an application if there is a reasonable possibility, of investment being needed.

Exit Capacity Substitution & Revision: Network Analysis

- Substitution and revision analysis may be undertaken after each ad-hoc, or ARCA application or ad-hoc QSEC auction.
- Analysis may be deferred until after the July annual exit application window.
  - Allows more efficient assessment of multiple applications,
  - More efficient use of National Grid resources, and
  - Avoids potential unnecessary baseline revision followed by later substitution.
- Each proposal will be assessed in accordance with the Transmission Planning Code to ensure consistency with:
  - Analysis for investment proposals, entry capacity etc.,
  - Existing commitments, and
  - Exit capacity substitution/revision objectives set out in the licence.

Exit Capacity Substitution and Revision

Worked examples for workshop 4.



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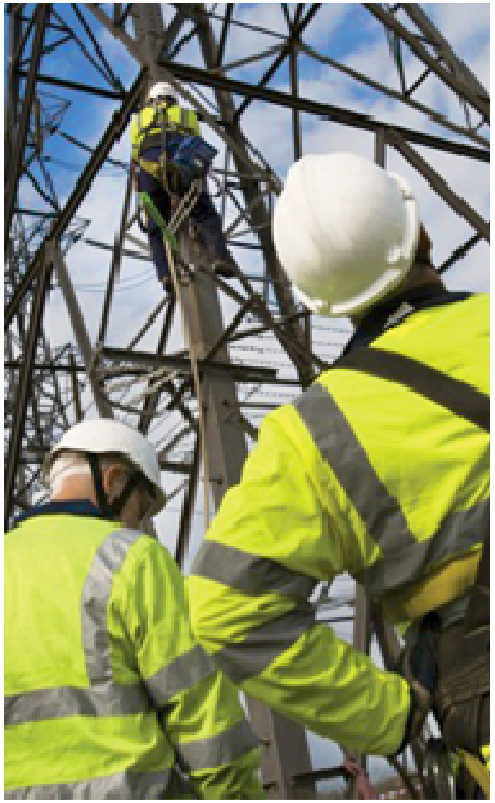
Detailed Examples of Exit Capacity Substitution

- New large power station loads in Easington area and in the vicinity of Grain LNG.
  - Easington: Sufficient quantity of certain entry flows.
  - Grain: Two scenarios, uncertain / certain entry flows.
  - Should identify potential spare capacity.
  - May demonstrate possible partial substitution.
  - Will identify potential donor exit points and exchange rates.
- DN load increase triggering substitution
  - Specific example / analysis not proposed.
  - Analysis of 2009 baseline re-jig to be presented.

Exit Capacity Substitution and Revision

Update on IT, UNC and Charging Issues.



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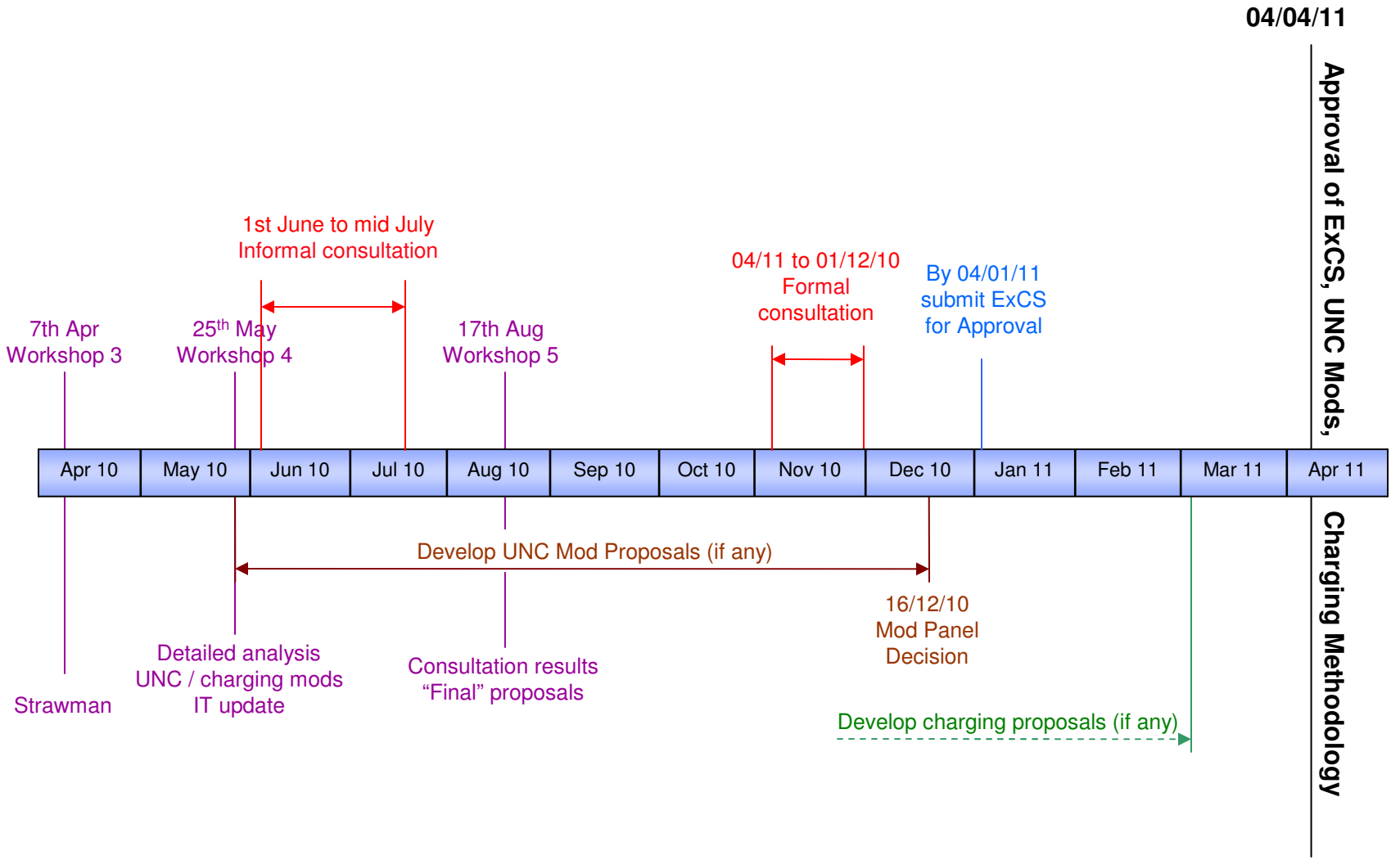
IT, UNC, Charging update.

- IT – National Grid does not foresee the requirement for any essential systems changes beyond those currently planned as part of exit reform. Hence we do not anticipate any systems issues preventing the implementation of exit capacity substitution and revision for July 2011. However, we will continue to monitor throughout systems testing activities.
- UNC - National Grid is not aware of the requirement for a modification to UNC to implement exit capacity substitution as proposed, nor for any of the options discussed in previous workshops. Workshop participants are requested to raise any potential concerns.
- Charging Methodology - National Grid believes that exit capacity substitution as proposed, or with any of the options discussed in previous workshops, can be implemented without the creation of new charges or any other amendment to the charging methodology. Workshop participants are requested to raise any alternative views.

Indicative Timeline: Development of Exit Capacity Substitution and Revision Methodologies.



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Next Workshop

Date:	10 a.m. Tuesday 25th May 2010
Venue	Ofgem
Agenda	Substitution examples