

## G5/4 Working Group Headlines

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- Working Group Initiated in October 2010 with representation from
  - Distribution and transmission network owners
  - Generation developers and manufacturers
  - Electrical equipment suppliers
  
- Chairman's view of Progress
  - Good progress on technical issues
  - Mixed results so far from international comparisons
  - Research work due to complete first half 2012 will allow further conclusions to be drawn
  - Further work required on
    - "Allocation of Rights"
    - Roles and Responsibilities
  - Opportunity to review group membership

## Progress against ToR

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### ■ Standards

- Are there international standards (eg IEC TR 61000-3-6) which could be adopted?
  - The group could not identify tangible benefits from moving to the 'IEC' approach
  - Some uncertainty within the group over how it is applied in practice
  - Some technical considerations (eg magnification) appear to be missing
- Whether other technical standards need to change
  - Subject to final conclusions

# Progress against ToR

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## ■ Allocation of Rights

### ■ First come first served vs other approaches?

- 'IEC' approach and supplemental guidance used in Australia was used as a basis of discussion
- No clear evidence found for the benefits of a different approach
- The group felt 'first come first served' was still consistent with the current commercial frameworks in GB and offshore
- New commercial parameters (eg "Agreed Power") needed to implement a different approach

### ■ Next steps

- The group feels that a clearer cost benefit case is required to justify the case for any change
- Additional expertise required to complete the work
- Action is with National Grid to examine the case for different treatment at transmission voltages by March 2012

# Progress against ToR

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## ■ Evaluation of Background Levels

### ■ Clarification of measurement criteria?

- Review of measurements shows significant seasonal variations
- Current criteria in minimum of 1 week
- Proposal developed and included in draft document to make explicit provision for longer periods where there is a good case to do so

## ■ Roles and Responsibilities

### ■ Roles and responsibilities of Transmission (onshore and offshore) Owners, Distribution Network Owners and Users

- Consensus amongst group that G5/4 places responsibility for ensuring compliance is with the network owner
  - No case for change identified
- Different commercial approaches applied to discharging responsibility (self assessment, sub-contracting, third party)
- Offshore transmission issues not yet considered in detail

# Progress against ToR

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## ■ Technical Issues

### ■ Are the harmonic levels in G5/4 adequate/acceptable?

- Current levels are consistent with international practice
- Review of relationship between planning and compatibility levels initiated via Energy Networks Association due for completion in summer 2012

### ■ Harmonics above the 50<sup>th</sup>

- G5/4 provides limit values up to the 50th
- Literature and equipment supplier survey initiated via Energy Networks Association to develop proposals for criteria to be applied above the 50th due for completion late Spring 2012

### ■ Assessing harmonic levels for fluctuating loads

- Proposal developed and included in draft document

### ■ Review of guidance on approach to new connections where Planning Levels are already exceeded

- Proposal developed and included in draft document

### ■ Is the assessment process fit for purpose?

- Review initiated to examine appropriate scope of assessment initiated via Energy Networks Association due for completion in summer 2012

# Progress against ToR

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## ■ Other Issues

- Would it be more efficient got the network owner to provide harmonic mitigation rather than connectee?
  - Mitigation is normally currently provided by customers upon connection
  - Group concluded that
    - G5/4 does not preclude a change in approach where appropriate
    - Care would need to be taken to ensure equitable treatment of customers
    - Technical and commercial justification required on a case by case basis
- Harmonic data exchange for Transmission connections
  - Concerns raised over the time taken to exchange the data required to finalise the specification of harmonic mitigation measures
  - Bilateral discussions between NGET and developer highlighted the opportunity to improve the process by:
    - Making information on network characteristics available earlier
    - Ensuring that the process was discussed and timescales agreed immediately post connection offer
  - Changes to bilateral agreement templates made as a result

## Next Steps

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- First draft of new document to be published Spring 2012
- Further assessment on Allocation of Rights to be concluded in 2012
- In flight research due for completion by Summer 2012
- Change proposals to be presented in September 2012