
**MINUTES OF A MEETING OF TRANSMISSION CODE TECHNICAL WORKING GROUP HELD ON
WEDNESDAY, 17 NOVEMBER 2010 AT 1:00PM.**

PRESENT: *Ray Brown (Meridian); James Collinson-Smith (Contact); Dick Whitelaw (NZ Steel); Tristan Maunsell (Todd Energy); Nick Murray (MRP); Peter Calderwood (Trustpower); Michael Whaley (Powerco); Tim Chatterton (Vector); Richard Pearce (Genesis); John Clarke (TP); Andrew Smail (TP); Bob Simpson (TP); Graeme Ancell (TP); Andrew Renton (TP); Simon Todd (TP); Tas Scott (Orion) – part time; Carmen Blackler (Blackyard Consulting)*

APOLOGIES: *Rodger Griffiths (Westpower); Kevin Small (TP)*

Discussion on Proposed Topics:

- 1.1 **Grid Connection:** Discussion on the topic included the following interpretations of the topic
- To provide a basic understanding of what is good/beneficial for Grid Connection – what assets are needed to connect to the grid
 - Transpower appreciates that customers have a “point of connection” view that reflects their business perspective, Transpower is required to have a “system view” that reflects what is in the best interests of the whole of the grid users
 - Intention is to have a standard suite of connection options
 - Note: Grid connection is not just about t-connections, it is also about the Network requirements for the connection
 - Aim is not to constrain the connection options, but to standardise the “menu”
 - High level description should be amended to read “*Describe/detail the design criteria requirements of the national grid to ensure that any new connection of either generation or load does not have a material adverse effect on the reliability or “fit for purpose” nature of the transmission grid.*”

Transpower tabled a draft document entitled Multi-terminal Network Connections “T-Connections” Service Offerings, as a starting point for the technical discussion on Grid Connection. The document contains a set of principles which are taken into consideration when designing a connection. The paper draws from international experience, including CIGRE papers on this particular topic.

Action: The technical working group (TWG) are to review the document and provide comments back to Transpower by 10 December 2010.

The technical working group agreed that Grid Connection should be a topic within the Transmission Code of Practice.

1.2 Substation Configuration: Discussion on the topic included the following interpretations of the topic

- To understand the design criteria requirements in relating to the development of any new substations based on system and customer needs
- As with Grid Connection, intention is to have a standard suite of options – e.g. standard modules which build up dependent on the need
- It was proposed that “case studies” be included as supporting documentation, to provide guidance on Transpower’s rationale/reasoning for particular substation configurations.
- Case studies could also include economic analysis which would underpin the choice for configuration options
- Request for topic to include an indication of how Transpower look to the future when designing substations, as well as addressing the current need. E.g what is technology doing going forward – fibre, protection, communications.

Transpower tabled an example of reference documentation (General Guidelines for the Design of Outdoor AC Substations – CIGRE paper) which it intends to use in developing the “Substation Configuration” section of the Transmission Code of Practice.

The technical working group agreed that Substation Configuration should be a topic within the Transmission Code of Practice.

1.3 Secondary Systems and Third Party Exchange: There was some confusion as to what this topic was intending to cover. It was agreed that Secondary Systems (as described in the scoping paragraph) was quite different to Third Party Exchange. It was agreed that third party exchange was being dealt with in other projects being managed by Transpower (ICCP)

For secondary systems, the discussion led to a decision for Transpower to go away and research the topic further so as to be able to provide clarity about the intent. The question was raised as to whether what was needed was really a standard, and if so, were there international standards that could be reviewed as a basis for this topic.

Action: Transpower to further research the topic of Secondary Systems.

The technical working group agreed that Secondary Systems and Third Party Exchange should not be included as a topic within the Transmission Code of Practice at this stage.

1.4 Network Security of Supply: There was some confusion as to what this topic was intending to cover. It was agreed that some of the issues being raised may be addressed in the Grid Connection and Substation Configuration Topics.

The technical working group agreed that Network Security of Supply did not need to be a separate topic within the Transmission Code of Practice at this stage

1.5 Fault levels: The next three topics which received a high ranking for inclusion in the Transmission Code of Practice were – fault levels, plant ratings and power quality/harmonics. The TWG agreed that the third topic should be Fault levels. Members of the TWG proposed that this topic should cover

- The design principles for determining fault levels
- What headroom Transpower should design to
- What are the design maximums per site and what are the actual state levels
- What are the processes for managing fault levels over time

The technical working group agreed that Fault Levels should be a topic within the Transmission Code of Practice

Action: Transpower to develop Fault levels as the third topic for the Transmission Code of Practice.

Terms of Reference:

The Terms of Reference which had been circulated to the TWG had been agreed in principle subject to finalisation of the topics for inclusion in the Transmission Code of Reference. Following the discussion at this meeting, the Terms of Reference have been deemed to be accepted, with the agreed topics being amended to

- Grid Connection
- Substation Configuration
- Fault Levels

Next meeting:

The TWG agreed that meeting face to face was beneficial when discussing the technicalities of each topic. It was agreed that the next meeting should be mid-late January 2011. Members of the TWG asked if all papers could be circulated at least a week ahead of the meeting, so that they had time to consider the information in preparation for the meeting

Action: Transpower to schedule next meeting date for mid-late January 2011.

Meeting closed at 2:50pm.