CIGRE Study Committee C5

PROPOSAL FOR THE CREATION OF A NEW WORKING GROUP (1)

WG* N° C5.22	**Name of Convenor :** David Bowker (Australia) **E-mail address**: David.Bowker@hydro.com.au
Technical Issues # (2): 10	**Strategic Directions # (3): 2**
The WG applies to distribution networks (4): No	
Title of the Group: The Management of Systemic Market Risk in Electricity Markets	

Scope, deliverables and proposed time schedule of the Group :

Background :
For the purposes of this project it is proposed to define Systemic Risk in the following way:

> Systemic risk is the risk of collapse of an entire market, as opposed to risk associated with any one individual entity, group or component of a system that can be contained within the market without harming the entire system. It can be defined as "market *system* instability, potentially catastrophic, caused or exacerbated by idiosyncratic events or conditions in intermediaries". It refers to the risks imposed by *interlinkages* and *interdependencies* in a system or market, where the failure of a single entity or cluster of entities can cause a cascading failure, which could potentially bankrupt or bring down the entire system or market.
>
> A couple of examples which we expect to consider are:
>
> - Where a very large market participant who is too big to fail does fail
> - A very severe drought in a market heavily dependent on hydro-generation
> - Market participant financial failure caused by a significant physical system disturbance.

Scope :

This working group will collect information from various markets on the way in which systemic market risk is approached. The broad approach will be to assess:

- Is there a systemic risk in your market?
- How is the systemic risk addressed?
- Is a central counterparty or clearing house the solution?
- What other methods could be used to mitigate the risk?

The outcomes will be an assessment of the overall approaches which have been adopted and an attempt to categorise approaches and link these to basic market, cultural or geographic parameters.

Deliverables : A technical brochure, summary Electra article, tutorial material if required

Time Schedule : Start: **January 2017**

- **Develop final work plan and recruit members** **March 2017**
- **First meeting (in Dublin) to discuss draft information form** **May 2017**
- **Finalise information form and approach members** **October 2017**

•	**Compile data**	**February 2018**
•	**Analyze data**	**May 2018**
•	**Review of Data and develop insights (Paris)**	**August 2018**
•	**Draft Report with conclusions**	**November 2018**
•	**Final report approved**	**March 2019**
Comments from Chairmen of SCs concerned :		
Approval by Technical Committee Chairman : M. Wald **Date** : 01/12/2016		

(1) Joint Working Group (JWG) - (2) See attached table 1 – (3) See attached table 2
(4) Delete as appropriate

Table 1: Technical Issues of the TC project "Network of the Future" (cf. Electra 256 June 2011)

1	Active Distribution Networks resulting in bidirectional flows within distribution level and to the upstream network.
2	The application of advanced metering and resulting massive need for exchange of information.
3	The growth in the application of HVDC and power electronics at all voltage levels and its impact on power quality, system control, and system security, and standardisation.
4	The need for the development and massive installation of energy storage systems, and the impact this can have on the power system development and operation.
5	New concepts for system operation and control to take account of active customer interactions and different generation types.
6	New concepts for protection to respond to the developing grid and different characteristics of generation.
7	New concepts in planning to take into account increasing environmental constraints, and new technology solutions for active and reactive power flow control.
8	New tools for system technical performance assessment, because of new Customer, Generator and Network characteristics.
9	Increase of right of way capacity and use of overhead, underground and subsea infrastructure, and its consequence on the technical performance and reliability of the network.
10	An increasing need for keeping Stakeholders aware of the technical and commercial consequences and keeping them engaged during the development of the network of the future.

Table 2: Strategic directions of the TC (cf. Electra 249 April 2010)

1	The electrical power system of the future
2	Making the best use of the existing system
3	Focus on the environment and sustainability
4	Preparation of material readable for non technical audience