



CIGRE Study Committee C5

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

WG* N° C5.16	Name of Convenor : Angela Chuang; USA E-mail address: achuang@epri.com
Technical Issues # (5), (10)	Strategic Directions # (1) and (2)
The WG applies to distribution networks : Yes	
Title of the Group: Costs of Electric Service, Cost Allocation Methods, and Residential Rate Trends	
<p>Background : Reliable and environmentally responsible electricity delivery has received much attention among system operators, including those participating in working groups of CIGRE Study Committee C5. Affordability of electric service is another dimension of electric service provision that also merits adequate attention. The proposed study is to focus on factors impacting affordability of electric service for end-use customers who ultimately pay for the costs incurred through wholesale procurement, operations, maintenance, and planning activities (including power system generation, transmission, substation, and distribution). The study aims to provide an international view of the cost components of electric service (beyond and including energy), the methods of allocating costs applied in practice, and the trends in domestic customers rates over time, by service territory, in both regulated and competitive market environments. Introductory background on who regulates the rates and how they are determined will also be addressed at a high-level to provide context for presentation of findings by service territory. The study will also develop a glossary of terms to assist data collection and presentation of findings with consistency to support ready comparison of findings across service territories.</p> <p>Deliverables :</p> <ul style="list-style-type: none"> • <u>Costs of Electric Service and Allocation Methods</u> <ul style="list-style-type: none"> - Overview of major cost components of the entire value chain from electricity production to delivery <ul style="list-style-type: none"> - Assumptions for surveying costs - Relative magnitude of cost components (by service territory) - Cost trends - Common concerns/comments of survey respondents - Overview of cost allocation methods currently implemented <ul style="list-style-type: none"> - Guiding principles - How costs are allocated and who pays for what cost components, including policy-driven costs (e.g., extent renewable energy projects are absorbed through taxes vs. rates) - Adjustments (how deviations between expected and actual costs are handled) - Drawbacks of current cost allocation methods - Innovative allocation methods and targeted improvements • <u>Residential Electricity Rate Structures and Trends</u> <ul style="list-style-type: none"> - Overview of retail rate structures currently implemented <ul style="list-style-type: none"> - Tariffs structures and market-based rates - Common customer segmentation and guiding principles in rate design - Innovative rate structures and targeted improvements - Enabling technology prerequisites (especially to support innovative structures) - Experiences with regulatory bodies and any approval issues 	

Lessons learned where there are commonalities, trends, and concerns surrounding costs of electric service will be summarized and delivered in a technical paper or brochure and a technical report.

Time schedule :

Phase 1 : Survey instrument and contacts developed (October 2013)

Phase 2 : Survey response collected and analyzed (December 2013)

Phase 3 : Conference Paper drafted (Spring 2014)

Phase 4 : Preparation of technical report outline to be presented in Paris (August 2014)

Phase 5: Finalization of technical report for publication (December 2015)

Comments from Chairmen of SCs concerned :

Approval by Technical Committee Chairman :

Date : 14/10/2013

A handwritten signature in black ink, appearing to read "M. Wald", is written over the approval line.

- (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