

# ENARD:- IEA Implementing Agreement on Electricity Networks Analysis, Research and Development

## Newsletter No 6 - June 2009

### Work Starts on Annex IV “Transmission Systems”

April 2009 saw the start-of-work on the latest in the series of ENARD’s operational Annexes, namely Annex IV “Transmission Systems”. Annex IV has been developed in response to the recommendations and outputs from ENARD’s original transmission systems workshop, held September 2007. It aims to develop a long term vision for transmission system developments and to identify the most promising solutions and challenges in terms of expansion planning and market analysis, operational management and the introduction of new technologies. The Annex IV work programme will be delivered by the joint Operating Agent, SINTEF Energy Research (Norway) and ERSE SpA (Italy) (previously CESI Ricerca), working in co-operation with the individual Annex participants.

The work programme itself is to be delivered via two principal tasks, viz:-

#### Task 1: Transmission Expansion Planning and Market Analysis

The principal focus of Task 1 is on the need for new methods and tools, integrating market modelling and network analysis, supported by underlying assessment and analysis work.

#### Task 2: Transmission System Operation, Management and Security

The principal focus within Task 2 is on the need for new methods and solutions for the monitoring and control of power systems including, in particular, the provision of balancing and system services.

Annex IV is scheduled to run over a 24 month period, through to March 2011. Seven countries are participating in the Annex from the outset, with its Inaugural Experts’ Meeting being hosted by ERSE SpA in Milano, Italy, 28th-29th April 2009.

#### Membership and Participation

The commitment of France to the Implementing Agreement, January 2009, represented the thirteenth country to join the Implementing Agreement.



France is represented on the ENARD Executive Committee (ExCo) by Electricité Reseau Distribution France (ERDF) and Inventer la Distribution Electrique de l’Avenir (IDEA), respectively. ERDF and IDEA have elected to participate in Annexes I, II and III, with this representing a further significant milestone in the overall development of the Implementing Agreement.

#### Visby Meetings Programme, May 2009

ENARD’s Spring 2009 meetings programme took place in Visby, on the island of Gotland, Sweden, 5th-7th May 2009. The meetings programme itself comprised a highly topical Annex I Workshop, on the subject of “Communications and Control”, followed by the convening of the 6th ENARD ExCo Meeting.

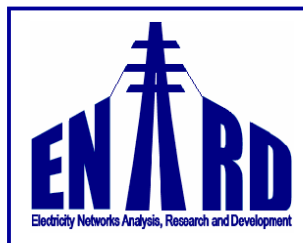


The Annex I Workshop was supported by experts and delegates from 12 countries and received a series of presentations covering ICT infrastructures, architectures and sensor requirements, emergency communications and with a final session addressing applications in practice. Extensive discussion and working group dialogue provided for the abstraction of the key messages to emerge from the workshop, for consideration by the ENARD ExCo.

The follow-on 6th ExCo Meeting covered the ongoing development and discharge of the Implementing Agreement as a whole, with due consideration being given to some of the key messages emerging from the overall programme-of-work to date and the developing dialogue and liaison with the IEA Office (as described in the section overleaf).



The meetings programme concluded with a visit to “Gotlight”, representing the world’s first “HVDC Light” connection, installed in 1999 to connect the 50 MW wind farm cluster in the South of the island to the strong infeed point of connection at Ygne, where the subsea cable from the mainland feeds into the island. The visit also represented a homecoming for the ENARD Chair, Stig Goethe, in that he had helped pioneer this development, during his time as Head of Strategic Planning and R&D for Vattenfall in the 1990s.



### Ongoing Progress in Annexes II and III

Annexes II and III, addressing DG System Integration and Infrastructure Asset Management, continue with their respective work programmes, via their most recent Experts' Meetings, convened in Fredericia, Denmark, May 2009 and in Alvkarleby, Sweden, April 2009, respectively.

Annex II is now assessing the information gathered from its eleven participating countries with a view to producing a definitive set of guidelines documentation, to facilitate the transition from today's passive distribution networks to the active distribution networks, that will increasingly be required in the future.

The Annex III Experts' Meeting reviewed the initial set of summary reports produced on the five asset groups identified for analysis and review (namely transformers; cables; overhead lines; switchgear; protection and control) and mapped out its programme-of-work, through to the completion of its present phase, December 2009.

### Dialogue and Liaison with the IEA Secretariat

Electricity T&D network issues are increasingly being recognised and addressed by the IEA Secretariat, in the context of overall energy policy development. ENARD has therefore been particularly active in the six months to date in developing a close working relationship with the IEA Secretariat, via the provision of expert comment and input to a number of their specific studies and analyses. The IEA Secretariat very much welcomes this development and looks forward to developing the relationship, in the future.

### Annex I Workshop "Balancing the Variability in Renewable Electricity Supplies – new challenges and opportunities", to be held Fredericia, Denmark, 20th-21st October 2009

This, the next in the series of topical Annex I Workshops, will take place in Denmark, October 2009, immediately ahead of ENARD's 7th ExCo Meeting. The Workshop is aimed at stimulating discussion in relation to the emerging challenge associated with balancing the increasing amounts of time variable renewable generation, which is expected to be deployed on electricity T&D networks worldwide, over the next decade and beyond. Various actual and potential solutions mechanisms are possible here, including system level solutions, distributed energy storage, interaction with the demand side and the application of advanced control techniques. The workshop will aim to establish the current status of such solution mechanisms and identify the challenges and barriers, still to be addressed.

### Grid Policy Workshop, early 2010

The advance planning continues in relation to the organisation of a major international Grid Policy Workshop on network issues, to take place early 2010. A key objective of this workshop will be to communicate some of the emerging messages from ENARD to an audience comprising key industry stakeholders and policy makers.

Further information on these and other ENARD related activities will be covered in future editions of the Newsletter and on the ENARD web-site.

ENARD is an International Energy Agency (IEA) Implementing Agreement which provides an international forum for information exchange, research, analysis and collaborative research and development across a range of electricity transmission and distribution (T&D) network issues. Its vision is to facilitate the uptake of new operating procedures, architectures, methodologies and technologies in electricity T&D networks, such as to enhance their overall performance in relation to the developing challenges of network renewal, renewables integration and network resilience.

### Further information

Further information on ENARD, including participation in the Implementing Agreement and its activities, may be obtained from the ENARD web-site, at [www.iea-enard.org](http://www.iea-enard.org) or from the ENARD Secretariat at EA Technology Consulting:-

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ENARD, also known as the IEA Implementing Agreement on Electricity Networks Analysis, Research and Development, functions within a framework created by the International Energy Agency (IEA). The views, findings and publications of ENARD do not necessarily represent the views or policies of the IEA Secretariat or of all its individual member countries.