Workshop, February 10, 2010
Hosted and Sponsored by EDF R&D
1 avenue du Général de Gaulle, 92140 CLAMART

ENERGY SYSTEMS SIMULATION AND MODELING

08:30 - 09:00	**Welcome coffee**	
09:00 - 09:15	**Overture**	
	Welcome and Introduction by the French Chapter of IEEE PES	Bruno Prestat, EDF
	Welcome and Introduction by the Host and Sponsor	François Careme, EDF
09:15 - 10:00	**Dynamic Models for Wind Power Plants**	Remi Tournier, REPOWER
10:00 - 10:45	**Dynamic Models for Hydro Power Plants - Parameter Identification based on Test Measurements**	Dr. Walter Sattinger, SWISSGRID
10:45 - 10:55	**Coffee Break**	
10:55 - 11:45	**Artificial Intelligence Applications in Power System Control**	Prof. Chen-Ching Liu, National University of Ireland
11:45 - 12:00	**Q & A**	All participants
12:00 - 13:20	**Lunch Break**	
13:20 - 14:05	**Dynamic Models for Loads**	Karim Karoui, GDF Suez
14:05 - 14:50	**Probabilistic Approach in Simulation and Modeling**	Dr. Herman Bayem, EDF
14:50 - 15:00	**Coffee Break**	
15:00 - 15:45	**Voltage Regulators Modeling**	Dr. Anne Marie Hissel, ALSTOM
15:45 - 16:30	**Turbine and Boiler Modeling. Impact on Generator's Performance**	Daniel Bouskela, EDF Mikael Midou, EDF
16:30 - 17:00	**Q & A** **Round table 'Research Trends and Challenges in 'Energy Systems Simulation and Modeling'**	All participants

Organizing committee:
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Abstract

Decisions on power systems operation and investments are nowadays taken on the base of simulations performed with specialized software. The decisions quality is linked to models quality, to the hypotheses and the input data.

One of the main dimensions of the decision making is the infrastructures dynamic behavior when disturbances occur. This behavior, observed in operation, has to be transposed in satisfactory software models.

The workshop will enlighten research trends and challenges in power systems in terms of classic modeling aspects (voltage regulators, loads, synchronous generators, turbine and boiler dynamics), new modeling aspects and their impact on the grid dynamics (wind turbines) and new methods less conventional (probabilistic, artificial intelligence).

Résumé

Les décisions concernant l'exploitation et les investissements dans les systèmes électriques sont prises aujourd'hui sur la base de simulations numériques avec des logiciels spécialisés. La qualité des décisions est directement dépendante de la qualité des modèles utilisés, des hypothèses et des données d'entrée.

Une des principales dimensions d'une prise de décision est le comportement dynamique des ouvrages face aux perturbations. Ce comportement, observé en réalité, doit être transposé dans une modélisation logicielle représentative des phénomènes étudiés.

Ce séminaire abordera une partie des problématiques les plus actuelles au niveau de la modélisation et de la simulation numérique : acteurs traditionnels (dynamique de la consommation, régulation de tension, groupes de production classiques et leur process amont turbine) et acteurs nouveaux qui impactent de plus en plus les analyses de systèmes électriques (turbines éoliennes). Des méthodes moins conventionnelles mais qui s'imposent de plus en plus dans le monde industriel (approche probabiliste, intelligence artificielle) seront ainsi traitées.

How to get to EDF R&D

1) From the Charles-de-Gaulle Airport (in the North of Paris) to Paris
- Take the suburban train (RER) line B ("Paris by train") to the "Gare du Nord" station.
- Take the RER line E to the "Haussmann Saint-Lazare" station.
- Take the subway ("métro") line #13 to the "Chatillon-Montrouge" station (end of the line in the South).
- Then see "From Paris to EDF"

2) From the Orly Airport (in the South of Paris) to Paris
- Take the automatic métro (Orlyval) ("Paris by train") to the "Antony" station.
- Take the suburban train (RER) line B to the "Denfert-Rochereau" station.
- Take the subway ("métro") line #6 to the "Montparnasse" station.
- Take the subway ("métro") line #13 to the "Chatillon-Montrouge" station (end of the line in the South).
- Then see "From Paris to EDF"

3) From the Gare du Nord station (Eurostar trains from England or Thalys trains from Belgium)
- Take the RER line E to the "Haussmann Saint-Lazare" station.
- Take the subway ("métro") line #13 until the "Chatillon-Montrouge" station (end of the line in the South).
- Then see "From Paris to EDF"

4) From Paris to EDF
The simplest way :
- In Paris, subway ("métro") line #13 to the "Chatillon-Montrouge" station (end of the line in the South).
- Then bus 195 or 295 to the bus stop "Clamart-Fontenay Division Leclerc".
  Warning : on line 195, there is a risk of confusion with the bus stop "D'Estienne D'orves Division Leclerc".

5) Tickets
- From the Airports to EDF : you have to buy one RER ticket to "Paris and Métro". With this ticket you can use the RER and metro once to get to the "Chatillon-Montrouge" station. Then, for using the bus you have to buy one "Métro & bus" ticket.
- From Paris to EDF : you have to buy one "Métro & bus" ticket for the metro and one "Métro & bus" ticket for the bus.