Introduction to the Minitrack on Restructuring the Electric Power Industry: 
Emerging Issues, Methods and Tools

Robert J. Thomas
School of Electrical Engineering
428 Phillips Hall
Cornell University
Ithaca, NY 14853
rjt1@cornell.edu

The past several years have seen marked changes in the institutional structures of the electric power industry in many countries. In most cases the driving forces for change have come from the governments. Often the objective is to introduce more competition and to increase private sector ownership of the electric supply industry. The overall aim regardless of the drivers, is to reduce the price of electricity and increase customer responsiveness by methods other than direct regulation.

Primary examples of institutional change include unbundling of services and equipment, the introduction of non-utility or third party generation, proposals for and implementation of new bidding or auction arrangements for pricing electricity and corporatisation, among others. In most cases each element includes ownership changes, a competitive market with new procedures and a re-vamping of the regulatory process. Each of these elements has and will continue to have its own impact on the planning, operation, cost and reliability of power systems. This minitrack is especially interested in identifying the effects and impacts of institutional change (proposed or in place). It is especially interested in new tools and methodology, that is, the technical underpinnings needed to transition the system from the old to the new. Therefore, papers on topics related to the affected elements of restructuring of an electric power industry were of special interest.

There are seventeen papers in two sessions in this minitrack. The papers span a range of restructuring issues from institutional to technical and from policy to educational. The first paper describes four possible scenarios for future systems and makes the point that the future US electric power system may contain versions of all of them and not just one. It also lays the foundation for technical work that will need to be done to see these scenarios emerge in an orderly fashion. Ten of the remaining sixteen papers deal with various elements of these technical issues. One paper addresses the educational challenges of a curriculum for the restructured industry. The remaining papers focus on technical challenges that exist because the system is comprised of certain elements and need to operate in harmony regardless of the institutional arrangements that govern the people who plan and operate the system.

The focus of the papers accepted for this minitrack is intended to encourage a cross-disciplinary look at issues associated with the world-wide movement to restructure electric power systems. The topic is timely and broad and will continue to be researched and debated in the coming years.