INTRODUCTION

Electrical distribution companies, being network industries, transport and distribute electric power from connection points of the transmission system to end consumers for industrial and residential usage at appropriate voltage levels. This activity is organized in public service utilities (Discos) that buy power supply from generators in both the long term and sport markets.

For more than two decades, most of the Latin American countries have made drastic transformations to their electrical power sectors in both the unbundling and privatization processes of the state monopolies. As a consequence of the deregulation process, an important change has occurred in the role of the State. From the owner and operator of electric vertically integrated companies, the State has evolved to become the regulator of activities that are natural monopolies, such as electrical power distribution, owned and or operated by private or public market players. Within this framework, the challenge has been to stimulate an efficient service in distribution, similar to that that would be achieved in a competitive environment.

In order to regulate the electrical power distribution stage, most of these countries have adopted Price Cap regulations, using concepts such as the “model/standard utility” or benchmarking schemes (i.e. efficiency frontiers). The “standard utility model” corresponds to a company whose investments are economically adapted to demand and operates under an optimal plan. In setting distribution tariffs, because of the very monopolistic nature of the activity, both models (standard utility and benchmarking techniques) intend to introduce a virtual competition, trying to make companies more efficient, thus minimizing the present value of all their costs (capex, opex, loses and non supply energy). In general, this has meant important distribution tariff reductions, obtained through a regulated periodic process, the so called Tariff Revue.

The panel will evaluate the results of Price Cap regulation in Latin America power distribution and assess what can be learned from that experience and the challenges that may arise in the future.

Panelists and Titles of their presentations are:

1. Ruy Varela (President, SIGLA), and Eduardo Redolfi Technical Director, SIGLA) “Compared Regulations: The Tariff Revue Process in Brazil, Panamá and Perú. Paper 07GM0920 (E-mail: rvarela@sigla.com.ar)
2. Hugh Rudnick (Pontificia Universidad Catolica de Chile) and Sebastian Mocarquér (Systep). Benchmark Regulation and Efficiency of Electricity Distribution: Strengths and Weaknesses. Paper 07GM0943 (E-mail: h.rudnick@ieee.org, smocarquer@systep.cl)
3. Luis Fernando Alvarez (Siglasul). “Brazilian Discos Price Cap Regulation.” Paper 07GM1022 (E-mail: falvarez@siglasul.com.br)
4. Sandra Fonseca (Consultora, ex CREG Colombia). “The Impact of WACC Calculation in the Price Cap Regulation Results: Colombian Case”. Paper 07GM 1159 (E-mail: sandrastelacol@gmail.com)
5. Víctor C. Urrutia (Autoridad Nacional de los Servicios Públicos de Panamá (ASEP)). Price Cap Regulation, The Panamanian Experience from the Regulator Point

Each Panelist will speak for approximately 25 minutes. Each presentation will be discussed immediately following the respective presentation. There will be a further opportunity for discussion of the presentations following the final presentation.

The Panel Session has been organized by Luiz Barroso (PSR, Brazil), Tom Hammons (Glasgow University, UK), Hugh Rudnick (PUC, Chile) and Ruy Varela (Sigla, Argentina). Luiz Barroso, Tom Hammons, and Ruy Varela will moderate the Panel Session.

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BIOGRAPHIES

Luiz Augusto Barroso has a BSc degree in Mathematics, and MSc/PhD degrees in Operations Research from the Federal University of Rio de Janeiro, Brazil. He joined PSR in 1999 and has been coordinating several studies and research in the following areas: (i) economic studies; (ii) energy trading, risk management and physical-financial optimization in energy
markets; (iii) system planning studies; (iv) electricity-gas integration, (v) strategic pricing in competitive energy markets and in energy auctions and (vi) regulatory assessment to private investors and institutions. Dr. Barroso has been an invited speaker on energy deregulation and power-gas system planning and economics in workshops, courses and talks in Brazil and many countries in Latin America, in USA/Canada, in Europe, and in Oceania.

**Thomas James Hammons** (Fellow IEEE 1996) received the degree of ACGI from City and Guilds College, London, U.K. and the B.Sc. degree in Engineering (1st Class Honours), and the DIC, and Ph.D. degrees from Imperial College, London University. He is a member of the teaching faculty of the Faculty of Engineering, University of Glasgow, Scotland, U.K. Prior to this he was employed as an Engineer in the Systems Engineering Department of Associated Electrical Industries, Manchester, U. K. He was Professor of Electrical and Computer Engineering at McMaster University, Hamilton, Ontario, Canada in 1978-1979. He was a Visiting Professor at the Silesian Polytechnic University, Poland in 1978, a Visiting Professor at the Czechoslovakian Academy of Sciences, Prague in 1982, 1985 and 1988, and a Visiting Professor at the Polytechnic University of Grenoble, France in 1984. He is the author/co-author of over 350 scientific articles and papers on electrical power engineering. He has lectured extensively in North America, Africa, Asia, and both in Eastern and Western Europe. Dr Hammons is Chair of International Practices for Energy Development and Power Generation of IEEE, and Past Chair of United Kingdom and Republic of Ireland (UKRI) Section IEEE. He received the IEEE Power Engineering Society 2003 Outstanding Large Chapter Award as Chair of the United Kingdom and Republic of Ireland Section Power Engineering Chapter (1994-2003) in 2004; and the IEEE Power Engineering Society Energy Development and Power Generation Award in Recognition of Distinguished Service to the Committee in 1996. He also received two higher honorary Doctorates in Engineering. He is a Founder Member of the International Universities Power Engineering Conference (UPEC) (Convener 1967). He is currently Permanent Secretary of UPEC. He is a registered European Engineer in the Federation of National Engineering Associations in Europe.

**Ruy Varela** graduated as Industrial Engineer from the Buenos Aires Institute of Technology (ITBA, 1971) with post-graduate studies in Operations Research from the Catholic University of Argentina (UCA, 1973). He is an expert on energy economics and regulation. His recent background was developed following deregulation and privatization of the power industry in Latin America (1992), where he has managed several restructuring and/or privatization generation, transmission and distribution projects in which SIGLA was involved. His previous background was on energy planning and economics. In later years his activity has been focused on the tariff revue process of distribution in Brazil and other Latin American countries, such as Guatemala, Nicaragua, Panama, Bolivia, Peru, Uruguay and Venezuela. On the academic side he was founder and professor of "Power System Planning in Deregulated Environment” for the postgraduate course on "Power Market Management” at the ITBA (1996-1998). Ruy Varela is a founding partner and current President of both energy consultant firms SIGLA (Argentina, 1977) and SIGLASUL (Brazil, 2002).

**Hugh Rudnick**, an IEEE Fellow, graduated as an electrical engineer from the University of Chile, Santiago, Chile. He received the M.Sc. and Ph.D. degrees from the Victoria University of Manchester, Manchester, U.K. Currently he is with the Catholic University of Chile, Santiago, Chile and also with Systep Engineering Consultants, which specializes in power-gas system planning and operations issues. His research activities focus on the economic operation, planning, and regulation of electric power systems that specializes in power-gas system planning and operations. He has been a consultant with utilities and regulators in different countries, the United Nations and the World Bank, mainly on the design of deregulation schemes and transmission and distribution open access tariffs.