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Electricity tariff design for transition economies: application to the Libyan power system

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Abstract-

This paper presents a general electricity tariff design methodology, especially applicable for transition economies. These countries are trying to modernize their power systems from a centralized environment (with normally, a public vertically integrated electric company) to a liberalized framework (unbundling electricity companies and, eventually, starting a privatization process). Two issues arise as crucial to achieving a successful transition: i) ensuring cost recovery for all future unbundled activities (generation, transmission, distribution and retailing), and ii) sending the right price signals to electricity customers, avoiding cross-subsidies between customer categories. The design of electricity tariffs plays a pivotal role in achieving both objectives. This paper proposes a new tariff design methodology that, complying with these two aforementioned criteria, requires a low amount of information regarding system data and customer load profiles. This is important since, typically, volume and quality of data are poor in those countries. The presented methodology is applied to computing tariffs for the Libyan power system in 2006, using real data.

Index Terms- Electricity tariffs; Libyan power system; Cost causality; Regulation; Transition economies

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