

Retail Market Mechanism in Support of Differentiated Reliable Electricity Services

Siripha Junlakarn, and Marija Ilíc

Abstract--As moving toward modernized distribution grids, utilities can provide more reliable service and reliability options to customers by collaborating of advanced communication systems, switching devices for network reconfiguration, and distributed generation. The modernized distribution grids will open opportunities for utilities to make profits by offering differentiated reliability services to customers according to their preferences. Therefore, we are proposing a market mechanism that offers differentiated reliability services beyond the standard level. By providing differentiated reliable services, the value of the services to customers would be revealed through customers' preferences for a level of reliability and willingness to pay. Thereby, the information on customers' preferences and willing to pay would provide price signals to utility companies to make effective investments. Consequently, the utilities would be able to determine which preventative actions are economically efficient.