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Working Title: Electricity Market Development in Gulf Countries, an MPEC approach

Abstract: The completion of the cross-country interconnection transmission power line has enabled transfers of electricity among all six countries in the GCC (Kuwait, Bahrain, Qatar, Saudi Arabia, UAE, Oman). The interconnection line currently serves only the purpose of allocating power from countries with reserved capacity to countries that have urgent need for back up power during peak demand. The potential of this new line is yet to be realized when each country relaxes its vertically integrated electricity market for open trade through the transmission line. As demand increases rapidly in this region and smaller states can no longer rely on domestic gas and oil for electricity generation, the interconnecting transmission line presents opportunities as well as challenge to the future development of energy generation for all the Gulf States. This paper presents a Stackelberg game in which the leader is the strategic player with the ISO as potential follower in one scenario. In the second scenario, all other players except the strategic player are followers and respond individually.