The Advanced Power Technologies (APT) Consortium established by Arizona State University, Iowa State University, Virginia Tech, and the University of Washington is developing a revolutionary strategic protection and control system that is expected to significantly reduce the vulnerability of our electric power infrastructure. Our vision for the proposed strategic power infrastructure defense (SPID) system is a wide-area intelligent, adaptive protection and control system that acquires and interprets critical and extensive information in real-time, assesses system vulnerability efficiently and accurately, performs timely self-healing and adaptive reconfiguration actions based on system-wide analysis and computation, and deploys the strategy in a competitive market-based environment. The SPID system will provide power grids with the ability to acquire and explore extensive real-time information from diverse sources, ranging from sensors to various satellites. It is also intended to quickly evaluate system vulnerability with respect to cascaded events involving faults, device malfunctions, and remedial actions that reflect only local considerations. Minimizing the system vulnerability with respect to these cascaded events can significantly reduce the likelihood of catastrophic failures such as the outages that occurred on July 2 and August 10, 1996, in the western U.S. To achieve the goal, the SPID system is being designed with the ability to adapt protective devices based on system-wide assessment, reconfigure the power networks to minimize vulnerability, and develop system restoration plans to minimize the impact of disruption. Deployment of such an intelligent and adaptive system needs to incorporate models and techniques related to the competitive electricity market environment where players are competing, self-serving agents. The SPID concept is revolutionary as it takes advantage of advanced technologies in satellites, sensors, and information and data mining to provide critical and extensive information.