

Accurate control of deferrable electrical loads results in an aggregate load profile more desirable to the system operator. This in turn could lead to reduced peak consumption of power, less ramping of generators and lower emissions of greenhouse gases. In this paper, we describe an algorithm which automatically schedules deferrable loads. The scheduling is carried out by a greedy algorithm which attempts to reduce the error between the scheduled load profile and a predefined “target” load profile. We develop scheduling algorithms for two scenarios: a notified system where load demands are known in advance and a stochastic system, where load demands are random. The algorithms rely on appropriate approximation methods and are evaluated in a dataset collected from a large number of households. We show the algorithms can be used for reducing peak consumption and describe a correspondence between deferrability and storage devices.