Installation of smart meters is increasing world-wide, opening the possibility to implement time-of-use (TOU) tariffs to moderate peak loads. This study is focused on the design of an optimal opt-in residential TOU tariff. Residential consumers are assumed to act in their private interests and maximize utility in response to tariffs. The regulated utility has a broader interest in maximizing societal welfare. However, the regulated utility cannot impose household behavior and cannot directly observe household type. Instead, the regulated utility must offer contract options including both a TOU tariff and current pricing to allow households to self-select the plan best suited to their interests. This paper proposes a simple flexible household utility function that can be calibrated with minimal data to describe diverse household behaviors and reveal household responses to different prices. An optimal pricing model is designed for the regulated utility, taking account of asymmetric information and potential household opportunistic behavior. Using economic constructs from principal-agent theory, the pricing model ensures participation among households most aligned with the regulated utility's desire. The pricing model can also be extended for competitive markets. A case study is performed to demonstrate the benefit the optional TOU tariff can realize.