Abstract   This work presents a self scheduling problem of a thermal GenCo, trading electricity in a daily spot and subsequent adjustment market, to secure maximum feasible profit under the uncertainties of both the markets. The work proposes an Information Gap Decision Theory (IGDT) based framework that enables GenCo to make robust decisions for self-scheduling as well as trading portfolio selection in daily electricity markets. A realistic case study of PJM market is considered which provides a range of decisions about both unit commitment and allocation in both the markets for a rational GenCo, based on the trade-off existing between robustness and targeted profit.