Zhao, Y., Lin, Z, Wen, F, Ding, Y, Hou, J, Yang, L., 2019, Risk-Constrained Day-Ahead Scheduling for Concentrating Solar Power Plants with Demand Response Using Info-Gap Theory, *IEEE Transactions on Industrial Informatics,* Vol. 15, # 10, pp.5475–5488.

**Abstract** The emerging concentrating solar power plant (CSPP) represents one of the promising technologies for promoting solar power applications. In this paper, risk-constrained day-ahead scheduling strategies for a virtual power plant (VPP) integrating a CSPP with some responsive residential and industrial loads are proposed considering the uncertainties from electricity price, thermal production of the solar field of the CSPP, and participation factor of residential demand response. The well-established information gap decision theory (IGDT) is utilized to hedge against the risk caused by these uncertainties. Based on IGDT, both a robust scheduling strategy for the risk-aversion decision maker and an opportunistic scheduling strategy for the opportunity-seeking decision maker are presented for hedging the profit risk of the VPP against variations of electricity price, thermal production, and demand response. Simulation results show that the presented IGDT-based method can act as an effective tool for managing risks from uncertainties, and also demonstrate that the RA VPP should focus more on the thermal production of the CSPP so as to guarantee the desired profit, whereas the OS VPP should pay more attention to the market price so as to achieve a windfall profit.

**Keywords** Concentrating solar power plant (CSPP), demand response (DR), information gap decision theory (IGDT), risk managemen, tvirtual power plant (VPP).