Jun Liu, Chong Chen, Zhenling Liu, Kittisak Jermsittiparsert, Noradin Ghadimi, 2020, An IGDT-based risk-involved optimal bidding strategy for hydrogen storage-based intelligent parking lot of electric vehicles, *Journal of Energy Storage* 27 (2020) 101057.

Abstract In a near future, electric vehicles (EVs) will constitute considerable part of transportation systems due to their important aspects such as being environment friendly. To manage high number of EVs, developing hydrogen storage-based intelligent parking lots (fPLs) can help power system operators to overcome caused problems by high penetration of EVs. In this work, a new method is applied to get optimal management of IPLs in an uncertain environment and provide optimal bidding curves to take part in power market. The main purpose of this work is to get optimal bidding curves with considering power price uncertainty and optimal operation of IPLs. To model uncertainty of power price in the power market and develop optimal bidding curve, the opportunity, deterministic and robustness functions of the information gap decision theory (IGDT) technique has been developed. Obtained results has been presented in three strategies namely risk-taker, risk-neutral, and risk-averse corresponding to opportunity, deterministic, and robustness functions of the !GOT technique. In order to demonstrate the effects of demand response program (DRP), each strategy is optimized with and without DRP cases. The mixed-integer non-linear programming model is used to formulate the proposed problem which is solved using the GAMS optimization software under DICOPT solver.

Keywords Social welfare of owners of electric vehicles, Intelligent parking lot, Optimal bidding curve, Power price policy, IGDT technique, Energy management and business