

This paper is related to a solution approach for the nonlinear and nonconvex combined heat and power economic dispatch problem (CHPED). It combines the cuckoo optimization algorithm with penalty function (PFCOA) published in “Mellal and Williams (2015)” and the binary approach published in “Geem and Cho (2012).” The binary approach discretizes the nonconvex operating feasible region into two convex regions in order to explore the whole operating region. A numerical case study involving four units is investigated and the superiority of the mixed method, i.e, the PFCOA with the binary approach is proved