## The Unit Commitment Problem with Periodicity Constraints

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This work addresses the Unit Commitment (UC) problem. In the UC problem, the goal is to schedule a subset of a given group of electrical power generating units and also to determine their production output in order to meet energy demands at minimum cost. In addition, the solution must satisfy a set of technological and operational constraints. Most problems in the literature consider a short horizon scheduling, typically 24 hours, but the solution obtained cannot be repeated even when load demand pattern remains the same.

We analyse the "short horizon effect" when 24 hour scheduling is used repeatedly on a longer period and we introduce periodicity constraints that improve the overall solution on longer periods without compromising the computational load.