System Parameters and Daily Load Demand

This document provides system-related parameters, including those for thermal and wind power units, and presents the daily load demand curve.

Parameters of Thermal Units are shown in Table I:

TABLE I

PARAMETERS OF THERMAL UNITS

unit	Max/Min output power /MW	Minimum up/down time/h	Ramp down /up capacity /(MW/h)	Operational cost coefficient/$	Startup cost /$	Droop coefficient/ (MW/Hz)
1	60/15	2	15	0.00205/ 1.1285/15	75	4
2	80/20	2	20	0.00227/ 1.1954/25	91	4.5
3	100/30	3	25	0.00148/ 1.2130/29	94	4.8
4	120/25	4	30	0.00150/ 1.2643/32	105	5.5
5	150/50	4	35	0.00212/ 1.5354/40	113	6.1
6	280/75	5	60	0.00261/ 1.6966/49	126	6.8
7	320/120	5	65	0.00289/ 1.8518/72	167	7.4
8	445/125	5	70	0.00382/ 1.9101/82	207	8
9	520/250	6	75	0.00280/ 2.0012/100	237	8.9
10	550/250	6	80	0.00292/ 2.3034/110	250	10

The wind farm consists of 16 wind turbines, each with a rated capacity of 4 MW. The turbine speed range is [0.7, 1.44] rad/s.

The daily load demand curve is shown in Fig. 1:

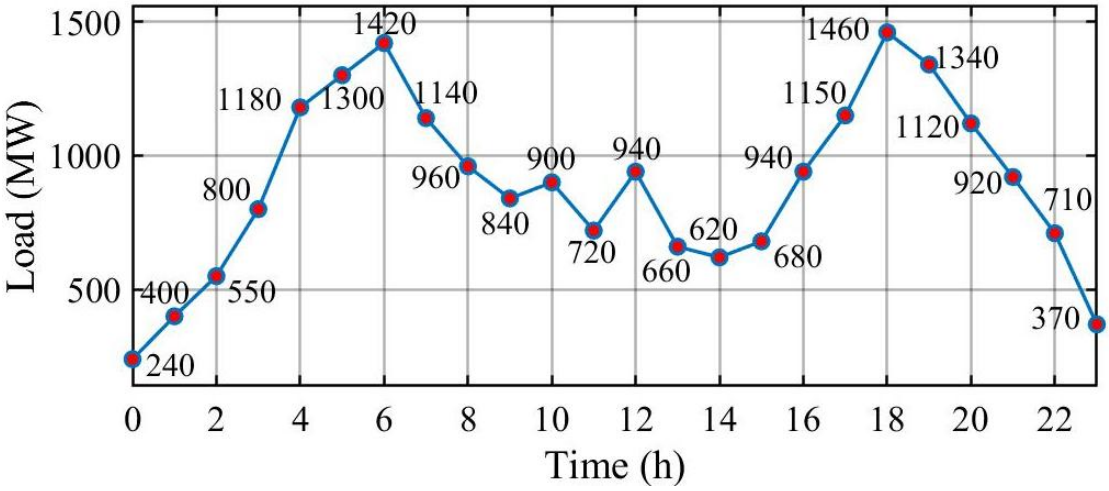

Fig. 1. The daily load demand curve.