

India's electricity transmission system

Selected indicators

JOHN KEMP
REUTERS

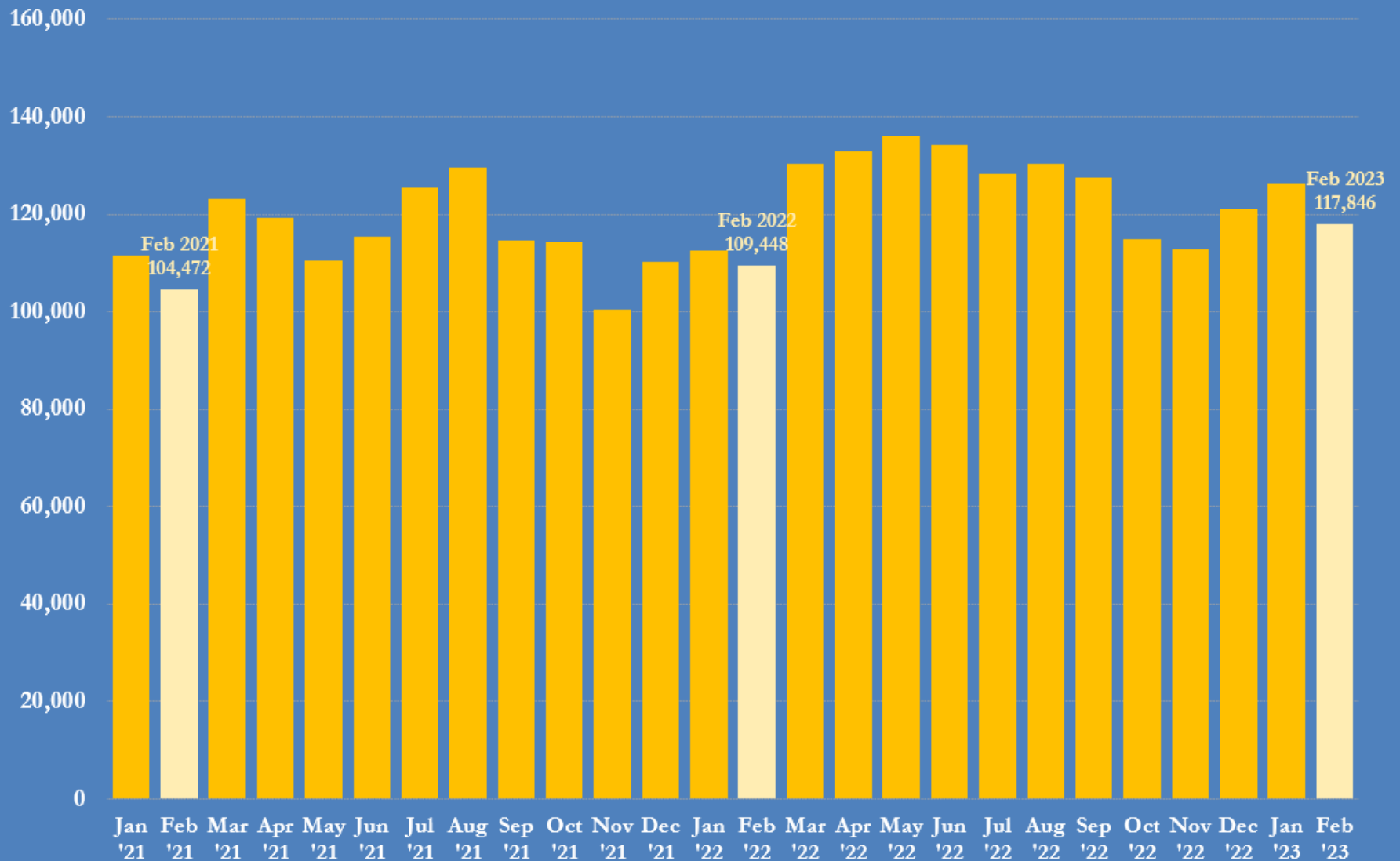
28 March 2023

India electricity summary		Dec 2021	Jan 2022	Feb 2022	Dec 2022	Jan 2023	Feb 2023
Peak demand (met)	MW	183,394	192,078	193,648	205,031	210,618	209,665
Average frequency	Hz	50.00	50.00	50.00	50.00	50	50
Time below target (<49.90)	%	6.9	5.8	6.0	12.8	13.3	10.8
Total demand (met)	million kWh	110,341	112,632	109,448	121,158	126,161	117,846
Hydro	million kWh	8,620	7,847	7,806	9,100	8,504	8,771
Wind	million kWh	3,496	3,363	3,069	3,954	5,039	3,207
Solar	million kWh	5,570	6,263	6,828	7,669	8,576	8,974
Other	million kWh	92,655	95,159	91,745	100,435	104,042	96,894
Total demand met by all	%	100.0	100.0	100.0	100.0	100.0	100.0
Hydro	%	7.8	7.0	7.1	7.5	6.7	7.4
Wind	%	3.2	3.0	2.8	3.3	4.0	2.7
Solar	%	5.0	5.6	6.2	6.3	6.8	7.6
Other	%	84.0	84.5	83.8	82.9	82.5	82.2
Total installed capacity	MW	393,389	395,075	395,608	410,339	411,649	412,212
Coal	MW	203,190	203,900	203,900	203,775	204,435	204,435
Lignite	MW	6,620	6,620	6,620	6,620	6,620	6,620
Gas	MW	24,900	24,900	24,900	24,824	24,824	24,824
Diesel	MW	510	510	510	589	589	589
Nuclear	MW	6,780	6,780	6,780	6,780	6,780	6,780
Hydro	MW	46,512	46,512	46,525	46,850	46,850	46,850
Renewables	MW	104,879	105,854	106,375	120,900	121,550	122,113

Source: National Load Despatch Centre, Grid Controller of India
@JKempEnergy

India electricity demand met, 2021-2023

monthly, billion kilowatt-hours

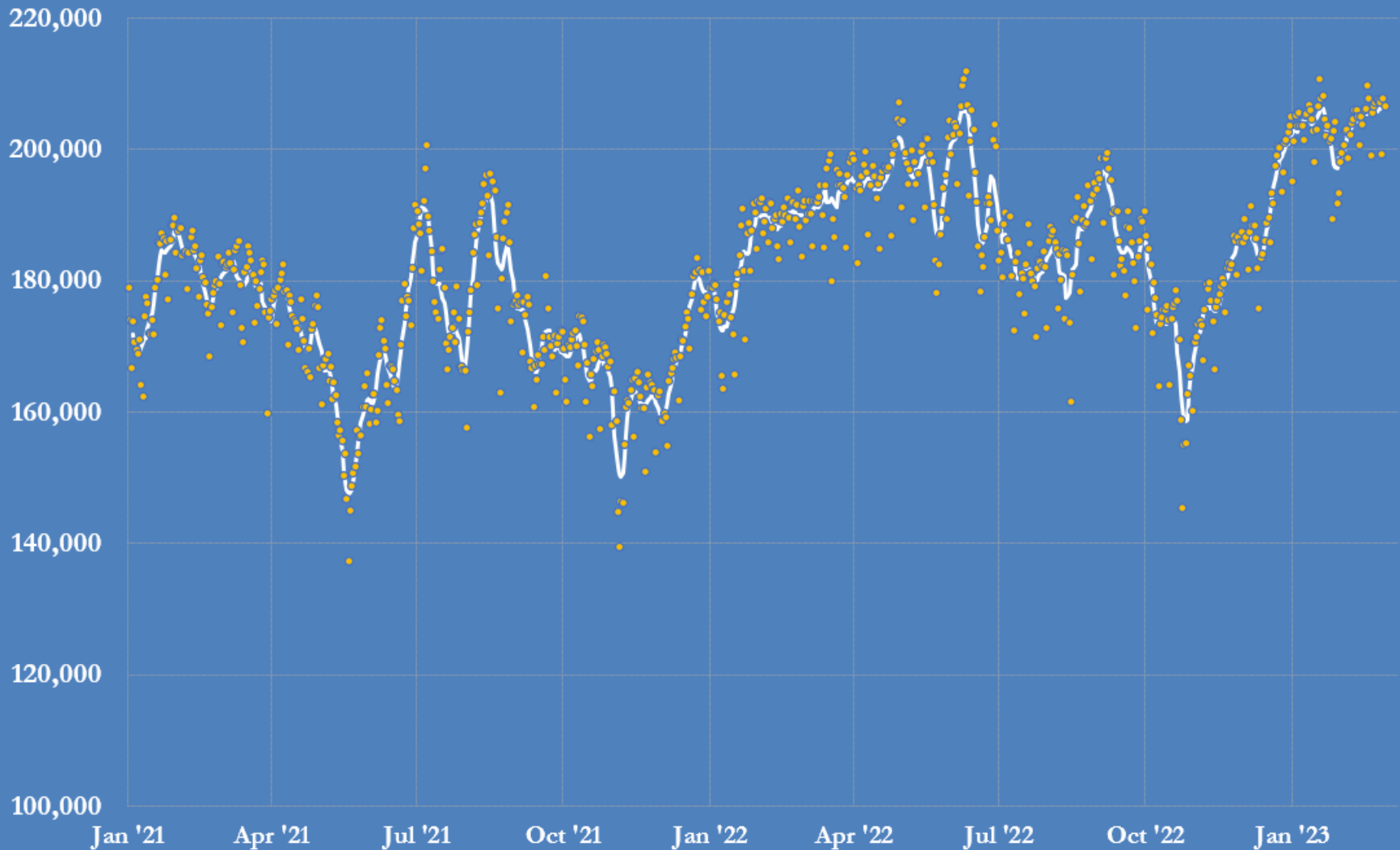


Source: Grid Controller of India

@JKempEnergy

India daily peak electricity demand met, 2021-2023

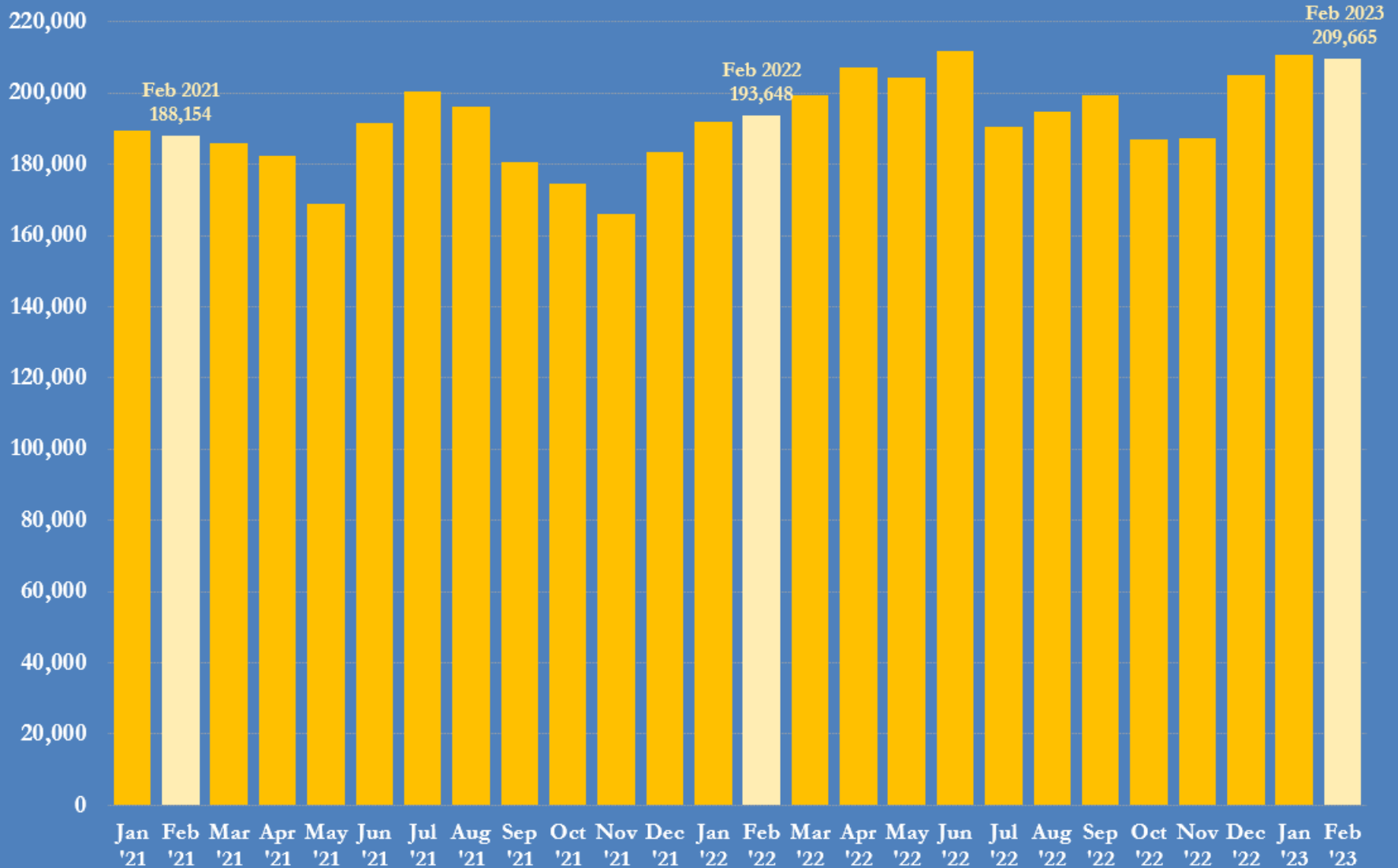
megawatts, daily and seven-day centred average



Source: National Load Despatch Centre, Power System Operation Corporation

@JKempEnergy

India peak electricity demand met, 2021-2023 monthly, megawatt-hours



Source: Grid Controller of India

@JKempEnergy

India evening peak electricity demand met, 2021-2023

megawatts, daily and seven-day centred average

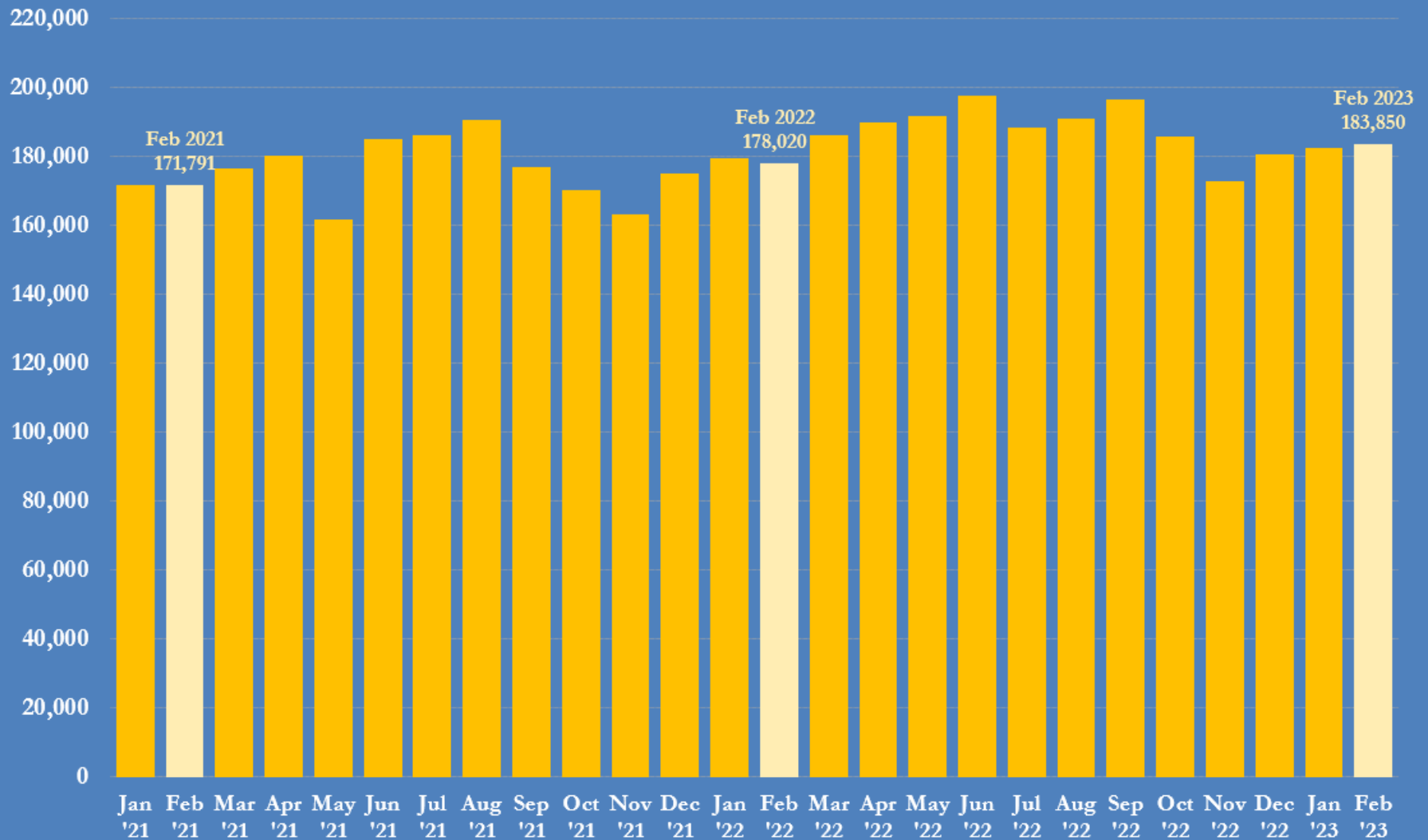


Source: National Load Despatch Centre, Grid Controller of India

@JKempEnergy

India evening peak electricity demand met, 2021-2023

megawatts, monthly peak

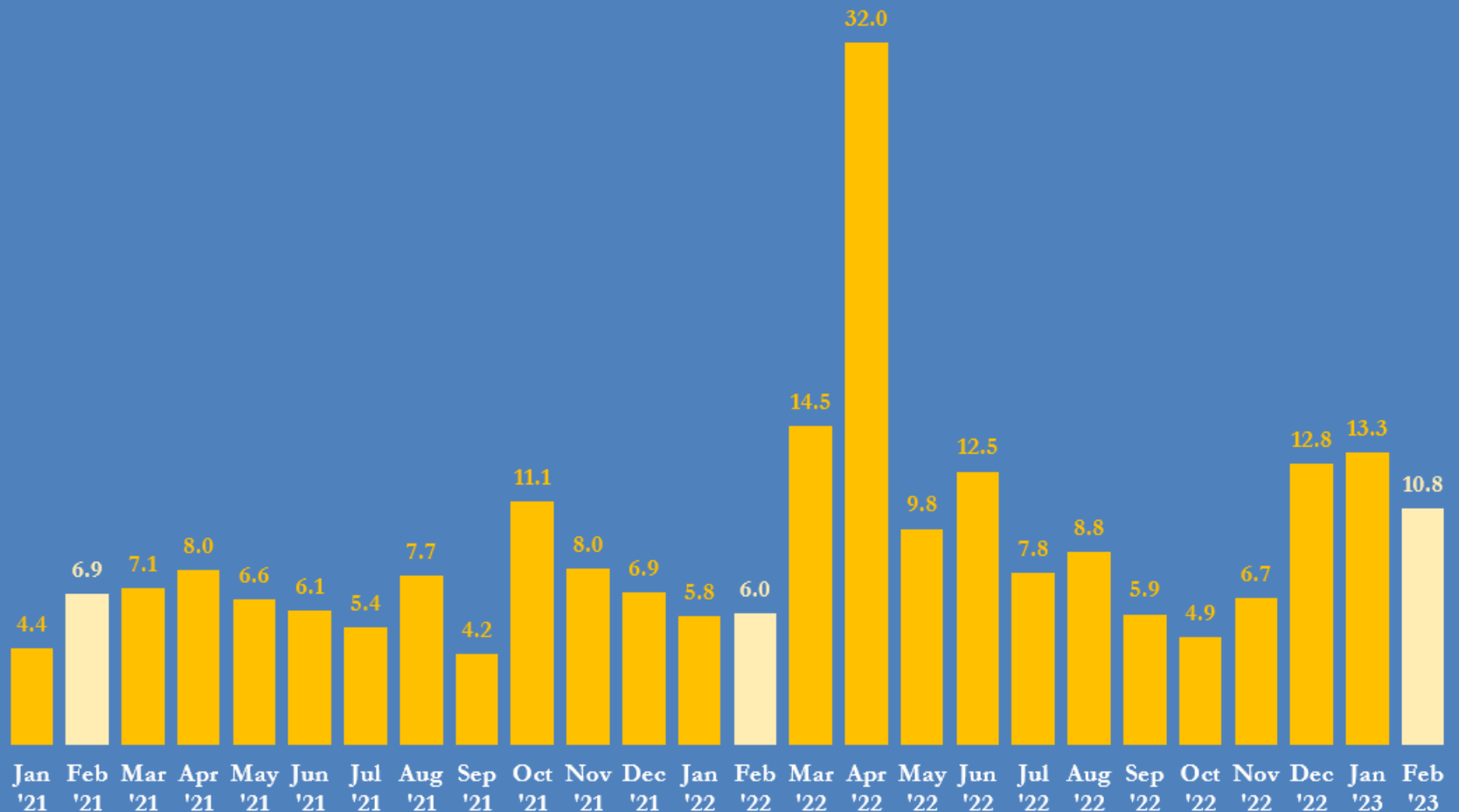


Source: National Load Despatch Centre, Grid Controller of India

@JKempEnergy

India electric grid frequency, 2021-2023

monthly, percent of time spent below minimum limit of 49.9 Hz

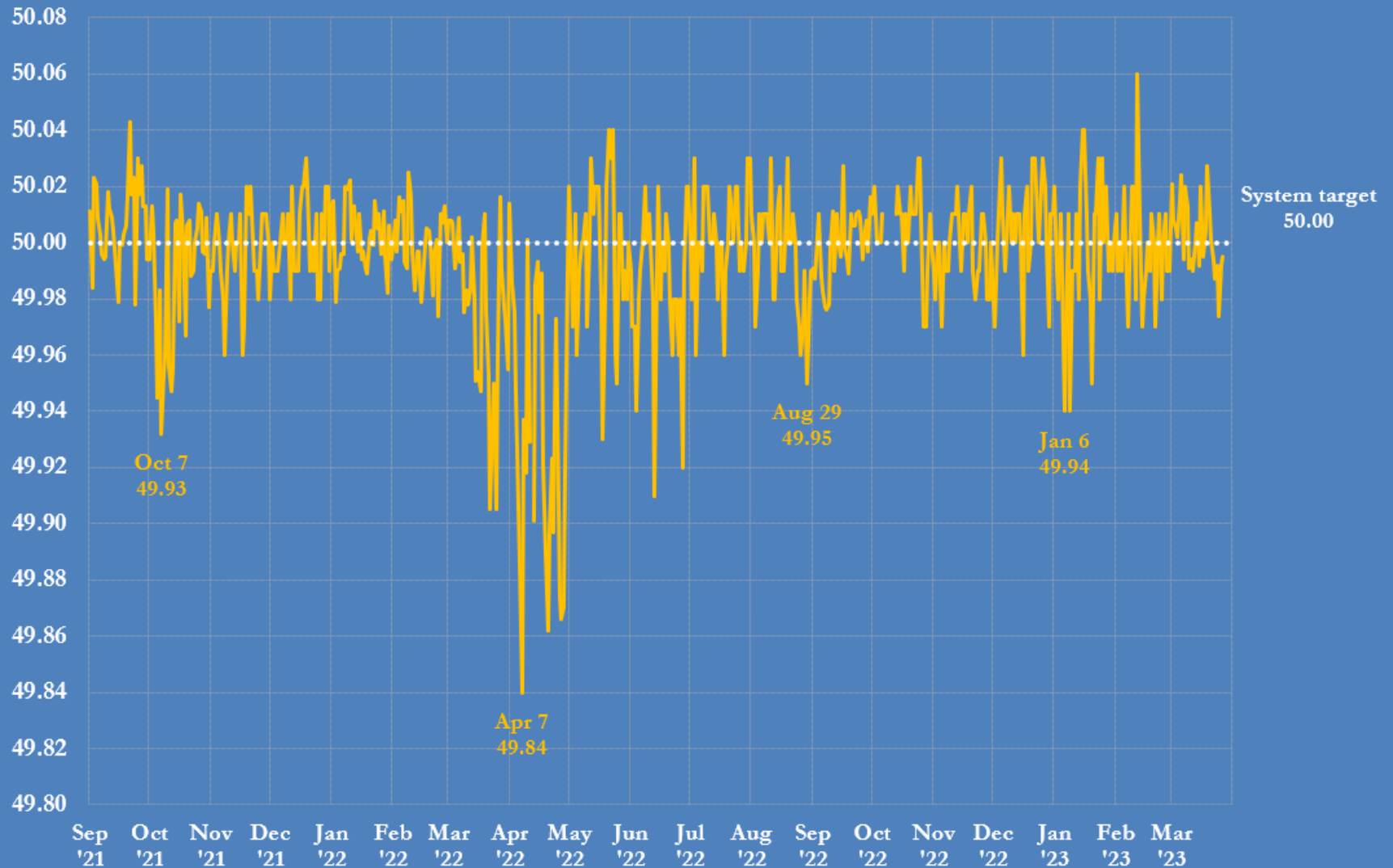


Source: Grid Controller of India

@JKempEnergy

India power grid frequency, 2021-2023

daily average, cycles per second (Hz)

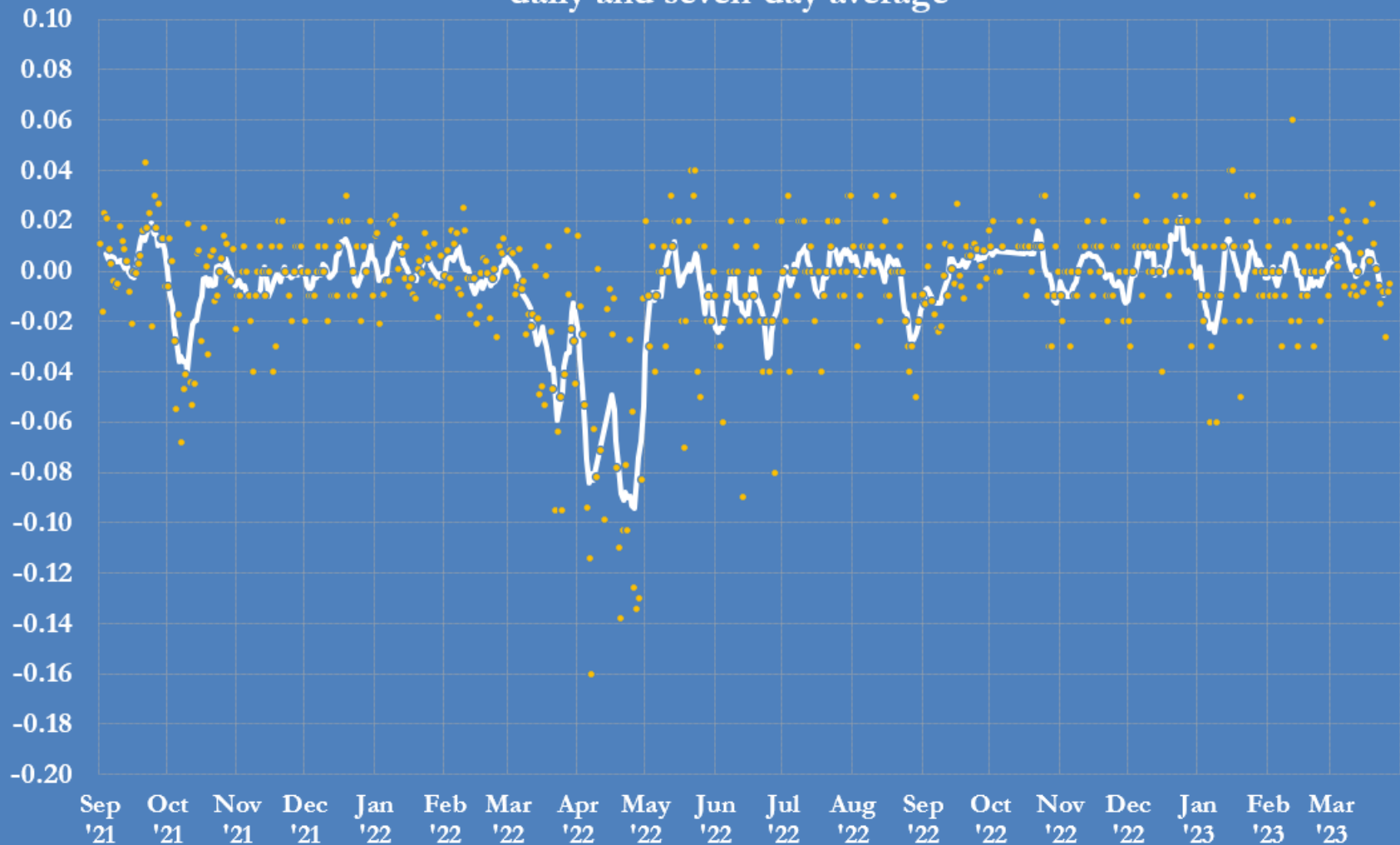


Source: National Load Despatch Centre, Grid Controller of India

@JKempEnergy

India power grid frequency, 2021-2023

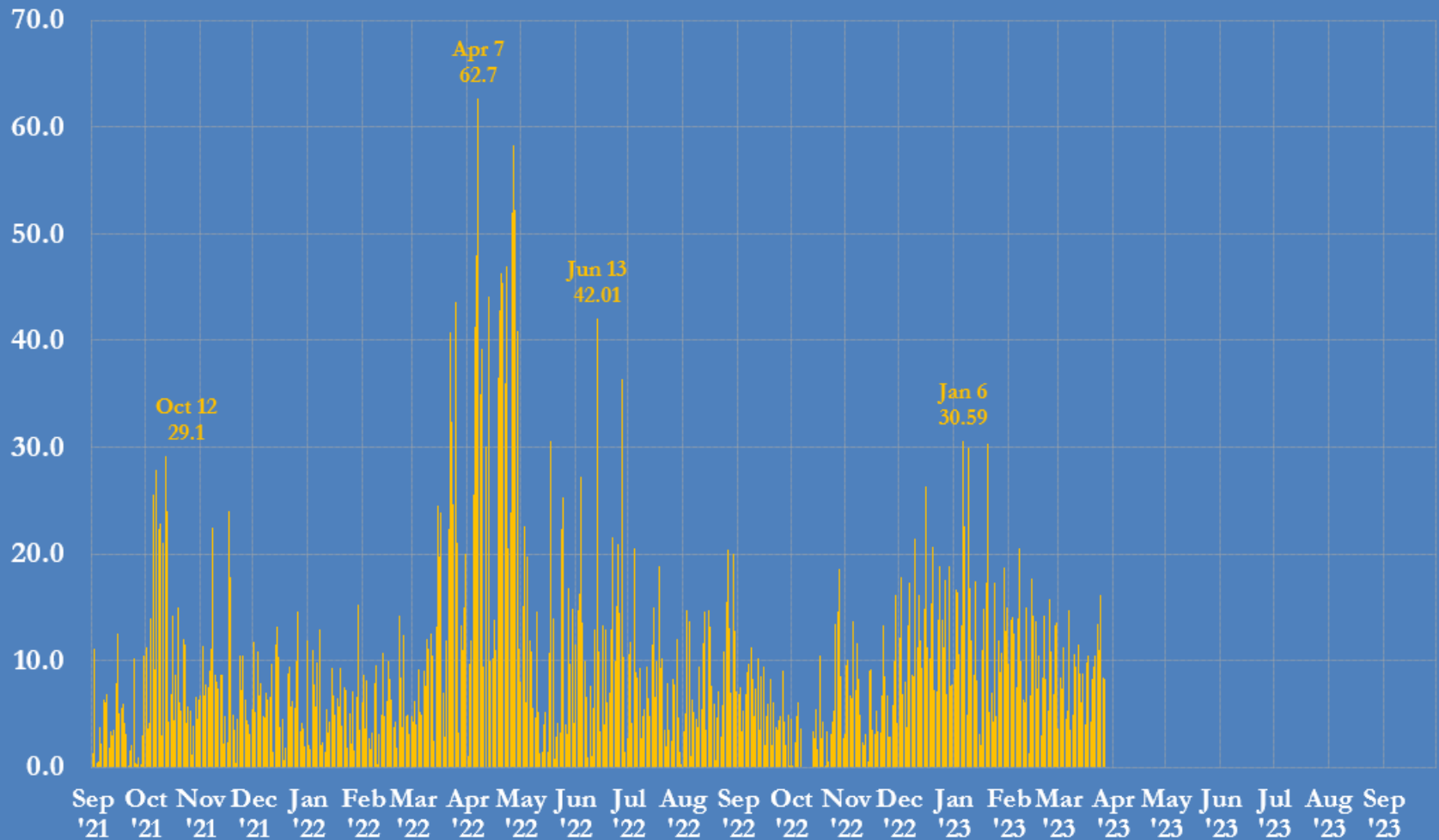
deviation from target (50) in cycles per second (Hz)
daily and seven-day average



Source: National Load Despatch Centre, Grid Controller of India

@JKempEnergy

India power grid frequency, 2021-2023 daily, percent of day spent below minimum target of 49.9 Hz

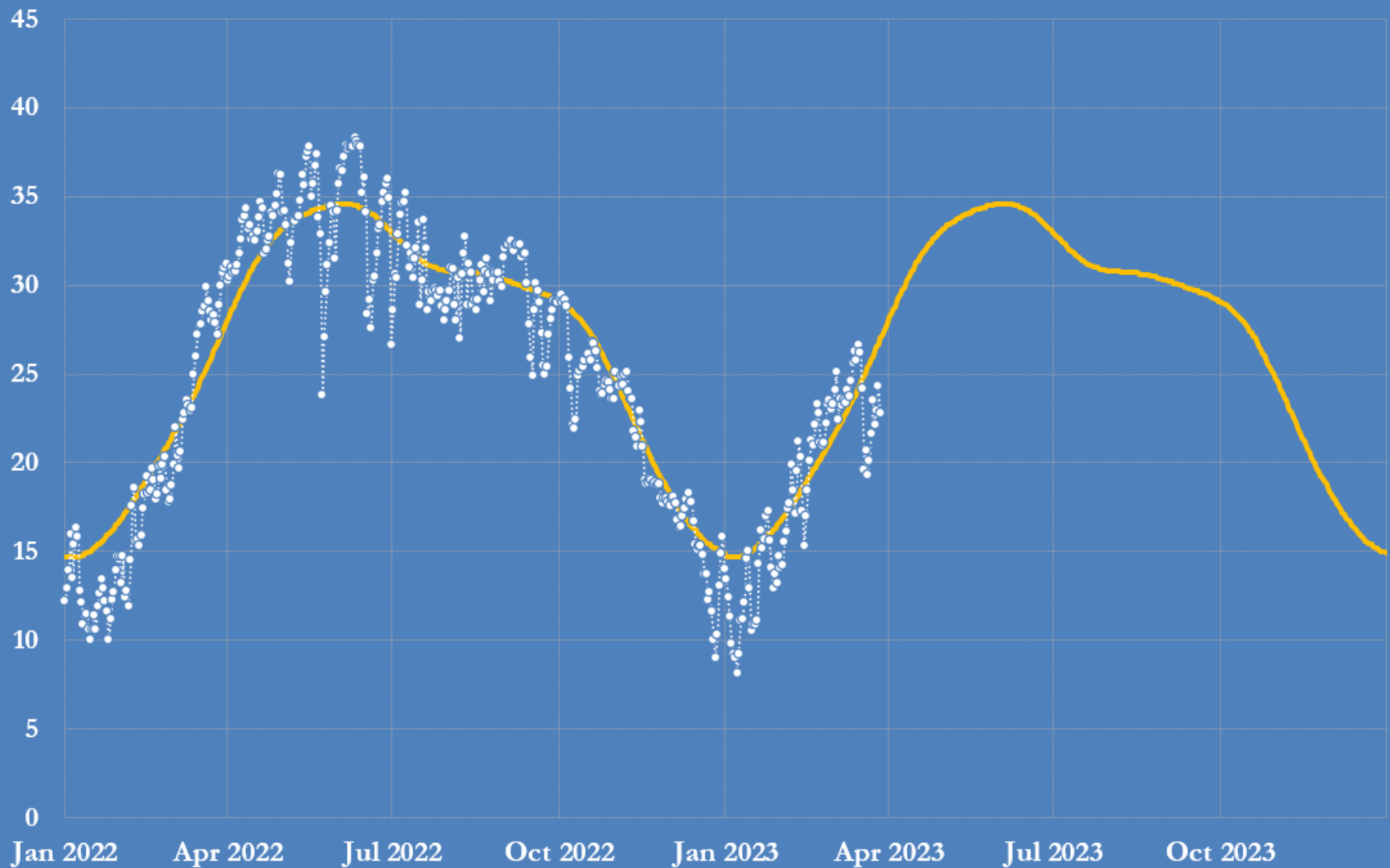


Source: National Load Despatch Centre, Grid Controller of India

@JKempEnergy

New Delhi (Palam) temperatures, 2022-2023

°C, daily average compared with long-term normal (1981-2010)

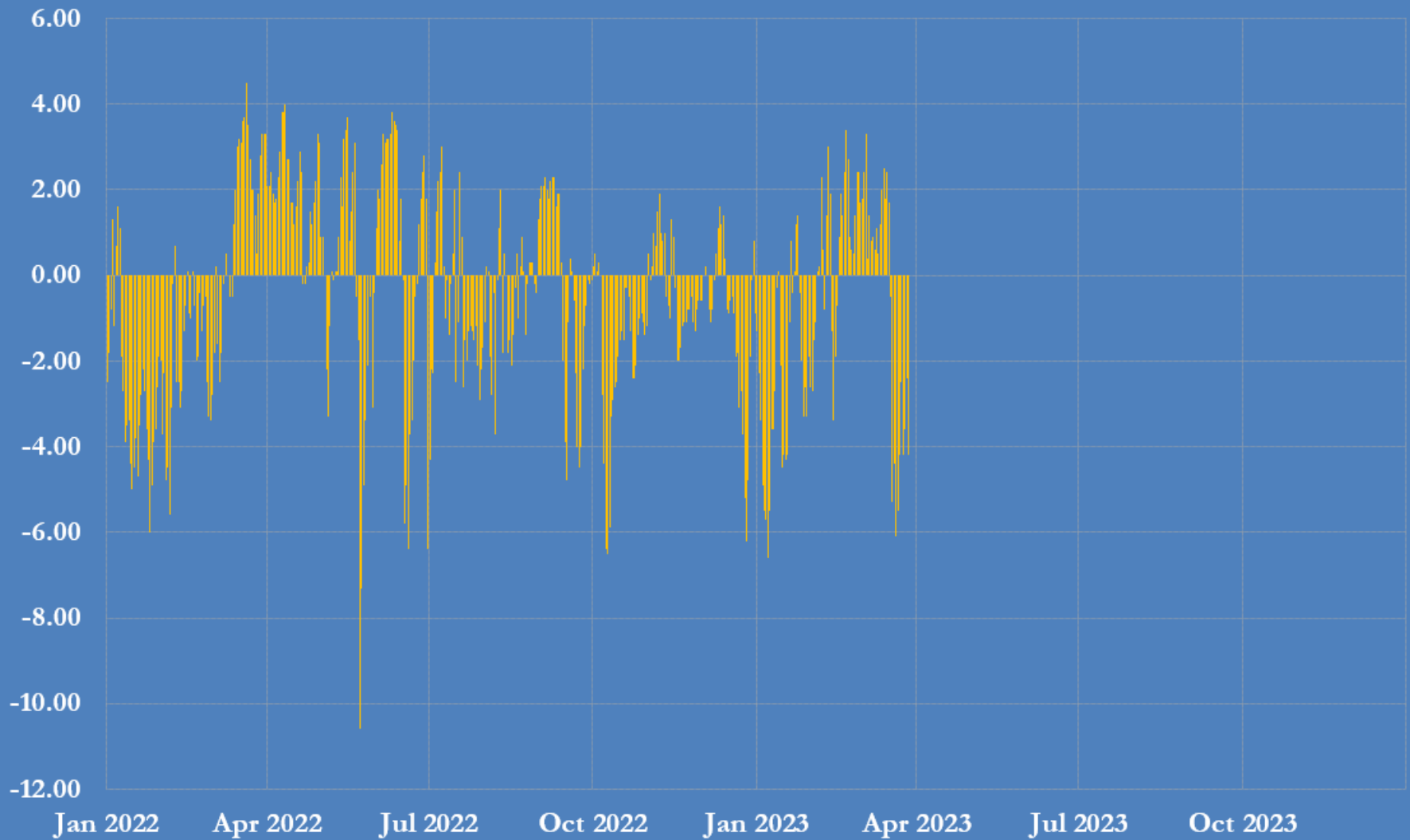


Source: U.S. Climate Assessment Database

@JKempEnergy

New Delhi (Palam) temperatures, 2022-2023

°C, daily average, deviation from long-term normal (1981-2010)

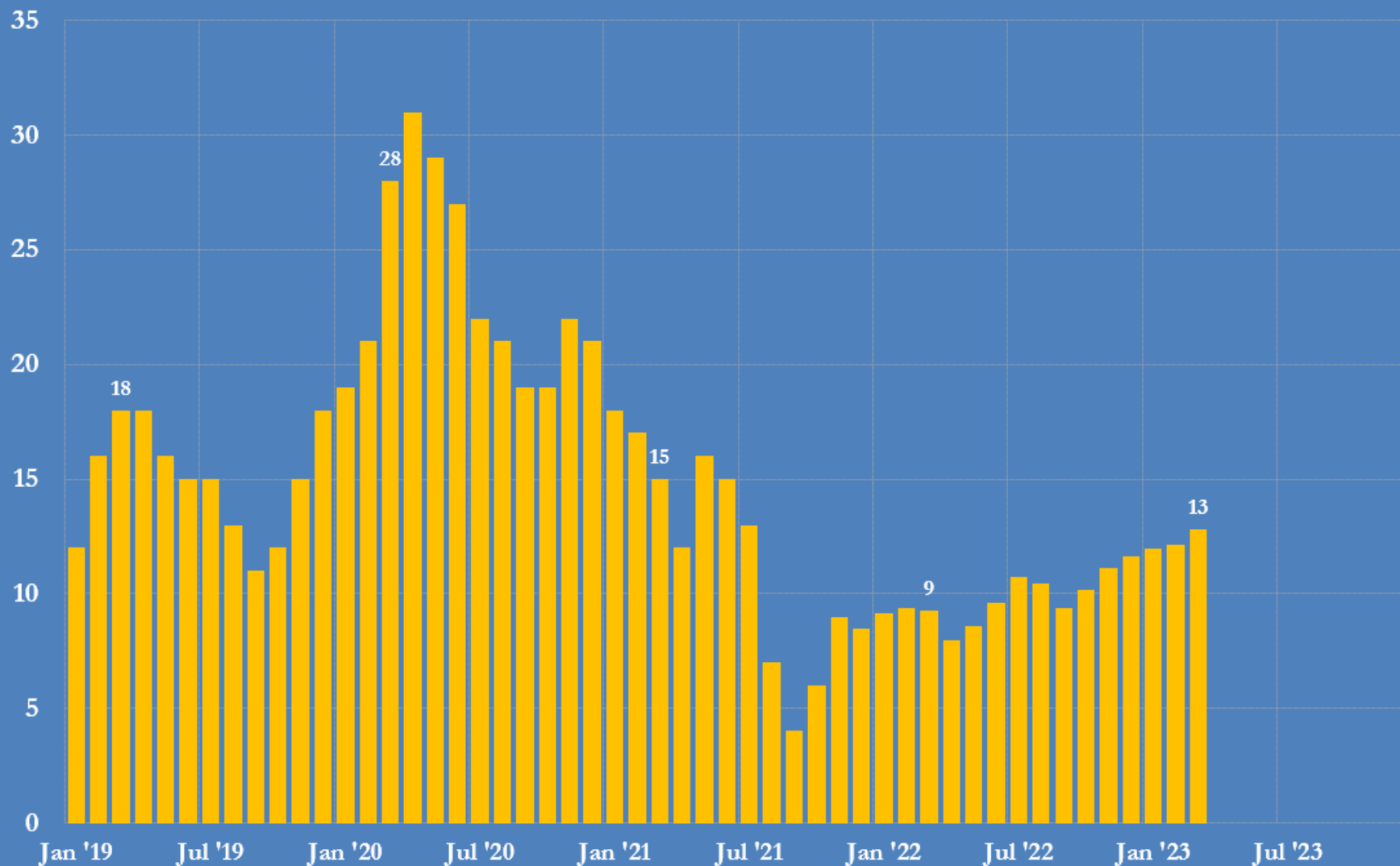


Source: U.S. Climate Assessment Database

@JKempEnergy

India coal stocks at power plants, 2019-2023

stocks in days of consumption, month-end except most recent month



Source: India Central Electricity Authority / National Power Portal

@JKempEnergy