

Mitigation of large active power variations

Topic Change

Variability Mitigation

- “Load floor”
- HV/MV energy storage
 - E-STATCOM with or without GFM BESS
- DC level (power supply) storage (eg Nvidia GB300 or DC storage)
- Low voltage GFM BESS or GFM BESS behind series reactor
- Full conversion UPS with large energy storage or supercapacitors
- Thyristor switched resistor
- Software mitigation?

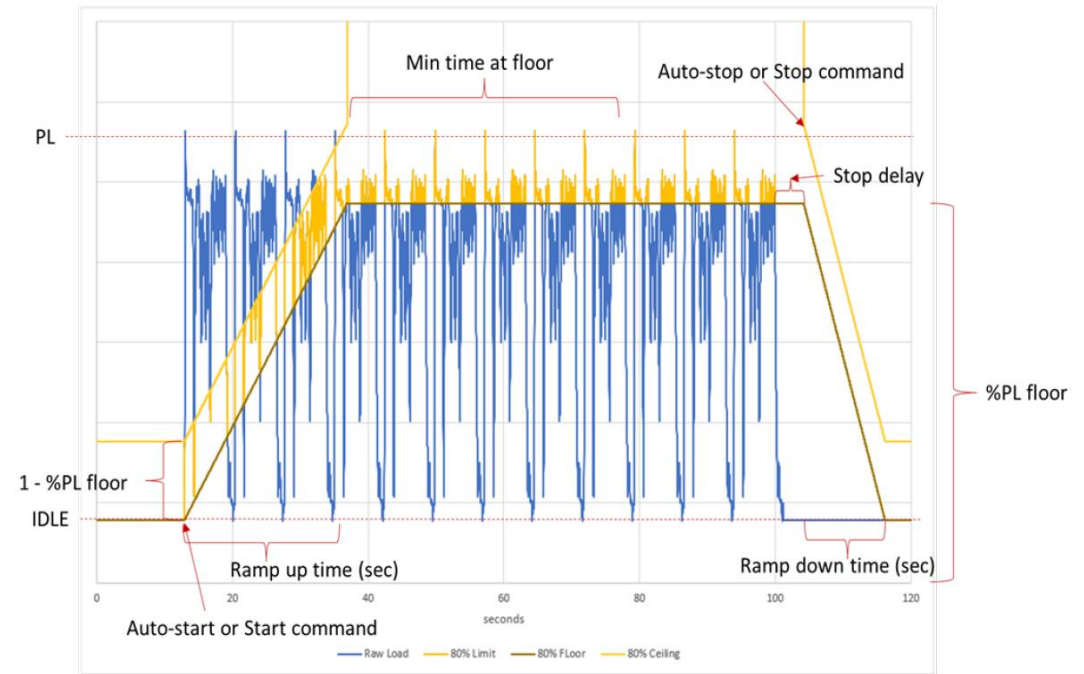


Fig. 7. Energy-storage solution simulated on the power waveform from Figure 1

Solution	Reliability	Performance	Energy	Cost	Ability to meet tightest spec	Dependency on the developer	Lifetime
Software-only mitigation	Medium	Medium	High	Medium	High	High	High
GPU power smoothing	High	Medium	High	Low	Medium	Medium	Medium
Rack-level energy storage	High	High	Low	High	High	Low	High

TABLE I

SUMMARY OF VARIOUS PROPOSED SOLUTIONS. FOR ENERGY, COST, AND DEPENDENCY ON THE DEVELOPER, LOWER IS BETTER.

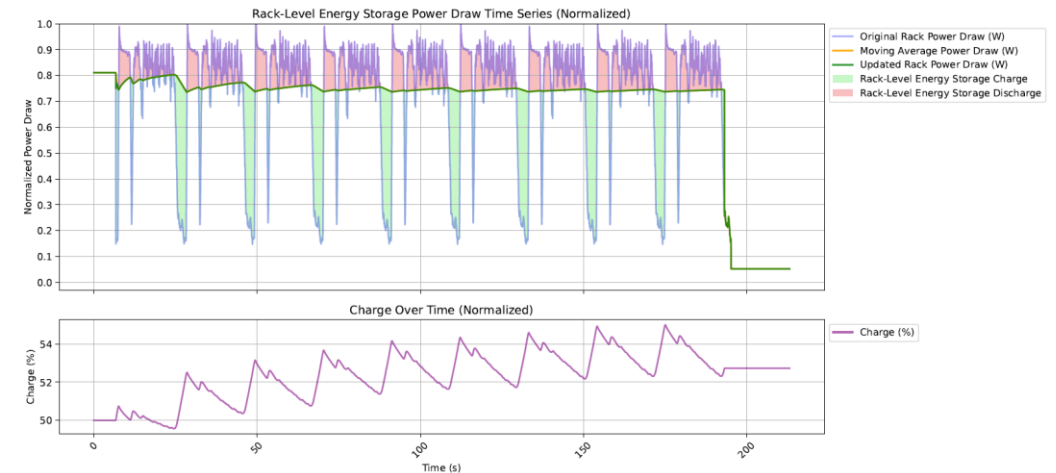


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Power Stabilization for AI Training Datacenters