

Powering Data Centers in a High Growth Era

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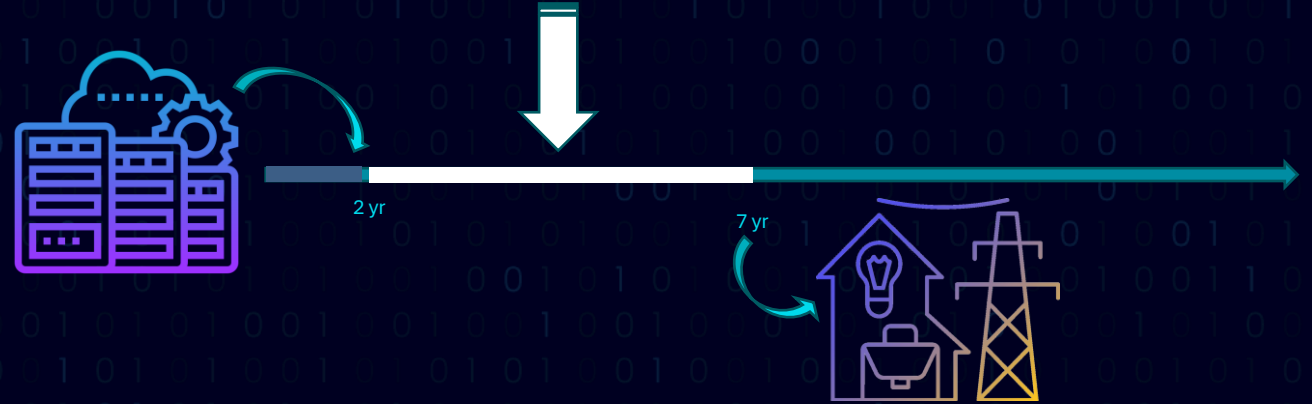
2026 NCEP Annual Meeting:

Collaborative Responses to Load Growth

May 5, 2026



The Challenge



The Solution

Grid-integrated Flexible
Data Centers





Optimize Data Center Operational Flexibility to Help Strengthen the Grid



-  ARIZONA, U.S.
-  NORTH CAROLINA, U.S.
-  PARIS, FRANCE
-  VIRGINIA, U.S.
-  ILLINOIS, U.S.
-  TEXAS, U.S.
-  LONDON, U.K.

DCFlex Workstreams



The DCFlex participant panel actively collaborates with regulators, academia, and industry stakeholders – both to share leading practices and insights, and to incorporate diverse perspectives that strengthen the initiative’s direction and impact.



Learn More:
dcflex.epri.com



Deliver a large load flexibility framework bridging data center capability to grid needs

Challenges & Opportunities

Unlocking Capacity



- Flexible load has potential to unlock 100+GW of grid capacity
- Flexibility needs vary by location due to grid configurations & resource portfolio
- Data centers can design in flexibility through compute, auxiliary load, and on-site generation
















Managing Load Volatility




- Load spikes caused by synchronized computation demand
- Trigger unwanted oscillations & flicker
- These pulsating loads can excite conventional gen torsional modes, cause fatigue and damage turbine shafts



INCREASING FLEXIBILITY →

CLASS A	CLASS B	CLASS C	CLASS E
<p>Critical Peaking</p> <p> Day Ahead</p> <p> < 5 Hours</p> <p> ~ 1%</p>	<p>Peaking</p> <p> Day Ahead</p> <p> < 5 Hours</p> <p> ~ 5+%</p>	<p>Prolonged</p> <p>  </p> <p>Day Ahead 24+ Hours < 10%</p>	<p>Fully Grid Responsive</p> <p> > 5 Minutes</p> <p> 24+ Hours</p> <p> > 30%</p>
		CLASS D	
		<p>Fast</p> <p>  </p> <p>> 5 min < 2 Hours > 8%</p>	
respond to <i>rare</i> scarcity events 5 hours or less	respond to <i>frequent</i> scarcity events 5 hours or less	A + B + respond to <i>prolonged</i> events, up to 24+hrs	Fully grid responsive

-  Notification Window
-  Activation Period
-  Annual Utilization

World's largest cross-sector collaborative on flexibility unveils
Common Flexibility Classification
 to unlock grid capacity without compromising reliability and affordability

Broad Cross-Sector Commitment

Reliability & Standards Authorities

NERC

Financial & Advisory

ING 

KPMG

Grid & Market Operators

 California ISO

 SPP *Southwest Power Pool*

 MISO

 CENACE
CENTRO NACIONAL DE CONTROL DE ENERGIA

 ieso
Connecting Today. Powering Tomorrow.

 smart KPX

Electric Utilities & Public Power

 Southern Company

 aps

 Alliant Energy.

 DTE

 entergy

 exelon

 PSEG

 LCRA
ENERGY • WATER • COMMUNITY SERVICE

 N

Nebraska Public Power District
Always there when you need us

 PGE

 LES

 REC
Rayburn Electric
COOPERATIVE

 NEW YORK STATE OF OPPORTUNITY
NY Power Authority

 Georgia Transmission

 Constellation.

 SNP

 UNITED POWER
Your Touchstone Energy® Cooperative 

Technology, Data Centers, & OEM's



NVIDIA.

Google

 COMPASS
datacenters.

 Meta

 PADO

Honeywell

JENBACHER

INNIO
SIEMENS

Framework Rollout

1. Pre-application



✓ Base Framework*

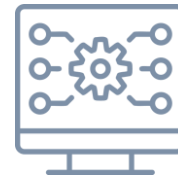
- Locational signal by class
- Design Evaluation Tool

2. Interconnection Application



- Certified large load Class
- Associated profile shape

3. Interconnection Study



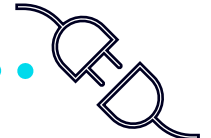
- Class based study dataset
- Transparent large load model and load shape

4. Interconnection Agreement



- Program frameworks

5. Project Commission



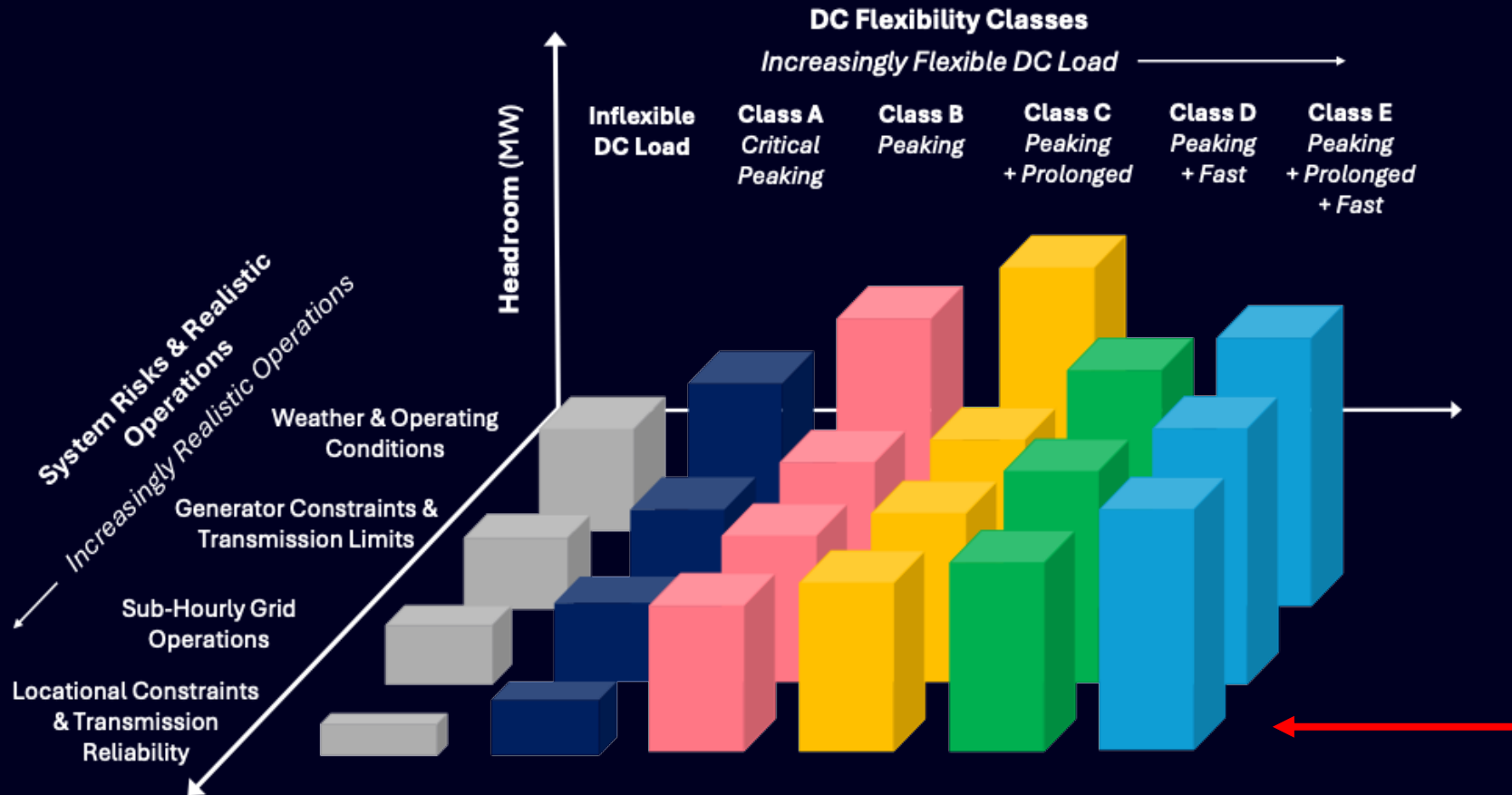
- Operator Dispatch tools & guidelines

* March 2026 announcement outlines the base framework. Rest of the capability will be rolled out in steps over the year



The Headroom Framework

Power system interactions & DC flexibility archetypes define headroom



- Rigorous headroom assessments consider a range of power system and DC flexibility realities
 - + Uncertainties
 - + temporal and spatial constraints
 - + grid requirements
 - + DC flexibility classes

The most operationally realistic view of headroom

Introducing Flex MOSAIC™ across stakeholders



CERAWeek
by S&P Global

Public launch

Expand reach

Specialized focus

Supporting tools +++

Oct 2025

Mar 2026

Apr 2026

Jul 2026

Oct 2026

Development Plans

SPRINT 3

SPRINT 4

Open Stakeholder Engagement
(all Open Letter Participants)

Mid-May:

- 1st Workshop

Mid-June:

- 2nd Workshop

Adoption toolset delivery

Post-October:

- Adoptable tools, processes, datasets roll out

Your Voice...

Question #1



Are there other parameters you believe needs to be in the definition of the Flex MOSAIC™ classes?

Question #2



Are there other tools, frameworks, data sets, etc that will help in adopting the Flex MOSAIC™ framework? Pls list with details.

Question #3



- Are there any gaps in the process for integration of Flex MOSAIC™?
- Willingness to share data