



Energy Storage Services  
White Paper  
ESTF Presentation

November 29, 2022

Kenneth Silver  
Chair, Energy Storage Task  
Force

# Energy Storage Services White Paper

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- In May 2021, the Energy Storage Operations Task Force (ESOTF) and the Energy Storage Commercial Task Force (ESCTF) agreed to draft a storage products and services white paper
- A drafting team was formed by volunteers from the two groups:

**Darren Lamb**

**David Delparte**

**Kenneth Silver**

**Layne Brown**

**Radha Soorya**

**Rhett Hurless**

**Steve Ashbaker**

# Why A Storage White Paper?

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- Focus on what functions storage provides to the grid.
- What is the difference between a product and a service?
  - Service is the attributes or operational function.
  - Product is how the service fits into a market structure.

# White Paper Strategy

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Strategy guiding preparation of the white paper

1. Categorize each product and service into buckets (ancillary services, energy, transmission, benefits, and other)
2. Draft definitions for each product and service
3. Articulate how energy storage accomplishes these products/services
4. Develop a comparison between how existing resources and storage accomplish these products and services
5. Determine areas where BESS/hybrid resources perform services the same, better than, or worse than conventional generators

# Outline

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- The Energy Storage Services white paper:
  - Identifies services essential to the reliable operation of the BPS and may be a market product in an ISO or RTO
  - Identifies characteristics of energy storage
  - Discusses benefits of energy storage
  - Groups the services into three buckets:
    - Energy Service Products
    - Transmission Service Products
    - Ancillary Service Products
  - Describes each function and compares how existing resources provide this service
  - Concludes with a summary

# Summary

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- Energy storage resources will play an increasingly important role as fewer fossil-fuel resources are available to provide grid services
- Load growth from electrification may continue to change the load curve requiring an increased ability to supply renewable energy throughout the day
- Energy storage technologies have a variety of unique operating characteristics that allow them to perform reliability services as well as or even better than conventional generation
- These characteristics can enhance system reliability and resilience. Other characteristics will require increased focus on planning and real-time monitoring

# Summary (Continued)

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- As increasing amounts of energy storage are deployed, it is becoming apparent that these technologies are a reliable source of energy
- Proper placement of energy storage resources can reduce transmission congestion and defer the need for new transmission and distribution  
These same resources can provide needed ancillary services including the NERC-specified Essential Reliability Services
- Many storage technologies are inverter-based but not all inverter-based technologies are storage resources. Emerging technologies may change how storage integrates into the grid

# Review & Approval

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- November 21–December 21, 2022—White paper posted for review and comment
- As part of the posting, Stakeholder Outreach team developed a 7- to 10-question survey to assist entities in making comments
- November 29, 2022—Presentation to the Energy Storage Task Force
- November 30, 2022—Townhall presentation to interested parties
- January 2023—Following close of comment period, the task force will review comments, incorporate where applicable, and finish paper for posting for approval by January 27, 2023
- February 3, 2023—Presentation to the JGC for approval





## Contact:

Kenneth Silver, Avantus

[ksilver@avantus.com](mailto:ksilver@avantus.com)