VA DER Taskforce Meeting

Glossary of Key Terms and Commonly Used Acronyms

1. GENERAL DER TERMS

Acronym	Term / Meaning	Plain Language Description & Relevance to DERs / VPPs
2222	FERC Order 2222	Federal rule allowing aggregated DERs to compete directly in wholesale energy markets.
ADER	Aggregated Distributed Energy Resource	Multiple small energy resources grouped together to act as a single, larger grid resource.
AHJ	Authority Having Jurisdiction	Local government bodies (e.g., city/county building departments) responsible for permitting local DER installations.
AMI	Advanced Metering Infra.	Smart meters enabling two-way grid communication.
BESS	Battery Energy Storage System	A system that stores energy from the grid using battery technology and discharges back to the grid when needed
BTM	Behind The Meter	Resources installed on the customer side of the retail meter (e.g., home battery, rooftop solar).
C&I	Commercial & Industrial	Large non-residential energy customers capable of providing significant demand response/VPP capacity.
EE	Energy Efficiency	Measures or technologies that reduce overall energy consumption to ease grid demand.
EDC	Electric Distribution Company	Utility company responsible for operating the local power lines and delivering electricity to end users.
EV / EVSE	Electric Vehicle / Electric Vehicle Supply Equipment	EVs and their charging stations, which can act as controllable grid loads or mobile batteries.
DER	Distributed Energy Resource	Small-scale, localized energy assets (solar, storage, EVs) connected to the distribution grid.
DERA	DER Aggregator	A third-party entity that combines multiple DERs into a VPP to trade in energy markets or participate in utility programs.
DERMS	Distributed Energy Resource Management System	Software platforms utilities use to monitor, coordinate, and control DERs.
DR	Demand Response	Programs that reward customers for voluntarily lowering electricity use during peak demand periods.

DSM	Demand Side Management	Programs and strategies designed to manage and optimize customer-side energy consumption.
FERC	Federal Energy Regulatory Commission	The federal agency regulating interstate electricity transmission and wholesale power markets.
FR	Frequency Regulation	Sub-second dispatch service injecting/absorbing power to keep grid AC frequency stable.
FTM	Front Of The Meter	Resources connected directly to the distribution/transmission grid before the customer meter.
Green Button		Industry protocol giving consumers a standardized way to download or share energy consumption data.
kW / MW	Kilowatt / Megawatt	Standard units measuring power capacity (kW/MW/GW) and total energy produced or consumed over time (kWh/MWh).
IEEE	Institute of Electrical & Electronics Engineers	Professional body setting technical standards (e.g., IEEE 1547) for safe DER grid interconnection.
IRP	Integrated Resource Plan	A utility's long-term plan for how to meet future electricity demand reliably and cost-effectively.
ISOs	Independent System Operators	Independent organizations that monitor and operate regional electric transmission grids.
LSE	Load Serving Entity	Company with the legal obligation to supply electric energy to satisfy customer demand.
NWA	Non-Wires Alternative	Grid investments (e.g., DERs, storage) used to defer or avoid expensive utility line upgrades.
OEM	Original Equipment Manufacturer	Manufacturers of DER hardware and smart energy equipment (e.g., inverter or battery makers).
PJM	PJM Interconnection	The Regional Transmission Organization (RTO) managing the wholesale power grid across Virginia and 12 other states.
PPA	Power Purchase Agreement	A financial contract where a developer owns, operates, and sells power generated by a system to a customer.
SCC	State Corp. Commission	Regulatory body governing electric utilities, rates, and interconnection standards in Virginia.
RA	Resource Adequacy	Regulatory mandate ensuring sufficient resource supply exists to safely cover peak demand spikes.
RERRA	Relevant Electric Retail Regulatory Authority	The governing body (SCC in VA) with legal jurisdiction over retail electric rates and local utility rules.
RTOs	Regional Transmission Organizations	Entities regulating and managing multi-state wholesale power grids (e.g., PJM).
UL	Underwriters Laboratories	Global safety certification body establishing standards (e.g., UL 1741) for inverter equipment.
VTG/V2G	Vehicle-To-Grid	Technology allowing electric vehicles to discharge power back into the electric grid.

VPP	Virtual Power Plant	Aggregation of DERs coordinated via software to perform like a traditional power plant.

2. EPDI VPP POLICY FRAMEWORK TERMS

VPP Policy Framework Terms

Term	Meaning	Description
VPP Type	Operational VPP Configuration	A specific operational model of a Virtual Power Plant, defined by its business model, target market, underlying technologies, and grid services provided. *Determines how decentralized assets interact with the grid and who operates them (e.g., Utility Capacity Program vs. Wholesale Market Aggregation).*
Policy Category	High-Level Regulatory Lifecycle Grouping	Broad thematic groupings of regulatory oversight and operational rules across a DER or VPP lifecycle. *Organizes complex mandates into structured policy buckets (e.g., Setup/Registration, Deployment, Operations, Markets/Transactions, Distribution Planning, Ratepayer Issues).*
Policy Topic	Specific Regulatory Subject Area	Individual regulatory issues, rules, or dockets within a Policy Category that regulators, utilities, and operators must resolve. *Serves as the actionable area to remove deployment barriers and enable full functioning of VPPs (e.g., Interconnection standards, Retail/Wholesale Dual Participation, DER Registries).*
PRL	Policy Readiness Level	A standardized maturity metric (similar to Technology Readiness Levels) measuring how ready state regulations or utility tariffs are to enable a specific VPP Type or Policy Topic. *Tracks progression across key regulatory milestones*

VPP Types: The Building Blocks of VPP Policy

(accompanies slide 16 in Meeting #1 Materials)

Grid Services

Category	Service / Term	Description	Relevance & Value to DERs / VPPs
Wholesale Markets	**Capacity Market**	Payments made to energy providers to guarantee generation capability is available during future peak demand periods.	VPPs aggregate customer assets (batteries, flexible loads) to bid into wholesale capacity auctions (e.g., PJM), replacing traditional plants.
	Energy Market	Real-time and day-ahead trading of actual MWh of electricity delivered to the power grid.	Aggregated DERs inject stored battery power or shed customer load when real-time wholesale energy prices spike.
	Ancillary Services	Specialty grid-support services—such as Frequency Regulation, Spinning Reserves, and Voltage Support—that keep grid AC power balanced second-by-second.	Fast-responding DERs (like smart inverters and batteries) can adjust output in milliseconds, earning premium revenue in wholesale markets.
Transmission	**Transmission Capacity**	Alleviating congestion and capacity bottlenecks on high-voltage interstate power lines.	Dispatches local VPP assets near load centers during peak hours, reducing bulk power transfer needs and deferring multi-billion dollar transmission line builds.
Distribution	**System Distribution Capacity**	Supporting the local distribution network during high-demand hours across a utility's whole service region.	Reduces overall peak load on local utility circuits, prolonging the life of neighborhood substations and equipment.
	Local Distribution Capacity / Non-Wires Alternatives (NWA)	Targeted DER dispatches in specific geographic neighborhoods or circuit nodes to resolve localized overloading.	Serves as a direct alternative to physical "poles-and-wires" upgrades, deferring costly substation expansions or feeder line rebuilds.
	Hosting Capacity	The maximum amount of distributed generation (like solar) a local circuit can safely accommodate without voltage issues or thermal overload.	VPP software actively manages and orchestrates DER output/charging schedules, expanding a circuit's ability to host clean energy assets without triggering system upgrades.

Resilience & Environmental	**System Resilience**	Maintaining local power availability and rapid recovery capabilities during extreme weather events, physical failures, or cyber threats.	Enables microgrids and islandable BESS assets to supply critical facilities (hospitals, homes) during broad grid outages.
	GHG Reduction	Replacing fossil-fuel combustion with zero-carbon generation or automated demand shifting.	Shifts energy usage away from high-emitting "peaker" generators to hours when renewable energy (solar/wind) is abundant.
Contracting	**Contracted Capacity**	Bilateral agreements between DER aggregators, utilities, or large end-users (e.g., data centers) for guaranteed power availability.	Secures firm, dedicated demand flexibility to meet specific corporate sustainability targets or rapid load-growth demands.

VPP Business Models

Term	Meaning	Description & Relevance
Utility Program	Individual DERs transacting with Utilities	Customers or DERs enrolled directly in voluntary utility-administered grid benefit programs.
Utility Control	DERs owned or directly controlled by Utilities	Utility-owned or directly dispatched DERs managed for grid balancing.
Aggregator Retail	Third-party aggregation for retail services	Independent companies bundling customer DERs to provide services back to the local utility.
Wholesale Markets	DER aggregations transacting in ISO/RTO markets	VPPs bidding aggregated capacity and energy directly into wholesale electricity markets.