



High Voltage Direct Current Senior Task Force (HVDCSTF) Final Report

Date (December 6, 2021)

Issue Creation

[Problem Statement](#) and [Issue Charge](#) brought forward by SOO Green and approved at the May 28, 2020 [Markets and Reliability Committee](#).

Issue Summary

The [High Voltage Direct Current Senior Task Force \(HVDCSTF\)](#) was established to explore the possibility of participation of HVDC converters in PJM's capacity market, including their technical capabilities, existing tariff and manual provisions and hurdles to participation, as well as potential tariff changes needed to enable such participation.

The task force sessions began in July 2020 with education presentations by SOO Green on HVDC converter technology and reliability benefits. PJM also provided education on internal generation capacity resource eligibility for PJM's capacity market as well as on PJM's pseudo-tie requirements as they pertain to the external capacity resource eligibility for PJM markets. In August 2020, PJM presented education on PJM planning criteria for pseudo-ties and merchant transmission facilities. PJM also presented a summary of historical FERC rulings for external generation capacity resources and NERC guidance for dynamic transfers as well as a comparison chart of current capacity resources versus a HVDC transmission facility. In September 2020, SOO Green presented education on capacity performance for HVDC converter stations. In the October 2020 meeting, PJM provided education on modeling HVDC ties in the ACE equation as well as an education on external energy transfers. Both PJM and the Market Monitor presented their concerns with having HVDC Converter technology as a capacity resource considering the PJM capacity market rules.

At the [March 29, 2021 Markets and Reliability Committee](#) meeting, a status update was presented indicating that the task force participants were continuing to meet with PJM to discuss potential proposals but no formal design options or proposals had been made to date. The task force has been on hiatus since October 2020.

The Markets and Reliability Committee endorsed sunseting the HVDCSTF at the November 17, 2021 meeting.

Number of Meetings and date range covering this topic: 4 (four) meetings from July 2020 through October 2020

Consensus-Based Issue Resolution Process – Not Applicable

Appendix I: Supplemental Documents

Committee Page: <https://www.pjm.com/committees-and-groups/closed-groups/hvdcstf>

Issue Tracking: <https://www.pjm.com/committees-and-groups/issue-tracking.aspx?scl=MRC&comm=HVDCSTF>

FERC Docket: N/A



Appendix II: PJM Participation

Facilitator: Vijay Shah
 Secretary: Lisa Krizenoskas
 Advocate: Tim Horger
 Subject Matter Experts: Paul Scheidecker, Kendra King, Ed Franks, Augustine Caven
 PJM Legal: Chen Lu

Appendix III: Stakeholder Participation

Names	Company Name	Sector
Shah, Vijay (Facilitator)	PJM Interconnection	Not Applicable
Krizenoskas, Lisa (Secretary)	PJM Interconnection	Not Applicable
Ahmad, Syed	Federal Energy Regulatory Commission	Not Applicable
Benchek, Jim	First Energy Solutions Corp	Transmission Owner
Benson, Chris	Hudson Transmission Partners, LLC	Transmission Owner
Bielak, Donnie	PJM Interconnection	Not Applicable
Blair, Tom	Monitoring Analytics, LLC	Not Applicable
Brodbeck, John	EDP Renewables North America LLC	Generation Owner
Carmean, Gregory	OPSI	Not Applicable
Chmielewski, Brian	PJM Interconnection	Not Applicable
Ciabattoni, Joe	PJM Interconnection	Not Applicable
Cocco, Michael	Old Dominion Electric Cooperative	Electric Distributor
Cosman, Mihai	Exelon Business Services Company, LLC	Transmission Owner
Dadourian, John	Monitoring Analytics	Not Applicable
D'Alessandris, Lou	First Energy Solutions Corp	Transmission Owner
Dolan, James	PJM Interconnection	Not Applicable
Fabiano, Janell	PJM Interconnection	Not Applicable
Filomena, Guy	Customized Energy Solutions, Ltd.	Not Applicable
Foladare, Kenneth	Geenex Solar LLC	Generation Owner
Ford, Adrien	Old Dominion Electric Cooperative	Electric Distributor
Frenkel, Steve	SOO Green HVDC Link ProjectCo, LLC	Not Applicable
Fuess, Christian	Diamond State Generation Partners, LLC	Generation Owner
Glennon, Jim	PJM Interconnection	Not Applicable
Hastings, David	Market Interconnection Consulting Services (MICS)	Not Applicable
Hauske, Tom	PJM Interconnection	Not Applicable
Hoatson, Tom	West Deptford Energy, LLC	Generation Owner
Hohenshilt, Jennifer	Talen Energy Marketing, LLC	Generation Owner
Horger, Tim	PJM Interconnection	Not Applicable
Horning, Lynn	Customized Energy Solutions, Ltd.	Not Applicable
Horstmann, John	Dayton Power & Light Company (The)	Transmission Owner



Howe, Cullen	National Resources Defense Council	Not Applicable
Hull, Gerit	American Municipal Power, Inc.	Electric Distributor
Hyzinski, Tom	GT Power Group, LLC	Not Applicable
Iler, Art	Indiana Office of Utility Consumer Counsel	End User Customer
Janicki, Diane	Boston Energy Trading and Marketing LLC	Other Supplier
Johnson, Carl	Customized Energy Solutions, Ltd.	Not Applicable
Jylkka, Chris	Daymark Energy Advisors	Not Applicable
Kaplan, Andrew	Other	Not Applicable
Keenan, Matthew	Elwood Energy, LLC	Generation Owner
Khattak, Afzal	PJM Interconnection	Not Applicable
King, Kendra	PJM Interconnection	Not Applicable
Kogut, George	New York Power Authority	Other Supplier
Laios, Takis	Appalachian Power Company (AEP Transmission)	Transmission Owner
Lawson, Ryan	Dominion Virginia Power	Transmission Owner
Leon, Miguel	PJM Interconnection	Not Applicable
Lu, Chenchao	PJM Interconnection	Not Applicable
Lyakhovich, Leonid	Public Service Electric & Gas Company	Transmission Owner
Mabry, David	McNees Wallace & Nurick LLC	Not Applicable
Mateski, Marina	MEPPI	Not Applicable
McGill, Susan	PJM Interconnection	Not Applicable
McLaughlin, Jeffrey	PJM Interconnection	Not Applicable
Montalvo, Marc	NY Utility Intervention Unit	Not Applicable
Moscovitz, Daniel	PJM Interconnection	Not Applicable
Murphy, Shaun	PJM Interconnection	Not Applicable
Nallan, Dwarakesh	Daymark Energy Advisors	Not Applicable
Ondayko, Brock	AEP Energy Partners, Inc. (AEP Gen Resources)	Transmission Owner
Pilong, Christopher	PJM Interconnection	Not Applicable
Price, Ruth Ann	Delaware Division of the Public Advocate	End-Use Customer
Purdie, Michael	Dominion Virginia Power	Transmission Owner
Railing, Bradley	PSC Consulting	Not Applicable
Rodriguez, Tomas	OPSI	Not Applicable
Rohrbach, John	Wabash Valley Power Association, Inc.	Electric Distributor
Rumsey, Amanda	PPL Electric Utilities Corp. dba PPL Utilities (TO)	Transmission Owner
Rutigiano, Tom	Natural Resources Defense Council	Not Applicable
Salaneck, Alexandra	Monitoring Analytics, LLC	Not Applicable
Sasser, Jonathan	Customized Energy Solutions, Ltd.	Not Applicable
Scheidecker, Paul	PJM Interconnection	Not Applicable
Shaffer, Chris	AEP Appalachian Transmission Company, Inc.	Transmission Owner
Sitarchyk, Michael	PJM Interconnection	Not Applicable
Skucas, Ruta	PJM Committee Voting Generic Account	Not Applicable
Sotkiewicz, Paul	E-Cubed Policy Associates	Not Applicable



Souder, David	PJM Interconnection	Not Applicable
Souder, Rich	PJM Interconnection	Not Applicable
Stupar, Rob	Inenergy Energy Management LLC	Generation Owner
Svenson, Heather	Public Service Electric & Gas Company	Transmission Owner
Swalwell, Brad	Tangent Energy Solutions, Inc.	Other Supplier
Sweeney, Rory	GT Power Group, LLC	Not Applicable
Tam, Simon	PJM Interconnection	Not Applicable
Thomas, Amber	Exelon Business Services Company, LLC	Transmission Owner
Thundiyil, Kevin	Exelon Generation Co., LLC (NEV_XLON)	Generation Owner
Whitehead, Jeff	GT Power Group	Not Applicable
Wisersky, Megan	Madison Gas & Electric Co.	Other Supplier
Worcester, Alex	PJM Interconnection	Not Applicable