



Risk Management Committee PJM Conference & Training Center/Webex January 24, 2023 1:00 p.m. – 4:00 p.m. EPT

Administration

 Jim Gluck and Emmy Messina, PJM, will provided a welcome, announcements, and reviewed the Antitrust, Code of Conduct, Public Meetings/Media Participation, and the WebEx Participant Identification Requirements.

The Committee approved the draft minutes from the December 20, 2022 Risk Management Committee meeting.

2. Emmy Messina, PJM, reviewed the Risk Management Committee work plan.

Informational Updates

3. Winter Storm Elliott Update

Carl Coscia, Lisa Morelli, and Lisa Drauschak, PJM, presented details on Winter Storm Elliott regarding credit and risk.

4. Key Risk Metrics

Gwen Kelly, PJM, reviewed key risk metrics for the committee's consideration and feedback.

Informational Section

<u>Operating Committee Special Session – Outage Coordination</u>

Meeting materials and upcoming meeting dates are available on the OC website.

Future Governing Document Enhancement & Clarification Subcommittee (GDECS) Item

PJM will be presenting changes to the GDECS to amend Tariff, Attachment Q, section VI.C.2. FTR Credit Requirement to reflect that activity resulting from settled FTR activity will be included as part of realized gains and losses.

Future Agenda Items

Future Meeting Dates and Materials		Materials Due to Secretary	Materials Published	
Date	Time	Location		
February 22, 2023	1:00 p.m.	PJM Conference & Training Center/Webex	February 9, 2023	February 14, 2023
March 21, 2023	1:00 p.m.	PJM Conference & Training Center/Webex	March 9, 2023	March 14, 2023
April 25, 2023	1:00 p.m.	PJM Conference & Training Center/Webex	April 13, 2023	April 18, 2023





May 23, 2023	1:00 p.m.	PJM Conference & Training Center/Webex	May 11, 2023	May 16, 2023
June 21, 2023	1:00 p.m.	PJM Conference & Training Center/Webex	June 9, 2023	June 14, 2023
July 25, 2023	1:00 p.m.	PJM Conference & Training Center/Webex	July 13, 2023	July 19, 2023
August 22, 2023	1:00 p.m.	PJM Conference & Training Center/Webex	August 10, 2023	August 15, 2023
September 19, 2023	1:00 p.m.	PJM Conference & Training Center/Webex	September 7, 2023	September 12, 2023
October 24, 2023	1:00 p.m.	PJM Conference & Training Center/Webex	October 12, 2023	October 17, 2023
November 14, 2023	1:00 p.m.	PJM Conference & Training Center/Webex	November 2, 2023	November 7, 2023
December 19, 2023	1:00 p.m.	PJM Conference & Training Center/Webex	December 7, 2023	December 12, 2023

Author: Emmy Messina

In-Person Meeting Attendees

Name	Company	Sector
Gluck, Jim (Facilitator)	PJM Interconnection, LLC	None
Messina, Emmy (Secretary)	PJM Interconnection, LLC	None
Benchek, James	American Transmission	Transmission Owner
Bielak, Donnie	PJM Interconnection, LLC	None
Bleiweis, Bruce	DC Energy LLC	Other Supplier
Bresler, Stu	PJM Interconnection, LLC	None
Collins, John	Elgin Energy Center, LLC	Generation Owner
Coscia, Carl	PJM Interconnection, LLC	None
Dent, Duane	PJM Interconnection, LLC	None
DiNicola, Laura	American Transmission	Transmission Owner
Drauschak, Lisa	PJM Interconnection, LLC	None
Ford, Adrien	Old Dominion Electric Cooperative	Electric Distributor
Foster Cronin, Denise	East Kentucky Power Cooperative, Inc.	Transmission Owner
Gluck, Jim	PJM Interconnection, LLC	None
Greening, Michele	PJM Interconnection, LLC	None
Haas, Howard	Monitoring Analytics, LLC	None
Hastings, David	Market Interconnection Consulting Services (MICS)	None
Heinle, Frederick (Erik)	Vistra Corporation	None
Hicks, Colleen	PJM Interconnection, LLC	None
Holter, Natasha	PJM Interconnection, LLC	None
Hu, Yong	PJM Interconnection, LLC	None
Kelly, Gwen	PJM Interconnection, LLC	None
Kenney, Susan	PJM Interconnection, LLC	None
Kerecman, Joseph	Calpine Energy Services, L.P.	Generation Owner
Kogut, George	New York Power Authority	Other Supplier
McElwaine, Kathleen	PJM Interconnection, LLC	None
Messina, Emmy	PJM Interconnection, LLC	None
Morelli, Lisa	PJM Interconnection, LLC	None
Nanjundan, Narmada	East Kentucky Power Cooperative, Inc.	Transmission Owner
O'Hara, Chris	PJM Interconnection, LLC	None
Patel, Anita	PJM Interconnection, LLC	None





Scarpignato, David (Scarp) Calpine Energy Se

Scherling, Eric Shields, Jeffrey Stadelmeyer, Rebecca

Suh, Jung Swenson, Nils Walcavich, Colin Wynder, Michael Calpine Energy Services, L.P. PJM Interconnection, LLC PJM Interconnection, LLC Gable and Associates Calpine Energy Services, L.P.

Clean Energy Future
Green River Holdings, LLC

Altrock LLC

Generation Owner

None None None

Generation Owner Generation Owner Generation Owner Other Supplier

Webex Meeting Attendees

Name

Abdi, Mohamad Adams, Sean

Ahouassou, Jean Paul

Akeel, Roddy Alexander, Zamarro Alfano, Melissa

Anderson, Bob Anderson, Juliet Anderson, Kevin Anderson, William Anthony, Jason

Asplund, Russell Babp, Alan

Baker, Hayden Banks, Carla

Barbagallo, Greg

Barker, Jason

Barrowes, Brooksany Barry, Rachel

Beermann, Terri

Bernstein, Michael

Bickerstaff, Dean Biese, Jenny

Blunt, Katherine

Bo, Chi Borgatti, Michael

Boulter, Steve Bowker, Shannon Boyle, Glen

Brodbeck, John Bruce, Susan Bunting, Henry

Butler, Nicholas Butler, Nick Canter, David Company

White Peak Energy LLC

PSEG Energy Resources & Trade LLC

MAG Energy Solutions, Inc. Enel X North America, Inc. Enel X North America, Inc.

Tenaska Power Services Co.
Constellation Energy Generation, LLC
Washington Gas Energy Services, Inc.

Solar Energy Industries Association

Constellation Energy Generation, LLC

KORenergy, Ltd.

TransAlta Energy Marketing (U.S.) Inc.

Talen Energy Marketing, LLC

Troutman

Eagle Point Power Generation LLC

PBF Energy

Constellation Energy Generation, LLC

Kirkland Advanced Power

Commonwealth Chesapeake Company, LLC

LS Power Development, LLC

Hartree Partners, LP

Constellation Energy Generation, LLC

Wall Street Journal
PJM Interconnection, LLC
Gabel and Associates
Enel X North America, Inc.
PJM Interconnection, LLC
PJM Interconnection, LLC

EDP Renewables North America, LLC McNees Wallace & Nurick LLC

PJM Interconnection, LLC

AEP Appalachian Transmission Company, Inc. AEP Appalachian Transmission Company, Inc. AEP Appalachian Transmission Company, Inc. Sector

Other Supplier
Other Supplier
Other Supplier
Other Supplier
Other Supplier

None

Generation Owner Generation Owner

None

Generation Owner Other Supplier Other Supplier Generation Owner

None

Generation Owner

None

Generation Owner

None None

Generation Owner

None

Other Supplier Generation Owner

None None None

Other Supplier

None None

Generation Owner

None None

Transmission Owner
Transmission Owner
Transmission Owner





Carmean, Gregory (Greg)	Organization of PJM States, Inc. (OPSI)	None
Carroll, Dave	NAES Corporation	None
Carroll, Rebecca	PJM Interconnection, LLC	None
Carter, Grant	Vistra Corporation	None
Case, Nathan	Aces Power Marketing Inc.	None
Cassity, Jon	Archer Contingent Energy Risk LLC	None

Cassity, JonArcher Contingent Energy Risk LLCNoneCermack, TrishLouisville Gas & Electric Co./Kentucky Utilities Co.Transmission OwnerChang, SeanShell Energy North America (US), L.P.Other SupplierCherian, PunnooseSIG Energy, LLLPOther SupplierChmielewski, BrianPJM Interconnection, LLCNone

Christopher, Mahila Public Utilities Commission of Ohio (The) None

Chu, Michael Forest Investment Group, LLC Other Supplier Corash, Richard (Rich) PSEG Energy Resources & Trade LLC Other Supplier

Coyne, Suzanne PJM Interconnection, LLC None
Croop, Danielle PJM Interconnection, LLC None

Cumpton, Frank Baltimore Gas and Electric Company Transmission Owner

D'Antonio, Phil PJM Interconnection, LLC None

Davis, James (Jim) Dominion Energy Generation Marketing, Inc. Generation Owner
Davis, Mike Northern Virginia Electric Cooperative Electric Distributor

DeBree, Scott NAES Corporation None

DeBruin, Brian Aon None
DeLoskey, Drew Constellation Energy Generation, LLC Gener

 DeLoskey, Drew
 Constellation Energy Generation, LLC
 Generation Owner

 Desnoyers, Guillaume
 CWP Energy Inc
 Other Supplier

 Di Iorio, Michelle
 PSEG Energy Resources & Trade LLC
 Other Supplier

Domian, Christin Duquesne Light Company Transmission Owner

Douglass, Robert Constellation Energy Generation, LLC Generation Owner

Downs, Jere PJM Interconnection, LLC None

Drivas, Christina Lightsource Renewable Energy Development, LLC Other Supplier

Drom, Richard (Rick)

Eckert Seamans

None

Dropkin, Ilyana

PJM Interconnection, LLC

None

Du, Yibing

PJM Interconnection, LLC

Dudley, GregVision RidgeNoneDuensing, AllisonSaracen Energy East LPOther Supplier

Dugan, Chuck East Kentucky Power Cooperative, Inc. Transmission Owner

Dzienkowski, Kathy Kirkland None

Eaker, Kaitlin (Katie)Tenaska Power Services Co.Generation OwnerElkins, RachelFirstEnergy CorporationTransmission Owner

Esterly, Theresa PJM Interconnection, LLC None
Evans, Ryan Other None
Everngam, Scott The Federal Energy Regulatory Commission None
Fan, Zhenyu PJM Interconnection, LLC None
Fang, Feifei China Merchants Bank NY None

Fazio, Danielle

Noble Americas Gas & Power Corp.

Fee, George

AEP Appalachian Transmission Company, Inc.

Transmission Owner

Ferguson, Mike Indeck Energy Services, Inc. Other Supplier Filomena, Guy Customized Energy Solutions, Ltd.* None

Fink, Regan Pine Gate Mid-Atlantic, LLC Other Supplier





Fishback, Luke Fitzgerald, John Fitzpatrick, Brian Fletcher, Kellee

Foladare, Kenneth (Ken)

Frank, Kimberly Freeman, Michael Fujiwara, Rio Gaddes, Caleb Garth, Bill

Gates, Jill Gondek, John

Gorman, Brad Gorman, Kevin

Grant, Edie Grimm, Duncan Grooms, Craig

Guimond, Justin

Guntle, Vince Hart, Joe

Hartigan, Jonathan Hartung, Shanna

Heater, Megan Heffentrager, Scott

Helms, Joseph (Joe) Henderson, George

Hepplewhite, Peter Herbert, Sebastian

Herrera, Maria

Herrold, Jack

Hesson, Paul Hickey, Mike Hicks, Dave

Hinson, Dale Hoatson, Thomas (Tom)

Hohenshilt, Jennifer Holdbrook, Ruth Holler, Mark

Holstein, Matthew (Matt)

Hoos, Julia

Horning, Lynn Marie Hough, James

Howard, Bryce

Hsia, Eric Hudis, Gabriella Hull, Gerit Hurwich, Mark Affirmed Energy LLC

Tennessee Valley Authority (The)

PJM Interconnection, LLC

Power Plant Management Services LLC

Geenex Solar LLC

KL Gates

Emerald Energy Consulting Marubeni Power International, Inc

Lightsource Renewable Energy Development, LLC

Indeck Energy Services, Inc. PJM Interconnection, LLC

PSEG Energy Resources & Trade LLC

FirstEnergy Corporation

Highlands Energy Group LLC (The) Old Dominion Electric Cooperative

Kirkland

Buckeye Power, Inc. Enel X North America, Inc. American PowerNet Management

CPV Power Holdings, LP

Earthrise Energy

PJM Interconnection, LLC PJM Interconnection, LLC PJM Interconnection, LLC

Rainbow Energy Marketing Corporation

RPA Advisors
Wrigley Capital LLC
DC Energy LLC

PJM Interconnection, LLC

Tyr Energy, LLC

WM Renewable Energy, L.L.C. PJM Interconnection, LLC

Perast Fund LP

Dominion Energy Generation Marketing, Inc.

Riverside Generating, LLC
Talen Energy Marketing, LLC
Northern Virginia Electric Cooperative

Tenaska Power Services Co.

Duke Energy Business Services LLC

Aurora Energy Research LLC
Customized Energy Solutions, Ltd.*

PSEG Energy Resources & Trade LLC

TVA

PJM Interconnection, LLC Jersey Green Energy LLC American Municipal Power, Inc. Elliott Bay Energy Trading, LLC Other Supplier
Other Supplier

None None

Other Supplier

None

None

Generation Owner
Other Supplier
Other Supplier

None

Other Supplier
Transmission Owner
Other Supplier
Electric Distributor

None

Electric Distributor Other Supplier End-Use Customer Generation Owner

None None None

Other Supplier

None

Other Supplier
Other Supplier

None

Other Supplier
Generation Owner

None

Other Supplier
Generation Owner
Generation Owner
Generation Owner
Electric Distributor
Generation Owner
Transmission Owner

None None

Other Supplier

None None

Other Supplier Electric Distributor Other Supplier





Hyzinski, Tom	GT Power Group	None

ller, Arthur (Art) Indiana Office of Utility Consumer Counsel End-Use Customer

Janapareddy, Anupama (Anu) Green River Holdings, LLC Generation Owner

Janicki, DianeBoston Energy Trading & Marketing, LLCOther SupplierJason, SoliminiCogentrix Virginia Financing Holding Company, LLCOther Supplier

Jeschke, Diana Crowell None
Johnson, Carl Customized Energy Solutions, Ltd.* None

Johnson, Ryan NRG Power Marketing LLC Generation Owner
Johnston, David Indiana Utility Regulatory Commission None

Jones, Scott Indiana Office of Utility Consumer Counsel End-Use Customer

Kane, Timothy PJM Interconnection, LLC None
Kang, Agree Unknown Unknown

Kazerooni, Hamid PJM Interconnection, LLC None Keech, Adam PJM Interconnection, LLC None

Kelbach, JeffEnergy Harbor LLCGeneration OwnerKelly, StephenBrookfield Energy Marketing LPOther SupplierKent, JanessaDuquesne Light CompanyTransmission Owner

Keslar, Zac Robindale Energy None

Kilgallen, Kevin Avangrid Renewables LLC Generation Owner

Kim, Siwon Unknown Unknown

Kingston, Amber North Carolina Electric Membership Corporation Electric Distributor
Korandovich, Robert (Bob) KORenergy, Ltd. Other Supplier
Kothakapu, Rakesh Fellon McCord None

Koz, BrianAlphataraxia Palladium LLCNoneKroh, JudRobindale EnergyNone

Kumar, NikhilSIG Energy, LLLPOther SupplierLakey, BrianAEP Appalachian Transmission Company, Inc.Transmission OwnerLanham. CorvAvangrid Renewables LLCGeneration Owner

 Lanham, Cory
 Avangrid Renewables LLC
 Gener

 LaRocque, Matthew (Matt)
 PJM Interconnection, LLC
 None

 Lawson, Steve
 PJM Interconnection, LLC
 None

Laymon, Angelita Energy Harbor LLC Generation Owner

Lee, Aristotle (Ari)

Lee, Stan

Leon, Miguel

Leon, Miguel

Lewis, Lisa

Leon Harbor Lec

Vicinity Energy

None

None

None

None

None

None

Lindstrom, Jonathon Commonwealth Edison Company Transmission Owner

Litchfield, Matthew CPV Shore, LLC Generation Owner

Loder, Scott NextEra Energy Power Marketing, LLC Other Supplier
Lohmeyer, Tyler Aurora Energy Research LLC None

Longo, John SESCO Enterprises LLC Other Supplier
Lu, Chenchao (Chen) PJM Interconnection, LLC None

Luckey, Nicole Invenergy, LLC Generation Owner

Lynch, VickiVistra CorporationNoneMabry, DavidMcNees Wallace & Nurick LLCNone

Maloney, Lynn Old Dominion Electric Cooperative Electric Distributor
Mann, Michael Enel X North America, Inc. Other Supplier

Martin, Amanda PJM Interconnection, LLC None





Mason, Gary	FirstEnergy Corporation	Transmission Owner
McComb, John	PJM Interconnection, LLC	None
McCormick, Katharine	Illinois Commerce Commission	None
McDewell, Christian	Commonwealth of PA	None
McElwee, Steve	PJM Interconnection, LLC	None
McGill, Susan	PJM Interconnection, LLC	None

McGrath, Tom Exelon Business Services Company, LLC Transmission Owner
McNeil, Justin Office of the Attorney General, Kentucky End-Use Customer
McNicholas, Daniel Cogentrix Virginia Financing Holding Company, LLC Other Supplier
Midgley, Sharon Exelon Business Services Company, LLC Transmission Owner
Mihaly, Imola Essential Power LLC Generation Owner

 Miller, Tom
 TigerGenCo
 None

 Million, Mark
 PJM Interconnection, LLC
 None

 Missal, Ed
 Mt. Carmel Cogen, Inc
 Generation Owner

Mohan, Chuck Arc Analytics None

 Mosley, Chris
 National Grid Renewables
 None

 Moye, Bob
 Rainbow Energy Marketing Corporation
 Other Supplier

 Mueller, Ron
 Twin Fagle Resource Management, LLC
 Other Supplier

Mueller, Ron Twin Eagle Resource Management, LLC Other Supplier

Murawski, James (Jim) PSEG Energy Resources & Trade LLC Other Supplier

Murable Management Services LLC

Murray, Kevin McNees Wallace & Nurick LLC None
Neely, Devon Enel X North America, Inc. Other

Neely, DevonEnel X North America, Inc.Other SupplierNicoll, RobIndeck Energy Services, Inc.Other SupplierNiles, IndeckDL EnergyNone

Nilsen, Glenn LS Power Development, LLC None
Norris, Patrick Hull Sreet Energy None

Nowell, Cynthia Delmarva Power & Light Company Electric Distributor

O'Brien, Nicholas (Nick) Monitoring Analytics, LLC None
O'Hara, Daniel NextEra Energy Power Marketing, LLC Other Supplier
Oguchi, Yuki Marubeni Power International, Inc Generation Owner

Okonski, Katherine Troutman None

Ondayko, Brock AEP Appalachian Transmission Company, Inc. Transmission Owner

Oxford, Emily TVA None

 Pakela, Gregory (Greg)
 DTE Energy Trading, Inc.
 Other Supplier

 Parker, A
 FirstEnergy Corporation
 Transmission Owner

 Parker, Amanda
 Pennsylvania Electric Company
 Electric Distributor

 Parret, Sorah
 Public Utilities Complexion of Ohio
 Nane

Parrot, SarahPublic Utilities Commission of OhioNoneParthasarathy, JacksonAurora Energy Research LLCNoneParyl, Ronald (Ron)Carroll County Energy LLCNonePatt, Kathleen (Kate)PJM Interconnection, LLCNonePerret, DanielVistra CorporationNone

Petrik, Jason Energy Harbor LLC Generation Owner
Phenix, Michael TAQA Gen X LLC Generation Owner

Phillips, Amanda Wabash Valley Power Association, Inc. Electric Distributor
Phillips. Darlene PJM Interconnection, LLC None

Phillips, Darlene PJM Interconnection, LLC None
Pierpoint, Dan Cogentrix Virginia Financing Holding Company, LLC Other Supplier

Pilong, Melissa PJM Interconnection, LLC None





None

Polito, Christopher Sidley None CAPS Poulos, Greg None Linde Energy Services, Inc. Powers, Sean None Raggio, Debra Talen Energy Marketing, LLC None

Raghavan, Vijay BioUrga Trading LLC Other Supplier Electric Distributor Rainey, John Northern Virginia Electric Cooperative

Rhee, Philip PJM Interconnection, LLC None Riley, Patrick Archer Contingent Energy Risk LLC None Rios, Vireli PJM Interconnection, LLC None

Robson, Matt SESCO Enterprises LLC Other Supplier Rohauer, Tanya **Energy Harbor LLC** Generation Owner Rohrbach, John Southern Maryland Electric Cooperative, Inc. Electric Distributor

Rouf, Rakeen SIG Energy, LLLP Other Supplier Sassaman, Teresa (Terri) Talen Energy Marketing, LLC **Generation Owner**

Sasser, Jonathan Customized Energy Solutions, Ltd.* None Transmission Owner Saxe, Barbara Public Service Electric & Gas Company

Generation Owner Schenk, Anne Invenergy, LLC Schmitt, David New Jersey Board of Public Utilities None

Sebastian, Sharon NextEra Energy Power Marketing, LLC Other Supplier Sedlacek, Lacey Talen Energy Marketing, LLC **Generation Owner**

Selick, Sam Customized Energy Solutions, Ltd.* None Shah, Harshil PJM Interconnection, LLC None Shanker, Roy H.Q. Energy Services (U.S.), Inc. Other Supplier

Sidhom, Noha Inertia Power I, LLC Other Supplier Sillin, John The Federal Energy Regulatory Commission

Sims, Thomas (Tom) FirstEnergy Corporation Transmission Owner

Skucas, Ruta K & L Gates None Sloan, Ben Organization of PJM States, Inc. (OPSI) None

Electric Distributor Smith, Kara Buckeye Power, Inc. Other Supplier Sock, Bryan PSEG Energy Resources & Trade LLC

Song, Sophie DL Energy None Sotkiewicz, Paul E-Cubed Policy Associates None

Souder, Michelle PJM Interconnection, LLC None Spaulding, James Calpine Energy Services, L.P. Generation Owner

Sperrazza, J J-Power USA None Stanish, Cameron Pine Gate Renewables None Stefanowicz, Vincent PJM Interconnection, LLC None

Steichen, Renae LS Power Development, LLC None Indeck Energy Services, Inc. Stein. Mike Other Supplier Steinhart, Evan Talen Energy Marketing, LLC Generation Owner Stern, Alexander (Alex) Public Service Electric & Gas Company Transmission Owner

Stupar, Rob Invenergy, LLC **Generation Owner**

Swalwell, Bradley (Brad) Tangent Energy Solutions, Inc. Other Supplier Sweeney, Rory GT Power Group None

Tenaska Power Services Co. Swoap, Paul Generation Owner Tardif, Francois Nexus Energy Inc Other Supplier Tyr Energy, LLC Other Supplier Taylor, James





Terranova, Christopher (Chris)PJM Interconnection, LLCNoneTexidor, XavierLS Power Development, LLCNoneTheodore, SharonElectric Power Supply AssociationNone

Thompson, Ryan American Municipal Power, Inc. Electric Distributor

Traynor, Dan Power Plant Management Services LLC None
Trent, Dan Enel X North America, Inc. Other Supplier

Tribulski, Jennifer (Jen) PJM Interconnection, LLC None

Tubridy, Meg Rockland Electric Company Transmission Owner
Tully, Carla Farthrise Energy None

Tully, CarlaEarthrise EnergyNoneVoelker, ScottCPV Power Holdings, LPGeneration OwnerVos, NicoIndeck Energy Services, Inc.Other SupplierWalker, DianaCPV Power Holdings, LPGeneration Owner

Walker, Diana CPV Power Holdings, LP Generation Owne Warren, Elizabeth Tios Capital, LLC Other Supplier

Waweru, JamesPJM Interconnection, LLCNoneWeber, MarkThe Federal Energy Regulatory CommissionNoneWehnes, KathleenMaryland Public Service CommissionNoneWeinant FricIMFANone

Weinant, Eric IMEA None
Wen, Lixin (Lucy) PJM Interconnection, LLC None
Whitehead, Jeffrey (Jeff) GT Power Group None

Willis, Travis Enel X North America, Inc. Other Supplier

Wu, TommyAonNoneYasutake, SarahGabel and AssociatesNoneYoo, JuneDL EnergyNoneYoo, KyungjinPJM Interconnection, LLCNoneYork, JoshuaLS Power Development, LLCNone

Young, Ress ConocoPhillips Company Other Supplier

Yung, Brant MRP Genco None
YW, Jin DL Energy None

Zemanek, Kevin Buckeye Power, Inc. Electric Distributor