

EPRI



TECHNOLOGY  
TRANSFER  
AWARDS

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# 2023 TECHNOLOGY TRANSFER AWARDS

These awards recognize the leaders and the innovators who have applied EPRI research to produce significant results.

The award winners have shown exceptional application of EPRI research and technology in solving a problem of size and significance, championing a technology both within their companies and across the industry, driving progress in the electricity sector, and providing meaningful benefits for their companies' stakeholders and for society.

The EPRI Technology Transfer Awards spotlight the value of collaborative research to the electricity sector and its customers.

EPRI recognizes and applauds the hard work, commitment, and leadership demonstrated by these award winners to help make electricity more reliable, efficient, affordable, safe, and environmentally responsible.





## ALABAMA POWER COMPANY

- 🏆 Ergonomic Tool for Moving Electric Utility Manhole Covers  
*Benjamin Cross, Chris Fitzgerald*
- 🏆 Fleet Electrification Planning and Assessment for New Load  
*John W. Bowen*

## ALLIANT ENERGY

- 🏆 Monarch Butterfly Habitat Model and Landholding Assessment  
*Wendy Greene, Deborah Frosch*

## AMEREN

- 🏆 Monarch Butterfly Habitat Model and Landholding Assessment  
*Kevin Atkins, Jennifer Queen*
- 🔧 Utilities Benefit from Spent Fuel Pool Criticality Analysis Optimization and Improved Efficiency for Regulatory Review  
*Christopher John Ehmke*

## AMERICAN ELECTRIC POWER

- 🏆 Maintaining Grid Stability with Inverter Based Resources  
*Dr. Nishantha Ekneligoda, Robert J. O'Keefe*

## AMPRION

- 🏆 AC/DC Hybrid Line Ion Emissions and EMF Evaluation  
*Dr. Markus Franke, Alex Wollny*

## CENTRAL HUDSON GAS & ELECTRIC CORPORATION

- 🏆 Building Electrification Technologies for New York State  
*John Borchert*

## CHINA NATIONAL NUCLEAR POWER COMPANY, LTD.

- 🔧 FORO Nuclear and CNNP/SNERDI Adopt EPRI's Guidelines for PWR Nuclear Safety to Support Long-Term Operations in Spain and China  
*Luan Xingfeng, Xu Feng, Zhao Chuanli*

## CHUBU ELECTRIC POWER COMPANY

- 🔧 Chubu Validates and Applies EPRI PMBD Tool for Maintenance Strategy Optimization, Realizing Sizable Cost Savings  
*Naoki Hiramatsu, Shou Kawakami, Hiromasa Okuda, Yoshihiro Morimoto, Yasushi Wakayama*

## CNNC SANMEN NUCLEAR POWER COMPANY, LTD.

- 🔧 CNNC Saves Millions with Methodical Analysis of Conservative Component Replacement Intervals  
*Chen Lunshou, Fan Fuping, Guan Yihao, Liu Yinxu, Lyu Yuanliang, Wang Zihu*

## CONSOLIDATED EDISON COMPANY OF NEW YORK

- 🏆 Building Electrification Technologies for New York State  
*Sarah Murphy, Shuchita Prakash, Terrell Skipper*

- 🏆 Ergonomic Tool for Moving Electric Utility Manhole Covers  
*Brenda Hill, Prakash Kothari, Steve Labudzinski*

- 🏆 Industrial Control Systems Automated Digital Forensics Harvester  
*Richard Alcalde, Serena Lee, Piotr Lisowski*

- 🏆 Risk Framework to Develop New Transmission Ratings  
*Jade Wong*

## CONSTELLATION ENERGY GENERATION LLC

- 🔧 Constellation's Industry-First Application of Non-welded Pipe Fittings Highlights Substantial Cost Saving Opportunity  
*Maher Kassar*
- 🔧 Utilities Benefit from Spent Fuel Pool Criticality Analysis Optimization and Improved Efficiency for Regulatory Review  
*Joe Bernhardt, Chukai Yin*

## CONSUMERS ENERGY

- 🏆 DER Network Gateways for Control Integration of Smart Inverters  
*Rosanna Kallio*
- 🏆 Fleet Electrification Planning and Assessment for New Load  
*Matt Henry, Ian Meredith*

## COOPERATIVE ENERGY

- 🏆 Risk Framework to Develop New Transmission Ratings  
*Jason Goar*

🔧 GENERATION

🔧 NUCLEAR

🏆 ENERGY DELIVERY & CUSTOMER SOLUTIONS





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## DAIRYLAND POWER COOPERATIVE

- ✳ Novel Application of Traveling Screens for Fish Protection  
*Benjamin D. Campbell, Brad Foss*

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## DOMINION ENERGY, INC.

- ✳ Fleet Electrification Planning and Assessment for New Load  
*Zohreh Hosseini*
- ✳ Utilities Benefit from Spent Fuel Pool Criticality Analysis Optimization and Improved Efficiency for Regulatory Review  
*Kasey Kennett*

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## DTE ENERGY

- ✳ Mitigation of Yaw Issues in Wind Turbines to Improve Annual Energy Production  
*Shannon Baker, Matthew Beemer, Jake Carney*

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## DUKE ENERGY

- ✳ Duke Energy Eliminates Condenser In-leakage with EPRI Guidance, Significantly Reducing Costs and Downtime  
*William Kerr*
- ✳ Leadership in Exploring a New Groundwater Monitoring Approach  
*Bryan Thomas Moeller, Dee O'Brien, Ed Sullivan, John R. Toepfer*
- ✳ Mitigating Distribution Impacts of High Photovoltaic Penetration  
*Kevin Chen, Staci Haggis, Trent Miller*
- ✳ Risk Framework to Develop New Transmission Ratings  
*Prasad Yenumula*

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## ÉLECTRICITÉ DE FRANCE

- ✳ DER Network Gateways for Control Integration of Smart Inverters  
*Quentin Morel*

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## ENEL S.P.A.

- ✳ Creation of a Bifacial PV Performance Measurement Technique  
*Alessandro Incalza, Lorenzo Todaro*

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## EVERGY

- ✳ DER Network Gateways for Control Integration of Smart Inverters  
*Julie Way*

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## EXELON

- ✳ DER Network Gateways for Control Integration of Smart Inverters  
*Sean W. Carr (ComEd), Damel Goddard (BGE), Jeffrey W. Tisa*
- ✳ Fleet Electrification Planning and Assessment for New Load  
*Christopher J. Budzynski (Exelon), Joe Long (PECO), Saul Morales (ACL), Oyekunle Oyedeji (BGE), Vincent Westfallen (ComEd), Qin Zhang (Pepco Holdings)*
- ✳ RF Monitoring and Wind Mitigation in Fiber Optic Supply Cables  
*Jessie Bauer (ComEd), Ryan Kelly (ComEd)*

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## FAYETTEVILLE PUBLIC UTILITIES

- ✳ Fleet Electrification Planning and Assessment for New Load  
*Nathan Taylor*

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## FIRST NATIONAL OPERATION & MAINTENANCE COMPANY (NOMAC)

- ✳ In-Situ Rotor Lifespan Analysis Improves Precision Maintenance  
*Stefan Verlee*

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## FIRSTENERGY

- ✳ IEC 61850 Digital Substation Technologies Implementation & Development  
*Eric Schock, Julie Sofaly*

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## FLORIDA POWER & LIGHT

- ✳ Maintaining Grid Stability with Inverter Based Resources  
*Huzaifa Karimjee, Joe Ribeiro*

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## FORO DE LA INDUSTRIA NUCLEAR ESPANO

- ✳ FORO Nuclear and CNNP/SNERDI Adopt EPRI's Guidelines for PWR Nuclear Safety to Support Long-Term Operations in Spain and China  
*Marta Baladia, Isabel Mach, Cosme Munoz*

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## ICE

- ✳ Application of Transmission Asset Management Analytics Tools & Techniques  
*Christian Valerio Mena, Josué Daniel Hidalgo Quesada, Freddy Vargas Richmond*





## ISA

### Application of Transmission Asset Management Analytics Tools & Techniques

Victor Diez, Ivan Javier Lozada, Leon Augusto Martinez, Nelson Javier Mesa Palacio, Juan Fernando Quintero, Cristian Yesid Urrea

## ISO NEW ENGLAND

### Maintaining Grid Stability with Inverter Based Resources

Xinghao Fang, Faheem Ibrahim, Xiaochuan Luo, Jason Ploof, Qiang "Frankie" Zhang

### Systematic Approach to Determine Risk of Extreme Weather Conditions on Energy Adequacy

Stephen George, Ke Ma, Jinye Zhao

## KERNKRAFTWERK LEIBSTADT AG

### KKL Expands on EPRI's Seismic Fire and Flood Guidance to Address New Regulatory Requirements

Olivier Nusbaumer, Alben Stoyanova, Pavol Zvoncek

## KOREA ELECTRIC POWER CORPORATION

### DER Network Gateways for Control Integration of Smart Inverters

Seongsoo Cho, Inji Choi, Jongmin Jo, Yoojin Kwon, Nogil Myoung

## KOREA MIDLAND POWER COMPANY

### Independent GT24 Combustion Tuning Technical Basis Development

Jinwook Choi, Youngbok Han, Yongu Jang, Moonsoo Kim, Songkil Kwon, Seik Park, Junkyu Sung

## LINCOLN ELECTRIC SYSTEM

### Object Based Image Analysis Wetlands Identification Tool

Melissa Landis

## LOS ANGELES DEPARTMENT OF WATER AND POWER

### Fleet Electrification Planning and Assessment for New Load

Karl Agbayani, Vida Daneshmand, Peter Liang, Yamen Nanne

### Voltage Conversion Assessment for Supporting Future Load

Kent Chan, Tomy Giang, Steven Lam, Peter Liang, Yamen Nanne, Vincent Zabukovec

## NATIONAL GRID USA

### Distribution Asset Condition Monitoring Technologies

James George, Jonathan Gonynor

## NEW YORK INDEPENDENT SYSTEM OPERATOR, INC.

### Building Electrification Technologies for New York State

Arthur Maniaci, Michael Swider

## NEW YORK POWER AUTHORITY

### Building Electrification Technologies for New York State

Alan Ettlinger, Guy Sliker

### DER Network Gateways for Control Integration of Smart Inverters

James Weaver

### IEC 61850 Digital Substation Technologies Implementation & Development

Frank Ronci, PE

### Infrared Drones Reduce Risk and Cost in Air-Cooled Condenser Inspections

Yefim Kashler

### Maintaining Grid Stability with Inverter Based Resources

Xia Jiang

### Monarch Butterfly Habitat Model and Landholding Assessment

Cari D. Ficken, John Nolan, Lewis Payne

### Underground Transmission High-pressure Fluid-filled Cable Systems Assessment

Sean Eagleton, Alan Ettlinger, Zhong "Kyle" Zheng



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## NORTH CAROLINA ELECTRIC MEMBERSHIP CORPORATION

- 🏆 DER Network Gateways for Control Integration of Smart Inverters  
*North Carolina's electric cooperatives*

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## ONTARIO POWER GENERATION, INC.

- 🔧 Ontario Power Generation Uses EPRI Guidance for Proactive Assessment of Climate Change Challenges  
*Kelly Reid, Aditya Walke*

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## PACIFIC GAS AND ELECTRIC COMPANY

- 🏆 Risk Framework to Develop New Transmission Ratings  
*Will Dong*

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## PNM RESOURCES

- 🏆 Monarch Butterfly Habitat Model and Landholding Assessment  
*Mikaela Busher, Alaina Pershall*

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## PORTLAND GENERAL ELECTRIC

- 🏆 Ergonomic Tool for Moving Electric Utility Manhole Covers  
*Ben Lumsden*
- 🏆 Fleet Electrification Planning and Assessment for New Load  
*Aaron Banks, Andy Eiden, Jennifer Galaway*

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## PUBLIC SERVICE ENTERPRISE GROUP, INC.

- 🔧 PSEG Applies EPRI Phased-Array Ultrasonic Testing Technique for Reactor Vessel Nozzle Inspections from Outside Surface  
*Michael Oliveri, Sam Speer, Gregory M. Suey, Mitchell Wygand*

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## SACRAMENTO MUNICIPAL UTILITY DISTRICT

- 🏆 Monarch Butterfly Habitat Model and Landholding Assessment  
*Kathleen Ave*

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## SALT RIVER PROJECT

- 🏆 DER Network Gateways for Control Integration of Smart Inverters  
*Juan Cardona*
- 🏆 Long Duration Energy Storage Technology Evaluation and Procurement  
*Richard Anderson, Collin Friedrich, Chico Hunter, Tessa Murdock, Arvind Patel, Eric Robinson*
- 🏆 Monarch Butterfly Habitat Model and Landholding Assessment  
*Chuck Paradzick*
- 🏆 Risk Framework to Develop New Transmission Ratings  
*Bryce L. Priest*

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## SANTEE COOPER

- 🔧 Multi-Technology Approach to Increase Fish Survivability  
*Jane Campbell, Louis A. Manigault II, William Stevick*

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## SEATTLE CITY LIGHT

- 🏆 Fleet Electrification Planning and Assessment for New Load  
*Stefanie Johnson, Uzma Siddiqi, Angela Song*
- 🏆 Value Framework for Building and Transportation Electrification for the City of Seattle  
*Mike Hamilton, Stefanie Johnson, Madeline Kostic, Irina Rasputnis*

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## SHANDONG NUCLEAR POWER COMPANY LTD.

- 🔧 EPRI's Data Driven Decision Making Helps SNDPC Implement a Smart Corrective Action Program System for Improved Safety, Reduced Costs  
*Li Zhongzhe, Liu Fei, Lv Conglin, Wang Jiaqiang, Wu Fang, Xing Chao, Yan Dong, Yu Bingying*

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## SHANGHAI NUCLEAR ENGINEERING RESEARCH & DESIGN INSTITUTE CO., LTD

- 🔧 FORO Nuclear and CNNP/SNERDI Adopt EPRI's Guidelines for PWR Nuclear Safety to Support Long-Term Operations in Spain and China  
*Meng Fanjiang, Shi Xiuqiang, Zhang Zhai*

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## SOUTHERN CALIFORNIA EDISON

- 🏆 Fleet Electrification Planning and Assessment for New Load  
*Iliia Gueorguiev, Matthew Tonyan, Jun Wen, Le Xu*





## SOUTHERN COMPANY

- 🏆 DER Network Gateways for Control Integration of Smart Inverters  
*Andrew Ingram*
- 🏆 Fleet Electrification Planning and Assessment for New Load  
*Thomas Canada*
- 🏆 IEC 61850 Digital Substation Technologies Implementation & Development  
*Jonathan Doroh, Glenn Wilson*
- 🏆 Potential System Impacts of Electric Vehicle Charging and Driving Behaviors  
*Shardul Modi, Brooke Williams*
- 🏆 Underground Transmission High-pressure Fluid-filled Cable Systems Assessment  
*Katherine Giometti (Georgia Power Co.), Frank Li, Mark Smith, Andrew Wright (Georgia Power Co.)*

## STP NUCLEAR OPERATING COMPANY

- 🔧 EPRI Helps STP Validate Innovative Ultrasonic Methods for PCCP Evaluation, Saving Significant Time and Resources  
*Richard A. Stark*

## SUNFLOWER ELECTRIC POWER CORPORATION

- 🔧 Development of a Minimum Operating Temperature Framework for Thermal Plants  
*Mike Thompson*

## TAIWAN POWER COMPANY

- 🔧 Corrosion Product Monitoring Optimization  
*Chu-Chi Chang, Chin-Lung Chen, Bi-Li Fu, Yen-Chin Lin, You-Lun Sie, Chih-Ming Tsao, Chun-Shian Wu, Jian-Ren Yu*
- 🏆 Mitigating Distribution Impacts of High Photovoltaic Penetration  
*Kuan Hua Su, Chang Wen Chi*
- 🔧 Taipower Gains Exemption for Bottom-Mounted Nozzle Ultrasonic Test Based on EPRI MRP Research  
*Hsin-yu Chen, Ci Gao, Heng-Sheng Lin, Rong-Yi Lin*

## TENNESSEE VALLEY AUTHORITY

- 🏆 DER Network Gateways for Control Integration of Smart Inverters  
*Sam Delay*
- 🏆 Fleet Electrification Planning and Assessment for New Load  
*Apsana Bhandari (KUB), Zack Cole, (KUB), Steven Coley, Drew Frye, Deryl Long (MTE), Ryan Stanton, Larry D. Taylor, PE (MTE)*
- 🏆 Monarch Butterfly Habitat Model and Landholding Assessment  
*Suzanne Fisher, Hill Henry, Holly Grace Hoyle, Justin Huntman*

## TRANSENER

- 🏆 Application of Transmission Asset Management Analytics Tools & Techniques  
*Martin Acosta, Hugo Contreras, Ezequiel González, Mariano Gonzalez, Sergio Martinez, Ezequiel Niselewicz, Robert Schurman, Hernán Vanni*

## VATTENFALL-FORSMARKS KRAFTGRUPP AB

- 🔧 Vattenfall Leverages EPRI Resources to Stymie History of Fuel Failures with an Improved Foreign Material Exclusion Program  
*Niklas Dahlberg*

## WEC ENERGY GROUP, INC.

- 🔧 Hydrogen With Natural Gas Blending in a Grid-Connected Reciprocating Internal Combustion Engine  
*Todd Duffield, Scott Johnson, Dan Krueger, Paul Spicer*

## XCEL ENERGY SERVICES, INC.

- 🏆 Fleet Electrification Planning and Assessment for New Load  
*Francisco Munoz Martin, David Mino, Paul Vaynshenk*
- 🏆 Mitigating Distribution Impacts of High Photovoltaic Penetration  
*Beth Chacon, Matthew Hagen, Yashar Kenarangui, Jessica Lau*





## About EPRI

Founded in 1972, EPRI is the world's preeminent independent, non-profit energy research and development organization, with offices around the world. EPRI's trusted experts collaborate with more than 450 companies in 45 countries, driving innovation to ensure the public has clean, safe, reliable, affordable, and equitable access to electricity across the globe. Together, we are shaping the future of energy.

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### EPRI

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