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Contributions to the Electrical Safety Knowledge Base in 2022

Committees within the IEEE Industry Applications Society (IAS) make many technical contributions to the IEEE knowledge base on electrical safety. An IEEE *Xplore* search of the 2022 *IEEE Transactions on Industry Applications* provided 10 published articles on topics closely related to electrical safety. One of those articles was highlighted previously in this column. Following is a brief summary of the remaining articles.

Electrical Safety Committee

- “Powering Through Wildfires: An Integrated Solution for Enhanced Safety and Resilience in Power Grids,” by Nazemi and Dehghanian, provides a framework where various resources can be combined to quantitatively model the impact of wildfires on overhead distribution lines [1].

Petroleum and Chemical Industry Committee

- “Equipment Assemblies for Explosive Atmospheres,” by Keane, DeSousa, Simpson, and McVeigh, reviews the requirements for evaluating this equipment for

compliance with applicable standards, including the recently published technical specification IEC TS 60079-46 [2].

- “Fire Rated Enclosures—A Case Study,” by Wilson and Fazel, describes the lessons learned when designing and testing medium-voltage enclosures for an offshore platform [3].

Power Systems Engineering Committee

- “Enhancing Power System Operational Resilience Against Wildfires,” by Abdelmalak and Benidris, proposes a strategy for power system operators and planners to enhance the operation resilience of power grids [4].
- “Resilient Operation of Electric Power Distribution Grids Under Progressive Wildfires,” by Nazemi, Dehghanian, Alhazmi, and Darestani, characterizes different aspects of wildfires as they affect a system’s operation, and lists

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future research opportunities [5].

- “The Analysis, Modeling, and Capabilities of Grounding System Designs,” by Saleh, Jewett, and Panetta, describes and compares different grounding system designs. Several tests are conducted, and results are provided [6].
- “A Ground Fault Location Method for DC Systems Through Multiple

Grounding Connections,” by Guerrero, Serrano-Jimenez, Mahtani, and Platero, proposes a method to detect and locate ground faults for dc sources such as in photovoltaic systems [7].

Power Systems Protection Committee

- “Experimental Assessment of Grounding System Impacts on Ground Currents and Transient Overvoltage,” by Saleh, Jewett, Al-Durra, Kanukollu, Cardenas-Barrera,

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local Chapters is the best way to start volunteering to lead Chapter activities. It will make members understand and appreciate the value of their membership. Hence, I encourage Chapter chairs to utilize the various Chapter promotions and support to host events and actively involve members. The CMD would like to host regional workshops for IAS Chapters in each Region. This

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could help the Chapter chairs to meet and greet and get involved in a collaborative initiative. Chapters who are willing to host these workshops, please feel free to contact me at srikanthpilalai@ieee.org. I also plan to focus on promoting the CMD Travel Awards, especially the Conference Travel Support Program. I call upon students and members to effectively utilize the

program for presenting and publishing their technical work at IAS-sponsored conferences. The program supports up to US\$500 in travel support for members to attend a conference with accepted papers.

I look forward to working with you all in my new role as the CMD chair. Together, we can continue to drive Chapter activity and growth, and I welcome any input and feedback you may have regarding the CMD. With the new CMD team, I am confident we can accomplish great things. We are here to support you.



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Valdes, Meng, and Panetta, presents an assessment of the performance of various grounding system designs during ground faults [8].

- “Evaluating the Impacts of Grounding Systems on Ground Currents and Transient Overvoltage,” by Saleh, Jewett, Al-Durra, Kanukollu, Cardenas, Valdes, and Panetta, describes performance testing on the abilities of various grounding system designs to influence ground currents and potentials [9].

2023 IAS ESW

The 2023 IAS Electrical Safety Workshop (ESW) had just ended when I was putting this column together. There were more than 30 presentations at that forum that could be useful for the engineer or manager who wishes to reduce electrical injuries and fatalities in the workplace. Search for the 2023 ESW technical papers in IEEE *Xplore* for these additions to the safety knowledge base.

References

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