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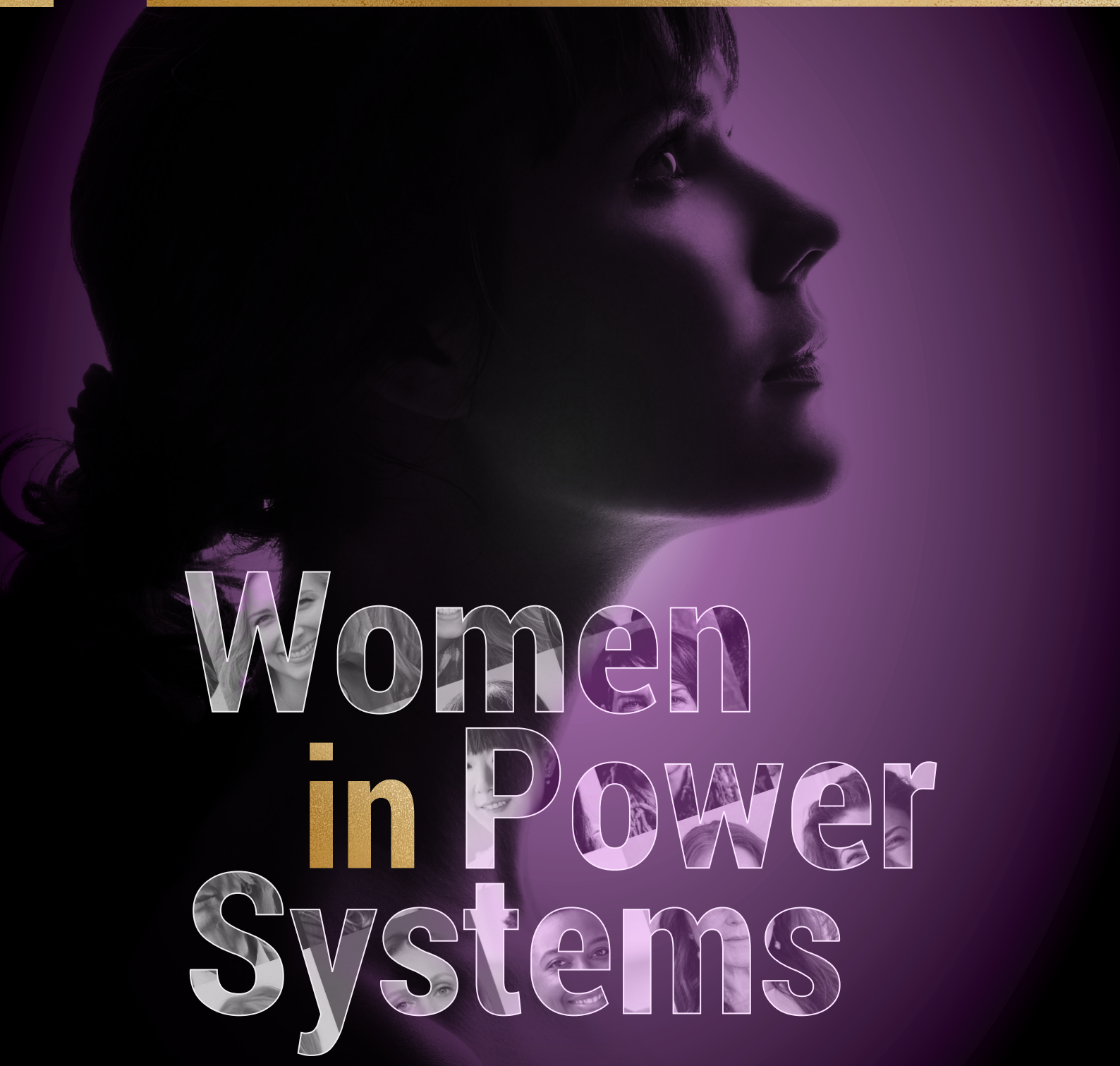

Women in Power Systems

Inspire, Encourage and Advocate: The Women Behind WPS

When Women Lead: Inspiring the Next Generation of Women Leaders

Secrets of Success: Bridging the Gaps, Building the Teams

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AND INCLUSION

Dear Readers,

When the women involved with Transformer Technology and APC Media first mentioned the idea of making the June issue of Transformer Technology a digital issue on Women in Power Systems, my first reaction was, wow, how do we do that when we are a community based on the technical aspects of transformers? TT is not the normal venue for a topic like this.

But as we discussed it and as the idea began to crystalize, we realized that one issue would not do the idea justice and so we are using this issue of Transformer Technology to launch a new community - Women in Power Systems (WPS) - which will have its own digital issues and its own web-based hub:

www.womeninpowersystems.com

Now more than ever, women are making a tremendous difference in the companies they work for, the countries and communities they live in and the families they help thrive. WPS is a community of women who work in all Power Systems roles; a place where the next generation of professional women of any professional education, not just engineering or science, have a network they can connect with and be supported through by sharing, growing, strengthening and promoting women's values in the workplace and society.

> Be part of those who **Inspire. Empower. Advocate.**

Professional women in power systems can be engineers, marketers, managers, human resources or procurement professionals: all leaders in their own right.

The WPS community will be a source of stories told by women to women that will inspire woman's self-awareness in all of her roles, and empower them to connect, collaborate, thrive and express freely their complete self, a whole woman, in all segments of life, making them even more valuable contributors to their workplaces, and local and global communities.

The community will promote and encourage diversity and cooperation - the synergy - among all individuals as well, raising awareness of the contribution that each individual, a man or a woman, makes in inspiring the groups, teams and communities they are part of to constantly grow and develop, thus contributing to a broader societal benefit.

Women in Power Systems (WPS)

A community of women who Inspire, Empower & Advocate.

We invite you to join us in this mission, by taking part in one of the following ways:

- While WPS is not a technical community, we will publish articles and interviews by women or about women who are making a difference in the industry.
- Professional women in the industry holding leadership positions in their companies will be profiled through inspirational stories that focus on their path and role in the industry.
- We also want to highlight the values of those companies that support inclusion and diversity, not just for women, but for a broader societal benefit.
- We invite women who like to write to become WPS bloggers.
- Women who feel moved to inspire and connect other women can contact us if they wish to have a more distinguished leadership role in our community.

Unlike the Transformer Technology community, which is supported by commercial promotion, WPS is a sponsor-supported community. We would like to invite all socially responsible companies who would like to make their mark in society and support this important project to contact us and learn more about ways to become **WPS Distinguished Sponsors**.

Alan M Ross
CRL, CMRP
Editor in Chief
Transformer Technology
Curator of the Community
President of EPRA

Impressum

TRANSFORMER TECHNOLOGY MAG

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Khayakazi

Chair of CIGRE Women in Engineering International

Interview with **Khayakazi Dioka**

Photo: Khayakazi Dioka

Dioka

WHEN Women LEAD

"

At the leadership level, support is very important, especially from the people who are already in leadership positions. And the majority of people occupying such positions at this point in time are still men. We need men to support women at these levels.

Inspiring the Next Generation of Women Leaders

★ ★ ★

It is a daily struggle for a woman engineer - even at my level - that people would just go behind you or above you to get an opinion out of someone with a deeper voice.

Photo: Khayakazi Doka

Khayakazi Dioka is a visionary, a mentor and a leader. She is married, mother of two daughters and has 17 years of experience at Eskom Holdings SOC, where she now works as Corporate Specialist for Transformers and Reactors. Since January 2019, she is also the international chairperson for CIGRE Women in Engineering (WiE). In an interview with our Editor in Chief, Khaya talked about her involvement in CIGRE, her various roles and the importance of encouraging women and young engineers to actively participate in building the future of the transformer industry.

Alan Ross: I have the pleasure of speaking with Khayakazi Dioka, who is responsible for more transformers in South Africa than anyone I know in North America. Alongside her role of Corporate Specialist for Transformers and Reactors at Eskom Holdings, Khayakazi is also actively involved with CIGRE and IEEE. How long have you been involved with CIGRE? Tell me a little bit about your background with them.

Khayakazi Dioka: Thank you very much, Alan. I am actively involved in CIGRE, which is an engineering body. I learned about CIGRE when I was still an engineer in training, which was over 15 years ago. At the time, I was a protection settings engineer and I really wanted to be a specialist. I think I had good mentors and that is one of the reasons why I managed to achieve that. I attended some of CIGRE events and I even went to Europe for the Study Committee B5 Colloquium - this is the Study Committee for Power Systems and Protection. Over the years I got to know more about CIGRE, and when I joined the power transformers department here at Eskom, I then fell more on the transformers Study Committee.

While I was the transformer engineer, I was invited to be a guest speaker at the Women in Engineering (WiE) Forum at the CIGRE Paris session in 2016. One of my colleagues, who was the representative at the Study Committee for transformers, invited me to come with to the meeting. I think one of the rules was that, if you are not a member, you are not supposed to talk (or at least that's what I heard). And I thought about discussing a lot of things that I do, because everything that they were talking about was my work. But I just kept it together at the time.

Later on at the same seating, I presented at the WiE Forum. Interestingly, when I had come back to South Africa, the chairperson of the Study Committee A2 for power transformers sent me an email with my CV, which he had received

from the then chairperson of the International CIGRE WiE. He said that my scope is quite interesting and involves everything that they do within the A2 Committee. He invited me to come and talk about women in engineering at the next colloquium.

The colloquium was held in Poland, and the Study Committee representatives from different countries were going to be there. That is how my second invitation to a CIGRE session came about. I was going to talk about how A2 can encourage more women engineers to participate. And obviously there were only one or two other women in the room, and there were almost 100 people in there.

I did my talk, but because this was a colloquium where papers were being presented, I could also raise my hand. I was asking a lot of relevant questions based on my experience, to try and find answers. Since I look after transformers, I wanted to know how a solution that is being presented is going to assist me to better manage the transformers here at home. From that, the chairperson saw me, I think, as one of the people he was looking for to be part of this study committee.

I think the rest is history. I became the committee member and also a liaison person to assist the Study Committee in increasing the women membership. I am currently in the Strategic Committee and there are two of us ladies who are conveners of the advisory groups, out of their six or seven gentlemen. That is progress already, because this is probably the first time they have that within the A2 Study Committee for power transformers.

AR One of the things that we would love for you to be part of is our Women in Power Systems. You mentioned your daughters; involving more girls in science, technology, engineering and math (STEM) is a global phenomenon. You also mentioned women in the boardroom, that you have to grow in your career to be there and be able to make boardroom decisions, since leaders are needed at the board level. And that is one of the things that Women in Power Systems wants to be a bridge to.

The second time I was invited to a CIGRE session, I was going to talk about how the A2 Study Committee for transformers can encourage more women engineers to participate. And yes, there were maybe about two women in the room with almost 100 people.

Women are conveners and they tend to come together better than men do. Men typically have their isolated agenda of going out and conquering the world. Part of what we try to do at CIGRE and IEEE is raise awareness of the importance of doing something together. That is why we have committees.

As you talk about your role, which is now going to be a growing role with more women in engineering and in power systems, what is it that you can say to people like me? Not to the women, but to us who are the last generation and are passing on a legacy. I am going to be retiring soon, and I want to be able to pass on a positive legacy. What can you say to me and others like me as we end our careers? What do we need to do differently to support what you have been doing?

KD I think I can summarize it by saying that you need to see us. What does that mean? In a boardroom, as a woman, you are there to contribute. You don't want somebody to interpret what you are trying to say based on prejudice. And we need sponsors. We need a lot of support. In the boardroom, there is no equality at present. Even if I were to come up with an idea, people will believe that what I am bringing on board is an emotional idea. When a John brings the same idea, but rephrases it, people say Well, actually, that is a good idea, but Khaya did say exactly the same thing. It is a daily struggle for a woman engineer - even at my level - that people would just go behind you or above you to get an opinion out of someone with a deeper voice. And that is the sad reality. You could be the specialist in that field and probably more knowledgeable in the room, but who says it still matters. Support is very important. It is critical, especially from the people who are already in those positions. And the majority of people occupying such leadership positions at this point in time are still men. We need men to support women at those levels.

AR You just hit me right between the eyes. We need to see women in those positions not as women who are engineers, but as engineers who are women. Because if we see you as engineers, we see you as experts who have great knowledge and expertise, who happen to be women. We see you as that next generation that can bring vitality and ideas.

I don't think women politicize as much as men do. We tend to have a political hierarchy because we are always competing for space. Women tend to bring out the best in a lot of people. I think that is why a person like Susan McNelly was good at running the IEEE Power & Energy Society (PES) transformer committee, with 200 members. The situation in CIGRE must be challenging, given the scope of the organization. Tell us a bit about your role in connecting CIGRE and South Africa.

At CIGRE conferences, you will notice that the participants are mainly men – and it is not just men, it is elderly men. There is a missing generation. We are trying to close that gap, and for that aim we have two forums: the Women in Engineering, and the Young Engineers Forum, which is the Next Generation Network.

Photo: Khayakazi Dioka

KD As you know, CIGRE works through national committees. I am part of the South African National Committee. And one of the biggest mandates of CIGRE is to increase the active participation of both women engineers and young engineers in South Africa. I am responsible for those two. I have now given over the young engineers to the younger engineers to lead, but I am still driving it from the executive board point of view.

I am sure that you have noticed, when looking at pictures of CIGRE conferences, that the participants are mainly men - and it is not just men, it is elderly men. There is a missing generation. That is our biggest concern. When the older generation leaves, who is going to drive this mandate of putting all of the engineering work together? Who is going to put together guidelines and make the standards as active as at that time when they want to implement them? We are trying to close that gap, and hence the two forums: the Women in Engineering, and the Young Engineers Forum, which is the Next Generation Network.

★ ★ ★

In our forums, we try to empower, encourage and mentor each other. When you are chairing a session, you need to be confident enough to occupy that space, and you need to understand that you are there because you deserve it.

We are trying to make sure that we get all the young engineers active. That is what I have been leading in the Southern African space, as well as getting more women engineers actively involved, actively participating in CIGRE activities. If we are organizing a conference, we need those engineers to stand up and participate, write papers, chair sessions. You would be surprised by how many people are in the transformer space (as an example), but every time you look for a chairperson, the same male names come up, even though there is maybe a brilliant lady in research that is doing the work on transformers and understands that subject.

I think what we are trying to do is to say, but Khaya is there, but Jane is there, but Mary is there, and they can do this. There are a lot of stereotypes and barriers that we have to overcome. What we try to do in our forums is empower each other, encourage each other, and mentor each other. You need to be confident enough to occupy that space. When you are chairing a session, for example, you need to be confident enough, because it is your space, and you need to understand that you are there because you deserve it. We want you to flourish in that space. That is what we strive for in our forums.

I have young engineers who are trying to write papers on transformers. After I work with them

Photo: Khayakazi Dioka

on a paper, I don't even have to be involved with the next one, I can just do that final review. That is mentorship, that is passing the baton to the next engineer and trying to build them. And that is something that we have missed for years. The girl child especially has been overlooked for a very long time.

AR Speaking in the name of elderly men, we have a responsibility to do what Khaya just said. It cannot be left up to that next generation, because Khaya is the next generation of leaders. If she is challenging us, what we have to do is make an environment where women feel invited and welcome and they feel that their knowledge is respected. We need to find the people who want to speak out, and some of them are afraid. They want to make sure that they are accepted.

The next generation of women is of critical importance for our society as a whole. If we get more young women involved in STEM, society will be better for it.

Khaya, you are brilliant. Thank you so much for sharing your passion with us.

KD Thank you so much for having me. I appreciate it.

THE Women BEHIND WPS

Inspire, Encourage and Advocate: The Women Behind WPS

WPS (Women in Power Systems)
Steering Committee

Interview with **Rachel Linke, Marina Cizmesija & Petra Curlin**

Petra Curlin

Rachel Linke

Photo: WPS

Marina Cizmesija

Women in Power Systems (WPS) is a community created by women for everyone in the power industry. The creative minds behind the initiative are three members of the WPS Steering Committee: the Chair, Rachel Linke, Member Services Manager for the Electric Power Reliability Alliance (EPRA), Associate Editor for APC Media and Secretary for IEEE PES SmartGrid Marketing Working Group; Marina Cizmesija, WPS Editor in Chief, and Petra Curlin, WPS Communications and Projects Manager.

Alan Ross: I am delighted to announce that we are launching a new community - Women in Power Systems. The idea was wrought by three women that I am honored to introduce. Rachel Linke, the organizer and advocate, Marina Cizmesija, the heart and power behind the scenes, and Petra Curlin, the next generation thinker. Petra, you always come up with new ideas. Where did the Women in Power Systems idea come from?

Petra Curlin: As we were working on new digital content for Transformer Technology, a moment of beautiful synergy happened, as Marina would put it. It turned out we had both had the same idea for some time, which is to have a Transformer Technology magazine issue dedicated especially to women working in the power industry and, of course, in the transformers segment. That idea somehow bloomed into a much larger project as we realized that one issue is not enough. Because we live in a world where diversity and inclusiveness are becoming an increasingly important topic, we felt what we needed is a space for women to be who they are, a space where they can balance their professional career and their personal life.

We also realized that, while such organizations already exist, they mostly focus on women engineers, such as IEEE and CIGRE's Women in Engineering (WiE), as well as Women's Engineering Society (WES) which organizes the International Women in Engineering Day (INWED) on June 23rd. Being non-engineers ourselves, we figured that there are other professions within the power industry and we would like to include all of them. I think that was somehow the starting point of it all. To honor INWED, we chose June 23rd as the launch date for the inaugural WPS edition.

AR It is amazing that you mention synergy. For me, Women in Power Systems started with the second of two interviews with Khayakazi Dioka from Eskom in South Africa. We were all inspired by Khaya's background, both as an engineer in a post-apartheid country, and as a next generation leader. She has two daughters. We talked about science, technology, engineering and math (STEM). And it hit me at that point - it would be amazing to have a community for women within power systems. Right about that time these three inspiring women had come up with this idea. The beautiful synergy happened. Marina, what happened from your perspective?

> **We want to make sure that women know that they are valued. These are our three main goals as we go forward - we want to inspire, encourage and advocate for women in power systems.**

Marina Cizmesija: For me it came from a much wider perspective, and that is that today, globally, we need this synergy. Not just between men and women, but the synergy between each and every individual. I think that enough has been said about equality, not enough done though, but we also need to stress the need for cooperation and support between each individual person. We are all here to contribute and each one of us has something to offer and something to give. We are all part of a bigger picture, and our individual growth and success is reflected in the growth and success of the team or a community we make part of. We all have some talents and many of us don't necessarily believe in ourselves. Or

maybe in the workplace we are more picked upon for what we haven't done properly. But what if we focused on those little things that shine in people and we supported them in that perspective? Then they would shine even more, they would build self-confidence and grow more passionate about themselves, about what they do, about their part in the team. They might even outgrow themselves in ways they couldn't even imagine. Their contribution in the workplace would then become invaluable, and you wouldn't feel that comfortable to say they are replaceable, because bringing in technical knowledge is one thing, but bringing in passion about what you do is something completely different.

We put this in the perspective of power systems because we work in that industry. And women have that subtle perspective they can take, coupled with their cyclical approach to life where everything is interwoven, and are able to tell their stories in a certain way which is different from men, and which we all can learn from. In that way, I think we need to give them space and freedom to express themselves fully for who they are, what they are, in all segments of life including their workplace, and contribute even more in this industry, which is mainly a man's world.

> **We would like to show the younger generations how much opportunity there is out there for them in the power industry.**

AR One of the things I love about what you just said, Marina, is that we want to celebrate the whole woman and the community of women in power systems. Power systems really is a man's world. It is changing, but changing, in our opinion, much too slowly. Rachel, when you first heard about Women in Power Systems, what were your thoughts and what is your drive for doing this?

Rachel Linke: First of all, thank you, Petra and Marina, for what you said. I think that really puts a good perspective on what we are trying to do. Something else I think that we really want to do with Women in Power Systems is to advocate for the younger generation to start looking at power systems as a potential career path.

I have been in the industry for about 11 years, and when I first started, I did not hear of very many women at all. As I have been in this career, I have started to see more and more women merge into the power industry. And it is exciting. But there are just not as many as we would hope. I think part of Women in Power Systems is not only to encourage and build women up and give them a voice, but also to advocate for more women in this industry. I think that is something that we really want to push forward and encourage women to look at the power industry as an option. Because it is just not as prevalent for women as it is for men.

AR If I were to pick one word from each of what you said - Rachel, yours is *Advocacy*, we are here to advocate. For Marina, it would be *Sinergy*, we are here as a collective, and we advocate for our community. And then Petra, yours is *Dynamic*. This is a dynamic community. We want to bring ideas and thoughts and other women into it.

Women in Power Systems is created by women - for everyone. I really appreciate you making

Photo: WPS

me part of the community. And as the Editor in Chief of the launching edition of WPS, I am going to work behind the scenes to enable Women and Power Systems to be everything it can be.

Rachel and I are co-hosts on a podcast called High Voltage, and we will be interviewing both men and women, providing inspiring profiles for Women in Power Systems. Rachel, tell us about some ideas you have got.

RL Yes. aside from women involved in power systems, we have talked to quite a few companies led by men who have expressed an interest to really expand the role of women within their company. That is something that we also want to see. We do want to hear from men within our industry as well. There is passion to see the industry change, to bring more women into various roles, because we bring different unique abilities and talents to these roles. We want to see more and more of that. And I think many companies are seeing that as well.

AR One of the things I really appreciate that you bring to this, Marina, is your focus on women being themselves. When women come into an industry like this, many times we expect them to act like men. And the truth is, we don't want women to come into power systems and act like men. We want them to come into Women in Power Systems and be women. We want to celebrate the whole woman in all her roles, interests and pursuits. And then the role that she plays in business is integrated. I love the fact that you are talking about the complete woman. Marina, tell me a little bit more about what that means to you.

There is passion to see the industry change, to bring more women into various roles, because we bring different unique abilities and talents to these roles.

MC Being complete, in all your roles, and acting as a complete person with all your flairs, talents and desires is very important because if we are not authentic, if we can't express who we are, if we need to imitate and fit into predefined expectations of what we should be, feel or act like, we can't find and live our passions. It's like stepping in other people's shoes and that's not comfortable, is it? To be able to grow and develop, we need to feel authentic. We need to feel free. We need to be able to express everything that we are, to show all of our talents, no matter how tiny they might seem to somebody. Only then we can really contribute. Many women have made their careers, thanks to their own knowledge and talents, but in many ways by acquiring male principles of thinking, problem-solving, acting in the workplace, by not standing out or showing their feminine side. I don't think that really brings the benefits, because a perfect synergy is the one that unites masculine and feminine energies and this balance brings to fulfilling our full potential.

Outside their knowledge, the experience and technical skills, women have a lot of different and unique skills. They have hobbies and interests which are also translatable to what they do. For example, their role as mothers requires and inspires in them aptitude and finesse, as well as the strength, to balance, support and manage so many important aspects of life, and they bring

ADVOCACY

these skills to projects they work on, which they tend to with special care. They are fantastic organizers, coordinators and irreparable multitaskers, but how many times have we seen that motherhood is seen as a disadvantage in the workplace? If women can feel free to incorporate their complete self in their everyday workplace and life, I think that helps them a lot in achieving the true sense of purpose.

AR One of the many elements of content that Women in Power Systems will offer is something I call Petra's Notebook. Petra calls it Women of Note, and I like that. In every one of our digital issues, Petra is going to profile women with inspiring backgrounds in the power industry. Petra, you are a different thinker. I use the word dynamic. You bring a unique perspective to this of the next generation. What does all of this mean to you?

> **Apart from doing interviews, we would like to invite all women who like to write to contact us. We would like to have bloggers and publish inspirational stories that celebrate the importance of collaboration, of showing belief, expanding and erasing the boundaries, and stepping out of the comfort zone.**

PC I love that you assigned that word to me, dynamic. I was just thinking how I recently had the pleasure and privilege of talking to a woman in a very high position in the power industry, with more years of professional experience than I have on this planet. One of the things I loved about her story is that she said there are so many more opportunities in the power industry today that did not exist in the beginnings. The power industry was exciting and promising back then, but now it is even more so, with new digital technologies, possibilities that we could not even imagine a few decades back. It is offering so much possibility, and her advice was for all the younger generations - just join the industry. Do not hesitate if you have the talent, if you have an interest in this. Join the industry because it is offering so many possibilities. And that is something that we would like to explore here. We would like to show the younger generations how much opportunity there is out there for them.

> **Our future efforts are focused on decreasing partial discharge as well as developing a system that will ensure the bushings have self-cleaning properties, approaching those of porcelain.**

AR Excellent. And to you, dear readers - we would love to hear about the new ideas that you have as women for where we are going in the power industry. My wife asked me what my motivation is for doing this. Having thought about everything that I am doing or have done, I think this initiative is going to be the most giving that I could ever have been part of, the one that is going to impact the future better than anything else.

MC Just like you feel that this is something really big for you, Alan, I think it will be for many people. We are stepping out wider now with this idea. We want women to show all of their colors. And apart from interviews we will be doing, I would like to invite all women who like to write to collaborate with us. We would like to have bloggers as well, we want inspirational stories but not necessarily in their greatness of achievement but stories that celebrate the importance of showing belief, expanding and erasing the boundaries, stepping out of the comfort zone. Sometimes the person you inspire most when you start writing is yourself. It is an amazing gift that you can

Photo: WPS

discover in yourself. I would like to encourage all the amazing women out there - think about how much you can inspire, not only women, but also the men around you. We can help each other grow and expand. This is the gift that we all have and I would like to see us all embrace it.

AR That is a wonderful message. If you have got something to say, Women in Power Systems will be a voice for you. The word that comes to me is *inspire*. If we inspire one woman to advance in her career, or one man to look at women as engineers, it is an achievement to celebrate. We want to put generational stories out there to inspire the younger generations.

RL I think this is an exciting first step into something that is really needed. I hope to see more and more women inspired to join this industry. We want to make sure that women know that they are valued. Those are our three main goals as we go forward - we want to inspire, encourage and advocate for women in power systems.

> **What we need today is synergy. Not just between men and women, but the synergy between each and every individual. We are all part of a bigger picture, and our individual growth and expansion are reflected in the growth and success of the team or a community we make part of.**

MC I would like to invite all women and men alike to join us, to feel open to this idea and see - they might be surprised - how much we can all grow through this community.

> **And to you, dear readers - we would love to hear about the new ideas that you have as women for where we are going in the power industry.**

PC Sometimes in life, the unexpected things are the best. And that is what happened with the idea of Women in Power Systems. You think of something, and then you realize that there is already a space in the world that seemed to have been waiting for you and this idea to be born. I believe that this voyage into the unknown will be a good thing for all of us and that we will discover that there are many more people who will be inspired by this along the way.

AR I hope that we are going to look back on this later in life as the genesis of something very special. I really appreciate each of you individually and I love the synergy between all of us.

Photo: WPS

We believe in fostering the promotion, education, and unique talents of all women in the industry.

Delta Star is proud to sponsor **Women in Power Systems** as we believe in fostering the promotion, education, and unique talents of all women in the industry.

We appreciate how WPS supports this initiative by creating a strong community where women can share, grow and promote values in the workplace and in society.

Javiera

Assistant Vice President and **Global Business Leader for Dielectric Solutions** at Cargill BioIndustrial

Interview with **Javiera F. McGuiggan**

F. McGuiggan

Bridging the Gaps, Building the Teams

> The heart of my mission as a person is to feel that, through the work that I do, I am really making a difference in the world.

SECRETS OF SUCCESS

Photo: Javiera F. McGuiggan

Javiera F. McGuiggan is a leader with a personal mission to make a difference in the world. With a background in hydraulic engineering, she started her professional career with Procter & Gamble in 2003, followed by almost 14 years with 3M, where she rose to the position of Global Marketing Manager. She joined Cargill in 2019, where she is now Assistant Vice President and Global Business Leader for Dielectric Solutions at Cargill BioIndustrial. She supports the charity Feed My Starving Children where she is a member of the Board of Directors. Her best team and greatest support is her family.

Photo: Javiera F. McGuiggan

Alan Ross: I am honored to speak to Javiera McGuiggan, a powerhouse woman who suggested changing the name of Women in Power Systems to Women in Power, which tells you something about her. Another woman in power is my co-host in this interview, the Chair of the Steering Committee for Women in Power Systems, Rachel Linke.

At Transformer Technology, we promote the developments that bring about change, and Cargill's FR3 liquid is changing the landscape for transformer fluids. As a Global Business Leader of the BioIndustrial division, Javiera is the champion for FR3 at Cargill. Javiera, we would like to hear about your career journey and how you ended up in the power industry.

Javiera F. McGuiggan: I had an amazing long time in my previous company, many opportunities and great products that you could be proud of promoting. But when the headhunter came calling, Cargill got to the heart of my mission as a person, which is to feel that, through the work that I do, I am really making a difference in the world. And I had moved

away from that in my last role at the previous company. My goal was not only talking about a message, but actually influencing change that is significant for people and for the planet. It was a mission that was way too attractive to pass up.

AR Could you tell us more about your mission at Cargill BioIndustrial, and how you became their Global Business Leader?

JM The BioIndustrial group has this broader mission to change either chemicals or petroleum-based industrial solutions into bio-based renewable solutions. And there are many areas of that in almost every industry. The business that I am leading is the dielectric fluid - electronics world of that transformation. This fluid is directly replacing mineral oil, but it is more than that. It is better for the community because it is based on plant oil. There is nothing that could be more natural or biodegradable, which is a concept people are sometimes misled about. The mission itself is doing something that is good for the industry, good for the world, and is a concrete bio-based solution..

Rachel Linke: Javiera, I love hearing about your journey to where you are now, what you have accomplished and just the great things that you have been able to do to bring value to your job and your career. But what made you initially think about the power industry, when you were either in school or as your career progressed? What drew you into this industry?

JM What I find really attractive about the power industry is that it is one of those invisible things that affects our life in every single point. It touches almost every aspect of our lives, in every way, all the time, and we are not conscious of it until the power is off. We depend on it so dramatically, not only on hospitals and big institutions having power, but in our daily life. Who would live a day, or half a day now without their phone? Or people who have electric vehicles - they would literally not be able to leave their house.

Transformers are my little world. Bringing power to people who don't have it, and how life-changing that is – that makes the whole industry super attractive to me.

It is something we are so dependent on, yet it is completely invisible. Even transformers - that is my little world. There are these greenish, very blended boxes everywhere or hanging from a tree, and people have no idea that they are there. They don't see them, and they don't know how critical they are for us to live our daily lives. Any way to make that either more efficient or smarter or better, with all the challenges of growth that we have around the world, or even just bringing power to people where they don't even have power yet, and how life changing that is - that just makes the whole industry super attractive to me.

AR One of the things that I really like about Woman in Power Systems is that the focus is on the whole woman, the complete person. When I was in the role of a CEO, nobody was interested in my role as a husband and a father. But Women in Power Systems wants to celebrate all roles that a person plays in their life. How does your personal life fit in with your career? I hope your answer will challenge me, too.

JM I think that how we treat men versus women should change, in the sense of including the wholeness of the man, as well as the wholeness of the woman. Sometimes women think, I don't want to tell people anything about my kids or my personal responsibilities because that makes me less attractive for a promotion or an opportunity. And it should be the opposite. It should be that we see men also - and everyone - as a whole in themselves. We are also considering their family needs and their time constraints, and not doing the opposite of thinking that, because someone is male and single, they obviously have more time. They could have their own pursuits they want to dedicate their personal life to. I think that change should be not in the denial of the woman's completeness, but in the inclusion of the man's completeness.

AR I absolutely agree with you about the need to bring out and celebrate the wholeness of a person, man or woman. I want to be a father and a grandfather too, and not lead two separate lives at home and at work. How have you personally managed to achieve that balance?

JM I am very, very lucky that my support system is my family. My brother lives close to me, as does my mother. Being Latins, we are a very close-knit family. There is no day that we don't talk or probably see each other. Another great thing about joining Cargill is that part of their culture is putting people above anything. Your trips can be absolutely planned by you. A lot of my business is international and there is an incredible value

in being present locally, talking to people and understanding their local needs, the needs of your team, everything. You have a lot of flexibility in managing that, without forced schedule or forced limits for how long trips have to be.

If you want to have a great career, you have to have a great team at home and at work.

Having that, knowing that I am the priority, is a dramatic change. That way I have been able to manage being the leader of a global business. And by having a great team. If you want to have a great career, you have to have a great team at home and really make them understand that they are all in it, and everyone is committed to the success of this career. At work also, you need to have a team that you are flexible with and they are flexible with you. Your team needs to be empowered to do what they need to do without a lot of oversight, and you need to be a good boss who understands that. So, build a good team all around you would be my best advice - at home and at work.

RL Javiera, I think that is amazing. It sounds like you are really good at problem solving, which I think is a great skill to have in your field. Were there any challenges that you had to face in your professional career related to the mindset of your colleagues, and how did you overcome that?

I have the self-confidence of knowing that my opinion matters. I know I am smart enough that, if I say something, I am contributing. I need to be brave and just do it, because nobody else will be able to do that for me.

JM Sometimes knowing that you belong at every table is a lot on its own. I thankfully have the personality, which helps, and not everyone does - and that is the self-confidence of knowing my opinion matters. I know I am smart enough that, if I say something, I am contributing. I need

Photo: Javiera F. McGuiggan

to be brave and just do it. That is the first personal work that you absolutely have to do, because no one will be able to do that for you. Externally, I think the biggest challenge that I had was not sharing common themes with the people I worked with, either hobbies or interests that differ from what a woman might be interested in. I would say networking is a challenge, finding commonalities with the men that work in your industry. The typical challenge for me was feeling left out of these circles. But we all love what we do and there are more things we have in common than those that make us different.

AR In 1976, I worked for a company with the worst manager I ever worked for. He was replaced by the best manager I ever worked for. Her name was Mary Kee. She was relatively new into management and leadership at that time, but she was a great leader. She brought the best out in me. In fact, she brought so much good out of me that I left the company. You are in a leadership position now, as you were in 3M. Is it different, difficult, harder, better? Tell us about your role of leading both men and women to a common goal.

It has been more of a benefit for women to be managed by a woman because it is encouraging. There is unspoken understanding, an easier relatability.

JM I would say I see a huge difference in managing men and women. It has been more of a benefit for women to be managed by a woman because it is encouraging. They feel that I will know what they are going through. If they have a personal issue, they know I will understand or I have lived through that. There is unspoken understanding, an easier relatability.

I think it definitely makes a difference for women to see women leaders and think it could be them some day. The same goes for management. I think my biggest challenge in managing has usually been the age difference. How do I manage people who have wisdom and longer experience than me, but yet have to report to me? There is a delicate balance of bringing in new ideas, and you have been placed in your position because you have the potential to do great at your job. I balance that by valuing everyone's experience. It doesn't mean that because my colleagues are older, they don't matter or what they have done will be ignored. I think my efforts to be a good leader have been more about bridging the generational gap than about the male versus female issue.

RL Javi, our goal at Women in Power Systems is to inspire, encourage and advocate for women. Have you seen a growth in women in the power industry? And how would you suggest we can help encourage others whose company may not have women in leadership positions, or any positions?

JM I have seen the change. I have seen more of a broader presence of women in the short period that I have been at Cargill. I have seen a positive change. How do we encourage that? I think we are still just starting the process. I am a big advocate of this: It is necessary to set goals. If you don't challenge yourself, if you don't measure things, things don't happen. Sadly, at the beginning, that is how you have to force change.

The biggest goal of diversity is that someday we don't even have to talk about it. That is when we made it.

When companies or institutions or associations have goals of including women in leadership roles and board positions, it is how it has to be so that we move to the next step where it is natural. We all want to achieve diversity. The biggest goal of diversity is that someday we don't even have to talk about it. That is when we made it. But we are not there yet. For now, I think we definitely have to set goals that are purposeful to force the change that needs to happen. And then we will move to the great world where it is not necessary to force it.

Another way is always starting from the beginning. We are very active in recruiting and doing speeches to women engineers, chemists, scientists who are now in college, who can see themselves in this career and are hopefully not scared of it, that they don't think it will constrain them from having a family or being complete in every other way.

We should just keep encouraging girls, young ladies who are still in college in this field to try out for this industry, make it attractive to them and make them see that there is a space for them.

AR I have had two sons, I am about to have one granddaughter. And you can rest assured that girl is going to be an engineer, she is going to be a CEO.

JM (laughs)
No pressure!

We should keep encouraging young ladies who are still in college in this field to try out for this industry, make it attractive to them and make them see that there is a space for them.

AR When we achieve what you said about not having to talk about diversity any more, that is when Women in Power Systems will not be needed any more.

JM My most important point is that we are not there yet. Sadly, many people still don't see why it is necessary to have a Women in Power Systems special group so that we encourage this change and promote different ways of thinking and ideas. I am happy that you are starting this group. It is absolutely necessary and valuable, and I hope more people join and see the value of it.

AR Thank you so much for joining us on this launch of Women in Power Systems. You are a delight, whether we are talking about a technical product like FR3 or whether we are discussing the whole woman within the industry. You made one point that we want to make. You said a woman could be a chemist, could be an engineer. In Women in Power Systems, we want to celebrate all of the women in this industry.

JM Exactly, in this industry there is procurement, sales, quality control, etc. In my group I have finance, product line management - most of my key roles are held by women. There are many different ways to be a part of it.

RL Javiera, you are an inspiration. Thank you for bringing power to those who don't have it yet, and for showing us the way to the future of Women in Power Systems.

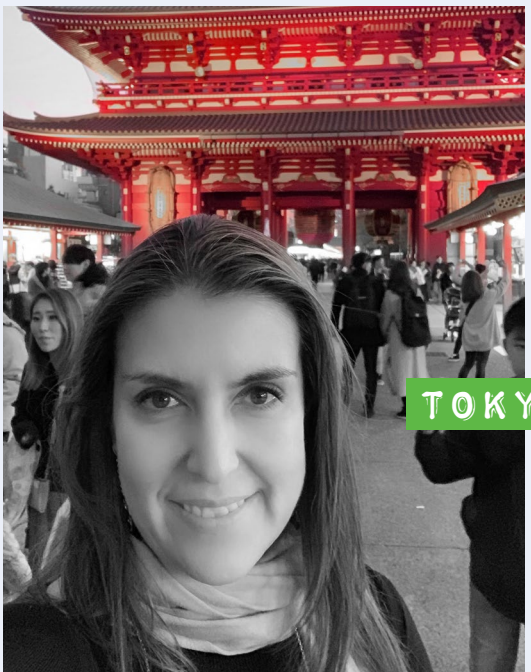

Photo: Javiera F. McGuiggan

Women power the world. That's why Cargill has committed to achieving gender parity globally. Companies, institutions and associations must have goals of including women in leadership roles and board positions, as this is a way to move to the next step where it becomes natural.

At **Cargill** we support diversity, intergenerational collaboration and bridging of all the gaps, including those between men and women. We need women's ingenuity, drive and insights to continue fueling innovation for our customers and communities.

We recognize and support the ideals that **WPS** embodies as some of the most important values in achieving diversity and inclusion.

Go to Cargill.com for more information on how Cargill is relying on women and diverse perspectives to help us nourish a growing world.

https://www.cargill.com/about/diversity-equity-inclusion

FR3™
FR3fluid.com

Cargill®

Agnès

President & CEO of Europe, Russia, Central Asia and Israel at GE Grid Solutions

Interview with **Agnès Théodule**

Théodule

Building a Meaningful Career in the Power Systems Industry

“When you break some of the initial barriers, then very quickly you start getting the benefits of being a woman in this role.

WHEN *Women* LEAD

Photo: Agnès Théodule

In this interview one of the founders of Women in Power Systems, Petra Curlin, spoke to Agnès Théodule, one of the great women in the power systems industry who spent her entire career climbing the professional ladder within one company that provided support and opportunities for her professional growth. Have the times changed over the years? In this interview, Agnès shares her personal story and invaluable professional advice for all women and younger generations entering the industry of power systems.

Petra Curlin: We are very proud today to have with us one of the first female leaders to support WPS and share her stories with us, Agnès Théodule, President and CEO of Europe, Russia, Central Asia and Israel at GE Grid Solutions. Welcome Agnès.

Agnès is a mother of two and she loves the mountains. She is currently in lockdown in the French Alps, is that right Agnès?

Agnès Théodule: Thank you, Petra. You are quite right. I am stuck in the Alps and now I will have to ski each weekend for six weeks (laughs).

PC Agnès, you are a leader in one of the biggest global companies in the power industry. Could you share with us what first inspired you to start your career in the power systems? Tell us something about the beginnings of your career.

AT What appealed to me to choose power generation and transmission industry was the fact that these facilities are present in all countries and they serve the basic needs of any population. This global aspect was of great interest to me, knowing that I will meet with customers from anywhere in the world. The second important element was the diversity of the technologies and science that are integrated in the power system. You have everything from pure mechanical science to electrical, thermal and software engineering. These were the two main drivers for me.

PC I can imagine you saw a lot of change of technology over your career. What was the biggest challenge that you faced during your career?

AT I had no real career plan, and my professional growth was essentially driven by the needs of the position I occupied at the time. I was very lucky because I was often offered new opportunities for career growth within my company. This provided an opportunity for me to advance from a project manager and sales engineer roles to an area manager in the substation business, followed by sales vice president in the power transformer business and various global roles that I held afterwards. The downside of this trend was that in the first 12 years of my career, I was in an organization which was very static. On two occasions I felt I was reaching my comfort zone and I expected to be more challenged in my roles.

Thinking about my next steps, I realized that I had to be more proactive in order to be presented with the opportunity. So, I did this the second time. I felt I was reaching my comfort zone and I openly expressed that I would like to progress and do something else. I was immediately offered a new job in the power transformer business. So, the difficulty I faced was feeling too anchored in current circumstances, and not looking forward enough.

PC That is amazing. I don't know how many people would actually accept so many new challenges. You say when you advanced in your career, it all progressed pretty naturally. One thing that I am really interested in is the attitude of your colleagues at the beginning of your career, and how it changed over time. We know the power industry is traditionally a man's world, so what was the support from your male colleagues like?

AT When I started my first job, I was the first new engineer in a new recruitment wave in the company, which happened five years after the previous wave of recruitment. They recruited five to ten new engineers at that time. When I joined, there was nobody of my age, and there were only men who were hired five years before. But I enjoyed full respect from my colleagues, both from younger ones,

I was very lucky because I was often offered new opportunities for career growth within my company.

Women must be more proactive in order to be presented with opportunities.

and those in the hierarchy - from my direct manager to the higher-level managers. I did feel a bit under scrutiny because I was the only female. I felt I had to demonstrate a bit more than if I were a man, but that was it.

There was something interesting, however - when they talked to me they would use the vous*, which is a sign of respect. I noticed they didn't use it among themselves, only with me. So, I forced them to have the same direct interaction with me as they would among themselves.

Over the years, I became more visible in the organization because I was often the only female. Maybe I had to demonstrate certain capabilities more when I entered the power transformer world because I was a woman, but again, I think it was generally a positive welcome.

In my career, I worked a lot in Asia, the Middle East and in Africa. I was in charge of the Africa - Middle East region in some key activities, and I could really recognize the full respect from my male colleagues in those countries. Same with the customers. In certain areas, the customers were only men, there were no women.

* Plural of the French personal pronoun tu – "you"; used as a sign of respect when addressing someone older than yourself and/or a less familiar acquaintance.

Photo: Agnès Théodule

I remember an event when we celebrated an HVDC contract in India and there was a big ceremony. There were around 100 people present and I was the only female in the room.

My message to younger generations is to join this industry. Because today, the T&D business is much more exciting than in my early days, with so much innovation going on.

I remember a case when we celebrated an HVDC contract in India and there was a big ceremony. There were around 100 people present and I was the only female in the room.

I really can't say I ever had a bad experience. I don't say that it is always the case, but globally, I think this is an industry which welcomed women even at that time when there were fewer women in the industry. And I see a significant change now.

I would also like to share one event when I just had my second child and I decided to work part time, only four days a week. I had some feedback at that time that I was being considered for a

Photo: Agnès Théodule

promotion, but working part time was not that well received by some of the managing directors, so the promotion didn't happen. However, the next time, a few years later when I repeated this part-time work with the new boss, who was, let's say, from a new generation and fully understood that I could achieve my work with the right organization and team, this was achievable. I could delegate to the right people, and obviously I was available in case of emergency any time when needed. So, even this is possible for women if the organization supports it.

PC You mentioned in a conversation we had earlier that while it is more difficult for women to prove themselves in the power transformer industry, later it is actually an advantage, and you get respect once you have earned it. Could you comment on that a little bit?

AT Once you become more visible and appreciated, with time you get even more appreciated. I guess the feelings are a bit inflated when it comes to dealing with a woman compared to a male in the industry. When you break some of the initial barriers that you might encounter during the first interaction with either your colleagues or customers, then very quickly you take that as a benefit and you feel that being a woman in this role is more of an advantage than a disadvantage.

PC What advice would you give to the younger generation starting their career in the power industry? How can they bridge this first gap? How can they break the ice? In my experience, although women have some more prominent positions in the industry now, they are still the minority. And often a woman will find herself as the only female among her male colleagues.

AT The first advice I would give is to join this business. Because today, this business is much more exciting than in my early days. In fact, back then T&D was a very traditional business with not so much innovation going on. And today it is quite the opposite. Today, the main challenges come from the integration of renewable energy obtained from very large, concentrated offshore wind farms, to the distributed energy through the rooftop solar panel on your house. This change in the production of electricity induces a huge change in the transmission. It is a technical change, but also it is a change in business models and in regulations of transmitting this energy.

All these challenges open a huge space for innovation, and the pace of this business has completely changed. The time constant was very long and now it is accelerating. We are really moving from a conservative industry - which, while it was conservative, was still very interesting - to a very innovative industry. There is also a new carbon-free technology being developed, which is key for the future, for environmental reasons and for the safety of our workers.

Then, when it comes to more personal behavior and acumen, I think it is very important to be direct and to break down the barriers that sometimes can be placed in front of you. Just be simple and like in the example I gave, don't accept that they speak to you using vous when they don't use it among themselves.

PC "No vous - I am not old, please!"

AT Exactly! But this probably wouldn't happen today as we are generally more relaxed and direct in communication. But we could translate this example to other kinds of barriers which could still be there today. Don't accept it. Be straightforward.

And what I often notice - women are generally more straightforward in the workplace. This facilitates the relationships they build.

Another advice I would give is to be more proactive than what I had been myself. It is good to be focused on your current job, but you also need to look forward to more and see new opportunities. And then be more proactive when those opportunities come so you can take them.

PC What would you say was the proudest moment in your career that you would like to share?

AT I joined the power transformer business in 2003 as a deputy sales VP. And then one year later, I was appointed the sales VP. At that time, we had €320 million activity worldwide and operated eight factories over five continents. We were present everywhere, but we faced huge difficulties because the market was very depressed.

In 2005 and 2006, the market started to increase drastically. What I am proud of is that we managed to seize the opportunity to increase our volume, but also our market share in this period. In fact, we very quickly managed to turn this into a profitable business, before it was losing money. We jumped on the wave, and made it even better than the wave was, also managing customer expectations. At the time we were moving from a buyer's market to a seller's market. We needed to maximize customer satisfaction and try to find a solution for them to get our product as it became very scarce on the market. In fact, we were selling

Women are generally more straightforward in the workplace. This facilitates the relationships they build.

pre-booked slots in the factory in order for them to reserve the slot.

This was also very interesting from the sales perspective. I had to develop the sales capability when I could have been in an easy position. And I didn't want to benefit from this easy position. I wanted to continue to develop the long-term relation with our customers and justify their trust and confidence in the fact that we will always find a solution for them. I am quite proud of what we managed to do, knowing that in my last year, in 2009, we had the volume of orders of more than €1,050,000,000. At that time we had three more factories worldwide, 11 in total.

So, from the sales aspect, you need to be able to deliver in order to maintain the long-term relationship and long-term presence with your customer. And to do this, you need their confidence and you need to be there when life is not so easy for them. In my career, I worked with customers whose countries were at war, either civil war or otherwise. And still, they need your support and your equipment. Sometimes you need to find an innovative solution to continue to serve them. And then you earn their loyalty, which is very powerful and important to keep and develop your customer base.

PC Thank you, Agnès. This is extremely inspiring for anyone considering a profession in the power industry and, like you said, there are so many possibilities. I loved what you said - that the industry was exciting back then, but that it is even more exciting and offers even more possibilities today when we have renewables, a lot of new digital technologies and many other opportunities. Thank you very much for this insight and knowledge.

AT Thank you for the opportunity.

Photo: Agnès Théodule

Laura L. Vandiver

Laura Lynn Vandiver is a transformer cooling expert and Business Development Manager at Paradoxe Corporation. She is a mother of three teenagers and lives in Jackson, Tennessee with her family, two cats and two dogs.

Laura studied at the University of Southern Indiana, Ivy Tech Community College and Ashford University. She holds a degree in psychology. She began her professional journey in the energy sector with Advanced Power Systems in 2006 as an agent representing brands such as Cooper Lighting Solutions, Cooper Power Systems (now Eaton's Cooper Power Systems), Salisbury, QEI, GE-ITI, and Digital, Federal Pacific, Huskie Tools, Nordic Fiberglass, and BMC in the Caribbean and Latin American markets. In 2010 she joined Paradoxe Corporation as an Account Executive, progressing to Director of Sales for the U.S. and Canadian territories. In 2018 she rose to the position of Business Development Manager to help spearhead a new transformer cooling fan initiative. Today Laura continues her work to provide transformer cooling solutions and packages to utilities, industrials, service companies, repair shops, and transformer manufacturers worldwide. When she isn't figuring out transformer cooling fan mounting solutions, she also likes roaming the hardware store, making repairs around the house, doing yardwork or taking walks in nature. Laura is a free spirit at heart and the beach is her favorite place. Some day she wants to buy an RV and travel around the U.S.

Source: **LinkedIn (Laura L. Vandiver)**

Photo: Laura L. Vandiver, rawpixel.com

Stina Flogell Östlundh

Stina Flogell Östlundh is CEO of Megger Sweden, 2nd Dan Itosu-Kai and karate instructor from Danderyd, Stockholm County, Sweden.

After finishing engineering school, she continued her education by studying economics and obtained an Executive MBA degree at Stockholm University in 2016. Early in her career, Stina worked at a finance company but changed her focus to sales, followed by purchasing and logistics. She joined the Swedish test and measurement equipment manufacturer Programma Electric in 1997, where she worked as Purchasing Manager and later Production Manager. Following Megger's acquisition of Programma Electric in 2007, Stina's background brought her to the position of company CEO for Sweden and made her part of the Group's Key Leadership Team. In 2009, Stina was accepted into Board Power, the Swedish government initiative with the aim of strengthening the presence of women in executive boards. She is also a Council member at the Stockholm Chamber of Commerce. Stina started training karate in Itosu-Kai 2009. She is now 2nd Dan Itosu-Kai, instructor and board member of Danderyds Karate Club.

Source: **LinkedIn (Stina Flogell Östlundh)**
Megger, Danderyds Karate Club

Photo: Stina Flogell Östlundh, rawpixel.com

Katie Kossow

Katie Kossow is a Marketing Team Lead at Dynamic Ratings in Sussex, Wisconsin. When she was young, she dreamed of becoming a professional football player, but life took another direction and she found her passion in marketing and event planning.

Katie holds a degree in marketing from Northwestern College with a minor in international studies, and a digital marketing certification from the University of Wisconsin-Milwaukee. She also studied business and the Chinese language at the Xiamen University in Xiamen, Fujian, China. She began her professional journey in 2010 as a Special Events Coordinator for the Wisconsin State Fair. The following year she became Program Coordinator for Interfaith Older Adult Programs. In 2014, she joined the Sportsman Channel division of Kroenke Sports & Entertainment as an Event Marketing Coordinator. In September 2015, she began working as a Marketing Coordinator at Dynamic Ratings, a monitoring products and services provider for the utility industry. She is now a Global Marketing Team Leader, responsible for webinars and events, brand management, digital marketing, social media and multi-channel campaign management. Katie volunteers as a refugee tutor at the International Learning Center in Milwaukee and coordinates Dynamic Ratings Cares volunteer opportunities in the local community. In her free time, she enjoys traveling, getting lost in a good book, and growing vegetables in her garden.

Source: **LinkedIn (Katie Kossow)**

Photo: Katie Kossow, rawpixel.com

PASSION FOR PROFESSION

Maria

Commercial Manager for
General Finishes at PPG

Interview with **Maria Lamorey**

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What attracted me to PPG was its long and proud history of providing coatings to the electrical market. PPG was looking for someone to really work on building the right product platform and continue to penetrate that market and it was a great opportunity for me.

Photo: Maria Lamorey

Lamorey

In this interview, we talked to one of the great women in the transformer industry, an electrical equipment manufacturing expert, Maria Lamorey. With over 20 years of experience in the industry, Maria is a member of the IEEE Transformers Committee and has been an industrial coatings expert with PPG for six years.

One of the innovations we designed is an extreme edge powder coating, which is specially designed to reach, cover and wrap around the edge of the products.

Photo: Maria Lamorey

Alan Ross: One of the things I liked about getting to know Maria is that she is a problem solver. In this interview, we are going to talk about a problem that is bigger in the industry than most people realize. I have seen the problem before, but I thought the solution was way too complicated. PPG has come up with a very unique solution to that. Maria, please talk a little bit about your history and your background with PPG.

Maria Lamorey: I have been in manufacturing roughly 20 years, working for a variety of companies. Just before PPG, I spent almost a decade in the electrical equipment industry. What attracted me to PPG the most was the fact that they had been servicing the electrical market in coatings a long time but were looking to expand and grow more within that market. They wanted someone with knowledge of the regulations, of the equipment and the equipment design to really work to build the right product platform and continue to penetrate that market. I have been with them for six years now and am excited about being here.

AR Corrosion in the electrical asset market is a bigger problem than most people realize. People try to wall it off, put it in a room, put air conditioning in the room and keep corrosion out. But the PPG methodology is to keep it out in a different way. Tell us a little bit about what you are trying to do and how PPG enables you to work in innovation.

It is truly my passion to be able to partner with our customers and help educate them so that they can act early and reduce problems that might occur down the line.

ML One of my big passions, especially as I consider the electrical industry and the equipment involved, is that often we turn on switches and plug in devices, taking that for granted. We don't think about all the products in the field that have to live a long life in a harsh environment. Manufacturers of those products have so many things to consider as far as controls and connections are concerned.

But when it comes to the coating, it can become the afterthought. One of my visions, and PPG visions, is to really innovate products and provide solutions that are easy for our customers to use to solve the corrosion issues, while allowing those products to live a long life outdoors in harsh environments.

AR You just mentioned the alignment between having a personal career vision and a company that allows you to live it out within their commercial market. You also touched on the point of the problem in the marketplace. Where do you see the problem the most?

ML We see problems on two kinds of products - the transformer and the switchgear, and they go almost hand in hand in many ways. We see a lot of issues with edge corrosion. Sharp edges are really the Achilles heel in the equipment design. They are created in the metal fabrication or the substrate stage. When you coat the parts, whether you are using powder or liquid or electrocoat, it might visually appear as if the paint is covering the

Photo: Maria Lamorey

entire surface and the edge. But when it goes into the curing process, it almost liquefies, pulling away from the edge and exposing it. This can even be at a microscopic level and not visible until five to 10 years later when that piece of equipment is out in the field. That is where the beginning of corrosion could start to occur. It has been a common problem for years in many industries, and specifically in the electrical industry.

AR This shows that steps should be taken in the design phase to eliminate the problems that might occur long after the product has been manufactured, commissioned and put in service. What would be the solution at the design stage? What do you say to the manufacturer or the designer of that equipment?

ML We try to avoid potential failures by providing assistance through the coating technology, rather than suggesting equipment manufacturers change their entire design. Transformers are often designed specifically to fit in certain spaces which make it challenging to suggest design changes. We can make a suggestion if there is a way to design a certain shape that can be useful but only if we are early on in that process.

But if we deal with a product that has been available for a long time, we work to overcome the design issue through coating innovations. One of the innovations we designed is an extreme edge powder coating. It is specially designed to reach, cover and wrap around the edge of the products. They are available in a new type of layer system containing a primer and a topcoat. They can also be applied directly to metal as well as a single coat.

AR Is there any solution for after? Coating is an aspect of the design and it should be specified right. Most people writing specifications just list powder coat, but they don't consider what you have just mentioned. Most of these assets are in service for 20, 30 or 50 years, especially switchgear. Is there any way to solve that problem 10 years down the road?

ML There can certainly be some repairability, but it is better to be more proactive and thoughtful in the design phase and incorporate that into the design part of the specification. It is often a case that when these products are designed, the coating is an afterthought, instead of making that decision really early on in the process. The other part to consider is performance testing. We often see the cut and paste of the UL requirement or the IEEE, which is great. But it is important to go beyond that and decide what you want your product to do in the field and how long you want it to live, without having to repair it. It is important to understand what testing methods are best to incorporate into your specification - and this means involving your coating supplier earlier into that process, who can advise you on the best testing methods that will predict your product's field performance and incorporating that into the matrix.

AR All this reduces the total cost of ownership (TCO), which is the lifecycle cost, not just the manufacturing. So, while specifying electrical components, specifying coatings up front would make your life a lot easier, wouldn't it?

ML That's right. We work every day to provide education in this regard, whether through technical conferences or the white papers. It is truly my passion to be able to partner with our customers and help educate them so that they can act early and reduce problems down the line.

AR You said there is some remediation afterwards. Most of the time we are trying to eliminate the problem in the beginning. If I am specifying the PPG solution, why should I specify it, other than the fact that it provides the lowest TCO?

ML PPG is one of only a few companies that make all the technology: pretreatment, electric coat, powder, liquid and a variety of UV coatings. You can even buy only one of those products from PPG, and use the others from other manufacturers, in particular pretreatment. Pretreatment goes with a topcoat and in the PPG world we say that we paint the pretreatment, we don't paint the metal necessarily. Pretreatment is literally the most critical element, but we understand the process from the beginning to the end, so we can really help to eliminate finger pointing if you are using multiple suppliers.

Also, we have in-house testing capabilities to troubleshoot and we invest and innovate in each of those products so we can make recommendations at any point to improve processes, whether it is improving the actual coating line process or the product's longevity in the field. We have an incredible field-based technical service team that does not only enhance visits, but also has the ability to do videoconferencing and troubleshoot products remotely. They are trained in all of the technologies as well, so you really get the full support.

AR What you are doing in the electrical component industry is unusual and innovative. What is the best example of a solution for the problem that you can give? Could you describe your best case study?

ML We were working with a transformer and network protectors manufacturer and they were having a huge problem with dissimilar metals and galvanic corrosion. They had stainless steel parts coming into contact with a cold-rolled steel part. They went through different coatings and different suppliers, and their only solution at the time was to be able to go to all stainless steel, which was very cost-prohibitive in their market. And in terms of competitiveness, it wouldn't work in the long term.

Since we have multiple divisions, including aerospace, automotive and our protective marine coatings group, I was able to work with our technical team in the industrial coatings group to come up with a solution that would typically go into a marine heavy-duty ship application. We managed to coat these network protectors and solve the problem. They were able to keep their design the way it was, the substrates they were using, and move away from the complete stainless offering and maintain a competitive advantage. It was one of the most exciting projects I worked on.

AR Let us go to switchgear next. This asset is very unique to the electrical services industry. Have you had case studies specific to switchgear?

ML Yes, absolutely. We have worked with a couple of different manufacturers where they were having warranty claims and field claims. These get very expensive because they don't only concern the metal housing. The warranty claim concerns the entire unit, and the full system has to be replaced, not just the enclosure itself, typically. Many of these products use powder coatings. Edge corrosion can be a real problem here because some of those designs only have sharp corners. But they also tend to have fins or louvers for cooling devices or any kind of odd symmetrical shapes. Just last year we designed an extreme protection edge powder - we also call it high-edge powder - because it has high transfer efficiency characteristics built into it. In the powder coating processes almost all of it goes onto the part and wraps and protects it, unlike a powder coating process where a lot of it is lost, with reclaiming falling on the floor, etc. It really helps the coat to penetrate all those deep recessed areas and odd shapes and get a good secure coating on the enclosures themselves that protect that switchgear.

Photo: Maria Lamorey

PPG

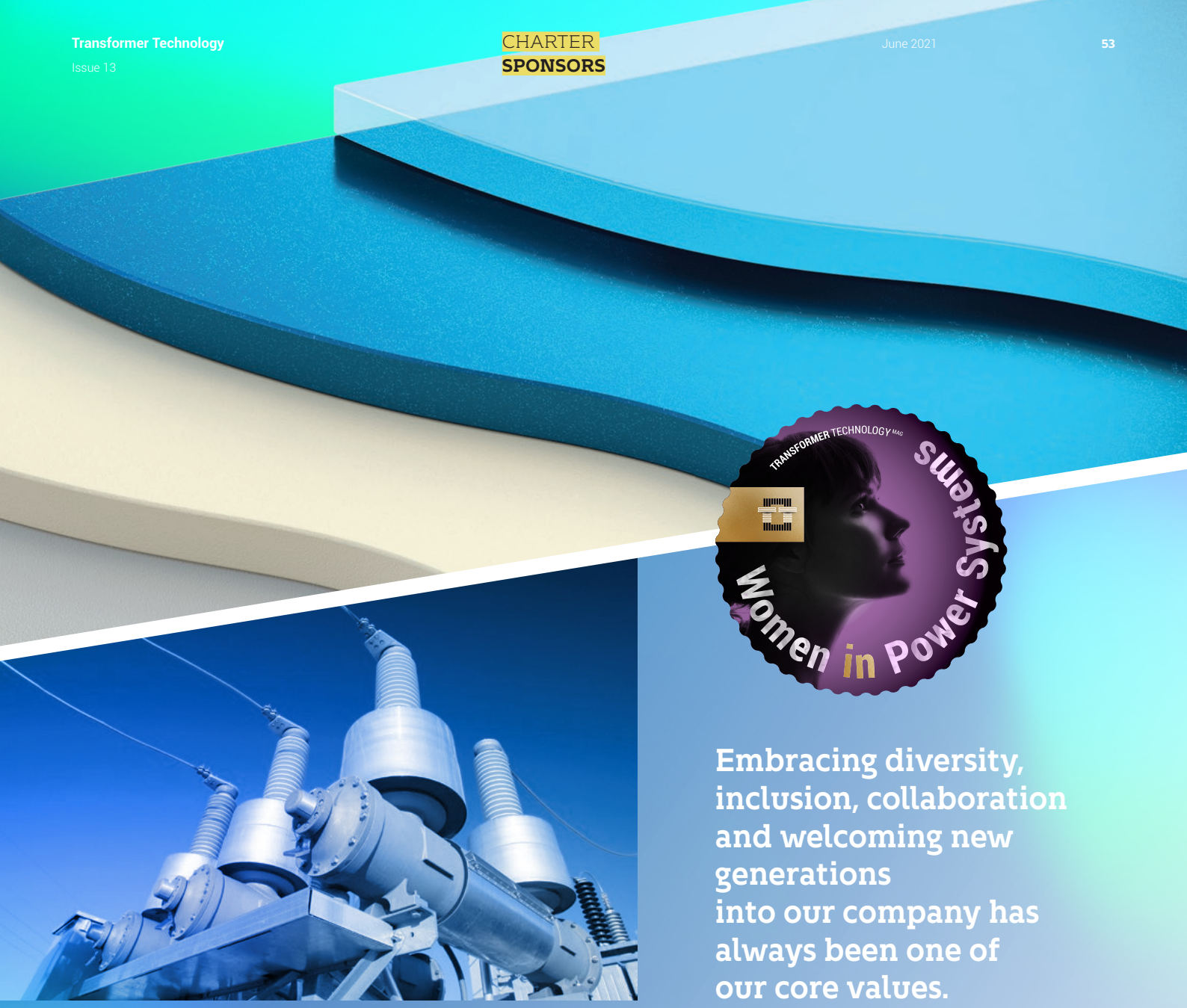
AR You just illustrated the best point about TCO - when it is out of warranty, the owner is the one who suffers the consequences. Is there anything else you would like to add?

ML We are just excited about the electrical business, we stay very active in it, and we look forward to working more with our manufacturers that support us and we support them.

AR Maria, Thank you for being our guest in this edition.

ML Thank you for your time, I have enjoyed it.

Photo: Maria Lamorey



Embracing diversity, inclusion, collaboration and welcoming new generations into our company has always been one of our core values.

For **PPG**, embracing diversity, inclusion, collaboration and welcoming new generations into our company has always been one of our core values. **Women in Power Systems** is a community that sets out to promote and raise awareness of these values to a wide global audience, which is why we support and sponsor their cause.

These ideals are also what we celebrate in all of the women within our company, which make their contribution and inspiration to the company an invaluable value for PPG.

To learn more, visit
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Mary

Principal Program Manager
at National Grid US

Interview with **Mary Reidy**

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There is always a lot to learn. But if you surround yourself with interesting and very intelligent people that are excited about building the future, I think it makes a world of difference.

SECRETS OF SUCCESS

Photo: Mary Reidy

Reidy

Collaborative Talents: Foundations for the Future of Power Industry

Mary Reidy has over 30 years of experience in power systems. She is the Principal Program Manager at National Grid US, as well as a member of the IEEE PES. Among her other accomplishments, Dr. Reidy established the IEEE Continuing Education. She directed internal and academic teams that responded to the Federal Government's Workforce Development program (ARRA) on Smart Grid Technology, resulting in awards for both an internal Workforce Development and University Degree programs.

In an interview with Women in Power Systems (WPS) steering committee chair Rachel Linke and associate curator of the WPS community Alan Ross, Mary talked about her background with IEEE, the experience that launched her career and her vision for the future of power systems.

Alan Ross: When I first met Mary, we were talking about IEEE Smart Grid. Within ten minutes we had aligned in our thoughts about the past and what we see for the future. It is a pleasure to welcome her to Women in Power Systems (WPS).

Mary Reidy: That is such a fantastic honor. Thank you so much, Alan and Rachel. It is a pleasure being with you and participating in the WPS initiative.

AR Mary, you have been with the National Grid for a good while and you have seen a lot of change and witnessed a lot of things happening. I was born in Scotland and my son lives in London, so I am very well aware of the National Grid in the UK. But what does the National Grid do in the US?

MR National Grid started in the UK as a result of the deregulation that was occurring in the electric industry under the Thatcher administration. At that time, the company was what you would call a public company or a government company. The Thatcher administration was very interested in seeing how economies of scale could be used, so they developed a business model, introduced it to the business community in the UK, and asked for business people to come forward, take the business model and make it happen.

That is how National Grid started in the UK. Their function was slightly different than what we see here in the US, because in the UK they act as the system operator, which means they are responsible for balancing the load in generation so that electricity can be delivered to the customers that wish to use it.

When they came over to the U.S., they acquired six small New England utilities and then the former Niagara Mohawk, which served most of upstate New York. That is where I was working at the time. Shortly after that acquisition, they were able to acquire two downstate New York smaller utilities that focus on gas operations. And from those beginnings, we are now also branching out. We have a National Grid Ventures group and a National Grid Partners group. We are very interested in becoming a clean company, to really embrace renewables and some of the new technology. Part of our National Grid Ventures and Partners Group will work on innovation and the other one looks at renewable sources of electricity. So, it has been a very exciting career for me.

AR You have been working for a long period of time in the field of infrastructure needed for electrification of transportation. And I know that was part and parcel of the passion of yours then and is now as we start to look at IEEE Smart Grid. You and I are co-chairs of the Smart Grid marketing committee. It is really opening my eyes to a lot of the things that you knew back then and you might get to be able to apply now. So, compliments to you for being there early. It is always best to be first, right?

MR I think so. There is always a lot to learn. But if you surround yourself with interesting and very intelligent people that are excited about building the future, I think it makes a world of difference.

In terms of my career as a woman, I have had so many wonderful examples of supervisors who have spent time with me and helped me to understand the bigger picture.

AR What are the best examples of collaboration that you have come across?

MR At the National Grid in the US, the core part of the business is in transmission and distribution of both electric and gas power, large transmission lines and also distribution lines. When you mentioned the electrification of the vehicles, several years ago I was involved with a working group IEEE called p1809. Originally, we were looking at reductions of greenhouse gases. Electric vehicles were thought of as an alternative approach or something that ought to be considered because, of course, if you use electric vehicles, you are not burning gas or diesel. So, we were looking at that early on.

With smart grid, a lot of the development that was occurring was related to sensors, two-way communication, how to connect the vehicle communication to the electric charging stations, etc. Your point about collaboration was so important because we were dealing not only with the driver in the vehicle and the systems that were in the vehicle that were going to communicate to the charging station, but also the location of the charging stations and then the need to bring in the independent system operators.

Up here in New England or in the Northeast, we actually have two independent system operators, one in New York called the New York ISO and one in New England called the ISO New England. Many times I have seen situations where you have very smart subject matter experts in one particular area. And if you watch them come together, usually in a conference setting or in a meeting where they have a very complex problem, it is just absolutely phenomenal to see the ideas that surface as each of the subject matter experts start to share what they know about that particular area of specialty. They are able to talk back and forth, and the solutions that come out are so much richer and so much more thoughtful, so much more visionary than if you asked an individual to try to develop a solution by themselves. It is really, in my opinion, much more of a heavy burden for one person to shoulder than to collaborate with others and be able to see how much more powerful your solution will be.

AR That is a perfect example. One of the things that you and I both love about IEEE is the fact that all the standards work in IEEE is done by collaborative volunteers coming together with their subject matter experts from academia and industry.

The opportunities are only going to grow, not only for women, but for everyone who wants to think about what the energy utility industry will look like in the future.

Rachel Linke: Mary, I love hearing your thoughts about collaboration. But I would like to take a little bit of a different direction. Your accomplishments are amazing, and as far as your talents and abilities, what is it that drew you into the power industry as a woman? And what is it about it that was appealing to you? Do you see that there is a growing field for women in power systems?

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MR I was a member of IEEE when I was in college, and I was an officer in the chapter that I was a member of when I went to school at Case Western in Cleveland. One of the ideas that IEEE brought to us students was the ability to share not only the studies, the discipline that you had been working on within the academic setting, but you had professors, you had research assistants, grads and fellow dormmates that might be in other disciplines. And the conversations that came out of those were just amazing. We had the benefit of bringing in some subject matter experts, researchers, PhD students that were working on different concepts. They would come into our IEEE meeting and explain what their paper and their lab work was all about, and really where they saw the studies moving forward in the next five or ten years.

From that, you got a very clear understanding that, yes, in fact, they were developing a theory or pushing forward a theory with some application, but they were very honest about the fact that they needed the business community or they needed some of the folks from the legal side of the business or regulatory side of the business to help them frame their particular research if they ever wanted to commercialize it. When I graduated, I had this fantastic opportunity to join Niagara Mohawk as one of a group of 23 junior engineers.

Niagara Mohawk had determined at that time that they were going to need first level managers in about five years because the projections that they had done showed that several of their managers were probably going to retire. They wanted to be very proactive, bring on engineers and allow them to do what they called a planned experience. Originally, the planned experience was going to last about 18 months. And during that time, we would travel throughout Niagara Mohawk service territory, from generation to transmission to distribution, to the legal department, to the accounting department and to the customer end of the business. It was a wonderful experience. People really considering the richness and the understanding of how all the pieces fit together, that is really what I was so fortunate to be part of when I was hired at Niagara Mohawk.

After the planned experience, there was a project that was assigned to us by our regulators to take a look at all of our substations for an environmental assessment of any type of PCB damage that might occur due to a storm or another type of unfortunate event. Our job was to go out and look at the substation area and do what we called a wetlands assessment or an assessment of any protected areas. I think that was very forward thinking back in the day, both from the Niagara Mohawk setting and from our regulators. From that point forward, the doors just continued to open for me at Niagara Mohawk. And then when National Grid acquired Niagara Mohawk, it has really continued.

To go back to your question, Rachel, about opportunities in power, that was the number one driver for me. In terms of my career as a woman, I have had so many wonderful examples of supervisors who have spent time with me, both in my department and also in what I am going to call companion departments, that have helped me to understand the bigger picture. And I think the opportunities are only going to grow, not only for women, but for everyone who wants to think about what the energy utility industry will look like in the future.

RL It sounds like you have had a lot of people that you are able to look up to. And now you are probably that person for a lot of people as well. Have you been able to really speak to the younger generation about the opportunities, for women specifically?

Going forward, I believe the future is going to be extremely bright for people who step out of their one discipline.

MR It is a fantastic and very timely question. When I look at 2021, it is almost like seeing that cycle repeated, where a lot of people are looking at potential retirement in the next couple of years. And we are bringing on new and younger generations. I think those who are interested absolutely get a chance. We will get a chance to mentor each other. Some people are very energetic about learning and are really asking questions and trying to understand. Going forward, I think the future is going to be extremely bright for people that step out of their one discipline, if I can say it that way. You may have a degree in one particular area when you come into the utility industry, but I believe that you have a fabulous opportunity to work with people that are intriguing and whose disciplines are very different than yours.

You might need to sit down with a lawyer to talk about a particular issue, whether it is an environmental issue, a right of way issue,

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or a contract issue; sit down with someone from accounting to talk about impacts of this particular rate on this customer's growth, or talk to a customer focused to understand where customers are really projecting their business to be in the next three to five years. It is a very unique setting. And what I love about it is that the future is really yet to be defined. We know we will have electric and gas utility, but there are so many new developments in terms of technology, innovation, environmental and clean economy that if people are interested in really sitting down and asking themselves the big questions about what the future holds, I think they would be very pleased if they would consider a career in the power industry.

AR Rachel mentioned one of the things that I believe may be unique to Women in Power Systems. Mary, you have master's degrees in engineering and business, a doctorate from the Weatherhead School of Management at Case Western Reserve University, and you are a licensed professional engineer. What you have is the holistic approach that we are trying to bring with Women in Power Systems. And you are probably one of our most classic models. You are in management and you have a different perspective from different areas. There should be more women at your level in the industry. You bring so much more wealth of knowledge than just engineering. And that exemplifies that, at Women in Power Systems, we want to profile different professions and showcase different backgrounds and perspectives.

Is your career in the power industry one that you would consider to be fruitful and one that you would say has been something that you would consider to be remarkably positive in your life?

I think the future in the power industry is bright and I am looking forward to it with anticipation.

MR I think it has been extremely fruitful, it has been positive, but also very challenging at times. As much as somebody like myself likes to plan things out, there will always be a situation where you think you have everything that you need and that you have answered all the weirdest questions. And then there will be a surprise, a question. If you turn the corner, there is just something that you had not thought of. I find that to be just absolutely invigorating. I think the future is bright and I am looking forward to it with anticipation.

RL That is wonderful, Mary. I am excited to have you as one of the women of power systems. Thank you so much for sharing about your life, your career and what you have been able to accomplish, and for being an encouragement for women in power systems. It has been a pleasure to speak with you.

MR Thank you so much. The pleasure is mine. I am very happy to be part of this.

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Traci

Senior Training Advisor and **Adjunct Instructor** at SDMyers

Interview with **Traci N. Hopkins**

N. Hopkins

> “There are so many comparisons between household management and managing the electric power system. Sometimes people don’t recognize the creativity involved in both.

PASSION FOR PROFESSION

Photo: Traci N. Hopkins

In this interview, we spoke with a remarkable woman, Traci Nadine Hopkins, affectionately known as Tracita, who transitioned through several roles within one company, from the Training & Education Sales department, through the role of Diagnostic Analytic Coordinator for the international market, and then back to Training & Education advancing in her responsibilities, capabilities and expertise. Traci is a Valued IEEE Member, Member of the Association of Asset Management Professionals, an active member of WIRAM (Women in Reliability and Asset Management), an active member of Diversity and Reliability Consortium for Asset Management and a member of Reliabilityweb.com.

Rachel Linke: I am delighted to talk to a long-time colleague of mine. As an international instructor, a certified reliability leader (CRL), and a member of Women in Reliability and Asset Management (WIRAM), she has a wealth of knowledge. Traci, I know that, much like mine, your career did not start out in the power industry. I would like to know your story. How did you end up getting involved in the power industry?

Traci Hopkins: I had a colleague who worked at SDMyers and we had worked together previously. About two months after leaving that company, she called me and asked me if I still spoke Spanish. She said that the training department, which is where she was, needed a person that speaks Spanish. I applied and, nine years later, I am still speaking Spanish. (laughs). I am still with the same company, but that is how I got into power systems.

RL Did it take a while for you to understand transformers?

TH It did. It took me probably a good year to really get into it. My first six months were with the training department, and those were probably some of the most intimidating times of my life. I was mortified that I was speaking to engineers, electricians - technical professionals. I studied language, not electric power systems. Then I transferred over to the testing department. That is where I really got a lot of the knowledge and started to pick it up. It became more familiar and it started to become more natural.

RL What was it about the power systems that you found intriguing enough to continue your career there?

TH Everything. Until you work in the power industry, you don't think about how integral it is in everyday life. Before, I would just flick the lights on or plug my phone in and

Photo: Traci N. Hopkins

expect it to happen. Being on the inside changes how you look at it and makes you see how essential it is.

Within my organization, I was the first woman to go through the certified reliability leader (CRL) course. I was in a class of about 40 people and less than 10% were female.

RL You are the senior training education adviser for SDMyers Electric Power IQ. What has that been like as far as training goes? What changes are you seeing within the industry? I am sure you do a lot in generational change. Can you tell us about that experience on your journey?

TH I am really focusing on the generational shift. We have two groups of people that grew up in different times, who had a different way of learning. They each have their own unique strengths and weaknesses. COVID really brought this around for us, and we had to be able to marry those. Take the "boomer" generation, for example. They are the ones who are starting to retire, leaving the business. But there are no people who want to replace them in power systems. Young people are going into computer science now. It was a struggle to find the people who will replace the older generation.

The second part of the struggle is that maintenance and management of substation components are not taught. If we talk about transformers specifically, which is my specialty with the Electric Power IQ, no one teaches about what tests you should be doing, how to interpret these tests and what type of maintenance is required when you get certain results. They are teaching you what a transformer is and what it does. So you need to find people who either know about that or are willing to learn about it.

On one side, you have the "boomer" generation that went to class, wrote everything down and used flash cards, and I am one of them. On the other side, you have the "millennial" generation, the majority of whom attended some sort of online class or got their degree online. Blending the types of learning between the two can be a challenge. COVID moved us into the direction of online learning. That has helped bring in a new wave of people to replace the older generation that is retiring. It really is a mass exodus.

Another challenge that we have is the "old school" generation who think that you treat every transformer the same way. You don't, but when you are teaching that to the new people, you have to incorporate some of that old school knowledge, too.

RL Yes, the younger generation seems to be looking at things differently. They are used to getting information instantaneously and being able to go forward, whereas the older generation has been able to learn and grow over time. Are there people that you have seen through training that didn't start off in the electrical engineering space, but somehow are now in charge of electrical equipment?

TH I have met a few people who had been in administration and then got thrown into managing that electrical system as well. A lot of people tell us they were put in their position because they had managerial experience. My case is similar, I got my job because I could speak another language, so I can relate to them.

It is a male-dominated industry and, in order to fit in or to be taken seriously, you have to be one of the guys, which has been challenging. But that is also a generational thing, and we are moving out of that.

RL That adds a whole new level of complexity to what you are trying to do. We mentioned that you are a certified reliability leader (CRL). Some of the organizations you are involved with, such as SDMyers, are focused on maintenance, but how did you get interested in reliability?

TH For me, it was actually watching Alan Ross. He has such a passion for reliability and for spreading the word about it. When I watch him interact with some of what we call our reliability accounts and watching a couple of my colleagues who had already gone through the CRL process, that intrigued me, this new way of looking at the same thing. At one point Alan approached me and offered me to do this training. It worked out, and I went through the CRL class.

RL I believe you are one of the few women, within your organization and wider, to go through that course. There aren't many women who are CRLs, is that correct?

TH There really weren't. I was in a class of about 40 and less than 10% were female. Within my organization, I was the first woman to go through that class. It is a nice honor to hold, definitely.

RL That connected you with another organization, called WIRAM. How does that connect with what you do? Tell me how WIRAM has played a role in what you are doing and then where you see potential growth or opportunities.

TH WIRAM is Women in Reliability and Asset Management. It is an organization that helps to empower women who work in those fields, and there are not very many women that do. You see more and more every day, I see more in our classes. But that group creates an awareness and helps women to work through some of the unique struggles that they have in that field.

RL I would like to hear more about that. I think women have tried to play the role of men in the industry, to be like men instead of taking their unique talents and abilities and applying that to their job. Tell me about some of the challenges and struggles that you have seen women go through.

The organizations that you work with should recognize that the importance of your role within that organization is equal to the importance of your role in the family and allow you to let them overlap occasionally.

TH It is a male-dominated industry and, in order to fit in or to be taken seriously, you have to be one of the guys. Walking in wearing heels and a skirt isn't going to garner you the same respect as walking in in your suit. That has been a challenge. Again, that is a generational thing, and you see we are moving out of that, which is great. I love to see the progress. The biggest challenge is getting that respect and being looked at as a subject matter expert.

The second challenge is the perception of women who have taken on more of the household roles as opposed to women who work, in areas such as reliability and asset management. If you break it down to the core, it is very similar to running a home. You have people who depend on you to make sure that the bills are paid and that they have clean socks. That is the reliability aspect of it, and the same thing can be said even in the electric power system. People depend on you to make sure that the bills are paid so you can get your testing done.

RL Do you think these similarities help women find a good work-life balance? As a woman in the power industry, for me, the biggest challenge is managing between my work life and my home life as a mom of three. I think there is a different struggle that women deal with as opposed to men. What does the work-life balance look like for you?

TH For me, there is definitely a balance. It has changed for me in the last year and a half as both of my boys have left and graduated and they are in the Marine Corps now. But when they were young, I had to find that work-life balance. Working in an industry such as the electric power system has its own set of stressors and you have to be able to leave those stressors at work, not take them home with you. Managing a household and having a family comes with another set of stressors. And there are times when they are going to overlap. The organizations that you work with should recognize that the importance of your role within that organization is equal to the importance of your role in the family and allow you to let them overlap occasionally - bring work home, work odd hours. I have had to take my kids to the office with me before.

That is the biggest challenge and the most common thing I hear from women, getting that work-life balance in a high stress situation. I think organizations like WIRAM help women figure out how to do that. Companies like Good Place Holdings help the women in the organization have a better balance, as do initiatives like Women in Power Systems.

To have women consider power industry as a career, it is important to encourage women's curiosity at a younger age.

RL I think there are certain things that women just have a different take on. For me, it is problem solving. You mentioned that, across the board, people are just not getting involved in the power industry, that there is a need for engineers. I think women can play a unique role in the power industry. How do you think we could encourage women to consider the power industry as a career?

TH It has to start at the kindergarten level. Kids are exposed to

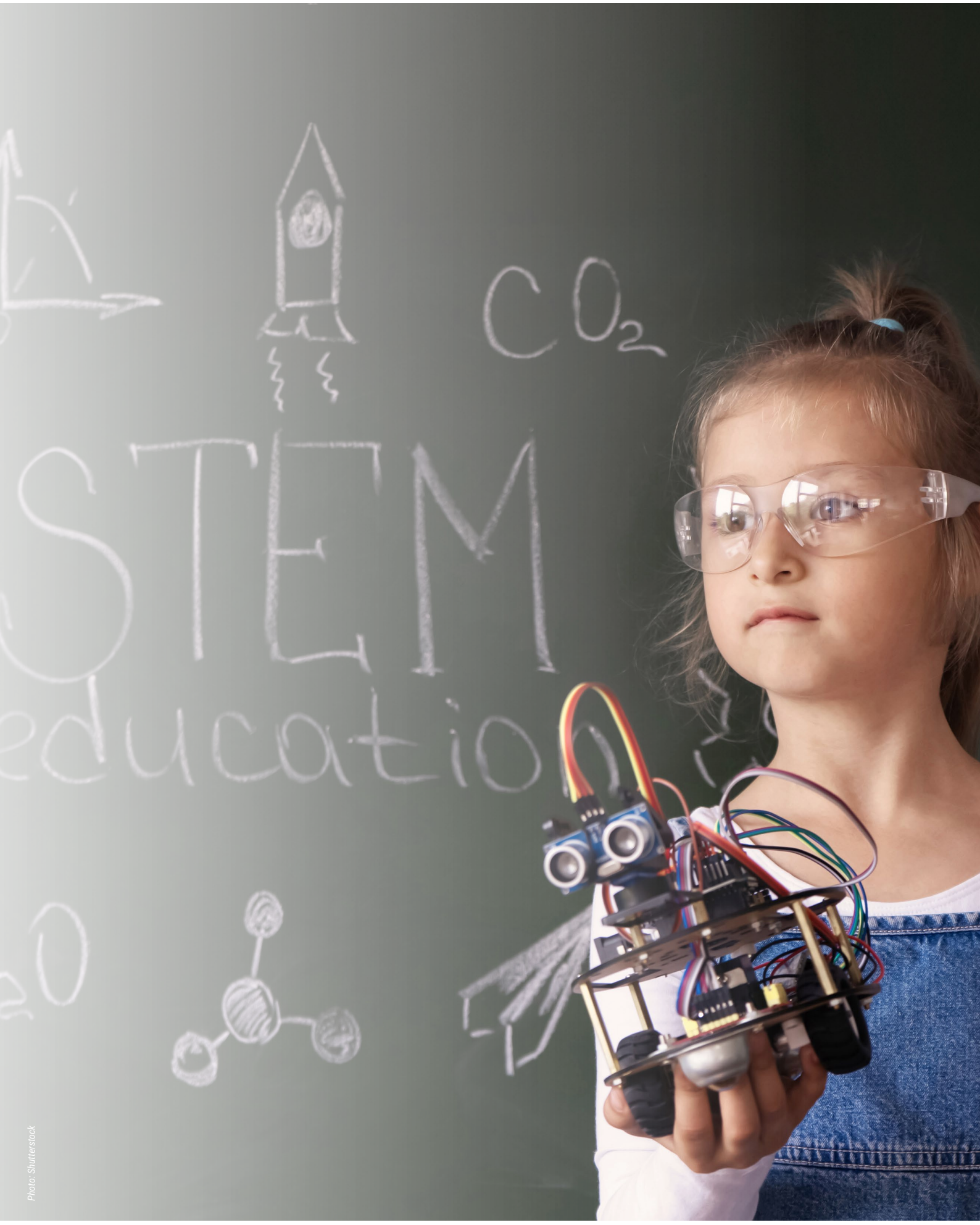

Photo: Shutterstock

engineering experiments all the time, whether it is a chemical experiment, the egg drop, construction and mechanical, etc. We should get kids excited about STEM, foster that and not discourage them if they mess up an experiment. It is also up to companies to step out into the local schools, approach the principals and superintendents and say, We really think it would benefit the community for kids to learn about what some of their parents do throughout the day.

As far as women go, they should not be discouraged and told things like, Maybe you should be a nurse or maybe you should go into teaching. Those are very respectable careers, I was a teacher for a while. But it is important to encourage women's curiosity.

Recognizing the role that women have both in and out of the of the home is only going to bring more to light how important our contributions are across the board when it comes to reliability and asset management because we have a different way of looking at it than men.

RL I agree, if you were to tell me I would have been in the power industry 12 years ago, I would have laughed at you. But I think people are just not even aware of the possibilities of what is out there. I think that is probably the first part - bringing awareness, but also emphasizing that women are a great fit for that industry.

Photo: Traci N. Hopkins

I am especially intrigued by your role as an international instructor. What was that like, culturally and from the perspective of being a woman and an international expert?

TH Let me put a disclaimer on these observations, they are solely based on my experience. The first time I went overseas to teach a class was in Chile. To my surprise, there was actually a woman in the class. In every international class I have done, there has been at least one woman in the class. In comparison, I don't see that every time in the States. That stood out to me and I thought, Rock on!

The first time I taught an international class, I was nervous. But I had men and women come up to me and say it is great to see a woman doing this class. And I thought, I am making a difference. I am influencing and encouraging other women, and men as well!

The first time I taught was a portion of our inspection and sampling class. I was nervous and worried I was going to use the wrong word in the wrong context. But I found there was so much encouragement. I have had men and women come up to me and say it is great to see a woman doing this class, teaching this information.

Yes, your chest puffs out. And then you think, I am making a difference. I am influencing and encouraging other women, and men as well, to support and grow our community of women.

RL I am really glad that that was your experience, that is exactly what we are trying to bring to the forefront with Women in Power Systems. Even in organizations that don't have many women, we noticed a growing change. People have daughters and would love for them to be encouraged if they decide to become engineers. Inspire, encourage and advocate has been our mantra. And throughout my careers, I have seen that it is definitely needed for women in this industry. Traci, thank you so much for joining me. You inspire me and encourage me, thank you for being a leader in that way. I cannot wait to see where you go from here.

We believe that Women in Power Systems is a stepping stone to a world where cooperation and mutual support between women and men are a natural part of every company's culture.

At **Camlin Energy** we are committed to fostering an open, inclusive and diverse working environment that sparks creativity and gives everyone a greater sense of belonging. We have already embarked on an ambitious programme to continue to improve on this and we are excited to attract a diverse workforce where everyone feels part of the Camlin family.

We are a company that wants to see young women can choose a career in the power systems freely and with full support. We believe that **Women in Power Systems** is a stepping stone to a world where cooperation and mutual support between women and men are a natural part of every company's culture.

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COMING
IN SUMMER

Monitoring & Diagnostics How to Maximize Reliability

As an electrical reliability professional, one of my greatest joys is the joy of seeing **positive change**.

One of the positive changes I see is the dramatic shift to **online monitoring and digitalization of diagnostics**. Recently I met with several engineers who specify and manufacture transformers and one of the things they were most excited about was the way OEMs can help their customers through the addition of monitoring and diagnostics.

Bushing monitors, dissolved gas analysis (DGA) monitors, partial discharge (PD) monitors, temperature and moisture monitors - these are becoming standard within the industry.

Why does it get my reliability blood flowing? Because all reliability of an asset begins at design.

Including monitoring and diagnostics into the design phase means that the next two phases within the reliability process, Operations and Maintenance, are now better set up to keep equipment operating and to maintain that equipment over time.

Monitoring, digitalization and new methods for diagnostics **are the new future**.

In our July/August Issue, we will feature these positive changes through articles and interviews with leading professionals in the transformer world.

If you would like to be considered for publication as an expert or practitioner, please contact me.

Alan Ross
Community Moderator and Editor in Chief