

The IEEE MOVE truck is deployed to respond to hardest hit disaster areas that frequently have no power or communications. MOVE can quickly set up temporary operations and provide the power and communications required to initiate services to the people affected by the disaster. MOVE is staffed by a network of hundreds of IEEE volunteers who cross train with the Red Cross to provide technology and services at disasters. IEEE volunteers designed, maintain, and operate the truck. When not at disasters, IEEE MOVE provides public outreach and STEM education at schools, universities, public events and IEEE events. The large truck draws interest to IEEE from over 50,000 people annually. For additional information, visit move.ieeeusa.org.



MOVE News by Mary Ellen Randall and Loretta Arellano

Hurricane season officially started on June 1. It is forecast to have above normal activity. MOVE responded to 5 disasters last year. So far in 2021, Mobile Outreach VEHICLE (MOVE) has already deployed once to support the disaster in Brunswick County, NC in February. Read about this deployment later in this issue.

To prepare for the upcoming season, we have begun to retrofit the MOVE truck to include installation of bunks, radios and cameras. We hope to have these retrofits completed before MOVE is called to deploy.

In 2020, there are special challenges associated with COVID put into place. The MOVE truck is fully equipped with appropriate PPE and the volunteers are trained on appropriate protocols to operate in this environment. We are fortunate to have volunteers to go out in these conditions. Earlier this year, we trained three new drivers to help with this season, David Sewell, Alan Brown, and John Balsam.

The MOVE teams are being highlighted in this issue. If you are interested in volunteering in any of these teams, please contact the team lead or Grayson Randall (g.randall@ieee.org)

A MOVE Fundraising Campaign is currently underway. Please consider a [donation](http://bit.ly/DONATION-MOVE) today to assist your fellow IEEE Volunteers as they respond to those in need. Visit <http://bit.ly/DONATION-MOVE>.

MOVE Townhall and 5 yr celebration

The 2nd annual MOVE Townhall in conjunction with 5th Anniversary of MOVE deployments was held on Tuesday March 16, 2021. MOVE volunteers presented status of MOVE over the past 5 years and highlighted current activities and plans for MOVE international. IEEE President Kathy Land and IEEE-USA President Kate Duncan spoke to the group. To view the event, visit <http://bit.ly/MOVE5YEAR>

MOVE 2019 ASAE "Power of A" Gold



MOVE Celebrates 5 years of Deployments



IEEE MOVE 5th Anniversary By Grayson Randall

In March of 2021, IEEE MOVE celebrated our 5th year of service delivering power and communications to those impacted by disasters. The IEEE MOVE Truck is supported by many IEEE volunteers who volunteer their time to support disaster operations, understand and maintaining the technology on the truck, and provide education to students and the public.

The MOVE Community Outreach Program was created in 2014 after a series of focus groups with hurricane survivors. After Hurricane Katerina and Super Storm Sandy, Mary Ellen Randall was looking for ways to engage the unique skills of IEEE members to support those in need after a disaster. From those focus groups, the need for power and communications became clear. The program started as a Region 3 Project. Region 5 quickly joined and shortly thereafter MOVE became an IEEE-USA Initiative. MOVE Community Outreach is a donor sponsored program and we work closely with the IEEE Foundation to assist with our donations. You can [donate at http://www.ieeefoundation.org/move](http://www.ieeefoundation.org/move)

Based on the outcome of the focus groups, a team of IEEE volunteers was convened to design a vehicle that could meet the defined needs. Over 2 years, the MOVE truck was designed and built. The MOVE truck has satellite-based internet, IP phones, satellite TV, LTE Router (cell tower based), several types of radios, and a climate-controlled office from which to work in the field. Truck is powered by a 10-kw diesel generator and 3 large solar panels on the roof. The truck can be setup in about 15 minutes to provide power and communications without any requirements for local infrastructure. MOVE is totally stand-alone and can operate anywhere in the mainland US without any need for external power or internet. The MOVE truck can operate 24/7 for 6 days without refueling which is very important as fuel is difficult to obtain at disasters.

MOVE has many volunteers that support its mission. MOVE has a leadership team to oversee the project, fundraising team, training team, radio team, networking team, weather team, maintenance team, and a radio club that supports disaster communications with amateur radio operators. It is through the dedication of these volunteers that we rigorously train everyone, ensure the safety of our deployment teams, maintain all equipment to be operational at all times, and look for new technologies to support disaster operations.

In order to establish our presence at disasters, MOVE partners with the American Red Cross. We have a national MOU with the Red Cross and deploy to disasters working closely with the Red Cross. Our volunteers cross-train with the Red Cross so we are able to understand their operational procedures and provide them with optimal services. MOVE also partners with other disaster-based organizations.



Damage from hurricane Michael



Operations at hurricane Dorian, Outer Banks NC

MOVE Celebrates 5 years of Deployments

IEEE MOVE 5th Anniversary (continued)

When not deployed at disasters, MOVE's mission of education sends the truck to schools, public events, and IEEE events to educate about utilizing technology at disasters and to educate people about IEEE and what we do. Events like the Atlanta Science Festival and National Boy Scout Jamboree allow us to interact with over 50,000 people a year prior to the pandemic.

Over the last 5 years, MOVE has deployed to 20 disasters including hurricanes, floods, wildfires, and tornadoes. MOVE has supported the Red Cross in their mission to help those impacted. We also have provided the public with internet that allowed them to call home and let people know they were ok, access email so they could start the recovery process, allow students to work remotely, and to charge their cell phones which are so critical in today's society. People today are so dependent on the internet and are so grateful when we are able to fulfill that need. Internet access at disaster operations is critical and MOVE's ability to quickly setup and provide these services makes us a key resource, especially early in a disaster when communications are most difficult and most critical to establishing disaster operations structure.

After 5 years of operating in the US, IEEE MOVE is expanding into other countries. International MOVE is starting a program in India and the Caribbean. Many other countries are also expressing an interest in starting a MOVE program. Each country will design programs and equipment based on the individual requirements for that country. This will include things like type of disasters they experience, government regulations, terrain, and available infrastructures. International MOVE will coordinate best practices and common procedures and equipment worldwide.

Disasters and the humanitarian impact from disasters is easily understood by IEEE members. IEEE members' ability to utilize their skills to support disaster operations and the humanitarian impacts from disasters has engaged many IEEE volunteers to join in the MOVE mission. MOVE is committed to IEEE's tag line "Advancing Technology for Humanity".

For additional information:

MOVE in USA Loretta Arellano l.arellano@ieee.org

International MOVE Mary Ellen Randall merandall@ieee.org



Multiple agencies working at a large shelter during hurricane Michael



Hurricane damage after hurricane Michael

Mobile Disaster Relief with MOVE

MOVE Teams support MOVE Operations

By Grayson Randall

There are many IEEE volunteers required to support the MOVE mission. In this newsletter, we will highlight many of the support teams.

- Radio Team supports all radios on the truck
- Radio Club is a new “team” that will support disaster communications by amateur radio operators
- Maintenance team spends many hours keeping the truck in top condition and always ready for deployment
- Network team supports all the digital communications and digital devices on the truck
- Weather team is key to tracking storms and providing deployed teams with the latest updates
- Training team provides education for drivers, disaster deployment teams, and Stem/Outreach teams
- STEM/Outreach team supports our student/public education mission
- Disaster Deployment team supports deployments into disaster areas
- Communication Team updates our followers with the latest MOVE information
- Leadership team provides project management for the MOVE Program

As the MOVE Community Outreach Program is expanding in additional countries outside the US, we are always looking for more volunteers to support our mission. If you have an interest, please indicate your interest at the following website: [IEEE MOVE Volunteer Interest \(https://move.ieeeusa.org/help/volunteer-resources/\)](https://move.ieeeusa.org/help/volunteer-resources/)

Contacts: USA Mission: Loretta Arellano larellano@ieee.org
International mission: Mary Ellen Randall merandall@ieee.org



IEEE MOVE providing communications support after Hurricane Irma

Congratulations to Barry Porter,
Friend of IEEE MGA Award
Regional Chief Executive Officer,
American Red Cross



Want your IEEE Society to support MOVE?

- Possibilities include (depending on level)
- Sponsor a Joint STEM event
 - MOVE truck at your conference
 - Your Logo on MOVE web page
 - Facebook post featuring your society
 - Your Logo on the MOVE truck

The MOVE program is funded by donations to the IEEE Foundation “MOVE fund.” Help today!
leefoundation.org/move

For more information, contact merandall@ieee.org

Mobile Disaster Relief with MOVE

The Weather team

By Tim Forrest

Do you have an interest in the weather? Do you want to be a National Weather Service SKYWARN trained Severe Storms Spotter?

You can volunteer to be part of the IEEE MOVE Team! We will invite you to the weather team's COLLABRATEC workspace.

This team was formed in 2020 and provides critical, mission safety weather information, both to inform the IEEE MOVE leadership about weather disasters that may require deployment of the truck, and to safely route the truck on the roll to disasters' areas of responsibility (AOR). They can route the MOVE truck around severe thunderstorm cells, and other turbulent situations.

- Goals:
 - Provide seasonal projections for floods, tornadoes, hurricanes, wildfires,
 - Provide updates for severe weather that could initiate a MOVE deployment
 - Assist with near real time updates when the MOVE truck is deployed to support the safety of the MOVE team and positioning
 - Provide weather information to IEEE members
 - Generate educational materials/talks to discuss the weather and its impact on MOVE.
- Information distribution:
 - Establish a web page connected to the MOVE web page for supplying updates.
 - The team would also facilitate a distribution list for members wishing to get the regular updates/notifications by email.
 - The weather team will communicate directly with the MOVE crew when the truck is deployed.

To Volunteer, Join the MOVEment! For additional information visit move.ieeeusa.org.

<https://move.ieeeusa.org/help/volunteer-resources/>

The Training Team

By David Sewell

As our partnership with the Red Cross and Disaster Services Technology is so vital to the success of our shared mission, it was important to forge ahead with both the IEEE MOVE training and the Disaster Services Technology Training.

As soon as it is possible we will get back to in person training. Plans for in person training depend on both the Red Cross and IEEE being confident they can keep their disaster workforce safe as we emerge from the Covid environment.

We will continue to train virtually and as a matter of fact even after we get back to unrestricted face to face collaboration, we will continue to avail ourselves of virtual training. This will enable all of our team members around the world to take the American Red Cross DST training in their time zones, following their schedules.

Please contact David for an instruction sheet that will guide you through the Red Cross training you need. To allow our IEEE members to have a more personal training experience, every third Tuesday of the month at 8:00 PM Eastern, we will have a scheduled one hour recap and question session about any training subject, IEEE MOVE or DST where anyone can log on and ask questions. David will be the primary person facilitating these sessions but other subject matter experts will join in to enhance our learning. In addition, if we have any new procedures we might use that time to update the team. Any questions or discussions are welcome, including questions about and preparing for deployments. Contact David for the WebEx link to be used for the series of meetings.

It is an honor to work with all of you and it will be fantastic when we can all get together in person to train and collaborate, here in the United States and where all of you live in the world.

David can be reached at d.sewell@ieee.org

MOVE Teams At Work

The Radio team

By Jay Diepenbrock

The IEEE MOVE Radio team is responsible for all radio communications on the MOVE truck. The team recommends procurement of, installs, configures, and supports the following devices:

- Family Radio Service (FRS) UHF radios (similar to “walkie talkies”)
- Dual Band VHF/UHF Amateur radio
- Citizens’ Band transceiver and scanners
- Public Safety transceivers for communicating with Emergency Management, Police, Fire, EMS, and Civil Air Patrol groups
- Digital Mobile Radio (DMR) digital transceiver and hotspot



MOVE truck front console with Amateur and CB radios installed

This team programs the various radios with the desired channels initially, and during deployments as needed. This is particularly relevant for the Amateur analog and DMR radios since channel usage is specific to a particular geographic region. Objectives include building our expertise, training MOVE team and IEEE MOVE Radio Club (IMRC) members on the operation of the various devices, and documenting their use to facilitate radio support of our deployments. The team will also investigate future communications capabilities including High Frequency (HF) Amateur radio, digital communications methods including DMR and Winlink, and others as appropriate for MOVE operations.

If you have an interest in joining the radio team, please contact Jay Diepenbrock, j.c.diepenbrock@ieee.org

W4MOV, the Radio Club

By Butch Shadwell

W4MOV, the IEEE MOVE amateur radio club, had its inaugural meeting on May 28, 2021. The IEEE Mobile Outreach Vehicle (MOVE) has been working to support victims of disaster, and the Red Cross first responders, for years. One of the key services we provide has always been communications. Now we are looking at ways to expand that function and, at the same time, provide IEEE members a new way to get engaged with the program.

Many IEEE members around the world are amateur radio operators. The objective of this new club is for its members to develop and practice methods for them to form a radio support network in the case of emergencies. These volunteers would learn how to use their ham radio gear to participate in MOVE support networks, provide information about conditions in their areas, and inform local authorities of what other first responders are planning. We hope that in addition to its serious purpose, participation in the club will be fun and informative for our ham operator members. With a large group of IEEE volunteers working on these issues, we expect some significant innovations in technology and techniques for emergency communications support.

Check out our website at <https://radioclub.moveteams.org/>

MOVE Roundtable and Truck Tour



Did you attend the IEEE MOVE Roundtable and Truck Tour held on April 22? This was an event sponsored by the IEEE Foundation as part of their ‘Spotlight Webinar Series’. Volunteers from the IEEE MOVE emergency relief and community outreach program provide a tour of their truck and a virtual roundtable discussion of all the ways donors have helped them reach their goals! If you missed the event, you could watch it at <https://vimeo.com/558590196>

MOVE Teams at Work

The Maintenance Team

By David Wright

The IEEE MOVE Maintenance team is responsible for maintaining the truck and the infrastructure of the equipment and systems that our other teams rely on. The team manages, configures, repairs, improves and supports the following:

- Move Truck: Freightliner scheduled maintenance and service
- On board power systems: Solar, Generator and Batteries
- Power distribution and conversion 120V and 12V
- Cabling and interconnection between systems, high and low voltage and RF
- Repair systems and equipment in the truck or on the exterior including Satellite dishes and radio antennas
- Provide for improvements and upgrades of equipment for improved service
- Maintain a schedule for service and updates of Move Truck systems

The team maintains and repairs the systems on the truck to assist other Move teams in providing our customers with disaster relief and STEM outreach services. We support the systems on the truck that our team members have expertise to address. The Move Truck is based in the Research Triangle NC and we thank the other MOVE Team members that have assisted the Maintenance Team in providing the optimum service for our customers at each location the Truck has been deployed to.

If you have an interest in participating on the Maintenance Team, please contact David C. Wright dcwright@ieee.org



Tim Forest changing generator oil during Hurricane Michael

MOVE Networking Team

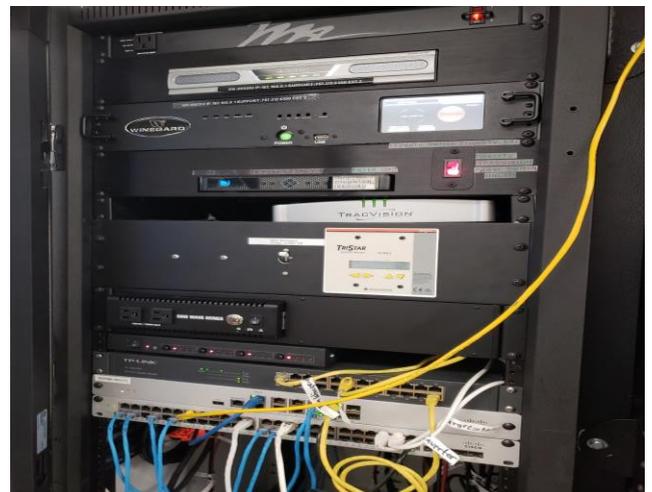
By Grayson Randall

The IEEE MOVE Networking team is responsible for all digital communications on the MOVE truck. The team manages, configures, and supports the following devices:

- Satellite Internet
- Cisco Meraki Security device
- Cisco Meraki 48 port switch
- Cisco Meraki Access Points
- Sierra Wireless LTE Router
- IP Phones
- Misc other switches and routers
- PC and laptop
- Video distribution
- TV System

The team configures the systems to provide our customers with secure access to the internet. We support the TV systems, phones, and computers on the truck. In the field, we configure the systems to provide the optimum connectivity for our customers based on the individual requirements of each location.

If you have an interest in participating on the network team, please contact Grayson Randall g.randall@ieee.org



Mobile Disaster Relief with MOVE

MOVE is Going International

By Mike Wilson - Sr. Program Manager

What is new? IEEE is expanding its program to provide disaster relief on an international basis. We are calling this "MOVE International."

Natural disasters tragically destroy critical infrastructure and alters lives, cities, and communities around the world. It is vital to have electric power readily available during these challenging times. When electricity is lost, people have no fuel, no lights, no means to recharge batteries, and no way to reach out. Without means for emergency communication, fear ensues, and victims feel isolated without emergency communication.

The IEEE MOVE program, which has been active in the United States for over 5 years, offers mobile emergency support designed to assist victims of natural disasters with short term communications, global digital access, and power solutions. These temporary emergency relief provisions help people stay connected and make sure they can access the help they need. Services include communication access, cell phone charging, and provision of lighting to disaster response teams and victims. IEEE volunteers support this technical assistance through a mobile vehicle on site during the initial disaster recovery phase.

IEEE, the world's largest professional organization advancing technology for humanity, is expanding its community outreach program to have a global footprint. Next areas of deployment include India and the Caribbean, which are regularly affected by severe storms.

Just as with the IEEE MOVE USA program, when not deployed, the in-country MOVE vehicle will be taken to schools, fairs, and other venues to educate the public, showcase leading technologies, and to raise awareness about the social impact these technologies have to society, through STEM (Science Technology Engineering Math) education and outreach.

Services will be provided by in-country IEEE volunteers under a plan where each nations' program is entirely funded by donations collected within that country in coordination with a well-respected deployment partner.

To help, please go to www.ieeefoundation.org/MOVE
Your support is greatly appreciated.

For more information, contact merandall@ieee.org



Puerto Rico team at Red Cross training



Participants at meeting in Bengaluru, India

Need a speaker on MOVE?

MOVE volunteers are available. Contact g.randall@ieee.org for more information.

Mobile Disaster Relief with MOVE

Meet Sara Spencer



Sara Spencer first heard about MOVE at her first in person meeting in 2019, where Mary Ellen Randall gave a talk about MOVE. She then became involved in IEEE MOVE at SoutheastCon in Raleigh, North Carolina. MOVE was something that Sara found very appealing about getting involved at the local level of IEEE. The shutdowns due to COVID were just beginning during SoutheastCon 2020 and shortly after, a hurricane hit Bertie County. Sara got a call from Mary Ellen Randall during COVID about the hurricane, but because the hurricane hit a very remote part of North Carolina lodging was a problem. Sara knew she had to help even though she may have to stay in the Red Cross shelter during the height of the pandemic.

As a Red Cross and MOVE volunteer, Sara enjoyed that she was able to help out not only providing much needed technology and communication support, but by helping the shelter staff and in some cases, like on her deployment, the people who were victims of the storm. Sara said, "It is so sad that many people have been affected negatively by COVID and now with the hurricane we are seeing them at their lowest. It is nice to see the smiling faces of Red Cross volunteers. Seeing the amazing coordination of the Red Cross and IEEE MOVE in action is truly a demonstration of the collective goodness of mankind. Good people helping good people. I am glad I got to be part of it"

She is looking forward to continuing her training and being part of more deployments in the future.

2021 Brunswick County Tornado Response By Grayson Randall

On the morning of February 17th, The IEEE MOVE team received an unexpected call. An overnight tornado had done significant damage. The Red Cross was convening resources to assist those impacted by the tornado but found communication in the damaged area was difficult. Mary Ellen Randall took the call and was able to quickly get a team together. Jay Diepenbrock and Grayson Randall were available to respond immediately. The MOVE truck was on the road in about 2 hours. After 4 hours of travel, the team arrived in Brunswick County, NC to support the call for assistance. The MOVE truck was quickly put in service to supply internet to a temporary office used to coordinate the Red Cross operation. The Red Cross used the internet to submit reports into cloud-based applications and to document the requirements for those who were impacted. The truck was required for 2 days while local utilities got the power and communications back online. It was really great that we could deploy the MOVE truck so quickly without prior notice or warning. The ability to quickly bring services to our clients is key to our IEEE MOVE Community Outreach Program.



IEEE MOVE supporting Red Cross operations with Internet at Brunswick County NC tornado

Hurricane Season lasts through November

Our 2020 Volunteers are critical to Success

Thanks to our 2020 MOVE Volunteers

Abigail Teron
Akinori Nishihara
Alan Kaplan
Alan M. Brown
Alberto Sánchez
Alexis Hopkins
Alvin Schultz
Andrea Valenzuela
Andy Seely
Audie (AJ) Burke
Austin Piwko
Bill Ratcliff
Brian Greene
Butch Shadwell
Carlton Tolsdorf Jr
Christian Figueroa
Dan Fuccella
Daniel Czuhai
DANIEL MERKL
David C. Wright
David Green
David Iams
David Sewell
Deepak Mathur
Eric Sheier

Firasath Nabi
Francisco Carrero
Gary Bulman
Grayson Randall
Greg Hill
Gregg Vaughn
Hasena Williams
Hassaan Idrees
Hector Colon
James Gardner
Jay Diepenbrock
Jenifer Castillo
Jill Gostin
Jim Conrad
Joe Lillie
John Balsam
Justin Baba
Kathy Land
Ken Pigg
Kim Hopkins
Kwasi Gibson
Lee Mari
Loderay Bracero
Lorena Ramos
Loretta Arellano

Luis Alberto Tatis Morales
Marc Apter
Mark Torres
Martha Pizarro
Mary Ellen Randall
Matt Allen
Michael Cardinale
Michael Randall
Mogdiel Mojica
Paul Goodson
Rich Allen
Rick Steeves
Rodney Radford
Sara Spencer
Satchit Hegde
Sharlene Brown
Sonya Dillard
Stephen Hopkins
Steve Kemp
TC Moore
Ted Hissey
Thomas Bellarmine
Tim Forrest
William Craig
William Kline



Thanks to our Supporters



IEEE Volunteers



IEEE Alabama Section



IEEE Eastern NC Section



IEEE Foundation



move.ieeeusa.org