Welcome to the NETA Alliance Program Newsletter

November 2014

Well, it’s been an exciting year for the Alliance Program. We had our first Alliance Partners meeting in San Francisco in September - it was both fun and informative. After some socializing, hors d’oeuvres, and drinks, NETA Members Ron Widup (Shermco Industries) and Rod Hagerman (PRIT Services) gave a presentation on molded case circuit breaker testing comparing ANSI/NETA and NEMA specifications. There was a lively discussion with great information provided by equipment manufacturers, consultants, and testing companies. It was clear that everyone has the same goal - safe and reliable power systems - but there are different approaches to getting there. Through open discussion everyone ended up with a clearer understanding of the different specifications and the fact that they are really not that different. We need to bring the industry together and not have perceived differences confuse our common goal - safety and reliability. It is these exchanges of information that the Alliance Program is all about and it was great to be a part of this first of many meetings. The Alliance Partner Committee will be announcing future meetings.

I would like to welcome new Corporate Alliance Partners ElectroRent and Intellirent. They join AVO Training, Circuit Breaker Sales, ComRent, Doble Engineering, Megger, Omicron, and Weidmann Diagnostics. This is a great group of companies that support the testing industry and are continually sharing new techniques and information through this Newsletter, the NETA World Journal, and PowerTest. We all thank them for their efforts.

I request that you encourage your colleagues to join us in the NETA Alliance Partner Program. We are looking for input from all aspects of the power industry. Together we will continue to lead the industry toward safe and reliable power systems.

Hope to see you at PowerTest 2015 in Nashville, Tennessee in March

James G. Cialdea, P.E., NETA Alliance Program Chairman

About the NETA Alliance Newsletter:

The NETA Alliance Newsletter is distributed twice annually to all NETA Accredited Company members and NETA Alliance Program participants. The Newsletter serves to provide news and information about NETA, NETA Alliance subscribers, updates on industry standards, and features articles on topics that are important to NETA Alliance participants relative to the electrical power industry. Articles and press releases are provided by volunteers and NETA Alliance subscribers. The statements, opinions, and views expressed in the NETA Alliance Newsletter are the opinions of the designated authors and do not reflect the opinions or views of NETA or NETA Accredited Companies.

NETA members and NETA Alliance subscribers may submit editorial material and press releases to the NETA Alliance Committee. NETA cannot guarantee publication of any article or press release submitted. The NETA Alliance Committee will, in its sole discretion, select the articles and press releases it deems to be appropriate for publication and of interest to its readers.
The NETA staff provides administrative support to the association, working with the NETA Board of Directors, NETA Accredited Companies (members), and many NETA Committees and volunteers to facilitate the work of the association.

Additionally, staff is responsible for Alliance Program enrollment, as well as coordinates and executes marketing and networking initiatives, events, and benefit fulfillment.

As NETA continues to grow, so does the NETA staff in order to best serve its members and clients.

NETA Staff

Welcome to Julie Northrop, NETA’s newest staff member!

Julie Northrop, Promotions and Marketing Coordinator
888-300-6382

- Marketing and Promotions Activity
- Social Networking
- Sales

Julie is responsible for implementing all promotional and marketing programs to advance NETA as an association, including assisting with sales efforts related to NETA and its programs.

NETA Staff

- Jayne Tanz, CMP, Executive Director
- Missy Richard, Finance and Business Manager
- Kristen Wicks, Technical Services Manager
- Jill Howell, Market Manager
- Faith Cervin, Member Relations Associate
- Raquel Hellenga, Membership Services and Alliance Program Coordinator
- Heather Anderson, Administration and Publications Coordinator
- Monica Long, Database and Online Media Coordinator
- Julie Northrop, Promotions and Marketing Coordinator

NETA Office
3050 Old Centre Avenue, Suite 102
Portage, Michigan 49024

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NEW NETA Accredited Companies

NETA, The InterNational Electrical Testing Association, would like to acknowledge the following companies for successfully completing the rigorous accreditation process. NETA is proud to add each one of these companies to the roster of electrical testing companies committed to meeting the ever-increasing demand for qualified testing firms and personnel. For a complete list of NETA Accredited Companies, or to find a NETA Accredited Company by geographical area, visit www.netaworld.org

Accessible Consulting Engineers, Inc.
Corona, CA
Iraj Nasrolahi
www.acetesting.com

BEC Testing
Farmingdale, NY
William Fernandez
www.banaelectric.com

EPS Technology
Wallingford, CT
Michael Gallo
www.eps-technology.com

High Voltage Service
St. Paul, MN
Mike Mavetz
www hvserviceinc com

For a complete list of NETA Accredited Companies, or to find a NETA Accredited Company by geographical area, visit www.netaworld.org

Conference Preview
Ron Widup, Conference Committee Chair, invites you to attend PowerTest in Nashville, Tennessee on March 2-6, 2015. For complete program information, visit powertest.org

KEYNOTE ADDRESS
Edmund O. Schweitzer, III, Ph.D.
President, Schweitzer Engineering Laboratories

MONDAY SESSIONS (45 Minute Sessions):
(9:30AM – 5:00PM)

ELECTRICAL SAFETY
The Impact of Electrical Safety to Maintenance: NFPA 70B and CSA Z463
Jim White and Kerry Heid, Shermco Industries
Extension Cord Safety
Dennis Neitzel, AVO Training Institute, Inc.
What’s In Your Wallet? Or What Won’t Be Left In Your Wallet
Don Brown, Shermco Industries
Changes to OSHA’s .269 and 1926 Regulations
Jim White, Shermco Industries
12.5 Still Alive – The Impact of an Injury? What are you Risking?
Gary Norland, Safety Presentations
Electrical Safety Audits
Dave Kreger, Electrical Reliability Services
RELIABILITY
Discovery of Transformer Short Circuit Winding
Before Failure
Keith Burgess, Shermco Industries
A Comprehensive Maintenance Strategy for
Medium-Voltage Cable Testing
Ashley Harkness, Electrical Reliability Services
Discovery of Transformer Short Circuit Winding
before Failure
Keith Burgess, Shermco Industries
A Comprehensive Maintenance Strategy for
Medium-Voltage Cable Testing
Ashley Harkness, Electrical Reliability Services
Sweep Frequency Response Analysis – Why It
Should Be In Your Diagnostic Toolbox
William Keith Hill, Doble Engineering Company
Bushings That Bite – What You Don’t Know Can
Hurt You!
Tony McGrail, Doble Engineering Company
Switchgear and Circuit Breaker Failure and Case
Study
Gary Keith, FM Global
Battery Ohmic Testing: A Shocking Comparison
Bret Hammonds, Megger

EQUIPMENT
The Trifecta of Motor Maintenance
Noah Bethel, PdMA Corporation
Practices and Designs for VT and CT Isolation
Devices
Scott Short, Doble Engineering Company
Understanding Testing and Diagnostic Challenges
Associated with Magnetically Actuated Vacuum
Circuit Breakers
Charles Sweetser, OMICRON electronics
Corp. USA
QA Electrical Testing of Medium-Voltage Global
VPT Stator Windings
Vicki Warren, IRIS Power – A Qualitrol Company
5 Things to Know about Power Quality Monitoring
Ross Ignall, Dranetz Technologies
Maintenance Testing of Low-Voltage Power Circuit
Breakers in a Large Automotive Assembly Plant
Mose Ramieh III, PGTI and Randall Sagan, MBUSI

RELAYS
Improving Reliability – Beyond Compliance
Karl Zimmerman and David Costello, Schweitzer
Engineering Laboratories
Configuring Your Microprocessor-Based Relay System
for Maximum Value
Steve Nolette, Electrical Reliability Services
Basic Transformer Differential Protection
Jay Garnett, Doble Engineering Company
Open-Circuited CT Misoperation and Investigation
Karl Zimmerman and David Costello, Schweitzer
Engineering Laboratories
Test the System, Not the Element
William Knapke, OMICRON electronics Corp. USA
Transmission Line Protection 101
Tim Walker, OMICRON electronics Corp. USA

ELECTRICAL COMMISSIONING
Commissioning Your Data Carrier: Achieve Greater
Availability, Safety, and Efficiency While Reducing Costs
Throughout the Cycle
Michael Donato, Electrical Reliability Services
Understanding and Implementing the ANSI/NETA
Electrical Commissioning Standard ANSI/NETA ECS-
2015
Lorne Gara, Orbis Engineering Ltd. and Ron Widup,
Shermco Industries
Commissioning Progress Communication
Michael Lewark, SNC Lavalin

ELECTRICAL COMMISSIONING SYMPOSIUM
Lorne Gara of Orbis Engineering Ltd. and subject
matter expert panelists help audience participants
navigate open discussions on current challenges and
insights in the electrical power systems industry.

MONDAY EVENING EVENTS
NEW PRODUCT FORUM (5:00PM – 6:00PM)
HOSPITALITY SUITES (6:00PM – 10:00PM)

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(PowerTest 2015 Preview continued)

TUESDAY PANEL SESSIONS (1 hour, 45 minute sessions)
8:00 AM - 12:00 PM

ELECTRICAL SAFETY
Moderator: Jim White, Shermco Industries

TRANSFORMERS
Moderator: Bruce Rockwell, American Electrical Testing Co., Inc.

TESTING METHODOLOGIES
Moderator: Tom Sandri, Shermco Industries

MEDIUM-VOLTAGE EQUIPMENT
Moderator: Mose Ramieh III, Power & Generation Testing, Inc.

TUESDAY AFTERNOON

PowerTest 2015 Trade Show – Over 100 Exhibitors
Tuesday, Noon – 4:30PM
PowerTest 2015 features more than 100 exhibits from top-tier electrical power vendors. No other show brings together this many companies focused on electrical safety and maintenance. See you on Tuesday!

PowerBash
Tuesday Evening, 5:30PM – 8:30PM
A gathering you don’t want to miss. Enjoy the Southern charm and music of Nashville, celebrate the best of PowerTest, mix and mingle. PowerBash 2015 is the culmination of two days of intense conference sessions and marks the commencement of an additional two days of high-impact seminars. Awards for best Technical Presentation, Trade Show Booth, and Hospitality Suite will be presented.
### Wednesday Seminars

<table>
<thead>
<tr>
<th>Time</th>
<th>Subject</th>
<th>Author</th>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 - 11:45</td>
<td>Electrical Testing Medium-Voltage Stator Windings</td>
<td>Vicki Warren</td>
<td>IRIS Power- A Qualitrol Company</td>
</tr>
<tr>
<td>8:00 - 11:45</td>
<td>Commissioning Generator Protector Relays</td>
<td>Scott Cooper</td>
<td>OMICRON electronics Corp. USA</td>
</tr>
<tr>
<td>8:00 - 11:45</td>
<td>Wedded Bliss: How Syncrude Canada Married Commissioning Contractors and In-House Technicians to Produce a Healthy Testing Program</td>
<td>Dennis Moon</td>
<td>AVO Training Institute, Inc.</td>
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### Lunch

<table>
<thead>
<tr>
<th>Time</th>
<th>Subject</th>
<th>Author</th>
<th>Company</th>
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</thead>
<tbody>
<tr>
<td>1:15 - 5:00</td>
<td>Digital Relay Even Report Analysis</td>
<td>Karl Zimmerman and Dave Costello</td>
<td>Schweitzer Engineering Laboratories</td>
</tr>
<tr>
<td>1:15 - 5:00</td>
<td>Field Testing of Oil-Immersed Power Transformers: From IEEE 62 to IEEE C57.152</td>
<td>Diego Robalino</td>
<td>Megger</td>
</tr>
<tr>
<td>1:15 - 5:00</td>
<td>Acceptance and Maintenance Testing for Medium-Voltage Electrical Power Cables: Exploring Technology Developments Over the Past 20 Years</td>
<td>Tom Sandri</td>
<td>Shermco Industries</td>
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### Thursday Seminars

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<thead>
<tr>
<th>Time</th>
<th>Subject</th>
<th>Author</th>
<th>Company</th>
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<tbody>
<tr>
<td>8:00 - 11:45</td>
<td>Relay Troubleshooting 2.0</td>
<td>Karl Zimmerman and Dave Costello</td>
<td>Schweitzer Engineering Laboratories</td>
</tr>
<tr>
<td>8:00 - 11:45</td>
<td>Assistant Electrical Testing Technician - Level II Study Session</td>
<td>Ron Widup</td>
<td>Shermco Industries</td>
</tr>
<tr>
<td>8:00 - 11:45</td>
<td>HVCB Testing Seminar</td>
<td>Diego Robalino</td>
<td>Megger</td>
</tr>
</tbody>
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### Lunch

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</tr>
</thead>
<tbody>
<tr>
<td>1:15 - 5:00</td>
<td>What Type of Insulating Liquid is within Electrical Equipment?</td>
<td>David Kohler and Lance Lewand</td>
<td>DobleEngineering Company</td>
</tr>
<tr>
<td>1:15 - 5:00</td>
<td>Commissioning Multifunction Digital Relays - Are We Taking Too Many Shortcuts?</td>
<td>Drew Welton</td>
<td>OMICRON electronics Corp. USA</td>
</tr>
<tr>
<td>1:15 - 5:00</td>
<td>Certified and Certified Senior Electrical Testing Technician - Level III &amp; IV Study Session</td>
<td>Ron Widup</td>
<td>Shermco Industries</td>
</tr>
</tbody>
</table>
(PowerTest 2015 Preview continued)

FRIDAY SEMINAR
DOBLE ONE-DAY LABORATORY SEMINAR
Friday, March 6, 2015 8:00 AM – 5:00 PM
NETA Corporate Alliance Partner Doble Engineering will be presenting a full-day laboratory seminar designed for engineers, chemists, and others responsible for reviewing data to interpret laboratory results to detect and identify problems within electrical apparatus. The seminar will be interactive, combining theoretical background with practical experience and hands-on examples including case studies illustrating common problems found in the field.

Breakfast and lunch are included in the cost of this seminar. Attendees can register to attend this seminar when they sign up for PowerTest online or by calling the NETA office. $445 per person

SOCIAL NETWORKING
MUSIC CITY PUB CRAWL
Sunday, March 1, 2015, 5:30-8:30 PM
Come experience a unique side of Nashville! The Music City Pub Crawl is led by talented guides and combines, tempting tastes, shots of history, a splash of toasts, and is garnished with surprises. Enjoy four Music Row watering holes with an opportunity to listen to Nashville’s up-and-coming greats, learn some line dancing, or take center stage to display your own chops during karaoke. Let’s crawl, Y’All!

Attendees and guests can register to attend the Music City Pub Crawl when they sign up for PowerTest online or by calling the NETA office. Tickets are $155 per person.

SPOUSE/GUEST PASS
Accompanied by a spouse or guest? Purchase a Spouse/Guest Pass to grant them access to the exclusive Gathering Lounge. Stocked daily with light refreshments, information on local restaurants, shops, tours, and attractions, guests can connect with each other to enjoy Nashville together on one their own. The Spouse/Guest Pass includes a Monday tour of the Grand Ole Opry, access to the Hospitality Suites on Monday evening, and the Trade Show on Tuesday afternoon.

Attendees can register their guests for a pass when they sign up for PowerTest online or by calling the NETA office. Passes are $75 per person.

SOCIAL PASS
Want to keep it simple? Forego the tour and lounge that are included in the Spouse/Guest Pass and instead add the Social Pass for guests who want to attend Monday evening’s Hospitality Suites and Tuesday’s Trade Show and PowerBash.

Attendees can register their guests for a pass when they sign up for PowerTest online or by calling the NETA office. Passes are $40 per person.
NETA Handbooks, Series II

The newest additions to NETA’s industry reference books are fast-becoming a go-to resource for training, continuing education, and preparing for industry-related certifications. The NETA Handbooks, Series II covers a broad set of topics from best practices, new testing procedures, to case studies on situations encountered in the field.

The NETA Handbooks are organized by key industry topics including:

- Arc-Flash
- Circuit Breakers
- Protective Relays
- Grounding
- Transformers
- Insulating Oils
- Online Diagnostics
- Electrical Safety
- Electrical Maintenance

The NETA Handbooks bring together a collection of over 150 of the best articles from past issues of the NETA World Journal and technical presentations from PowerTest conferences. Find out more by visiting the NETA Bookstore at www.netaworld.org or call the NETA office at 888-300-6382.
INDUSTRY TOPICS

Is it Time to Update How You Are Managing Your Business?

By Karl Jakob, P.E. and Pat O’Brien Jakob Marketing

Many companies are still managing leads, customers, and jobs with spreadsheets and online docs. For small business owners who are busy trying to manage their day-to-day business, it may seem like a daunting task to adapt a new business management model. Now may be the best time to make the change to a system that can handle sales, operations and finances all in one place. With today’s technology and the availability of new software tools, it is easier than ever to transition your entire business and train your employees. Here are the top five reasons why it makes sense to invest in software for your business:

1. Operations efficiency—simplify and streamline lead generation, quotes, work orders, customer contracts, invoicing and collection
2. Simple job scheduling—minimize gas expenses and service more clients by optimizing travel times and automatically confirming appointments ahead of time
3. No paperwork for field technicians—provide all the information about a job to technicians, wherever they are, with automatic updates to work orders and seamless client approvals and payments
4. Sales and marketing productivity—generate reports for lead acquisition costs to help maximize ROI for marketing investment profitability and track activity history to accurately bill jobs
5. Billing compatibility—sync invoices directly with accounting software and create follow-up workflows to manage timely receivables

Traditionally, technicians and service workers would access an office-based computer to gather necessary job information, parts lists and asset information. Paper documents were completed in the field where the work was performed and brought back to an office to be entered into a desktop computer or server. This process delayed responses and access to information in the field that could be used to complete the analysis or fix the asset.

Optimizing your business processes with web-based automated workflows enables mobility and collaboration. With the growing use of mobile devices, wireless technologies and Internet communications, being completely mobile is key. Some companies offer software solutions especially made for service companies who have sales/service people operating in the field. It offers a fast track to the aforementioned benefits because the process optimization is already built in. Taking advantage of a pre-packaged solution specifically for your industry is important because:

1. You may not have the time, money, or resources to adapt a general software package for your business, or manage the creation of custom software. If you try to set your company up on a generic software system, your risk of failure increases dramatically.
2. As a small to medium-sized business, you may not be able to afford all the customization needed to truly automate your business. As a result, you may end up using the software as a rolodex to look up contact information.
3. By using industry-specific software, you get great features (like map-based scheduling, one-click proposals, a streamlined field process using tablets, etc.) at a very low price because all the features you could want are already built and packaged for easy deployment.

A program such as this is known as a SAAS. SAAS stands for “software as a service.” How does purchasing a SAAS system benefit you? If you have a web browser, you can pay your first month’s fees and start using it immediately. There is nothing to install and no extra hardware is needed. Often, there is a one-time set-up charge, but you will have one regardless of the software you choose. Using SAAS software is an easy choice because of all the benefits that are offered:

1. No investment in hardware or associated hardware administrative costs
2. Available for immediate use
3. It is completely scalable—no painful hardware decisions or migrations — just add or subtract users when needed
4. Improvements are deployed more often and are included in the monthly price

If your system needs to be customized to meet critical business needs, these capabilities are much more affordable today that they were five or 10 years ago. Thanks to the introduction of open source software, custom systems can be built for around $15K to $20K versus the $250K to $500K that it used to cost. Open source software is community-based software with lax or non-existent restrictions in regards to modification, patent or copyright. By starting with an open source customer relationship management (CRM) system, you can build a custom CRM operating system very inexpensively. A consultant can translate your needs into requirements for the software. Once defined, the requirements are turned into working, custom software by configuring the system, directly modifying the core software and adding custom modules and/or custom interfaces.

You may want or need to connect your sales, operational and financial systems to another system that is critical for your business. For example, if you test equipment in the field, you may need to use an industry solution to store and present those results to your clients. Integrating your system is easily within reach today. Most systems have a good application programming interface (API) that will let you connect systems for exactly this purpose —therefore the cost of these integrations has decreased dramatically. You can pass or sync data from one system to another or just display the information from a system in the appropriate window.

You may have been reluctant to implement software for your company in the past, but the time is right to take a serious look. The options have improved and have come down in price. The mobile capabilities have changed the game to the point where your business may not be able to prosper without these tools. If you are not already using a software system to automate your business, it’s a good idea to get started now.

For additional information on managing your business contact:
Karl Jakob, P.E., 801.712.0607, karl.jakob.pe@gmail.com
or
Pat O’Brien, 312.878.6461, Ext 1, pobrien@boruapps.com
Innovations in Current Transformer Testing
By Yier Toh, Megger

While their working principles have remained largely unchanged, today’s current transformer (CT) test equipment are getting more sophisticated, with more features and functionality available in smaller and lighter packages. Test equipment manufacturers have refined their hardware and software design to make testing much easier and faster for the end users. This article will discuss some of the improvements in CT testing technology that have helped to increase safety and efficiency in the field.

Automated Testing, No Rewiring
The most time consuming part of CT testing is going through the repetitive process of connecting and disconnecting test leads for every single combination of phase and tap configuration. Many modern CT testers now feature multiple input ports so that operators can connect the instrument to all the taps at once. During testing, the instrument works behind the scenes to apply test voltage or current across the different connections based on the test plan, and records the corresponding readings for each tap combination. This allows testing to be fully automated, with no user intervention needed once the initial wirings are checked and verified.

A more recent innovation takes this concept one step further. Instead of waiting for each test to run sequentially for each combination, Megger has patented a new method to perform each test simultaneously on all taps. Saturation, Ratio, Polarity, Phase Angle and Winding Resistance measurements are made on all taps at once, significantly reducing testing time. Assets with multiple CTs (e.g. power transformers and circuit breakers with six or more bushing CTs) can often be tested in half the time compared to conventional testing methods.
Smarter Algorithms
A common technique used for CT testing is to apply a high voltage to the secondary windings and measure the induced voltage on the primary side. It is very challenging to measure this very small primary side voltage accurately. The situation becomes even more complex when working in high voltage environments where electrostatic interference from overhead lines can really affect these low voltage measurements. A simple, yet effective solution to this problem is to ground one end of the primary side while making these measurements. However, the ground needs to be applied selectively (with additional circuitry) based on the type of test being performed and not all CT test equipment performs this critical step automatically with intelligent software control. Some of these testers will instruct the operator to manually rewire the test leads during the test; others leave the user with results vulnerable to these external factors.

Real-time Results
Large, full color LCD touch screens that are readable in direct sunlight have become ubiquitous in the consumer electronics market. Test equipment manufacturers in the power industry are gradually replacing their monochrome screens and telephone-styled keypads with the more user-friendly interface. More importantly, these screens can display test results in real-time without requiring printouts or a laptop connection.

Real-time results allow the operator to monitor the test and take appropriate action if anything unexpected happens during the test or if results observed are abnormal. With older test sets, the operator would usually have to wait until the full test is complete and print the results, before realizing that there was a bad connection or some other error in the measurements. On newer test sets with real-time results, bad readings due to incorrect applied voltage and current, wiring mistakes, or poor contacts are instantly obvious. The operator can fix any problems and restart the test with no time wasted and prevent any possible damage to the CT.

This article has highlighted some of the recent advancements in CT testers that have made testing faster and easier. Whether you are an asset owner or service contractor, it is worth investing in modern CT test sets for your field crew to maximize efficiency in your routine CT testing and maintenance program.
NETA members and alliance partners came together for meetings and networking in the beautiful hills of San Francisco, California. They gathered at the Shermco and NETA cohosted hospitality suite, part of the IEEE IAS PCIC conference September 9, followed by the NETA Alliance Meeting hosted by NETA at the Sir Francis Drake Hotel on September 10, 2014. The Alliance "Meeting of the Minds" event was filled with camaraderie and socializing, an update on association activities, and the exchange of ideas.

NETA is working to create more opportunities for NETA Alliance Partners to come together with NETA Accredited Companies. During the Wednesday, September 10 event, the technical discussion focused on best practices related to molded-case circuit breakers. NETA Accredited Members, current and prospective alliance partners, and corporate alliance partners were invited to the discussions that included a presentation and an open forum for discussion from the floor. Attendees then transitioned into working groups from which individuals were able to select various technical subjects.

These technical working committee subgroups will contribute to the association while providing interaction between important industry players from manufacturers, architects and engineers, contractors, electrical testing firms, and others. This type of meeting, combined with discussion and workshops, is a great way for people with differing perspectives to come together and gain insight and understanding about aspects of the electrical power systems industry with which they may not be exposed on a daily basis. NETA wants to help bridge gaps in knowledge and bring people together to better the industry as a whole. To learn more about the NETA Alliance Program, and additional technical working sessions, please contact the NETA office at [www.netaworld.org](http://www.netaworld.org).
PowerTest 2015 “Spotlight Stage” Presents...

NETA’s Gold Corporate Alliance Partners will share insights, ideas and best practices throughout the PowerTest 2015 Trade Show.

You won't want to miss this opportunity to gather information and also...*win prizes!*

**TUESDAY MARCH 3, 2015 12:30 PM - 4:15 PM**

**Schedule of Events**

**WEIDMANN Electrical Technology - 12:30 PM - 12:45 PM**
- Presentation: Smart Insulation, the Software Side – Getting to Optimum Transformer Performance

**Megger - 1:00 PM - 1:15 PM**
- Presentation: TDS NT Series: Very Low Frequency (VLF) and Partial Discharge (PD) Testing Solution

**Intellirent – 1:30 PM - 1:45 PM**
- Presentation: Safe and Smart Cable Testing

**AVO Training Institute, Inc. - 2:00 PM - 2:15 PM**

**Circuit Breaker Sales - 2:30 PM - 2:45 PM**
- Presentation: One Stop for Your Electrical Needs – The CircuitBreakerStore.com

**Electro Rent - 3:00 PM - 3:15 PM**
- Presentation: Test Equipment Problems and Solutions in the Field.

**Doble Engineering Company - 3:30 PM - 3:45 PM**
- Presentation: In-Service Partial Discharge Testing: The Right Tool at the Right Time

**ComRent Load Bank Solutions - 4:00 PM - 4:15 PM**
- Presentation: Insights and Best Practices for Load Bank Testing

**Prize Give Away at 4:15 PM!**
Training

Training at Your Own Pace with NETA’s 2014 Self-Paced Technical Seminars

The 2014 NETA Self-Paced Technical Seminars (SPTS) are now available to technicians and industry professionals.

The SPTS, recorded each year during PowerTest technical seminar tracks, offer industry training on up-to-date subject matter and offer NETA technicians a rapid way to earn NETA Continuing Technical Development (CTD) and may be submitted by other electrical testing professionals easy access to high-quality, technically-driven training materials. These courses are valuable to NETA technicians who are seeking to meet training and continuing education requirements for the NETA Certification process, and are also widely-used by other electrical professionals to meet continuing education requirements for other certification programs. SPTS courses is approximately four hours in duration, and includes a hard copy of the presentation materials as well as a DVD of the presentation with audio and visual from the session at PowerTest.

New in 2014, Condition of Maintenance: A Practical Approach to Compliance within the Industry covers best practices for developing a preventative maintenance program, why having a program in place is important, and how to incorporate newer technologies for maximum efficiencies. This SPTS helps assure technicians are aware of the NFPA requirements concerning overcurrent protective devices, helping to minimize risk when work is being performed.

Also new in 2014, Practical Application of NFPA 70E in Routine Work Tasks addresses chapters one and two of the 2012 NFPA 70E and applies the principles of leadership, project management and customer service. These principles are related to the requirements of regulatory compliance, safety related work practices and safety related maintenance practices. This SPTS course uses real-life examples to illustrate application of NFPA 70E.

NETA also offers three online courses related to acceptance testing as well as the online Electrical Safety Training System, which is an excellent resource for companies looking to assess and enhance awareness of electrically-related safety concerns. For more information regarding any of these training tools, please visit the NETA Bookstore at www.netaworld.org, or call the NETA office at 888-300-6382.

What Are Self-Paced Technical Seminars?
NETA Self-Paced Technical Seminars (SPTS) are training materials created for distance learning. Every year, PowerTest offers in-depth seminars covering a wide variety of topics. Two seminars are selected by the Conference Committee each year to be recorded and produced into SPTS.

SPTS Highlights
• Four-hour run time
• DVD of the recorded technical seminar
• Printed hard copy of the presentation
• One attempt at the proficiency exam
• Eligible for Four NETA CTD Credits (NETA Certified Technicians)

Purchase Price
NETA Accredited Company Members and NETA Alliance Partners.................................................$330.00
Non-Members/Non-Alliance Partner.................................................................$500.00
Industry Standards

AIA MasterSpec® -Division 26 Electrical Sections to Include Accredited NETA Company and ANSI/NETA ATS
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Two organizations collaborate with the shared vision of advancing the quality of construction safety and reliability. NETA and ARCOM® are working cooperatively to enhance electrical testing requirements in the electrical specifications of The American Institute of Architects’ (AIA) MasterSpec® master specification system. Over the next several years, the MasterSpec electrical library, currently consisting of approximately 80 sections, will be reviewed and updated to include detailed testing requirements from the ANSI/NETA Standard for Acceptance Testing Specifications for Electrical Power Equipment and Systems (ANSI/NETA ATS).

*ARCOM Publishes the MasterSpec for The American Institute of Architects.

NETA and ARCOM met at ARCOM’s biannual MasterSpec Engineering Review Committee (MERC) electrical review meeting on July 26, 2014. MERC is comprised of eight practicing electrical engineers who, using their over 200 years of combined experience, review and advise ARCOM on electrical specification sections.

MERC met with NETA to finalize an approach to inserting NETA testing requirements into MasterSpec and to discuss how to address testing organizations and test technician qualifications. Following these in-depth discussions, MERC agreed that including certain ANSI/NETA ATS electrical tests appropriate for the equipment described in the specification would be valuable to the electrical engineers who use MasterSpec.

This collaboration with NETA will allow MasterSpec to provide engineers with clear options for specifying electrical acceptance testing without requiring further research or definition. Accordingly, the Quality Assurance article of MasterSpec electrical sections will be revised to include the option of hiring a testing agency and will state: “Testing Agency Qualifications: Accredited by NETA.” ARCOM made the decision to reference NETA Accredited Companies directly rather than including testing agency and test technician qualifications due to ARCOM’s recognition that NETA Accredited Companies, by their accreditation, inherently provide the quality specifications required for acceptance testing. By specifying testing agencies accredited by NETA, the specifying engineer or contractor is specifying an independent, third-party testing agency and is not required to further validate qualifications.

ARCOM further clarified that the MasterSpec electrical sections will provide the specifying engineer with the following options relative to electrical acceptance testing:
• Testing by a testing agency accredited by NETA
• Testing by the manufacturer’s field service personnel/department
• Testing by the contractor
The engineer will now be able to choose from multiple testing options depending upon the project. For projects that require complex testing, there are clear instructions on how to specify and require a testing agency accredited by NETA.
AIA MasterSpec® –Division 26 - ANSI/NETA, continued

MasterSpec Division 26 Testing Language Updates Are Noted Below

PART 1 – GENERAL contains testing agency qualifications and submittal requirements for test reports. Note that blue text is instructions for the specifier.

1.4 INFORMATIONAL SUBMITTALS
Coordinate “Qualification Data” Paragraph below with qualification requirements in Section ’014000 “Quality Requirements” and as may be supplemented in “Quality Assurance” Article.

A. Qualification Data For [manufacturer-authorized service representative] [testing agency]

1.6 QUALITY ASSURANCE
Retain “Testing Agency Qualifications” Paragraph below if Contractor is required to provide services of a qualified testing agency in “Field Quality Control” Article. Qualification requirements are in addition to those specified in Section ’014000 “Quality Requirements.” See the Evaluations for discussion of NETA ATS and manufacturer’s testing procedures.

A. Testing Agency Qualifications: Accredited by NETA.

PART 3 – EXECUTION contains the Field Quality Control article that describes who does the testing and the tests to be performed. This is where selected tests and inspections derived from Sections 7.1 through 7.25 of the ANSI/NETA ATS will be inserted into each of the Division 26 specifications. Note that blue text is instructions to the specifier.

3.7 FIELD QUALITY CONTROL
Retain one of first four paragraphs below.

Retain first “Testing Agency” Paragraph below and delete the remainder of this article if Owner will hire independent testing agency. Delete “Field quality control test reports” paragraph in “Informational Submittal” Article. Delete “Tests and Inspections” Paragraph below.

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

Retain first “Testing Agency” Paragraph below to require Contractor to engage an independent testing agency. Retain “Field quality control test reports” paragraph in “Informational Submittal” Article. Retain “Tests and Inspections” Paragraph below.

B. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

Retain “Manufacturer’s Field Service” Paragraph below to require a factory-authorized service representative to perform tests and inspections. Retain “Field quality control test reports” paragraph in “Informational Submittal” Article. Retain “Tests and Inspections” Paragraph below.

C. Manufacturer’s Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.

Retain “Perform the following tests and inspections” Paragraph below to require Contractor to perform tests and inspections. Retain “Field quality control test reports” paragraph in “Informational Submittal” Article. Retain “Tests and Inspections” Paragraph below.

D. Perform the tests and inspections [with the assistance of a factory-authorized service representative].

E. Tests and Inspections:

Retain test requirements below with any combination of paragraphs above. See Evaluations for discussion of tests and inspections and the NETA ATS.
AIA MasterSpec® -Division 26 - ANSI/NETA, continued

In the Evaluations, a well-researched document that accompanies each MasterSpec section and describes the products covered in the section, ARCOM will insert the following paragraph to inform the engineer about the incorporation of tests and inspections from ANSI/NETA ATS into the specification:

The InterNational Electrical Testing Association (NETA) develops and publishes the ANSI/NETA Standard for Acceptance Testing Specifications for Electrical Power Equipment and Systems (ANSI/NETA ATS). The tests and inspections described in ANSI/NETA ATS help identify damage that may have occurred during shipping, verify correct installation, and test both components and the entire system to ensure correct operation. Tests and inspections applicable to the equipment described in this section have been included in Part 3 of the section. Only those tests directly applicable to field testing equipment described in the section have been included, and the format and language has been altered to match MasterSpec. Review NETA ANSI/NETA ATS to ensure inclusion of the proper test procedures on both system and component levels and coordinate with Part 1 of the section, other sections, and Division 01. Consider reviewing the scope of testing with a third-party testing agency for complicated installations or to verify the testing scope.

In the coming months, ARCOM will work with NETA representatives on each of the MasterSpec electrical sections as they are updated. NETA representatives attending the meeting with MERC included David Huffman of Power Systems Testing Company, Lorne Gara of Orbis Engineering Field Services, and Jill Howell of NETA.
What’s New

NETA, EVIT Electrical Testing Technician Program Development Nears Completion

After months of development, the Electrical Testing Technician Curriculum, a collaboration between NETA and East Valley Institute of Technology, (EVIT), is nearing completion. The program launch date is scheduled for July 2015.

The development of the curriculum has been lead by Bob Sheppard, Principal, and Larry Lind, Technical Training & Safety Coordinator of Southwest Energy Systems, LLC who have worked closely with John Underwood, EVIT Program Director to design the educational program for post graduate students.

EVIT’s program promises to offer fast-track adult education courses using a curriculum based on the ANSI/NETA ETT, Standard for Certification of Electrical Testing Technicians. It will be a six-month post-secondary adult education program designed to fit into busy schedules, and will include a combination of classroom and technical labs in seven courses: Electricity for Power Testing Technicians 1; Electricity for Power Testing Technicians 2; General and Electrical Safety; Conductors; Circuit Breakers; Transformers; and Switchgear, Switchboards, and Motor Control Centers.

The course was developed in response to the growing need for qualified electrical testing technicians. The lab programs are in final development with the assistance of various volunteer subject matter experts from a number of NETA Accredited Companies including Western Electrical Services, Tony Demaria Electric, and Shermco Industries. Laboratory equipment is being assembled through the generous donations from NETA Accredited Companies and test equipment will be supplied by NETA Corporate Alliance Partner Intellirent.

Bob Sheppard, who initially brought the program development opportunity to NETA, is pleased with the curriculum and its planned introduction at EVIT, “It is the objective of the program to develop a quality training course to serve our industry with immediate and long term needs for technicians. Our hope is to provide above entry level technicians with the skills and knowledge and be ready for the challenge of our exciting industry. We’ve come a long way from the concept of the program to reality.”

Press Releases

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OMICRON - Introducing the New OMICRON Academy in Houston

Texas State Technical College - TSTC No. TX Industry Update

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Click Press Release for Details

The NETA Alliance Newsletter is an excellent avenue to provide updates on company and product news. Please submit press releases to jhowell@netaworld.org. NETA cannot guarantee publication of press releases submitted. The NETA Alliance Committee will, in its sole discretion, select the press releases it deems to be appropriate for publication and of interest to its readers.
The NETA Alliance Program welcomes your questions and suggestions.

Contact the NETA Alliance Program staff liaison Raquel Hellenga at: rhellenga@netaworld.org

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