INTRODUCTION
Traction Power Substations Standards Subcommittee (TPSSC) is on the tenth year of operation since it was formed in 2002. We are working on developing new standards, recommended practices, and guides; coordinating with other organizations such as APTA and AREMA and within IEEE; providing up to date information on professional activities of interest to rail and transit industry; and soliciting recommendations, ideas and suggestions that would improve the industry practices. The TPSSC is a subcommittee of the Rail Transportation Standards Committee (RTSC) within Vehicular Technology Society (VTS). TPSSC meets at regular intervals during the year at various transit properties in United States and Canada. TPSSC consist of transit and rail industry leaders in public and private sectors dedicated to writing national consensus standards, recommended practices, and guides which will govern manufacturing, supply, installation, testing, commissioning, and operation of traction power substation equipment.

PURPOSE
The purpose of this meeting was for the Working Groups (WG) to continue their work on the standards, recommended practices and guides.

September 19, 2012
Meeting Called to Order – by Chair Gary Touryan

Welcome Greeting CTA – Mr. James Harper, CTA Chief Engineer Infrastructure, welcomed the attendees and gave a brief description of the ongoing work at CTA.
Gary thanked Mr. Harper for CTA hospitality and most of all for his encouragement and support to our volunteers. Gary also expressed our subcommittee’s appreciation to Mr. Michael Perez and his staff at CTA for all the hard work accomplished to arrange and host our Subcommittee.

Introductions – General Introductions of all Attendees

Harvey Glickenstein, VTS Vice President Land Transportation – Harvey is up for election. Provide your votes before October 2, 2012.

Professor Bi Yuan Ku, VTS Board Member – reported the financial status of the IEEE and VTS. The VTS Committee has been forced to cut its budget from $75k to $45k. By having two seats on the board, we avoided further cuts. Reimbursement may not happen this year. For more information please contact treas@vt society.org.

Reimbursable Expenses - All reimbursable expenses should be forward to Paul Forquer.

VTS Conferences - Majority of VTS funds come from conferences. Professor Bi Yuan Ku encouraged members to participate by attending and writing technical papers. Next Joint Rail Conference will be held in Knoxville, Tennessee on April 15 – 17, 2013.

Senior Member Status -Another conduit for funding is based on the number of senior members in each IEEE Societies. Professor Bi Yuan Ku encouraged all members applying for Senior Membership status in the IEEE. The qualification is 10 years as IEEE member + 3 senior member references. Application can be made on line at IEEE.org.

Traction Power Substation Web Site – Gary encouraged all to check our websites http://grouper.ieee.org/groups/railtransit/tps/index.htm and asked WG Chairs and Vice Chairs to send their updates to our webmaster Steve Bezner for posting.
Balloting – Gary informed all attendees that they need to be members of IEEE Standards Association in order to vote. Gary also pointed out the requirement for WG Chairs to be members of IEEE Standards Association. He also encouraged all to join IEEE and become members of VTS.

Next Meeting – location of the next meeting will be at Denver on May 15th & 16th 2013 and Pittsburgh October 23rd & 24th 2013. Gary thanked Mr. Pranaya Shrestha, PE Sr. Manager, and Program Management RTD FasTracks for volunteering to host our next meeting in Denver, Colorado.

Dinner Logistics – Dinner at the Elephant Castle at Club Quarters at 6PM. Gary thanked Mark Curry of Powell for his continuous effort of taking care of minute details in securing our hotel accommodations and orchestrating our meals. Gary and the attendees thanked the sponsors of breakfast, lunch, and dinner. Our sponsors were Balfour Beatty Rail Inc., GE, Hatch Mott MacDonald, Powell, Schaffner MTC Transformers, STV, and Virginia Transformer Corporation.

Minutes of Previous Meeting – Gary Touryan presented the minutes of the previous meeting, which were approved by the attendees.

Recording Secretary – Gary, Roger, Paul and attendees recognized Alberto Malats of MC Dean for volunteering to be our subcommittees Recording Secretary.

PatCom information and rules – Prior to starting the WG sessions Gary Touryan showed the slides advising WG membership of the IEEE’s patent policy and inappropriate topics for IEEE WG meetings. There are to be no discussions that pertain to patents and licenses.

Working Session - WG sessions were conducted sequentially instead of the break out sessions. Thus all the attendees were able to participate in all WG sessions. The following is the summary WGs activities.

P1653.1 Standard Practices and Requirements for Traction Power Rectifier Transformers – Gary reported that Vince Paparo, WG chair, needs volunteers to help responding to 96 comments generated by balloting. Any volunteers should contact Vince Paparo at vince.paparo@schaffner.com. Once we are ready for re-balloting please contact Vince Paparo for any clarification needed prior to voting again.

P1653.2 Standard for Uncontrolled Traction Power Rectifiers for Substation Applications Up to 1500 Volts Nominal Output – Ben Stell, WG chair, reports the standard has been published and available at http://ieeexplore.ieee.org/xpl/articleDetails.jsp?reload=true&arnumber=5200229&contentType=Standards

Tom Young and Mike Dinolfo lead a comment with the standard for verification of overloading 150% for 2 hours and 300% for 1 minute. Ben Stell will contact Harvey Glickenstein to look into a maintenance revision.

P1653.3 Use Guide for Traction Power Systems Modeling – Mike Dinolfo, WG chair, reports the standard has been submitted for on August 24 for REVCOM with IEEE. REVCOM provides only editorial review and comments by IEEE. Chris Pagini will send Mike Dinolfo the contact information of IEEE editorial for more details.

C37.20.8 DC Switchgear Standard – Paul Forquer spoke for David Groves, WG Chair. Paul reports the Power & Energy Society is keeping the rights to the dc Switchgear under C37.20.1. Tom Young commented the way the scope is under C37.20.1, Traction Power dc Switchgear cannot go under C37.20.1. Suggestions were proposed to keep 300 Volts dc with the Power & Energy Society and Traction Power dc under C37.20.8. Paul will relay message to David.

C37.14 Standard for Low Voltage dc Power Circuit Breaker Used in Enclosure – Brian Gerzeny, WG Chair, reports the Power and Energy Society control the standard. The working group has reviewed the standard in regard to dc Traction Power and developed comments. Contact Brian Gerzeny to participate in the working group and a copy of the comments at Brian.Gerzeny@powellind.com. Members can provide additional comments and he will forward to PES. Major comments included:
1. Tables from 37.16 are now in 37.14. Table 37.16 is going away
2. The multiplier has been approved from 1.65 to 1.42 and changing station capacity from 8MW to 9MW. Members spoke about what happens if design is not within system standards, what do designers have to follow. There should be an Amps/Volts column, not just a MVA. Additional suggestions were to provide the formula so designers can provide their own limits. Brian to continue with working group and members are encourage to send data supporting 1.42 multiplier
3. Retesting dc breaker design and components from every 5 years to every 10 years was brought up due to a lower volume sold compared to ac breakers.

Substation Automation Presentation – Mr. John D. McDonald presented about Intelligent Electronic Devices for substation automation. He provided emphasis on the importance of integrating before automating, process bus instead of individual processes. The presentation is available at the National Institute of Standards and Technology (NIST) website.

A special thanks to John for donating the third addition of his book “Electric Power Substation Engineering” and most interesting discussion.

P1653.5 Recommended Practice for Controlled Traction Power Rectifiers for Traction Power Substation Applications – Louie Luo, WG Vice Chair, reports the standard is in need of more volunteers for technical and editorial help. The standard needs to be completed in 9 months.

Adjourn the First Day of Meeting – by Chair Gary Touryan

September 20, 2012

Meeting Called to Order – by Chair Gary Touryan

CTA Question and Answer Session – Michael Perez opened a question and answer session regarding CTA and the Site Tour.

Introductions – General Introductions of all Attendees

WMATA Announcement – Richard Shiflet spoke briefly about WMATA history and current projects. Acknowledged the hard work of those involved in WMATA projects.

Member Announcement – Roger Avery provided comments about the Green Book with regard to Figure 13. He is in disagreement with the figure and that material should be under VTS. Gary proposed a Task Force to continue this effort.

Toronto Transportation Announcement – Marcus Reis of TTC announced the current projects and upgrades. Also introduced the rectiformer installed for a number of years due to space constraints. Following the technical paper “A Novel Type of 12 Pulse Converter,” Toronto was able to provide the required equipment to meet its space constraint.

P1653.6 Grounding Standard – Paul Forquer, WG Vice Chair, reports the standard is ready and complete for balloting. All members who have additional comments please forward to Paul at (paul.forquer@powellind.com).

Future Meeting Organization – The group was in agreement to meet 2 days each meeting twice a year, Spring and Fall. Chuck Ross proposed to split the groups up into working groups to review standards. Gary proposed to try it for next meeting since we have more groups it might work better than previous times.

Task Force Announcement – Gary and Mark Curry announced the concept of Task Forces. The concept is to initially start as a Task Force to organize a group that will decide if their efforts require generating a Project Authorization Requests (PAR). Once the decision is made to start a PAR the TF can transform into a WG and select Chair and Vice Chair. Gary encourage all participants to consider volunteering as Chairs and Vice Chairs and making an effort to have agency representatives actively involved as either Chairs or Vice Chairs. Tom Young reports to the group the potential of developing a guide for corrosion and safety. Vish Mawley has been leading an
effort into analyzing corrosion and safety. Vish volunteered to lead the TF. In an ensuing discussion a number of other TF were established with volunteer TF coordinators. Below is the list of the newly developed task forces with their respective coordinator.

- **Smart Substations** – Mark Curry (Mark.Curry@powellind.com)
- **Green Book and VTS** – Roger Avery (RogerMAveryPE@me.com)
- **Corrosion Control and Rail Potential** – Vish Mawley (vishmawley@yahoo.com)
- **Energy Storage** – Salwa Fouda (salwa.fouda@ca.transport.bombardier.com)

**Adjourn the Second Day of Meeting** – Before adjourning the meeting Gary thanked Mr. Michael Perez for arranging and conducting a site visit to CTA Traction Power Substation and also thanked 80 plus attendees making the meeting very successful and productive.

**Site Tour** – The very informative tour was lead by Mr. Perez.

The IEEE TPSSC would like to thank CTA for hosting the technical meeting and the following companies for their generous support to sponsor meals during this conference - Balfour Beatty Rail Inc., GE, Hatch Mott MacDonald, Powell, Schaffner MTC Transformers, STV, and Virginia Transformer Corporation.