

BY MEREDITH MOSELEY-BENNETT
AND ZACHAERY IRWIN

ETCP launches the Portable Power Distribution Technician certification



ETCP IS EXTREMELY PLEASED to announce that the new Portable Power Distribution Technician (PPDT) certification will be available for testing by paper and pencil beginning July 15, 2016 and the initial window for testing will continue until August 5, 2016. The examinations will be administered in the following cities (dates TBD): New York, Los Angeles, San Francisco, Dallas, Phoenix, Chicago, and Orlando, with possibilities in other cities. Each paper and pencil examination location will have a different application, so candidates should make sure to fill out the application for the appropriate testing location. All applications with testing dates will be available for download on the ETCP website by June 1.

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After finalizing the paper and pencil initial testing window, it will take approximately four to six weeks to determine the passing rate for the PPDT examination and, once that is complete, the examination will be available for computer-based testing at over 190 testing centers in North America.


All four of the examination programs administered by ETCP are rigorously

developed and maintained and based on the highest levels of entertainment industry practice. In large part, this is accomplished by the dedicated participation of practitioners in each of the specialties being tested lending their expertise to validate, develop, and maintain rigorous examinations. Our PPDT Subject Matter Experts (SMEs) have worked together on these examinations for over nine months with outstanding teamwork and a passion for the work. These SMEs provided much needed input during the entire examination development process, which involved two trips to Applied Measurement Professional’s (AMP, a PSI business) headquarters in Kansas City and many hours via the Web. Their dedication, hard work, and collaboration shows in the final product and we could not have accomplished this without them. “The SMEs for the PPDT certification come from very different aspects of the entertainment industry and their dedication to working together to make this certification relevant to both the concerns of the working person and companies that employ them is impressive. I am in awe of these professionals who have donated significant amounts of their time to the safety and success of our industry,” said Alan Rowe, Co-Chair of the SMEs and Chair of the IATSE Crafts Advancement Program.

Co-Chairing the SMEs with Alan Rowe, is Derek Coleman, Vice President of Power

Distribution for PSAV. Joining them are: Rob Baxter, NBA Production Electrician, and Owner, Baxter Controls; Pat Enos, Operations Manager Trade Show Electrical, GES; Kevin Felton, Director – Electrical Services, Freeman Electrical, Inc.; Lance Hughston Sr. and Lance Hughston, Jr., IATSE members and Owners of Hughston Engineering, Inc.; John Lacy, IATSE member and freelance gaffer and best boy; Gregg Lirosi, Regional Power Distribution Manager, Eastern United States, PSAV; Billy Peacock, Owner, Eventpower; Phil Reilly, Lighting Director, WGBH-Television Group, IATSE member, NABET member; Steve Terry, Vice President of Research & Development, ETC; and Christopher Wren, IATSE member and owner, Keylight, Inc.

Initially, the SMEs came together in consultation with AMP to validate the content of the examination, a process often referred to as job analysis, practice analysis, or role delineation. All of these terms describe a process in which SMEs identify key job tasks that are performed frequently enough and are of sufficient importance to include on any examination. In real terms for the ETCP SMEs, that meant long days sorting through available content about actual work in the entertainment industry discipline being certified to compile an initial list of relevant work behaviors. That list is then whittled down until the group of SMEs can unanimously agree to all content

SCOPE OF WORK FOR ENTERTAINMENT ELECTRICIAN AND PORTABLE POWER DISTRIBUTION TECHNICIAN			
 <p>This scope of work document is intended to present a comparison of the Entertainment Electrician (EE) and the Portable Power Distribution Technician (PPDT) programs. Both Certifications cover portable electrical equipment within the scope of Articles 518, 520, 525 and 530 of the NEC, and Sections 44 and 66 of the CEC. The Entertainment Electrician program covers all aspects of the work and is intended for managers and supervisors, as well as the technicians. The Portable Power Distribution Technician program covers those that work in the specific area of power distribution only, often under the supervision of an Entertainment Electrician. The body of knowledge contained in the Portable Power Distribution Technician certification is a subset of the Entertainment Electrician certification. Therefore, a certified EE is qualified to perform all tasks of a certified PPDT, but a certified PPDT is not qualified to perform all the tasks of a certified EE.</p>			
TASK	EE	PPDT	
APPLY ELECTRICAL THEORY			
• Apply operational theory of dimmers, electronics and power supplies	Y	N	
• Perform operations and procedures for electronic and digital measurements	Y	N	
• Calculate formulas using electrical principles	Y	Y	
• Calculate formulas using alternating current theory	Y	Y	
• Perform operations and procedures for electrical measurements	Y	Y	
INSTALLATION			
• Install permanent wiring and distribution equipment	N	N	
• Install portable power distribution systems in occupancies not covered by NEC articles 518, 520, 525, 530 or CEC Sections 44 and 66	N	N	
• Hang/rig overhead equipment	Y	N	
• Specify and install rigging hardware for utilization equipment	Y	N	
• Install dimming and audio equipment	Y	N	
• Install portable emergency systems	Y	Y	
• Install utilization equipment	Y	N	
• Install portable power to dimming, audio equipment and other utilization equipment	Y	Y	
• Install equipment around water	Y	Y	
SET UP ELECTRICAL/CONTROL SYSTEMS			
• Specify and install DMX512 and Ethernet networks, and other control wiring	Y	N	
• Create detailed equipment lists from light plots and hookups	Y	N	
• Create gel and expendable orders from light Plots	Y	N	
• Perform configuration and address settings on intelligent luminaires	Y	N	
• Specify and install power for on-set welding	Y	N	
• Configure, install and program control consoles	Y	N	
• Set up control systems	Y	N	
• Determine branch circuit cabling requirements	Y	Y	
TASK			
• Understand and apply correct bonding techniques for portable generators	Y	Y	
• Connect single-conductor feeders and distribution	Y	Y	
• Install portable transformers for a given load	Y	Y	
• Determine maximum load for a given power source	Y	Y	
• Understand neutral overcurrent and effects of harmonics	Y	Y	
• Select and size portable feeder cables for a given load	Y	Y	
• Understand and apply branch circuits and feeders for three-phase motors	Y	Y	
• Understand and apply Ground Fault Circuit Interrupters	Y	Y	
• Install portable generators for a given load	Y	Y	
• Understand and apply multi-cable diversity and ampacity adjustment factors	Y	Y	
• Understand and apply NEC and CEC requirements for different types of venues	Y	Y	
• Determine total power requirements for a given system	Y	Y	
• Install distribution system from a single-line riser diagram, exhibit show floor diagram, or power plot	Y	Y	
• Set up portable power distribution systems	Y	Y	
• Provide power for utilization equipment	Y	Y	
• Assemble/install portable power distribution systems	Y	Y	
FOLLOW SAFETY PROCEDURES			
• Perform "live work" on permanently installed distribution equipment	N	N	
• Develop emergency evacuation plans	Y	N	
• Perform testing of emergency lighting systems	Y	N	
• Safely utilize various personnel lifting machinery	Y	Y	
• Understand NFPA70E requirements for Personal Protective Equipment	Y	Y	
• Comply with all codes, standards and national laws	Y	Y	
• Understand emergency evacuation plans	Y	Y	
DETERMINE SPECIFICATIONS			
• Determine power requirements	Y	Y	
• Determine the suitability of permanent power sources	Y	Y	
• Specify portable power distribution equipment	Y	Y	
• Specify cable management systems	Y	Y	
• Interpret plans and create equipment lists	Y	Y	
• Specify low voltage (less than 50V) power wiring	Y	N	
• Specify control, communications, audio and data distribution	Y	N	
• Specify suspension systems	Y	N	
• Select equipment where Listing is required	Y	N	
MAINTENANCE AND OPERATION			
• Maintain and troubleshoot automated luminaires and effects equipment	Y	N	
• Operate entertainment electrical equipment	Y	N	
• Maintain/troubleshoot electrical equipment	Y	N	

<http://www.etcp.esta.org/>

Chart showing the scope of work for Entertainment Electricians and Portable Power Distribution Technicians

listed for inclusion on an examination. Further, that list is distributed to still more practitioners in the relevant specialty for further review and suggestion. Finally, this culminates in a unanimously agreed upon list of content to be used for every subsequent examination, which also dictates how much of each area of the content will be on every examination (i.e. number of items). This final list of content is called the examination content outline, posted on the ETCP website.

SMEs then use the content outline for the examination to write and review every item that appears on every form of the ETCP examination. This is a huge undertaking

in and of itself, however it is further complicated by the SMEs being asked to write to a variety of content areas, difficulty levels, and item complexities. These varied individual items are then assembled into draft test forms by staff at AMP to exactly match the distribution of items specified in the content outline. The draft test forms are then thoroughly reviewed by ETCP SMEs to ensure all content on the examination is accurate, the items test a wide variety of concepts, and are generally free from error. The SMEs go through this process twice for every form ETCP uses to ensure quality examinations are being used. "The Subject Matter Expert team for the Portable Power

Distribution Technician certification is a group of skilled professionals with many years of industry experience. Both sessions in Kansas City provided a great opportunity for an interchange of ideas that will insure the accuracy and effectiveness of the exam," said PPDT and Entertainment Electrician SME, Steve Terry, "I was thrilled to be a part of the process!"

The process of item and examination form development is repeated annually to keep examination forms current with practice, introduce new content, and ensure the items being used are the best possible items to accurately measure candidate performance. Additionally, new job analyses

are conducted every five to seven years to ensure the entire breadth of content being tested is kept up to date, and the distribution of items on the examinations best reflects actual practice in the entertainment industry.

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Perhaps the most exciting aspect of this certification is that it is entirely employer-driven—employers came to ETCP to request and sponsor the development of this program. Until now, there has been no means to define the skillsets and knowledge of those who *only* deal with power distribution. The creation of the PPDT exam has resulted in two different electrical certifications for ETCP (Entertainment Electrician and Portable Power Distribution Technician), and it is extremely important to the Council and SMEs to ensure that both employers and candidates understand the difference between the two certifications and which populations they are intended to serve. ■



Zachary Irwin is an Associate Psychometrician at AMP, the testing vendor for the Entertainment Technician Certification Program (ETCP) examinations. Zach completed his Master of Science degree in

Industrial & Organizational Psychology in 2009 and joined AMP in 2011. As an Associate Psychometrician, Zach works closely with ETCP in all aspects of psychometric projects including job analyses, item development, and review of statistical analyses.



Meredith Moseley-Bennett has served as ETCP Certification Manager for nine years. Before her time with ETA, she was a costume designer for film, television, and theatre. In addition to working

full time, she and her husband spend their time shaping their precocious four year old daughter and managing a dog-sitting business.