

Company Profile

Power Line

Job Training & Safety

Program

Distribution
& Transmission



MjTS

MERCHANT
Job Training & Safety

Merchant Job Training and Safety Program is a four-year distance-learning curriculum tailor-made for entry-level electric utility personnel. The curriculum complements local safety training and on-the-job training. It most commonly serves as related classroom instruction in apprenticeship programs that lead to journeyman certification. The Merchant Program meets or exceeds the U.S. Department of Labor Office of Apprenticeship's required 144 hours of related classroom instruction per year. It is also well suited for skill advancement of experienced employees with duties ranging from line personnel through management. To date, more than 11,500 trainees have enrolled into the Merchant Program.

Merchant Job Training and Safety's late founder, Dennis "Denny" Merchant spent all of his working days in the power line business. He started climbing poles at age 10, working on an old magneto telephone system that his father owned in the Brookings South Dakota area. Throughout high school, he worked summers for an electrical contractor from



Dennis in his youth, working on his father's telephone system.

Tyler, MN working on overhead telephone systems, municipal street light systems, and municipal electric distribution systems. Later while attending South Dakota State University for electrical engineering, he went to work for Brookings Municipal Electric Line Department. During his career, he held positions of lineman, line foreman, and line superintendent. Later he served as the first department head for the power lineman school at Mitchell Technical Institute in Mitchell, South Dakota. The culmination of his career came when he established his training company, Merchant Job Training and Safety.

Dennis' opportunity to teach the trade he loved came in 1974 while he was working as line foreman for the City of Brookings when the Mitchell Vocational Technical School hired him to start a new power lineman-training program at their campus in Mitchell, South Dakota. At Mitchell, he received training in teaching methods and authoring instructional material. He wrote the technical school's first lineman program curriculum, and his subsequent fifteen years



Dennis in the classroom and out in the pole yard at Mitchell Vocational Technical School.

in the classroom provided first hand feedback for what works, and what doesn't.

While at Mitchell Tech he encountered motivated students with the desire to go beyond the bare-essentials necessary for constructing and maintaining electric systems. They were hungry to learn and understand details of how electric systems operate. Dennis always believed that the men in the trade who understand the systems they are working on are safer, more productive, and more motivated. They are also better equipped to gain knowledge through their experience that enables them to advance in their careers.

After writing the curriculum for Mitchell Tech, the South Dakota Rural Electric managers approached Dennis about writing a training program for them. They needed to train apprentices, but they also needed to train people that they already had. The school did not want to be involved, but the managers persisted and convinced him to write a program on his own. Over the next several years, Dennis taught during the day and spent his nights and weekends writing. He was still writing workbooks two, three, and four of the program when under intense pressure from the rural electric companies, he launched his new enterprise. In 1984, he began accepting applications from companies to start trainees in the first year of his training program. As they worked through workbook one, Dennis continued writing feverishly to stay ahead of the trainees, completing each workbook just before they were ready to move on to the next workbook in the sequence.

Despite the fact that Dennis never advertised or promoted his training program, its use across the electrical industry grew. By 1989, the total number of trainees who had enrolled into the Merchant Program



Merchant Job Training and Safety Client Map

exceeded 600. It was then that Dennis decided to retire from teaching at Mitchell Tech make Merchant Job Training and Safety his full time focus. At the time, Dennis and his wife Dorothy were running the business out of the basement of their home in Mitchell, South Dakota.

Dan Merchant, Dennis and Dorothy's son, worked for the business during summers while he was in college. He began working for Dennis full time after graduation in 1990. At Merchant Job Training and Safety, Dan wrote and maintained the databases that track student records. However, Dan's biggest focus has been shepherding Dennis' program through various authoring and printing systems. Dennis started on a Royal Typewriter, then moved on to a Radio Shack Model 4, through a series of more modern computer and printing systems, as the technology advanced. Merchant JTS has gone from printing on a black and white offset press in the beginning, to today's modern color print on demand system from Xerox. In addition, Dan spearheaded a database system to help trainees with selected questions that they miss on section tests. Where appropriate, trainees receive test results with an assist, which includes computer-generated graphics where appropriate. Dan also served as project



Dan in Nicaragua with NRECA International's Hank Weiss

manager and liaison to The National Rural Electric Association International in their effort to translate the Merchant Job Training and Safety Program to Spanish so that they could offer it to electrical workers in South and Central America. To date, NRECA has trained around 700 Spanish speaking electrical workers using The Merchant Program.

In 1997, Dennis and Dorothy moved from Mitchell to Brookings South Dakota. At that time, they moved their business out of their basement into a small office in Brookings. In 1999, they hired Lori Bjorklund to handle all of the day-to-day office work, including answering the phone, grading and recording tests, sending out monthly reports, and providing transcripts. Lori is a great addition to the enterprise. Her organizational skills and attention to detail guarantee that at the end of each day, nothing is overlooked or left undone.



Lori Bjorklund, Office Management

In 2001, Dennis hired his son-in-law, Dave Bezesky. Dave earned a bachelors of science in Electric Power Transmission and Distribution System Engineering from Michigan Technological University, with a strong elective concentration in automatic control systems. Before coming to Merchant Job Training and Safety, Dave worked as a field service engineer repairing electrical equipment, and as a research and development engineer. Dave was working as a senior product engineer in product development for Siemens Energy & Automation when Dennis asked Dave to come on board at Merchant Job Training and Safety. At Siemens, his responsibilities included new product development for manufacturing facilities in Norwood Ohio, Little Rock, Arkansas, and Guadalajara, Mexico, as well as interfacing with Siemens Controls group in Alpharetta, Georgia. He also coordinated product design efforts with the product group in Nuremburg Germany, which entailed extensive travel throughout Europe. Dave also represented Siemens on a National

Electrical Manufacturers Association standards working group, helping write the NEMA Application Guide for AC Adjustable Speed Drive Systems. He also represented NEMA on an International Electrotechnical Commission's (IEC) working group formed to develop and write standards for applying electrical insulation systems with AC adjustable frequency controls. Dave is a member of the Institute of Electrical and Electronics Engineers. He authored technical papers for IEEE publications, one of which received IEEE Industry Applications Magazine's paper of the year award. Dennis felt that Dave's technical and industrial background along with his love of writing would be a perfect fit at Merchant Job Training and Safety.



Dave Bezesky, Electrical Engineer

Here at Merchant Job Training and Safety, Dave relieved Dennis from many of his day-to-day responsibilities, and took over answering questions and giving assistance to trainees. He made a point of tracking frequently asked questions, and then revising the workbooks material on those particular topics. These revisions resulted in a steady decline over time in the number of questions coming into the office. Dave also rewrote the units of instruction on basic electricity, adding content to alleviate the need for trainees to buy a supplemental textbook on basic electricity.

When Dave came to work full time, his wife Tracy, Dennis and Dorothy's daughter, began working part time for Merchant Job Training and Safety. Tracy's over 30 years of experience as an illustrator, graphic designer, and artist in the fields of advertising, publishing, and entertainment are valuable to the company's ability to provide professional graphics and illustrations that augment the technical instruction. Tracy helps with the graphic design of the website, develops illustrations and graphics for the workbooks, and graphics for the online assistance available to trainees working through the Merchant Program.



Dennis and daughter, Tracy Bezesky, working together on Illustrations

Freed from his day-to-day responsibilities of running his business gave Dennis the opportunity to work on a project long requested by his clients. They were looking for an advanced program to utilize for continuing education. Feedback Dennis got from the industry was that many companies would prefer having a structured program for their employees to work on for review and for advancing their skills. Many feel that approach is a better than sending employees to short intensive workshops. At intensive workshops, trainees are fed so much information in a short timespan, they cannot adequately process and retain it long term. In January 2005, Dennis made a Fifth Year Advanced Workbook available. The advanced workbook reviews transformer connections, and goes into greater depth on transformer banking, capacitor banking, horizontal directional drilling, protective relaying, and power factor correction.



Dennis with his son, Dan Merchant

In addition, at the request of many utility clients, Dennis assembled a training program for metermen. The program patterns itself after the lineman program. That is, the Meterman's Program uses many units of instruction from the lineman program that apply to metermen; examples include electrical math and basic electricity. Dave and Dan assisted Dennis with assembling the program, and organizing the content into a logical sequence. Dennis released his Meterman's Program in January 2009.

Currently, two community colleges use Merchant Job Training and Safety Program in their lineman pre-apprentice curriculums. They are Western Nebraska Community College, and Rocky Mountain Lineman School at Trinidad State Junior College. The Rocky Mountain offers their program in cooperation with Pike's Peak Community College and Colorado Springs Utilities Department. Western Nebraska Community College's program spans one year. Students work through and get credit with our office for the first three workbooks of the Merchant Program. Once a company hires their graduates, they can pick up with the Merchant Program's fourth year workbook. Rocky Mountain Lineman School has a program that spans 15-weeks. Students complete workbook one of the Merchant Program while they are in school. Once a company hires them after graduation, they can enroll and start into workbook two of the Merchant Program. The Western Nebraska Program began in May 2006. They have since graduated 149 students. Rocky Mountain Lineman School began in September 2008. So far, they have graduated 309 students.

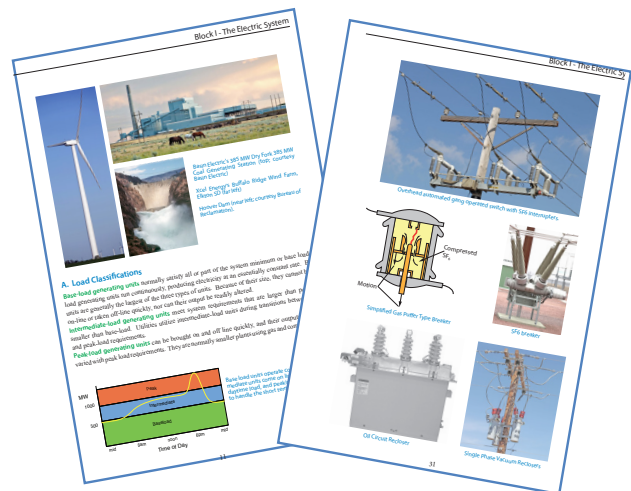


Rocky Mountain Lineman School's, Fall 2014 Class



Western Nebraska Community College's 2013 Graduating Class

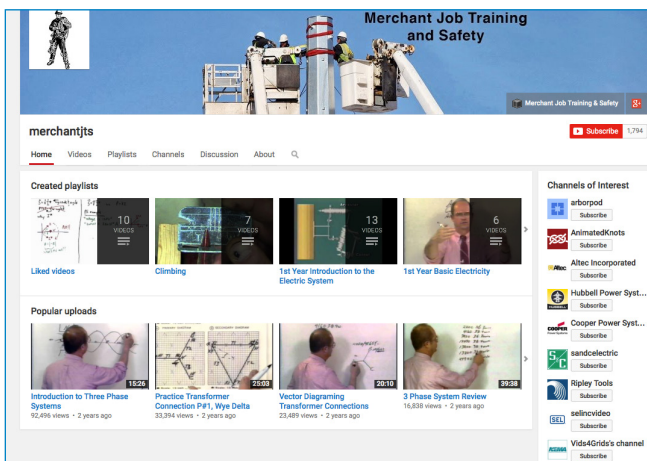
Subsequent to Dennis' death in January 2012, Dan and his sister Tracy took over the business. They transitioned the printing system to our current color Xerox on demand printing system. Since then, Dave has been working on a major update and rewrite of the program. Tracy and Dave are working together to transition photographs and illustrations to full high resolution color. Updates to workbook one are nearly complete, and work is starting on workbook two. After completing updates to units of instruction for the Lineman Program, we also integrate those that are common to the Meterman's Program into those workbooks. Because we do our printing on demand, as new workbooks are printed they all contain the latest updates.



Updates in Workbook One

Later in 2012, we digitized a series of videos that Dennis recorded in the early years of Merchant Job Training and Safety. Dennis set up his own studio and recorded lectures onto videotape, covering topics that frequently cause trainees to struggle. Over the years, trainees having difficulties found them to be extremely helpful. However, because the lectures were on videotapes, they were time consuming and

expensive to reproduce and distribute. Now that they are in digital format, Dave uploaded most of them onto YouTube and organized them into playlists, making them easy for trainees to find when they need help. The videos are freely available to anyone who wishes to view them. Currently the videos reside at www.youtube.com/merchantjts. There are nearly 1800 subscribers to the YouTube Channel, and over 320,000 video views. Recently, Dave purchased a Wacom Cintique digitizing tablet. He is practicing with it by recording short video responses where appropriate to questions phoned into the office by trainees. His goal is to record an additional series of lectures, redo the transformer connection videos in High Definition, and to record a video solutions manual for the workbook assignment sheets.



Merchant Job Training and Safety YouTube Channel

In 2013, Jon Fradet joined the Merchant Job Training and Safety team as our Director of Client Services. Jon has worked as an account executive in the telecommunications and data center industries for over the last seventeen years and brings with him a valued experience in working with businesses of all sizes. Jon believes that the key to a healthy client/provider relationship is the establishment of trust between the two businesses. Jon's roles with Merchant Job Training and Safety include working with existing clients, assisting them with their current program or helping them with new program needs. Jon also focuses on new business development and spends time attending association and trade show events around the country. As needed, Jon also assists existing or new clients with registration of their program with the U.S. Department of Labor, Office of Apprenticeship.

The Merchant Job Training and Safety program owes its modular construction to the training Dennis received when he was working in the classroom. The format for the Merchant Program differs somewhat



Dave, Dan, and Jon meeting in the break room.

from most other classroom-related training programs. Traditionally, most classroom-related training introduces material in blocks. Subject matter blocks may include topics such as basic electricity, the electric system, electrical math, or transformers. Trainees work through each block from start to finish, test on that material, and then move on to the next block. Once they move on, they likely will not study that topic again until another year of the training program, if they see it again at all. Dennis took a different approach, based on his classroom experience and training that he received on organizing curriculum. He referred to this format as the National Format for Vocational Training. The format organizes the subject matter into blocks, similar to many other training programs. Then Dennis subdivided each block into "bite sized" units of instruction. Then he interleaved the smaller units of instruction from different but related blocks into sections containing either three or four units of instruction. Trainees study each unit of instruction and then work through a set of assignment sheets. After completing the units in a section, trainees review each unit in the section, and then take a section test. When they finish a workbook, they review again and then take a comprehensive final test over the entire workbook. The process of review and retest serves to ingrain the material deeper into the trainee's memory.

Dennis noticed that students taught in this manner exhibited better long-term retention of the material. He also noticed that over the long run, students demonstrated better proficiency in skills that they learned this way compared to those who learned in the traditional block style of teaching. Research conducted by the Bjork Learning & Forgetting Lab at UCLA demonstrates that Dennis' observations were correct. The studies proved that making use of spacing and interleaving to present new material produces

better long-term results than the traditional approach of teaching material in blocks. This is in spite of the fact that those who learn by both methods will likely tell you that they learn easier and more quickly by the blocked method. The explanation for that is, those learning by the blocked method convince themselves incorrectly that they are making better progress with the blocked method. They feel that they have made a quantum leap in skill advancement because of the concentrated focus on a single topic. Test results indicate otherwise however. This topic is of great interest to us because the spacing and interleaving approach to presenting material lends itself particularly well to on-line learning.

Dennis' dedication to providing the best training possible to the energy industry was infectious to all who spent time working along side of him. We look forward to completing updates to the training program that Dennis started over 30 years ago. Additionally, we aspire to answer the call from long time clients who have asked us to develop programs for training workers specifically in the areas of power substations, power system protection, and system operations. We get up every morning with one goal in mind. To provide the best possible service and to continue setting the standard in electrical energy industry training, and to carry on the legacy that Dennis worked so hard to put into place.



Left to right: Jon Fradet, Dorothy Merchant, Dan Merchant, Lori Bjouklund, and Dave Bezesky. Tracy Bezesky not pictured here.



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