

TECHNICIAN CERTIFICATION FOR THE HVACR INDUSTRY \ AUGUST 2023

NATE

M A G A Z I N E

Leading by Example

GEARING UP FOR EMERGING
TECHNOLOGY

THE BENEFITS OF THE
C3 PROGRAM

A STRONG
PARTNERSHIP

A PASSION
FOR IAQ

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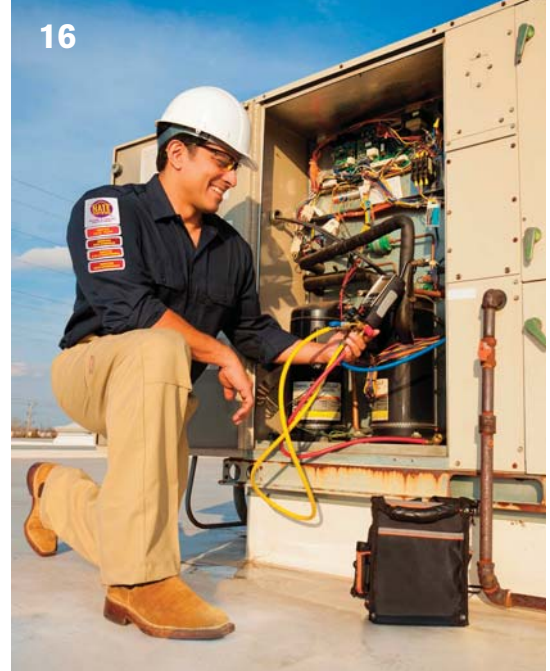
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CONTRACTORS PLAY A CRUCIAL ROLE IN OUR INDUSTRY—AND FOSTERING TECHNICIAN TRAINING AND PROFESSIONAL DEVELOPMENT.



Since 1997, NATE has been committed to offering professional HVACR technician certification. Our NATE certification exams align with the latest technological advancements and industry best practices to ensure that NATE-certified technicians are among the finest in the industry. We understand the crucial role contractors play in our industry and their importance in technician training and professional development. Contractors are some of the most important figures in our industry when it comes to aiding technicians in their preparation for NATE certification and fostering their ongoing growth and success. In this issue, we are featuring contractors who are committed to helping their technicians succeed, as well as ways NATE supports contractors.

One of the key benefits of partnering with NATE is the opportunity for contractors of all sizes to participate in the NATE Consumer Contractor Connection (C3) program. By becoming a member of our C3 program, you not only gain access to professionalism, customer confidence, and increased profitability but also unlock the potential to reach new customers. Whether you run a one-person shop or have NATE-certified technicians in multiple locations, our C3 program provides an exceptional platform to showcase your commitment to excellence. In this issue, you will find our interviews with contractors from across the country that are involved in the C3 program and learn more about how partnering with NATE helps their business.

We are also working hard to support contractors as state and federal regulations evolve to address climate change. New York state is leading the way in phasing out fossil fuel-burning furnaces, affecting the way heat pumps and other residential HVACR systems are used in the state. We spoke with NATE Technical Committee members Jose De La Portilla, senior manager of education and training, Rheem, and Chuck White, vice president, technical code and services, Plumbing Heating Cooling Contractors Association (PHCC), about energy-saving technologies and how NATE has been updating exams to reflect the changes.

At the latest NATE Board of Trustees meeting, we introduced several new members. In this issue, you will learn more about the newest additions to NATE leadership, including Don Brenneman, Airefco; Jon Hirsch, Auer Steel; Terry Tanker, HVACR Business; Steve Widhalm, Thermal Services; and Luke Wrona, Cardinal Heating. The NATE Board of Trustees plays a crucial role in guiding and overseeing the strategic direction, policies, and initiatives of our organization. We are proud to have such strong industry leaders step on to our leadership team.

At NATE, our mission is to lead the industry in the development and recognition of professional HVACR technicians, and it all begins with our contractors. Together, we strive to build and acknowledge the core of our industry — professional HVACR technicians. Without the unwavering dedication of contractors like you, we wouldn't be where we are today. Your expertise and commitment help shape our industry's future, driving innovation and ensuring optimal comfort and safety for homeowners everywhere. Thank you for your ongoing support, and we look forward to continuing our journey together. ●



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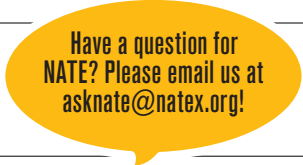


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You Asked, We Answered

QUESTIONS ASKED BY NATE-CERTIFIED TECHNICIANS, ANSWERED BY THE NATE TEAM AND SHARED WITH YOU.



I HAVE A QUESTION, BUT I CAN'T MAKE A CALL. CAN I TEXT MESSAGE NATE QUESTIONS?

Yes, there is a new way to contact the NATE customer service team. You can now text us at 703-945-1914 to connect with a NATE customer service representative. You can also message us on Facebook by searching @NATETechnicians. If you prefer phone or email communication, you can also call us toll-free at 877-420-6283 (NATE), or send us an email at askNATE@natex.org. The NATE customer service team is available 9 a.m. to 5 p.m. Monday through Friday.

I AM A NATE PROCTOR AND JUST COMPLETED A TESTING SESSION. HOW LONG CAN I KEEP THE PAPER EXAMS?

Used exams must be mailed to NATE within two business days of the test session. You should verify you and the candidate have both initialed and sealed their exam materials before mailing. Additionally, you should make sure all test booklets and materials (including the Mylar pack the test came in), as well as the test session audit form, are placed in the envelope. Please make sure packages have a tracking number.

If you have any unused exams, you can keep test booklets and materials in a secure location until your next scheduled exam session.

IN WHAT LANGUAGES DO YOU OFFER NATE EXAMS?

Currently, NATE offers the following exams in Spanish:

- Ready-to-Work Exam
- HVAC Support Technician Exam
- CORE Exam
- Air Conditioning Service Exam
- Air to Air Heat Pump Service Exam
- Gas Heating Service Exam

If you wish to take the exam with a translator, please complete the Request for Non-standard Accommodation form.

Please note that for remote Live Online Proctor (LOP) sessions, translators cannot be used, and candidates are not permitted to use online translation services, translation dictionaries, or any other outside materials during the exams. If you are registering for a Spanish exam online using LOP, Examity proctors will speak English only. The proctors' responsibilities will be to greet and set you up at the start of the exam, and to monitor the testing room for the duration of the exam.

Word Search

1. Expertise	O J O Y D Y E R E X Y I D T P
2. Global	F B H U B G T S T Z J K D R V
3. Refrigerant	F B R A N P I I Z W D F C O X
4. Flow	R U F A Y T D E C B C A X F U
5. Install	R E H Z R H V C I A C F O M G
6. Regulation	Y C F E G L O B A L P O B O P
7. Capacity	A T P R E U G D I R E A I C W
8. Comfort	H X E F I N E S T I X P C L H
9. Change	E F N F S G E W N D A L I I F
10. Finest	E D O C A R E S G I M U O Q L
11. Coil	D J H O V S T R D Y U W W E O
12. Exam	G T Y I P A K I A Z O E E U W
13. Service	C L C I L G D S Z N R H E R D
14. Code	O E B L D D Z X B W T Z Z G Q
15. Safety	N O I T A L U G E R A N K V A

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NATE News

NATE INTRODUCES NEW MEMBERS TO BOARD OF TRUSTEES

NATE recently welcomed five new members to the Board of Trustees. Don Brenneman, Airefco; Jon Hirsch, Auer Steel; Terry Tanker, HVACR Business; Steve Widhalm, Thermal Services; and Luke Wrona, Cardinal Heating, were elected by the current Board of Trustees members to join. The NATE Board of Trustees plays a crucial role in guiding and overseeing the strategic direction, policies, and initiatives of our organization. NATE is proud to have such strong industry leaders step on to its leadership team and is looking forward to the expertise and experience they bring to the organization. The next NATE Board meeting will take place in October 2023 at NATE's headquarters in Arlington, Virginia.

SPANISH LANGUAGE TRAINING RESOURCES AVAILABLE IN NATE ONLINE STORE

NATE currently offers Spanish-language versions of the Core exam, the Air Conditioning, Air to Air Heat Pump, and Gas Heating (Air) Specialty exams, as well as the EPA 608 exam and the Ready to Work and HVAC Support Technician entry-level certificate exams. Additionally, NATE offers Spanish-language study guides for the Ready to Work and HVAC Support Technician entry-level certificates in the NATE Online Store: www.NATEX.org/shop.

Are there exams and other resources you would like to see translated into Spanish or another language? To provide feedback or for more information about NATE's translation process, contact NATE's Marketing Manager Daisy Weill at dweill@natex.org.

EXPAND YOUR REACH FOR FREE WITH NATE'S CONTRACTOR LOCATOR

Did you know that NATE allows contractors of all sizes to participate in the NATE Consumer Contractor Connection (C3) program? When you become a member of the C3 program, you gain access to new customers and benefit from association with the leading certification organization in HVACR. As a C3 member, you can register for a free listing on the NATE Contractor Locator, which receives more than 5,000 visits monthly. Additionally, contractors gain expanded access on their myNATE account to track their technicians' certification progress and recent continuing education hours (CEHs).

To qualify, at least 25% of a contractor's eligible service and installation technicians must be NATE-certified. Membership is free, and the application is available on the NATE website.

Low-GWP Refrigerant Certification

The Industry's Refrigerant Certification

NATE is proud to introduce a new refrigerant exam and certification, designed to validate a technician's knowledge of low-global warming potential (GWP) refrigerants.

The NATE low-GWP Refrigerant Certification ensures that HVACR engineers and technicians have the necessary skills and job knowledge to handle refrigerants of all types.

Study Guide Now Available on
the NATE Online Store

www.NATEX.org



Leading by Example

NATE'S BOARD OF TRUSTEES KEEPS THE GROUP'S—AND INDUSTRY'S—BEST INTERESTS AT THE FOREFRONT.

The short version of the purpose of a board of trustees is to protect an organization's best interests through decisions made on its behalf, but that just scratches the surface of what the board really does.

Luke Wrona, training manager at Cardinal Heating and Air Conditioning, Sun Prairie, Wisconsin, and an incoming trustee, says it is important that NATE is guided by a board of trustees.

"I believe that there is value in the different experiences each of us in the industry has had," he says. "A board of trustees encapsulates that. The different perspectives each board member brings to the table helps to make NATE an industry standard."

Wrona entered a 9-month-long HVACR training program at a local trade school after a recruiter visited his high school. He graduated from the program in 2005 and ran residential service until January 2022, when he took over the training program at Cardinal Heating and Air, a family-owned business with about 150 employees.

New trustee Jon Hirsch is director of business development at Auer Steel & Heating Supply Company, Milwaukee, Wisconsin. He's been in the industry since graduating from college in 1985. He's been with Auer, which has nine locations and 300 employees, for 20 years in a variety of roles. In his current role, Hirsch collaborates with the company's sales and marketing teams to provide various business development services to customers.

"What I love about the makeup of the NATE board is that it is comprised of a diverse group of industry professionals with varying backgrounds in the heating, ventilation, and air conditioning profession. So what better group to help?" he says. "[The board]

ensures that what NATE is doing in the way of training certification complements the needs of the industry and today's consumers. I applaud NATE because they're tapping into industry experts to help guide them on their journey—and help them to deliver



"I BELIEVE THAT THERE IS VALUE IN THE DIFFERENT EXPERIENCES EACH OF US IN THE INDUSTRY HAS HAD. A BOARD OF TRUSTEES ENCAPSULATES THAT. THE DIFFERENT PERSPECTIVES EACH BOARD MEMBER BRINGS TO THE TABLE HELPS TO MAKE NATE AN INDUSTRY STANDARD."

— Luke Wrona, incoming trustee and training manager at Cardinal Heating and Air Conditioning, Sun Prairie, Wisconsin



“THE DIVERSIFICATION OF THE BOARD IS VAST AND REPRESENTS MANUFACTURING, DISTRIBUTION, CONTRACTING, AND OTHERS ALLIED TO THE INDUSTRY—AND ENSURES MANY POINTS OF VIEW ARE CONSIDERED WHEN MAKING DECISIONS ON BEHALF OF NATE.”

— Terry Tanker, incoming trustee and the owner and publisher of *HVACR Business*

what the industry needs in the way of training and certification.”

Terry Tanker, another incoming trustee and the owner and publisher of *HVACR Business*, based in Cleveland, Ohio, explains the role in greater detail. “The board of trustees,” he says, “is in place to manage and govern the assets of a nonprofit organization like NATE. Our duty as board members is to protect the organization’s best interests through decisions made on its behalf.

“The core responsibilities of trustees” he continues, “are to ensure good governance practices, perform

fiduciary duties, and provide overall direction for the organization. The diversification of the board is vast and represents manufacturing, distribution, contracting, and others allied to the industry—and ensures many points of view are considered when making decisions on behalf of NATE.”

ADDING VALUE

Trustees are nominated by other members of the board and serve two-year, rotating terms. They meet twice a year to find ways to improve the current system or to go over current policies, according to Wrona. The

new group of trustees will attend its first board meeting in October. The position is a volunteer one.

“When beginning my career in HVACR, becoming NATE-certified was a goal I wanted to achieve because of the value it holds in the industry,” Wrona says. “Choosing to be on the board was an experience I wanted to undertake because I believe I can help add value to the organization with my 20-year industry experience.”

Hirsch’s goal is to help accreditation attain a higher status among those in the industry.

“As a board member,” he says, “I hope that I can help NATE, with the collaboration of our board, to help contractors better appreciate and support NATE certification for their employees, so that...they can be enthusiastic and excited about utilizing the tools and resources and carrying the accreditation of being NATE-certified technicians. To me, NATE should be seen as an industry ally and a partner, because I think that really is our intention—to make the industry better and to support our contractor audience.”

Tanker, who previously was publisher of several titles in the HVACR space, says he decided to participate on the board because he believes in NATE’s mission and the value of a technician’s certification—and that it makes the industry stronger.

“I’d like to help guide the organization based on my knowledge of contractors,” he says. “I’ve been involved with many different aspects of the industry since 1999. I believe, as a trustee, we have to focus on solid goals for the organization. Those goals have to be specific, attainable, measurable, and timely.”

Because the position as a NATE board member is voluntary, it requires dedication to the group and to the industry to be involved. Hirsch

already serves on 15 technical advisory boards as part of his role at Auer Steel & Heating Supply, and he says outreach to the industry is at the core of his position.

"I'm fortunate that I work for a distributor that recognizes the importance of helping the industry as a whole be better. Working for a company that supports me and invests the time and energy feels good. I've been in the HVACR profession my entire career. I really love this industry and believe in it, and enthusiastically want to help the industry. I think NATE is a great organization to give back through participation in the board. Whether it's my personal time or some of my professional time, I think I'll get back way more than I give in terms of the investment of time."

IMPORTANCE OF NATE

NATE was incorporated in February 1997 with representation from the contracting, distribution, manufacturing, and utility communities as well as several trade associations. An interim board of trustees was appointed, while sector committees (precursor to today's Technical Committee) provided advice on test development. The first NATE tests were administered nationally on November 8, 1997.

"The industry needs a recognized standard and authority for training and certification," Tanker says. "Customers want to know that knowledgeable, highly trained, and certified technicians will be entering their home or place of business. NATE fills this role and has for more than 20 years."

Wrona agrees: "NATE is wonderful for the industry, not only because it motivates technicians to be more engaged and continue education but also because it can help consumers know they are making the right choice when picking a contractor."

PREPARING TO MEET FUTURE DEMANDS

Going forward, the new board members anticipate NATE—and the board—continuing to help the industry adapt to changes that inevitably will affect HVACR.

"The HVACR industry is changing constantly," Wrona says. "It is important to stay ahead of new technologies as well as policies on energy and environmental standards. NATE helps technicians learn these new policies and standards through certification and events."

One of the biggest issues facing the HVACR industry is employment, according to both Tanker and Hirsch.

"The demand for technicians is growing at a tremendous pace because older technicians are retiring and new techs are not entering the workforce," Tanker points out. "New employees want to know there is a clear career path. Great companies want great employees, and the way to get them is through training, education, and certification. It's a win for the employee, the company, and the customer."

Hirsch points out the fact that unemployment is at a 50-year low, which has led to the HVACR industry struggling.

"An opportunity that NATE could explore is to find a way to get the NATE organization in front of the next generation of prospective workers, maybe through the technical college system. That's a collaborative avenue to help draw more people into our profession because the labor shortage isn't going away. If we can help the next generation of workers be better educated and informed and qualified for doing their jobs, that should result in them having higher income potential—and our industry wins." ●

Elaine Yetzer Simon is a contributor to the *NATE Magazine*.



"IF WE CAN HELP THE NEXT GENERATION OF WORKERS BE BETTER EDUCATED AND INFORMED AND QUALIFIED FOR DOING THEIR JOBS, THAT SHOULD RESULT IN THEM HAVING HIGHER INCOME POTENTIAL—AND OUR INDUSTRY WINS."

— Jon Hirsch, new trustee, director of business development at Auer Steel & Heating Supply Company, Milwaukee, Wisconsin.

Gearing Up for Heat Pumps and Green Emerging Technology

AS JOB TASKS CHANGE FOR TECHNICIANS, NATE CERTIFICATION PROGRAMS AND STUDY GUIDES EVOLVE AND STAY CURRENT.



Without a doubt, New York state is leading the way in phasing out fossil fuel-burning furnaces to help address climate change, says Jose De La Portilla, senior manager of education and training at Rheem and a member of the NATE Technical Committee. “The New York state legislature passed a measure on May 2, 2023, that would ban natural gas appliances in new buildings. The measure prohibits the installation of fossil-fuel equipment in buildings of seven stories or less in 2026, with the ban for larger buildings starting in 2029 (with exception provisions).”

De La Portilla adds that other states, such as California, have announced their intention to set zero-emissions regulations. “But New York is the first to pass a state law banning gas appliances.”

Greg Lancette, president of New York State Pipe Trades Association (NYSPTA), says the recent legislation sets the Empire State apart: “New York state’s new regulations covering heat pumps and HVACR systems are differentiating it from the rest of the U.S. and other states by emphasizing the adoption of energy-

efficient technologies. The state has implemented aggressive clean energy goals and targets, and as a result, the regulations place a stronger emphasis on the use of heat pumps and other energy-efficient HVACR systems.”

The NYSPTA is made up of 14 local unions consisting of 25,000 members who perform plumbing, heating, cooling, and sprinkler installations in the construction and service segments of the pipefitting industry throughout the state of New York.

The use of heat pumps is growing quickly in heating and cooling applications. Americans bought more than 4.3 million heat pump units in 2022, compared to roughly 3.9 million natural gas furnaces, according to estimates from the New York State Energy Research and Development Authority.

Rheem’s De La Portilla has observed that over the past few years, there has been a noticeable rise in the sale of heat pump systems. “Homeowners, in particular, are becoming increasingly informed about heat pump technology and actively seeking its implementation. As a result, contractors are actively seeking to expand their knowledge and understanding of this technology, which may be relatively new to them.”

La Portilla adds, “Although heat pump technology itself is not a recent development, ongoing improvements

in the design and operation of heat pumps have significantly raised awareness and generated increased sales of heat pump systems.”

GETTING A LEG UP

“Sales of heat pumps recently surpassed sales of furnaces for the first time ever, and that’s just the beginning. Heat pumps are on the verge of just really taking over and dominating in the marketplace probably in the next two to five years,” says Charles (Chuck) White, vice president, technical and code services, at the Plumbing-Heating-Cooling Contractors Association (PHCC). He is also a member of the NATE Technical Committee and has worked in the HVACR industry for 45 years. “I would expect there’s going to be continued significant sales growth. To have NATE certification as a sign of your competence with those products and technology is just going to give you a leg up in the marketplace.”

NATE offers a variety of exams and certification programs that cover heat pumps and other energy-efficient technologies. Some of the NATE exams include: the Low-GWP and Heat Pump Service exams, the Certified HVAC Professional (CHP-5, which covers Heat Pump topics in addition to others), Heat Pump Installation, and Air Distribution Installation and Service.



“SALES OF HEAT PUMPS RECENTLY SURPASSED SALES OF FURNACES FOR THE FIRST TIME EVER, AND THAT’S JUST THE BEGINNING.”

- Charles (Chuck) White, vice president, technical and code services, at the Plumbing-Heating-Cooling Contractors Association (PHCC)

“THE NEW YORK STATE LEGISLATURE PASSED A MEASURE ON MAY 2, 2023, THAT WOULD BAN NATURAL GAS APPLIANCES IN NEW BUILDINGS.”

- Jose De La Portilla, senior manager of education and training at Rheem and a member of the NATE Technical Committee.



The exams help HVACR technicians prove their knowledge and value as they install and maintain energy-saving technologies in New York state and elsewhere in the U.S., White explains: “If a technician is NATE-certified, that’s going to give a significant advantage to him/her when you are marketing yourself to install heat pumps and perform maintenance on those products. The NATE certification demonstrates that you understand the product and the technology.”

PHCC’s White says everyone can be confident and have peace of mind when NATE-certified technicians are working on their HVACR equipment. “The most important factor for NATE is that the test is verifying that the technician that’s coming out there to the customer-homeowner understands the process and is competent at

both the installation and the servicing of these products.”

White explains that today’s technology is pricey. “Any HVACR equipment or product today, but heat pumps in particular, are expensive devices. It’s a sizable investment for the owner, and to have it installed properly and maintained and serviced properly—to keep it at its peak efficiency operation—that is really crucial and essential. It’s a very high priority.”

Unfortunate decisions, adds White, could lead to reduced HVACR system performance. “Because if the customer is not keeping the unit clean or not changing the filters regularly—that neglect will affect performance.” He explains that a variety of tasks in the installation process could be done wrong. “It just kills the performance of that device. So the customer has spent good money to get high efficiency, and then they just don’t get all of that benefit. Often, untrained or unqualified workers either incorrectly install or service the unit, or the ducts being used are wrong.”

HVACR customers and consumers can rest assured that technicians who have passed NATE certification exams know the technology and proper installation and servicing, White explains. “NATE certification exams are challenging. You really need to know your stuff to pass NATE tests.” NATE-certified technicians can



“NEW YORK STATE’S NEW REGULATIONS COVERING HEAT PUMPS AND HVACR SYSTEMS ARE DIFFERENTIATING IT FROM THE REST OF THE U.S. BY EMPHASIZING THE ADOPTION OF ENERGY-EFFICIENT TECHNOLOGIES.”

– Greg Lancette, president of New York State Pipe Trades Association

take pride in the fact that they hold a certification that truly demonstrates the quality of their HVACR knowledge and expertise.

White notes that the NATE test questions are reviewed and updated periodically by the NATE Technical Committee to keep exams relevant and fresh. He says quality control is ensured through the following: “Through statistical analysis of test questions via computer, you can determine if a question is good and valid and performing well, or the analysis can spot questions that might be misleading or problematic.”

White says the NATE Technical Committee checks out NATE exams for statistical question marks. “The committee will look at the analysis and make an evaluation. Committee members may say, ‘No, that question is correct—maybe this is a good, satisfactory question, and test-takers aren’t sure or don’t really know the answer.’ It can help test-takers pinpoint where they need more training and education, or sometimes there might be some discrepancy in the question, and then the committee can react and make changes or updates. But usually it’s an indicator of where there are some weaknesses in the training world and/or weaknesses in the technical knowledge of the workforce. Like I said earlier, NATE provides challenging certification exams.”

Rheem’s De La Portilla also sees great value in NATE’s offerings. “The NATE study guides and learning resources,” he says, “serve as valuable tools for understanding these new energy-efficient technologies.

“The exams themselves,” he continues, “are designed to assess and validate an individual’s understanding of the subject matter. By studying the prep guides and utilizing other educational resources provided by NATE, technicians can gain a solid foundation of knowledge about heat pumps and related energy-efficient technologies. This understanding enables technicians to better embrace and work with these advanced technologies.”

De La Portilla offers this conclusion: “By leveraging these NATE resources, technicians can enhance their skills and adapt to the demands of new energy-efficient technologies in the HVACR field.”

SHIFTING TECHNOLOGIES

Times are changing, and so is technology, says Greg Lancette at the New York State Pipe Trades group. He says green and energy-efficient technologies are changing the education needed and tasks performed by workers in the HVACR field. Those technologies, he says, include the following: heat pumps, smart HVAC controls, energy management sys-

tems, and renewable energy systems like solar and geothermal. “These technologies require technicians to have a deeper understanding of electronics, computerized controls, and energy-efficient design principles,” Lancette notes.

Indeed, energy-efficient technologies are changing the education needed and/or tasks performed by workers in the HVACR field, says Cristi Pedotto, portfolio leader, ducted split outdoor products at Trane Residential HVAC & Supply. She offers these two examples of energy-efficient technologies that are forcing training and task changes:

- Furnace to heat pump, and
- Ducted furnace to ductless heads

She says colder, northern geographies are where these training and task changes are most often required. “Technicians need to remain focused on proper application, system sizing, and air distribution,” Pedotto explains. She adds that tasks can become more complex when crews are transitioning technology type or application to a new setup that relies on advanced energy-efficient technologies.

Pedotto notes that technologies like heat pump systems have been installed in more temperate climates for decades. She says that in New York state and other northern climates, educational materials are available to train technicians on proper heat pump system selection and installation in colder climates.

Evolving technology can be a factor, Pedotto explains. She observes that most furnaces and single-stage AC/HP systems operate similarly between manufacturers. She adds that a technician that is experienced in one brand will be confident to service another brand. “Inverter systems, however, are more complex, and designs can vary more



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“INVERTER HEAT PUMP SYSTEM DESIGNS CONTAIN MORE OEM-SPECIFIC COMPONENTS WHERE ‘UNIVERSAL’ REPLACEMENTS DON’T CURRENTLY EXIST, MAKING STOCKING FOR MULTIPLE BRANDS MORE CHALLENGING.”

– Cristi Pedotto, portfolio leader, ducted split outdoor products at Trane Residential HVAC & Supply.



significantly from one manufacturer to another. For these system types, technicians will likely need to review the manufacturer’s documentation and training specific to the product platforms they are installing and servicing.”

Related to her views above regarding system brands, Trane’s Pedotto says that some technicians have more experience and familiarity using “universal” components to quickly support multiple manufacturers’ products. “Many contractors choose to stock service trucks with ‘universal’ components to enable their technicians to get the system operational in the first service call (some returning later with the OEM part to be installed under warranty when applicable). Inverter heat pump system designs contain more OEM-specific components where universal replacements don’t currently exist, making stocking for multiple brands more challenging.” Pedotto’s conclusion: “This has the potential to impact the homeowner service experience if seen as a departure from previous experiences.”

Rheem’s De La Portilla says that due to current trends in the industry, it is highly advisable for individuals to begin learning about heat pumps as soon as possible. “As an industry, we must embrace these changes and ensure that we are adequately

prepared to handle the shift towards these technologies.”

He notes that with any evolving technology, acquiring new skills becomes essential in order to effectively work with the equipment involved. “For those interested in working on heat pumps, I would strongly suggest establishing a solid foundational understanding of the refrigeration cycle as it pertains to air conditioning. Since heat pumps employ reverse-cycle refrigeration, it becomes crucial to comprehend how the refrigerant not only removes heat from homes during the summer but also transfers heat into homes during the winter. By grasping the dynamics of this refrigerant flow, technicians can enhance their abilities to comprehend, install, and service modern heat pump systems.”

De La Portilla weighs in with some advice regarding evolving technology: “Workers in the green systems domain need to have a solid understanding of digital controls, digitally controlled motors and devices, and some knowledge of logic circuits. However, these additional requirements should not overwhelm anyone when it comes to service procedures, as they are largely similar.”

He continues: “While advanced control boards are present in green systems, they still rely on inputs to initiate actions and require outputs

to operate various components. These inputs and outputs are primarily based on temperatures, pressures, and setpoints. The key distinction lies in the use of electronics instead of standard electromechanical controls.”

The adoption of green emerging technologies as well as heat pumps will continue to grow, believes Cristian Daily, HVACR industry expert and product manager at Oxbox. He says this trend will continue as regulators and OEMs continue to focus on sustainability. “This, in turn, will require contractors, technicians, and others in the HVACR industry to focus on the technologies, as there will be both a pull from consumers and a push from OEMs and regulators.” Oxbox is an HVACR brand, endorsed by Trane. The firm provides residential HVACR equipment for single- and multi-family customers.

Daily lists the following systems and products that are changing the education needed or tasks performed by workers in the HVACR field: inverter technologies, wireless systems, gauges that communicate with temperature probes, voltmeters, and static pressure manometers. Daily adds that in the short-term, these emerging systems will not drastically change how folks prepare for careers in the industry. “These technologies will only need to be added to the curriculum of the typical HVACR path.”

Daily says NATE certification and re-certification help ensure technicians are staying current on technology: “NATE certification shows that a contractor’s technicians/installers have exceeded the industry standards. There are different levels of certifications within NATE, and this ongoing education helps to prepare the technicians for today’s conditions.” ●

Michael Keating is a contributor to the *NATE Magazine*.

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The Benefits of the C3 Program for Businesses

STARTED AS A RESPONSE TO CONTRACTOR REQUESTS IN REGARD TO HOMEOWNER MARKETING OPPORTUNITIES, THE C3 PROGRAM OFFERS A RANGE OF BENEFITS FOR LARGE AND SMALL BUSINESSES ALIKE.



Started as a response to contractor requests in regard to homeowner marketing opportunities, the C3 program offers a range of benefits for large and small businesses alike.

NATE was incorporated in 1997 when manufacturers, trade associations, and educators recognized the need to strengthen the HVACR industry. Since then, NATE has grown from a single assessment to 23 different exams and presently has certified over 100,000 technicians. NATE is the nation's largest non-profit certification organization for heating, ventilation, air conditioning, and refrigeration technicians.

NATE's Consumer Contractor Connection (C3) program provides support for contractors that employ NATE-certified technicians. The C3 program allows contractors of all sizes to participate. As a NATE C3 contractor, businesses can list their company with NATE, advertise their business for free on the NATE contractor locator pages, and can display the NATE contractor logo on all their promotional materials. With these capabilities, businesses get to help build their visibility beyond what they gain from having NATE-certified technicians alone. Besides gaining access to new customers through the C3 program, contractor members benefit from the professionalism of the NATE branding, which builds customer confidence and leads to greater profitability.

The purpose of the program is to offer a free service where contractors can be found by potential homeowners. Contractors can apply via a simple-to-use online application on the contractor's page of the NATE website (natex.org). To qualify, a contractor must have at least 25 percent of its eligible service and installation technicians



NATE-certified. Upon acceptance, they are allowed to display the Proud to Employ Certified Technicians logo on all their promotional materials.

The attractive Proud to Employ Certified Technicians logo can be placed on all company promotional materials and websites to show customers their commitment to training and certification.

Members of the C3 program are able to manage all of their organization’s technicians’ certifications, keeping track of each technician’s progress, and add or remove technicians when appropriate. They can monitor how many continuing education hours each technician has on file and compare that to how many more they may need. For example, in order to recertify via continuing education hours (CEHs), a technician must submit 16 hours of CEHs every two years.

Homeowners can go to the NATE website and find a local contractor that has certified technicians on staff. All they need to do is enter their zip code for a list of certified contractors. NATE further helps contractors through articles in the *NATE Magazine* and through handouts at tradeshow and conferences.

CONTRACTORS SPEAK OUT

After interviewing multiple contractors about the C3 program, it was easy to see how the program allows them to keep up with all their NATE-certified technicians on one simple platform. According to Richard Porter, training supervisor at Parker & Son, “Every new hire spends several

weeks with me, starting with policy, paperwork, and procedure, before going on the road. During this time, new hires are also encouraged to go through first round NATE certification. Our technicians are the face of our company, and we invest heavily in their continued education.”

Contractors across the board find it a convenient way to keep track of their technicians’ education. Gavan McDonald, service manager for Waldrop Mechanical, believes the biggest advantage to the program is the level of communication that can take place between the company, the customer, and the technician. He explains, “Second to this enhanced communications capability is our ability to track our technicians’ expiration dates and current progress so that we can help them keep up with their education.” The company also actively tracks their technicians’ continuing education hours using their myNATE account.

One of the key components of NATE’s consumer contractor connection is the ability to keep close tabs on their technicians’ expiration dates and current progress during their education.

Steven D. Ford Sr., sales manager at Great Dane Heating & Air Conditioning, believes that training shows how the contractor stands out as the expert in their trade. Certification

promotes and builds value in their relationship with their customer. This shared value places a healthy responsibility on the contractor to provide the education that technicians need. C3 enables the company to track progress.

Great Dane Heating & Air Conditioning provides space for their technicians to advance their studies and maintain their certifications on a continual basis.

Great Dan Heating also encourages their Comfort Consultants to acquire their certification, as well. As a NATE Quality Circle Contractor, all these factors add up so that the company outshines its competitors. Great Dane Heating is proud to promote the NATE logo on its presentation folders, vehicles, and website. Employees carry the logo on their lanyard along with the company ID.

The Morris-Jenkins training manager, Shalan Fry, M. Ed, says that over the past 20 years, the company has tested over 200 employees for NATE certification as well as maintained their CEHs through continuous, relevant training. The company pays for all their technicians’ testing and monitors their team members’ progress through the convenient C3 program. “It is a useful tool to assess a technician’s competency, plus it provides us with their progress throughout their training.”

Reports

Report: C3 Technician Certification

Sample (C3-40142)

14 of 14

C3 Technician Recertification

First	Last	NATE ID	Certification	Expiration	Required	Completed
John	Doe	1025205	Air Distribution Installation	ADIN	10/31/2018	16.0 31.17
John	Doe	1025205	Air Conditioning Service	ACSV	10/31/2018	16.0 31.49
John	Doe	1025205	Light Commercial Refrigeration Service	RLSV	10/31/2018	16.0 0.00
John	Doe	1025205	Air Conditioning Installation	ACIN	10/31/2018	16.0 31.49
John	Doe	1025205	Light Commercial Refrigeration Installation	RLIN	10/31/2018	16.0 0.00
John	Doe	1025205	Air to Air Heat Pump Installation	HPIN	10/31/2018	16.0 31.49
John	Doe	1025205	Air to Air Heat Pump Service	HPSV	10/31/2018	16.0 31.49
John	Doe	1025205	Gas Heating (Air) Installation	GGIN	10/31/2018	16.0 31.17
John	Doe	1025205	Gas Heating (Air) Service	GSSV	10/31/2018	16.0 31.17
John	Doe	1025205	Air Distribution Service	ADSV	10/31/2018	16.0 31.17



Great Dane Heating & Air Conditioning provides space for their technicians to advance their studies and maintain their certifications on a continual basis.

CUSTOMER BENEFITS

One of the most important ways to gain trust with your customers includes providing them with certified technicians. Even if the customer has not heard of NATE certification, the technician exhibits a confidence and competence that shines through every job. As Ford says, “Certification builds trust with the customer that we are the experts.”

Consumers are smarter than ever these days and have heard and/or experienced working with an untrained contractor. This puts them on the lookout for the best trained people in the business and often leads them to the NATE C3 locator page. The statistics available to customers create the perfect introduction to local contractors. “Using the NATE Contractor locator indicates where Great Dane Heating stands among its peers in the local market, allowing the company to separate itself in a favorable light,” Ford adds.

Gavan McDonald of Waldrop Mechanical believes that the company’s ability to advertise on the C3 pages highlights its certified technicians and helps to reinforce to internal and external staff the company’s commitment to ongoing training. A customer’s ability to find a company with certified technicians to assist with their HVACR needs via the C3 program provides a valuable asset for both the customer and the contractor. Being able to look up contractor information also places the customer in the driver’s seat by

providing criteria they need while interviewing potential contractors, allowing them to quickly narrow their choices to only a few.

TECHNICIAN ADVANTAGES

Technicians benefit from certification in a number of ways. On a personal level, it allows them to take control of their career path and show that they have the self-motivation and initiative to take their education to the next level. Certification follows the technician, which means that it has great value even if they move from one company to another. Their information is kept in the C3 network even as they change jobs and continues to show their training progress.

Once a company spends the time and money getting its technicians certified, it doesn’t want to let them go. They become more valuable. According to Ford, “We want all of our technicians to be NATE-certified and set a goal for them to get their certification within one year of employment. We monitor it all through C3.”

Many contractors want their technicians to gain their NATE certification within a year and are able to monitor the employee’s progress using C3.

When a technician is certified, it shows through every interaction they have with their company and the customer. Certification is an asset to technicians as it provides a host of options for certifications that they may want to earn if they are looking

to focus on one or many particular areas of HVACR. Certification is a great tool for a technician looking to find an employer that matches their values for education and reputation, as well. C3 provides an easy to use method to earn training hours, track training, and recertify when necessary.

PROTECTING MANUFACTURERS’ REPUTATIONS

HVACR equipment manufacturers benefit indirectly from the NATE C3 program. While manufacturers can only join the C3 program if they have their own dealer, they can also benefit from the program through their subcontractors. Homeowners gain confidence in the manufacturer whenever they obtain quality service. In this way, NATE-certified technicians and the NATE C3 program help to protect the manufacturers’ reputations by providing tools for their dealers and subcontractors to elevate their status and stand out. Manufacturers can trust that NATE-certified technicians have the knowledge and expertise to properly maintain their equipment—and brand reputation.

Whether you are a small business or large company with multiple locations, NATE’s C3 program is the best way to keep track of your technicians’ certifications and recertifications. It also lets customers know you employ the best trained technicians.

With C3, your company can place ads online and receive a free listing on the NATE contractor locator pages. These pages receive 5,000 visits monthly. With benefits for the manufacturer, the contractor, the technician, and the customer, NATE certification and the C3 program is a highly regarded method of reaching into the community in a positive manner. ●

Terry Persun is a contributor to the *NATE Magazine*.

A STRONG PARTNERSHIP

MINGLEDORFF'S, AN HVACR DISTRIBUTOR, HAS BEEN A NATE TESTING AND TRAINING PARTNER SINCE 2003.



Mingledorff's Inc., an HVACR distributor based in Norcross, Georgia, has been a NATE testing and training partner since 2003. The company's website says it is the leading supplier of heating, air conditioning, and plumbing equipment throughout the Southeast and equips HVACR professionals to succeed through its training.

What sets Mingledorff's apart from other distributors? "At Mingledorff's, we have the entire package for our dealers and contractors," says Harold Nelson, technical support manager, who has been with the company for 38 years and has 51 years' experience in the HVACR industry. "We are a one-stop distributor for our customers," Nelson notes. "Mingledorff's supplies the equipment (residential all the way

up to industrial), HVACR supplies (sheet metal to grills), and business and technical training, along with a wide range of in-house support." The company employs 650 people.

Mingledorff's was founded in 1939 as one of the first Carrier contractors in the country. In 1958, the company left the contracting business and became a wholesale distributor at the request of the Carrier Corporation. In



“WE FEEL THAT OUR DISTRIBUTORS, CONTRACTORS, AND DEALERS WANT TO BE THE BEST IN THE BUSINESS AND, WITH THE SUPPORT AND DIRECTION OF NATE AND NATE CERTIFICATION, THEY CAN BE...WE FEEL OVERALL THAT CERTIFIED TECHNICIANS ARE MORE PROFESSIONAL AND BETTER INFORMED ABOUT THE EQUIPMENT THEY INSTALL AND SERVICE.”

— Harold Nelson, technical support manager, Mingledorff's

those days, HVACR, especially in the residential market, was a rarity, according to Nelson. “We’ve continued to see in the last five years our biggest growth period. The growth in the residential and commercial market here in Georgia is just unbelievable.” Mingledorff’s has been associated with NATE since its two major suppliers (Carrier/Bryant) started the Factory Authorized Dealer (FAD) program in early 2003.

According to the company website, Mingledorff’s provides the following NATE Certification: Basic Knowledge, Gas Furnace, Heat Pump and Air Distribution. “Most, if not all, of the technical training that we provide is set around the Knowledge Areas of Technician Expertise (KATEs) for NATE. These seminars cover a wide range of topics for our dealers, contractors, and service technicians.”

STRIVING TO BE THE BEST

The company promotes NATE certification through local and regional media. It also posts and sends out email campaigns to contractors and service technicians about upcoming NATE testing dates and approved NATE continuing education unit (CEU) courses.

The goal of the partnership between Mingledorff’s and NATE is to ensure that technicians receive the best training and certification. “We feel that our distributors, contractors, and dealers want to be the best in the business and, with the support and direction of NATE and NATE certification, they can be,” Nelson says. “Because Mingledorff’s has a ‘full charter,’ our product training ranges from through-the-wall packaged terminal air conditioners (PTACs) to centrifugal chillers. We feel overall that certified technicians are more professional and better informed about the equipment they install and service.”

Most of Mingledorff’s training is geared toward traditional NATE certifications. The major reason for this is that Carrier/Bryant has a Factory Authorized Dealer (FAD) program that requires a certain percentage of service technicians and installers to be NATE-certified. So, those individuals’ paths move toward traditional NATE certifications.

“However, we’ve had government and educational institutions use the Certified HVAC Professional (CHP-5) exams to move their employees to higher levels or grades within their own organizations,” Nelson says. “We pretty much train in the same manner for both types of exams. The number of tests given varies each year. On average, we test between 200 and 300 individuals annually.”

Mingledorff’s training content is close to 50/50 when it comes to residential versus commercial. The basics, whether it’s residential or commercial, is the same. The



major difference is the type of controls that the two systems incorporate.

The company's testing procedures are very simple, according to Nelson. "We supply a training guide prior to the test date, and we do a review with the individuals during that time. With this type of test, the technicians seem to be more comfortable with in-person testing sessions. We've held the online version on several occasions, but in-person testing seems to make them more comfortable with taking the exams."

As for testing proctor guidelines, NATE makes the process easy because the guidelines are very straightforward, Nelson adds. "We follow NATE's guidelines so we can be compliant with our FAD program from the factory and NATE."

STAYING UP TO DATE

Mingledorff's offers product training that helps technicians stay up to date on the latest technology and product updates. A few examples: Ductless Sales Design and Application, Bryant/Carrier Product Essentials, and Carrier VRF Training for Engineers. Business training courses include Online Warranty Training, Pricing for Profit, and HVAC Sales Mastery.

The company also offers the My Learning Center portal on its website, which connects technicians to additional training opportunities. "My Learning Center has many good training sessions and programs that individuals can register for. Because most of our training sessions incorporate the KATEs from NATE, we have a large turnout of our own in-person training and our own online training sessions."

However, training does not stop when technicians pass NATE exams, Nelson adds. "With the guidelines that NATE and the factory have put together, those technicians must

continue with their education in the HVACR industry. With this additional training, everyone wins, especially the consumer."

Mingledorff's must be doing something right, as the following testimonials from recent test takers show, according to Nelson.

- The process is very simple.
- Mingledorff's supplies technicians with the proper training material.
- Test takers are better prepared.
- Test takers are more comfortable about the test knowing that they can review information given to them from Mingledorff's or go online to review material.

Nelson summarizes the benefits of his company's partnership with NATE in the following words: "HVACR technicians want to grow their knowledge in this industry and to become the 'best of the best.' Our training helps make that possible. Also, passing the NATE exams makes those technicians proud of their accomplishments." ●

Neal Lorenzi is a contributor to the NATE Magazine.

10-Year HVACR Veteran Bases New Company on Passion for IAQ



**BECOMING NATE-CERTIFIED
PROVED TO BE A LIFE-
CHANGING EXPERIENCE FOR
ONE FLORIDA CONTRACTOR.**

Growing up in the mountains of North Carolina, Joshua Green always knew he wanted a career that didn't involve sitting behind a desk. He was more interested in getting his hands dirty and being on the move.

"When I was growing up, I was going to culinary arts school, and my dad suggested I consider getting training in one of the trades," Green says. "I was already working in the culinary field seven days a week—you don't get a day off—and I was tired."

He decided he wanted a trade where he would have holidays off, and his career in HVACR was born. Green went to a two-year college for heating and air conditioning and decided a warmer climate was calling.

“I had the idea that I was going to move to Florida because I would always have a job in heating and cooling, so I moved and got a job with Service Experts,” he says. “That started my path of working in heating and air. I began with installs and rose up through the ranks to become a manager and regional manager.”

After 10 years in the HVACR industry, Green decided he wanted to strike out on his own, and Green’s Eco Air Conditioning & Heating was born in early 2022. The company, which is based in the Daytona Beach, Florida, area, specializes in residential customer service with a focus on indoor air quality (IAQ), although he does do some commercial work.

So far, the company consists of Green and two-part time employees who help with installation and service when things get too busy.

“It was a little slow at first, but then business picked up,” Green says. “I’ll be on service calls, and two or three more will come in. Word of mouth has really helped me. I have done very little advertising, and word of mouth has just got me crazy busy.”

Green’s service radius at this point is about 45 miles; in the future, he anticipates expanding further south into the Titusville region.

“When I first started this business,” he says, “I didn’t even know what my budget should be. I didn’t know what my goals should be at the year mark, but I knew that I wanted to double what I did last year. I’ve already done that—and we’re not even close to the end of the year. Now, my goals are to have six or seven employees and be doing \$1 to \$2 million a year in the next four to five years.”

On Green’s agenda this year is advertising. He has partnered with Lennox, is part of the Small Business Association for Daytona State College, and joined the Daytona Beach Chamber of Commerce to find out what marketing strategies work. He plans to start implementing various programs soon.

CHALLENGES AND OPPORTUNITIES

Green’s passion is indoor air quality, which he believes is a huge opportunity for his company.

“I do take a lot of pride in IAQ, and I feel like it’s a moving trend. Houses

are being sealed up tighter and tighter inside these days, and I feel like people are taking air quality seriously now.” Since Green started in the HVACR business, customers have shifted from ‘I don’t need IAQ’ to ‘I get it now,’” he says.

He observes that people are a lot more conscientious of IAQ, in general. They are taking into consideration their allergies and what is causing them to feel a certain way. “People,” explains Green, “are more interested if I pull an indoor air quality sample out now and can grasp what I’m talking about.”

Another opportunity Green sees for his company is the aftermath of COVID and the rise of work from home and work from anywhere policies. These policies have resulted in a large number of people moving to Florida.

“I started my business at the right time,” remarks Green, “because so many people have moved to Florida—and we still have people moving here. They work from inside their house and need air conditioning. Instead of the commercial sector, where you have these large buildings with 50 to 100 people in them, the majority of these people now are working from their house. That’s 50 or 100 more air conditioners that potentially can break down this year.”

And these customers want immediate service, according to Green.

“Instead of coming home at five o’clock and making a service appointment for the next day,” he reports, “customers are saying, ‘No, I’m here working, and it’s 90 degrees in my house. I need air now because I have to be on camera in front of my whole company.’ It’s definitely a different world we live in, but it’s good for us in the HVACR industry.”

TRAINING AND CERTIFICATION FOCUS

The biggest challenges facing Green’s company and other HVACR firms are hiring and training. Green and other contractors have to assess the skill level of potential employees as well as determine what training they’ll need to successfully perform their jobs.



“NATE CERTIFICATION WAS A REALLY BIG DEAL FOR ME. IT WAS LIFE-CHANGING. AFTER GETTING NATE CERTIFICATION, I WENT ON TO EARN MULTIPLE CERTIFICATES IN HVACR-RELATED (AREAS) AND BUSINESS. TRAINING IS A CULTURAL THING FOR ME. IN MY BUSINESS, NATE TRAINING IS GOING TO BE VERY IMPORTANT.”

- Joshua Green

“That’s more of a challenge for me,” explains Green, “because there’s a larger risk factor (for businesses like mine).” He is concerned that when he ramps up his business, he will be able to find employees that understand the trade and the industry. He does not want to hire employees thinking they have the right skills but then find out later that they lack the skills for the job.

That’s where NATE certification comes in. “I’m super big on training,” he says. “NATE certification was a really big deal for me. It was life-changing. After getting NATE certification, I went on to earn multiple certificates in HVACR-related (areas) and business.

“Training is a cultural thing for me,” he continues. “In my business, NATE training is going to be very important.” In fact, Green has plans to develop a handbook employees can reference.

Green says NATE certification was life-changing for him because when he first moved to Florida and joined Service Experts, the branch where he worked had service built into its culture. When employees earned NATE certification, they received a goose pin for their shirts to show they had joined the flock.

He recalls that he wanted to be certified—and wanted that for the customer, also. “When I had those NATE patches on my arm,” he says, “...the customer would go with whatever service I recommended...Everything got better when I became NATE-certified.”

And it didn’t stop there.

“I continued to educate myself, earning any certificate I could get for HVACR,” he says. “I kept taking more classes and more classes. I just kept learning after I got NATE-certified because it was a positive. Everything just went in a positive direction.”

Green says he will not require his employees to attain NATE certification right away, but he will encourage them to take classes and work toward certification for their own growth.

He also plans to keep training as a continual focus as he grows his company.

“I don’t think I’m ever going to be the type of person who is not going to be in the field, helping people learn,” he says. “It’s really why I became a manager to begin with for the larger companies and why I became a proctor. I definitely like to do training.”

Achieving NATE certification and other certifications is not easy, but it’s worth it, Green says, and it requires perseverance.

“I didn’t pass my NATE exam the first time,” he says. However, he learned from his experience. He eventually retook the exam and passed. Green makes sure to share his experiences with others, offering encouragement along their path to certification. ●

Elaine Yetzer Simon is a contributor to the *NATE Magazine*.

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