

Keene Community Education Gas Service Technician Training 2021-2022

Instructor: Ed Anderson of LPG Plus, LLC
Over 43 years industry experience
CETP Certified Instructor and Proctor
Member of the Propane Gas Association of NE (former Safety Committee Chair)
Former Member of the National Propane Gas Association (and education, training & safety committee member)

Course Description: The Gas Service Technician program will follow a hybrid curriculum incorporating all of the required CETP curriculum, as designed by PERC, and delivered by a CETP-certified instructor. The curriculum will additionally include chapters on New Hampshire laws and rules regarding propane safety and a supplemental chapter on natural gas, for a **total of 150 instructional hours.**

Objectives: At the end of the Gas Service Technician course students will have all of the related instruction in order to pass their related exams and show educational preparedness in the state requirements (see Saf-Mec 305.04 at the end of this document).

Course limitations:

The course will be structured similarly to an apprenticeship program and will deliver all *currently* required **related instruction** that a candidate needs for eligibility to obtain a Gas Service Technician License in the State of NH, *and Vermont*, (the highest level of Gas licensing in the NH gas licensing standards).

This course **does not** have a hands-on component, however, and each candidate will need to fulfil their 2,000 hours of field training as required by the State of NH outside of the classroom and under the direct supervision of a licensed professional. Additionally, it is important to remember that any candidate fulfilling their on-the-job training hours *must* have proper documentation (i.e. trainee card) and be registered as a trainee with the state mechanical licensing board.

It is the *sole* responsibility of the trainee and their supervisor/employer to be sure that the trainee has all skill sign-offs completed, has been registered with the State of NH Department of Safety as a trainee, and has completed the required 2,000 hours of field training prior to obtaining their license.

Format and Procedures: The course will delivered around a combination of lecture, demonstration, and relevant application. This class requires respect for yourself and others, and dedication and commitment to the educational program.

- **Classes will be held at Keene High School, 43 Arch St. on Monday and Thursday evenings, from 6:00-8:30pm, from September through early May**
- Successful completion of the course is based on hours of attendance and average test scores.
- Each student is expected to arrive on time and stay for the entire class. *Please note:* Hours are recorded in 15 minute increments, and partial hours will be counted as absences.

- You are allowed to be absent no more than 12.5 hours. All hours absent must be made up.
- All make-up hours must be approved and completed within two weeks of the missed class/hours.

COURSE SYLLABUS:

(Note: order and length of lessons are subject to change at the discretion of the instructor to best fit the needs of the individuals in the classroom without removing any required content.)

LESSON 1: CETP Book 1 - Basic Principles

(~ Weeks 1-3)

LESSON 2: CETP Book 4.1 - Designing & Installing Exterior Vapor Distribution Systems

(~ Weeks 4 – 8)

LESSON 3: CETP Book 4.2 – Placing Vapor Distribution System & Appliances into Service

(~ Weeks 9-13)

LESSON 4: CETP Book 4.3 – Installing Appliances & Interior Vapor Distribution Systems

(~ Weeks 14 – 18)

LESSON 5: CETP Book 4.4 – Basic Electricity for Appliance Service

(~ Weeks 19 – 23)

LESSON 6: New Hampshire Rules and Laws/OSHA DOT

(~ Weeks 24-26)

LESSON 7: Natural Gas Supplement

(~ Weeks 27-29)

Final Review and Last Class

STATE OF NEW HAMPSHIRE ELIGIBILITY REQUIREMENTS FOR INITIAL INDIVIDUAL FUEL GAS FITTER LICENSURE AS A FUEL GAS SERVICE TECHNICIAN (Saf-Mec 305.04)

- a) A fuel gas service technician specialty license shall be provided to individuals engaged in the servicing and repair of inside and outside piping from the gas meter or first stage regulator or

residential and nonresidential heating equipment systems or water heating systems using liquified propane gas or natural gas.

b) An individual applying for the fuel gas service technician specialty license shall provide proof of successful completion of the following:

1. A minimum of 140 hours of educational training in the following subject matter:

- a) Basic gas theory involving a thorough understanding of the physical properties and characteristics of propane and natural gas;
 - b) Reading and interpretation of fuel gas piping plans and drawings;
 - c) Determining proper fuel gas piping systems using appropriate sizing tables and charts;
 - d) Piping installation involving review of gas pipe sizing, gas pipe material selection, proper installation of underground and above ground fuel gas piping supply and distribution systems, placing a fuel gas system in service including purging, initial pressure testing and leak check of gas distribution piping and appliances;
 - e) The documentation of fuel gas piping system pressure testing, leak checking including customer notification as to the safety procedures and recognition of fuel gas odors;
 - f) Liquefied propane and natural gas piping appliance installation including clearance to combustibles, combustion, dilution, and the proper sizing of ventilation air requirements;
 - g) Liquefied propane and natural gas appliance venting including venting categories, selection and use of proper venting materials, vent sizing and clearance and installation;
 - h) Placing propane and natural gas appliances equipment into service while controlling propane/air mixtures for proper combustion;
 - i) Verification for proper operation of safety controls and devices
 - j) The proper utilization of combustion analyzing equipment with respect to applicable codes and manufacturer's installation instructions;
 - k) Troubleshooting electrical circuits and control devices while measuring electrical quantities using an electrical meter;
 - l) Identifying operating characteristics and components of common appliance safety and sensing devices including the testing and replacement of operating controls;
 - m) Gas pressure measurements including supply and appliance burner pressure detection;
 - n) Ignition safety systems including the 100 percent pilot safety shut-off and other electronic safety shut-off devices;
 - o) Flue gas analysis and carbon monoxide detection;
 - p) Interpret gas appliance equipment wiring diagrams to determine the sequence of operation of any given appliance;
 - q) Fuel gas equipment maintenance and inspection, heat exchanger inspection, and routine service requirements; and
 - r) Application of the adopted codes and standards as is relates to the items above;
- and

2. A minimum of 2,000 working hours of on-the-job experience in the trade or its equivalent in an approved educational setting as defined in Saf-Mec 301.18, relevant to the installation, service, and repair of gas appliances or equipment within 60 consecutive months, 750 hours of which may be applied if the applicant can demonstrate proof of relevant field experience installing, servicing and repairing heating oil fired appliances or equipment.

c) Notwithstanding any rule to the contrary, an individual holding a fuel gas installation technician license pursuant to Saf-Mec 305.03 and wishing to ascend to their licensing level shall provide proof of:

1. Successful completion of a formal education program of at least 40 hours approved pursuant to Sef-Mec 305.04 in the subject matter prescribed by (b)(1) k through r above; and

2. A minimum of 2,000 working hours of on-the-job experience in the trade or its equivalent in an approved educational setting as defined in Saf-Mec 301.18, relevant to the installation, service, and repair of gas appliances or equipment within 60 consecutive months, 750 hours of which may be applied if the applicant can demonstrate proof of relevant field experience installing, servicing and repairing heating oil fired appliances or equipment.

OBTAINING A TRAINEE CARD:

All candidates must complete their on-the-job training under the direct supervision of a licensed professional. The company that the candidate (trainee) is working for must register the trainee by completing the appropriate application and submitting it to the State of NH Department of Safety (Fire Safety division).

STATE OF NEW HAMPSHIRE GAS LICENSING CHECK LIST:

o Check, Money order made out to "State of NH – Treasury" (check the initial licensing or upgrade forms for pricing)

o Color Photograph at least 2" X 2" or more with no hat and no sunglasses, not needed for upgrades.

o Proof of identification

o Copy of current/VALID NH fuel gas trainee card(use initial licensing form), or a current/VALID NH fuel gas equipment installer license (use upgrade form), or a copy of an out of state license (must meet the state qualifications).

o Proof of the successful completion of the licensing exam for the endorsement being applied for

o Proof of successful completion of the required educational hours for the endorsement being applied for

o Proof of hours of field experience signed by the licensee you are working under (page 2 of the initial licensing application)

o One letter signed and written by a licensed gas fitter who was supervising, sponsoring or directing the applicant's fuel gas fitting training and development during the applicant's service or employment stating that the applicant meets the minimum competency requirements for the licensing endorsement being applied for