



Designing & Installing Dispenser Transfer Systems



5.1 Performance-Based Skill Assessment Evaluation Packet

- Task 5.1.1a Determine Dispenser Application, Operating Requirements & Proper Location
- Task 5.1.2a Identify Required Dispenser Tank Valves and Fittings
- Task 5.1.3a Identify Dispenser Electrical System Requirements
- Task 5.1.4a Apply Propane Pump Operating Characteristics to Select the Dispenser Pump
- Task 5.1.5a Identify Dispenser Shutdown System & Fire Extinguisher Requirements
- Task 5.1.6a Select Dispenser Transfer Hose(s), Hose End Valves, Hose Safety Devices, & Adapters
- Task 5.1.7a Identify Auxiliary Equipment for a Propane Dispenser
- Task 5.1.8a Select Metering and Dispensing Equipment for a Service Station Motor Fuel Dispenser
- Task 5.1.9a Install a Propane Dispenser
- Task 5.1.10a Identify Requirements for a Dispenser Using Supply Tank(s) with Aggregate Water Capacity Greater Than 4000 Gallons
- Task 5.1.11a Verify the transfer system is void of nitrogen or other inert gases.
- Task 5.1.11b Introduce LP-Gas vapor slowly into the entire transfer system and container, pressurizing to normal operating pressure as measured in the vapor space of the supply cargo tank.
- Task 5.1.11c Determine if the transfer system and container are gas tight by conducting a leak test.
- Task 5.1.11d Correct any leak found in the transfer system or container.
- Task 5.1.11e Introduce LP-Gas liquid into the transfer system.

Employee's Name (Please Print)

Date of Skills Evaluation

Skills Evaluator Name (Please Print)

NOTICE: THE SKILLS EVALUATOR MUST BE THE EMPLOYEE'S SUPERVISOR OR SOME OTHER QUALIFIED PERSON WHO HAS COMPLETED CETP "DESIGNING & INSTALLING DISPENSER TRANSFER SYSTEMS" OR IS FAMILIAR WITH THE SUBJECT MATTER. CETP CERTIFICATION REQUIRES THAT THE EMPLOYEE SEEKING CERTIFICATION CANNOT ACT AS HIS/HER OWN EVALUATOR.

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Users of this material should consult the law of their individual jurisdictions for codes, standards and legal requirements applicable to them. This material is not intended to be an exhaustive treatment of the subject, and should not be interpreted as precluding other procedures that would enhance safe LP-gas operations. This training material merely suggests methods the user may find useful in implementing applicable codes, standards, and legal requirements. This publication is not intended nor should it be construed to (1) set forth procedures which are the general custom or practice in the propane industry; (2) to establish the legal standards of care owed by propane distributors to their customers; or (3) to prevent the reader from using different methods to implement applicable codes, standards or legal requirements. This material was designed to be used as a resource only to assist expert and experienced supervisors and managers in training personnel in their organizations and does not replace federal, state, local, or company safety rules. The user of this material is solely responsible for the method of implementation. The Propane Research and Education Council, the National Propane Gas Association, CASTLE Worldwide and Industrial Training Services, Inc. assume no liability for reliance on the contents of this training material.

Issuance of this material is not intended to nor should it be construed as an undertaking to perform services on behalf of any party either for their protection or for the protection of third parties.

I. General Instructions

Instructions for Use

This **Performance Based Skill Assessment Evaluation Packet** is designed to:

- provide structured on-the-job training for the LP-gas employee under the direction of an experienced and qualified skills evaluator, and
- standardize conditions under which the employee demonstrates his/her performance of tasks that meet the requirements of the NPGA Certified Employee Training Program.

Each task is divided into one or more operations on which the employee's performance is evaluated. Each operation is designated by the following symbol: . Also, under each operation is a performance guide that establishes the standard used by the skills evaluator.

When an operation within a task is successfully performed by the employee according to the criteria listed in the performance guide, a check (✓) is placed in the .

After completing the checklist for those operations required in the employee's job duties, the skills evaluator and employee must sign their respective affidavits. Section IV (page 15 and page 16) is photocopied for the company's personnel training record files. **The original of Section IV, pages 15 and 16, must be forwarded to the appropriate test processing facility to complete certification.**

On-line Test Candidates:
CASTLE Worldwide
900 Perimeter Park Drive, Suite G
Morrisville, NC 27560

Paper test Candidates:
Industrial Training Services, Inc.
310 C.C. Lowry Drive
Murray, KY 42071

Instructions to the Employee

The Performance Based Skill Assessment Evaluation Packet is designed as a training guide to assist you and your evaluator in performing the tasks listed on the front cover. Practice the tasks as many times as needed to become confident and proficient with the documents or equipment. Your skills evaluator will check and observe your performance using the checklist included in each hands-on task assignment.

The employee must adhere to all safety precautions. If a safety precaution is violated, then the demonstration shall be stopped and the skills evaluator must instruct the employee on the proper safety procedures that apply before allowing the employee to continue.

The packet is designed to establish the basic conditions under which the employee demonstrated his/her level of knowledge and proficiency.

Instructions to the Skills Evaluator

Review Section II, "Task Information."

Conduct the training as follows:

- Give a copy of the Performance Based Skill Assessment Evaluation Packet to the employee.
- Review all of the instructions with the employee and answer any questions or concerns about how it will be used.
- Demonstrate and/or talk the employee through each of the steps required to do the task.
- Allow the employee time to ask questions and/or study the steps.
- Observe the employee performing the required steps; correct him/her as needed.
- Allow the employee to practice until he/she is confident.
- Evaluate the employee at his/her request.
- Complete Section III, "Employee Performance Checklist," beginning on page 5.
- Complete **both** pages of Section IV, "Employer Record," which **must be signed and dated by both the Skills Evaluator and employee** on page 15.
- Remove Section IV (pages 15 and 16) from the packet and photocopy. Retain photocopy for your files. **For employee certification this form must be received within 12 months of the Certifying Examination date.** Mail original to:

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Morrisville, NC 27560**

Paper test Candidates:

**Industrial Training Services, Inc.
310 C.C. Lowry Drive
Murray, KY 42071**

- This Evaluation Packet and the photocopy of Section IV (pages 15 and 16) should be retained in the Company's employee training files.

II. Task Information

Certification Standard: The employee's certification is based on satisfactory completion of the operations listed under each task in the Performance Based Skill Assessment Evaluation Packet and a Mastery Score on the Certification Area Examination.

Prerequisites: Successful completion of CETP Certification Area 5.1, "Designing and Installing Dispenser Transfer Systems."

References: Applicable LP-Gas Codes and company policies.

Evaluation: The skills evaluator must be the employee's supervisor or some other qualified person who has completed CETP "Designing and Installing Dispenser Transfer Systems" or is familiar with the subject matter. CETP certification requires that the employee seeking certification cannot act as his/her own evaluator.

III. Employee Performance Checklist

Print or type all entries except signatures and initials.

Employee Name _____

Social Security No. _____ Date _____

Skill Evaluator (Please Print) _____

I, _____, hereby attest the employee named on
(Skill Evaluator's Signature)

top line of this section has demonstrated the correct performance of the tasks listed below and on following pages.

<p style="text-align: center;">Task 5.1.1a Determine Dispenser Application, Operating Requirements & Proper Location</p>
--

The employee is qualified to perform Task 5.1.1a at the following level:

Satisfactory



Determining Dispenser Application, Operating Requirements & Proper Location. 5.1.1a

Performance Guide: At a potential dispenser operator site or at the company's offices, the person being evaluated for certification:

1. Interviewed the potential dispenser operator and obtained all the information required to complete the installation plan, or a company form equivalent to the plan, shown on the next 2 pages;
2. Determined the water capacity supply tank size and type required;
3. Determined the minimum separation distance requirements for the dispenser installation, applying NFPA 58 standards; and
4. Completed a site plan sketch on the installation plan.

PROPANE DISPENSER INSTALLATION PLAN page 1

Customer: _____ Plan Date: / /

Installation _____ Prepared by: _____

Address: _____

City: _____ County: _____ Zip Code: _____

Authority Having _____ Permit Required? Yes No

Jurisdiction: _____ Fire Safety An. Req'd? Yes No

Installation Type: RV Dealer or Park Industrial Lift Truck Service Station Other:

If "Other," describe: _____

Containers Serviced: Cylinders Portable Vapor Service Portable Liquid Service Motor Fuel
(Check all that apply.)

ASME Tanks Motor Fuel Mobile Fuel

Site Electrical Power Single Phase, 240V Three Phase, 240V 480V

Supply Available: 120V only ___V

Sketch of Site: (Show distances to important buildings, property lines that can be built upon, location of electrical power supply, location of remote shut down station(s), vehicle traffic protection required, & other important features.)



Task 5.1.2a
Identify Required Dispenser Tank Valves and Fittings

The employee is qualified to perform Task 5.1.2a at the following level:

Satisfactory

Identifying Required Dispenser Tank Valves and Fittings. 5.1.2a



Performance Guide: Using the information obtained for completing the dispenser installation plan, the employee being evaluated for certification correctly:

1. Identified the NFPA 58 supply tank valves requirements for the dispenser installation.
2. Identified the NFPA 58 supply tank fittings requirements for the dispenser installation.

Task 5.1.3a
Identify Dispenser Electrical System Requirements

The employee is qualified to perform Task 5.1.3a at the following level:

Satisfactory

Identifying Dispenser Electrical System Requirements. 5.1.3a



Performance Guide: On the installation plan, the employee being evaluated for certification:

1. Identified the electrical power supply source on the installation plan.
2. Identified the boundaries of the:
 - Division 1 classified area for electrical components, and
 - Division 2 classified area for electrical components, applying the National Electrical Code (NEC) and NFPA 58 definitions.
3. Contacted a licensed electrician and obtained an installation estimate and bill of materials for the electrical portion of the dispenser installation, including:
 - Heavy-duty conduit and wiring;
 - Class I, Group D fixtures;
 - Electrical seal-offs to meet code requirements;
 - Class I, Group D flexible section(s) and unions;
 - Any other electrical installation requirements, including emergency shutdown stations and markings.

Task 5.1.4a
Apply Propane Pump Operating Characteristics to Select the Dispenser Pump

The employee is qualified to perform Task 5.1.4a at the following level:

Satisfactory

Applying Propane Pump Operating Characteristics to Select the Dispenser Pump. 5.1.4a

Performance Guide: Consulting a propane equipment supplier or propane pump manufacturer technical services representative, the employee being evaluated for certification correctly:

1. Identified the type of propane pump required for the dispenser installation.
2. Identified the piping requirements for the pump.
3. Identified the valving requirements for the pump and dispenser supply tank.

Task 5.1.5a
Identify Dispenser Shutdown System & Fire Extinguisher Requirements

The employee is qualified to perform Task 5.1.5a at the following level:

Satisfactory

Identifying Dispenser Shutdown System & Fire Extinguisher Requirements. 5.1.5a

Performance Guide: Consulting NFPA 58, the employee being evaluated for certification correctly:

1. Identified the emergency shutdown system requirements for the dispenser installation.
2. Entered the location of remote emergency shutdown station(s) and signs on the installation sketch.
3. Identified fire extinguisher requirements for the dispenser installation.

Task 5.1.6a
Select Dispenser Transfer Hose(s), Hose End Valves, Hose Safety Devices, & Adapters

The employee is qualified to perform Task 5.1.6a at the following level:

Satisfactory

Selecting Dispenser Transfer Hose(s), Hose End Valves, Hose Safety Devices, & Adapters. 5.1.5a

Performance Guide: Consulting NFPA 58, the employee being evaluated for certification correctly:

1. Identified NFPA 58 dispenser transfer hose requirements for the dispenser.
2. Selected the proper type, diameter and length of transfer hose(s) required for the dispenser application(s).
3. Selected the proper type of transfer hose-end valves for the dispenser.
4. Selected the proper hose end valve and other adapters required for the dispenser application(s).
5. Identified the hose safety device(s) required for the installation, including proper anchor and attachment means for the hose safety device(s).

Task 5.1.7a
Identify Auxiliary Equipment for a Propane Dispenser

The employee is qualified to perform Task 5.1.7a at the following level:

Satisfactory

Identifying Auxiliary Equipment for a Propane Dispenser. 5.1.5a

Performance Guide: Consulting NFPA 58, the employee being evaluated for certification correctly:

1. Selected suitable scales for filling DOT cylinders by weight for the dispenser application.
2. Identified any other auxiliary equipment required for the dispenser installation.

Task 5.1.8a
Select Metering and Dispensing Equipment for a Service Station Motor Fuel Dispenser.

The employee is qualified to perform Task 5.1.8a at the following level:

Satisfactory

Not Applicable*

Selecting Metering and Dispensing Equipment for a Service Station Motor Fuel Dispenser. 5.1.8a

Performance Guide: The employee being evaluated for certification correctly:

*Not applicable means that the company employing the person being evaluated for certification does not install, nor service propane motor fuel service station dispensers.

1. Selected the appropriate propane meter(s) for the service station installation.
2. Selected the appropriate motor fuel dispenser or dispensing cabinet for the service station installation.
3. Identified the NFPA 58 requirements for minimum separation distance requirements with regard to:
 - Other motor fuel dispensers
 - Other motor fuel storage containers
 - Emergency shutdown controls
4. Located the motor fuel dispenser on the installation plan sketch and marked the separation distances to important structures and features as set out in NFPA 58.
5. Determined protection measures required by NFPA 58 to protect the dispenser from vehicular damage, and properly located them on the installation sketch.

Task 5.1.9a
Install a Propane Dispenser

The employee is qualified to perform Task 5.1.9a at the following level:

Satisfactory



Installing a Propane Dispenser. 5.1.9a

Performance Guide: Working with the employee's supervisor or other qualified employee(s), the employee being evaluated for certification correctly and properly:

1. Verified that all required permits, O&M plans and Fire Protection or Fire Safety Analysis documents for the dispenser installation were obtained from and/or filed with the authority having jurisdiction.
2. Coordinated the installation of dispenser foundations, vehicular protection, and electrical system trenching, obtaining any required inspection approvals at the appropriate stages of installation.
3. Installed the dispenser supply tank(s), pump, meter(s), valves and connecting piping.
4. Completed an installed piping leak test as required by NFPA 58 and the authority having jurisdiction, obtaining any required inspection approvals at the appropriate stages of installation.
5. Installed the auxiliary equipment required for the dispenser installation.
6. After the installation was completed, trained dispenser-operating personnel using appropriate training materials (such as the PERC *Dispensing Propane [Safely]* program) and demonstrated how to operate the dispenser to fill propane containers. If applicable, delivered and explained the O&M plan to the dispenser operating personnel supervisor.

Task 5.1.10a
Identify Requirements for a Dispenser Using Supply Tank(s) with Aggregate Water Capacity Greater Than 4000 Gallons.

The employee is qualified to perform Task 5.1.10a at the following level:

Satisfactory



Identifying Requirements for a Dispenser Using Supply Tank(s) with Aggregate Water Capacity Greater Than 4000 Gallons. 5.1.10a

Performance Guide: The employee being evaluated for certification correctly and properly:

1. Identified the documents that must be prepared and filed with the authority having jurisdiction for dispenser installations using supply tank(s) with aggregate water capacity greater than 4000 water gallons.
2. Identified any product transfer and emergency shutdown equipment required for the installation.
3. Identified the minimum separation distance requirements set out in NFPA 58 for a dispenser using a single supply tank with water capacity greater than 4000.

Task 5.1.11a
Verify the Transfer System Is Void of Nitrogen or Other Inert Gases.

The employee is qualified to perform Task 5.1.11a at the following level:

Satisfactory



Verifying the Transfer System Is Void of Nitrogen or Other Inert Gases. 5.1.11a

Performance Guide: Wearing any company-prescribed PPE and following company operating procedures, the employee being evaluated for certification:

1. Determined if nitrogen or any other inert gas was present in the dispenser tank or transfer system.
2. If any inert gas was detected, followed company procedures to safely purge any inert gas present.

Task 5.1.11b
Introduce LP-Gas Vapor Slowly into the Entire Transfer System and Container, Pressurizing to Normal Operating Pressure as Measured in the Vapor Space of the Supply Cargo Tank.

The employee is qualified to perform Task 5.1.11b at the following level:

Satisfactory

Introduce LP-Gas Vapor Slowly into the Entire Transfer System and Container, Pressurizing to Normal Operating Pressure as Measured in the Vapor Space of the Supply Cargo Tank. 5.1.11b

Performance Guide: Wearing any company-prescribed PPE and following company operating procedures, the employee being evaluated for certification:

1. Performed a preliminary inspection to determine that all dispenser valves and fittings were properly installed, closed and/or tightened as appropriate.
2. Connected the vapor equalizing transfer hose of the cargo tank to the vapor equalizing valve of the dispenser supply tank.
3. SLOWLY opened the vapor equalizing transfer hose-end valve, checked for leakage at the connection, and if no leakage was found, continued to slowly transfer vapor into the dispenser tank. Closed and disconnected the cargo tank transfer hose when the pressure in the dispenser tank equalized to that of the pressure in the cargo tank.
4. Properly stowed the transfer hose.

Task 5.1.11c
Determine if the transfer system and container are gas tight by conducting a leak test.

The employee is qualified to perform Task 5.1.11c at the following level:

Satisfactory

Determining if the transfer system and container are gas tight by conducting a leak test. 5.1.11c

Performance Guide: The employee being evaluated for certification correctly and properly:

1. After verifying that the dispenser tank and all components of the dispenser transfer system were at normal operating pressure, applied a leak detection method to each tank and transfer system component and connection.
2. Observed the detection method applied and determined if any leak was present.

Task 5.1.11d
Correct any leak found in the transfer system or container.

The employee is qualified to perform Task 5.1.11d at the following level:

Satisfactory

Correcting any leak found in the transfer system or container. 5.1.11d

Performance Guide: The employee being evaluated for certification correctly and properly:

1. If any leak was found during the leak check, determined if the leak required isolation and/or depressurization of the component.
2. If de-pressurization was required, put on any required PPE, and safely flared or vented the propane vapor until the affected components were de-pressurized to a safe level for making leak repairs.
3. Sealed the leaking surfaces by applying suitable and approved sealing materials (except at metal-to-metal sealing joints such as flare fittings, mating surfaces of ground joint unions, or POL fittings). Properly tightened the sealing components.
4. Re-pressurized the system with propane vapor and verified that the leak was eliminated and the system was gas tight.

<p style="text-align: center;">Task 5.1.11e Introduce LP-Gas liquid into the transfer system.</p>

The employee is qualified to perform Task 5.1.11e at the following level:

Satisfactory

Introducing LP-Gas liquid into the transfer system. 5.1.11e

Performance Guide: Wearing required PPE, and following company procedures, the employee being evaluated for certification correctly and properly:

1. Transferred liquid propane from the cargo tank vehicle into the dispenser supply tank.
2. Stopped the transfer operation when the desired liquid level or maximum permitted liquid level was reached.
3. Disconnected the cargo tank vehicle liquid transfer hose and properly stowed it.
4. Completed the documentation of the propane delivery.

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IV. CETP Performance Evaluation / Employer Record

THIS PAGE MUST BE RETURNED AS SOON AS POSSIBLE, BUT NO LATER THAN 12 MONTHS AFTER TAKING THE CERTIFICATION TEST, TO THE FOLLOWING ADDRESS:

On-line Test Candidates:

**CASTLE Worldwide
900 Perimeter Park Drive, Suite G
Morrisville, NC 27560**

Paper test Candidates:

**Industrial Training Services, Inc.
310 C.C. Lowry Drive
Murray, KY 42071**

Employee Information: (print or type) Test Group Number (if known): _____

Name _____ Social Security Number _____

Employer _____

Address _____

City, State: _____ Zip Code _____

Affidavit

I affirm that I am the person who has performed those items checked on this checklist. I acknowledge that the performance checklists used are solely for the purpose of skills assessment for the CETP certification requirements, and are not intended to replace or modify company operating or safety procedures, and may not be appropriate for use in all circumstances. I acknowledge that I am responsible for recognizing hazards and abnormal conditions in my workplace and must exercise care and good judgment, always using appropriate equipment, procedures and tools for the tasks I perform. The Propane Education and Research Council, the National Propane Gas Association, CASTLE Worldwide and Industrial Training Services, Inc. assume no liability for my actions, or for my application of the skills assessment performance guides used in this evaluation checklist.

Employee's Signature _____ Date _____

Skills Evaluator Information: (print or type)

Name _____

Organization/Employer _____

Telephone Number _____

Affidavit

I affirm that I am the person who has administered this checklist, and that I have conducted this employee skills assessment with integrity. I also affirm that the above named employee is the person whose performance I evaluated, and that the above named person performed the checked tasks at the indicated level without assistance from me or any other person.

Skill Evaluator's Signature _____ Date _____

The employee is qualified to perform the listed operations at the following level:

<u>Without Direct Supervision</u>	<u>Not Applicable</u>	
<input type="checkbox"/>		Determine Dispenser Application, Operating Requirements & Proper Location. 5.1.1a
<input type="checkbox"/>		Identify Required Dispenser Tank Valves and Fittings. 5.1.2a
<input type="checkbox"/>		Identify Dispenser Electrical System Requirements. 5.1.3a
<input type="checkbox"/>		Apply Propane Pump Operating Characteristics to Select the Dispenser Pump. 5.1.4a
<input type="checkbox"/>		Identify Dispenser Shutdown System & Fire Extinguisher Requirements. 5.1.5a
<input type="checkbox"/>		Select Dispenser Transfer Hose(s), Hose End Valves, Hose Safety Devices, & Adapters. 5.1.6a
<input type="checkbox"/>		Identify Auxiliary Equipment for a Propane Dispenser. 5.1.7a
<input type="checkbox"/>	<input type="checkbox"/>	Select Metering and Dispensing Equipment for a Service Station Motor Fuel Dispenser. 5.1.8a
<input type="checkbox"/>		Install a Propane Dispenser. 5.1.9a
<input type="checkbox"/>		Identify Requirements for a Dispenser Using Supply Tank(s) with Aggregate Water Capacity Greater Than 4000 Gallons. 5.1.10a
<input type="checkbox"/>		Verify the transfer system is void of nitrogen or other inert gases. 5.1.11a
<input type="checkbox"/>		Introduce LP-Gas vapor slowly into the entire transfer system and container, pressurizing to normal operating pressure as measured in the vapor space of the supply cargo tank. 5.1.11b
<input type="checkbox"/>		Determine if the transfer system and container are gas tight by conducting a leak test. 5.1.11c
<input type="checkbox"/>		Correct any leak found in the transfer system or container. 5.1.11d
<input type="checkbox"/>		Introduce LP-Gas liquid into the transfer system. 5.1.11e

After completion of Section IV, "Employer Record," remove pages 15 and 16 from the packet and photocopy. Retain photocopy for your files. Mail original to:

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