



3.0 Basic Plant Operations Performance-Based Skills Assessment 2019



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NOTICE: The Skills Evaluator must be the candidate's supervisor or another qualified person who has completed CETP 2019 3.0 "Basic Plant Operations" 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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National Propane Gas Association 2019

Instructions for Use:

The Performance Based Skill Assessment Evaluation is designed to standardize conditions under which the candidate demonstrates performance of tasks to meet the requirements for NPGA CETP Certification.

The Skills Assessment should be supplemented with company policies and procedures related to each task being evaluated as needed.

1. The candidate has 12 months from the date of successfully passing the CETP Certification exam to train and successfully complete the tasks within the evaluation.
2. The affidavits and a final checklist are provided on the last two pages of the skills packet.
 - Affidavits must be signed by both the candidate and the skill evaluator
 - The final checklist must be fully completed within 12 months of passing the exam (Candidates may use this time to practice skills as often as necessary)
 - Make a copy for the training records when the skills assessment is completed for future audits
 - Send the affidavit page and final checklist (last two pages) to the testing center within 12 months of passing the exam
3. All requirements and prerequisites must be met before certification will be granted.

3.0 Certification Requirements

- Passing exam score on 3.0 “*Basic Plant Operations*” exam
- Completed and signed 3.0 “*Basic Plant Operations*” Skills Assessment returned to the testing center within 12 months of passing the exam.
- *1.0 Basic Principles and Practices certification* completed within 12 months of passing the exam

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 Education and Research Council, the National Propane Gas Association 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.

Instructions for Candidate:

Practice the operations as many times as needed to become confident and proficient with the documents or equipment necessary to complete each task. Your evaluator will check and observe your performance, using the steps to complete each hands-on operation and/or company procedures.

The candidate 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 candidate on the proper safety procedures that apply before allowing the candidate to continue.

After completing the skills evaluation, the candidate must fill out the Employee Information section and sign the Affidavit.

Required information includes the candidate's last four digits of the SSN to assist the testing center in locating the correct records.

Instructions to the Skills Evaluator:

The candidate 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 candidate on the proper safety procedures that apply before allowing the candidate to continue.

- Review the tasks within the Skills Evaluation with the candidate.
- Review all of the instructions, answering any questions and explaining how the skills assessment will be used.
- Demonstrate and/or talk the candidate through each of the steps required to perform each task.
- Allow the candidate time to ask questions and/or study the steps.
- Observe the candidate performing the required steps, providing corrections as needed
- Allow the candidate to practice until he/she is confident. *Remember:* the candidate has 12 months from the date of passing the exam to complete and return the skills assessment
- Evaluate the candidate when ready
- After completing the final checklist, complete the Skills Evaluator information and sign the affidavit.
- Ensure that the Affidavit and final Checklist are copied for the Employee Training Records and then sent to the testing center.

Each task is divided into one or more operations upon which the candidate's performance is evaluated. All tasks must be completed unless the "Not Applicable" option is both available for the task and applicable to the candidate or the marketer's present situation.

Satisfactory - When all the operations within a task are successfully performed by the candidate according to the criteria provided, the evaluator will check off the box marked "Satisfactory."

* **Not Applicable** – Certain tasks have the "Not Applicable" option available. The Skills Evaluator must ensure the circumstances described under the option are applicable to either the candidate or marketer's present situation.

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Section One: Identify the Main Components of a Bulk Plant

Task 1: Identify the Main Components of a Bulk Plant

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Correctly identify the following main components at the bulk plant:

- | | |
|--|--|
| <input type="checkbox"/> Unloading system(s) | <input type="checkbox"/> Bulk Storage tanks |
| <input type="checkbox"/> Container filling systems | <input type="checkbox"/> Emergency Shutoff System/Mechanisms |

Satisfactory

Task 2: Identify the Hazards and Precautions at a Bulk Plant

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Explain company policies and procedures for fire hazards at the bulk plant.

2. Provide examples of the following fire hazards at a bulk plant, and explain the applicable safety requirements:

- | | | | |
|---|--|--|---|
| <input type="checkbox"/> Ignition Sources | <input type="checkbox"/> Combustible Materials | <input type="checkbox"/> Flammable Liquids | <input type="checkbox"/> Static Discharge |
|---|--|--|---|

3. Explain how the following hazards at a bulk plant can lead to personal injuries, and how they can be avoided:

- | | | |
|---|---|--|
| <input type="checkbox"/> Falling propane containers | <input type="checkbox"/> Improper lifting, pushing, or pulling of heavy objects | <input type="checkbox"/> Poor housekeeping |
| <input type="checkbox"/> Failure to pay attention | <input type="checkbox"/> Propane displacing air in confined spaces | |

Satisfactory

Task 3: Identify Propane Containers

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Correctly identify the following propane containers (if available):

- | | |
|--|--|
| <input type="checkbox"/> Vehicle-mounted ASME Tank | <input type="checkbox"/> Underground ASME Tank |
| <input type="checkbox"/> 420lb DOT Cylinder | <input type="checkbox"/> Forklift Cylinder |

2. Explain the differences and similarities between DOT cylinders and ASME tanks.

Satisfactory

Section Two: Operate the Propane Liquid Supply System

Task 1: Identify and Open the Liquid Supply Line

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Correctly identify and explain the function of the main components of the liquid supply system at the bulk plant, *as applicable*:

- | | |
|---|---|
| <input type="checkbox"/> Bulk storage tanks | <input type="checkbox"/> Pump or compressor (or both) |
| <input type="checkbox"/> Liquid bypass line | <input type="checkbox"/> Emergency Shutoff System/Mechanism |
| <input type="checkbox"/> Control valves | <input type="checkbox"/> Excess Flow Valve |
| <input type="checkbox"/> Manual Shutoff valve | <input type="checkbox"/> Piping that carries the liquid propane |

2. Follow company policies and procedures for observing hazard and precautionary measures prior to opening valves, to include:

- Ensure all fire hazards are removed or are a safe distance away from the liquid supply system
- Observe all safety precautions that apply within the Static Discharge Control Area
- Ensure all hose ends are closed
- Ensure that gates are open to provide adequate egress in case of emergency; an area larger than 100 sq. ft. (10 ft. x 10 ft.) must have two means of egress.

3. Wearing proper PPE, open the supply line to the pump following company policies and procedures.

Satisfactory

Task 2: Explain the Purpose and Operation of an Excess Flow Valve

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Correctly identify and explain the purpose of the excess flow valve in the liquid supply system at the bulk plant.
2. Explain how an excess flow valve becomes slugged.
3. Demonstrate how to reopen an excess flow valve that becomes slugged, following the manufacturer instructions as necessary.

Satisfactory

Task 3: Identify Hazards of Contamination in Stored Propane

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Identify potential hazards resulting from contaminated stored propane.
2. Explain the relationship of pressure to temperature for propane, and how contaminated propane changes that relationship.
3. Correctly identify methods to detect contamination, using company policies and procedures.

Satisfactory

Task 4: Verify Fill of Multiple Storage Tanks with Different Diameters

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Explain any special precautionary measures for filling storage tanks with different diameters under the following conditions and verify the fill of the storage tanks, as applicable:

*For Multiple Storage Tanks with the Maximum Permitted Filling Levels **aligned at the same elevation***

- Following company policies, procedures and precautions for normal CTMV unloading operations, monitor the fill to ensure the storage tanks do not overflow

Or

*For Multiple Storage Tanks with the Maximum Permitted Filling Levels **not aligned at the same elevation***

- Verify the liquid level gauge is in proper working order prior to filling storage tanks
- Correctly demonstrate an alternative method to accurately monitor the fill of the container if the variable liquid level gauge is suspected of malfunctioning.
- Following company policies, procedures and precautions when unloading the CTMV, monitor the liquid level in the smaller tank, and close the liquid valve as soon as the maximum permitted filling level is reached.

Satisfactory * **Not Applicable**

* Not Applicable means that **the company** does not have multiple storage tanks

Task 5: Shut Down and Secure the Liquid Supply Line

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Explain the NFPA 58 requirement for a qualified operator during transfer operations.
2. Correctly explain when NFPA 58 requires a liquid supply line to be shut down and secured.
3. Following company policies and procedures, demonstrate how to shut down and secure the liquid supply line, ensuring that:
 - Hose end valves are closed with dust caps or plugs installed;
 - Liquid valve at the storage tank outlet is closed;
 - Liquid and vapor return valves are closed;
 - All transfer hoses are secured to protect from damage;
 - Cabinets, gates or valves that control access to the dispensing equipment are closed and locked.

Satisfactory

Section Three: Inspect and Fill DOT Cylinders

Task 1: Identify DOT Cylinders

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Provide examples for the use of the following DOT cylinders:
 - Small portable cylinders
 - Large portable cylinders
 - Motor fuel cylinder
 - Stationary cylinders
2. Explain the similarities and/or differences among DOT cylinders, to include the following:
 - Valves and their configurations
 - Metal composition
 - Unique features
 - Service valves: Vapor, Liquid or both
 - Cylinders used in Horizontal, Vertical or Universal position
 - Collars, necks, foot rings

Satisfactory

Task 2: Inspect DOT Cylinders Prior to Filling

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Inspect a DOT cylinder's valves and fittings for problems, to include:
 - Any damage to threads or gaskets
 - Corrosion
 - Ammonia contamination
 - Cracked dial face on a float gauge, or a missing mounting screw
 - Service valve has been left open (Purging may be required)
 - Loose or damaged handwheel
 - Any difficulties closing the valve
 - Relief valve damage or obstruction in discharge outlet
2. Inspect the overall fitness of the cylinder to include the following:
 - Cracks or leaks
 - Defective or leaking pressure relief valve
 - Damage to the cylinder valve, valve protection, or cylinder foot rings
 - Evidence of physical abuse, fire or heat damage, or detrimental rusting or corrosion
 - Serious denting or gouging
 - Bulging
3. Visually inspect the cylinder, to include the following:
 - Service valve handwheels and stems
 - Pipeaway adapters
 - Foot rings and welds
 - Cylinder valve protective collars or valve caps and threads
 - Quick-closing couplings on motor fuel cylinder service valves, *if applicable*
 - Filler valves and weather caps
 - Fixed maximum liquid level gauge
 - Float gauge dial faces and operation of float gauges
4. Verify the following:
 - Cylinder is properly purged
 - DOT Specification Code
 - Requalification date
 - No Condemned Cylinder Marking present
5. Correctly explain company policies and procedures for cylinders that fail inspection.
6. Verify that all required cylinder labels are present, readily visible for transportation, and not obstructing any other required cylinder markings.

Satisfactory

Task 3: Identify Safety Precautions While Filling DOT Cylinders

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Identify and/or demonstrate the necessary precautions to observe while filling cylinders, to include:
 - Correct use of Personal Protective Equipment
 - Exercise caution with hoses and connections
 - Avoid injuries when handling or moving heavy objects
 - Measures for avoiding slips, trips, and falls
 - Eliminating Fire hazards
 - Know and Follow Emergency Procedures

Satisfactory

NPGA – Basic Plant Operations Skills Assessment (2019)

Task 4: Fill DOT Cylinders by Weight or Volume

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

- Fill a cylinder by Weight** **Fill a Cylinder by Volume**

1. Verify that the dispensing equipment is in good working order and meets NFPA 58 requirements.
2. Open the liquid outlet valve on the storage tank and the valves in the by-pass return line.
3. Verify by visual inspection of the outside of the cylinder that the cylinder is fit for propane service and filling.
4. Place scales index at the proper setting.
5. Make all required connections and fill the cylinder.
6. **If filled by weight:** Check the weight of filled cylinder after the filling connector is disconnected
If filled by Volume: Immediately close the hose end valve when white mist appears from the fixed maximum liquid level gauge. *If overfilled: bleed off excess propane in a safe location.*
7. Leak test the cylinder after filling according to company policies
8. Install a POL plug or protective cap if so equipped.
9. Apply DOT shipping label if one is not already in place and/or cylinder warning label if the manufacturer label is not legible, or any other consumer or commercial warning label required by company procedures.

Satisfactory

Section Four: Inspect and Fill Vehicle-Mounted ASME Tanks

Task 1: Identify Vehicle-Mounted ASME Tank Valves and Connections

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Identify the following on a vehicle-mounted ASME Tank:
 - ASME data plate
 - Fixed maximum liquid level gauge
 - Relief valve
 - Filler valve
 - Float gauge

Satisfactory * **Not Applicable**

* Not Applicable means that **the company** does not fill Vehicle-Mounted ASME tanks

Task 2: Inspect a Vehicle-Mounted ASME Tank Prior to Filling

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Visually inspect the following for damage on a vehicle-mounted ASME Tank prior to filling:
 - Filler valve threads and/or gaskets
 - Fixed maximum liquid level gauge
 - Liquid or vapor service hose or valve
 - Relief valve or pipe-away hose
 - Tank, to include dents, gouges, or corrosion
 - Brackets that anchor the tank to the vehicle's frame
 - Ensure the filler valve cap is present, or replaced if necessary, and in its proper place
2. Inspect the vehicle to verify the data plate markings, propane decal, and the OPD Verification Record are present, properly located, and testing is up-to-date, *as applicable*.

Satisfactory * **Not Applicable**

* Not Applicable means that **the company** does not fill Vehicle-Mounted ASME tanks

Task 3: Fill a Vehicle-Mounted ASME Tank

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Prepare the dispensing system for metered service to a vehicle.
2. Verify that the vehicle is empty of occupants, ignition is turned off, and engine is shut off and safe for filling.
3. If filling a tank that provides vapor service, close the vapor service valve and turn off pilots or electric ignition systems on appliances inside the vehicle.
4. If metering for the individual vehicle, set the meter to zero
5. Remove the protective cap from the filler valve, and connect the motor fuel hose to the filler valve
6. Follow company policies and procedures for filling a vehicle-mounted ASME Tank.
7. Conduct a final inspection using an approved method to check for leaks.
8. Reinstall the cap on the filler valve and secure the access door.
9. Correctly explain the recovery procedure in the event a vehicle pulls away from the metering station with the hose still connected, causing the breakaway device to pull apart.

Satisfactory * **Not Applicable**

* *Not Applicable means that **the company** does not fill Vehicle-Mounted ASME tanks*

Task 4: Explain Company Policies and Procedures Related to Uncontrolled Release of Propane

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) and follow company policies and procedures for the skills assessment task evaluation:

Evaluator: For purposes of this task, an “Uncontrolled Release of Propane” is one that cannot be readily shut off.

1. Provide examples of an uncontrolled release of propane, and the types of emergency situations they can lead to.
2. Explain what is meant by “being aware of surroundings” during evacuations for an uncontrolled release of propane.
3. Correctly explain company policies and procedures for evacuating an area in the event of an uncontrolled release of propane.
4. Correctly explain company policies and procedures related to emergency responders, as applicable

Satisfactory

Section Five: Requalify DOT Cylinders by Visual Inspection

Task 1: Identify Requalification Requirements and Prepare for Inspection

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Identify the type of requalification method required as indicated by each of the following:
 No letter stamp **S** **E**
2. Identify the next requalification schedule for DOT cylinder types 4B, 4BA, 4BW and 4E using the following:
 09 14 **09 14S** **09 14E**
3. Explain the training requirements for personnel requalifying cylinders using the external visual method
4. Explain DOT requirements for cylinder requalification reports and record retention
5. Demonstrate what must be documented on requalification record pages for external visual inspection
6. Prepare for the requalification inspection process:
 Verify the requalification date
 Ensure proper documents are available to record inspection information
 Ensure the cylinder is empty and clean so as not to hide any cylinder defects

Satisfactory

Task 2: Visually Inspect and Leak Test a Cylinder for Requalification

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Visually inspect the cylinder and any part of its connections, valves, gauges or attachments not a permanent part of the cylinder for signs of fire exposure or damage.
2. Weigh the empty cylinder to verify the tare weight has not been reduced by corrosion beyond a safe tolerance.
3. Inspect the cylinder to ensure it shows no visible signs of damage, corrosion, or fire exposure that would prevent the cylinder from safely continuing service in its current condition.
4. Perform a leak test on the cylinder according to company policies and procedures, removing any cylinder from service that is found to be leaking.
5. Correctly process the cylinder:
 - Disposition is correctly documented on inspection report/record
 - Marked appropriately after inspection
 - Returned to service, if applicable
6. Correctly process cylinders that do not pass inspection for requalification:
 - Disposition is correctly documented on inspection report/record
 - Explain the differences between Rejected/Removed from Service (R or RM) or Scrapped/Condemned (SC)
 - Mark or explain how the cylinder would be processed appropriately
 - Remove the cylinder from service for condemnation, or explain how this step would be followed

Satisfactory

Task 3: Inspect a Steel Cylinder for Requalification

Evaluator: Refer to CETP Training Material Resources for DOT Cylinder Requalification by Visual Inspection Decision Chart

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Explain the requirements for rejecting or condemning a cylinder due to fire damage.
Inspect, identify/mark the cylinder for any signs of fire exposure, to include:
 - Charring or burning of the paint or other protective coating
 - Burning or scarfing of the metal
 - Distortion to the metal
 - Burning or melting of the valve(s)
 - Valve is burned or melted
 - Cylinder body is burnt, warped or distorted
2. Explain the requirements for rejecting or condemning a cylinder due to distortion or leaning.
Inspect, identify/mark the cylinder for signs of distortion or leaning, ensuring the following:
 - Cylinder is placed on a solid level surface when inspected and positioned in the same manner as when in service
 - Cylinder is correctly checked for bulges in the head or side of the body
 - Measure any found distortions as per company policies and procedures
 - Cylinder is correctly checked for excessive leaning due to a damaged or distorted foot ring
3. Explain the requirements for rejecting or condemning a cylinder due to damage to the neck of the cylinder or valve opening(s).
Inspect, identify/mark the cylinder for signs of damage to the neck and/or valve opening(s):
 - Visually check for cracks, folds, and other flaws where the neck or area valve(s) joins the cylinder
 - Check the neck or valve opening for general distortion
 - Check for stripping, cracking, corrosion, and chipping of the male threads used for mounting the protective cap to the cylinder, as applicable
 - At least five continuous full threads for tapered threads on propane cylinders
 - No visible cracks in the threads or adjacent visible areas
 - No visible damage from corrosion or other sources of that might adversely affect the structural integrity of the threads or valve installation
 - Neck or valve opening is noticeably tilted or sunken
 - Neck or valve opening is cracked

Continued

Task 3 continued

4. Explain the requirements for rejecting or condemning a cylinder due to attachment damage. Inspect and identify/mark the cylinder for signs of damage to the cylinder attachments, to include:
 - Collar
 - Foot ring
 - Other Supports
 - Visible damage, corrosion or other physical damage that might adversely affect the structural integrity of the collar or foot ring, and/or prevent the attachment from providing the intended protection for the cylinder
5. Explain the requirements for rejecting or condemning a cylinder due to dent damage limits. Inspect, identify, measure, and mark the cylinder for signs of dent damage limits as shown in the *Maximum Dent of Depths Allowed for DOT/ICC Cylinders* chart, to include:
 - Maximum depth limits on a weld
 - Maximum limits not on a weld
 - Maximum allowable dent depth
6. Explain the requirements for rejecting or condemning a cylinder due to damage limits for cuts, gouges or digs. Inspect, identify, measure, and mark the cylinder for signs of damage limits from cuts, gouges or digs using the *LP-Gas Cylinder Damage Limit Table*.
7. Explain the requirements for rejecting or condemning a cylinder due to corrosion damage limits. Inspect, identify, measure, and mark the cylinder for signs of corrosion damage limits as shown in the *LP-Gas Cylinder Damage Limits* table, to include:
 - Isolated pitting
 - Line corrosion
 - General corrosion
8. Explain the requirements for rejecting or condemning a cylinder due to weight loss limits.
 - Perform a marked tare weight check of a cylinder.

Satisfactory

Task 4: Test the Cylinder for Leaks

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) and follow company policies and procedures for the skills assessment task evaluation:

1. Perform a leak test on a pressurized cylinder using a suitable leak detector solution, ensuring the following areas are tested, at a minimum:
 - Cylinder valve threads
 - All areas where neck and foot rings are joined to the cylinder body
 - All areas that had severe corrosion, cuts, dings, and/or dents
 - Weld seams
2. Explain company policies and procedures for processing a cylinder that fails a leak test for the following:
 - Leak found at valve threads
 - Leak found at area of corrosion
 - Leak found at weld of collar
 - Leak found at weld of foot ring

Satisfactory

Task 5: Process the Cylinder

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Correctly mark a cylinder for requalification that has passed inspection with the following information:
 - RIN number
 - Month/Year of the requalification
 - Correct letter to indicate the cylinder has passed all external visual inspection requalification requirements
2. Demonstrate how to correctly document the following requalification results on the Visual Inspection Report:
 - Passed cylinder
 - Rejected cylinder
 - Condemned cylinder
3. Explain company policies and procedures for correctly marking and processing rejected and condemned cylinders.

Satisfactory

Section Six: Maintain Cylinders and ASME Tanks

Task 1: Prepare New Cylinders Received at the Bulk Plant

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) and perform the task in an approved area where there are no ignition sources for the skills assessment task evaluation:

1. Inspect new cylinders received at the bulk for damage to ensure they are approved for propane service:
 - Verify the required markings are present and legible
 - Check for valve orientation and protection, such as weather caps and collars
 - Check for damage on the entire cylinder
 - Motor fuel cylinders: check for proper orientation of the relief valve discharge, as applicable
 - Motor fuel cylinders: check that it is equipped with a forklift connector on the service valve for proper functionality, as applicable
 - Verify purging of cylinders with manufacturer's instructions or information sheets shipped with cylinders
 - Explain how to determine if cylinders were pre-purged if no manufacturer information is available, while avoiding the opening of cylinder service valves.

2. Explain the importance of purging air from a cylinder and purge a cylinder using one of the methods below:

Evaluator: Please indicate which method was used to purge the DOT cylinder of air for steps indicated throughout the task:

- Using Propane Vapor or Using a Vacuum Pump

If the cylinder was purged of air using Propane Vapor:

- Connect the vapor hose to the cylinder
- Pressurize the cylinder with propane vapor to 15 psig
- Bleed off the pressure in the cylinder
- Repeat the purging process

If the cylinder was purged of air using a Vacuum Pump:

- Vent any positive pressure through a fixed maximum liquid level gauge before connecting the pump inlet hose
- Connect the pump inlet hose to the cylinder valve
- Open the cylinder valve and turn the pump on, allowing the pump to pull 2 PSIA.
- Close the cylinder valve and turn the pump off. Disconnect the pump inlet hose from the cylinder valve

Satisfactory

Task 2: Identify Methods to Remove Propane from a Container

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Identify the hazards and precautions associated with the propane removal methods below:
 - Venting
 - Evacuation
 - Flaring
2. Explain situations where venting a propane container are both permissible and appropriate.
3. Explain both benefits and the limitations of evacuating a propane container.
4. Explain the conditions that make flaring a safe option for removing propane from a container.

Satisfactory

Task 3: Evacuate DOT Cylinders

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) and follow company policies and procedures for the skills assessment task evaluation:

1. Explain the conditions when evacuating propane from a DOT cylinder is appropriate.
2. Identify the two conventional methods for evacuating propane from a DOT cylinder and the differences and similarities in use.
3. Evacuate a DOT Cylinder using one of the methods below, following company policies and procedures:
 - Differential Pressure Evacuation (Gravity Method) or Compressor System Evacuation (Scavenging System)

Satisfactory

NPGA – Basic Plant Operations Skills Assessment (2019)

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Task 4: Prepare ASME Tanks for Installation

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) and follow company policies and procedures for the skills assessment task evaluation:

1. Inspect an ASME tank for installation, to include:
 - Verify proper working pressure for propane and data plate information
 - Check welds and fittings for leaks
2. Verify the proper function of valves and fittings, to include:
 - Pressure relief valve
 - Filler valve
 - Actuated liquid withdrawal excess flow valve
 - Service valve
 - Vapor equalizing valve
3. Examine the shell and heads for defect, to include:
 - Cracks
 - Cuts or Gouges
 - Corrosion
 - Dents
 - Bulges
 - Fire damage
4. Evaluate the tank protective coating, to include:
 - Flaking
 - General corrosion
 - Pitting
 - Acceptable general appearance

Satisfactory

Task 5: Evacuate ASME Tanks at the Bulk Plant

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) and follow company policies, procedures and safety precautions for the skills assessment task evaluation:

1. Identify the hazards associated with evacuating ASME tanks at the bulk plant.
2. Review and explain company policies and procedures related to safety guidelines and precautions for evacuating ASME tanks at the bulk plant.
3. Verify all hoses are designed for use with liquid propane and have a minimum working pressure of 350 psig and a minimum bursting pressure of 1,750 psig. Follow company procedures to inspect all hoses to be used in the transfer process and do not use any found to be defective.
4. Remove sources of ignition within 25 ft of the point of transfer, which is where hoses connect to the container filler valve and the liquid withdrawal valve and observe all precautions that apply within the Static Discharge Control Area.
5. Ensure at least one currently inspected fire extinguisher with a minimum capacity of 18lb dry chemical and B:C rating is kept within easy reach during the entire operation.
6. Ensure angle valves do not direct liquid propane toward people or ignition sources.
7. Evacuate an ASME tank at the bulk plant according to company policies and procedures, using one of the methods below:

Evaluator: Please indicate which method was used to evacuate an ASME tank for the indicated steps throughout the task:

Portable Compressor or **Bobtail Pump**

8. Properly position and secure the vehicle against movement according to company procedures, and:
 - Portable Compressor:** Shut down the vehicle engine and locate the portable compressor between the bobtail and the ASME tank.
 - Bobtail Pump:** Shut down the vehicle engine.
9. Note the percentage of liquid in the ASME tank and verify sufficient cargo tank capacity to receive the recovered liquid without overfilling.
10. Following manufacturer instructions loosen the sealing cap on the ASME tank actuated liquid withdrawal excess-flow valve, without removing it. Allow sufficient time to ensure the valve checks, and pressurize liquid and vapor vented through the valve's vent before removing the cap or determining that the cap should not be removed.
11. Install appropriate transfer valve as required.
12. Check transfer valves and hose for leaks.

Continued

Task 5 continued

13. Make proper connections and begin the transfer, based on a whether a portable compressor or bobtail pump is used:

Portable Compressor:

- Start the compressor, alert for any abnormal operating condition.
- Monitored the transfer of liquid, then shut down the compressor and closed all valves.

Bobtail Pump:

- Start the vehicle engine and engage the PTO to operate the pump at low idle speed, alert for any abnormal operating condition.
 - Monitor the transfer of liquid, then shut down the pump, PTO and engine, and close all valves.
14. Disconnect the hoses after venting trapped gas by a safe controlled release. Cap the hose ends and secure them for travel.
15. Fully open the transfer valve to check the ASME tank's actuated liquid withdrawal excess flow valve, according to manufacturer instructions
16. Properly prepare liquid withdrawal valve and remove transfer valve according to company procedures.

Satisfactory

Task 6: Repair and Replace Container Valves and Fittings

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) and follow company policies and procedures for the skills assessment task evaluation:

1. Explain company policies and procedures related to inspecting and replacing container valves and fittings
2. Identify safety guidelines and precautions for replacing container valves and fittings.
3. Inspect containers for valves and fittings in need of replacement and choose the correct replacement.
4. Following company policies and procedures, replace a valve on a container:
 - Depressurize the container safely
 - Select the correct replacement valve and/or accessories
 - Prepare the container for valve replacement
 - Prepare the valve for installation
 - Remove the damaged valve from the container and inspect the neck threads
 - Immediately install the replacement valve
 - Prepare all valve accessories for service
 - Pressurize the container and test for leaks

Satisfactory

Task 7: Identify Procedures for Injecting Methanol into a Container

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) and refer to the Safety Data Sheet (SDS) for the skills assessment task evaluation:

1. Identify the characteristics and safety precautions for methanol according to the Safety Data Sheet (SDS)
2. Following company policies and procedures, demonstrate and document the process of injecting methanol into a propane container under the following conditions:
 - Negative pressure container
 - Positive pressure container
3. Identify methanol safe storage requirements for both indoors and outdoors.
4. Explain the risks associated with the colors and numbers used in NFPA 704 for the labeling of storage containers. (See CETP Basic Plant Operations Training Materials)

Satisfactory

Task 8: Flare Propane Vapor from Containers

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Provide examples for when venting and flaring should be used as a means to release propane from containers
2. Identify the hazards and precautions associated with venting propane from a container.
3. Identify the flaring system(s) and its components used at the bulk plant
4. Flare a container according to company policies and procedures:
 - Notify local authorities, as necessary, that a flaring operation will take place
 - Explain and implement appropriate safety procedures to follow in preparation for container flaring, to include emergency egress
 - Safely evacuate liquid propane from the container
 - Select the proper equipment, to include safety equipment, and move to the proper site for flaring
 - Assemble and connect the equipment, ensuring the flaring equipment is free of leaks
 - Perform the flaring operation observing safety precautions and monitoring the flaring operation
 - Safely disassemble and store equipment

Satisfactory

Task 9: Identify Signs and Hazards of Auto-Refrigeration

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Explain the cause of auto-refrigeration and when it is most likely to occur.
2. Explain the resulting hazards of auto-refrigeration as a container begins to warm in the scenarios below:
 - Hose is disconnected and the valve is closed
 - Hose is disconnected and the valve is open
3. Explain how to avoid the hazards of auto-refrigeration.

Satisfactory

Task 10: Apply Protective Coatings to Propane Storage Containers

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) and follow manufacturer information or SDS and company policies and procedures for the skills assessment task evaluation:

1. Examine the protective coating of an aboveground ASME tank and determine whether it is suitable for continued service or must be refurbished.
2. Wearing appropriate Personal Protective Equipment (PPE), prepare the container surface for protective coating
3. Apply the protective primer and coating as applicable.
4. Apply any required markings to the container.

Satisfactory

Task 11: Identify Signs and Hazards of Anhydrous Ammonia Contamination

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Identify the hazards associated with anhydrous ammonia
2. Explain the signs of anhydrous ammonia contamination in propane
3. Explain the damage that exposure to anhydrous ammonia can have on propane cylinders
4. Perform a test for anhydrous ammonia contamination, following company policies and procedures.

Satisfactory

Section Seven: Unload a Cargo Tank Motor Vehicle (CTMV)

Task 1: Identify Characteristics of Bulkheads, Plant Piping and CTMVs

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Identify the following bulkhead components essential to loading or unloading the CTMV:
 - Liquid connections used for liquid transfer
 - Vapor connections used for pressure equalization
2. Explain how a breakaway system works and identify the components that make up the system.
3. Identify the following components of the bulk plant Emergency Shutdown System:
 - Mechanical or pneumatic connection to the internal valve (or to an approved ESV), in the liquid line of each storage tank
 - One or more emergency shutdown stations identified by signs, each with a mechanism to close storage tank shutoff valves
4. Identify the following components of the CTMV, *as applicable to the CTMV used for evaluation*:
 - Liquid level gauge
 - Temperature gauge
 - Liquid and Vapor connections
 - Pressure gauge
5. Demonstrate the correct use of Emergency Activation Systems *for CTMVs*.

Satisfactory

Task 2: Identify Hazards and Precautions for Propane Transfers

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Explain the necessary safety precautions as related to propane transfer hazards for the following:
 - Ignition sources, flammable liquids and combustible materials
 - Static Discharge Control Areas
 - Inspection of hoses and fittings prior to making connections
 - Plant emergency evacuation procedures and egress locations
2. Explain the DOT requirement for “qualified person in attendance” during propane transfers
3. Explain the following related to propane transfers for valves and hoses:
 - Inspection criteria
 - Moving hoses to the transfer site
 - Correct handling and positioning of valves at all times
4. Identify company policies and procedures related to hazards and precautions during propane transfers for the following:
 - Auto-refrigeration
 - Unloading to multiple tanks
 - Equipment malfunctions

Satisfactory

Task 3: Measure the Liquid Level in a Tank

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Identify the following gauges; explain how the gauge functions, and correctly measure the liquid level in the tank with each:
 - Float gauge
 - Rotary gauge

Satisfactory

Task 4: Determine the Amount of Propane to be Unloaded

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

- Determine the contents of the cargo tank following company policies and procedures:
 - Check the Bill of Lading to ensure the cargo tank contains propane
 - Verify and document the presence of odorant according to company policies and procedures
 - Check the specific gravity, temperature and pressure readings to ensure the load is not contaminated
 - Record the % liquid volume in the cargo tank
 - Multiply the % liquid volume by the water capacity in gallons to determine the gallons of liquid propane in the propane tank
- Determine the available capacity in storage tanks following company policies and procedures.
 - Determine maximum permitted filling level percentage for each storage tank
 - Calculate the available capacity for each available storage tank
 - Calculate the gallons that can be added to each available storage tank

Satisfactory

Task 5: Unload a Bobtail Using a Bobtail Pump

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

- Properly position and secure the vehicle against movement according to company policies and procedures
- Check the operation of ESVs following company policies and procedures
- Inspect the transfer hose connections and make the liquid and vapor connections, checking for leaks
- Open the bulkhead valves and check temporary connections at the adapter for leaks, closing the bulkhead valves if a leak is detected
- Tighten connections; replace seals or other steps necessary to stop any detected connection leak according to company policy
- Start the transfer process:
 - Set the meter, if unloading using meter delivery service
 - Open the discharge valves, including the hose end valve and the internal valve if manually operated
 - Engage the PTO; set the engine RPM to the proper speed and begin pumping, ensuring the liquid line is open
 - Stop immediately** if any of the following occur:
 - A leak is observed
 - Abnormal sounds from the pump are heard
 - Excess flow valve slugs
- Monitor the level gauges on the cargo tank and on all receiving tanks throughout the transfer process
- Stop the bobtail pump when one of the following occurs:
 - Cargo tank empties
 - All storage tanks reach their maximum permitted filling levels

Satisfactory

Task 6: Safely Disconnect the Liquid and Vapor Hoses

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

- Identify where liquid propane remains in both the riser and hose prior to the bleed down process.
- Explain when auto-refrigeration is most likely to occur during the unloading process and identify the hazards associated with disconnecting a hose from a riser under the condition of auto-refrigeration
- Loosen the vapor connection to relieve pressure in the hose and piping
- Properly disconnect and store the liquid and vapor hoses according to company policies and procedures
- Replace caps on all liquid and vapor connections and complete any required company documentation

Satisfactory

Task 7: Unload a Transport Using a Transport Pump

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Properly position and secure the vehicle against movement according to company policies and procedures
2. Check the operation of ESVs following company policies and procedures
3. Inspect the transfer hoses for damage and make the liquid and vapor connections between the transport and bulkhead
4. Check each connection for leaks by slowly charging it with propane, closing all valves if a leak is detected.
5. Tighten connections, replace gaskets or other steps to stop the connection leak as indicated by company policies and procedures
6. Start the transfer process:
 - If using CTMV hoses, slowly open the valves on the transport to equalize the pressure in the hoses
 - Slowly open the remaining vapor and liquid valves. Open the last liquid valve slowly to avoid slugging an excess flow valve
 - When the valves were open, start the pump
 - Stop immediately** if any of the following occurs:
 - A leak is observed
 - Abnormal sounds from the pump are heard
 - Excess flow valve slugs
7. Monitor the level gauges on the cargo tank and on all receiving tanks throughout the transfer process
8. Stop the transport pump when one of the following occurs:
 - Cargo tank empties, ensuring the transport pump does not run dry of liquid propane
 - All storage tanks reach their maximum permitted filling levels
9. Close all liquid and vapor valves on the bulkhead and the cargo tank

Satisfactory * **Not Applicable**

** Not Applicable means that the person's job description does not require the person to perform this task OR the company does not unload transports*

Section Eight: Maintain Bulk Plant Systems and Equipment

Task 1: Identify Safety Precautions When Performing Maintenance

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Identify the hazards associated with inspecting and servicing bulk plant equipment to include the following:
 - Storage tanks
 - Piping systems
 - Receiving and dispensing systems

Satisfactory

Task 2: Inspect and Maintain Bulk Plant Systems and Equipment

Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

1. Identify company policies and procedures for maintaining bulk plant systems and equipment to include the following:
 - Locate and review the company *Operations and Maintenance Manual* for maintaining bulk plant systems and equipment
 - Identify the employee's responsibilities related to inspecting and maintaining bulk plant systems and equipment
 - Identify the schedules for routine inspection and preventative maintenance within the employee's responsibility
 - Perform scheduled routine inspections within the employee's responsibility
 - Perform scheduled preventative maintenance within the employee's responsibility

Satisfactory

CETP Certification Performance Evaluation / Candidate Record (3.0) 2019

Completing your NPGA CETP Certification:

- 1: Successfully pass the exam.
- 2: Complete and return the *CETP Performance Evaluation / Employee Record* to the testing center below within 12 months of passing the exam.
- 3: Complete any necessary prerequisites within 12 months of passing the exam.

Make a copy for your training records and then send to:

Industrial Training Services, Inc.

120 Max Hurt Drive ● Murray, KY 42071 ● PH: 270-753-2150 ext. 2 ● EMAIL: skills@its-training.com

The information requested below will be used to assist in locating your records in the CETP database.
Please make sure to complete all requested information; we thank you in advance for your assistance.

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

Name: _____ Last four digits of SSN (only): _____

Employer: _____ Email: _____

Address: _____ Daytime Phone#: _____

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 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.

Candidate Signature _____ **Date** _____

Skills Evaluator Information: (print or type)

Name: _____

Organization/Employer: _____

Affidavit

I affirm that I am the person who has administered this checklist, and that I have conducted this Performance-Based Skills Assessment Evaluation with integrity. I also affirm that the above named Candidate 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** _____

Registered Skills Evaluator Number * _____

NPGA – Basic Plant Operations Skills Assessment (2019)

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120 Max Hurt Dr. ● Murray, KY 42071 ● TELEPHONE: 270/753-2150 ● Page 19

V4192016

Final Checklist for: 3.0 Basic Plant Operations 2019

Name: _____ Last four digits of SSN (only): _____

The candidate has been evaluated on the following tasks at the following level:
(N/A option available only as listed in Not Applicable column box(s) below)

Satisfactory	Not Applicable	
Section 1: Identify the Main Components of a Bulk Plant		
<input type="checkbox"/>		Identify the Main Components of a Bulk Plant
<input type="checkbox"/>		Identify the Hazards and Precautions at a Bulk Plant
<input type="checkbox"/>		Identify Propane Containers
Section 2: Operate the Propane Liquid Supply System		
<input type="checkbox"/>		Identify and Open the Liquid Supply Line
<input type="checkbox"/>		Explain the Purpose and Operation of an Excess Flow Valve
<input type="checkbox"/>		Identify Hazards of Contamination in Stored Propane
<input type="checkbox"/>	<input type="checkbox"/>	Verify Fill of Multiple Storage Tanks with Different Diameters
<input type="checkbox"/>		Shut Down and Secure the Liquid Supply Line
Section 3: Inspect and Fill DOT Cylinders		
<input type="checkbox"/>		Identify DOT Cylinders
<input type="checkbox"/>		Inspect DOT Cylinders Prior to Filling
<input type="checkbox"/>		Identify Safety Precautions While Filling DOT Cylinders
<input type="checkbox"/>		Fill DOT Cylinders by Weight or Volume
Section 4: Inspect and Fill Vehicle-Mounted ASME Tanks		
<input type="checkbox"/>	<input type="checkbox"/>	Identify Vehicle-Mounted ASME Tank Valves and Connections
<input type="checkbox"/>	<input type="checkbox"/>	Inspect a Vehicle-Mounted ASME Tank Prior to Filling
<input type="checkbox"/>	<input type="checkbox"/>	Fill a Vehicle-Mounted ASME Tank
<input type="checkbox"/>		Explain Company Policies and Procedures Related to Uncontrolled Release of Propane
Section 5: Requalify DOT Cylinders by Visual Inspection		
<input type="checkbox"/>		Identify Requalification Requirements and Prepare for Inspection
<input type="checkbox"/>		Visually Inspect and Leak Test a Cylinder for Requalification
<input type="checkbox"/>		Inspect a Steel Cylinder for Requalification
<input type="checkbox"/>		Test the Cylinder for Leaks
<input type="checkbox"/>		Process the Cylinder

Continued on following page – you must complete and return the entire checklist

Final Checklist for: 3.0 Basic Plant Operations 2019 - continued

Section 6: Maintain Cylinders and ASME Tanks	
<input type="checkbox"/>	Prepare New Cylinders Received at the Bulk Plant
<input type="checkbox"/>	Identify Methods to Remove Propane from a Container
<input type="checkbox"/>	Evacuate DOT Cylinders
<input type="checkbox"/>	Prepare ASME Tanks for Installation
<input type="checkbox"/>	Evacuate ASME Tanks at the Bulk Plant
<input type="checkbox"/>	Repair and Replace Container Valves and Fittings
<input type="checkbox"/>	Identify Procedures for Injecting Methanol into a Container
<input type="checkbox"/>	Flare Propane Vapor from Containers
<input type="checkbox"/>	Identify Signs and Hazards of Auto-Refrigeration
<input type="checkbox"/>	Apply Protective Coatings to Propane Storage Containers
<input type="checkbox"/>	Identify Signs and Hazards of Anhydrous Ammonia Contamination
Section 7: Unload a Cargo Tank Motor Vehicle (CTMV)	
<input type="checkbox"/>	Identify Characteristics of Bulkheads, Plant Piping and CTMVs
<input type="checkbox"/>	Identify Hazards and Precautions for Propane Transfers
<input type="checkbox"/>	Measure the Liquid Level in a Tank
<input type="checkbox"/>	Determine the Amount of Propane to be Unloaded
<input type="checkbox"/>	Unload a Bobtail Using the Bobtail Pump
<input type="checkbox"/>	Safely Disconnect the Liquid and Vapor Hose
<input type="checkbox"/>	<input type="checkbox"/> Unload a Transport Using the Transport Pump
Section 8: Maintain Bulk Plant Systems and Equipment	
<input type="checkbox"/>	Identify Safety Precautions When Performing Maintenance
<input type="checkbox"/>	Inspect and Maintain Bulk Plant Systems and Equipment

Make a copy for your training records and then send to:

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