

STATE OF ALABAMA LIQUEFIED PETROLEUM GAS BOARD



EMPLOYEE COMPETENCY ENDORSEMENT CREDENTIALS

WRITTEN EXAMINATION & PRACTICAL EVALUATION INFORMATION

Table of Contents

Page 2

- Application Information
- Written Examination & Practical Evaluation Scheduling
- Written Examination Rules

Page 3

- Written Examination & Practical Evaluation Preparation
- Grading
- Written Examination & Practical Evaluation Study Guides

Pages 4 - 9

- Bobtail Driver Written Exam Study Guide
- Bulk Plant Installations / Repairs Written Exam Study Guide
- Cargo Tank Inspections Practical Evaluation Study Guide
- Cylinder & Motor Fuel Dispensing Written Exam & Practical Evaluation Study Guide
- DOT Cylinder Requalification Practical Evaluation Study Guide
- Engine Fuel Systems Written Exam Study Guide
- Legal Compliance Written Exam Study Guide
- Meter Calibration Practical Evaluation Study Guide
- Railcar Loading / Unloading Practical Evaluation Study Guide
- Service Technician (Recreational Vehicles) Written Exam Study Guide
- Service Technician (Residential & Commercial) Written Exam Study Guide
- Tank Install / Removal / Inspect (Non-Bulk Plant) Written Exam Study Guide
- Transport Driver Written Exam Study Guide

Application Information

- To apply, permit holders must complete the *Employee Competency Endorsement Credentials Application* from the board's website under the "Employee Competency Requirements" tab at: www.lpgb.alabama.gov. You may also call the board at (334) 430-7642 for any questions related to the application process.
- Applicants must be an employee under a current permit holder eligible to perform the endorsement credential(s) desired.
- After successful completion and submission of the application, board staff will contact the applicant's employer to schedule the written examination and/or practical evaluation.
- If an applicant fails a written examination and/or practical evaluation for a particular endorsement credential, they must reapply with the board for that particular endorsement credential.

Written Examination & Practical Evaluation Locations

- The board will schedule written examination testing sites, as warranted, during industry off-season months. Notice of these testing sites and dates are posted on the board's website under the "Employee Competency Requirements" tab at www.lpgb.alabama.gov.
- Board staff will administer individual written examinations at the board office as needed. Examinations at the board office must be scheduled and approved in advance.
- Board staff will administer on-site written examinations for any employer with at least 8 employees eligible for examination. Facilities must be provided by the employer similar to a classroom setting where all examinees may test simultaneously in order that a single board employee can effectively proctor the examination. Examinations will not be conducted if the proctor determines upon arrival that an on-site facility does not meet these requirements.
- "On-site" examinees that fail an exam must test at board scheduled test sites or the Montgomery office for all additional attempts.
- Practical evaluations, when possible, will be performed immediately following written exams. Therefore, examinees should be prepared to take their practical evaluations on the day of their written exam. Practical evaluations failed will be conducted by a board inspector at the physical location where services will be routinely performed upon notice from the permit holder that the examinee has been further trained and is ready for another practical evaluation .

Written Examination Rules

- Examinees should arrive before the scheduled test time to avoid loss of examination time. If you arrive after others have begun the examination, you will not be given additional time beyond the scheduled end time of the exam.
- You must provide a VALID form of government issued photo identification such as a driver's license on the day of examination. Failure to provide the required identification at the time of the examination will prohibit you from taking the examination(s).
- All examinations are open book. Examinees must provide their own code books from the approved resource material list. The following resource materials are approved for use during the examination:
 - *NFPA 58 LP-Gas Code (2011 Edition)*
 - *NFPA 54 National Fuel Gas Code (2012 Edition)*
 - *Code of Federal Regulations Title 49 (49 CFR)*
 - *Alabama LP-Gas Board Administrative Code*
 - *Alabama LP-Gas Board Laws*
 - *NFPA 1192 Standard on Recreation Vehicles (2008 Edition)*
- You will be provided with a calculator, pencil, and a piece of scratch paper that must be turned in with your answer sheet and exam booklet at the completion of the exam.

- No cellular phones, smart watches, or any other electronic device capable of providing communication with others or taking photographs will be permitted in the exam area.
- Once the examination begins, you may leave the examination area only with the permission of the proctor. Understand that even excused departure of the exam area will decrease your examination time as the exam will end as scheduled.
- Examinees caught cheating, using electronic communication devices, or in any way attempting to transcribe or record the examination will be failed and dismissed from the examination site. Those dismissed must surrender all resource materials and wait 90 days to reapply for examination. Dismissed examinees that refuse to yield all resource materials shall not be eligible to reapply for future examinations.
- Examinees may comment on any question in the exam by simply writing their comments in the exam booklet next to the question. These comments will be used to analyze questions for possible improvement. The board will not respond to the author of the comments.

Written Examination & Practical Evaluation Preparation

- Use the study guides included in this examination information packet to study specific code requirements and topics.
- Talk with experienced co-workers about issues addressed in the study guides.
- Participate in industry-related formal classroom training opportunities.
- Practice what you learn from study of the code, on-the-job training, and formal classroom training to better understand the practical application of the material.

Grading

- Written exams will be graded by staff at the board's office in Montgomery. Upon determination of a passing score of 70 or greater on a specific written competency examination(s), an endorsement credential card will be mailed to the successful examinee provided no practical evaluations are pending.
- Practical evaluations are pass/fail, and applicants will be informed by the board inspector of their grade immediately following the evaluation.

Written Examination & Practical Evaluation Study Guides

Below are study guides for each of the competency written examinations and practical evaluations given by the Alabama LP-Gas Board. The study guides do not provide verbatim questions and are not intended to provide for rote learning. Instead, the study guides are intended to provide the subject matter from which written exam and practical evaluation questions are based for each competency category. Study guides are enclosed for the following written competency exams and/or practical evaluations:

- Bobtail Driver
- Bulk Plant Installation / Repairs
- Cargo Tank Inspections
- Cylinder and Motor Fuel Dispensing
- DOT Cylinder Requalification
- Engine Fuel Systems
- Legal Compliance – ****MANDATORY FOR ALL ENDORSEMENT APPLICANTS****
- Meter Calibration
- Railcar Loading / Unloading
- Service Technician (Recreational Vehicles)
- Service Technician (Residential & Commercial)
- Tank Install / Removal / Inspect
- Transport Driver

Study Guide for Written Exam – Bobtail Driver

Exam Applicants should be familiar with the following:

- Bobtail delivery hoses, routing, inspection
- Chock blocks
- Container suitability for filling
- Emergency shutoff valves at bulk plants
- Employee training requirements per NFPA 58
- Filler valve operation
- Leak testing
- Meter calibration seals
- Meter creep test
- Off-truck remote shut down devices
- Overfilled containers
- Ownership of containers
- Prohibited practices near transfer operations
- Relief valves with external springs
- Sources of ignition hazards and distances
- Spew gauge function
- Supplying cylinder or motor fuel dispensers
- Tank locations and distances
- Transfer operations attendance and distances

Study Resource(s):

- **Alabama LP-Gas Laws** – available for free at <http://lpgb.alabama.gov>
- **Alabama Liquefied Petroleum Gas Board Administrative Code** – available for free at <http://lpgb.alabama.gov>
- **NFPA 54 National Fuel Gas Code**, 2012 Edition
- **NFPA 58 LP-Gas Code**, 2011 Edition
- **49 CFR, Code of Federal Regulations**

Study Guide for Written Exam – Bulk Plant Installation / Repair

Exam Applicants should be familiar with the following:

- Container damage
- Container data plates
- Container distances
- Container foundations
- Container relief valve replacement
- Dispensing station bulk storage containers
- Electrical requirements
- Emergency shutoff valve requirements
- Fusible links (temperature sensitive elements)
- Hose requirements
- Hydrostatic relief valves
- Installation of multiple containers of different sizes
- Installation permits and inspections from the board

- Leak testing of piping
- Piping and hose pressure ratings
- Point of transfer distance requirements
- Propane physical properties
- Pump installation
- Purging of containers
- Schedule 40 & 80 pipe and fittings – liquid and vapor service
- Security at bulk plants
- Valve pressure ratings

Study Resource(s):

- **Alabama LP-Gas Laws** – available for free at <http://lpgb.alabama.gov>
- **Alabama Liquefied Petroleum Gas Board Administrative Code** – available for free at <http://lpgb.alabama.gov>
- **NFPA 58 LP-Gas Code**, 2011 Edition

Study Guide for Practical Evaluation – Cargo Tank Inspections

Practical Evaluation Applicants should be familiar with the following:

- Cargo tank test marking
- Documentation of testing
- External visual inspections (V)
- Hose management inspections
- Hydrostatic or Pneumatic testing (P)
- Internal visual inspections (I)
- Leakage testing (K)
- Meter “creep test”
- Off-truck remote shutdown equipment
- Personnel safety
- Relief valve requirements
- Tolerance for shell or head thickness
- Ultrasonic thickness testing
- Water / Moisture removal
- Wet fluorescent magnetic particle method

Study Resource(s):

- **Alabama LP-Gas Laws** – available for free at <http://lpgb.alabama.gov>
- **Alabama Liquefied Petroleum Gas Board Administrative Code** – available for free at <http://lpgb.alabama.gov>
- **NFPA 58 LP-Gas Code**, 2011 Edition
- **49 CFR, Code of Federal Regulations**
- **ASME Boiler & Pressure Vessel Code**

Study Guide for Written Exam & Practical Evaluation – Cylinder & Motor Fuel Dispensing

Written Exam & Practical Evaluation Applicants should be familiar with the following:

- Alabama motor fuel laws

- Controlling sources of ignition
- Converting water capacity to propane capacity
- Cylinder appurtenances and replacement requirements
- Cylinder labeling requirements
- DOT cylinder data stamps & meaning
- Filling recreational vehicles
- How to calculate proper scale settings
- Overfill prevention devices (OPDs)
- Purging of cylinders
- Requalification requirements for cylinders
- Safe filling practices
- Transportation requirements for cylinders
- Visual inspection of cylinders prior to filling

Study Resource(s):

- **Alabama LP-Gas Laws** – available for free at <http://lpgb.alabama.gov>
- **Alabama Liquefied Petroleum Gas Board Administrative Code** – available for free at <http://lpgb.alabama.gov>
- **NFPA 58 LP-Gas Code**, 2011 Edition
- **49 CFR, Code of Federal Regulations**

Study Guide for Practical Evaluation – DOT Cylinder Requalification

Practical Evaluation Applicants should be familiar with the following:

- RIN / VIN Identification
- Requalification markings
- Requalification records / logbook
- OPD valves
- Pressure relief valve replacement
- Container damage tolerance
- Rejection criteria
- Cylinder evacuation
- Cylinder disposal
- Cylinder refurbishing
- Composite, steel, and aluminum cylinders

Study Resource(s):

- **Alabama LP-Gas Laws** – available for free at <http://lpgb.alabama.gov>
- **Alabama Liquefied Petroleum Gas Board Administrative Code** – available for free at <http://lpgb.alabama.gov>
- **NFPA 58 LP-Gas Code**, 2011 Edition
- **49 CFR, Code of Federal Regulations**
- **CGA C-6 Standards for Visual Inspection of Steel Compressed Gas Cylinders**
- **CGA C-6.3 Guidelines for Visual Inspection and Requalification of Low Pressure Aluminum Compressed Gas Cylinders**

Study Guide for Written Exam – Engine Fuel Systems

Exam Applicants should be familiar with the following:

- Alabama LP-Gas Board permit requirements
- Carburetion equipment pressure ratings
- Container maximum allowable working pressure (MAWP)
- Cylinder exchange indoors
- Engine fuel piping installation and testing
- Installation location and mounting requirements for containers
- Overfill prevention devices (OPDs)
- Pressure relief valve discharge
- Remote filling requirements
- Requirements for indoor work on engine fuel systems
- Safety shutoff valves
- Vaporizers

Study Resource(s):

- **Alabama LP-Gas Laws** – available for free at <http://lpgb.alabama.gov>
- **NFPA 58 LP-Gas Code**, 2011 Edition

Study Guide for Written Exam – Legal Compliance

****MANDATORY EXAMINATION FOR ALL ENDORSEMENT CREDENTIAL APPLICANTS****

Exam Applicants should be familiar with the following:

- Alabama LP-Gas Board authority over pricing, contract disputes, and billing disputes.
- Alabama LP-Gas Board composition and elections
- Alabama LP-Gas Board fines and penalties
- Alabama LP-Gas Board Permits – Determining if a permit is required.
- Alabama LP-Gas Board's authority in the interest of safety
- Authority Having Jurisdiction (AHJ)
- Citizenship requirements to obtain a permit
- Codes enforced by the Alabama LP-Gas Board
- Eligibility to repair containers
- Filling a container owned by another
- New employee testing requirements
- Promulgation of Alabama LP-Gas Board regulations
- Red Tags

Study Resource(s):

- **Alabama LP-Gas Laws** – available for free at <http://lpgb.alabama.gov>
- **Alabama Liquefied Petroleum Gas Board Administrative Code** – available for free at <http://lpgb.alabama.gov>

Study Guide for Practical Evaluation – Meter Calibration

Practical Evaluation Applicants should be familiar with the following:

- Suitability / Safety of test site
- Setting up the prover
- Source of ignition controls
- Safety equipment
- Bobtail off-truck remote shutoff operation
- Chock blocks
- Compensate & Uncompensated runs
- Volume Correction
- Calibration seals
- Calibration documentation
- Hose inspection
- Prover certification
- Alabama LP-Gas Board Calibration Requirements

Study Resource(s):

- **Alabama LP-Gas Laws** – available for free at <http://lpgb.alabama.gov>
- **Alabama Liquefied Petroleum Gas Board Administrative Code** – available for free at <http://lpgb.alabama.gov>
- **NFPA 58 LP-Gas Code**, 2011 Edition
- **NIST Handbook 44 2016 Section 3.32**

Study Guide for Practical Evaluation – Railcar Loading / Unloading

Practical Evaluation Applicants should be familiar with the following:

- Anchorage and breakaway safety
- Attendance requirements
- Control of ignition sources
- Controlling sources of ignition
- Emergency shutoff valve requirements
- Hose inspection
- Overfill prevention
- Point of transfer requirements
- Remote safety shutdown
- Venting gas to the atmosphere
- Warning signs during loading / unloading
- Wheel Chocks

Study Resource(s):

- **Alabama LP-Gas Laws** – available for free at <http://lpgb.alabama.gov>
- **NFPA 58 LP-Gas Code**, 2011 Edition

**Study Guide for Written Exam – Service Technician
(Recreational Vehicles)**

Exam Applicants should be familiar with the following:

- Appliance installation
- Combustion and ventilation air
- Container compartments
- Fuel type and conversion of appliances
- Location and sizing of piping
- LP-gas delivery pressure
- LP-gas detectors
- Negative air pressure from forced-air heating appliances
- Pressure testing
- Regulator capacities and location
- RV owner manuals
- Vent piping installation

Study Resource(s):

- **NFPA 1192, *Standard on Recreational Vehicles*, 2008 Edition**

**Study Guide for Written Exam – Service Technician
(Residential & Commercial)**

Exam Applicants should be familiar with the following:

- Acceptable metal piping
- Acceptable pipe fittings and metal pipe joining methods
- Appliance data plate information
- Appliance shutoff valves
- Calculating combustion and ventilation air supply
- Checking minimum gas supply inlet pressures
- Class C Permit holder permissible job functions
- Concealed piping and fitting installations
- Corrugated Stainless Steel Tubing (CSST)
- Flammable Vapor Ignition Resistant (FVIR) water heaters
- Leak Testing (Leak Check)
- Maximum design operating pressure of systems
- Moisture problems with LP-gas systems
- Orifice sizing
- Piping installation
- Pressure testing
- Regulator installations
- Requirements for pressure testing gauges
- Threading metallic pipe
- Using pipe sizing charts
- Work interruptions

Study Resource(s):

- **Alabama LP-Gas Laws** – available for free at <http://lpgb.alabama.gov>
- **Alabama Liquefied Petroleum Gas Board Administrative Code** – available for free at <http://lpgb.alabama.gov>
- **NFPA 54 National Fuel Gas Code**, 2012 Edition
- **NFPA 58 LP-Gas Code**, 2011 Edition

**Study Guide for Written Exam – Tank Install / Removal / Inspect
(Non-Bulk Plant)**

Exam Applicants should be familiar with the following:

- Alabama LP-Gas Board permits that allow non-bulk plant tank installations
- Appurtenance replacement and repair
- Container installation distances
- Containers in flood zones or high water tables
- Marking requirements on containers
- Point of transfer separation distances
- Regulator types that may be used to supply piping systems
- Removal deadline for containers in Alabama
- Replacing another company's storage container at a customer's property
- Replacing pressure relief valves
- Requalification of DOT cylinders used in stationary service
- Transportation of containers with product
- Underground container corrosion protection and testing requirements
- Underground metallic pipe installation
- Vertical ASME containers
- Wet lines – Dispensers employing gravity flow with no pump

Study Resource(s):

- **Alabama LP-Gas Laws** – available for free at <http://lpgb.alabama.gov>
- **Alabama Liquefied Petroleum Gas Board Administrative Code** – available for free at <http://lpgb.alabama.gov>
- **NFPA 58 LP-Gas Code**, 2011 Edition

Study Guide for Written Exam – Transport Driver

Exam Applicants should be familiar with the following:

- Agriculture or industrial air moving equipment during unloading operations
- Calculating proper fill level of bulk storage container based on liquid temperature and specific gravity of product
- Chock block requirements
- Container suitability for filling
- Controlling sources of ignition
- Driving with half-full cargo tanks
- Emergency shutoff valve and internal valve functionality
- Employee training requirements

- Hose damage evaluation
- Loading / Unloading attendance requirements
- Parking of cargo tank vehicles
- Position of cargo tank during unloading
- Properties of LP-gas
- Safety shutdown requirements
- Vapor equalization during loading / unloading
- Vehicle inspections

Study Resource(s):

- **Alabama LP-Gas Laws** – available for free at <http://lpgb.alabama.gov>
- **Alabama Liquefied Petroleum Gas Board Administrative Code** – available for free at <http://lpgb.alabama.gov>
- **NFPA 58 LP-Gas Code**, 2011 Edition
- **49 CFR, Code of Federal Regulations**