DPNS/DOE FS 10:2016

Code of Safety Practices for LPP in Retail Outlet

PHILIPPINE NATIONAL STANDARD **PNS/DOE FS 10:2016**

Foreword

This Philippine National Standard on Code of Safety Practices for Liquid Petroleum Product (LPP) in Retail Outlet was prepared by the Department of Energy's Technical Committee on Petroleum Processes and Facilities Sub-Working Group 1 (Liquid Fuel) specifically for Retail Outlet and was approved for adoption as Philippine National Standard by the Bureau of Philippine Standards.

The Standard development role of the DOE through OIMB-OISMD is in pursuant to the Memorandum of Agreement (MOA) between the DOE-OIMB and DTI-BPS.

This standard was prepared as a guide for managers/operators as well as their respective personnel of retail outlet focusing on safety and good practice procedures with reference to relevant health and safety standards.

In the development of this Code, the following standards were considered:

- Philippine National Standard (PNS/DOE FS 1-4 : 20015) on Retail Outlet
- Philippine National Standard (PNS/DOE FS 4 : 2007) on Liquid Petroleum Products (LPP) Depot
- Occupational Safety and Health Standards
- Fire Code of the Philippines, RA 9514

Contents

1 Scope

This Code covers the typical activities associated in the normal operations of a Retail Outlet applicable to all kind of lots from mid-block lot, corner lot and passing-thru lot.

2 Definition of Terms

In the development of this Code, the following definition of terms were used:

AHJ (Agency Having Jurisdiction) - a government agency that monitors and regulates the Liquid Petroleum Product (LPP) Retail Outlet and authorized to grant permits and/or other similar instruments for the operation of same

Barrier (Barricading) – an enclosure used to establish safe working area and prevent pedestrian and vehicular traffic from entering the work area.

BFP - The Bureau of Fire Protection

Class A Fires - Fires involving ordinary combustible materials such as wood, cloth, rubber and plastics.

Class B Fires - Fires involving flammable liquids and gases

Class C Fires - Fires involving energized electrical equipment

Confined Space - any space having a limited means of egress, which is subject to the accumulation of toxic or flammable contaminants or has an oxygen deficient atmosphere. Confined or enclosed spaces include, but are not limited to, storage tanks, process vessels, bins, boilers, ventilation or exhaust ducts, sewers, underground utility vaults, tunnels pipelines, and open top spaces more than 4 feet in depth such as pits, tubs, septic vaults, and vessels.

Delivery Details / Receiving Checklist Form (DDRC) - A copy of Hauler's Delivery Document. Detailed also within the form is a step by step procedure of delivery receiving.

Delivery Receipt (DR) - sales delivery document to customer indicating customer name, customer address, product and volume to be delivered.

DENR/EMB - The Department of Environment and Natural Resources/Environmental Management Bureau.

DOE - The Department of Energy

DOLE - The Department of Labor and Employment

DTI - The Department of Trade and Industry

DWFGT – Double Wall Fiber Glass Tank

Eye Protection – Protective gear designed to protect the eyes from particles, flying objects and glare.
Face Protection – A face shield use to protect the personnel from possible face injury attributed to welding sparks, flying objects and chemical splashes.

Fire Alerting System - A fire alarm system activated by the presence of fire, where the signal is transmitted to designated locations instead of sounding a general alarm.

Fire Exit Drill - A practice drill for the orderly and safe evacuation of occupants in the buildings.

Fire Hazard - Any condition or act which increases or may cause an increase in the probability of the occurrence of fire, or which may obstruct, delay, hinder or interfere with firefighting operations and the safeguarding of life and property.

Fire Protective and Fire Safety Device - Any device intended for the protection of buildings or persons to include, but not limited to, built-in protection system such as sprinklers and other automatic extinguishing system, detectors for heat, smoke and combustion products and other warning system components, personal protective equipment such as fire blankets, helmets, fire suits, gloves and other garments that may be put on or worn by persons to protect themselves during fire.

Fire - The active principle of burning, characterized by the heat and light of combustion.

Flammable Liquids - Are liquids having flash points below thirty seven and eight tenths degrees Celsius (37.8°C) except any mixture having components with flash points of seven and eight tenths degrees Celsius(37.8°C) or higher, the total of which make up ninety nine percent (99%) or more of the total volume of the mixture.

Hand Protection - Wear protective gloves to protect the hands from absorption of harmful substances when exposed to hazards; severe cuts or lacerations; severe abrasions; punctures; chemical burns; thermal burns; and harmful temperature extremes. (parked – definition for clarification)

Hazard - A situation or thing that has the potential to harm a person. Hazards at work may include: noisy machinery, a moving forklift, chemicals, electricity, working at heights, a repetitive job, bullying and violence at the workplace.

Head protection – Safety helmets (hard hats) to protect the head from falling object, accidental bump in areas with restricted clearance and other potential hazards.

Hearing Protection – a hearing device designed to prevent noise induce hearing loss.

HDPE – High Density Polyethelyne

Machine - is a tool containing one or more parts that uses energy to perform an intended action.

UGT - means underground tank as receptacle of fuel product in station.

Manager/Operator - a person operating or managing a fuel retail outlet and liquid petroleum products depot.

PNS - The Philippine National Standard

Personal protective equipment (PPE) - a device designed to be worn by service station personnel for protection against safe and health hazards. It acts as a protection barrier between the body of a person working at the service station, and the potential hazards, hereby reducing the risk of bodily injury.

Pollution Control Officer – a person who responsible in environmental protections and environmental compliance

Receiving checklist – indicates all receiving inspection done by depot personnel, ensuring tank truck's loading compliance.

Responsible Officer - This officer must be present at the station during operation and should undergo the Basic Occupational Safety and Health of the Department of Labor and Employment (DOLE), association or organization accredited or recognized by Authority Having Jurisdiction (AHJ). AHJ shall define the minimum requirements of the training.

Risk - The possibility that harm (death, injury or illness) might occur when exposed to a hazard.

Risk control - Taking action to eliminate health and safety risks so far as is reasonably practicable, and if that is not possible, minimizing the risks so far as is reasonably practicable. Eliminating a hazard will also eliminate any risks associated with that hazard.

Safety Footwear – A durable steel–capped shoes that has a protective reinforcement in the toe designed to safe guard the foot from falling objects and accidental compression.

Safety Officer – a person who has undergone a complete Basic Occupational Safety and Health Training (BOSH)

Tank Truck - Any vehicle carrying or towing a cargo tank used for transporting flammable fluids.

TESDA - Technical Education and Skills Development Authority.

Uniform – A body protection to keep the body free from corrosive, oily, dirty and dusty materials.

Ventilation - The process of supplying or removing air by natural or mechanical means to or from any space.

3 Safety and Health Committee

As per Department Order 16-01 of Department of Labor and Employment (DOLE) under hazardous workplace, with 1 – 50 workers, the number of required safety officer is one (1) part time.

Number of workers	Minimum Number of Safety Officers	
	Hazardous	Highly hazardous
1 – 50	One (1) part-time	One (1) full-time
51 – 200	One (1) full-time	One (1) full-time & one part time

A Retail Outlet falls under a hazardous work place classification.

By part time, it means that the safety officer may have other responsibilities within the Retail Outlet aside from being a designated safety officer for the particular work shift. He must render safety work at least 1 hour per day.

Safety Officer must undergo complete Basic Occupational Safety and Health Training (BOSH).

A first aider must undergo a first aid training from Philippine Red Cross.

BOSH is a 40 hours training given by OSHC and DOLE accredited training organizations that can be searched at dole website.

Composition of Safety and Health committee

Chairman – Manager/Operator
Members - Three (3) workers
Secretary - Part-time Safety Officer/first aider

Duties of the Safety and Health committee

1. Plans and develops accident prevention program for the establishment

2. Directs the accident prevention efforts of the establishment in accordance with the safety programs, safety performance and government regulations in order to prevent accidents from occurring in the workplace.

3. Reviews reports of inspection, accident investigations and implementation of program

4. Conducts safety meeting at least once a month

5. Submits report to the manager/operator on its meeting and activities

6. Provides necessary assistance to government inspecting authorities in the proper conduct of their activities such as the enforcement of the provisions of the standards

7. Initiates and supervises safety training for employees

Duties of the Safety Officer

1. Serves as Secretary to the Safety and Health Committee
   a. Prepare minutes of meetings
   b. Report status of recommendations made
   c. Notify members of the meetings
   d. Submit to the Manager/Operator a report of the activities of the committee including recommendations made.

2. Acts in advisory capacity on all matters pertaining to health and safety for the guidance of the manager/operator and workers.

3. Conducts investigation of accidents as member of the health and safety committee and submit report and analysis of accidents to manager/operator.

4. Coordinates all health and safety training programs for the employees and manager/operator.

5. Conducts health and safety inspection as member of the committee.

6. Maintains or helps in the maintenance of an efficient accident record system and coordinates actions taken by supervisors to eliminate accident causes.

7. Provides assistance to government agencies in the conduct of safety and health inspection, accident investigation or any related program.

8. He must report directly to the manager/operator.

Duties of manager/operators

Health and Safety Committees play very important roles in eliminating work hazards. Developing worker's interest and participation in the planning and development of safety program is the responsibility of the manager/operator. The manager/operator must exercise the necessary leadership and provide support to make the program work. The principal duties of the manager/operator are:

1. Establishes and adopts in writing administrative policies on safety in conformity with the provision of the Occupational Safety and Health (OSH) Standards outlining therein his responsibility and authority delegated.

2. Reports to the AHJ in two (2) copies adopted and the safety and health organization established to carry out the program on safety and health within one month after the organization or reorganization of the safety and health committee.

3. Report to the AHJ at least once in every three (3) months counting from January, the safety and health program of the organization outlining the activities undertaken including its safety performance, health and safety committees meetings and its recommendations and measures taken to implement them.
4. Acts of recommended measures by the safety and health committee by adopting the elements of the health and safety program in the workplace and in case of non-adoption of the safety and health committee's recommendation, to inform the committee of his reasons.

Duties of workers as members of the committee

1. Works in accordance with accepted safety practices and standards established by the manager/operator in compliance with the provisions of the OSH Standards

2. Cooperates actively with the Health and Safety Committee

3. Assist government agencies in the conduct of health and safety inspection or other programs.

4 Personal Protective Equipment

Parameters/ Minimum safety requirements:

All PPEs used in a service station shall meet the minimum requirements of a local and or internationally recognized certifying body.

All PPEs must be properly maintained and must be inspected first prior to its use.

All worn out PPEs must be replaced immediately and must not be used in the service station premise.

Table 1 Minimum PPE requirements while working at the LPP Retail Outlet

Activity/ Personnel	Safety Spectacles 	Hard Hat 	Steel Toed Shoes 	Appropriate Gloves 	Hearing Protection 	Uniform 	Respirator 	Safety Harness 
A. Tank Truck Receiving								
Pump Attendant	✓	✓	✓	✓		✓		
T/T Driver	✓	✓	✓	✓		✓		
B. Operations								
Fuel Dispensing/ Pump Attendant			✓			✓		
Auto Servicing/ Service Mechanic	✓	✓	✓	(A/R)		✓		
Washing/ Pump Attendant			✓	✓*		✓		
Housekeeping/ Pump Attendant	(A/R)		✓	✓*		✓		
Office Personnel						✓		
C. Preventive Maintenance								
Dispensing Pump maintenance	✓	✓	✓	✓	✓	✓		
UGT Cleaning	✓	✓	✓*	✓	(A/R)	✓	✓	✓*
Building maintenance	(A/R)	✓	✓	✓*	(A/R)	✓		(A/R)
Driveway maintenance	✓	✓	✓	✓*	✓	✓		
Canopy/ Signage maintenance	(A/R)	✓	✓	(A/R)		✓		(A/R)
Welding/Hotworks	✓*	✓	✓	✓*	✓	✓*		
Working at Heights	(A/R)	✓	✓	(A/R)		✓		✓

Table 2 – Other Required PPE

Activity/Source	Hazard	PPE	*Other Required Protection
Washing	Electrical shock and electrocution	Hand Protection	Rubber/Insulated Gloves
Housekeeping	Electrical shock and electrocution	Hand Protection	Rubber/ Insulated Gloves
UGT Cleaning	Exposure to chemicals causing dry skin, dermatitis, burns, or irritation	Foot Protection	Safety Boots
	Entrapment hazard	Safety Harness	Retrieval Harness
Building/Driving maintenance	Lacerations from sharp objects and abrasive surfaces, etc.	Hand Protection	Leather/ Cut- resistant rubber gloves
Welding/ Hot Works	Exposure to flying particles, molten metal or sparks and ultraviolet light which may cause eye damage/ burns	Hand Protection	Leather gloves, flame- retardant gauntlet gloves, chemical treated cloth gloves
		Body Protection	Fire Retardant Clothing/ Apron
		Eye & Face Protection	Welding Helmets/ Shields/ Safety Goggles

5 Safe Operations Distances
Applicable to the New Outlet only

A. Dispensing Pumps

- 6 meters from any potential source of ignition

- No open flame within 15 meters
- Dispensing hose – length shall be 5.5 meters (18 ft) max

a) **Pump Islan**d (single pump)

- minimum dimension – 3.5 m x 1.2 m
- Edge to edge Distance between pump island – 6 meters measured along the lane
- Note that Lane oriented pump should have a minimum distance of .05 meter from fixed object
- Presence of pump guard, or its equivalent (e.g. column post), serving as safety barrier and can withstand vehicular impact for the dispensing devices shall be provided.

B. Underground Storage Tanks

- Distance to Property line and adjoining structure shall not be less than 1.0 meter.
- Distance between tanks – 0.45 meters minimum.
- Presence of vent lines (3.65 meters minimum), monitoring wells and fill sump (rain tight).

C. Presence of Office/Cashier's booth and Restroom

D. Canopy

- Height 4.5 meters from floor line to canopy ceiling minimum

E. Tank Openings

Tank openings, fill pipes, fill caps and fill tubes shall be normally 0.13 m (4 in.) in diameter. Submersible pumps designed with the capacity to meet the normal layout and operation requirements of Retail Outlet are built with 0.10 m (4 in.) tank openings.

F. Turning radius

a) Delivery truck – safe turning radius for 10KL delivery truck (min)
b) The type of vehicle to be served by the Retail Outlet and the size of delivery truck serving the same shall be the minimum parameter for lot.

6 Basic Operations

6.1 Standard Procedures in LPP Receiving

i. Responsible Officer & designated personnel should approach the delivery truck upon its arrival.
ii. The designated personnel should guide the delivery truck to the assigned vacant level surface space near the station's underground tank (UGT).

iii. Check the Delivery Receipt and Releasing and Receiving Checklist Form presented by the truck's driver.
iv. Use Water Finding Paste to determine possible presence of water (change of color, indicates possible water contamination).

6.2 Standard Procedures in LPP Dispensing

i. Acknowledges or guides the customer with proper hand gestures within 5 seconds after the customer has entered the forecourt.
ii. Greets customer courteously, and with a smile, using "sir" or "ma'am" when appropriate
iii. Politely offers full tank and asks for payment type when appropriate.
iv. Respectfully points to stanchion safety signage when appropriate
v. Staff offers existing promotions when appropriate.
vi. Places gas cap on the car's gas cap holder or on top of the pump and not on top of the car.
vii. Confirms order and points at "0" pump meter reading before pumping gas.
viii. Offers windshield wipe and tire check and properly executes when customer accepts offer.
ix. Informs customer of the actual pump meter reading or amount and confirms the payment received.
x. Gives receipt automatically, thank the customer, and guides the customer out.

6.3 Standard Procedures in Service Bay Operations

A. Drive vehicle into bay/ Indicate that you are ready to start servicing the vehicle.

Note: It is important that the vehicle be accurately positioned over the lift or the pit or run-up on the ramp. Shell strongly prefers that a trained technician drive the vehicle into the lube bay.

i. Offer to drive the vehicle into the lube bay. "May I drive your vehicle into the lube bay for you?"
   - If the answer is "No," explain to the consumer that you will guide them in.
   - Position yourself out of the line of traffic at the far end of the bay on the driver's side. Make sure you have a clear path to jump out of the way in case the driver loses control of the vehicle.
   - Ask the driver if he/she can see and hear you. Do not start to guide him in until you confirm that you can be seen and heard.
   - Use hand signals to guide the vehicle into the bay.
   - When the vehicle is positioned, ask the driver to turn off the engine and set the brake. If it has a manual transmission, ask the driver to leave it in gear.
   - Note: If you do not drive the vehicle into the lubebay, you will need to start the vehicle to check the oil light.

ii. If the answer is "Yes,"

- Help the consumer out of the vehicle. Invite him to stand in the waiting area while you drive in.
- "Here, let me help you out. Please turn off the vehicle and leave the keys in the ignition? Would you mind standing there a moment while I get the vehicle ready and drive it in?"
- Watch to see if the consumer leaves the keys in the vehicle.
- Go get seat and floor mat covers and put them in place. Get in vehicle. Start vehicle and check oil light and sound.
- Drive vehicle into the lube bay.
- Set parking brake and release the hood.
- Return to your consumer.

iii. Direct customer to waiting area

- Indicate to your consumer that you are ready to begin work on the vehicle; show them to the waiting area.
- If the consumer wants to watch, you need to explain that it is a safety rule that only service personnel can be in the lube bay while a vehicle is being serviced. You can mention the lift or the pit and the risk of getting splashed with oil or dirt falling from the vehicle.
- Offer them any amenities or drinks available.

iv. Make ready supplies and prepare vehicle for service.

- Pull stock and place on workbench.
- Check your work order and pull containers of the oil grade that the consumer has selected.
- Use your filter book to identify the right oil filter and retrieve it.
- Identify all of the other items or products you will need to service the vehicle.

v. Open the hood and place protectors on fenders.

- Both fenders should be covered with fender covers to prevent damage from dripping fluids, tools, belt buckles, etc. Fender covers also provide a convenient/consistent place to put caps and tools while fluids are being checked/filled.

vi. Complete preliminary check of oil level.

- Remove oil filler cap and place on fender cover.
- Removing the cap helps the oil to drain more quickly. Placing the cap on the fender cover will keep you from misplacing the cap.
- You should never perform an oil change on a vehicle that has been operated without lubricant. This preliminary check is to make sure the vehicle has not been run dry.
- Use the dipstick to check the oil level.
- Withdraw the dipstick and clean it with a paper towel or cloth. Reinsert the dipstick as far as it will go and then withdraw it again. Note the oil level on the dipstick.

- If the oil level is very low, whitish, or otherwise unusual in appearance, stop work, note problem on the Work order, and consult with the consumer.
- Leave dipstick halfway out of the tube.
- If there is a problem with the oil level, Inform the consumer that you cannot perform the oil change. You can use language like this: "I checked the oil level in your engine and it [describe what you found]. Our policy does not allow us to change the oil on a vehicle that has been run with the oil level critically low." I recommend you take your vehicle to a full-service repair facility and have them inspect the engine for potential damage. I'm very sorry. There will be no charge. I'll be glad to show you what I found.
- If your consumer wants to see, show them what you found.

vii. Raise vehicle; drain oil; check differential and gear box; replace oil filter.

- Raise the vehicle on the lift.
  NOTE: You should not perform this task until you are trained and qualified to operate the lift by your manager. Equipment will change by market. Market- and location-specific information should be inserted here to accommodate the type of lift and the use of ramps or pits.
- Position the lift plates under the vehicle and raise the lift. Check for proper alignment when the lift is first in contact with the vehicle.
- Be careful to set any safety locks on the lift.

viii. Drain oil

- Position the oil drain cart under the vehicle's drain point. (There are two drain points on some vehicles.
- Remove the drain plug(s). Using a wrench, turn the oil drain plug counter-clockwise and remove it.
- Use extreme caution when performing this procedure. Hot oil can be released as the plug is removed. You should be wearing protective gloves.
- Drain the oil into the drain cart.
- Check the condition of the gasket, the bolt head, and the threads. If necessary, replace the gasket. If the bolt is stripped, you will need to replace it, later. Be sure to advise customer.

ix. Remove and replace oil filter.

- Most oil filters are accessed from under the vehicle. (If you are working on a vehicle where the oil filter is accessed from above, replace it after you have completed all work underneath the vehicle and lowered the lift.)
- Loosen the oil filter and gasket with the correct oil wrench. This may be filter pliers, band wrench, cup

wrench, or a claw wrench. Then spin the filter off by hand. Caution: The oil in the filter can be extremely hot.

- Drain the excess oil out of the filter into the oil drain cart or an approved container. Either puncture the filter on the tops and side and let it drain for 24 hours, or use an approved oil filter crusher.
- Wipe the mounting base clean and remove any oil filter gasket material.
- Pick up the new filter and make sure the gasket is properly seated in the base.
- Lubricate the new gasket with clean motor oil and slowly start to thread the filter on the filter stud, turning it clockwise. Be sure the threads line up properly so you do not cross-thread the filter.
- Tighten the oil filter by hand.
- Turn the filter another [turn/half turn?] with a band wrench or cup wrench. (Other wrenches may puncture the filter.)

x. Replace drain plug.

- Inspect the drain plug to make sure the threads are not stripped. Inspect the gasket for cracks or damage. Replace the plug and/or gasket if necessary.
- Wipe the area clean.
- Replace the plug and tighten it by hand to prevent cross-threading.
- Finish tightening the plug with the proper wrench.
- Wipe the serviced area clean again.

xi. Lower the vehicle

- Lower vehicle; pour oil into engine and start; check for leaks; turn off engine and verify oil level.
- Make sure items such as equipment, tools and the drain cart have been removed from the floor of the bay before you lower the vehicle.
- Operate the lift.
  NOTE: You should not perform this task until you are trained and qualified to operate the lift by your manager. Equipment will change by market. Market- and location-specific information should be inserted here to accommodate the type of lift and the use of ramps or pits.

xii. Pour oil into engine.

- Confirm that you have the oil the consumer has selected.
- Place funnel in the filler hole.
- Put a shop towel around the filler hole to prevent oil from splashing or running onto the engine.
- Carefully pour oil into funnel. Keep track of the amount of oil you have put in the engine to avoid over filling.
- Wipe off and replace filler cap.

- Replace the dipstick and oil check level. Add more oil if necessary. If overfilled, raise vehicle and remove some oil.
- Note: If the volume of lubricant required exceeds the amount included in the service price, explain the charge to the consumer and get approval before adding the oil. Generally, you should be familiar enough with vehicles to recognize this before you complete the Work order with the consumer. (See the step under Pre-Service Actions for what to do and how to speak to the consumer.)

xiii. Start engine and checks for leaks.

- Make sure vehicle is secure and then start engine. Make sure you and your uniform are clean before getting into the vehicle.
- Make sure oil engine light goes out and/or the oil pressure indicator shows the proper oil pressure.
- Make sure there are no leaks around the oil filter.
- Write and install Service Reminder Sticker and mirror hanger.

xiv. Prepare vehicle to exit bay.

- Clean windscreen.
- Check and inflate tires to correct pressure.
- Remove fender covers. Put them in the designated place.
- NOTE: Next oil change date and kilometres on Work Order.

6.4 Quality and Quantity Monitoring

A. Quantity Monitoring / Inventory control

- All daily inventory records shall be maintained and reconciled for all liquid fuel storage tanks for indication of possible leakage from tanks or piping. The records shall be kept on the premises or shall be made available to the authority having jurisdiction for inspection upon demand. The records shall include, as a minimum and by product, daily reconciliation between sales, used receipts, and inventory on hand. If there is more than one storage system serving an individual pump or dispensing device for any product, the reconciliation shall be maintained separately for each system.
- Pump calibration is tested weekly by using government-calibrated bucket.
- If pump test turns out to be over or under-dispensing by more than 50mL for every 10L, nozzles are isolated and rendered out of use until remediation is completed. Retailer to call LGU and contractor for the re-calibration.
- Stock levels are obtained every shift and before/after deliveries with the use of dipsticks and product gauging pastes or Automatic Tank Gauges.

B. Quality Monitoring

- Delivery samples are obtained per lorry compartment, tested for water content and appearance and stored until the next replenishment.
- UGT content are tested for water presence every start of the shift and delivery by applying water finding paste on the dipstick or thru the detection of Automatic Tank Gauges.
- If test turns out positive with water content, all nozzles are isolated and rendered out of use until remediation is completed.

7 Emergency Procedures

7.1 Emergency Evacuation and Response Plan

i. Each Gasoline Service Station is required to have on site an Emergency Response Plan (E.R.P.) that specifically addresses the steps the station will take in the event there is a fire, spill or release of any petroleum products within their premises. This E.R.P. shall include both surface and sub surfaces (underground storage tank & piping) leaks or releases.

ii. This document shall be a step by step procedure that details what will happen at the station once a fire, spill or leak occurs or is discovered. approval of the plan is required by the Local Fire Service having jurisdiction and shall be updated.

iii. Emergency Evacuation Map shall be posted on conspicuous area of the station.

iv. Emergency Response Plans shall be readily available to all employees during emergencies.

7.2 Basic ERP Template

A. Ordinary Fire within Premises

i. Immediately shut down pump master switch or Emergency Pump Shutoff Devices/Switch. (As per p. On Fire Protection, para iv-v, of Section 10.3.4.2.1. Flammable & Combustible Liquids).

ii. Assigned personnel (Body will decide who will be designated based on BEST Practices of the industry) shall call the nearest fire station/department while trained fire fighting personnel shall immediately put out the fire using appropriate/available fire fighting appliances.

iii. Assigned personnel (Cashier/Personnel near the PA) shall use Public Address System to request customers not to start their cars and walk quickly to the designated Evacuation Point. Instruct customers to stay at the Assembly Point/Refuge Area until told by fire ground commander from the BFP that it is safe to return to their vehicle.

iv. If customer's vehicle is not near the seat of the fire request them to move away and proceed to a designated safe area.

B. Spillage on Fire

i. If there are customers in the vehicle, assist them to a safe place only if safe to do so.

ii. Evacuate all customers from the evacuation area/site.

iii. If the fire is small, endeavour to put it out using an appropriate fire extinguishing agent.

iv. If the fire is large, monitor in a safe area and prevent others from entering the area on fire until the 1st responding Team of fire fighters arrived.

C. Vehicle on Fire

i. Immediately shut down pump master switch or Emergency Pump Shutoff Devices/Switch. (As per p. On Fire Protection, para iv-v, of Section 10.3.4.2.1. Flammable & Combustible Liquids.
ii. Assigned personnel (Body will decide who will be designated based on BEST Practices of the industry) shall call the nearest fire station/department while trained firefighting personnel shall immediately put out the fire using appropriate/available firefighting appliances.
iii. Make sure everybody is out of the vehicle and if safe to do so, push it away from the pumps and place a wheel chocks.
iv. Put out the fire using a dry chemical extinguisher.
    - If the fire is in the vehicle engine compartment, immediately open the engine hood compartment and extinguished the fire.
    - When the fire is out immediately remove the positive terminal of the battery to avoid occurrence of fire.
v. If unable to extinguish the fire, restrict all access to the danger areas.
vi. Assigned personnel (Cashier/Personnel near the PA) shall use Public Address System to request customers not to start their cars and move to the designated Evacuation Point. Instruct customers to stay at the Assembly Point/Refuge Area until told by fire ground commander from the BFP that it is safe to return to their vehicle.

7.3 Inland Spill which is:

❖ An inland serious spill is where the quantity of fuel involved is in excess of 50 litres, and may be as the result of failure of, or damage to, dispensing equipment, or from tanker deliveries.

i. Immediately shut down pump master switch or Emergency Pump Shutoff Devices/Switch. (As per p. On Fire Protection, para iv-v, of Section 10.3.4.2.1. Flammable & Combustible Liquids).
ii. Assigned personnel (Body will decide who will be designated based on BEST Practices of the industry) shall call the nearest fire station/department while trained firefighting personnel shall immediately put out the fire using appropriate/available fire fighting appliances.
iii. Assigned personnel (Cashier/Personnel near the PA) shall use Public Address System to request customers not to start their cars and move to the designated Evacuation Point. Instruct customers to stay at the Assembly Point/Refuge Area until told by fire ground commander from the BFP that it is safe to return to their vehicle.
iv. Implement mitigation process/procedure of the station.
v. Provide first aid assistance to anybody who has been splashed with fuel ensure contaminated clothing is saturated with water, before removing and replacing give the injured person clean clothing to wear.
vi. Prevent spill from spreading or entering drains by using appropriate materials in the station spill kit.

vii. Basic Spill Response Supplies shall be readily available , to wit:
- 100 lbs. (45 kgs.) of sand.

viii. Ensure any contaminated materials are disposed of in accordance with DENR requirements.

8 Fire Prevention and Protection

8.1 Fire Extinguisher

i. A minimum classification of Class 5-B, C fire extinguishers shall be provided and so located that no pump, dispenser or fill-pipe opening shall be of a greater distance than nine and fifteen tenths meters (9.15 m) from such extinguishers and shall be readily accessible where fires are likely to occur.

ii. Placement and size of fire extinguishers shall be in accordance below.

Type of Hazard	Basic Minimum Extinguisher Rating	Maximum Travel Distance to Extinguishers (m)
Light (low)	5-B	9.15
	10-B	15.25
Ordinary (moderate)	10-B	9.15
	20-B	15.25
Extra (high)	40-B	9.15
	80-B	15.25

iii. There shall be one (1) 20 lbs. ABC/Foam type fire extinguisher, provided to every 7.5 m. horizontal radius for every influence area, which shall refer to the dispenser pump, underground fill pipe opening and lubrication or service room.

iv. All portable fire extinguishers shall be operational and in good condition.

v. Locate fire extinguishers at identified/designated places so that they are readily accessible and immediately available in the event of fire.

vi. There shall be one (1) fire extinguisher for every pump island for multiple pump islands retail outlet.

vii. Do not block fire extinguishers with obstacles or hide from view.

viii. Whenever an extinguisher has been used, or there is question whether it has been used, take it out of service and immediately replace it with an operational service unit.

ix. Identify the used extinguisher as *"out of service"* and placed it in a designated location until maintenance and recharging is performed.

x. It is a good practice to visually inspect fire extinguisher daily to ensure they are in their designated places, and ready for use.

xi. Provide for visual monthly inspections of fire extinguishers to detect any physical damage, corrosion and other impairments.

xii. Provide for thorough annual maintenance check-up by qualified service

personnel, including internal inspection of non stored pressure extinguishers.

8.2 Earthing and Grounding

i. All electrical equipment, wiring and wiring devices for service stations shall comply with the latest edition of the Philippine Electrical Code (PEC). ARTICLE 2.50 — GROUNDING AND BONDING.

ii. All tank truck/lorry shall be earthed/grounded prior to discharging activities.

8.3 Fire Detection and Alarm System

i. Existing service stations with dispensing areas located below street level may be permitted, provided that an approved automatic sprinkler system is installed and the provision of paragraph e sub-para i of FCP of 2008 and its IRR shall be complied. (Section 10.3.4.5 para e sub para iii).

ii. Service Station shall be equipped with a Public Address System.

8.4 Hot Works

i. Before the start of any hot works a ***Fire Safety Clearance*** shall be secured from the Local Fire Service having jurisdiction.

8.5 Placement of LPG Cylinders

i. LPG cylinders shall have a distance to street alley public way of 3 meters and so located away from utilities of the air and water supply of the station and any access route. (As per q. outside storage, Table 21: Outdoor Portable Tank Storage, page 250 of Section 10.3.4.2.1. Flammable & Combustible Liquids and compliant to LPG Code).

9 Spillage and Leak Prevention

9.1 Underground Storage Tank

i. Prevent releases from UGTs;

ii. Detect releases from UGTs; and

iii. Correct the problems created by releases from UGT's

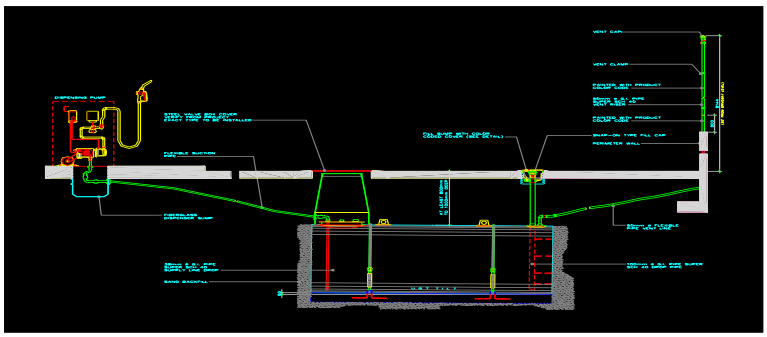


Figure 1 – Underground Storage Tank (UGT)

9.2 Product Receiving

i. Check the content of the invoice.

ii. Once all the documents are verified, check the tank ullage. Put a water-finding paste on the dip stick.

iii. Instruct the driver to position the tank truck properly. Turn-off the engine, park brake set, and put wheel chocks in place. Also, Grounding cable connected before opening any dome cover. Verify all the seal tags.
iv. Open the Emergency valves, then close the discharge valve.
v. Open and check every hatch cover of the tank truck compartments. make sure the seal's number series match the invoice. Check the calibration deal issued by DOST.
vi. Check the quantity and quality of the product from the tank truck. Use water-finding paste and product-finding paste to check for possible contamination. Conduct ocular inspection on the products.
vii. Check the presence of water in the tank's product compartment prior to unloading.
viii. Check the hoses and fittings to be used. If everything is fine, proceed to product unloading.
ix. Check the hose if it is completely drained.
x. Check the tank compartments if those were totally empty.
xi. Check the new volume of each UGT.

9.3 Daily Operations

i. Do follow basic product receiving practices.
ii. Do check for water content daily (use water finding paste.)
iii. Do pump out water regularly.
iv. Do check integrity of snap-on fill cap and adaptor regularly.
v. Do check the integrity of fill box sump.
    - Cover fitted tightly/snugly
    - Free from water
vi. Do check for leaks inside the valve box/turbine enclosure daily.
vii. Do check monitoring wells (for DWFGT) regularly.
    - Conduct product test.
    - Conduct gas test using gas tester (if available)
viii. Do check observation wells (for DWFGT and Steel UGTs) regularly.
    - Conduct product test
    - Conduct gas test using gas tester (if available)
ix. Do report to a responsible officer any unusual losses and water accumulation.

9.4 Leak Monitoring

i. Conduct product inventory every shift.
    - During measurement of the tank volume, always use product-finding past and water-finding paste.
ii. For DWFGT, conduct Interstitial Monitoring. This method detects leaks in the space between the primary wall and a secondary barrier of the tank through checking of brine solution level in the tank's observation well.
iii. Monitoring wells area installed at the corners of the tank farm, inside the HDPE.
iv. Observation wells are also installed in the outside the HDPE but still within the tank farm area.
v. If single wall steel tank, installation of HDPE lining is recommended.
vi. Fiber Glass Coated Steel Tank (Internal and External Type)

- Installation of Monitoring wells and Observation wells

vii. Double Wall Fiber Glass Tank (Dry and Wet Type)
- Installation of Monitoring wells and Observation wells
- Monitoring of the DWFGT observation well

9.5 Spill Containment System

i. Fill Sump/Cap/Turbine Enclosures
- Keep the fill sump/Turbine enclosures free from water and/or foreign materials.

ii. Check the integrity of the snap-on fill cap and adaptor regularly.

iii. Check the condition of the fill sump drain. Repair/plug permanently when defective.

iv. Don't use plastic as cushion for fill caps (defective gasket or fill cap & Adaptor).

9.6 Preventive Maintenance

i. Schedule of Maintenance
- Frequency: Twice a year

ii. Check tank compartments for water contamination.

iii. Removal and cleaning of foreign materials inside the valve box and fill boxes and fill sumps.

iv. Plastering inside wall of valve boxes.

v. Repainting of the valve and fill boxes inside and out. (std color coding at bottom of covers)

vi. Check if the Valve box covers and fill sump covers are in good condition. (Report to responsible officer if defective / damaged)

vii. Check the drain plug inside the fill sump if still in good condition. (Permanently plug if defective.)

viii. Check entry boot seal (for UGTs with tank sumps). Tighten if loose. Report to responsible officer if defective.

ix. Check connection of sump and the tank (for UGTs with tank sumps). Re-apply sealant if needed.

x. Check if there are any traces of leak in the tank man way of the UGT. Report to responsible officer if with possibility of leak.

xi. Check / Repair tank appurtenances. Immediately inform responsible officer of defects. Implementation is every preventive maintenance work.
- Check fill cap. Replace fill cap if defective, supplied by Petron
- Check fill pipe. Check fill pipe adaptor. Repaint with anti-corrosion paint.
- Check/Repair pipes and fittings including the vent risers. Report to responsible officer if with traces of product leaks.
- Check vents caps. Replace if defective or missing.

xii. Check monitoring wells (include observation wells for DWFGT)
- Check monitoring well and observation well covers. (Report to responsible officer if damaged/defective)
- Remove any foreign material inside the monitoring / observation well (i.e. excess soil, etc.)
- Check monitoring well and observation well for traces of fuel product. Immediately report to responsible officer if leaks are detected.

- Check water level of observation well for DWFGT. If not filled up to brim, refill water level & report to responsible officer for monitoring.

9.7 Corrosion Protection

i. Corrosion Protection For Steel underground storage tanks (UGTs) Installed On Or Before December 22, 1988.

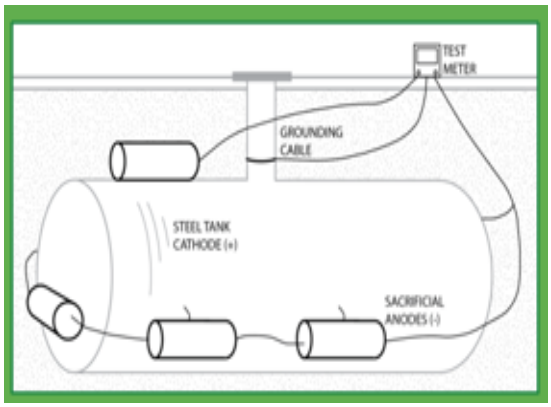
ii. Steel tanks installed on or before December 22, 1988, must either have been assessed and upgraded with corrosion protection using one of the following three methods or meet the corrosion protection requirements for tanks installed after December 22, 1988:

- *Added cathodic protection.*
- *Added interior lining to the tank.*

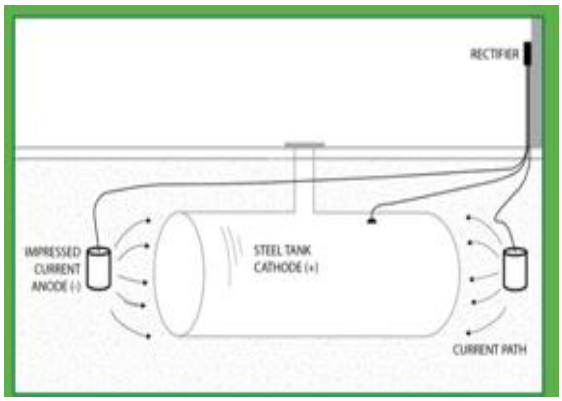
9.8 Cathodic Protection

i. *Sacrificial Anode System*: Sacrificial anodes are buried and attached to UGT components for corrosion protection. Anodes are pieces of metal that are more electrically active than steel, and thus they suffer the destructive effects of corrosion rather than the steel they are attached to.

ii. *Impressed Current System*: An impressed current system uses a rectifier to provide direct current through anodes to the tank or piping to achieve corrosion protection. The steel is protected because the current going to the steel overcomes the corrosion-causing current flowing away from it. The cathodic protection rectifier must always be on and operating to protect your UGT system from corrosion.



Sacrificial Anode System



Impressed Current System

Figure 2 – Cathodic Protection System

9.9 Ventilation

Location	Extent of Classified Area
Dispensing device	
Pits	Any pit or box below grade level, any part of which is within classified area
Dispenser	Within 46 cm (18 in.) horizontally in all

	directions extending to grade from the dispenser enclosure or that portion of the dispenser enclosure containing liquid handling components
Outdoor Remote pump - outdoor	Up to 46 cm (18 in.) horizontally of any edge of enclosure Any pit or box below grade level if any part is within a horizontal distance of 3 m (10 ft) from any edge of pump within 0.9 m (3 ft) of any fill or dispensing point, extending in all directions
Vent Underground tank fill opening Vent discharging outward	Within 1.5 m (5 ft) of open end of vent extending in all directions Any pit or box below grade level, any part of which is within a classified area Within 0.9 m (3 ft) of open end of vent, extending in all directions

9.10 Non-Corrodible piping system

i. Can be High Density Polyethylene or HDPE pipes or other type of material.
ii. Non corrodible since it doesn't react to oxidation(rusting) due to its plastic properties.
iii. Usually joint together by a process called "electro fusion" or welding.
iv. Proven reliability due to fewer connections and flexibility.
v. May be a double walled pipe for additional protection against spillage.
vi. Installation should be made by a qualified installer. A qualified installer is the one certified and authorized by the pipe manufacturer.
vii. The qualified installer should wear minimum PPE (hard hat, gloves, safety shoes, High Visibility vest) during installation.
viii. A worker who will be chosen to install the pipes must undergo training with the authorized installer before the worker can start using the electro fusion machine.

9.11 Spill Containment System (Leak tight Sumps)

i. Is used to prevent the contact of fuel products to the ground or earth.
ii. Usually to protect the environment from unwanted spillage of products.
iii. Can be seen installed on UGT's and below the pumps.
iv. Acts as a barrier.

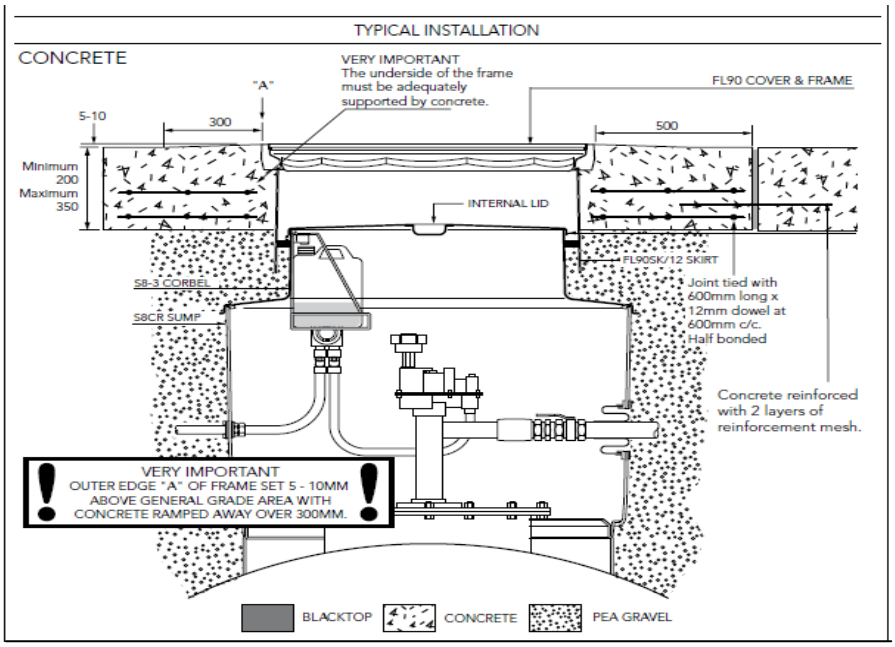


Figure 3 - Typical Installation of a Water Tight Containment System for UGT

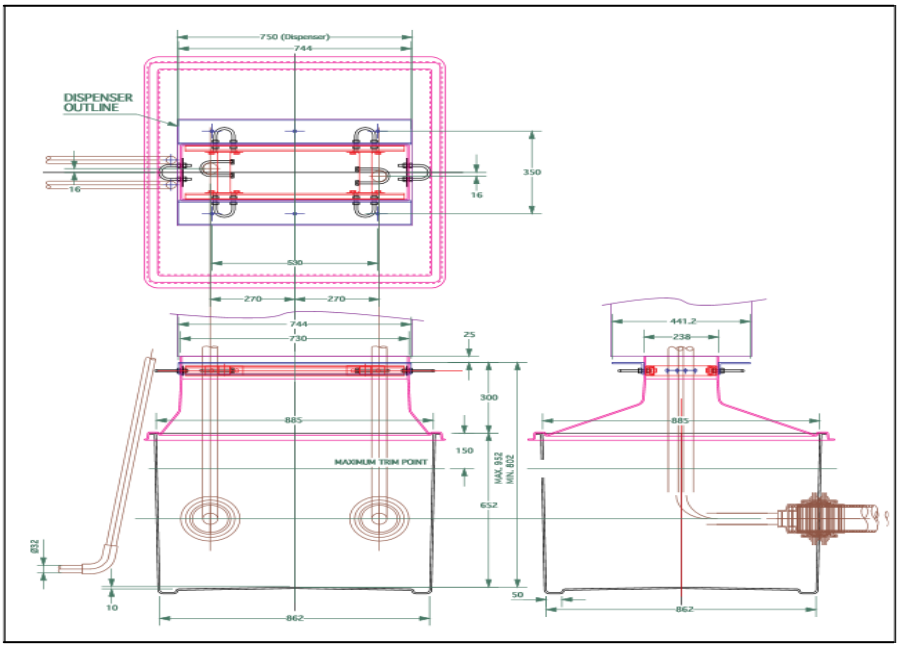


Figure 4 - Water Tight Containment System for Dispenser

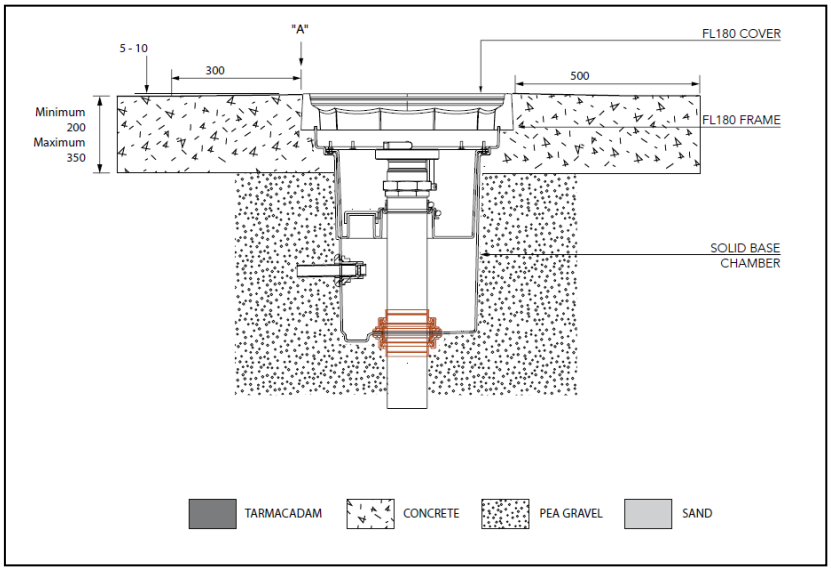
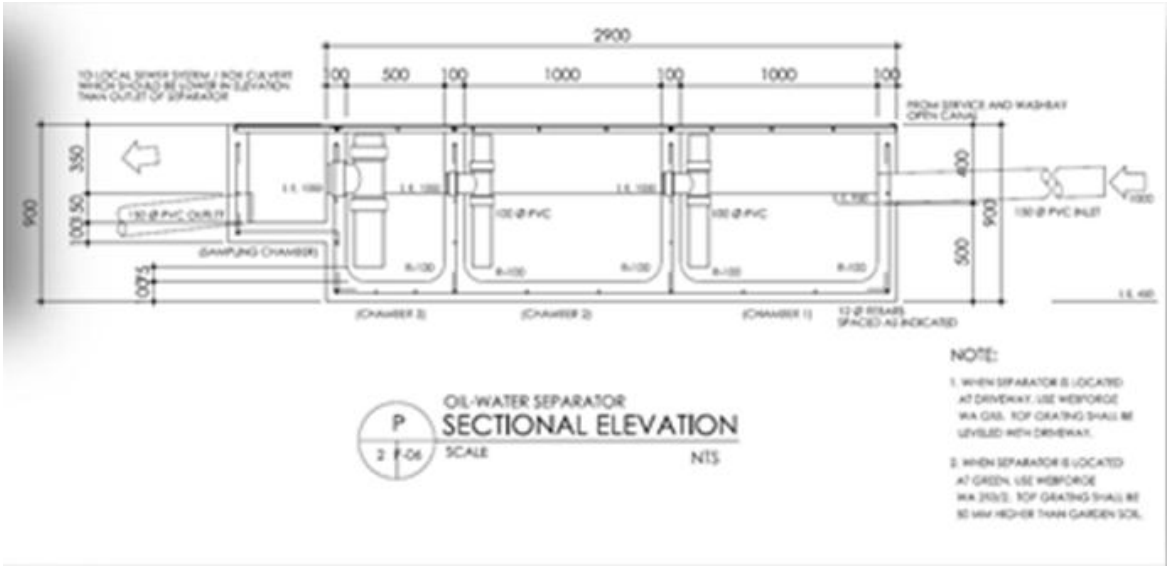


Figure 5 - Fill sumps

9.12 Drainage and Oil Water separator



i. A forecourt separator must be a "full retention" separator, large enough to serve the catchment area of the site and have a sufficient oil storage volume to retain any foreseeable spillages.

9.13 Leak Detection System

Leak Detector in Pressure system – Mechanical Line Leak Detector (MLLD).

i. MLLD's are incorporated in the Submersible Turbine Pumps to give warning of possible loss of pressure due to leaks. Leaks will result in "slow flow" while dispensing.
ii. Should respond to a 3.0 gph leak.

ANNEX

I. LPP Retail Outlet Maintenance

A. Permit to Work System

i. Cold Work Permit

- The work or activity involve will not produce sufficient energy to ignite flammable materials.

ii. Hot Work Permit

- Any works that develop sparks, flames or heat sufficient to cause ignition.

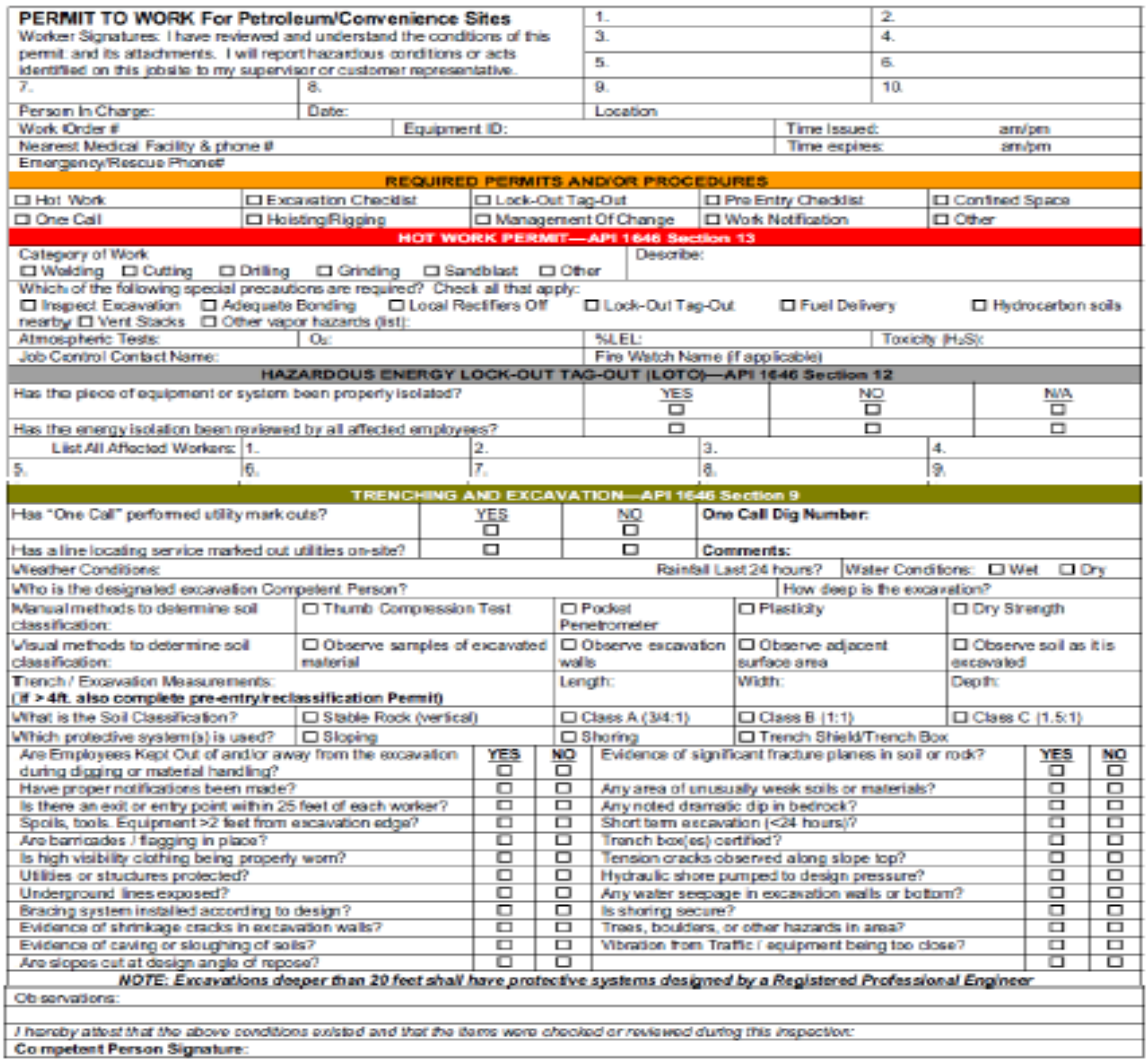
iii. Confined Space Entry Permit

- Any work that would require entry of the personnel into any space or structure, which may permit accumulation of hazardous gases, mists, vapor, or dust or cause displacement of oxygen. Excavation deeper than 5ft (1.5 m).

iv. Excavation Permit

- Any work requiring the removal of earth surface
- Excavation deeper than 5ft (1.5 m).

B. Sample of a Permit to Work Form



PERMIT TO WORK For Petroleum/Convenience Sites

Worker Signatures: I have reviewed and understand the conditions of this permit and its attachments. I will report hazardous conditions or acts identified on this jobsite to my supervisor or customer representative.

		1.	2.
		3.	4.
		5.	6.
7.	8.	9.	10.
Person In Charge:	Date:	Location	
Work Order #	Equipment ID:	Time Issued:	am/pm
Nearest Medical Facility & phone #		Time expires:	am/pm
Emergency/Rescue Phone#			

REQUIRED PERMITS AND/OR PROCEDURES

☐ Hot Work	☐ Excavation Checklist	☐ Lock-Out Tag-Out	☐ Pre Entry Checklist	☐ Confined Space
☐ One Call	☐ Hoisting/Rigging	☐ Management Of Change	☐ Work Notification	☐ Other

HOT WORK PERMIT—API 1646 Section 13

Category of Work
☐ Welding ☐ Cutting ☐ Drilling ☐ Grinding ☐ Sandblast ☐ Other
Describe:

Which of the following special precautions are required? Check all that apply:
☐ Inspect Excavation ☐ Adequate Bonding ☐ Local Rectifiers Off ☐ Lock-Out Tag-Out ☐ Fuel Delivery ☐ Hydrocarbon soils nearby ☐ Vent Stacks ☐ Other vapor hazards (list):

Atmospheric Tests:	O_2:	%LEL:	Toxicity (H_2S):
Job Control Contact Name:		Fire Watch Name (if applicable)	

HAZARDOUS ENERGY LOCK-OUT TAG-OUT (LOTO)—API 1646 Section 12

	YES	NO	N/A
Has the piece of equipment or system been properly isolated?	☐	☐	☐
Has the energy isolation been reviewed by all affected employees?	☐	☐	☐

List All Affected Workers:	1.	2.	3.	4.
5.	6.	7.	8.	9.

TRENCHING AND EXCAVATION—API 1646 Section 9

Has "One Call" performed utility mark outs?	YES ☐	NO ☐	**One Call Dig Number:**
Has a line locating service marked out utilities on-site?	☐	☐	**Comments:**

Weather Conditions: Rainfall Last 24 hours? Water Conditions: ☐ Wet ☐ Dry

Who is the designated excavation Competent Person? How deep is the excavation?

Manual methods to determine soil classification:	☐ Thumb Compression Test	☐ Pocket Penetrometer	☐ Plasticity	☐ Dry Strength
Visual methods to determine soil classification:	☐ Observe samples of excavated material	☐ Observe excavation walls	☐ Observe adjacent surface area	☐ Observe soil as it is excavated
Trench / Excavation Measurements: **(if >4ft. also complete pre-entry/reclassification Permit)**		Length:	Width:	Depth:
What is the Soil Classification?	☐ Stable Rock (vertical)	☐ Class A (3/4:1)	☐ Class B (1:1)	☐ Class C (1.5:1)
Which protective system(s) is used?	☐ Sloping	☐ Shoring	☐ Trench Shield/Trench Box	

	YES	NO		YES	NO
Are Employees Kept Out of and/or away from the excavation during digging or material handling?	☐	☐	Evidence of significant fracture planes in soil or rock?	☐	☐
Have proper notifications been made?	☐	☐	Any area of unusually weak soils or materials?	☐	☐
Is there an exit or entry point within 25 feet of each worker?	☐	☐	Any noted dramatic dip in bedrock?	☐	☐
Spoils, tools, Equipment >2 feet from excavation edge?	☐	☐	Short term excavation (<24 hours)?	☐	☐
Are barricades / flagging in place?	☐	☐	Trench box(es) certified?	☐	☐
Is high visibility clothing being properly worn?	☐	☐	Tension cracks observed along slope top?	☐	☐
Utilities or structures protected?	☐	☐	Hydraulic shore pumped to design pressure?	☐	☐
Underground lines exposed?	☐	☐	Any water seepage in excavation walls or bottom?	☐	☐
Bracing system installed according to design?	☐	☐	Is shoring secure?	☐	☐
Evidence of shrinkage cracks in excavation walls?	☐	☐	Trees, boulders, or other hazards in area?	☐	☐
Evidence of caving or sloughing of soils?	☐	☐	Vibration from Traffic / equipment being too close?	☐	☐
Are slopes cut at design angle of repose?	☐	☐		☐	☐

NOTE: Excavations deeper than 20 feet shall have protective systems designed by a Registered Professional Engineer

Observations:

I hereby attest that the above conditions existed and that the items were checked or reviewed during this inspection:

Competent Person Signature:

PERMIT TO WORK For Petroleum/Convenience Sites (Continued)

RIGGING, HOISTING AND LIFTING—API 1646 Section 10

	YES	NO		YES	NO
Has the Lift Plan been completed by a competent person?	☐	☐	Does the equipment have the size, load, and swing capacity to do the job safely?	☐	☐
Air or hydraulic systems inspected for deterioration or leakage in lines, tanks, valves, drain pumps, etc?	☐	☐	Tool Box discussion conducted & lift plan communicated to all affected personnel?	☐	☐
Hooks, hoist chains, and end connections checked for signs of wear, twist, cracks, distorted links, or excessive stretch	☐	☐	Are outriggers set before hoisting operations begin? N/A ☐	☐	☐
Has rigging been performed by a competent person?	☐	☐	Is proper cribbing being used N/A ☐	☐	☐
Is the hoisting equipment sitting on a stable surface?	☐	☐	Overhead risks evaluated as part of the lift plan? N/A ☐	☐	☐
Is work area properly barricaded/isolated?	☐	☐	Is the operator certified for the equipment?	☐	☐
Has the hoisting equipment been inspected before use?	☐	☐	Are periodic inspections complete and documented?	☐	☐

CONFINED SPACE PRE-ENTRY CHECKLIST / RECLASSIFICATION—API 1646 Section 11

Atmospheric Tests (Pre-Isolation & Ventilation)	Time:	O_2 (19.5%-23.5%):	% LEL (<10%):	Toxicity (H_2S, Benzene):
Source Isolation (No Entry)	Electrical LOTO	☐ YES	☐ NO	☐ NA
	Pumps off & LOTO	☐ YES	☐ NO	☐ NA
	Lines Disconnected	☐ YES	☐ NO	☐ NA
	Valves shut and LOTO	☐ YES	☐ NO	☐ NA

Note: If any "NO" is checked above, fill out "Permit Required Confined Space Entry Permit" section. If all "YES" or "NA" Continue on.

Atmosphere ventilation:	Mechanical Forced Air	☐ YES	☐ NO	☐ NA
	Natural Ventilation Only	☐ YES	☐ NO	☐ NA
Atmospheric Tests (Post-Isolation & Ventilation)	Time:	O_2 (19.5%-23.5%):	% LEL (<10%):	Toxicity (H_2S, Benzene):

Pre-Entry Check List	Surrounding Area Free of Hazards?	☐ YES	☐ NO	☐ NA
	Proper notifications made?	☐ YES	☐ NO	☐ NA
	Does your knowledge indicate the area will remain free of all atmospheric hazards?	☐ YES	☐ NO	☐ NA
	Are you trained in confined space entry?	☐ YES	☐ NO	☐ NA
	Are you trained in the operation of the air monitor used?	☐ YES	☐ NO	☐ NA
	Has the monitor been calibrated before use?	☐ YES	☐ NO	☐ NA
	Did you test the atmosphere in the space before entry?	☐ YES	☐ NO	☐ NA
	Did the atmosphere check as acceptable?	☐ YES	☐ NO	☐ NA
	Will the atmosphere be continuously monitored?	☐ YES	☐ NO	☐ NA

NOTE: IF ANY OF THE ABOVE ANSWERS ARE "NO", DO NOT ENTER

CONFINED SPACE ENTRY PERMIT—API 1646 Section 11

Purpose of Entry:			Entry Supervisor:	
Attendants:	1.	2.	Entrants: 1.	2.
	3.	4.	3.	4.

Pre-Entry Checks:	☐LOTO	☐ Emergency Rescue Plan	☐ Secure Area	☐ Ventilation
	☐PPE	☐ Lines Isolated/blocked	☐ Respirators	☐ Fire Extinguisher
	☐Purge	☐ Hot Work Permit	☐ Communication system	☐ Lighting
	☐PPE	☐ Lines Isolated/blocked	☐ Respirators	☐ Fire Extinguisher

Minimum Requirements To Be Completed & Reviewed Before Entry

Continuous atmosphere Monitoring: (Record at least every 30 minutes)	Test	PEL	Initials	Time:	Time:	Time:	Time:	Time:
	Oxygen	19.5%-23.5%		Value:	Value:	Value:	Value:	Value:
	LEL	10%		Value:	Value:	Value:	Value:	Value:
	H_2S	<10 PPM		Value:	Value:	Value:	Value:	Value:
	Other			Value:	Value:	Value:	Value:	Value:

Remarks:

Gas Tester Make/Model: **Instrument Serial Number:**

Have all of the conditions above been satisfied? YES ☐ NO ☐

Attendant signature: **Entry Supervisor Signature:**

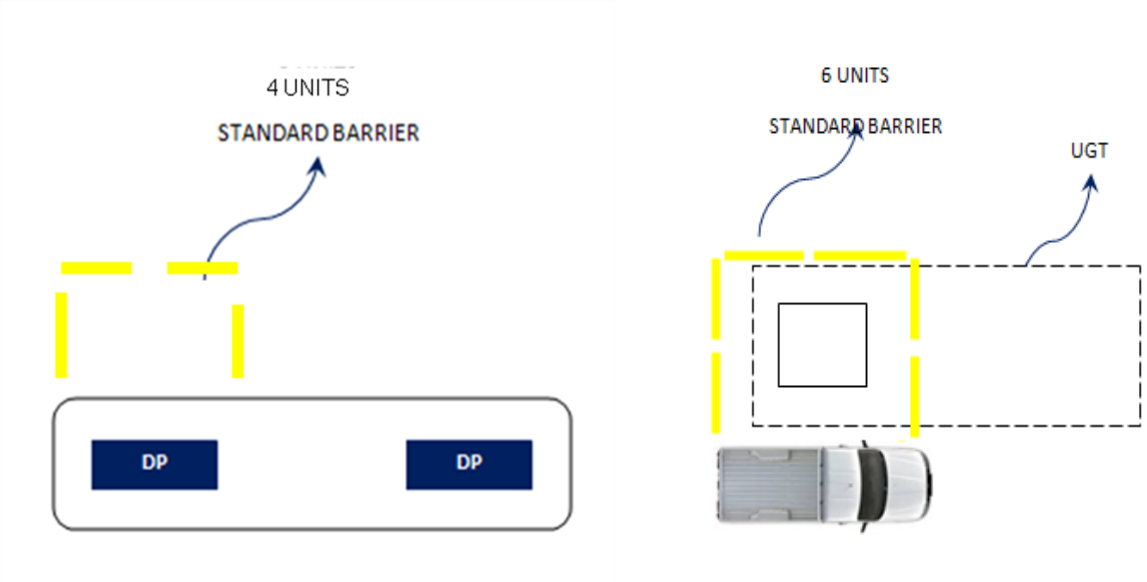
I ensure this permit has been filled out completely and in conjunction with all applicable OSHA requirements to provide a safe workplace for all workers and myself. I will take action to eliminate hazardous conditions or acts identified on this job site.

Person In Charge Signature:

II. Barricading Guide Lines

Guidelines for the use of barricades.

Hazardous Condition	Barricade
General Construction	Use barricades to completely isolate the work area.
Pump Island Work	When working on a dispenser or pump island, both sides of the island shall be barricaded.
Overhead Work	Use barricades for areas where debris may fall or drop
Excavations (e.g. trenches, open holes)	Use barricades to prevent personnel or vehicles from falling or accidentally driving into excavations. For all excavations open for longer than a standard work day temporary fencing may be required.
Temporary opening in site driveway	Use barricades at temporary openings, like an uncovered sump pit, in a station driveway to prevent people or vehicles from falling into the opening.
Tripping Hazards	Use barricades to block-off potential trip hazards (e.g. conduit stubs, piping stubs, holes in floors, uneven surfaces, minor changes in elevation, etc.)
Potentially Unsafe Conditions	Use barricades when an unsafe condition exists, for example: • Incident investigation scene • Spill • Structure is partially dismantled
Ladders	Use barricades around the base of ladders that are located where they can be displaced by workplace activities or traffic
Energized lines or equipment	Use non-conductive barricades around energized lines or equipment to prevent accidental contact



III. Lock-Out / Tag-Out System

A. LOTO: System Scenarios

LOTO system must be employed during the following scenarios:

i. The employee must either remove or bypass machine guards or other safety devices, resulting to exposure to hazards.

ii. The employee is required to place any part of his body in contact with the point of operation of the machine or equipment.

iii. Affected Employee

- An employee whose job requires operating or using the machine or equipment on which the servicing or maintenance is being performed.

iv. Authorized Person

- A person having immediate charge and control of equipment or process requiring isolation.

v. Lock-Out

- A padlock placed a power source with a lockout device that physically holds an energy control point, such as a switch, lever, or valve handle in the "off" position that makes it impossible to operate.

vi. Tag-Out

- A written warning placed on a point of control that tells co-workers not to operate a switch, lever, or valve that could release hazardous energy or set a machine in motion.

vii. Try-Out

- A test performed to assure a zero energy state.

B. LOTO: Isolation Procedure

i. Authorized Person shall identify isolation locations and types of energy isolating devices required.

ii. The equipment shall be shut down by the Authorized Person and the disconnecting means shall be turned to "OFF" position.

iii. Both Authorized Person and the Affected Employee shall lock-out and/or tagout the energy isolating device with their assigned individual lock(s) or tag(s).
iv. Authorized Person shall operate the energy isolating device(s) and ensures that the lockout device physically holds the energy control point and it is impossible to operate.
v. Prior to commencing work, the Affected Employee shall counter check if the equipment is already isolated. After the test, the Affected employee must return the operating control to "neutral" or "off".
vi. The equipment is now isolated, locked out / tagged out. Work can now safely proceed.

C. LOTO: Restoring Normal Operation

- ❖ Before restoring the machine or equipment to normal operation, the Authorized Person must observe the following procedure:

i. Inspect the work area to ensure that non-essential items have been removed and the machine or equipment are intact and capable of operating properly.
ii. Check the area around the machine or equipment to ensure that all employees have been safely positioned.
iii. Notify Affected Employees immediately after removing locks or tags, and before starting the equipment or machines.
iv. Make sure that locks or tags are removed ONLY by those employees who attached them.

IV. Hot Work

- is any job using open flames, sources of heat or one that could ignite materials in the work area. It is a control system meant to prevent any unintended ignition of materials that may lead to major fires. It ensures proper communication between all parties involved – the ones.

Example: Welding; burning; brazing; soldering; oxy-acetylene welding and cutting; grinding, drilling or pounding ferrous metals and other sources of frictional or electrostatic sparks.

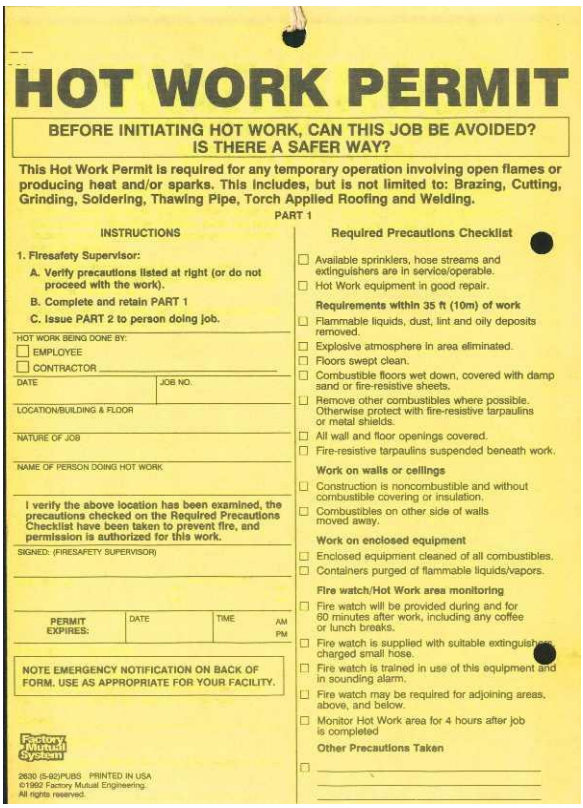
i. Physical Elements: Hot Work Permit System
   i. Portable fire extinguisher
   ii. Abundant water (pails, drum, fire hose)
   iii. Fire sprinkler system (activated, if any)
   iv. Metal shields, covers or catches
   v. Tags of the permit system
   vi. Corresponding notifications of the permit system

ii. Hot Work Permit System Personnel and Responsibilities
   i. Issuer – the designated person who is authorized to issue the permit
   ii. Receiver – the person designated by the 'hot work' group to obtain the permit.
   iii. Fire watch – the person/s assigned by the 'hot work' group to keep watch during and after the hot work**.**

iii. Hot Work Permit Form

i. Is used as the checklist itself.
ii. Contains all pertinent information – the issuer, the receiver, location, date & time, etc.
iii. Must be available at the site where hot work is being done.
iv. Form control number and tracking when and where issued are excellent improvements.
v. Closure (termination) is as important as issuance of the permit.

Sample Form



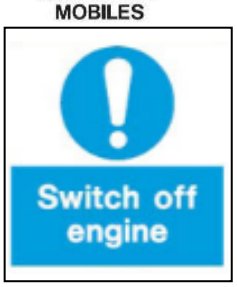
V. Labels and Warning Signs (to be replaced with info sign from Retail Division)

NO SMOKING

NO NAKED FLAMES

SWITCH OFF MOBILES

APPROVED CONTAINERS ONLY



VI. Emergency Stop Button

i. Install an Emergency stop button which simultaneously removes power from all site dispensing equipment.

ii. Owners and Employees must know where the emergency stop button is located and when to use it. (eg. During accident, fire, etc.)

iii. There should be proper signage for emergency stop button. It must be visible/readable and accessible.

VII. Government Requirements

A. Department of Energy (DOE)

DOE			
Legal Basis	Requirements	Time Table	Fee
DC No. DC2003-11-010 "Providing for the Rules and Regulations Governing the Business of Retailing Liquid Petroleum Products"			**3,500**
> Section 6. PRIOR NOTICE	- Business name, address, telephone/fax number of the business office; - Location and complete address of Retail Outlet/s; - Project or business plans indicating the scope of operational/activity - List of facilities and proof of availability of such facilities to support the proposed business; and - Such other requirements as may be imposed by the OIMB from time to time.		
> Section 7. DOCUMENTARY REQUIREMENTS	- Barangay Clearance (Barangay concerned) - Department of Trade and Industry / Securities and Exchange Comission Registration - Zoning Location Clearance (LGU concerned) - Environmental Compliance Certificate (DENR) - Building Permit (LGU concerned) - Discharge Permit, if applicable (Laguna Lake Development Authority)	Before Commencement of Construction	
Before Commencement of Operation	- Fire Safety Inspection Certificate (BFP) - Reference Standards/Codes and compliant statement for Facility Design and Operation - Mayor's Permit (LGU concerened) - List of dispensing pumps, storage tanks and Tank Trucks, with corresponding capacities - Lay-out plan and latest photograph of the Retail Outlet	* Certificate of Compliance (validity - 3 years)	

B. DOLE-BWC

DOLE-BWC			
Legal Basis	Requirements	Time Table	Fee
OSHS Rule 1020	Registration of Establishment	Prior to Operation	
OSHS Rule 1940	Fire Protection Equipment/	During Operation	
	Facility		
	Fire Safety Inspection Certificate		
	from BFP		
OSHS Rule 1150 and 1095	Material Handling and Storage		
OSHS Rule 1077	Work Environment Measurement		
	Adequate Lighting		
OSHS Rule 1075.01	Noise Pollution Control		
OSHS Rule 1080	PPE		
OSHS Rule 1200	Machine Guarding		
OSHS Rule 1060.01	Personal Facilities		
	> Separate Toilet for Male and Female		
	> Supply of Potable Water		
	> Washing Facility		
OSHS Rule 1045	Safety and Health Organization		
OSHS Rule 1033	Safety Personnel (BOSH 40-Hrs Training)		
"DO 16"			
OSHS Rule 1963.02	Health Personnel (Standard First Aid Training by Red Cross)		
	Medical Facility		
	Emergency Medicines		
	OSH Adminisrative Reports		

C. DILG-BFP

DILG-BFP			
Legal Basis	Requirements	Time Table	Fee
Section 9.0.2.1 IRR RA 9514	Fire Safety Evaluation Clearance - building plan - bill of materials (Fire code Construction Tax)	Pre-construction	0.10% of estimated amount of building to be constructed but shall not exceed 50k
	Hot work Clearance		150
	Installation Clearance		300
	Prior to Operation (to be secured only once except when there is renovation) Fire Safety Inspection Certificate for Occupancy Permit		10% of all fees charged by the building official in securing occupancy permit
Section 12.004	Fire Safety Inspection Certificate for Business Permit	Operational (Annually)	10% of all fees charged by the business permit & licensing office (BPLO) in securing business permit (Validity - 365 days from date of issuance)
	Storage Clearance (liter capacity of tank)		depending on tank capacity
	Conveyance Clearance (when there is hauling business)		
	* Training requirement (Certificate of Competency)		
	* Administrative penalty		Maximum of 50k

D. DENR-EMB

DENR-EMB		
Legal Mandate	Type of Permit/Clearance	Agency/Office
PD 1586 (Phil. Impact Statement System)	Environmental Compliance Certificate	DENR/EMB
Prior to operation		
R. A. 8749 (Phil. Clean Air Act)	"Permit to Operate" (PO) for air pollution installations (i.e. UGTs, filling nozzles, generator set)	DENR/EMB Regional Offices
R. A. 9275 (Phil. Clean Water Act)	"Wastewater Discharge Permit"	DENR/EMB Regional Offices except for NCR In NCR: EMB-NCR jurisdiction: Makati, San Juan, Mandaluyong, Las Pinas, Paranaque, Valenzuela, Navotas, and Malabon LLDA jurisdiction: Manila, Quezon City, Taguig, Muntinlupa, Pasig, Pasay, Caloocan, Pateros,
R. A. 6969 (Toxic Substances and Hazardous and Nuclear Wastes Control Act)	Hazardous Waste Generator Registration	DENR/EMB Regional Offices

References **PNS/DOE FS 10:2016**

The following referenced documents are indispensable for the application of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

DENR Administrative Order 29, Implementing Rules and Regulations for Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990

EPA UST 2015 (Environmental Protection Agency – Underground Storage Tank 2015

Uniform Fire Code

PD 1185 Fire Code of the Philippines

Philippine Electrical Code (PEC). ARTICLE 2.50 — GROUNDING AND BONDING.

NFPA 30 – National Fire Protection Association 30 – Flammable and Combustible Liquids

The National Building Code of the Philippines

Occupational Safety and Health Standards Rule 1040 – Safety and Health Committee

DOLE Department Order 16-0

PNS/DOE FS 1-4:2005 – Retail Outlets

- PNS/DOE FS 1-1 : 2005 - Health, Safety and Environment
- PNS/DOE FS 1-2 : 2005 - Underground Storage Tank
- PNS/DOE FS 1-3 : 2005 - Piping System
- PNS/DOE FS 1-4 : 2005 - Dispensing Pumps