

# TGL-28-R1-04

## Gasoline Stations

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### 1. Rationale

Gasoline stations are establishments that are closely linked to everyday life since they are places where gasoline is sold and where other services are provided, either free-of-charge or at a fee. Controlling the quality of gasoline and services, as well as the environmental and safety standards of gasoline stations is essential to the consumer's quality of life and to the environment as a whole.

Thus, requiring gasoline stations with Green Labels to undergo tests for gasoline quality and environmental management, as well as requiring them to have proper waste and wastewater disposal systems can help reduce pollutants released to the environment.

### 2. Category Definitions

The term 'gasoline stations' used here applies only to Type A and Type B gasoline stations whose main activities are the selling of gasoline and the replacement of lubricants. The term includes service buildings and other activities within the gasoline station area according to the Petroleum Control Act (BE 2542)

### 3. Definitions

3.1 The term '*gasoline station*' here refers to places used to store gasoline for the purpose of servicing automobiles. The term includes all areas designated in the permit as the gasoline station area, including buildings, tanks, pipes, and other equipments in the area.

3.2 The term '*Type A gasoline station*' here refers to gasoline stations which service land automobiles that are located in areas adjacent to highways, public roads, or private roads, which are as wide as specified by the Department of Energy Business and which keep gasoline in underground tanks.

3.3 The term '*Type B gasoline station*' here refers to gasoline stations which service land automobiles that are located in areas adjacent to public roads, or private roads, which are as wide as specified by the Department of Energy Business and which keep gasoline in underground tanks.

3.4 The term '*service building*' here refers to buildings within the gasoline station area that are used as offices, shops, buildings housing car-wash units, toilets, shops selling liquefied petroleum gas, service buildings, or shops selling other goods that do not use and do not cause flames or sparks.

3.5 '*Gasoline station area*' refers to areas belonging to the gasoline station as specified in the gasoline station plan. Typically firewalls or drains are used to demarcate the boundary.

3.6 *'Road width'* refers to the distance from one side of the highway or road to the opposite side.

3.7 *'Hygienic lavatories'* refer to lavatories with systems for conveying stool and urine to receptacles that are designed in such a way as to keep out animals and pests, and to prevent the waste from contaminating natural water sources. The lavatories must also be cleaned on a daily basis.

3.8 The term *'gasoline'* here refers to benzene, gasohol, kerosene, diesel, lubricant, and includes other liquid petroleum products used as fuel or lubricants that have been declared as gasoline in the Royal Thai Government Gazette.

3.9 *'Gasohol'* refers to benzene mixed with ethanol.

3.10 *'Gasoline vapor'* refers to benzene vapor and vapors from other petroleum products specified in the Royal Thai Government Gazette.

3.11 *'System of equipments for controlling gasoline vapor'* refers to vapor recovery units consisting of a system of pipes, tanks, and equipment used in the process of converting gasoline vapor into liquid.

3.12 *'Stage I vapor recovery system'* refers to the system that prevents gasoline vapor from leaking into the atmosphere between gasoline storage tanks and gasoline transporting trucks while transferring gasoline between the tanks and the truck within the gasoline station.

3.13 *'Stage II vapor recovery system'* refers to the system that prevents gasoline vapor from leaking into the atmosphere while gasoline is being transferred between the fuel nozzle and the vehicle's gasoline tank within the gasoline station.

#### **4. General Requirements**

4.1 Requirements for location, plan, form, and site attributes for the gasoline station, as well as storage, transportation, usage, distribution, and other control measures regarding gasoline, packaging, and transportation, including the qualifications of the personnel involved in controlling the gasoline must be in accordance with the Petroleum Control Act (BE 2542)

4.2 Quality of the gasoline must be in accordance with the standards specified in the Department of Energy Business's (DOEB) declaration regarding the characteristics and quality of diesel (Revision 2) BE 2547, the DOEB's declaration regarding the characteristics and quality of gasohol BE 2547, and other subsequent declarations. Alternatively, the quality of gasoline can comply with the Thai Industrial Standard for Diesel oil for high-speed engines, TIS 1267 and the Thai Industrial Standard for Unleaded gasoline, TIS 1269.

4.3 Type A gasoline stations, located in areas where vapor recovery systems are mandatory must have Type I vapor recovery systems in place, while Type B gasoline stations located in such areas must have Type I and Type II vapor recovery systems in place. The Ministry of Energy's regulations regarding the control of gasoline vapor shall be strictly adhered to.

4.4 There must be action plans to deal with emergencies such as gasoline leakage and fire. The action plans must be rehearsed at least once a year.

## 5. Product Specific Requirements

5.1 Unloading gasoline from transportation vehicles to storage tanks must meet the following requirements:

5.1.1 There must be a proper procedure for unloading gasoline.

5.1.2 The personnel handling the unloading must have a good understanding of the procedures and the process.

5.1.3 There must be signs or symbols indicating the type of product on the gasoline unloading pipes.

5.1.4 There must be adequate lighting in the unloading zone while unloading the gasoline.

5.1.5 There must be measures to prevent gasoline spills in the area around the gasoline unloading pipes such as using concrete floors, having grease traps, and cleaning when spills do occur.

5.1.6 Personal safety equipment must be used by the staff to prevent direct contact with the gasoline.

5.2 Storage of Gasoline.

5.2.1 There must be procedures for gauging the amount of gasoline remaining in order to prevent gasoline leakage such as keeping accounts of the remaining gasoline, employing leak detectors, or using vacuum systems.

5.2.2 There must be appropriate measures in handling gasoline leaks that will ensure safety and no environmental impact.

5.2.3 There must be procedures for checking that the gasoline does not have water in it such as using chemicals to test for water in underground gasoline storage tanks. If water is found in underground storage tanks, they must be immediately pumped out.

5.3 Re-fuelling Service

5.3.1 The fuel nozzle must be the type which has automatic equipment(s) that can stop the flow of gasoline to prevent overfilling and must be the type that prevents gasoline from leaking out onto the ground in the event of accidents causing the nozzle to drop to the ground while filling vehicles with gasoline.

5.3.2 In the event of gasoline leakage, appropriate measures must be employed such as using absorbent materials or cloths to soak up the spill and using water to wash the remaining oil into grease traps, while preventing any water from leaking into public drains.

5.3.3 There must be safety measures such as having the required number of fire extinguishers near gasoline dispensing units (Appendix 3), displaying signs saying 'no smoking,' 'turn off engine,' and 'do not create sparks' around the gasoline station area.

5.3.4 For Type B gasoline stations, there must be procedures to prevent gasoline vapors from leaking into densely-populated areas. Equipment must be used to trap gasoline vapor from the nozzle to take back to the gasoline storage tank. This requirement applies to four provinces: Bangkok, Nontaburi, Samut Prakarn, and Patum Thani.

5.4 Lubricant replacement service:

5.4.1 If the gasoline station has more than 20 liters of used lubricant, they must be disposed of in a way that will not impact the environment such as hiring certified agencies that specialize in industrial waste disposal to collect and dispose of them.

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5.4.2 Containers emptied of lubricants must be separately kept and measures must be taken to prevent lubricant spillage. Used lubricant filters must be put in the hazardous waste bin.

5.4.3 Personal safety equipment such as rubber gloves must be used while replacing lubricants.

5.5 Other services which must be paid for such as convenience stores, restaurants, drink kiosks must:

5.5.1 Have bins for at least two types of garbage, wet waste and dry waste.

5.6 Toilet Buildings

5.6.1 Gasoline stations must provide toilets for customer use the whole time the station is open. The minimum number of toilets shall be in accordance with the following table:

Number of Gasoline or Gas Dispensing Units	Men's Room	Ladies' Room
1 - 4 units	1	1
5 - 8 units	2	2
9 units and above	3	3

5.6.2 The gasoline station must provide hygienic toilets that meet the following conditions:

- 1) Have signs indicating the location of the toilets.
- 2) Have signs designating the men's room and the ladies' room.
- 3) Have clean toilets
- 4) Have appropriate ventilation with no undesirable odor.
- 5) Have sanitary wares in good working condition.
- 6) Have no broken sanitary wares.
- 7) Have sanitary wares that are properly cleaned.
- 8) Have adequate water.
- 9) Have a working lighting system.

5.7 Quality of the wastewater from gasoline stations:

5.7.1 Wastewater from gasoline stations must meet the following standards:

Parameters	Standard
1. Acidity and Alkalinity (pH)	5.5-9.0
2. COD	≤ 200 milligrams per liter
3. SS	≤ 60 milligrams per liter
4. Oil & Grease	≤ 15 milligrams per liter

## 6. Testing Methods

Testing shall be done according to following Green Label requirements form:

General Requirements	Testing Methods	Yes	No	Notes
1.) Have the permit for operation of controlled activities.	Document			
2. Have the permit for being a petroleum trader according to Article 7 of the Petroleum Trade Act BE 2543	Document			
3. Have documents certifying gasoline quality from the petroleum trading company according to Article 7 (documents should not be more than 1 year old) <u>or</u> documents reporting quality testing results issued by a government agency <u>or</u> trusted independent agencies <u>or</u> permits issued in	Document			

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General Requirements	Testing Methods	Yes	No	Notes
accordance with the Thai Industrial Standard for Diesel oil for high-speed engines, TIS 1267 and the Thai Industrial Standard for Unleaded gasoline, TIS 1269 or certificates issued by the program for controlling gasoline quality, Department of Energy Business.				
5. Have action plans in case of emergencies which have been rehearsed at least once a year.	Document			
<b>5.1 Unloading Gasoline from transportation vehicles to storage tanks</b>				
1. Have documents stating the procedures for unloading gasoline.	Document			
2. Interview gasoline station personnel charged with the task of unloading to gauge their understanding of their work.	Interview			
3. Interview with gasoline station personnel charged with the task of unloading to gauge their understanding of emergency measures, especially measures for preventing emergencies.	Interview			
4. Pipes used for unloading gasoline have clear labels or symbols indicating different product types.	Inspection			
5. Have lights and flame safety lamps at the area for gasoline unloading.	Inspection			
6. Have concrete drains or wells for trapping spilt gasoline.	Inspection			
7. Interview with personnel charged with the task of unloading to gauge their understanding of the clean-up process should gasoline spillage occur.	Interview			
8. Inspection to determine whether or not gloves are used to prevent contact with the petroleum.	Inspection			
<b>5.2 Storage of Gasoline</b>				
1. Have procedures for gauging the amount of gasoline remaining in order to prevent gasoline leakage such as keeping accounts of the remaining gasoline, employing leak detectors, or using vacuum systems.	Inspection			
2. If the product accounts have a margin of error of $\pm 0.5\%$ , interview gasoline station personnel regarding measures to detect the cause of the problem and how to fix it.	Interview			
3. Ask workers to demonstrate how to test that the gasoline is not contaminated by water.	Inspection			
<b>5.3 Refuelling Service</b>				
1. Have automatic fuel nozzles.				
2. Interview refueling staff regarding procedures for dealing with spilled gasoline.	Interview			
3. Have safety measures such as having the required number of fire extinguishers near gasoline dispensing units (Appendix 3), displaying signs saying 'no smoking,' 'turn off engine,' and 'do not create sparks' around the gasoline station area.	Inspection			
4. Have equipments that prevent gasoline evaporation according to the ministerial declaration regarding the control of gasoline vapors.	Inspection			
<b>5.4 Lubricant replacement service</b>				
1. Have permit for possessing hazardous material (used lubricant).	Document			
2. Have papers, for at least three months back in time, on the transportation of uniform industrial waste manifest issued by agencies or companies authorized by the Department of Industrial Works.	Document			
3. Containers emptied of lubricants are separately kept and measures are in place to prevent lubricant spillage. Used lubricant filters are to be put in the hazardous waste bin.	Inspection			
4. Personal safety equipment such as helmets, goggles, and gloves are employed to prevent direct contact with gasoline.	Inspection			
<b>5.5 Convenience stores, restaurants, and drink kiosks</b>				
1. Have at least two types of bins for wet waste and dry waste.	Inspection			

General Requirements	Testing Methods	Yes	No	Notes
<b>5.6 Toilets</b>				
1. Have signs indicating the direction of the toilets.	Inspection			
2. Have signs designating men's room and ladies' room.	Inspection			
3. Have clean toilets.	Inspection			
4. Have appropriate ventilation with no undesirable odor.	Inspection			
5. Have sanitary wares in good working condition.	Inspection			
6. Have no broken sanitary wares.	Inspection			
7. Have sanitary wares that are properly cleaned.	Inspection			
8. Have adequate water in the toilets.	Inspection			
9. Have adequate lighting within the toilets.	Inspection			
<b>5.7 Quality of the waste water from gasoline stations</b>				
1. Acidity and alkalinity (pH) between 5.5 – 9.0	Document			
2. COD ≤ 200 milligrams per liter	Document			
3. SS ≤ 60 milligrams per liter	Document			
4. Oil & Grease ≤ 15 milligrams per liter	Document			

Note: All tests must be conducted in government laboratories or private labs that have been certified to be in compliance with the general requirements for the competence of testing and calibration laboratories, TIS 17025 (ISO/IEC 17025).

### Considerations for Awarding Green Labels

In the event that changes have been made within the gasoline stations that have been awarded the Green Label, and the changes may affect the gasoline station's qualifications for being awarded the Green Label, the awarding company must inform Green Label officers within one month of the date the change was effective.