

Facility Standards (PNS)

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Summary of Facility Standards

1. *Philippine National Standards*

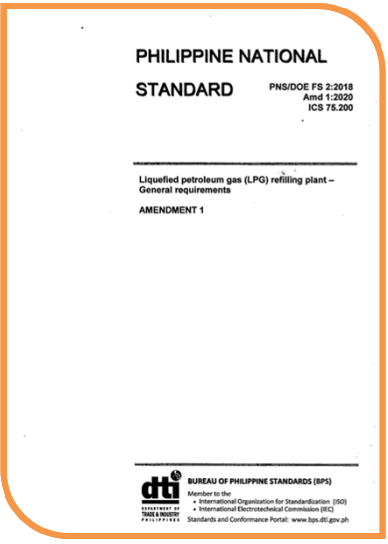



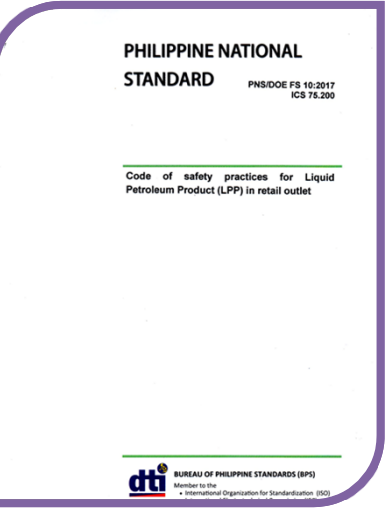

- PNS/DOE FS 1-1:2005 Petroleum Products Retail Outlet – Health, Safety and Environment
- PNS/DOE FS 1-2:2005 – Petroleum Products Retail Outlet – Underground Storage Tank
- PNS/DOE FS 1-3:2005 – Petroleum Products Retail Outlet – Piping System
- PNS/DOE FS 1-4:2005 – Petroleum Products Retail Outlet – Dispensing Pumps
- PNS/DOE FS 2:2018 – LPG Refilling Plant – General Requirements
- PNS/DOE FS 2:2018 Amd. 1:2020 – LPG Refilling Plant- General Requirements
- PNS/DOE FS 3:2006 – Auto-LPG Dispensing Pumps
- PNS/DOE FS 4:2007 – Liquid Petroleum Product Depot
- PNS/DOE FS 5:2010 – Storing and Handling of Coco-Methyl Ester (CME) and CME-diesel blends at Liquid Petroleum Product Depot
- PNS/DOE FS 6:2011 – Storing and Handling of E-gasoline in Retail Outlets
- PNS/DOE FS 7-1:2011 – Storing and Handling of B-5 in Retail Outlet – Health, Safety and Environment
- PNS/DOE FS 7-2:2011 Storing and Handling of B-5 in Retail Outlet – Underground Storage Tank
- PNS/DOE FS 7-3:2011 – Storing and Handling of B-5 in Retail Outlet – Piping System
- PNS/DOE FS 7-4:2011 – Storing and Handling of B-5 in Retail Outlet – Dispensing Pumps
- PNS/DOE FS 8:2013 - Transportation of Petroleum Product by Pipeline
- PNS/DOE FS 9:2016 – Code of Safety Practice in Auto-LPG Dispensing Pumps
- PNS/DOE FS 10:2017 – Code of Safety Practice for LPP in Retail Outlet

2. *Code of Safety Practice*

- Code of Safety Practice in LPG Refilling Plant (2017)
- Handbook on Code of Safety in LPP Depot (2019)
- Modules of Instruction for LPG Cylinder Refillers (2019)

B. Facility Standards

1. Philippine National Standards and Code of Safety Practices

	 <p>Title : PNS/DOE FS 2:2018 Amd. 1:2020 LPG Refilling Plant – General Requirements</p> <p>Year Promulgated : 2020</p> <p>Scope of the PNS : This amendment to the subsisting Standard qualifies the reduction of the minimum separation distance between each of the fixed storage tank of the bulk plant and the nearest point of the cylinder filling hall from fifteen (15) to as low as three (3) meters provided that the specified conditions are met.</p> <p><i>*The PNS serves only as reference or voluntary standard</i></p>
	 <p>Title : PNS/DOE FS 2:2018 – LPG Refilling Plant – General Requirements</p> <p>Year Promulgated : 2018</p> <p>Scope of the PNS : This standard covers the requirements for the installation of an LPG refilling plant, including the associated bulk storage area and tank farm facility. NOTE 1 This standard does not cover refrigerated storage facilities. NOTE 2 Any Auto-LPG dispensing system to be located within an LPG refilling plant shall be separated from the latter by a firewall and shall be provided a separate access. NOTE 3 The requirement for the installation and conduct of dispensing of LPG for vehicles are covered by a separate standard, PNS for Auto-LPG Dispensing Stations.</p> <p><i>*The PNS serves only as reference or voluntary standard</i></p>
	 <p>Title : PNS/DOE FS 10:2017 – Code of Safety Practice for LPP in Retail Outlet</p> <p>Year Promulgated : 2017</p> <p>Scope of the PNS : 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.</p> <p>The Responsible Officer including its personnel should be able to demonstrate their competence on how to achieve an appropriate understanding of safety, health and environmental risk and mitigation measures. They should be able to understand the dangers and necessary precautions in the operation of the facilities, identify the hazards and to assess the risks involved to themselves, to their employees and others who may be affected like the customers in the premises, the general public and their surroundings.</p> <p><i>*The PNS serves only as reference or voluntary standard</i></p>



Title : PNS/DOE FS 9:2016 – Code of Safety Practice in Auto-LPG Dispensing Pumps

Year Promulgated : 2016

Scope of the PNS : This Code of Safety Practices is intended for managers/operators collectively referred to as Responsible Officer of Auto-LPG dispensing station focusing on safety and good practice procedures with reference to relevant health and safety standards. A retail outlet must have a Responsible officer knowledgeable in:

1. Worker safety in the conduct of:
 - dispensing operation
 - product receiving
2. Personal Protective Equipment and its use
3. Relevant environmental regulations
4. Petroleum Product Material handling (MSDS)
5. Emergency response

**The PNS serves only as reference or voluntary standard*



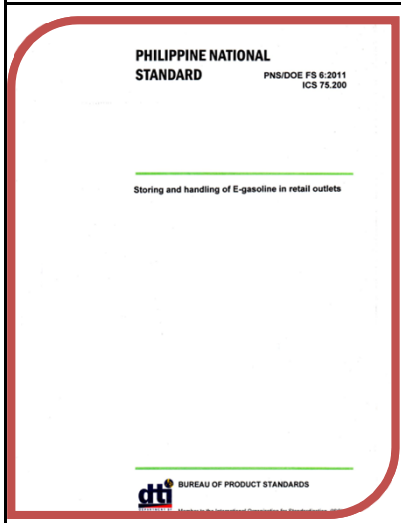
Title : PNS/DOE FS 8:2013 Transportation of Petroleum Product by Pipeline

Year Promulgated : 2013

Scope of the PNS : This standard covers operation and maintenance, reporting requirements and other applicable provisions in the on-shore transportation via pipeline (as defined hereafter) of liquid petroleum products for white (such as but not limited to gasoline, diesel, kerosene and jet A-1) and (such as but not limited to) black (bunker fuel) products to ensure the safety of the general public and pipeline workers and the protection of the environment against the risk of petroleum contamination, fire and other similar hazards in areas where the pipeline system operates and/or traverses.

An operator may make arrangements with a third party for the performance of any action required by this standard. However, the operator is not thereby relieved from the responsibility for compliance with any requirement of the same.

**The PNS serves only as reference or voluntary standard*



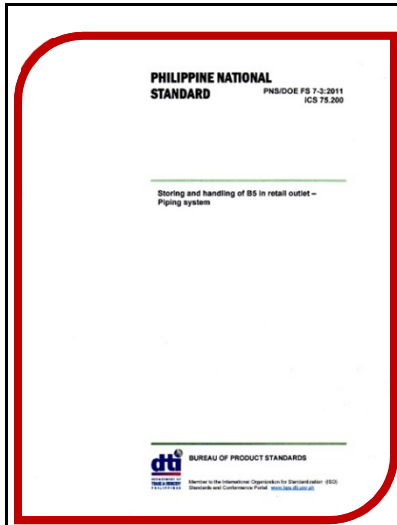
Title : PNS/DOE FS 6:2011 – Storing and Handling of E-gasoline in Retail Outlets

Year Promulgated : 2011

Scope of the PNS : This standard describes good engineering practices, as well as safety, environmental and fire protection requirements for the storing and handling of E-gasoline in retail outlets.

This standard is an additional requirement that complements PNS/DOE FS 1-1 to 1-4:2005 (Retail Outlet –Health, Safety and Environment, Underground Storage Tank, Piping System and Dispensing Pump).

**The PNS serves only as reference or voluntary standard*

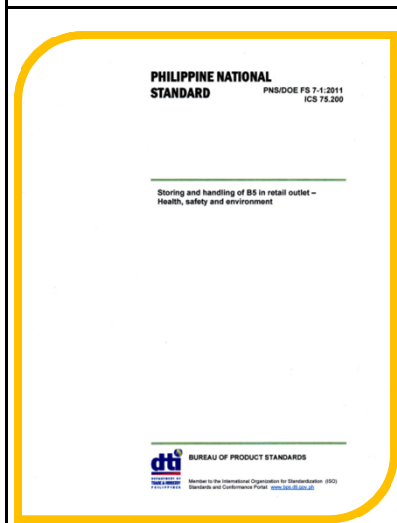


Title : PNS/DOE FS 7-1:2011 – Storing and Handling of B-5 in Retail Outlet – Health, Safety and Environment

Year Promulgated : 2011

Scope of the PNS : This section covers the facilities, clearances and distances therein intended for retail outlets storing and handling up to B5 and applicable to all kind of locations either with mid-block lot, corner lot and passing-thru lot.

**The PNS serves only as reference or voluntary standard*



Title : PNS/DOE FS 7-2:2011 Storing and Handling of B-5 in Retail Outlet – Underground Storage Tank

Year Promulgated : 2011

Scope of the PNS :

This standard specifies the requirements for the following:

- 1.1 The tank for petroleum products used in retail outlet, refers to gasoline, diesel (up to B5), and kerosene tanks. It does not include tanks for lube oils, aviation fuels, chemicals, solvents, asphalt, waste oil, water etc.
- 1.2 Tank design performance and construction.
- 1.3 The installation and location of tanks at retail outlet.
- 1.4 Operations, periodic maintenance and eventual disposal of the underground tank.

**The PNS serves only as reference or voluntary standard*



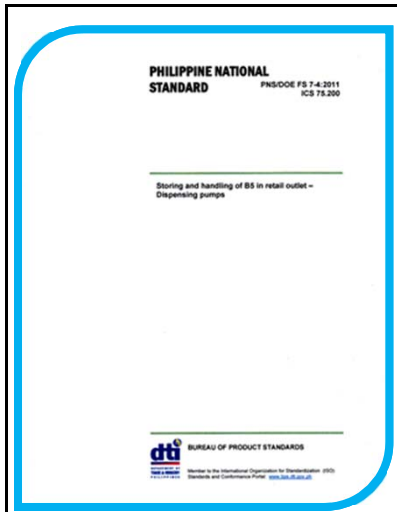
Title : PNS/DOE FS 7-3:2011 – Storing and Handling of B-5 in Retail Outlet – Piping System

Year Promulgated : 2011

Scope of the PNS :

- 1.1 These recommended guides and procedures are applicable to sites where underground piping system for petroleum products will be used.
- 1.2 These recommendations do not relieve the owner, designer and installer from any or all damages resulting from the failure of the underground petroleum piping system. Due prudence and care must be practiced in the use of this underground system.
- 1.3 This document covers the medium in which petroleum product shall be conveyed from the point where the product is received on its way to its storage tank, from the storage tank to the final point of connection at the dispensing pump, and tank ventilation.
- 1.4 These guides are applicable for use with the following petroleum products; gasoline, kerosene and diesel only.
- 1.5 Above ground piping for petroleum products are not covered by these guidelines.

**The PNS serves only as reference or voluntary standard*



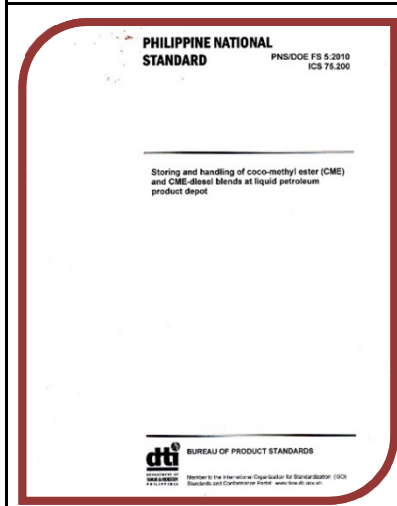
Title : PNS/DOE FS 7-4:2011 – Storing and Handling of B-5 in Retail Outlet – Dispensing Pumps

Year Promulgated : 2011

Scope of the PNS :

- 1.1. This standard shall include the design, installation and commissioning of self contained dispensing pumps (suction pump) and dispenser (pressurized pump), and the connection of product supply pipework, hoses and nozzles, electrical wiring and communication cables.
- 1.2. Operation, periodic maintenance, decommissioning and eventual disposal of the aboveground dispensing pumps and dispensers.
- 1.3. Requalification of reconditioned pumps.

**The PNS serves only as reference or voluntary standard*

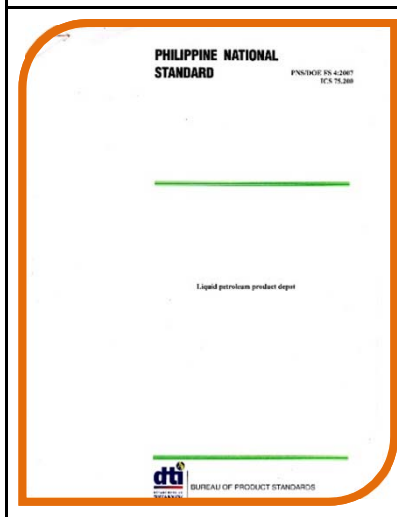


Title : PNS/DOE FS 5:2010 – Storing and Handling of Coco-Methyl Ester (CME) and CME-diesel blends at Liquid Petroleum Product Depot

Year Promulgated : 2010

Scope of the PNS : This standard describes practices and requirements for the storing, handling and fire protection of CME and CME diesel blend at Liquid Petroleum Product Depots. For purposes of this standard Biodiesel is referred to as CME.

**The PNS serves only as reference or voluntary standard*



Title : PNS/DOE FS 4:2007 – Liquid Petroleum Product Depot

Year Promulgated : 2007

Scope of the PNS : This standard covers the design and construction of depots and associated facilities involved in marketing/ redistribution of liquid petroleum product. For purposes of this standard, liquid petroleum products shall only refer to gasoline, diesel, kerosene and bunker fuel. Biofuels and biofuel-blended petroleum products shall be covered by a separate standard. Depot, also referred to as terminals or installations consist of tank farms, loading and unloading areas, pipeline manifolds, storage areas, warehouses, docks, garages laboratories, and office buildings. Products may be received, blended, and/or distributed by pipeline, marine facilities (docks, piers, jetties, wharves), or truck. Petroleum depots may also store and distribute petroleum products in package and container quantities.

**The PNS serves only as reference or voluntary standard*



Title : PNS/DOE FS 3:2006 – Auto-LPG Dispensing Pumps

Year Promulgated : 2006

Scope of the PNS : This standard covers the requirements for the installation of auto-LPG dispensing stations for retail operation and garage-based sites for on vehicle dispensing of LPG for vehicles of any type.

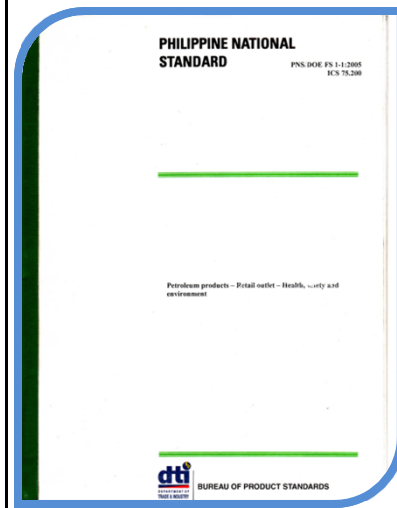
If any dispensing for the general public can occur, the installation becomes a retail station as defined, and specific additional requirements apply. The additional requirements for retail station is to adequately ensure public safety attendant to the nature of operation.

This standard does not apply to forklift cylinder refilling. Only fixed and vehicle-mounted fuel tanks are permitted for filling at dispensing stations.

LPG cylinders for household use shall not be allowed for refill in an auto-LPG dispensing station.

NOTE 1 Since refilling stations may at times be located in commercial or residential areas having sensitive occupancies, certain planning and land use requirements apply.

**The PNS serves only as reference or voluntary standard*



Title : PNS/DOE FS 1-1:2005 Petroleum Products Retail Outlet – Health, Safety and Environment

Year Promulgated : 2005

Scope of the PNS : This standard covers the facilities, clearance and distances therein intended for retail outlet applicable to all kind of lots from mid-block lot, corner lot and passing thru-lot.

**The PNS serves only as reference or voluntary standard*



Title : PNS/DOE FS 1-2:2005 – Petroleum Products Retail Outlet – Underground Storage Tank

Year Promulgated : 2005

Scope of the PNS : This standard specifies the requirements for the following:

- a. The tank for petroleum products used in Retail Outlet. This refers to gasoline, diesel, and kerosene tanks.
- b. Tank design performance and construction
- c. The installation and location of tanks at retail outlet
- d. Operations, periodic maintenance and eventual disposal of the underground tank
- e. It does not include tanks for lube oils, aviation fuels, chemical, solvents, asphalt, waste oil, water etc.

**The PNS serves only as reference or voluntary standard*



Title : PNS/DOE FS 1-3:2005 – Petroleum Products Retail Outlet – Piping System

Year Promulgated : 2005

Scope of the PNS :

- a. This standard is applicable to sites where underground piping system for petroleum products will be used.
- b. This standard does not relieve the owner, designer and installer from any or all damages resulting from the failure of the underground petroleum piping system. Due prudence and care must be practiced in the use of this underground system.
- c. This standard covers the medium in which petroleum products; gasoline, kerosene and diesel only.
- d. Applicable for use with the following petroleum products; gasoline, kerosene, and diesel only.
- e. Aboveground piping for petroleum products are not covered by these guidelines

**The PNS serves only as reference or voluntary standard*



Title : PNS/DOE FS 1-4:2005 – Petroleum Products Retail Outlet – Dispensing Pumps

Year Promulgated : 2005

Scope of the PNS :

This standard specifies:

- a. The design, installation and commissioning of self-contained dispensing pumps (suction pump) and dispenser (pressurized pump), and the connection of product supply pipework, hoses, nozzles, electrical wiring and communication cables;
- b. The operation, periodic maintenance, decommissioning and eventual disposal of the aboveground dispensing pumps and dispensers; and
- c. The requalification of reconditioned pumps.

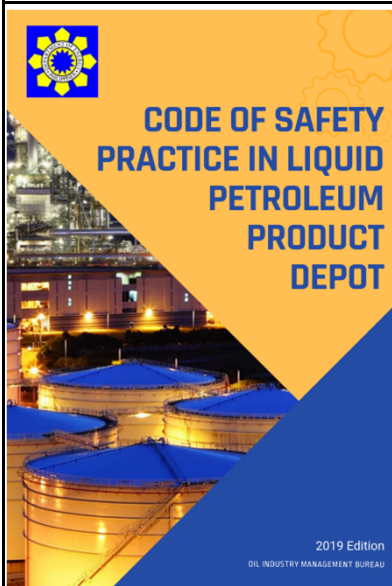
**The PNS serves only as reference or voluntary standard*



Title : Modules of Instruction for LPG Cylinder Refillers (2019)

Scope : This Modules of Instruction aims to uphold competency among those considered as front liners in an LPG Refilling Plant – the LPG Cylinder Refillers. This provides for the minimum coverage of topics that must be introduced to the workers to assure competency in the operational level and the minimum set of conditions and methodologies to ensure the sufficiency and effectiveness of the training to be undertaken. This initiative is in partnership with the Technical Education and Skills Development Authority (TESDA).

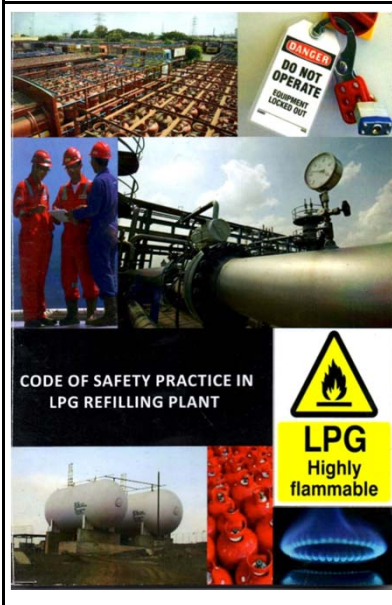
Signed/Published : October 29, 2019



Title : Handbook on Code of Safety in LPP Depot (2019)

Scope : This Code constitutes good industry practices for oil terminals/ depots and is designed to prevent accidents at LPP terminal/ depot facilities and ensure product quality. This Code was prepared by the OIMB Oil Industry Standards and Monitoring Division (OISMD) – Facilities Section in collaboration with the downstream oil industry stakeholders and other concerned government agencies.

Signed/Published : September 19, 2019



Title : Code of Safety Practice in LPG Refilling Plant

Scope : This Code covers the typical activities associated in the normal operations of an LPG Refilling Plant. The Company Authorized Personnel (Responsible Officer/s) including its personnel should be able to demonstrate their competence on how to achieve an appropriate understanding of safety, health and environmental risk as well as appropriate mitigation measures. This Code also identifies minimum training requirements for all personnel involved and working within the LPG refilling plant premises.

Signed/Published : December 5, 2017

B. Facility Standards

2. On-going Draft Philippine National Standards

	<p style="text-align: center;">Title : DPNS on Vehicle Transport of Bulk Liquid Fuels and Code of Safety Practices</p> <p>Scope of the PNS : This Standard provides for the minimum requirements of tank truck vehicle design and specifications to ensure worker-safe, environment-friendly and quality assured transport of bulk liquid fuels. Additionally, in case of hazardous and similar incidents, emergency response procedures and guidelines are also outlined herewith. Furthermore, this Standard also provides for all existing government regulations and requirements at the time of publication, in the operation and maintenance of tank truck used for liquid fuels.</p> <p><i>*Ongoing re-circulation starting July 04 – September 04, 2022 for further comments and inputs.</i></p>
	<p style="text-align: center;">Title : DPNS on Vehicle Transport for Liquefied Petroleum Gas (LPG) in Bulk and in Cylinders; Distribution of LPG in Cylinders; and Code of Safety Practices</p> <p>Scope of the PNS : This Standard provides for the minimum requirements for vehicle design and specifications to ensure safe, worker-safe, environment-friendly and quality assured transport of LPG in Cylinders and in bulk. Additionally, in case of hazardous and similar incidents, emergency response procedures and guidelines are also outlined herewith. Furthermore, this Standard also provides for all existing government regulations and requirements at the time of publication, in the operation and maintenance of Tank Truck used for the transport of LPG in Cylinders and in Bulk.</p> <p><i>*Ongoing re-circulation starting July 04 – September 04, 2022 for further comments and inputs.</i></p>
	<p style="text-align: center;">Title : DPNS on Liquid Fuels Mobile Vehicle Dispensing System (LF-MVDS) and Code of Safety Practices</p> <p>Scope of the PNS : This Standard covers the minimum requirements for the transportation of Liquid Fuels Mobile Vehicle Dispensing System (LF-MVDS) used for the dispensing of diesel and/ or gasoline during emergency situations in the aftermath of such as typhoon, earthquake, flood, etc., when the operations of the existing Retail Outlets are temporarily non-operational.</p> <p>Under this Standard specification, an LF-MVDS shall not be used or deployed to conduct retailing business in areas where existing retail outlets can operate normally even under calamity.</p> <p><i>*Ongoing circulation starting July 04 – September 04, 2022 for further comments and inputs.</i></p>

Fuel Quality Standards (PNS)

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Summary of Fuel Quality Standards (PNS)

1. *Biofuels & Biofuels Blend (B100, E100, E10 & B2)*

- PNS/DOE QS 002:2021 – Biofuels - Coconut Methyl Ester (B100) Specification
- PNS/DOE QS 008:2018 – Petroleum Products - E-Gasoline Specification
- PNS/DOE QS 004:2017 – Petroleum Products – CME-blended automotive diesel oil Specification
- PNS/DOE QS 013:2017 – Petroleum Products CME-blended industrial diesel oil Specification
- PNS/DOE QS 007:2014 – Biofuels – Anhydrous bioethanol & bioethanol fuel Specification

2. *Higher Biofuels Blend (B3, B4, & B5)*

- PNS/DOE QS 015:2021 – Petroleum Products - CME-blended automotive diesel oil (ADOB3) Specification
- PNS/DOE QS 016:2021 – Petroleum Products - CME-blended industrial diesel oil (IDOB3) Specification
- PNS/DOE QS 017:2021 – Petroleum Products - CME-blended automotive diesel oil (ADOB4) Specification
- PNS/DOE QS 018:2021 – Petroleum Products - CME-blended industrial diesel oil (IDOB4) Specification
- PNS/DOE QS 010:2015 – Petroleum Products - High FAME- Blended Diesel Oils (B5) Specification




3. *Petroleum and other petroleum-related products*

- PNS/DOE QS 009:2019 – Petroleum Products –Kerosene Specification
- PNS/DOE QS 006:2018 – Petroleum Products – Industrial fuel oils Specification
- PNS/DOE QS 014:2018 – Petroleum Products – Residual Marine Fuels Specification
- PNS/DOE QS 005:2016 – Petroleum Products – Liquefied Petroleum Gases (LPG) as Non-Motor Fuel Specification
- PNS/DOE QS 012:2016 – Petroleum Products – Liquefied Petroleum Gases (LPG) as Motor Fuel Specification
- PNS/DOE ASTM D 910:2010 (ASTM published 2007) – Standard Specification for Aviation Gasoline – Grade 100LL

SUMMARY OF APPLICABLE STANDARDS

A. Fuel Quality Standard (PNS)

1. Biofuels & Biofuels Blends (B2 & E10)

	<p> Title : PNS/DOE QS 002:2021 – Biofuels - Coconut Methyl Ester (B100) Specification</p> <p>Date Promulgated : 27 December 2021</p> <p>Highlights/Developments of the PNS : <i>A technical standard for biodiesel (B100) for blending to diesel oils in the production of B2 under the Biofuels Act of 2006.</i></p> <ul style="list-style-type: none"> ➤ This standard is a revision/update of PNS/DOE QS 002:2015 . ➤ In this edition the following changes/improvements were made: <ul style="list-style-type: none"> • inclusion of new property, the Cold Soak Filterability Test (CSFT) – a limit set adopting the ASTM D6751 at 360 seconds maximum • improvement of Monoglyceride content from 0.8 to 0.7%, max; • Inclusion of provisions on good housekeeping; and • updating of test methods. <p>Scope of the PNS : This standard specifies the requirements for coconut methyl ester (B100) suitable for blending to diesel fuel for use in various types of compression ignition engines and other similar types of engines.</p> <p>Implementing Guideline : DC No. 2016-05-0006 – <i>“Implementing the Philippine National Standard Specification for Biofuels – Coconut Methyl Ester (PNS/DOE QS 002:2021)”</i></p> <p>Signed/Published : 20 June 2022 /12 August 2022</p>
	<p>Title : PNS/DOE QS 008:2018 – Petroleum Products - E-Gasoline Specification</p> <p>Date Promulgated : May 2018</p> <p>Highlights/Developments of the PNS : <i>A technical standard for E10 mandate or 10% bioethanol blend under the Biofuels Act of 2006.</i></p> <ul style="list-style-type: none"> ➤ This standard is a revision/update of PNS/DOE QS 008:2012. ➤ In this edition, the Euro 2 fuel grades (500 ppm, max. Sulfur content) was removed and thus effectively provided only the Euro 4-PH gasoline fuel grades (50 ppm, max. Sulfur content) to align with the emission requirement of DENR under DAO No 2015-04 & 2016-23. ➤ Improvements were also made on several specs, incorporated other properties and its limits (e.g. relaxed the limit of density for all grades, reduced the limits of T50 for R91, categorize the hydrocarbon and oxygenates properties and introduced methanol and oxygen content as new property) as well as updating of test methods. <p>Scope of the PNS : This standard specifies the requirements for bioethanol-blended gasoline, otherwise referred to as E-gasoline used as fuel in spark-ignition internal combustion engines. This standard does not include aviation gasoline.</p> <p>Implementing Guideline : DC No.2019-02-002 – <i>“Department Circular Implementing the Specifications for PNS/DOE QS 008:2018 – E-Gasoline-Specification”</i></p> <p>Signed : 07 February 2019</p>



Title : PNS/DOE QS 004:2017 – Petroleum Products – CME-blended automotive diesel oil Specification

Date Promulgated : 18 December 2017

Highlights/Developments of the PNS : *A technical standard for B2 mandate or 2% biodiesel blend under the Biofuels Act of 2006.*

- This standard is a revision/update of PNS.DOE QS 004:2012 .
- In this edition, the Euro 2 fuel grades (500 ppm, max. Sulfur content) was removed and thus effectively provided only the Euro IV-PH automotive diesel oil grade (50 ppm, max. Sulfur content) to align with the emission requirement of DENR under DAO No 2015-04 & 2016-23.
- Further the PNS provided only the requirements for automotive diesel oil (ADO) separate from industrial diesel oil (IDO) for effective implementation and monitoring.

Scope of the PNS : This standard specifies the requirement for CME-blended diesel oil suitable for various types of automotive diesel engines.

Implementing Guideline : **DC No.2019-05-0006 – “Department Circular Implementing the Specifications for PNS/DOE QS 004:2017 CME-Blended automotive diesel oil and PNS/DOE 013:2017 CME-Blended Industrial Diesel Oil – Specification”**

Signed: 15 May 2019



Title : PNS/DOE QS 013:2017 – Petroleum Products CME-blended industrial diesel oil Specification

Date Promulgated : 18 December 2017

Highlights/Developments of the PNS : *A technical standard for B2 mandate or 2% biodiesel blend under the Biofuels Act of 2006.*

- This standard is a revision/update of PNS/DOE QS 004:2012 for Industrial Diesel Oil (IDO).
- In this edition, a new PNS number was created to separate the requirements of IDO from automotive diesel oil (ADO) which carried the original designation of PNS/DOE QS 004.
- Improvements /changes were also made on several specs, incorporated other properties and its limits (e.g. introduced Cetane number or derived cetane number as new property, removed the distillation property, reduced the limit of Carbon residue and increased the limit of density, flash point and kinematic viscosity) as well as updating of test methods.

Scope of the PNS : This standard specifies the requirement for CME-blended diesel oil suitable for various types of industrial diesel engines.

Implementing Guideline : **DC No.2019-05-0006 – (same DC on ADO & IDO)**



Title : PNS/DOE QS 007:2014 – Biofuels – Anhydrous bioethanol & bioethanol fuel Specification

Date Promulgated : 29 January 2014

Highlights/Developments of the PNS *This standard was made in line with the goal of the Department for the development and utilization of alternative fuels that is indigenous and provides major benefit to the environment in support of the Biofuels Act of 2006.*

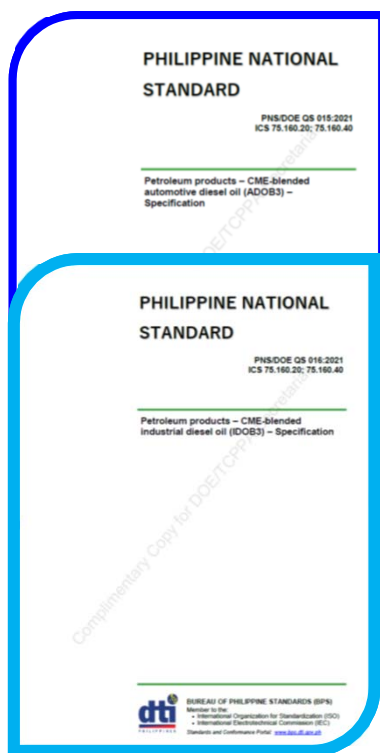
- This standard is a revision/update of PNS/DOE QS 007:2005.
- In this edition, improvement/changes were also made on several specs, incorporated other properties and its limits (e.g. change in color, inorganic chloride content, denaturant, electrical conductivity as new property) as well as updating of test methods.

Scope of the PNS : This standard specifies the requirements for biofuel grade ethanol in pure form (E100) and denatured (E98) for use as blending component of automotive spark ignition engine and other similar types of engines

Implementing Guideline : **DC No. 2015-07-0012 “ Implementing the PNS Specifications for Anhydrous Bioethanol Fuel “**

Signed/Published : 29 June 2015

2. Higher Biofuels Blends – Biodiesel (B3, B4 & B5)



Title : PNS/DOE QS 015:2021 – Petroleum Products - **CME-blended automotive diesel oil (ADOB3) Specification**

Title : PNS/DOE QS 016:2021 – Petroleum Products - **CME-blended industrial diesel oil (IDOB3) Specification**

Date Promulgated : 27 December 2021

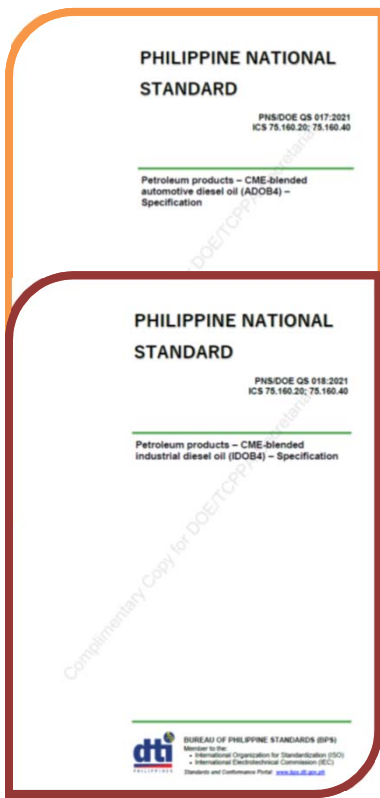
Highlights/Developments of the PNS : *These standards support future energy policy towards the integration of higher biodiesel blends in the petroleum/fuel sector. This is also in line with the continuing program of the government towards the use of cleaner fuels and promoting the use of indigenous and renewable energy resources with the end view of reducing dependence of importer oil.*

- These are new standard developed/formulated to address the technical requirements for automotive diesel oil (ADOB3) & industrial diesel oil (IDOB3) containing blend of CME at 3% v/v maximum and suitable test methods.

Scope of the PNS : These standards specifies the requirements for 3% v/v CME –blended diesel oil suitable for various types of automotive and industrial diesel engines

Implementing Guideline : None

(no mandate yet –awaiting NBB/REMB’s timeline policy direction on higher biodiesel blend. The PNS serves only as a reference or voluntary standard)



Title : PNS/DOE QS 017:2021 – Petroleum Products - **CME-blended automotive diesel oil (ADOB4) Specification**

Title : PNS/DOE QS 018:2021 – Petroleum Products - **CME-blended industrial diesel oil (IDOB4) Specification**

Date Promulgated : 27 December 2021

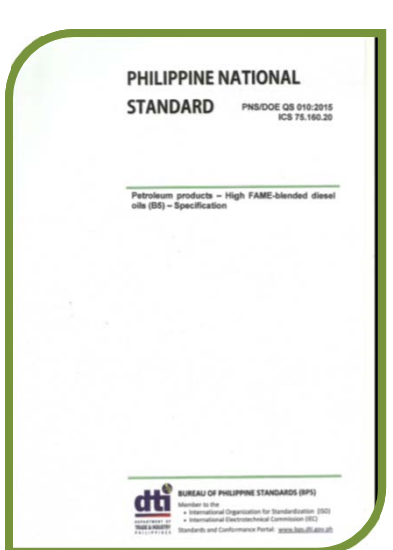

Highlights/Developments of the PNS : *These standards support future energy policy towards the integration of higher biodiesel blends in the petroleum/fuel sector. This is also in line with the continuing program of the government towards the use of cleaner fuels and promoting the use of indigenous and renewable energy resources with the end view of reducing dependence of importer oil.*

- These are new standard developed/formulated to address the technical requirements for automotive diesel oil (ADOB4) & industrial diesel oil (IDOB4) containing blend of CME at 4% v/v maximum and suitable test methods.

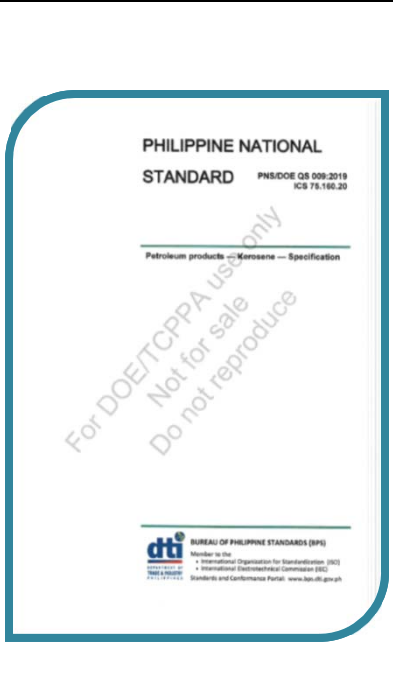

Scope of the PNS : These standards specifies the requirements for 4% v/v CME –blended diesel oil suitable for various types of automotive and industrial diesel engines

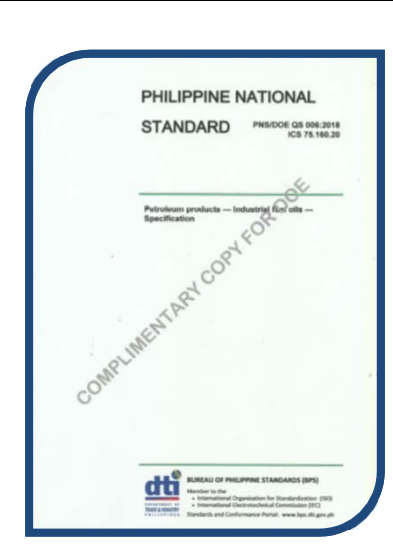

Implementing Guideline : None

(no mandate yet –awaiting NBB/REMB’s timeline policy direction on higher biodiesel blend. The PNS serves only as a reference or voluntary standard)

	 <p>Title : PNS/DOE QS 010:2015 – Petroleum Products - High FAME-Blended Diesel Oils (B5) Specification</p> <p>Date Promulgated : November 27, 2015</p> <p>Highlights/Developments of the PNS : <i>This standard support future energy policy towards the integration of higher biodiesel blends in the petroleum/fuel sector.</i></p> <ul style="list-style-type: none"> ➤ This is a new standard developed/formulated to addresses the technical requirements of high FAME- blended diesel oil (B5) and suitable test methods. <p>Scope of the PNS : This standard specifies the requirement for high FAME-blended diesel oils suitable for various types of diesel engines and other similar types of engines.</p> <p>Implementing Guideline : None <i>(no mandate yet for higher biodiesel blends. The PNS serves only as a reference or voluntary standard)</i></p>
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3. Petroleum & other petroleum related products

	 <p>Title : PNS/DOE QS 009:2019 – Petroleum Products – Kerosene Specification</p> <p>Date Promulgated : December 23, 2019</p> <p>Highlights/Developments of the PNS <i>This standard is in line with DOE’s policy and program of updating the fuel quality specification in terms of current requirement of the industry, its users and manufacturers and also by endeavoring to harmonize internationally/regional environmental standards.</i></p> <ul style="list-style-type: none"> ➤ This standard is a revision/update of PNS /DOE QS 009:2007 with revision made on property of flash point with two limits based on test method used limiting the scope of kerosene to energy related applications as well as updating of test methods. <p>Scope of the PNS : This standard specifies the requirements for kerosene intended (1) illuminant, (2) fuel for burner application at retail outlets. Aviation fuel is not included.</p> <p>Implementing Guideline : DC No.2020-12-0025 – “Department Circular Implementing the Philippine National Standard Specification for Kerosene (PNS/DOE QS 009:2019)”</p> <p>Signed/Published : 09 December 2020</p>
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	 <p>Title :PNS/DOE QS 006:2018 – Petroleum Products – Industrial fuel oils Specification</p> <p>Date Promulgated : 18 December 2018</p> <p>Highlights/Developments of the PNS <i>This standard is in line with DOE’s policy and program of updating the fuel quality specification in terms of current requirement of the industry, its users and manufacturers and also by endeavoring to harmonize internationally/regional environmental standards.</i></p> <ul style="list-style-type: none"> ➤ This standard is a revision/update of PNS/DOE QS 006:2005 with minor revision made particularly the deletion of the word “bunker” and referred only as industrial fuel oil as well as updating of test methods. <p>Scope of the PNS : This standard specifies the requirements for industrial fuel oils used wholly or as blending component of different grades for various types of fuel oil- burning equipment.</p> <p>Implementing Guideline : Draft DC on-going</p>
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Title : PNS/DOE QS 014:2018 – Petroleum Products – Residual Marine Fuels Specification

Date Promulgated : 22 December 2018

Highlights/Developments of the PNS : This standard is in line with objective of the Clean Air Acts of the Philippines as well as the DOE’s policy and program of formulating/developing/updating the fuel quality specifications of petroleum products in terms of current requirements of the industry, its users and manufacturers vis-à-vis the continuing commitment in ensuring supply availability and also by endeavoring to harmonize internationally/regional environmental standards for fuels. Also, this standard intends to adopt the program/guidelines of International Maritime Organization (IMO) for the requirement of *sulfur content* subject to statutory requirements set by MARINA.

- This is a new standard developed/formulated as a new and separate PNS for Residual Marine Fuel Specification, using ISO 8217:2017 (E) Petroleum Products – Fuels (class F)- Specifications of marine fuels as reference standard, specifically the residual marine fuel category ISO-F-RMG 180 and ISO-F-RMK 380.
- In this standard, the statutory requirement for the sulfur content is set at 3.0%, mass, maximum based on PNS for Fuel Oils (PNS/DOE QS006).
- Some changes were also made on the following properties (e.g. Hydrogen sulfide, Aluminum plus silicon, Pour point and Used Lubricating Oil (ULO).

Scope of the PNS : This standard specifies the requirements for fuels for use in marine diesel engines and boilers, prior to conventional onboard treatment (settling, centrifuging, filtration) before use. The specifications for fuels in this document can also be applied for fuels used in stationary diesel engines of the same or similar type of those used for marine purposes.

Implementing Guideline : (draft DC on-going)



Title : PNS/DOE QS 005:2016 – Petroleum Products – Liquefied Petroleum Gases (LPG) as Non-Motor Fuel Specification

Date Promulgated : 22 December 2016

Highlights/Developments of the PNS : This standard is in line with DOE’s policy and program of updating the fuel quality specification in terms of current requirement of the industry, its users and manufacturers and also by endeavoring to harmonize internationally/regional environmental standards.

- This standard is a revision/update of PNS/DOE QS 005:2005.
- In this edition improvement was made in the requirements on the use of odorant for health and safety consideration and updating of test method.
- Said PNS provided only the requirements for LPG as non-motor fuel separate from LPG as motor fuel for effective implementation and monitoring.

Scope of the PNS : This standard specifies the requirement for liquefied petroleum gases (LPG) for use as domestic, commercial and industrial fuel.

Implementing Guideline : DC No.2019-06-0009 – “Department Circular Implementing the Modified Philippine National Standard Specification for Liquefied Petroleum Gases (PNS/DOE QS 005:2016 and PNS/DOE QS 012:2016”

Signed/Published : 06 June 2019



Title : PNS/DOE QS 012:2016 – Petroleum Products – Liquefied Petroleum Gases (LPG) as Motor Fuel Specification

Date Promulgated : 22 December 2016

Highlights/Developments of the PNS : *This standard is in support of the Philippine Government’s effort to promote the utilization of alternative and clean fuel technology.*

- This standard is a revision/update of PNS/DOE QS 005:2005 particularly in the specification of LPG as motor fuel (Type 2B) with improvement made in the requirement on the use of odorant for health and safety consideration.
- This edition, a new PNS number was created to separate the application of LPG as motor fuel from LPG as non-motor fuel (domestic, commercial and industrial fuel) which carried the original designation PNS/DOE QS 005 for more effective implementation and monitoring.

Scope of the PNS : This standard specifies the requirements for liquefied petroleum gases (LPG) used as motor fuel.

Implementing Guideline : DC No.2019-06-0009 – *(same DC for LPG as motor fuel and non-motor fuel)*



Title : PNS/DOE ASTM D 910:2010 (ASTM published 2007) – Standard Specification for Aviation Gasoline – Grade 100LL

Date Promulgated : 2010

Highlights/Developments of the PNS : *This standard is in line with the DOE’s policy and program of updating the fuel quality specification in terms of current requirement of the industry, its users and manufacturers and also by endeavoring to harmonize internationally/ regional environmental standards for fuels.*

- The standard is derived from ASTM D 910-07A Standard Specification for Aviation Gasoline and is limited only for Grade 100LL all other grades are excluded for the purpose of complying with the Clean Air Act of the Philippines

Scope of the PNS : This specification covers from formulating specification for purchases of aviation gasoline under contract and is intended primarily for use by purchasing agency .

Implementing Guideline : None (*PNS serves only as reference or voluntary standard*)