



**Kenya Bureau of
Standards**

PETROLEUM PRODUCTS INSPECTION OPERATIONS MANUAL

2016-01-14

1.0 INTRODUCTION

1.1 Purpose and Background

This manual provides a frame work for inspection of petroleum products both at the port of loading and before discharge at the Port of Mombasa. Inspection of petroleum products has been for a long time left in the hands of private surveyors with minimal involvement of Kenya Bureau of Standards as a regulator even though it is a mandatory requirement that goods entering Kenya must be tested by KEBS before acceptance. Though the private surveyors have over the years applied international best practices in the inspection of petroleum products, the lack of oversight by the regulator as an independent body has opened the possibility of inconsistent levels of performance and service to both the country and hence consumers.

This manual shall therefore establish uniform inspection procedures and ultimately improve compliance of petroleum products to relevant Kenya Standards or approved specifications and also provide a framework through which KEBS exercises its oversight role as provided for under the Standards Act, Cap 496 Laws of Kenya.

1.2 Objectives

This manual outlines minimum requirements for quality and quantity inspections to be performed by KEBS contracted surveyors for purposes of ensuring all imported petroleum products meet the requirements of the relevant Kenya Standards or approved specifications and in the correct quantities for purposes of securing taxes for the Government of Kenya.

2.0 REFERENCES

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

- i. KS EAS 177: 2012 East African Standard Specification For Automotive Gas Oil (Automotive Diesel)
- ii. KS EAS 158: 2012 East African Standard Specification for automotive Gasoline (Premium motor spirit)
- iii. KS 1289: 1996 Kenya Standard Specification for illuminating Kerosene
- iv. KS 1309 PART 2 1996 Kenya Standard Specification for diesel fuels--Industrial diesel oil
- v. KS 1310: 1996 Kenya Standard Specification for fuel oils
- vi. ASTM D 86, ASTM D 93B, ASTM D 95, ASTM D 156, ASTM D 445, ASTM D 1298, ASTM D 1500, ASTM D 2624, ASTM D 4052, ASTM D 4176, ASTM D 4294, ASTM D 1250-04 and ASTM D 7797
- vii. IP 170
- viii. Legal Notice No. 78 of 15th July, 2005
- ix. The Standards Act Cap 496, Laws of Kenya
- x. The Energy Act No. 12 of 2006
- xi. AFQRJOS--Aviation Fuel Quality Requirements for Joint Operated Systems.
- xii. API MPMS- American Petroleum Institute Manual of Petroleum Measurements Standards.

3.0 TERMS AND DEFINITION

- **KEBS** – Kenya Bureau of Standards.
- **KRA** – Kenya Revenue Authority

- **ERC**- Energy Regulatory Commission
- **COQ** – Certificate of Quality give laboratory test results compared to set standard limits.
- **OMC** – Oil Marketing Company in Kenya
- **Surveyor**- Inspection Company contracted by KEBS to carry out inspection of petroleum products
- **Load Port** – Port in the country of supply where the consignment is loaded into the vessel
- **Disport**- Port of destination in Kenya.
- **AFQRJOS**- Aviation Quality requirements for jointly operated systems
- **Outturn Report**- Certificate of volume and quantity received at the received terminal.
- **PVoC**- Pre- Export Verification of Conformity
- **Inspection report**- Final report by the surveyor on the inspection carried out.

4.0 RESPONSIBILITIES UNDER THE PETROLEUM INSPECTION PROGRAM

4.1 KEBS shall;

- i. Enlist a panel of contracted surveyors with own testing facilities both at load port and Disport to carry out inspection of petroleum products destined to Kenya.
- ii. Develop quality standards for petroleum products to be used in the inspection regime by the contracted Surveyors.
- iii. Continuously monitor the performance of the contracted Surveyors through testing of reference samples, audits and feedback from stakeholders.
- iv. Ensure that only petroleum products meeting the requirements of relevant Kenya Standards or approved specification are allowed into the country.

4.2 Surveyors shall;

- i. Inspect vessel tanks prior to loading to determine if tanks meet the requirements for cargo to be loaded i.e. verify the products loading as per the last voyage.
- ii. Sample and analyze products to be loaded or discharged with a view to determining compliance to Kenya Standards or approved specification.
- iii. Supervise loading and discharge of petroleum products to ensure that all practical steps are taken so as to avoid contamination.
- iv. Provide report that details the quality and quantity of each consignment loaded or discharged in the form of COQ, Outturn and Inspection report to both OMC and KEBS.
- v. Report in a timely manner to all concerned parties any matter that may be relevant to the handling of the consignment.

4.3 OMC shall;

- i. Ensure that their import/ export licence with ERC is valid prior to importing petroleum products
- ii. Ensure that petroleum products being imported into Kenya meet the requirements of the relevant Kenya Standards or approved specifications.
- iii. Nominate load port and discharge port surveyors from a panel of surveyors contracted by KEBS.
- iv. Meet the cost of inspection
- v. Notify KEBS of attendance for pre-discharge sampling at disport.

4.4 KRA shall;

- i. Only allow customs release of petroleum products as advised by KEBS.
- ii. Use Outturn report issued by the surveyors in determination of duty payable by OMC

4.5 ERC shall;

- i. Issue import and export licences to OMC that comply with statutory requirements
- ii. Suspend import and export licences of non-complying companies in line with the provisions of the Energy Act.

5.0 PANEL OF SURVEYORS

The following surveyors have been contracted by KEBS to carry out inspection of petroleum products as indicated;

- i. SGS- At Load Port and Disport
- ii. Intertek- At Load Port and Disport
- iii. Bureau Veritas- At Load Port Only

6.0 SCOPE

The following petroleum products are subject to mandatory inspection both at Load Port and Disport before shipment by KEBS contracted surveyors:

- i. Premium Motor Gasoline/ Spirit (PMS)
- ii. Automotive Gas Oil (AGO)
- iii. Jet fuel (JET- A1)
- iv. Fuel Oils
- v. Aviation FUEL (AVGAS)
- vi. Industrial Diesel Oil (IDO)
- vii. Illuminating Kerosene (IK)

The inspections shall be conducted based on the best international practice while assessment of product compliance shall be based on relevant Kenya Standards or approved specifications

Note: LPG, Bitumen, Lube oils, Greases and Base oils are fully covered under PVOC Program.

7.0 INSPECTION PROCESS

7.1 Load port process

- i. OMC nominates a surveyor from a list KEBS contracted Surveyors (refer to clause 5.0) and communicates the same to the supplier.
- ii. At load port, before finished petroleum products (listed in clause 6.0) are loaded onto vessel cargo tanks, supplier places the order to surveyor nominated by the OMC to carry out tests based on the relevant Kenya Standard or approved specification.
- iii. The surveyor inspects the vessel tanks and ensures that they are clean i.e. verify the products loading as per the last voyage.

- iv. The surveyor shall supervise loading and draw first foot samples from vessel tanks for purposes of determining compliance to requirements of the relevant Kenya Standards or specifications before the vessel sails.
- v. For purposes of allowing the sail, the surveyor shall carry out tests on the critical parameters listed in Annex1. However, results for the full tests should be available within 48 hours of inspection.
- vi. A **COQ** for cargo loaded and also **quantity report** based on the Bill of Lading as determined at load port shall be prepared and availed to OMC, Shipper and KEBS within 48 hours of inspection.
- vii. An Inspection report shall be prepared and submitted to OMC and KEBS by the surveyor within 72 hours after inspection.
- viii. The quantity report should be expressed in M³ at 15 deg C, metric Tons in Air and US bbls at 60 F, and no other units, these are to be calculated using industry standard methods as set out in API MPMS and the correction factors found in ASTM D 1250-04.
- ix. Sealed reference samples from the vessel tanks after loading, drawn in compliance with relevant Kenya standards or approved specifications and made into a weighted composite of not less than 5 litres per product shall be retained by the surveyor, loading depot, carrier (i.e. shipper) with duplicate 5 litres aliquot being dispatched together with the consignment to disport to facilitate a validation test in case of a dispute.
- x. The OMC shall meet the full cost of inspection based on the commercial contract with the surveyor.

7.2 Disport process

- i. OMC shall nominate disport surveyor from a list of KEBS contracted surveyors.
- ii. OMC shall notify all parties i.e. receiving terminal, Kenya Ports Authority (KPA), KEBS and KRA on the date of arrival and time for them to prepare for inspection before discharge.
- iii. The surveyor together with the receiving terminal and any other party contracted by OMC shall jointly draw samples for key pre- discharge analysis as per **Annex 1**.

Note: Cargo purchased in the high seas shall be subjected to FULL analysis as per the applicable standard.

- iv. Reference samples shall be drawn and sealed for retention by Surveyor for a period of 90 days.
- v. Where, product samples drawn in (iii) above comply with applicable standards or specifications and compare closely with the load port COQ, the products shall be released by KEBS for discharge **through a certificate of release (Annex 2)**.
- vi. Where there is dispute or disparity between pre-discharge test results and the load port COQ, Sampling and testing shall be repeated in an independent accredited laboratory. A decision shall be made by all concerned parties if the products are complying with Kenya Standards.

- vii. After completion of discharge the surveyor shall release outturn report to KRA, KEBS, OMC and the receiving depots.
- viii. An Inspection report shall be prepared and submitted to OMC and KEBS by the surveyor within 72 hours after inspection.
- ix. All non-complying products shall be reshipped or disposed at the expense of the OMC.
- x. Any request for exemption from the requirements of the applicable Kenya Standard shall be handled in accordance with the standards Act, Cap 496 Laws of Kenya

8.0 CONTACT INFORMATION

Queries about the new inspection requirements should be addressed to KEBS through the following contact details

Email: petroleuminspection@kebs.org;

Tel: +254 20 6948461/439

9.0 ANNEXES:

9.1 ANNEX 1: KEY/CRITICAL PARAMETERS

i. Fuel Oils

Test	Units	Method
Density @ 20°C	Kg/ L	ASTM D 1298
Water Content	% vol	ASTM D 95
Flash Point	°C	ASTM D 93 B
Sulphur content	% m/m	ASTM D 4294
Pour Point	°C	ASTM D 97
Viscosity @ 50°C	Cst	ASTM D 445

ii. Automotive Gas Oil

Test	Units	Method
Appearance	-	Visual
Density @ 20°C	Kg/m ³	ASTM D 4052/ ASTM D 1298

Density @ 15°C	Kg/m ³	ASTM D 4052/ ASTM D 1298
Flash Point	°C	ASTM D 93 A
Distillation	°C	ASTM D 86
ASTM Colour		ASTM D 1500

iii. **Automotive Gasoline (PMS) and Aviation Gasoline (AVGAS)**

Test	Units	Method
Appearance	-	Visual
Density @ 20°C	Kg/m ³	ASTM D 4052/ 1298
Visual Colour		Visual
Odour		Organoleptic
Distillation		ASTM D 86
Sulphur	% m/m	ASTM D 4294

iv. **Jet A-1**

Test	Units	Method
Appearance	-	ASTM D 4176
Colour Saybolt	-	ASTM D 156
Odour	-	Organoleptic
Density @ 20°C	Kg/m ³	ASTM D 1298/4052
Flash Point	°C	IP 170
Electrical Conductivity	pS/m	ASTM D 2624
Freezing Point	°C	ASTM D 2386
Distillation	°C	ASTM D 86

Note: For Illuminating Kerosene, conductivity and Freezing Point are NOT critical tests.

9.2 ANNEX 2: KEBS DISCHARGE FORM (CERTIFICATE OF RELEASE)



Kenya Bureau of Standards

1.0 Name and Address of oil marketing company (OMC)

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2.0 Name address of KEBS contracted Surveyor.....

2.0 Vessel Name and Arrival date

3.0 Discharge Terminal.....

4.0 Receiving Terminal.....

5.0 Products onboard

S. No	PRODUCT	QUANTITY (B/L)	COQ/COA NUMBER
1.			
2.			
3.			
4			

6.0 Name of KEBS Officer.....

6.1 Designation.....

6.2 Signature and Release Stamp.....

7.0 Date and time of Release.....

8.0 Remarks.....