



Engineering Standard

SAES-Y-100

29 September 2013

Regulated Vendors List for Royalty/Custody Measurement Equipment

Document Responsibility: Custody Measurement Standards Committee

Saudi Aramco DeskTop Standards

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1 Scope

This standard identifies acceptable manufacturers for equipment used for custody and royalty measurement of hydrocarbon liquids and gases.

2 Conflicts and Deviations

- 2.1 Any conflicts between this standard and other applicable Saudi Aramco Engineering Standards (SAESs), Materials System Specifications (SAMSSs), Standard Drawings (SASDs), or industry standards, codes, and forms shall be resolved in writing by the company or buyer representative through the Manager, Process & Control Systems Department (P&CSD) of Saudi Aramco, Dhahran.
- 2.2 Direct all requests to deviate from this standard in writing to the Company or Buyer Representative, who shall forward such requests to the Manager, Process & Control Systems Department of Saudi Aramco, Dhahran. The Manager, Process & Control Systems Department shall follow internal Company procedure [SAEP-133](#) to process the request.

3 References

The following is a summary of the Saudi Aramco documents and industrial standards that have been mentioned within this standard:

3.1 Saudi Aramco References

Saudi Aramco Engineering Procedure

[SAEP-133](#) *Instructions for the Development of a “Regulated Vendors List” Engineering Standard*

Saudi Aramco Engineering Standards

[SAES-Y-101](#) *Custody Metering of Hydrocarbon Gases*
[SAES-Y-103](#) *Royalty/Custody Metering of Hydrocarbon Liquids*
[SAES-Y-301](#) *Royalty/Custody Measurement of Hydrocarbon Liquids using Radar Tank Gauging Systems*
[SAES-Y-501](#) *Dynamic Sampling of Hydrocarbon Liquids for Royalty/Custody Transfers*

Saudi Aramco Materials System Specifications

[34-SAMSS-112](#) *Orifice Meter for Gas Custody Measurement*
[34-SAMSS-114](#) *Ultrasonic Flow Meter for Gas Custody Measurement*

<u>34-SAMSS-117</u>	<i>Turbine Flow Meters in Liquid Service</i>
<u>34-SAMSS-118</u>	<i>Positive Displacement Meters</i>
<u>34-SAMSS-119</u>	<i>Bi-Directional Meter Prover</i>
<u>34-SAMSS-120</u>	<i>Uni-Directional Meter Prover</i>
<u>34-SAMSS-121</u>	<i>Small Volume Prover</i>
<u>34-SAMSS-151</u>	<i>Small Gas Metering System</i>
<u>34-SAMSS-153</u>	<i>Medium Gas Metering Systems with Ultrasonic Flow Meters</i>
<u>34-SAMSS-167</u>	<i>Truck Loading Metering Systems</i>
<u>34-SAMSS-168</u>	<i>Truck Unloading Metering Systems</i>
<u>34-SAMSS-180</u>	<i>Truck Weigh Scale System</i>
<u>34-SAMSS-321</u>	<i>Radar Tank Gauging Systems for Royalty/Custody Measurement of Hydrocarbon Liquids</i>
<u>34-SAMSS-511</u>	<i>Chromatographs</i>
<u>34-SAMSS-517</u>	<i>Density Meters</i>
<u>34-SAMSS-525</u>	<i>Automatic Sampling Systems for Crude Oil and Refined Products</i>
<u>34-SAMSS-841</u>	<i>Flow Computer for Custody Transfer Measurement of Hydrocarbon Liquids</i>
<u>34-SAMSS-846</u>	<i>Flow Computer for Custody Transfer Measurement of Hydrocarbon Gases</i>
<u>34-SAMSS-847</u>	<i>Preset Controllers for Loading and Unloading Systems</i>
<u>34-SAMSS-851</u>	<i>Metering Supervisory Computer for Custody Transfer Measurement of Hydrocarbon Liquids</i>

4 Definitions

Terms shown in **bold** font within this document are defined below:

Acceptable: Approval is not required to place a purchase order for the product. After the order has been placed, the **supplier** of this product must ensure that he complies with all aspects of the purchasing contract (e.g., must meet the Saudi Aramco Materials System Specification).

Approval: Written authorization by the Manager, Process & Control Systems Department, Saudi Aramco, Dhahran.

Custody Transfer Measurement: A specialized form of measurement that provides quantity and quality information used for the physical and fiscal documentation of a change in ownership and/or responsibility of hydrocarbon commodities. This includes measurement of hydrocarbon liquid movements (deliveries or receipts) between Saudi Aramco and its customers, suppliers, joint ventures and transport contractors including VELA ships.

9COM: Commodity Code.

Inspection Category (IDCAT): the control key for quality management assigned for 9COM commodity material procurement. There are five keys for materials:

- IDCAT-A The material requires visual inspection and manufacturing plant approval
- IDCAT-B The material requires certificates review and manufacturing plant approval
- IDCAT-C The material does not require inspection but manufacturing plant approval required.
- IDCAT-S The material requires inspection but does not require manufacturing plant approval
- Q0008 The material requires certificates only

License Agreement: A contract between a **supplier** and an owner of rights to an equipment design, allowing a **supplier** to either (1) assemble the equipment using all the pieces provided by the design owner or (2) assemble the equipment using a combination of pieces provided by the design owner and pieces manufactured by the licensee to the design owner's detailed drawings/specifications. The contract between the licensor and licensee would (1) require the licensee to follow the licensor manufacturing procedures and be routinely audited by the licensor for compliance and (2) require the equipment to be marketed and labeled using the licensor's brand name.

Made: Created from raw materials and/or assembled by the manufacturer.

Manufacturer: Can be either (1) the owner of the brand name of the equipment or (2) a licensee that has a **license agreement**.

Royalty Measurement: A specialized form of Measurement that provides quantity and quality information used for the physical and fiscal documentation on which Royalty is paid or credited to the Saudi Arabian Government.

SAMSS: Saudi Aramco Materials System Specification.

Supplier: The person/company, etc., who is responsible to provide the equipment to Saudi Aramco.

5 General

- 5.1 Procurement of a product made by a manufacturer not listed in the RVL Manufacturing Plants Approval Status report is not allowed without approval. Requests for approval of an alternate manufacturer must be supported by documentation identifying how the alternate manufacturer would better serve Saudi Aramco over the manufacturers listed in this standard.

Commentary Note:

If the request to procure from an alternate manufacturer is not approved, the approval authority is under no obligation to present the reasons for the refusal.

- 5.2 RVLs are SAP-based and can be accessed through SAP transaction **ZQ0025**. “RVL Manufacturing Plants Approval Status” report that can be generated by the same transaction includes:
- 5.2.1 RVL-based products, linked to the manufacturer in the given category, including 9COM number(s), description(s), etc.
 - 5.2.2 Q-Info limitations addressing approval coverage, manufacturing aspects, item(s) being manufactured under License Agreement, etc.
 - 5.2.3 Address by specific location, i.e., “City” and “Country”: Only products made in the specific plant location(s) or area(s) are listed.
 - 5.2.4 Consult Custody Measurement Unit/P&CSD for any 9COM in this document that are not linked to an approved vendor.

6 Applicable 9COM Listing

6.1 Flow Meters

9COM	Equipment Description: PIPE	Specification	Inspection Category
6000009831	Custody Meter, Turbine, Liquid	34-SAMSS-117	IDCAT-C
6000009832	Custody Meter, Positive Displacement, Liquid	34-SAMSS-118	IDCAT-C
6000009882	Custody Meter, Multi-Path, Ultrasonic, Gas	34-SAMSS-114	IDCAT-B
6000009885	Custody Meter, Orifice, Single Chamber	34-SAMSS-112	IDCAT-C
6000009886	Custody Meter, Orifice, Dual Chamber	34-SAMSS-112	IDCAT-C
6000009887	Custody Meter, Orifice Plate	34-SAMSS-112	IDCAT-C

6.2 Meter Provers and Associated Equipment

9COM	Equipment Description: PIPE	Specification	Inspection Category
6000009888	Custody Prover, Uni-Directional	34-SAMSS-120	IDCAT-A
6000009889	Custody Prover, Bi-Directional	34-SAMSS-119	IDCAT-A
6000009890	Custody Prover, Small Volume	34-SAMSS-121	IDCAT-A
6000009891	Custody Prover, Atmospheric Tank	34-SAMSS-122	IDCAT-A

6.3 Sampling Systems

9COM	Equipment Description: PIPE	Specification	Inspection Category
6000009893	Custody Automatic Sampling, Liquid	SAES-Y-501 & 34-SAMSS-525	IDCAT-A
6000009894	Custody Automatic Sampling, Gas	SAES-Y-101	IDCAT-B

6.4 Density Meters and Associated Equipment

9COM	Equipment Description: PIPE	Specification	Inspection Category
6000009895	Custody Density Meter, Liquid	34-SAMSS-517	IDCAT-B

6.5 Analytical Equipment

9COM	Equipment Description: PIPE	Specification	Inspection Category
6000009898	Custody Chromatograph, Gas or Liquid	34-SAMSS-511	IDCAT-B

6.6 Metering Control Equipment

9COM	Equipment Description: PIPE	Specification	Inspection Category
6000009899	Custody Flow Computer, Liquid, Panel-Mounted	34-SAMSS-841	IDCAT-C
6000009900	Custody Flow Computer, Gas, Panel-Mounted	34-SAMSS-846	IDCAT-C
6000009902	Custody Flow Computer, Gas, Field-Mounted	34-SAMSS-846	IDCAT-C
6000009906	Custody Preset Controller, Truck Loading	34-SAMSS-847	IDCAT-C
6000009907	Custody Preset Controller, Truck Unloading	34-SAMSS-847	IDCAT-C

9COM	Equipment Description: PIPE	Specification	Inspection Category
6000009908	Custody Tank Gauge, Radar (Note: the approved vendors for 9COM # 6000002822 are used)	34-SAMSS-321	IDCAT-C
6000009909	Custody Tank Management System, Radar (Note: the approved vendors for 9COM # 6000002822 are used)	34-SAMSS-321	IDCAT-A
6000009910	Custody Weigh Scale	34-SAMSS-180	IDCAT-C

6.7 Metering System Integrators

9COM	Equipment Description: PIPE	Specification	Inspection Category
6000009911	Custody System, Liquid Pipeline, Turbine/PD	SAES-Y-103	IDCAT-A
6000009914	Custody System Gas Pipeline, Orifice	34-SAMSS-151 & SAES-Y-101	IDCAT-A
6000009915	Custody System Gas Pipeline, Ultrasonic	34-SAMSS-153 & SAES-Y-101	IDCAT-A
6000009917	Custody System, Truck Loading, Positive Displacement	34-SAMSS-167	IDCAT-A
6000009918	Custody System, Truck Unloading, Positive Displacement	34-SAMSS-168	IDCAT-A
6000009920	Custody Metering Control System, Gas	SAES-Y-101	IDCAT-A
6000009921	Custody Metering Control System, Liquid	SAES-Y-103 & 34-SAMSS-851	IDCAT-A
6000014614	Custody Tank Gauging System, Radar (Note: the approved vendors for 9COM # 6000002822 are used)	SAES-Y-301 & 34-SAMSS-321	IDCAT-A

6.8 Special Materials

9COM	Equipment Description: PIPE	Specification	Inspection Category
6000010092	Valve, Control Custody Digital Flow Control	SAES-Y-103	IDCAT-C

Revision Summary

18 January 2012	Revised the "Next Planned Update." Reaffirmed the content of the document, and reissued with editorial revision.
14 July 2012	Minor revision including changing the title of the document.
28 July 2013	Minor revision including the Inspection Categories of the 9COM Materials.
29 September 2013	Editorial revision to change the primary contact persons.