



# Engineering Standard

SAES-P-101

20 March 2006

## Regulated Vendors List for Electrical Equipment

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## Saudi Aramco DeskTop Standards

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## 1 Scope

This standard identifies acceptable manufacturers for SAMS Class 14, 15, 16 and 17 materials.

## 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, Consulting Services Department of Saudi Aramco, Dhahran.
- 2.2 Direct all requests to deviate from this standard in writing to the Company or Buyer representative, who shall follow internal Company procedure SAEP-133 and forward such requests to the Manager, Consulting Services Department of Saudi Aramco, Dhahran.

## 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

<i>SAEP-133</i>	<i>Instructions for the Development of a "Regulated Vendors List" Engineering Standard</i>
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#### Saudi Aramco Engineering Standard

<i>SAES-P-104</i>	<i>Wiring Method and Materials</i>
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#### Saudi Aramco Materials System Specifications

<i>14-SAMSS-531</i>	<i>Power Transformers</i>
<i>14-SAMSS-533</i>	<i>Three-Phase Dry-Type Power Transformers</i>
<i>14-SAMSS-536</i>	<i>Pad Mounted Three Phase Distribution Transformers</i>
<i>15-SAMSS-502</i>	<i>Medium Voltage Power Cable, 5 kV through 35 kV</i>
<i>16-SAMSS-502</i>	<i>Metal Enclosed Low-Voltage/Switchgear Assemblies</i>
<i>16-SAMSS-503</i>	<i>Indoor Controlgear - Low Voltage</i>

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<i>16-SAMSS-504</i>	<i>Indoor Metal-Clad Switchgear: 1 to 38 kV</i>
<i>16-SAMSS-506</i>	<i>Indoor Controlgear - Medium Voltage</i>
<i>16-SAMSS-507</i>	<i>High Voltage Motor Controller - Outdoor</i>
<i>16-SAMSS-508</i>	<i>SF<sub>6</sub> Gas Insulated Circuit Breakers - Outdoor</i>
<i>16-SAMSS-510</i>	<i>Manually Operated Pad Mounted SF<sub>6</sub> Switchgear: 1 kV to 36 kV</i>
<i>16-SAMSS-511</i>	<i>Metal-Enclosed Bus Indoor and Outdoor</i>
<i>16-SAMSS-512</i>	<i>Outdoor Switchrack - Low Voltage</i>
<i>16-SAMSS-514</i>	<i>Control and Protective Relay Panel</i>
<i>16-SAMSS-517</i>	<i>Adjustable-Frequency Drive System: 1 kV and above</i>
<i>16-SAMSS-518</i>	<i>Low Voltage Panelboards</i>
<i>16-SAMSS-519</i>	<i>Indoor Switchboard – Low Voltage</i>
<i>16-SAMSS-520</i>	<i>Cablebus</i>
<i>16-SAMSS-521</i>	<i>Indoor Automatic Transfer Switch – Low Voltage</i>
<i>17-SAMSS-502</i>	<i>Form-Wound Induction Motors 250 HP and above</i>
<i>17-SAMSS-503</i>	<i>Severe Duty Totally Enclosed Squirrel Cage Induction Motors to 250 HP</i>
<i>17-SAMSS-510</i>	<i>Synchronous Generators</i>
<i>17-SAMSS-511</i>	<i>Stationary Storage Batteries</i>
<i>17-SAMSS-514</i>	<i>Battery Chargers</i>
<i>17-SAMSS-516</i>	<i>Uninterruptible Power Supply System</i>
<i>17-SAMSS-520</i>	<i>Form-Wound Brushless Synchronous Motors</i>

### 3.2 Industry Codes and Standards

#### International Electrotechnical Commission

<i>IEC 60146 series</i>	<i>Semiconductor Converters</i>
<i>IEC 61136 series</i>	<i>Semiconductor Power Converters – Adjustable Speed Electric Drive Systems</i>

#### National Electrical Manufacturers Association

<i>NEMA ICS 7</i>	<i>Industrial Control and Systems Adjustable Speed Drives</i>
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Underwriters Laboratories, Inc.

*UL 218*

*Safety Fire Pump Controllers*

## 4 Definitions

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

**Approval:** Written authorization by the Manager, Consulting Services Department, Saudi Aramco, Dhahran.

**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).

**9COM Material #:** Commodity Material number.

**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**.

**SAMSS:** "Saudi Aramco Materials System Specification".

**SAP:** Saudi Aramco corporate computer system that includes the approved manufacturers.

**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 as an approved manufacturer in Saudi Aramco SAP system 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

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Saudi Aramco over the **manufacturers**.

*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 The **manufacturer** listings within Saudi Aramco SAP system interpreted in the following manner:
- 5.2.1 **Manufacturer listed without Limitation**: All products from the **manufacturer** in the given category (**9COM** and, if applicable, **SAMSS**) are **acceptable**.
  - 5.2.2 **Manufacturer listed with a "Limitation"**: Only the product that meets the "Limitation" is acceptable. If noted as being manufactured "Under License", only products **made** under the terms of the **license agreement** are **acceptable**.
  - 5.2.3 **Manufacturer is listed with a specific "Location"**: Only products **made** in the specific location(s) or area(s) are **acceptable**.

## 6 Acceptable Manufacturers Listing

Refer to Saudi Aramco SAP system for approved manufacturers for the following 9COM:

### 6.1 Class 14

Equipment Description: **Transformers, Power, Oil-Filled**  
**9COM Material #: 6000000764**  
Specification: 14-SAMSS-531

Equipment Description: **Transformers, Distribution, Pad Mounted**  
**9COM Material #: 6000000761**  
Specification: 14-SAMSS-536

Equipment Description: **Transformers, Power, Dry**  
**9COM Material #: 6000000763**  
Specification: 14-SAMSS-533

Equipment Description: **Cable Tray**  
**9COM Material #: 6000000744**  
Specification: Engineering Standard [SAES-P-104](#) contains the specification details

## 6.2 Class 15

Equipment Description: **Cable, Power, 5 kV through 35kV**

**9COM Material #: 6000000797**

Specification: 15-SAMSS-502

Equipment Description: **Cable, Power, 69 kV through 132kV**

**9COM Material #: 6000000799**

Specification: Engineering Standard SAES-P-104 contains the specification details

Equipment Description: **Cable, Power, 230 kV, Low Pressure Oil Filled**

**9COM Material #: 6000000803**

Specification: None

## 6.3 Class 16

Equipment Description: **Controlgear, Indoor – High Voltage**

**9COM Material #: 6000000857**

Specification: 16-SAMSS-506

Equipment Description: **Controlgear, Indoor – Low Voltage**

**9COM Material #: 6000000898**

**Specification: 16-SAMSS-503**

Equipment Description: **Controlgear, Outdoor, High Voltage, Submersible Pump**

**9COM Material #: 6000000899**

Specification: 16-SAMSS-507

Equipment Description: **Controlgear, Firewater Pump Motor**

**9COM Material #: 6000000919 & 6000000920**

Specification: **UL 218**

Equipment Description: **Switchgear, Metal-Clad, Indoor – 1 to 38 kV**

**9COM Material #: 6000000878**

Specification: 16-SAMSS-504

Equipment Description: **Switchgear, Metal-Enclosed Low-Voltage, Indoor**

**9COM Material #: 6000000885**

Specification: 16-SAMSS-502

Equipment Description: **Switchgear, Manually Operated Pad Mounted: Load Interrupted Switches, Circuit Breakers and Fuses - 1 kV through 15 kV**

**9COM Material #: 6000000894**

Specification: 16-SAMSS-510

Class 16 continue

Equipment Description: **Circuit Breaker, Outdoor, 34.5 kV to 230 kV**  
**9COM Material #: 6000000895**  
Specification: 16-SAMSS-508

Equipment Description: **Panelboard, Low Voltage, Non-explosionproof**  
**9COM Material #: 6000000859**  
Specification: 16-SAMSS-518

Equipment Description: **Panelboard, Low Voltage, Explosionproof**  
**9COM Material #: 6000000897**  
Specification: 16-SAMSS-518

Equipment Description: **Switchboard, Indoor, Low Voltage**  
**9COM Material #: 6000000883**  
Specification: 16-SAMSS-519

Equipment Description: **Switchrack, Outdoor – Low Voltage**  
**9COM Material #: 6000000886**  
Specification: 16-SAMSS-512

Equipment Description: **Transfer Switch, Automatic, Indoor, Low Voltage**  
**9COM Material #: 6000000882**  
Specification: 16-SAMSS-521

Equipment Description: **Busduct, Metal-Enclosed**  
**9COM Material #: 6000000900**  
Specification: 16-SAMSS-511

Equipment Description: **Cablebus**  
**9COM Material #: 6000000929**  
Specification: 16-SAMSS-520

Equipment Description: **Adjustable Frequency Drive System: 1 kV and above**  
**9COM Material #: 6000000936**  
Specification: 16-SAMSS-517

Equipment Description: **Adjustable Frequency Drive System: less than 1 kV**  
**9COM Material #: 6000000937**  
Specification: **IEC 60146 and 61136 or NEMA ICS 7**

Equipment Description: **Control & Protective Relay Panel**  
**9 COM #: 6000000845**  
Specification: 16-SAMSS-514

#### 6.4 Class 17

Equipment Description: **Induction Motors: up to 250 HP**  
**9 COM #: 600000994 & 600000995**  
Specification: 17-SAMSS-503

Equipment Description: **Form-Wound Induction Motors: 250 HP and above**  
**9COM # 600000996 & 600000997**  
Specification: 17-SAMSS-502

Equipment Description: **Form-Wound Brushless Synchronous Motors**  
**9 COM #: 600000999**  
Specification: 17-SAMSS-520

Equipment Description: **Synchronous Generators**  
**9 COM #: 600000965**  
Specification: 17-SAMSS-510

Equipment Description: **Diesel Driven Generators**  
**9 COM #: 600000964**  
Specification: **17-SAMSS-518**

Equipment Description: **Uninterruptible Power Supply System**  
**9 COM #: 600001012**  
Specification: 17-SAMSS-516

Equipment Description: **Static Switch**  
**9 COM #: 600001058**  
Specification: 17-SAMSS-516

Equipment Description: **Battery Charger/Rectifier**  
**9 COM #: 600000947**  
Specification: 17-SAMSS-514

Equipment Description: **Flooded Electrolyte Stationary Storage Batteries**  
**9 COM #: 600000951**  
Specification: 17-SAMSS-511

Equipment Description: **Nickel-Cadmium Stationary Storage Batteries**  
**9 COM #: 600001076 & 600008544**  
Specification: 17-SAMSS-511

Equipment Description: **Valve Regulated (Sealed) Stationary Storage Batteries**  
**9 COM #: 600001075**  
Specification: 17-SAMSS-511



#### Revision Summary

29 May 2002	Revised the "Next Planned Update". Deleted, Vendor "O-Z/Gedney" CCC-160069 and Limitations for Vendor "Alstom" CCC-160064/160065. There are several editorial revisions that have been made to update manufacturer and CCC information to reflect the SAP Plant Numbering.
30 June 2002	Minor revision to delink a CCC's from Siemens Power T&D. These changes have been initiated by the RSA of the equipments.
31 August 2002	Added new Vendor "Saudi Cable Company" to Power Cable - CCC 150007.
30 October 2002	Added "Jeddah Electrical Distribution" to Switchracks.
30 November 2002	Siemens Arabia Electric, Ltd. – limitation changed to TIASTAR models. Square D – changed manufacturing location to France. ABB Industrie AG – delete from the list.
31 December 2002	Editorial revision to rename Varta and have limitation to have only Varta brands. These changes have been initiated by the RSA of the equipments.
29 January 2003	Editorial revision to add Saudi Modern Co. to Power Cable – CCC: 150007.
31 March 2003	Editorial revision to add ASIROBICON SPA to Motors – CCC: 170064.
31 May 2003	Editorial revision to add 3 new vendors, ABB, The International Electrical Products, and The Saudi Transformers Co., Ltd. Change the title of 16-SAMSS-510.
31 December 2003	Editorial revision to add 2 new vendors under Class 16 Controlgear.
29 February 2004	Minor revision to paragraph 5.1 to add Chairman, Electrical Standards Committee as the authority approval for alternate manufacturers.
20 March 2006	Minor revisions.