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NOTICE

NOTICE FOR DECLARATION OF NATIONAL STANDARDS

IT IS HEREBY NOTIFIED for general information that the National Standards Council in exercise of the powers conferred upon the Council by Section 14 of the Uganda National Bureau of Standards (UNBS) Act, 1983 hereby declare that the following Standard Specifications, the scopes of which appear hereunder are elaborated Uganda National Specifications.

The National Standards Council therefore calls upon all interested persons or parties that may have any objection declaring the Standard Specifications indicated below as Uganda Standards to lodge their objection within 60 days from the date of publication of this notice.

These standards may be viewed (and/or obtained at a fee), at the UNBS, Plot M217 Nakawa Industrial Area, P.O. Box 6329, Kampala, Tel: 222367/505995, 031 262688/689, Fax 286123, E-mail: unbs@infocom.co.ug

1 US 218: 2005 Solar photovoltaic power systems — Terms and symbols

Scope: This Uganda Standard specifies terms of elements (solar cells and solar cell modules), equipments (power conditioner and storage batteries) and photovoltaic systems used in relation with photovoltaic power generation. This is the second edition of US 218 and has been extensively revised.

2 US 469: 2005 Characteristic parameters of standalone photovoltaic (PV) systems

Scope: This Uganda Standard defines the major electrical, mechanical and environmental parameters for the description and performance analysis of stand-alone photovoltaic systems.

3 US 551:2005 Rating of direct coupled photovoltaic (PV) pumping systems

Scope: This Uganda Standard defines predicted short-term characteristics (instantaneous and for a typical daily period) of direct coupled photovoltaic (PV) water pumping systems. It also defines minimum actual performance values to be obtained on-site. It does not address PV pumping systems with batteries.

4 US 552:2005 Photovoltaic system performance monitoring — Guidelines for measurement, data exchange and analysis

Scope: This Uganda standard recommends procedures for the monitoring of energy-related PV system characteristics such as in-plane irradiance, array output, storage input and output and power conditioner input and output; and for the exchange and analysis of monitored data. The purpose of these procedures is to assess the overall performance of PV systems configured as stand-alone or utility grid-connected, or as hybridised with non-PV power sources such as engine generators and wind turbines.

5 US 553:2005 Thin-film terrestrial photovoltaic (PV) modules — Design qualification and type approval

Scope: This Uganda Standard lays down requirements for the design qualification and type approval of terrestrial thin-film photovoltaic modules suitable for long-term operation in moderate open-air climates, as defined in IEC 60721-2-1. The object of this test sequence is to determine the electrical and thermal characteristics of the module and to show, as far as is possible within reasonable constraints of cost and time, that the module is capable of withstanding prolonged exposure in climates described in the scope. This standard does not apply to modules used with concentrators.

6 US 554: 2005 Terrestrial photovoltaic (PV) power generating systems — General and guide

Scope: This Uganda Standard constitutes a guide and gives an overview of terrestrial PV power generating systems and the functional elements of such systems.

7 US 463-2:2005 Photovoltaic devices — Part 2: Requirements for reference solar cells

Scope: This standard gives requirements for the classification, selection, packaging, marking calibration and care of reference solar cells.

8 US 463- 3:2005 Photovoltaic devices — Part 3: Measurement principles for photovoltaic (PV) solar devices with reference spectral irradiance data

Scope: This Uganda standard applies to the following crystalline silicon photovoltaic devices for terrestrial applications:

- (a) single solar cells with or without a protective cover
- (b) sub-assemblies of solar cells
- (c) flat modules

This standard is not applicable to solar cells designed for operation in concentrated sunlight, to modules embodying concentrators, nor to hybrid collectors which in addition to generating electricity, transfer heat to fluids for use in thermal systems.

This standard describes measurement principles and specifies the reference spectral irradiance distribution.

9 US 463-5: 2005 Photovoltaic devices — Part 5: Determination of the equivalent cell temperature (ECT) of photovoltaic (PV) devices by the open-circuit voltage method

Scope: This Part of US 463 describes the preferred method for determining the equivalent cell temperature (ECT) of PV devices (cells, modules and arrays of one type of module), for the purposes of comparing their thermal characteristics, determining NOCT (nominal operating cell temperature) and translating measured I-V characteristics to other temperatures.

This part of US 463 applies to crystalline silicon devices only.

10 US 463-6: 2005 Photovoltaic devices — Part 6: Requirements for reference solar modules

Scope: This Part of US 463 gives requirements for the selection, packaging, calibration, marking, and care of reference solar modules. It is intended to supplement US 463-2.

11 US 463-7: 2005 Photovoltaic devices — Part 7: Computation of spectral mismatch error introduced in the testing of a photovoltaic device

Scope: This Part of US 463 describes the procedure for determining the error introduced in the testing of a photovoltaic device caused by the interaction of the mismatch between the spectral responses of the test specimen and the reference device, and the mismatch between the test spectrum and the reference spectrum. The procedure applies only to photovoltaic devices which are linear over the range of interest, as defined in US 463-10.

12 US 463-8: 2005 Photovoltaic devices — Part 8: Measurement of spectral response of a photovoltaic (PV) device

Scope: This Part of US 463 gives guidance for the measurement of the relative spectral response of both linear and non-linear photovoltaic devices. This is only applicable to single-junction devices.

13 US 463-9: 2005 Photovoltaic devices — Part 9: Solar simulators for crystalline solar cells and modules

Scope: This Uganda Standard specifies solar simulators for crystalline solar cells and modules used for the

measurement of the outputs of terrestrial flat plate non-concentrating crystalline solar cells and crystalline solar cell modules hereafter referred to as "solar cells and modules" intended for power generation, which are referred to as "solar simulators," hereafter.

14 US 463-10: 2005 Photovoltaic devices — Part 10: Methods of linearity measurement

Scope: This part of US 463 describes procedures used to determine the degree of linearity of any photovoltaic device parameter with respect to a test parameter. It is primarily intended for use by calibration laboratories, module manufacturers and system designers.

15 US 555:2005 Direct coupled photovoltaic pumping systems — Design qualification and type approval

Scope: This Uganda Standard constitutes a guide and gives an overview of terrestrial PV power generating systems and the functional elements of such systems.

16 US 557:2005 Photovoltaic systems — Characteristics of utility interface

Scope: This Uganda standard addresses the interface requirements between the PV system and the utility, and provides technical recommendations.

17 US 558-1:2005 Environmental Testing — Part 1: General and guidance

Scope: Publication 558 includes a series of methods of environmental test and their appropriate severities, and prescribes various atmospheric conditions for measurements and tests designed to assess the ability of specimens to perform under expected conditions of transportation, storage and all aspects of operational use.

18 US 558-2-1: 2005 Basic environmental testing procedures Part 2, Tests — Test Ea and guidance-Shock

Scope: To provide a standard procedure for determining the ability of a specimen to withstand specified severities of shock.

19 US 558-2-2: 2005 Basic environmental testing procedures Part 2-2: Tests — Test Ed: Free fall

Scope: To assess the effects on a specimen of simple standard tests intended to be representative of the fall likely to be experienced during rough handling, or to demonstrate a minimum degree of robustness, for the purpose of assessing safety requirements.

This test is primarily intended for specimens not in their packing and for items in their transport case when the latter may be considered as part of the specimen itself.

20 US 558-2-3:2003 Basic environmental testing procedures Part 2-3: Tests — Test Fc : Vibrations (sinusoidal)

Scope: To assess the effects on a specimen of simple standard tests intended to be representative of the fall likely to be experienced during rough handling, or to demonstrate a minimum degree of robustness, for the purpose of assessing safety requirements.

This test is primarily intended for specimens not in their packing and for items in their transport case when the latter may be considered as part of the specimen itself.

21 US 559: 2005 Balance-of system components for photovoltaic systems - design qualification and type approval

Scope: This Uganda Standard lays down requirements for the design qualification and type approval of terrestrial balance-of system (BOS) components for photovoltaic (PV) systems suitable for long-term operation either indoor, conditioned or unconditioned; or outdoor in general open-air climates as defined in IEC 60721-2-1, protected or unprotected. It covers batteries, inverters, charge controllers, connectors, system diode packages, heat sinks, surge protectors, system junction boxes, maximum power point tracking devices, switch gear, wire and cables, but may be applicable to other BOS system components.

This standard does not apply to photovoltaic modules. These are covered by IEC 61215 or IEC 61646. Also, this standard does not apply to concentrator modules or to complete PV systems.

22 US 562: 2005 Crystalline silicon terrestrial photovoltaic (PV) module – Design qualification and type approval

Scope: This Ugandan Standard lays down requirements for the design qualification and type approval of terrestrial photovoltaic modules suitable for long-term operation in moderate open-air climates, as defined in IEC 60721-2-1. It applies only to crystalline silicon types.

This standard does not apply to modules used with concentrators.

23 US 564: 2005 Analytical expression for daily solar profiles

Scope: This procedure provides a normative equation for analytically deriving a set of data points or a curve of irradiance versus time of day for a synthetic solar day.

The coefficients of the normative equation for the analytical solar irradiance profiles are determined from measured or estimated values of maximum solar irradiance, daily solar irradiation and the number of daylight hours. These three input data define the curve of the analytical solar irradiance profiles. Depending on the objectives, these data may represent, for example, the worst winter day of a certain place, or the average day of a summer season, etc.

24 US 567 Portable solar photovoltaic (PV) lanterns- Design qualification and type approval

Scope: The specifications, test methods and procedures for indoor tests included in this document cover portable solar photovoltaic (PV) lanterns, which are lighting systems consisting of a lamp, a lead-acid battery and electronics, all placed in a suitable housing made of durable material such as metal or plastic and an integrated or separate PV module.

25 US IEC 60335-1 Household and similar electrical appliances - Safety - Part 1: General requirements

Scope: This Part of the standard deals with the safety of electrical appliances for household and similar purposes. It deals with the common hazards presented by appliances that are encountered by all persons in and around the home. It also covers appliances used by laymen in shops, in light industry and on farms (such as catering equipment, and industrial and commercial cleaning appliances). The rated voltage of the appliances are not more than 250 V for single-phase appliances and 480 V for other appliances.

26 US IEC 60335-2-3 Household and similar electrical appliances - Safety - Part 2-3: Particular requirements for electric irons

Scope: This Part of the standard deals with the safety of electric dry irons and steam irons. It includes those with a separate water reservoir or boiler with a capacity less than 5 l. It covers household use, use by laymen in shops, in light industry and on farms.

27 US IEC 60335-2-24 Household and similar electrical appliances - Safety - Part 2-24: Particular requirements for refrigerating appliances, ice-cream appliances and icemakers

Scope This Part of the standard deals with the safety of refrigerating appliances for household and similar use; ice-makers incorporating a motor-compressor and ice-makers intended to be incorporated in frozen food storage compartments; refrigerating appliances and ice-makers for use in camping, touring caravans and boats for leisure purposes. The rated voltage being not more than 250 V for single-phase appliances, 480 V for other appliances and 24 V d.c. for appliances when battery operated. These appliances may be operated from the mains, a separate battery or from either the mains or a separate battery. This standard also deals with the safety of ice-cream appliances intended for household use, their rated voltage being not more than 250 V for single-phase and 480 V for other appliances. Compression type appliances for household and similar use, which use flammable refrigerants, are also included.

28 US IEC 60884-1 Plugs and socket-outlets for household and similar purposes Safety - Part 1: General requirements

Scope: This Part of the standard applies to plugs and fixed or portable socket-outlets for a.c. only, with and without earthing contact, with a rated voltage above 50 V but not exceeding 440 V and a rated current not exceeding 32 A, intended for household and similar proposes, either, indoors or outdoors.

29 US IEC 60884-2-1 Plugs and socket-outlets for household and similar purposes Part 2-1: Particular requirements for fused plugs

Scope: This Part of the standard applies where fuses are primarily intended to protect the flexible cable or cord (e.g. with ring circuits).