The Energy Act, 2019

(No. 1 of 2019)

The Draft Energy (Solar Photovoltaic Systems) Regulations, 2019

In exercise of the powers conferred by Section 93 (2) (r) of the Energy Act, 2019, the Cabinet Secretary for Energy makes the following Regulations –

Part 1 - Preliminaries

Citation

1. These regulations may be cited as the Energy (Solar Photovoltaic Systems) Regulations, 2019.

Application

2. (1) These regulations shall apply to a solar PV system manufacturer, importer, vendor, technician, contractor, system owner, a solar PV system installation and consumer devices.

(2) Where alternating current electricity is involved, the Electric Power (Electrical Installation Work) Rules, 2006 or any other subsequent rules shall apply.

Definitions

3. In these regulations, unless the context otherwise requires: -

a) ***"advanced solar PV training"*** means a course(s) covering design, installation and commissioning of grid-tied systems, grid-tied systems with storage, off-grid PV systems, DC coupled and AC coupled, Off-grid PV-Fuel hybrid;

b) ***"Authority"*** means the Energy and Petroleum Regulatory Authority established pursuant to Section 9 of the Act;

c) ***"Act"*** means the Energy Act, 2019;

d) ***"basic solar PV training"*** means a course in design, installation and commissioning of a stand-alone DC coupled system of not more than 400 W with a system voltage of 12 V.

e) ***"battery based system"*** means an electrical energy supply system based on a battery without an integrated charging source or the charging source on site, and may include a single DC battery up to 200 Ah;

f) ***"consumer devices"*** means off-the-shelf, readymade kits with no installation required, and may include PV lanterns, DC phone chargers, complete solar PV kits or home systems, battery chargers, fans;

g) "***Continuing Professional Development'"***, means the process of tracking and recording the learning, skills and experience a solar technician gains as they work beyond the initial training;

h) ***"contractor"*** means a body corporate engaged in the design, installation and commissioning of solar PV systems;

i) ***"grid-tied system"*** means a solar PV system that is connected and synchronised to an existing grid. The system feeds power into the grid reducing the load powered by the grid;

j) ***"hybrid system"*** means a solar PV system incorporating other electricity generation sources such as diesel generator or wind generator;

k) ***"intermediate solar PV training"*** means a course in design, installation and commissioning of a DC coupled PV system of not more than 2 kW with an auxiliary grid/generator backup through an inverter-charger with a system voltage of not more than 48 V;

l) ***"Kenya Standard"*** shall have the meaning assigned to it under Standards Act, Cap 496;

m) ***"kW"*** means kilowatt;

n) ***"licensee"*** means the holder of a license issues under these regulations;

o) ***"manufacturer"*** means an entity that makes solar PV systems, components or consumer devices through a process involving converting or assembling of raw materials into finished solar PV systems, components or consumer devices;

p) ***"photovoltaic or PV"*** means the direct conversion of sunlight into electric current;

q) ***"PV array"*** means an interconnected system of PV modules that function as a single electricity-producing unit;

r) ***"revoke"*** means to withdraw and invalidate a license issued under these regulations;

s) ***"solar cell"*** means a solid-state device that converts the energy of sunlight directly into electricity by photovoltaic effect;

t) ***"solar PV module"*** means a packaged interconnected assembly of solar cells, also known as photovoltaic cells;

u) ***"solar photovoltaic system or solar PV system"*** means a system consisting of photovoltaic modules, electrical, mechanical connections and mountings, and regulating or modifying electrical output components that generate and provide electricity;

v) ***"solar PV system installation"*** means a set up comprising of a solar PV system, modules and components fixed at a specific site for the provision of electricity service;

w) ***"solar PV technician or technician"*** means a person licensed under these regulations to undertake the

design, installation and/ or commissioning of solar PV system;

x) ***"suspend"*** means to temporarily and for a defined period of time, withdraw and invalidate a license issued under these regulations;

y) ***"system design tools"*** means equipment, software, spreadsheets, charts, or matrices used in the design, installation, testing and maintenance of solar PV systems;

z) ***"warranty"*** means an assurance or guarantee given to the purchaser by a manufacturer or his agent stating that a product will perform as stated, is reliable and free from known defects and that the manufacturer shall, without charge, repair or replace defective parts within a given time limit and under certain conditions.

Part II – Licensing of Solar PV Technicians

Requirement for Licensing of Technicians

4. (1) A person shall not design, install, commission, maintain or repair a solar PV system unless he is licensed by the Authority.

(2) To be licensed by the Authority as a technician, a person shall be required to have the prescribed education qualifications and experience as set out in the Schedule 1, and appropriate certification recognized by the Authority.

Classes of Solar PV Technician Licences

5. The Authority may, on receipt of an application, grant the applicant one of the following classes of licenses and the licensee shall be entitled to undertake work within the scope indicated along license: -

(a) **Class ST1 –** Design, install, commission, maintain, and repair solar PV systems with a single inverter, single charge controller, single or multiple solar PV modules not more than 400 watts.

(b) **Class ST2 -** The technician may design, install, commission, maintain, and repair:

i. solar PV systems with PV array of not more than 2 kW, a single inverter/charger connected to grid or a backup generator, a charge controller of up to 70 amperes and multiple batteries.

ii. The technician may also design, install, commission, maintain, and repair solar water pumping systems of a capacity not more than 2 kW.

(c) **Class ST3** - The technician may design, install, commission, maintain, and repair:

i. grid-tied solar PV systems of a capacity not more than 50 kW;

ii. single phase Hybrid systems not more than 10 kW direct current coupled with a single battery

inverter and the technician may connect multiple batteries, and;

iii. solar water pumping systems of a capacity not more than 50 kW.

(d) **Class ST4** – The technician may design, install, commission, maintain, and repair grid-tied or hybrid or solar water pumping systems of any capacity.

Authority may Examine Technicians

6. The Authority may cause an applicant for a technician's license, including applicant's for upgrading of technician's licenses, to be examined in such manner as it may determine and upon any matter or thing in connection with the application for the purpose of ascertaining the applicant's qualification and suitability for grant of the class of license to which the application relates.

Part III – Licensing of Contractors and Manufacturers

Requirement of Licensing of Contractors and Manufacturers

7. (1) A person shall not engage in the importation, manufacture, sale or installation of solar PV systems or solar PV system components without a valid license issued by the Authority.

(2) The Authority shall, from time to time, publish a notice setting out the types of solar PV components and solar PV systems to which this regulation applies.

Classes of Contractor and Manufacturer Licenses

8. (1) The Authority may, on receipt of an application, grant the applicant one of the following classes of licenses and the licensee shall be entitled to undertake work within the scope indicated along license: -

(a) **Class SC1 -** which shall entitle the contractor to: -

i. import and sell solar PV components provided that the solar PV module rating shall not exceed 400 watts peak and inverters shall not exceed a capacity of 400 watts.

ii. design, install, commission, maintain, and repair solar PV systems with a single inverter charge controller, single or multiple solar PV modules not more than 400 watts.

The licensee shall be required to be, or to have in his employment a Class ST1 technician.

(b) **Class SC2 -** which shall entitle the contractor to: -

i. import and sell solar PV and solar water pumping components provided that the inverters sold or offered for sale shall not exceed a capacity of 2 kW

ii. design, install, commission, maintain, and repair solar PV systems with PV array of not more than 2 kW, a single inverter/charger connected to grid or a backup generator, a charge controller of up to 70 amperes and multiple batteries.

iii. design, install, commission, maintain, and repair solar water pumping systems of a capacity not more than 2 kW.

The licensee shall be required to be, or to have in his employment a Class ST2 technician.

(c) **Class SC3** - which shall entitle the contractor to: -

i. import and sell solar PV systems and components and solar water pumping systems provided that the inverters sold or offered for sale shall not exceed a capacity of 50 kW.

ii. design, install, commission, maintain, and repair grid-tied solar PV systems of not more than 50 kW or single phase, hybrid systems not more than 10 kW or direct current coupled with a single battery inverter and the contractor may connect multiple batteries.

iii. design, install, commission, maintain, and repair solar water pumping systems of a capacity not more than 50 kW.

The licensee shall be required to have in his employment a Class ST3 technician.

(d) **Class SC4** - which shall entitle the contractor to manufacture or import or sell solar PV products, design, install, and commission grid-tied or hybrid or solar water pumping systems of any capacity. The

licensee shall be required to be, or to have in his employment a class ST4 technician.

(e) **Class SM** – Which shall entitle the licensee to import parts necessary for the manufacture of solar PV components, and to manufacture and sell solar PV components and systems.

An applicant for this license shall not be required to have in his employment, a licensed solar PV technician.

(2) Applicants for contractor licenses shall, together with their applications for licenses, submit their system design tools for approval by the Authority.

Contractors to maintain Professional Indemnity Cover

9. Applicants for contractor licenses shall maintain professional indemnity cover of a minimum value specified in Schedule 5.

Part IV - General Provisions Regarding Licenses

Application for Licenses

10. (1) Applications for grant of the various classes of technician, contractor, or manufacturer licenses shall be made electronically or in any other manner that the Authority may, from time to time, prescribe and shall be accompanied by the information and documentation specified in Schedule 2 and proof of payment of the application fees specified in Schedule 3.

(2) The Authority shall process all applications and communicate the outcome to the applicants in writing expeditiously and in any event no later than: -

i. sixty days from the date of receipt of the application in the case of applications for new technician's licenses or upgrades of existing technician licences.
ii. Thirty days from the date of receipt of the application in the case of applications for new contractor and manufacturer licenses or upgrades of existing contractor licenses
iii. Thirty days from the date of receipt of the application for applications for renewal of both technician and contractor licenses.

(3) Successful applicants shall, upon payment of the license fees specified in Schedule 3, be issued with a license document in a form that the Authority may, from time to time, prescribe.

Validity of Licenses

11. (1) Licenses issued under these regulations shall be valid for a period of three (3) years from the date of issue unless the applicant applies for a licence valid for a one (1) year period.

(2) The application and renewal fees for one (1) year validity shall be a third of the application or renewal fees specified in Schedule 3.

Renewal of Licenses

12. (1) An application for renewal of a license shall be made thirty days prior to the date of expiry of the license.

(2) A licensed technician who wishes to renew their license shall demonstrate to the Authority accumulation of at least thirty credit points through Continuous Professional Development as outlined in Schedule 4.

(3) A licensee who makes an application for renewal of a license after its date of expiry shall be liable to the penalty set forth in regulation 27.

(4) Any license issued and is not renewed for six months after its date of expiry shall, unless the license holder has before expiry of the license informed the Authority in writing of the intention and reasons not to renew the

license, not be eligible for renewal and will require the licensee to apply for the license anew.

Upgrading of Licenses

13. (1) A licensee who wishes to upgrade from one license class to another shall make an application to the authority for such an upgrade at least one (1) year after issuance of the current licence.

(2) The Authority shall approve the upgrading of a technician's license if the technician has met the required academic and professional qualifications, and practical hands-on experience as outlined in Schedule 4.

(3) The Authority shall approve upgrading of a contractor license where the contractor demonstrates that he has in his employment a licensed solar PV technician appropriate to the class of license for which the upgrade is sought.

(4) The upgrading of a license shall be subject to the licensee paying the license fee for the class of licence to which the upgrade is sought.

Replacement of Lost or Defaced Licenses

14. Where a licensee demonstrates to the Authority that a license issued under these regulations has been defaced, destroyed or lost, the Authority may, on payment of the fees prescribed in Schedule 3 issue a duplicate license.

Suspension or Revocation of Licenses

15. (1) The Authority may suspend or revoke any license issued under these regulations where it is satisfied that a licensee has breached the provisions of these regulations or any conditions attached to the license.

(2) The Authority shall, prior to suspending or revoking a license under this regulation, by notice in writing afford the licensee an opportunity to show cause why the license should not be suspended or revoked.

(3) A notice to show cause issued hereunder shall contain sufficient information to enable the licensee discern the specific incidences of non-compliance in issue.

(4) A licensee shall be entitled to appear before the Authority with or without representation to show cause why his license should not be revoked.

Part V – Importation and Manufacture of Solar PV Systems, Components and Consumer Devices.

Products to conform to the Kenya Standard

16. (1) A manufacturer or importer of solar PV systems, components, and consumer devices shall ensure that the products conform to the relevant Kenya Standard set out in Schedule 6 or any other subsequent or replacement standards.

(2) A manufacturer or importer of solar PV systems shall not offer for sale solar PV products, components, and consumer devices without the appropriate safety and health warning labels being affixed.

Consumer Devices to be Registered with the Authority

17. (1) Manufacturers or importers of consumer devices shall have their products registered by the Authority on meeting the requirements of relevant Kenya Standard or other equivalent International Programmes for such products. The Authority shall publish on its website other equivalent programmes for lighting products from time to time and guidelines for registration of the consumer devices.

(2) The Authority shall maintain and publish on its website a register of all approved solar lighting kits.

Products to carry Warranties

18. A manufacturer, vendor, technician, or contractor shall provide a warranty to the customer for the components in the solar PV system and the PV Installation, and consumer devices for the periods set out in Schedule 7.

Part VI - Design, Installation and Maintenance of Solar PV Systems

Requirement of System Design Declaration

19. (1) A licensed technician or contractor shall design a solar PV system to meet the requirements outlined in IEC/TS 62548 2013 or any subsequent or replacement standard.

(2) A licensed technician or contractor shall prepare a system design declaration indicating: -

a) An analysis of the user's electrical energy needs;

b) The specifications of the proposed solar PV solution including the brands of the components, their country of origin, capacity and number of solar modules to be installed.

c) The full price of the installation including potential costs likely to be incurred during the installation.

d) Layout of the area where the proposed installation is to be done.

e) The duration of the proposed installation.

f) Any work that is required to be done by the user to prepare the site for the installation.

(2) Where a consumer purchases any individual solar system component, the technician or contractor shall indicate that fact in the system design declaration.

(3) A system design declaration must be signed by both the technician or contractor and the consumer prior to the commencement of the installation work and a counterpart thereof given to the consumer.

Installation Work

20. (1) A contractor or technician shall ensure that any solar PV installation work is carried out and complies with the relevant Kenya Standard and all other relevant technical, legal and regulatory requirements applicable in Kenya.

(2) Where installation work requires structural building work, the technician or contractor shall ensure that: -

a) the structural building work is undertaken by a qualified and duly registered professional.

b) any county government or national government permits and approvals required for the installation are obtained by the consumer prior to the installation work.

(3) Upon conclusion of the installation, the technician or contractor shall train the user on the safe use, maintenance, and disposal of the solar PV system.

Certificates, Warranty and Documentation

21. (1) A technician or contractor shall upon completion of installation work issue the consumer with the following documentation: -

a) A completion certificate including a declaration that the consumer has been trained on the safe use and maintenance of the solar PV system;

b) A warranty for the installation workmanship;

c) The "as built" system design;

d) The name of the manufacturer or vendor from whom the solar PV system or components were purchased;

e) Warranties on the solar PV system or components issued by the manufacturer or vendor;

f) User manuals with respect to the system;

g) Instructions for the safe disposal of the system and system components in accordance with the Environment Management and Co-ordination Act, 1999 and any regulations, rules or guidelines issued thereunder with respect to the disposal of electronic waste.

(2) The technician or contractor shall ensure that a warranty issued under this part is valid for the minimum periods set out in Schedule 7 and covers: -

a) The quality and workmanship of the installation.

b) Compliance of the installation with the system design declaration.

c) The quality and appropriateness of generic system components such as wires, switches and sockets.

Part VII - Register of Licensed Practitioners and Provision of Data

Authority to Maintain Register of Licensees

22. The Authority shall maintain and publish on its website a register of all licensed solar PV systems technicians and contractors.

Provision of Data

23. (1) All licensees under these regulations shall continuously provide the Authority with information on the solar PV systems installed in watts, and value of solar PV systems and components manufactured, sold and installed during the three-year license period.

(2) All technicians and contractors shall provide the Authority with information on the installed project capacity and location on commissioning of the installation.

(3) The Authority shall, from time to time, prescribe and publish the format and time durations in which the data required under this part shall be provided.

(4) All technicians and contractors shall maintain the records required under this part for a period of five years

Part VIII – Powers of Inspection and Penalties for Contravention

Powers of Inspection

24. The Authority or its agent may carry out inspection, in relation to the compliance with these Regulations, in accordance with section 11 of the Act.

Compliance Orders

25. (1) Where the Authority finds that any provisions of these Regulations have been contravened by a technician or contractor, or that a condition has arisen which may lead to the contravention of these Regulations, the Authority may issue a compliance order compelling the person to comply with the regulations.

(2) An order issued under regulation 25 shall state: -

a) the specific provisions which have been or are likely to be contravened;

b) the measures which should be taken to rectify the contravention; and

c) the period within which the order shall be complied with.

Part IX – Offences and Penalties

Practising without a License

26. (1) A person who, without a license issued by the Authority:

a) undertakes the importation, manufacture, sale, design, installation, commissioning, maintenance, or repair of solar PV system

b) Undertakes importation, manufacture or sale of consumer devices

commits an offence and shall, upon conviction be liable to a maximum fine of one million Kenya shillings.

(2) Where a person is charged with offences under this regulation, he may request the Authority to compound the offence and prescribe a fine to be paid and upon payment of such fine, the Authority shall withdraw any criminal complaint against the person.

(3) Where the Authority compounds an offence and the person charged with committing the offence pays the prescribed penalty, the Authority shall withdraw the criminal complaint against the person.

Other Offences and Fines

27. (1) A licensee who is found to be guilty of any of the offences listed below shall be liable to the fine or penalty indicated beside the offence.

Offence	**Fine/ Penalty**
a) Late renewal of a license	Kshs. 100 for every day the license is not renewed
b) Practicing with an expired license	Kshs. 10,000 for every day the violation occurs.

c) Undertaking works in excess of the scope provided under the issued license	Kshs. 10,000 per incident.
d) Offering for sale solar PV systems, components and consumer devices that do not meet the relevant Kenya Standard	Kshs. 5,000 for every component that does not meet the Kenya Standard.
e) Failing to provide a consumer with a system design declaration prior to commencing installation works	Kshs. 20,000 per incident.
f) Failing to provide a consumer with a completion certificate with respect to an installed solar PV system	Kshs. 20,000 per incident.
g) Failing to provide the consumer with warranty covering the matters specified in regulation 19.	Kshs. 20,000 per incident.
h) Failing to submit data to the Authority in the manner specified in regulation 21.	Kshs. 5,000

i)	Providing inaccurate or incomplete data to the Authority	Kshs. 5,000
j)	Preventing an officer or duly notified agent of the Authority during working hours, from entering into and inspecting any premises where a licensed activity taking place or suspected to be taking place.	Kshs. 20,000 for every day that the incident persists.

(2) The fines or penalties in 27 (1) above are without prejudice to the Authority's right to suspend or revoke the licensee's license.

(3) Where a licensee has previously been penalised for an offence and commits another such offence, the fine payable shall be two times the amount provided for such an offence.

(4) Where installation had taken place in violation of these regulations, the responsible licensee shall decommission the installation at their own cost and where the licensee fails to do so, the Authority may cause the system to be decommissioned at the cost of such licensee.

(5) Payment of penalties or fines hereunder shall not absolve or indemnify a licensee from any obligations to compensate a consumer.

(6) Any fines or penalties which are not paid shall be a civil debt recoverable summarily.

Part X - Complains, Disputes and Appeals

Complaints and Disputes to be Referred to the Authority

28. Any complaints and/or disputes between a consumer and a licensee or between two or more licensees shall be referred to the Authority for resolution in accordance with the Energy (Complaints and Disputes Resolution) Regulations 2012 or any replacement of the same.

Appeals

29. A licensee or consumer who is dissatisfied or aggrieved by a decision of the Authority shall lodge an appeal with the Energy and Petroleum Tribunal.

Part X1 – Transition and Repeal

Transitional Provisions

30. The transition provisions set out in the Schedule 8 shall apply.

Repeal L.N. No.103 of 2012

31. The Energy (Solar Photovoltaic Systems) Regulations, 2012 are repealed.

SCHEDULES

Schedule 1 – Qualifications and Experience for Licensing

1. To be licensed as a Solar PV Technician, an applicant must have a minimum of any one of the following combinations of academic and professional qualifications, and job experience.

<table>
<tr><th>Class</th><th>Minimum Academic and Professional Qualifications</th><th>Minimum Experience</th></tr>
<tr><td>ST1</td><td>KCPE, Electrical Government Trade Test 2 and Basic Solar PV Training from an accredited institution</td><td>Completion reports of at least three (3) solar PV systems each not less than 100 watts that the applicant has been involved directly.</td></tr>
<tr><td rowspan="3">ST2</td><td>KCSE, Certificate in Electrical and Electronics and Intermediate Solar PV Training from an accredited institution; or</td><td rowspan="3">(1) Completion certificates of at least three (3) solar PV systems each not less than 1 kW that the applicant has been involved directly.
(2) Design documentation of at least three (3) installed systems each of at least 1 kW that the applicant has been involved directly.</td></tr>
<tr><td>Bachelor of Science or Higher National Diploma or Diploma in Electrical and Electronics Engineering and Intermediate Solar PV Training from an accredited institution; or</td></tr>
<tr><td>Bachelor of Science degree with at least three (3) units/courses specific to electrical engineering and Intermediate Solar PV Training from an accredited institution</td></tr>
</table>

ST3	Bachelor of Science or Higher National Diploma or Diploma in Electrical and Electronics Engineering and Advanced Solar PV Training from an accredited institution; or Bachelor of Science degree with at least three (3) units/courses specific to electrical engineering and Advanced Solar PV Training from an accredited institution	(1) Completion certificates of at least three (3) grid-tied systems each 15 kW and one (1) hybrid system not less than 3 kW that the applicant has been involved directly. (2) Design documentation of at least five (5) systems each not less than 3 kW that the applicant has been involved directly.
ST4	Holder of class ST3 license and Bachelor of Science degree in Electrical and Electronics Engineering	(1) Completion certificates of at least three (3) systems each not less than 50 kW that the applicant has been involved directly. (2) Design documentation of at least five (5) systems each of not less than 50 kW that the applicant has been involved directly.

ST4 license holders shall be required to demonstrate skills in financial analysis of energy projects.

Schedule 2 – Information and Documentation to Accompany Applications for Licenses

A. **Technician License**

1. Solar PV training certificate from an accredited institution.
2. Complete an application form documenting all requirements
3. Completion certificates detailing the following
   a) System location

b) Date system completed
c) System information (PV array size, number of inverters and total cumulative inverter capacity)
d) Name and phone number of installation contractor
e) Name and phone number of Applicant's supervisor
f) Description of work performed by the Applicant

4. Design documentation signed and stamped by the company they worked for.
5. Non-Electrical/ Electronic certificate holders should provide proof to have undertaken adequate training in electrical engineering.
6. Pass examination administered by the Authority.

B. **Contractor License**

New Application

1. Completed online application;
2. Scan of original copy of certificate of incorporation or business registration certificate;
3. Scan of original copy of CR 12 from registrar of companies or CR 13 from the Business Registration Service, that is not older than 12 calendar months from the date of issue;
4. Scan of original copies of identification documents (National IDs or Passports) for all the company's directors;
5. Scan of original copy of a valid Work Permit Class "G" for foreign directors working in Kenya or notarized declaration of non-residence for foreign directors not residing in Kenya;
6. Scan of original copy of a valid Single Business Permit from the County Government;
7. Scan of original copy of PIN Certificate;
8. Scan of original copy of a valid tax compliance certificate;
9. Proof of Occupancy of the Company Office;

10. Signed consent letter between the contractor and solar PV technician attested by Commissioner for Oaths clearly indicating the engagement period that shall not be less than one (1) year;
11. Commissioning Instruments that shall be prescribed by the Authority from time to time;
12. Professional Indemnity Cover where applicable, upon successfully completing the process.

Renewal

1. Completed online application;
2. Scan of original copy of CR 12 from registrar of companies or CR 13 from the Business Registration Service, that is not older than 12 calendar months from the date of issue;
3. Scan of original copies of identification documents (National IDs or Passports) for all the company's directors;
4. Scan of original copy of a valid Work Permit Class "G" for foreign directors working in Kenya or notarized declaration of non-residence for foreign directors not residing in Kenya;
5. Scan of original copy of a valid Single Business Permit from the County Government;
6. Scan of original copy of PIN Certificate;
7. Scan of original copy of a valid tax compliance certificate;
8. Proof of Occupancy of the Company Office;
9. Signed consent letter between the contractor and solar PV technician attested by Commissioner for Oaths clearly indicating the engagement period that shall not be less than one (1) year;
10. Proof of professional Indemnity Cover.

Schedule 3 – License Fees

1. To be licensed as a solar PV system technician, the following fees shall apply:

Class of license	Application Fees (Kshs)	License Fees (Kshs)	Renewal Fees (Kshs)	Replacement Fees (Kshs)
ST1	250	1,000	2,250	500
ST2	500	2,000	3,000	500
ST3	750	3,000	4,500	500
ST4	1,500	4,000	6,000	500

2. To be licensed as a solar PV system contractor, the following fees shall apply:

Class of license	Application Fees (Kshs)	License Fees (Kshs)	Renewal Fees (Kshs)	Replacement Fees (Kshs)
SC1	1,000	2,000	3,000	1,000
SC2	2,000	3,000	4,500	1,000
SC3	3,000	5,000	6,000	1,000
SC4	4,000	7,500	9,000	1,000
SM	3,000	5,000	6,000	1,000

Schedule 4 – Continuous Professional Development

A. Licence renewal

The licensee shall accumulate a minimum of 10 credit points per year and thus, 30 points at the expiry of the license as follows:

1. Attending relevant trainings or seminars or workshops; 0.2 credit points per contact hour

2. Giving relevant seminar or training or workshop as a resource person; 0.5 credit points per contact hour
3. Presenting a paper on a relevant topic at a conference or publishing a paper in a journal; each paper 2 credit points
4. Project credit points earned through experience gained from design, installation and commissioning, operation and maintenance of solar PV projects according to the class of license as follows:

License Class	***Project credit points earned for Design or Installation or Commissioning or Maintenance or Repair***	***Project size***
ST1	1	Maximum 400 W
ST2	2	401 W - 2 kW
ST3	3	2.1 - 50 kW
ST4	4	Above 50 kW

The project credit points shall account for a minimum of 25 points.

B. Licence upgrade

For a licensee to upgrade a license:

1. S/he shall have met the minimum academic and professional qualifications for the license class s/he wishes to upgrade to as outlined in Schedule 1.
2. S/he shall have worked under the supervision of a licensed technician in the higher category s/he wishes to upgrade to and earned project credit points as follows:

License Upgrade			***Project size***

From	To	*Required project credit points*	*Project credit points earned for Design or Installation or Commissioning or Maintenance or Repair of each project under supervision*	
ST1	ST2	18	2	401 W - 2 kW
ST2	ST3	27	3	2.1 - 50 kW
ST3	ST4	36	4	Above 50 kW

Schedule 5 – Prescribed Professional Indemnity Cover for Contractors

Every licensed Contractor shall take out and maintain a professional indemnity insurance policy as follows:

License Class	Minimum Professional indemnity cover (Kshs)
SC2	1,000,000.00
SC3	5,000,000.00
ST4	10,000,000.00

Schedule 6 – Kenyan and International Standards relevant to Solar PV Systems

Component Standards
1. KS IEC/TS 61836: 2016 Solar photovoltaic energy systems - Terms, definitions and symbols 2. KS IEC 61215:2005 Crystalline silicon terrestrial photovoltaic (PV) modules- Design qualification and type approval 3. KS IEC 62108: 2007 Concentrator Photovoltaic (CPV) Modules and assemblies- Design Qualification and Type approval 4. KS IEC 61646: 2008 Thin-film terrestrial photovoltaic (PV) modules- Design qualification and type approval 5. KS IEC 61730-1: 2004 Photovoltaic (PV) Module Safety Qualification- Part 1: Requirements for construction 6. KS IEC 61730-2: 2004 Photovoltaic (PV) Module Safety Qualification- Part 2: Requirements for testing 7. KS IEC 61853: 2011 Photovoltaic (PV) module performance testing and energy rating Part 1: Irradiance and temperature performance measurements and power rating 8. KS IEC 60891: 2009 Photovoltaic devices – Procedures for temperature and irradiance corrections to measured I-V characteristics 9. KS IEC 60904-1-1:2017: Photovoltaic devices Part 1-1: Measurement of current-voltage characteristics of multi-junction photovoltaic (PV) devices 10. KS IEC 62894: 2014 Photovoltaic inverters- Data sheet and name plate 11. KS IEC 62109-1:2010 Safety of power converters for use in photovoltaic power systems Part 1: General requirements 12. KS IEC 62109-2:2011 Safety of power converters for use in photovoltaic power systems Part 2: Particular requirements for inverters

13. KS IEC 61427-1:2013 Secondary cells and batteries for renewable energy storage - General requirements and methods of test - Part 1: Photovoltaic off-grid application
14. KS IEC 61427-2:2015 Secondary cells and batteries for Renewable Energy Storage - General Requirements and methods of test - Part 2: On-grid applications
15. KS IEC TS 62257-8-1:2007 Recommendations for small renewable energy and hybrid systems for rural electrification - Part 8-1: Selection of batteries and battery management systems for stand-alone electrification systems - Specific case of automotive flooded lead-acid batteries available in developing countries
16. KS IEC 62116: 2008 Test procedure of islanding prevention measures for utilities-interconnected photovoltaic inverters
17. KS IEC 61683:1999 Photovoltaic systems - Power conditioners - Procedure for measuring efficiency
18. KS 1709-1:2009 Batteries for use in photovoltaic power systems - Specification Part 1: General requirements
19. KS 1709-2:2009 Batteries for use in photovoltaic power systems - Specification Part 2: Modified lead-acid batteries
20. KS 1709-4:2009 Batteries for use in photovoltaic power systems - Specification Part 4: Recommended practice for sizing lead-acid batteries for photovoltaic (PV) systems
21. KS IEC 62509:2010 Battery charge controllers for photovoltaic systems - Performance and functioning
22. KS 2542:2017: Off-grid solar photovoltaic lighting kits - Requirements

Installation Standards

1. KS IEC 61724-1:2017: Photovoltaic system performance – Monitoring

2. KS IEC/TS 61724-2:2016: Photovoltaic system performance Part 2: Capacity evaluation method
3. KS IEC/TS 61724-3:2016: Photovoltaic system performance Part 3: Energy evaluation method
4. KS IEC 62124:2004: Photovoltaic (PV) stand-alone systems – Design verification
5. KS IEC 62093:2005: Balance-of-system components for photovoltaic systems - Design qualification natural environment
6. KS IEC 62446:2009 Grid connected photovoltaic systems - Minimum requirements for system documentation, commissioning tests and inspection
7. KS IEC 61727:2004: Photovoltaic (PV) systems – Characteristics of the utility interface
8. KS 1673-1:2004: Solar photovoltaic power systems – Design, installation, operation, monitoring and maintenance — Code of practice Part 1: General PV system requirements
9. KS 1673-2-5:2003: Generic specification for solar photovoltaic systems — System design, installation, operation, monitoring and maintenance Part 2: Test procedures for main components Section 5: Test procedures for luminaires
10. KS IEC 62253:2011 Photovoltaic pumping systems-Design qualification and performance measurement
11. IEC/TS 62548 2013: Photovoltaic (PV) arrays – Design requirements

Schedule 7 – Minimum Warranty on Solar PV Systems and Components

Component	**Warranty period**
Controller/regulator	**5 years**
Inverter	**5 years**
Battery – lead acid	**2 years**

Battery – lithium ion	**5 years**
Panels	**10 years**
Consumer Devices	**2 Years**
Workmanship	**1 year**

Schedule 8 – Transitional Clauses

a) All solar photovoltaic technicians, contractors, vendors, importers and manufacturers licences issued by the Authority under the Energy (Solar Photovoltaic Systems) Regulations, 2012 shall become invalid one (1) year after these regulations come into force.

b) Holders of the existing licences shall be transitioned to the new classes under the following conditions:

Old Licence Class	New Licence Class	Requirements
T1	ST1	(1) Provide a list of all solar PV projects undertaken in Kenya from 1st January, 2012 to date, in a format specified by the Authority (2) Payment of the new licence renewal fees.
T2	ST2	(1) Provide a list of all solar PV projects undertaken in Kenya from 1st January, 2012 to date, in a format specified by the Authority (2) Payment of the new licence renewal fees.
T3	ST3 or ST2	(1) Provide a list of all solar PV projects undertaken in Kenya from 1st January, 2012 to date, in a format specified by the Authority. The projects must include at least three (3) grid-tied system of capacity not less than 15 kWp and one (1) hybrid PV system of capacity not less than 3 kWp that the applicant has been involved directly, else the applicant shall be transitioned to ST2 (2) Payment of the new licence renewal fees.

T3	ST4	(1) Bachelor of Science degree in Electrical and Electronics Engineering (2) Provide a list of all solar PV projects undertaken in Kenya, in a format specified by the Authority. The projects must include at least three (3) systems each not less than 50 kW that the applicant has been involved directly. (3) Payment of the new licence renewal fees.
V1, V2 or C1	SC1, SC2, SC3 or SC4	(1) Payment of the new licence renewal fees (2) Provide valid licence renewal documents (3) Provide a list of all solar PV projects undertaken in Kenya from 1st January, 2012 to date, in a format specified by the Authority
V2	SM	Payment of the new licence renewal fees

c) The Authority may verify the details of projects provided before transitioning the applicant to a new license class.
d) The fines in regulation 27 (1) shall apply for any falsified records.
e) The application for transition shall be processed within sixty days (60) from the date of application during which time the existing licence shall remain valid.

Schedule 9 – Application Forms

Form EPRA 001

APPLICATION FOR A SOLAR PV SYSTEM TECHNICIAN LICENCE

The Director General

Energy and Petroleum Regulatory Authority

P.O. Box 42681- 00100, GPO

NAIROBI

I, ……. hereby apply to be licensed as a Solar PV System technician in accordance with the Energy (Solar Photovoltaic Systems) Regulations, 2019 for the following class* of license-

(a) **Class ST1 –** Design, install, commission, maintain, and repair solar PV systems with a single inverter, single charge controller, single or multiple modules not more than 400 watts.

(b) **Class ST2 -** The technician may design, install, commission, maintain, and repair:

i. solar PV systems with PV array of not more than 2 kW, a single inverter/charger connected to grid or a backup generator, a charge controller of up to 70 amperes and multiple batteries.

ii. design, install, commission, maintain, and repair solar water pumping systems of a capacity not more than 2 kW.

(c) **Class ST3** - The technician may design, install, commission, maintain, and repair:

i. grid-tied solar PV systems of a capacity not more than 50 kW;

ii. single phase, hybrid systems not more than 10 kW direct current coupled with a single battery inverter and the technician may connect multiple batteries, and;

iii. solar water pumping systems of a capacity not more than 50 kW.

**(Delete classes that do not apply)*

I commit to carry out all solar PV system sales and installation works in accordance with the Energy (Solar Photovoltaic Systems) Regulations, 2019 and any Regulations and by-laws for the time being in force thereunder.

Purpose of Application: New Application❑ Renewal ❑ (Please tick (✓) as appropriate)

1. Name of applicant
   ……

(Block capitals, surname first)

2. Income Tax Personal Identification Number: …….....
3. Postal Address……
4. Email Address: .....
5. Telephone number(s): .....
6. Date of Birth: ……...…….
7. Nationality: ……..
8. Name and address of present employer, if any
   ……
   ……
   ……
9. Name of present job……
10. Academic qualification:
    ……
    a)
    ……
    ……
    b)
    ……
    …....
11. Professional Qualification (Government Trade Test Certificate etc.):
    a)
    ……
    ……
    b)
    ……...
    .....

c) .....

(Insert additional lines as appropriate)

12. Work experience (including apprenticeship (if any):

a)

……

……

b)

……....

.....

c) .....

(Insert additional lines as appropriate)

13. Do you have any knowledge of Occupational Safety and Health Regulations: Yes ❑ No ❑

14. Have you applied for a license in the past? Yes ❑ No ❑ If yes,

    i. License No …….

    ii. Issued on …….

    iii. Issued by …….

15. Has any previous application for a licence been rejected under these regulations? Yes ❑ No ❑ (If Yes, give details)

……
……
……
……

16. Has any previous licence been cancelled under these regulations? Yes ❑ No ❑ (If Yes, give details)

……
……
……
……

I declare that the particulars given by me are true and accurate. I understand that it is an offence to give false information in an application for a licence.

Date: …… Signature of Applicant: ……

REFEREES

(The following details to be completed by two independent referees who must have known the applicant's ability very well, preferably in the trade)

1st Referee

I declare that the particulars given by the applicant in this form are true and correct to the best of my knowledge.

Full Name: …….

(Block letters, surname first)

Occupation:

……...

Postal address: …….

……

.

Email Address: .....

Telephone number(s): .....

Solar PV system licence No. (If any) …….

I have known the above person for ……... years.

Position held at present……

Date……Signature of 1st referee……

2nd referee

I declare that the particulars given by the applicant in this form are true and correct to the best of my knowledge.

Full Name: …….

(Block letters, surname first)

Occupation:

……...

Postal address: …….

……

.

Email Address: .....

Telephone number(s): .....

Solar PV system licence No. (If any) …….

I have known the above person for ……... years.

Position held at present……

Date……... Signature of 2nd referee……

Form EPRA 002

APPLICATION FOR A SOLAR PV SYSTEM CONTRACTOR/ MANUFACTURER LICENCE

(A separate application form must be completed in respect of each separate business establishment)

The Director General

Energy and Petroleum Regulatory Authority

P.O. Box 42681, 00100 GPO

NAIROBI

I/We …….....
hereby apply to be licensed as a solar PV system contractor / vendor (delete as appropriate) in accordance with the Energy (Solar Photovoltaic) Regulations, 2019 for the following class* of licence-

a) **Class SC1 -** which shall entitle the contractor to: -

iii. import and sell solar PV components provided that the maximum solar module size shall be 400 watts peak and inverters shall not exceed a capacity of 400 watts.

iv. design, install, commission, maintain and repair solar PV systems with a single inverter charge controller, single or multiple solar modules of a capacity not exceeding 400 watts.

The licensee shall be required to be, or to have in his employment a Class ST1 technician.

b) **Class SC2 -** which shall entitle the contractor to: -

i. import and sell solar PV and solar water pumping components provided that the inverters sold or offered for sale shall not exceed a capacity of 2kW watts

ii. design, install, commission repair and maintain solar PV systems with PV array of not more than 2 kW, a single inverter/charger connected to grid or a backup generator, a charge controller of up to 70 amperes and multiple batteries.

iii. design, install, commission, repair and maintain solar water pumping systems of a capacity not more than 2 kW.

The licensee shall be required to be, or to have in his employment a Class ST2 technician.

c) **Class SC3** - which shall entitle the contractor to: -

iv. import and sell solar PV systems and components and solar water pumping systems provided that the inverters sold or offered for sale shall not exceed a capacity of 50kW.

v. design, install, commission repair and maintain grid-tied solar PV systems of not more than 50 kW or single phase, hybrid systems not more than 10 kW or direct current coupled with a single battery inverter and the contractor may connect multiple batteries.

vi. design, install, commission repair and maintain solar water pumping systems of a capacity not more than 50 kW.

d) **Class SC4** - which shall entitle the contractor to manufacture or import or sell solar PV products, design, install, and commission grid-tied or hybrid or solar

water pumping systems of any capacity. The licensee shall be required to be, or to have in his employment a class ST4 technician. *

**(Delete classes that do not apply)*

I/ We commit to carry out all design distribution, promotion, sale and installation work for solar PV system undertaken by me/ ourselves in accordance with the Energy (Solar Photovoltaic) Regulations, 2019and any rules and by-laws for the time being in force thereunder.

Purpose of Application: New Application❑ Renewal ❑ (Please tick (✓) as appropriate)

1. Name of applicant

   ……

   ……

   ……

2. Details of applicant:

   a) Income Tax Personal Identification Number: ……

   b) Postal Address: ……

   c) Email Address: .....

   d) Telephone number(s): .....

   e) LR/ Plot No……Building Name……

   f) Street/: ……

   g) Town/County: …….....

3. Location of business premise(s)

   a)

   ……

   …

   b)

   …….....

   .

c).....

(Insert additional lines as appropriate)

4. Give full details of proprietors or partners owning business or directors/shareholders of the company, as applicable.

Name	Nationality
…….....	……
……	……
……	……

(Insert additional lines as appropriate)

5. State if you are or any of your partners/directors is an un-discharged bankrupt. (If so, indicate the names).

a)

……
…

b)

…….....
.

c).....

(Insert additional lines as appropriate)

6. For new applications, certified copies of the following documents should be submitted with the application for a licence:

a) If Kenyan, a copy of ID card, or if non-Kenyan, a copy of current work permit together with copies of pages 1and 5 of the passport;

b) Relevant entry permits(s) for non-citizens;

c) Copy of Business name Registration Certificate or Certificate of Incorporation and Memorandum and Articles of Association in case of a company (whichever is applicable).

d) Lease agreement or letter from landlord confirming tenancy.

e) PIN and VAT certificates.

f) Valid Tax compliance certificate

g) Any other document that may be required by the Commission from time to time

7. For renewal of a licence, only a photocopy of the current licence should be submitted
8. Name and address of bank(s) or financial institution(s) where the business account(s) is/are maintained

   a)

   ……
   …

   b)

   …….....
   .

   c) .....

   (Insert additional lines as appropriate)

9. List of licensed Solar PV system technician(s)

Full name	Licence No.
……	……..
……	…….
……	……..

   (Insert additional lines as appropriate)

10. Previous solar PV system work experience

    .....
    .....
    .....
    .....

    (Insert additional lines as appropriate)

11. Have you applied for a license in the past? Yes ❑ No ❑ If yes,
    i. Licence No……...
    ii. Issued on…….
    iii. Issued by…….
12. Has any previous application for a licence been rejected under these regulations? Yes ❑ No ❑ (If Yes, give details)

……
……
……
……

13. Has any previous licence been cancelled under these regulations? Yes ❑ No ❑ (If Yes, give details)

DECLARATION

I/We hereby, declare that the information I/we have provided in the application is true and accurate. I/We understand that it is an offence to give false information in an application for a licence.

Signature of Applicant …… Date ……..…….

Signature of Applicant …… Date ……..…….

Signature of Applicant …… Date ……..…….

REFEREES

(The following details to be completed by two different and independent referees, who would vouch your competence to operate as a contractor / vendor (delete as appropriate) if licensed, your technical ability having already been established. Persons who may not understand what is involved in running a business cannot be accepted as referees).

1st Referee

I certify that the information given in this form is true and correct to the best of my knowledge

Full name……...

(Block letters, surname first)

Occupation…….

Postal address…….....

Email Address: .....

Telephone number(s): .....

Date……... Signature of 1st referee…….....

2nd Referee

I certify that the information given in this form is true and correct to the best of my knowledge

Full name: …….

(Block letters, surname first)

Occupation: ……...

Postal address: …….....

Email Address: .....

Telephone number(s): .....

Date: ……. Signature of 2nd referee ……