

DEALING WITH LOADSHEDDING
WHAT EXACTLY IS REQUIRED IF YOU WANT TO
“GO OFF GRID”

SMALL SCALE EMBEDDED GENERATION (SSEG) – A NEED TO KNOW FOR PROPERTY PRACTITIONERS

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QUESTIONS:

1. Explain the Regulatory Framework – Who are we dealing with?

NERSA – National Energy Regulator of South Africa

SALGA – SA Local Government Association

SABS – Responsible for SANS (South African National Standards)

NRS – National Rationalised Specifications Association which include:

All eight Metros,

Municipalities,

Eskom Holdings,

SABS

NERSA

2. “Going Off the Grid” vs “Grid Independence.” How does an EG System work?

(Explain water/gutter/tank pump scenario) – Please refer to the webinar recording on our website [MM Training Videos](#)

3. What does SSEG really mean and what does this all include?

- Basically any electricity generation system which can generate less than 1 MVA, and IF IT IS CONNECTED TO the distribution board!
- Petrol/diesel generators INCLUDED
- PV Water Heating Systems

Exclusions:

- Solar water heaters that ONLY rely on the sun's heat (such as pipes on the roof used to heat pool water); (Solar Thermal Systems)
- Plug in portable inverters (used generally during loadshedding to allow one to still use security systems; TV's and LIFE SUPPORT systems as per the COCT's memorandum!);
- UPS (Uninterrupted Power Supply) with batteries

5. What exactly does MVA stand for?

- Mega Volt Amps – MW is MVA x PF

6. What are the typical SSEGs we see these days?

Different types of SSEG systems

Off Grid System

Grid Tied Non-Feed-In and Feed-In

Grid Tied Hybrid PV System Feed-In and Non-Feed-In

7. What are all the various pieces of legislation that are currently in existence, and which of them deal with people or business, when it comes to electrical installation or supply?

Occupational Health and Safety Act

- This deals with the customary electrical COC as we all know it.
- This is to ensure that the supply and installation of traditional electrical supply is legal.

The manner of installation is governed by the **Electrical Installation Regulations which are promulgated under the OHSA**

These regulations in turn refer to **SANS (South African National Standards) 10142-1&2** (not to be confused with SANS 10142-1-2 which is still in draft format)

This SANS states that:

- “Every user or lessor of an EGI (Electrical Embedded Installation) shall have a valid CoC for every such installation.
- And – This COC must be accompanied by a test report “as an addendum to the existing COC.”

The Electricity Regulation Act of 2006 (ERA)

- This provides (amongst other things) the licensing of electricians and the registration of the manner in which electricity is generated; transmitted and distributed.

In the COCT we have the Electricity Supply By Law of 2010.

- In a nutshell what does this Bylaw require?
- That all SSEG’s (which generate less than 1MVA) must be registered with the COCT.
- What happened with this Bylaw as of 1 October 2023?
- In essence it was changed to read that: ANY and ALL SSEG’s, such as solar photovoltaic systems, whether with or without battery storage, and which are installed anywhere on properties that fall in the COCT, and which have a COCT electricity supply point (ESKOM supplied properties must apply directly to ESKOM – (may the force be with you...) are treated as “grid tied installations”.
- What exactly does this mean in our industry, of property sales and rentals?
- Before 1 October 2023, those systems that operated in parallel with the grid, also had to be registered. This means that the majority of systems installed are illegal.

8. What does “in parallel” mean?

- Running alongside the grid and synchronises with the grid supply.
- As of 1 October 2010, all SSEG systems which are connected to the DB in any manner, must be registered.
- In terms of the Bylaw, and before one may install a system:
 - o Written permission is required from the Director of the EGD (Electricity Generation and Distribution Department of the **COCT**) – other municipalities’ procedures may differ;
 - o ONLY inverters that the COCT has approved of, may be installed; and

- The design must be within the NRS 097-2-3 size limitations discussed in 11 below.
- The installation must be signed off by an engineer who is registered with the Engineering Council of SA.

9. What happens if you do install a system now without the required sign off by an engineer and written permission from the Director?

Where a SSEG was installed without such prior consent, this amounts to a criminal offence, and which could lead to a service fee AND/OR disconnection of supply to the premises AND/OR imprisonment.

Furthermore, the OHS states that it is the property owner who carries the responsibility for the safety of the electrical installation on the property. This includes the SSEG installation on the property. Therefore, the SSEG installation may be in contravention of the OHS, in which case punitive sanctions apply.

10. Must ALL SSEG's be registered under this Bylaw?

- Size matters! Only needed for systems with a generation capacity of LESS than 1MVA.
- 1MVA and above must be registered and licensed by NERSA.

11. What does a typical household require?

Up to around 14KV

1MVA is industrial/commercial.

12. What is the procedure to register and get permission?

- Application for Registration - Inverter must be on the NRS 097 Approved Inverter List
- System must be sized according to NRS 097 SSEG Size Limitations
- The Application/Declaration of responsibility must be signed by the Owner and the Installer must sign off the application. Submit the Application to the local Municipality and obtain a Letter of Permission to commence with the installation.
- After Installation, a DoL (Department of Labour) registered Electrician must do a CoC (Certificate of Compliance) and a Solar PV Industry accredited person (PV Green Card/P4) or ECSA registered Pr Eng must do the commissioning report together with the SANS10142-1-2 Test Report. **The normal electrical CoC by itself is not sufficient for an EGI.**

13. NB question: Does this COCT Bylaw apply to systems that are only new or does it also to existing systems?

It applies to:

- New systems;
- Modifications to existing systems;
- Change of property ownership

14. What happens with the change of ownership where there is an existing SSEG in place?

- If the system is authorised: The buyer must sign a new “Supplemental Contract” and the Declaration.

What does this mean?

- A new Contract must be signed if Feed-In is required
- The Declaration is to ensure that the new owner takes full responsibility for the safety and operation of the installation
- If the system is NOT authorized, the new owner will assume responsibility to have it authorized OR ELSE he faces decommissioning!
- NB: The “normal” electrical COC must include a statement regarding the state of connection or disconnection. i.e. the electrician NEEDS TO CHECK whether the SSEG was registered and report on this!
- As such, and to be clear, a separate and “new” COC is not needed (at this point in law) to enable transfer, BUT: The seller’s electrician needs to reflect on the state of registration with the municipality.

15. What does this mean for Property Practitioners?

- Agents have a duty under the Code of Conduct, to tell a buyer everything they should reasonably know, and which may be of importance to a purchaser.
- It is possible (and even legal) to transfer a property where no building plans are in place. It appears that the same applies with SSEGs.

Is it now the PROPERTY PRACTITIONER’s duty to ENSURE first, that the SSEG is registered and authorized?

- In our view – NO. Failure to have the SSEG registered etc would amount to a latent defect and fall under voetstoots.

- **HOWEVER**, given the importance of this pre-authorisation and registration with the COCT; the fact that an improperly installed system or one that does not appear on the pre-approved list issued by the COCT (and possibly other municipalities), we would **strongly recommend that you include the following further questions in the mandatory condition report (not the mandate as this is not shared with the purchaser!)**:

- 1. Does the property have an installed SSEG system?**
- 2. Does the seller have a compliance certificate and test report for the SSEG, not older than 2 years?**
- 3. Is the SSEG registered with the municipality?**
- 4. If no, to 2 and/or 3 above, is the seller willing to obtain a fresh compliance certificate for the SSEG and / or to the registration thereof with the local municipality?**

- 16. What can one do if one discovers that an SSEG was not installed with the required municipal consent?**

The landowner (whether seller or purchaser after transfer) will need to go through the application process and get approval. It is possible that council may order the de-commissioning and disconnection of the system until the proper approval is in place. One may also face a fine OR imprisonment!

- 17. What if a dispute arises between a land owner and an electrician who installed the system, because of not first complying with this law?**

A newly established EIO (Energy Industry Ombud) is able to assist the Seller. The Energy Industry Ombud is Mr Nyameko Gqoboka at ombud@eiosa.org.