1. Why runway lighting or Aeronautical Ground Lighting
2. Four main elements of AGL
3. Different types of aeronautical ground lighting
4. Maintenance of visual aid and airport electrical systems
5. Visual Inspection of fuelling Bays
6. Visual Inspection of generator/substation/transformer/Constant Current Regulator rooms
7. Applicable Laws
South African Civil Aviation Regulations 139.02.2

(1) An applicant for the issuing of an aerodrome licence shall ensure that the aerodrome is provided with –
   (c) visual aids for navigation; appropriate to the characteristics of the aircraft it intends to serve, the lowest meteorological minima for each runway, and the ambient light conditions during the operation of aircraft.

(2) The physical characteristics, obstacle limitation surfaces, visual aids, and equipment and installations provided at the aerodrome shall comply with the appropriate aerodrome design standards.
The basic purpose of visual aid systems is to aid in the safe operation of an aircraft.

Adequate runway lighting is very essential for night flights and/or during low visibility conditions.
These elements may be conveniently referred to as the “four Cs” — configuration, colour, candelas and coverage.

- **Configuration** - concerns the location of components and spacing of lights and markings within the system.

- **Colour** - The function of coloured light signals is to help identify the different lighting systems of the aerodrome, to convey instructions or information and to increase conspicuity.

- **Candelas** - It is the illumination at the observer’s eye, produced by a light.

- **Coverage** - By redirecting light emission from unnecessary directions toward directions where needed, the intensity in desired directions is increased without increasing power consumed.
Different types of Aeronautical Ground Lighting (AGL)
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Regulatory obligations of the licence holder on maintenance

➢ South African Civil Aviation Regulations 139.02.22(2)(a) The holder of the licence must ensure that the aerodrome is maintained in a serviceable condition;
The importance of having a good maintenance program is crucial to keep or restore the operational function as well as measures to check and to evaluate the present functioning of the equipment.

The basic components of maintenance are:

- Inspection
- Servicing and Overhaul, and
- Repair

General maintenance may include inspections of runway lighting on daily, weekly, annually and unscheduled maintenances.
Visual inspection of fuelling bay
Fuel bay emergency stop

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Visual inspection of generator Room

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Constant Current Regulator (CCR)

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Applicable laws & guidance materials

- SA CA ACT 13 of 2009
- SA CARS
- SA CATS
- ICAO Annex 14 Vo1
- ICAO Doc 9137 Part 9 and others
- Technical Guidance Materials
- OHS ACT 85 of 1993
- SANS 10142-1
Thank you

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