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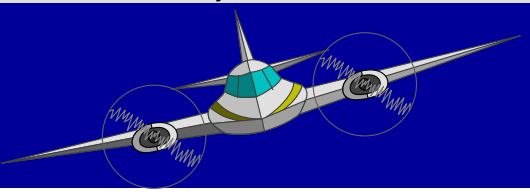
IEC /TC97

1. Status of IEC62870
2. New work item proposal (NWIP)
   Harmonizing of LED lights in terms of usability, availability, monitoring, measurement and limits in variation of light and color

IEC-information
IES ALC Conference

Electrical installations for lighting and beaconing of aerodromes

Orlando, 2014-10-24



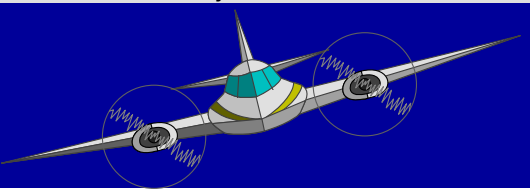
International standards

Electrical installations for lighting and beaconing of aerodromes

Status of the new IEC standard IEC 62870 ED1./CD
Safety secondary circuits in series circuits – General safety requirements

Standard on safety of Electronic lamp systems in constant current series circuits such as LED lights supplied on a Safety Extra Low Voltage (SELV) are missing in the range of IEC/TC 97.

A working group was put together to develop a new standard to allow and establish new protective provisions for the operation of electronic lamp systems powered by series circuits in aeronautical ground lighting.

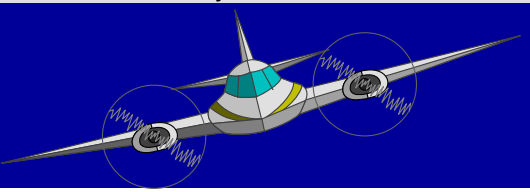


Actual situation

Status of the new IEC standard IEC 62870 ED1./CD
Safety secondary circuits in series circuits – General safety requirements

The protective provisions described refer only to secondary supply systems for illuminants that are decoupled from the series circuit.

The standard takes special operational features of aeronautical ground lighting with the aim to allow maintenance personnel replacing light fixtures without cutting power.
The requirements and tests are intended to set a specification framework for system designers, users and maintenance personnel to ensure a safe and economic use of the systems in installations for beaconing of aerodromes.



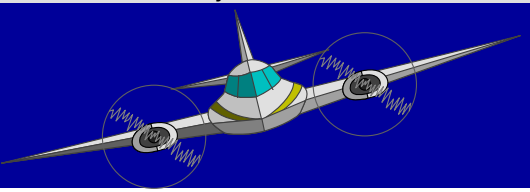
Actual situation

Status of the new IEC standard IEC 62870 ED1./CD
Safety secondary circuits in series circuits – General safety requirements

The draft standard (IEC 62870 CD) has twice been commented by the national committees (NC's), is now in the translation stage and will be circulated for voting in November.

What has been changed since last year?

- 161 NC comments (ed. and techn.) have been implemented
- Connector definition has been shifted to a separate new connector standard (to be established)
- Informative annex added

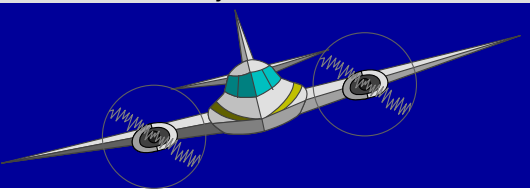


Why is a need for this standard?

Actual situation on an airport: relamping sometimes without cut off the primary circuit.

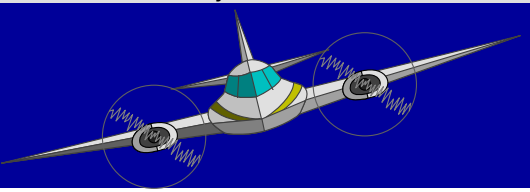
- Hazard analysis of constant current series circuits for aeronautical ground lighting shows the risks and endangerments for personal safety
- Improvement of personal safety at maintenance work such as relamping or change of luminaires in the field using SELV circuits is needed
- Avoidance of HV in the series circuit → may have a positive impact on life time of the series circuit components
- Creating a new IEC standard: IEC 62870 Ed.1: Electrical installations for lighting and beaconing of aerodromes – Safety secondary circuits in series circuits – General safety requirements

This will allow:
relamping without cut off the primary circuit without restriction to personal safety.



Why is a need for this standard?

Please convince your National Committee (NC) for positive voting.

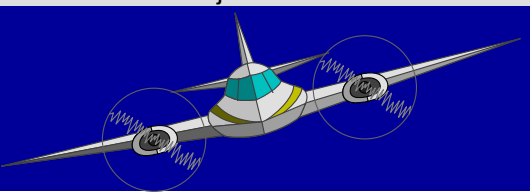


NWIP
A new work item proposal

Electrical installations for lighting and beaconing of aerodromes

The modern LED-technology is not perfectly covered by the existing standards and definitions.
The proposed work for this new standard shall provide better adopted definitions about:

- **Usability**
- **Availability**
- **Monitoring**
- **Measurement of light and color**



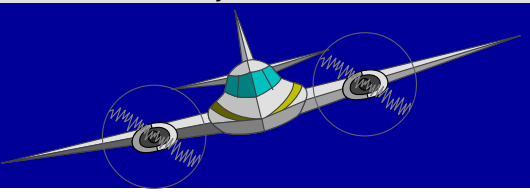
Actual situation

Usability

In many cases LED-lights will be used in circuits together with single lamp control systems.

Due to missing standards and clear definitions the interoperability of such a system combining different brands and types is not always given.

For a better harmonization better definitions and interface functions should be clearly defined in a new standard.



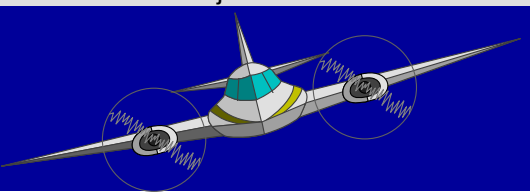
Actual situation

Availability

A clear and harmonized definition about the term “lifetime” of LED light fixtures is required in the community.

The standard shall provide a clear definition to achieve:

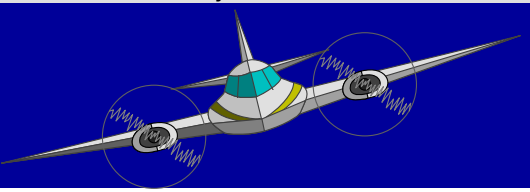
- Comparability
- Estimation of maintenance efforts



Actual situation

Monitoring

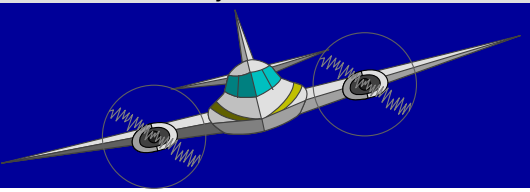
Established monitoring methods for the AGL are related to the incandescent lamps. That doesn't fit well to LEDs and the variation of different solutions are not compatible in any case.
The standard shall help to harmonize the monitoring functions and interoperability. As well the operational useful range of monitoring.



Actual situation

Measurement of light and colour

Light measurements for LEDs with monochromatic light could be different to the measurements done with incandescent lamps.
To allow the correct measurement and to provide comparable results, the measurement method of LED lights should be clearly defined and harmonized by the proposed standard.



Conclusion

There is an urgent need of harmonization and standardization for using lights different to incandescent types.

You'll be invited to attend a subcommittee meeting to start discussing the scope of the IEC NWIP.

Date: today
Time: 04:30pm
Location: just here

for your attention!