

# CAPIEL

Section "appareillage basse tension"

Bereich "Niederspannungsschaltgeräte"

"LV Switchgear and Controlgear" Section

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Contact : Alain LE CALVÉ **CAPIEL Position paper on Regulation (EC) 640/2009E**

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CAPIEL (European low voltage Switchgear and Controlgear manufacturer association) supports the Commission's initiatives regarding the energy efficiency of electric motors and motor driven systems. We wish to inform you of our position and the actions that we are taking to support these initiatives.

## Guidance for system designers and users

In addition to the regulations that will be implemented under the Ecodesign Directive and which address the efficiency of individual products (such as electric motors), we are firmly of the opinion that the system design (meaning the correct selection of control strategy and components) is critical to ensuring that the overall efficiency of the application is optimised.

All applications should therefore undergo an energy performance analysis in order to maximise energy efficiency, and all system components should be considered as part of this analysis. However, many users are currently confusing the issue of the *motor* efficiency with that of *system* efficiency, whilst others are incorrectly assuming that variable speed control always provides better energy efficiency than fixed speed control. The majority of industrial applications are fixed speed, and in those applications fixed speed control using motor starters will normally result in better energy efficiency than utilising variable speed control.

Therefore, to aid both system designers and users in making the right decisions, CAPIEL has proactively developed guidance relating to the use of different control strategies together with energy efficient electric motors. In particular, CAPIEL is recommending that users:

- Consider IE3 motors for high duty applications today even before they become mandatory. This will also help ensure future compliance.
- Focus on energy consumption and use motor starters where they provide the most efficient solution. For example, use motor starters in fixed speed, constant load or low duty applications.
- Apply variable speed drives in applications where they bring an added value or a significant energy saving.
- Be aware of the future CENELEC Technical Specification "Energy efficiency and Ecodesign requirements for Power electronics, Switchgear, Controlgear, and Power drive systems and their industrial applications" being developed by CENELEC TC22X WG6.

## Standardisation

CAPIEL is also actively contributing to the development of European (CENELEC) Standards that are being developed under standardisation mandates from the European Commission for electric motors (M470), and Variable Speed Drives and Power Drive Systems (M476).

## **Concerns with regard to Regulation (EC) 640/2009**

During the development of the above, and as a result of discussions with other industry groups, two particular concerns have arisen that may affect the success of Regulation (EC) 640/2009 with regard to ecodesign requirements for electric motors. We would like to make you aware of these concerns and ask that you consider how they might be addressed should the need arise:

### **1. Availability of IE3 motors**

Regulation (EC) 640/2009 requires that motors meet the IE3 efficiency rating by January 2015 (7,5 – 375 kW) and January 2017 (0,75 – 375 kW).

In the event that sufficient IE3 motors are not available with the same dimensions or at the same cost as the equivalent IE2 motors, then some users might choose to use IE2 motors together with variable speed drives. For the majority of industrial applications (particularly those that require fixed speed control) the use of a VSD together with an IE2 motor would result in a significant worsening of energy efficiency compared to fixed speed control with either an IE2 or an IE3 motor.

Therefore, in the event that a problem appears likely, CAPIEL requests that the Commission then considers appropriate actions to avoid the risk that users employ lower energy efficiency solutions than they already use today.

### **2. Replacement of IE2 motors in existing applications**

For some electric motors, the IE3 version will be physically larger than the corresponding IE2 version for the same power rating. However, much industrial equipment is necessarily designed to be as small as possible and the space around an electric motor is often very limited. Therefore, in the event that an IE2 motor belonging to an existing piece of equipment fails after the implementation date for IE3, there will sometimes be problems to accommodate a larger IE3 motor in the same physical space.

Whilst the user would be allowed to replace the failed IE2 motor with another IE2 motor plus a VSD, for many applications (e.g. fixed speed, constant load) this would considerably worsen the energy efficiency.

Therefore, we request that the Commission allows the replacement of existing motors with IE2 where physical constraints make the fitting of an IE3 motor impossible.