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PRESS RELEASE

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“IEM SURVEY HIGHLIGHTS SAFETY CONCERNS AND READINESS GAPS IN TRANSITION TO NEW ELECTRICAL WIRING COLOUR CODES”

PETALING JAYA, 13 July 2026 – The Institution of Engineers, Malaysia (IEM) has released findings from its *Engineering Impact Survey* on the transition to new electrical wiring cable colour codes under Energy Commission Directive No. 11/2026. The survey, conducted from 18–28 June 2026, gathered insights from 300 engineering professionals regarding Malaysia's shift to the IEC 60445 international standard. While the industry shows general support for aligning with global practices, the report identifies significant safety risks and mixed levels of readiness that require urgent addressed during the 2026–2028 transition period.

The survey indicates a cautiously positive reception, with 64.67% of respondents aware of the directive and 49.34% expressing support for the new system. Furthermore, 55% of professionals consider the three-year transition period sufficient for stakeholders to adapt their practices. This transition is part of a global effort to improve safety, enhance interoperability in international markets, and reduce the risk of errors arising from differing national standards.

Despite the support for harmonisation, 67.33% of respondents raised serious safety concerns. The primary risk involves the reversal of Black and Blue conductor identification. Under the new code, Black changes from Neutral to Phase (L2), while Blue changes from Phase (L3) to Neutral.

Professionals identified human error (57.14%) as the leading implementation risk, particularly in facilities where legacy and IEC-compliant wiring coexist. Experienced personnel who rely on decades of colour recognition may incorrectly identify live conductors, leading to potential accidents.

The survey reveals that industry preparedness remains moderate, with only 21.63% of organisations reporting they are fully prepared for the change. There is a high demand for institutional support, with respondents calling for:

- Technical Seminars (61.63%) and updated Technical Guidelines (60.00%).
- Practical workshops and CPD courses to retrain the workforce.
- Coordinated enforcement and rigorous verification during the phase-in period.

Recommendations for a safe transition to mitigate risks, IEM proposes several key measures based on industry feedback:

- Separation of Installations: Apply new colour codes primarily to new (greenfield) projects to avoid the dangers of mixed wiring within a single facility.
- Permanent Labelling: Implement durable, long-lasting signage and labelling to clearly identify wiring systems.
- “Test Before Touch” Culture: Promote a mandatory culture where testing with proper instruments always supersedes colour recognition.
- Public Awareness Campaign: Launch a nationwide initiative to reach domestic users, facility managers, and small-scale contractors.

The transition to IEC 60445 is a vital step in modernising Malaysia’s national infrastructure and regulatory practices. However, success depends on strong regulatory enforcement and a commitment to safety. IEM, in collaboration with the Energy Commission and relevant government agencies, is committed to supporting the industry through technical guidance and training to ensure a safe and effective transition.

*For further information on this Press Release or
The Institution of Engineers, Malaysia, kindly call the IEM Secretariat Office
at 03-78900130 or email to sec@iem.org.my.*



About the IEM

The Institution of Engineers of Malaysia (IEM) is a civil society organisation established to promote the science and profession of engineering in any of its disciplines and to facilitate the exchange of information and ideas related to engineering. Founded in 1959 and with a membership of over 45,000 today, IEM constitutes one of the largest professional organisations in the country. Amongst its many roles, the Institution plays an active part in supporting various sustainable socio-economic development of the country and in nation building. It represents the aspirations of its members, acts in the best interests of the public of whom its members serve whilst upholding the standing and image of the profession.

