THE ASSOCIATION FOR THE BRITISH ELECTROTECHNICAL INDUSTRY

Instrument Current Transformers – UK Industry Practice

General

The Industry standard in the UK is for current transformers to comply with relevant International standards.

Purchaser's specific requirements can vary considerably, but technical requirements make reference to International Standards.

International Product and Testing Standards

Instrument transformers are tested in accordance to IEC 61869-1 (common clauses) and relevant product specific standards such as IEC 60044-1 (current transformers), IEC 60044-2 (Inductive Voltage Transformers) etc. However, new standards will be released soon to replace the IEC 60044 series and provide better integration with IEC 61869-1.

At present IEC 61869-1 provides details of type testing i.e. the series of tests to be performed and where appropriate any documentation that is to be provided to an independent test facility to uniquely identify the test specimen. Type testing should be performed on the same instrument transformer unless agreed otherwise between manufacturer and purchaser.

Type Testing Implementation

Type testing is performed to verify design parameters.

Type tests do not need to be performed at an independent test laboratory provided the manufacturer can test in accordance with IEC 60060-1. Many Manufacturers of HV instrument transformers will perform lightning impulse and switching impulse withstand tests within their own test laboratory. However, certain tests such as short-circuit testing will nearly always be performed by an independent laboratory because of the nature of the test, and the specialist equipment required.

International standards demand that measurements associated with Type (and Routine) are fully traceable to National and consequently International Standards, whether the tests are conducted in-house, or at a third party laboratory. In the case of in house testing this will be assured through the ISO 9000 family of standards.

It is widely accepted by all purchasers that self-certification of type testing takes place.

Routine Testing

Routine testing is carried out on their premises by manufacturers in accordance with International Standards to confirm that the properties of the current transformers produced by the manufacturing process are consistent with those that have undergone type testing.

Batch testing by an independent laboratory to prove no transport damage has taken place is not appropriate. Issues such as damage during transport would be highlighted by routine testing on installation, however, it should also be highlighted that shock indicators are widely used to indicate potential damage during transit.