



Engineering Recommendation G79 Part 2A

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PROCEDURE FOR THE CONFORMITY ASSESSMENT OF PLANT & PRODUCTS FOR USE BY ENERGY NETWORKS ASSOCIATION MEMBER COMPANIES

Procedure for the Conformity Assessment of
Switchgear

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**GUIDE TO THE ASSESSMENT OF POWER SYSTEM PLANT & PRODUCTS FOR USE BY THE
ENERGY NETWORKS ASSOCIATION MEMBER COMPANIES.**

PART 2a: PROCEDURE FOR THE CONFORMITY ASSESSMENT OF SWITCHGEAR

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PART 2a: PROCEDURE FOR THE CONFORMITY ASSESSMENT OF SWITCHGEAR

1. Foreword

This Guide explains the operation of the Energy Networks Association (ENA) Conformity Assessment of power system plant & products.

Part 1 of this guide outlines the general procedure for the conformity assessment of plant and products. Part 2a of the guide relates to the detailed assessment process for switchgear.

The procedure for the conformity assessment of switchgear Part 2a of the guide should be read in conjunction with Part 1. The procedures outlined in Part 1 shall apply with the following additions:

2. Scope and Terms of Reference

The requirements in this document shall apply to switchgear, up to and including 145kV, submitted by manufacturers for assessment.

Assessments of switchgear are managed by the ENA Switchgear Assessment Panel ("The SAP").

3. Procedures for Application for Assessment and Progressing Assessment

3.1. Procedure overview

Appendix A shows a simplified diagram of the switchgear assessment process

3.2. Application for assessment

Applications should be made as per clauses 4.1 & 4.2 of ENA ER G79 pt1

3.3. Acceptance for assessment

All assessment applications will be considered at the next SAP meeting. Upon acceptance of the product for assessment the secretary of the SAP will confirm in writing and advise details of the assessment team, which ENA specifications the product will be assessed against, together with other conditions of assessment.

Notes:

- The assessment leader will be a full member of the SAP, who will be assisted by other engineers as necessary e.g. to vet test evidence, witness tests.
- Input from other ENA panels (Protection, Cable, Overhead Line) will be sought as appropriate.
- Appendix D contains helpful points when assessing products.
- Where possible a Lead Assessor will retain responsibility for technical issues arising from the manufacturer's 'Self Assessment Quality Audit Surveillance Reports'.

3.4. Assessment submissions

Wherever practical documentation submissions should be supplied in electronic form. Documents formats should be of a type that is widely accessible (i.e. pdf, doc, xls, jpeg).

3.5. Initial Quality Assessment Report

The manufacturer shall complete, sign and submit an ENA 'Quality Assessment Report'. Appendix B shows a model format and contents of a 'Quality Assessment Report'.

3.6. Pre-Assessment Preparation

The manufacturer shall complete and submit the 'Self Certification Conformance Declarations' for the appropriate standard or specification including test evidence. Other information shall include product technical literature and drawings to enable appreciation of design and operation.

Copies of the 'Self Certification Conformance Declarations' and guidance for their completion, are shown in the relevant ENA Technical Specification. Customised (by equipment type) conformance declaration forms are also available from the Panel Secretary.

3.7. Presentation and initial design review

The manufacturer shall make a formal presentation of the product to the SAP. This is required before the SAP can begin the assessment process. An actual unit should be made available, whenever possible, together with design and assembly drawings. The presentation will allow members of the SAP to conduct an initial evaluation of the design, to understand the various ratings, configurations and applications available and particularly those being offered specifically for assessment.

The presentation will also allow users to comment on the general acceptability of the product and to clarify users' functional requirements.

The manufacturer shall declare any non-conformance with the European, International or National Standards and ENA technical specification relevant to the product.

As a helpful guide for organising a formal presentation typical agenda items are shown in Appendix C.

3.8. Testing and verification

The assessment team shall confirm that type tests conform to the requirements of European, International, National and ENA Standards relevant to the product.

Type test certificates or reports shall be in accordance with relevant ' Short-circuit Testing Liaison (STL)' Guidance and Procedures and the appropriate ENA Technical Specifications. Short-circuit testing shall be carried out by a STL member test laboratory unless specifically agreed by the SAP in advance.

All test reports offered to the SAP in support of the assessment process shall:

- Include references to all applied standard(s) including level of conformance (e.g. strictly in accordance with . . . , clients instructions based on . . . etc).
- Clearly and unambiguously identify the test parameters and pass/fail criteria.
- Explicitly detail all deviations of test procedure and parameters from the referenced standard(s) and associated guidance (e.g. STL guides).
- Clearly state the outcome of the test (pass/fail/unclear)
- Contain sufficient information to fully identify all relevant aspects of the tested object and the tested configuration.
- Contain sufficient information to identify the condition of the equipment after testing.
- For newly developed products are no more than 5 years old.
- Additionally, the manufacturer shall be responsible for clearly demonstrating the relevance of the tested object to the production version under consideration.

The assessment team will select a representative sample of the test certificates, reports and related drawings for detailed inspection

The SAP reserves the right to reject test reports which fail to meet the above criteria.

When considering the suitability or otherwise of offered test reports the SAP will also consider factors such as:

- The use of a recognised accreditation body (e.g. STL for power testing).
- The presence of independent witnesses.
- Prior SAP experience of the testing facility.

The SAP shall confirm that the product complies with the additional requirements of ENA Technical Specifications as applicable e.g.:

ENA TS 41-36: Distribution switchgear for service up to 36kV (Cable and overhead conductor connected)

ENA TS 41-37: Switchgear for use on 66 and 132kV distribution systems

ENA TS 12-11: Dry cable terminations in HV switchgear for service at rated voltages 12, 24 and 36kV

ENA TS 37-02: LV distribution fuse-boards

ENA TS 50-18: Design and application of ancillary electrical equipment

The 'Self Certification Conformance Declarations' for switchgear, include a type test conformance declaration in the form of a table. The table indicates schedule of tests performed, reports available, tests to be done with programmed test dates and those requiring a witness.