

Grid Code Review Panel

Proposed Relevant Electrical Standards Document

Background

1. Paper GCRP 04/29 (Technical Standards and the Grid Code), raised by AEP, was discussed at the November 2004 Grid Code Review Panel meeting. This paper proposed that a number of National Grid Technical Specifications (NGTSs) and other documents had been identified that AEP felt should be included within the Governance of Electrical Standards under the Grid Code in addition to the 18 NGTSs currently included.
2. National Grid undertook to review these documents and as a result of this review undertook to re-examine the current list of NGTSs to determine which specifications were of relevance to Users and any additional specifications which have subsequently been found to be relevant.
3. At the February 2005 GCRP meeting National Grid suggested that the most appropriate solution was to create a single self-contained document to replace the current 18 NGTSs referenced under General Conditions Annex (a) with a stand-alone document hereafter referred to as the Relevant Electrical Standards (RES). Where current NGTSs were considered of no relevance to Users, these requirements would not be included in the RES document.

Relevant Electrical Standards Document

4. A specification is deemed relevant if the equipment it relates to has a material impact on the reliability and security of the National Grid system. This is defined as equipment contained within the zone of the busbar protection.
5. The proposed RES document contains the majority of the technical specifications that National Grid currently requires Users to meet. However, it is recognised that the requirements in such a document cannot be completely exhaustive and in certain circumstances there may still be specific scheme related reasons that will result in National Grid requesting a User to meet requirements that will not be described within the RES.
6. It is proposed that the RES document would be subject to governance as part of the Governance of Electrical Standards arrangements detailed in Grid Code General Conditions GC.11. The RES would replace the existing 18 NGTSs included under the Governance of Electrical Standards.
7. National Grid has also prepared a table cross referencing the RES sections to current NGTSs. This is attached with this paper.
8. A draft of the proposed RES document is available alongside this paper.

Way Forward.

9. GCRP members are invited to consider the proposed RES document and provide comments at the meeting on 22 September 2005.
10. Subsequently, if there is broad consensus at the Panel meeting, National Grid would propose to amend the list of Electrical standards as detailed in Grid Code GC.11.
11. If there is no broad consensus National Grid would propose to initiate a wider industry consultation.

National Grid

22 September 2005

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| Title | Old Ref. | Source | Comment | RES Section |
|--|------------|---------------------|---|--------------------|
| Protection Grading Policy | PS(T) 045 | NGT | Included in User Policy Section | User Policy Part 3 |
| Type Registration | PS(T) 003 | NGT | Included in User Policy Section | User Policy Part 1 |
| Ratings and General Requirements for Plant, Equipment, Apparatus and Services for the National Grid System and Connections Points to it. | NGTS 1 | Existing 18 NGTS | Included in User Specification Section | User Spec. Part 1 |
| Substations | NGTS 2.1 | Existing 18 NGTS | Included in User Specification Section | User Spec. Part 2 |
| Substation Interlocking Schemes | NGTS 3.1.1 | Existing 18 NGTS | Included in User Specification Section | User Spec. Part 6 |
| Earthing Requirements | NGTS 3.1.2 | AEP | Included in User Specification Section | User Spec. Part 4 |
| Switchgear for the National Grid System | NGTS 2.2 | Existing 18 NGTS | Included in User Specification Section | User Spec. Part 3 |
| Circuit-Breakers | NGTS 3.2.1 | Existing 18 NGTS | Included in User Specification Section | User Spec. Part 9 |
| Disconnectors and Earthing Switches | NGTS 3.2.2 | Existing 18 NGTS | Included in User Specification Section | User Spec. Part 10 |
| Metal-Oxide Surge Arresters for use on 132, 275 and 400 kV Systems | NGTS 3.2.3 | Existing 18 NGTS | Not applicable (outside the busbar protection zone) | ----- |
| Current Transformers for Protection and General Use on the 132 kV, 275 kV and 400 kV Systems | NGTS 3.2.4 | Existing 18 NGTS | Included in User Specification Section | User Spec. Part 11 |
| Voltage Transformers for use on the 132 kV, 275 kV and 400 kV Systems | NGTS 3.2.5 | Existing 18 NGTS | Not applicable (outside the busbar protection zone) | ----- |
| Current and Voltage Measurement Transformers for Settlement Metering of the 33 kV, 66 kV, 132 kV, 275 kV and 400 kV Systems | NGTS 3.2.6 | Existing 18 NGTS | Not Applicable (outside the busbar protection zone) and covered by metering codes of practice | ----- |
| Bushings for the National Grid System | NGTS 3.2.7 | Existing 18 NGTS | Included in User Specification Section | User Spec. Part 12 |
| Solid Core Post Insulators for Substations | NGTS 3.2.9 | Existing 18 NGTS | Included in User Specification Section | User Spec. Part 13 |
| Gas Insulated Switchgear | TS 3.2.14 | NGT | Included in User Specification Section | User Spec. Part 17 |

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| Transformers and Reactors | NGTS 2.3 | NGT | Not applicable (outside the busbar protection zone) | ----- |
| Dry-Type Reactors | NGTS 3.3.2 | Existing 18 NGTS | Withdrawn | ----- |
| Co-ordinating Gaps | NGTS 3.3.3 | Existing 18 NGTS | Withdrawn | ----- |
| Protection | NGTS 2.6 | Existing 18 NGTS | Withdrawn | ----- |
| Busbar Protection for 400 kV and 275 kV Double Busbar Switching Stations | NGTS 3.6.3 | Existing 18 NGTS | Replaced by 3.24.34 (Included in User Specification Section) | User Spec. Part 14 |
| Circuit Breaker Fail Protection | NGTS 3.6.8 | Existing 18 NGTS | Replaced by 3.24.39 (Included in User Specification Section) | User Spec. Part 15 |
| Interfacing to Synchronising Equipment | NGTS 3.7.6 | AEP | 24 series (Included in User Specification Section) | User Spec. Part 8 |
| | NGTS 3.9.11 | AEP | Withdrawn | ----- |
| Substation Auxiliary Supplies | NGTS 2.12 | NGT | Included in User Specification Section | User Spec. Part 5 |
| Ancillary Light Current Equipment | NGTS 2.19 | NGT | Included in User Specification Section | User Spec. Part 6 |
| Substation Information, Control, Protection and Metering | NGTS 2.24 | NGT | Not applicable, 'black box' system only requires User to provide inputs | ----- |
| Substation Information Control & Protection Local Area Network | NGTS 3.24.1 | AEP | Not applicable, 'black box' system only requires User to provide inputs | ----- |
| Busbar Protection | NGTS 3.24.34 | NGT | Included in User Specification Section | User Spec. Part 14 |
| Circuit Breaker Fail Protection | NGTS 3.24.39 | NGT | Included in User Specification Section | User Spec. Part 15 |
| Operational Tripping | NGTS 3.24.64 | NGT | Not applicable, 'black box' system only requires User to provide inputs and accept output | ----- |
| System Monitor - Common Requirements | NGTS 3.24.68 | AEP | Not applicable, 'black box' system only requires User to provide inputs | ----- |
| System Monitor - Quality of Supply (QoS) | NGTS 3.24.69 | AEP | Not applicable, 'black box' system only requires User to provide inputs | ----- |

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| System Monitor - Dynamic System Monitoring (DSM) | NGTS 3.24.70 | AEP | Not applicable, 'black box' system only requires User to provide inputs | ----- |
| System Monitor - Fault Recording | NGTS 3.24.71 | AEP | Not applicable, 'black box' system only requires User to provide inputs | ----- |
| Operational Metering Summator | NGTS 3.24.72 | AEP | Not applicable, 'black box' system only requires User to provide inputs | ----- |
| Operational Liaison and Practice | TP 105 | NGT | Not Applicable | ----- |
| Equipment Commissioning & Decommissioning | TP 106 | AEP | National Grid internal guidance document; does not apply to third party. However, User would be expected to demonstrate due commissioning process (paragraph added to policy section of RES). | ----- |
| Protection and Control Relay Settings | TP 107 | NGT | Not Applicable in general - grading issues are covered in RES policy section | ----- |
| Numbering & Nomenclature of HV Apparatus | TP 109 | NGT | Already covered in the Grid Code OC11 - Not Applicable | ----- |
| Grid Code Change Process and Allocation of Responsibilities | TP 129 | NGT | Internal document to National Grid - Not Applicable | ----- |
| Pool Boundary Settlement Metering | TP 131 | NGT | Internal document to National Grid - Not Applicable | ----- |

