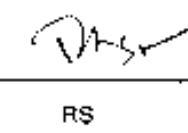
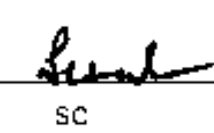


# रिले तथा कन्ट्रोल पैनल/डैस्कों के लिए निरीक्षण व परीक्षण योजना

## INSPECTION AND TEST PLAN FOR RELAY & CONTROL PANEL/DESKS

|                     |             |                           |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|---------------------|-------------|---------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 3                   | 21.11.2013  | Revised and Reissued      |  |  |  |  |
| 2                   | 15.07.2011  | Revised and Re-Issued     | GS                                                                                    | SA                                                                                    | AKC                                                                                   | DM                                                                                    |
| 1                   | 28.09.2007  | Revised and Re-issued     | AKG                                                                                   | PPM                                                                                   | MVKK                                                                                  | VC                                                                                    |
| 0                   | 25.07.2002  | Issued for implementation | RG                                                                                    | AKC                                                                                   | AKB                                                                                   | GRR                                                                                   |
| <b>Rev.<br/>No.</b> | <b>Date</b> | <b>Purpose</b>            | <b>Prepared<br/>by</b>                                                                | <b>Checked<br/>by</b>                                                                 | <b>Standards<br/>Committee<br/>Convenor</b>                                           | <b>Standards Bureau<br/>Chairman</b>                                                  |
| <b>Approved by</b>  |             |                           |                                                                                       |                                                                                       |                                                                                       |                                                                                       |



## 1.0 SCOPE

This Inspection and Test Plan covers the minimum testing requirements of Relay & Control Panel/Desks.

## 2.0 REFERENCE DOCUMENTS

PO/PR & Standards referred there in /Job specifications / Approved documents

## 3.0 INSPECTION AND TEST REQUIREMENTS

| SL NO. | STAGE/ ACTIVITY                                                                                                                                                                 | CHARACTERISTICS                                                                                                                                    | QUANTUM OF CHECK | RECORD       | SCOPE OF INSPECTION |          |          |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------|---------------------|----------|----------|
|        |                                                                                                                                                                                 |                                                                                                                                                    |                  |              | SUB SUPPLIER        | SUPPLIER | EIL/TPIA |
| 1.0    | Procedures                                                                                                                                                                      | ---                                                                                                                                                | ---              | ---          | ---                 | ---      | ---      |
| 2.0    | Material Inspection                                                                                                                                                             |                                                                                                                                                    |                  |              |                     |          |          |
| 2.1    | Incoming material like panel fabrication, PCBs, Lamps, Push Buttons, switches, Protective relays, Lockout relays, Indicating Meters, Terminals, cable wires(FR), PVC ducts, etc | Visual, Physical, Finish, Dimensions, Make of components, Manufacturer's test certificates for model, accuracy etc. as per relevant specifications | 100%             | Test records | H                   | II       | R        |
| 3.0    | Inprocess Inspection                                                                                                                                                            |                                                                                                                                                    |                  |              |                     |          |          |

# INSPECTION AND TEST PLAN FOR RELAY & CONTROL PANEL/DESKS

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| SL NO. | STAGE/ ACTIVITY  | CHARACTERISTICS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | QUANTUM OF CHECK | RECORD                 | SCOPE OF INSPECTION |          |          |
|--------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------|---------------------|----------|----------|
|        |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                  |                        | SUB SUPPLIER        | SUPPLIER | EIL/TPIA |
| 3.1    | Wiring Checks    | <ul style="list-style-type: none"> <li>Size, termination, ferruling, continuity</li> <li>Check for correctness of wiring</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 100%             | Test Records           | ---                 | H        | R        |
| 4.0    | Final Inspection |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                  |                        |                     |          |          |
| 4.1    | Final Inspection | Acceptance Tests:- <ul style="list-style-type: none"> <li>Visual, Accessibility of operating devices</li> <li>Dimensional</li> <li>Name Plate &amp; Inscription details</li> <li>Paint shade and surface finish</li> <li>Mimic diagram and color codes</li> <li>Cable entry, Cable lugs, Cable Glands size, Lifting Hooks</li> <li>Bill of material, Make of Components</li> <li>Operation check of Alarm sequence/ Functional as per data sheet requirement / drawings</li> <li>Operation/Calibration check of all relays, Meters and other components by current injection</li> <li>Operation check for auxiliary contacts &amp; auxiliary circuit</li> <li>Earthing</li> <li>Accuracy of digital clock</li> <li>High voltage test</li> <li>IR test before and after High voltage</li> </ul> | 100%             | Inspection test record | -                   | H        | H        |

**INSPECTION AND TEST PLAN  
FOR  
RELAY & CONTROL PANEL/DESKS**

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| Sl. NO. | STAGE/ ACTIVITY           | CHARACTERISTICS                                                                                                                                                                                              | QUANTUM OF CHECK | RECORD                                           | SCOPE OF INSPECTION |          |          |
|---------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------------------------------------------|---------------------|----------|----------|
|         |                           |                                                                                                                                                                                                              |                  |                                                  | SUB SUPPLIER        | SUPPLIER | EIL/TPIA |
| 5.0     | Painting                  |                                                                                                                                                                                                              |                  |                                                  |                     |          |          |
| 5.1     | Painting and Packing      | <ul style="list-style-type: none"> <li>Visual</li> <li>Suitable protection to prevent entry of foreign material.</li> <li>Proper packing to prevent any damage during transportation and storage.</li> </ul> | 100%             | Packing list / Supplier's Records                | -                   | H        | -        |
| 6.0     | Documentation and IC      |                                                                                                                                                                                                              |                  |                                                  |                     |          |          |
| 6.1     | Documentation and IC      | <ul style="list-style-type: none"> <li>Review of Internal Test Reports, Test reports for degree of protection</li> <li>IC issuance</li> </ul>                                                                | 100%             | Supplier's Test Records / Inspection Certificate | -                   | -        | H        |
| 6.2     | Final Document submission | Compilation of Inspection reports ,drawings, etc as per VDR / PR                                                                                                                                             | 100%             | Final data folder /Completeness certificate      | -                   | H        | H        |

Legends: H- Hold (Do not proceed without approval, R-Review, RW-Random witness (As specified or 10 % - Samples must include min 1 No of each type), W- Witness (Give due notice, work may proceed after scheduled date).

**NOTES :-**

- This document describes the generic test requirements. Any additional test or inspection scope if specified in contract documents shall also be applicable. (Unless otherwise agreed upon).
- Acceptance Norms for all the activities shall be as per PO/PR/ Standards referred there in/ Job specifications /Approved documents