Electrical Compliance Management Standard

Electrical Work Monitoring & Audit

(SHEMS-STD-GR-414)

Unitas
Stoke-on-Trent Ltd.

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1 Introduction

1.0.1. The standard of electrical work within Unitas is supported by a structure of training and audit that provides a high quality of service. Indicators of imbedded standards include customer feedback, training records and documented quality inspections of work.

2 Roles & Responsibilities

2.1 Electrical Supervisors / Qualified Supervisors

2.1.1. As the initial point of technical competence, the Electrical Supervisor will have completed formal training in the delivering of electrical work and have appropriate supervisory training or equivalent demonstrative experience. The Electrical Supervisor shall be formally appointed Qualified Supervisor by a recognised Registration Scheme provider such as NICEIC.

2.1.2. All Electrical Supervisors must have a full job description outlining the responsibilities, function of the role and its position within the business.

2.1.3. There shall be as a minimum of 1 x Electrical Supervisor directly employed for every 10 electrical engineers including subcontractors.

2.2 Work Monitoring

2.2.1. An Electrical Supervisor/Qualified Supervisor shall be responsible for work standard monitoring within his contract area. Any dual responsibility for supervision and work monitoring must be clearly defined within the roles and responsibilities of the job description.

2.3 Responsible Electrical Manager/ Authorising Engineer

2.3.1. When managing directly employed electrical engineers the Allocated Manager shall ensure that an electrical technically competent manager (Electrical Manager) is appointed to provide day to day management responsibility for electrical safety within the business unit. The appointment of the Responsible Electrical Manager/ Authorising Engineer shall be documented by the Allocated Manager through the completion of a Authorising Engineer appointment document **SHEMS-FOR-GR-427**.

2.3.2. The Electrical Manager must be electrical competent and have received formal training in the management and operational duties of Electrical Safety or have equivalent demonstrative experience.

2.3.3. The Electrical Manager must have a job description.

3 Audit

3.1. Work Monitoring and Audits

3.1.1. Where the business unit employs an Electrical Manager, the Electrical Manager must ensure that a program of field engineer audits exists to satisfy the ongoing competence of all electrical engineers. The number of audits required per engineer will be based on a risk assessment however the minimum guidance below shall be followed.

3.1.2. As a minimum standard the following criteria will be applied to the monitoring of all Electrical work:

- Repair and Maintenance Engineers
  - A minimum of one quality control inspection shall be completed in each 4 month period and can be increased dependent upon the results of the quality control visits and their findings.

- Installation Work
  - A minimum of 10% of all installation works will be quality control checked on site and will be based on the completed commissioning certificates, test certificates etc. The number of inspections may increase dependent on the results of the quality control visits and findings.

- Certification
  - 100% electrical certification needs assessing and signing off.

3.1.3. To ensure that the above levels of quality control field visits are carried out, the Electrical Supervisor will be tasked with completing quality control field visits. The Electrical Manager shall ensure Individual competency and that the correct field audit forms are used to document the visit.

3.1.4. All new employees, transferred employees, agency or sub-contractors who carryout electrical works on behalf of Unitas will be subject to a higher level of quality control in order to confirm the individuals stated competence.

3.1.5. As part of inducting a new electrical engineer; all new directly employed, newly transferred, new agency or new sub-contractors responsible for conducting electrical work will be subject to an immediate competence assessment to confirm their suitability and stated competence levels. New electrical engineers will not be issued electrical work without appropriate induction and competence assessment. The results of these assessments will be retained locally by the Electrical Manager and available for inspection.

3.1.6. Quality control includes:

- The inspection shall include a visual inspection of the site documentation in order to ensure technical and administrative correctness, followed by the following checks;

  - Visual Inspection on work in progress - This will allow the auditor to observe and assess the operative's skills, knowledge, competence and use of test instruments and equipment.

  - Visual checks on completed works - This will allow the auditor to check the standard of work.

  - Physical checks on completed works - This will allow the auditor to check the standard of work and verify that any test results and technical details recorded on completed work forms are correct.

3.1.7. Works to be audited may include:

- Consumer Unit Replacement
- New or replacement wiring
- Electrical Repairs
- Planned Electrical Work
- Electrical Installation Work
- Inspection work (Periodic Inspections)
- Electrical Installation Condition Reports
- Electrical Safe Isolation
- Electrical Permit to Works

Note: This is not a fully exhaustive list and all electrical work shall be subject to audit and inspection.

3.1.8. It is important that the Electrical Manager and or Allocated Responsible Manager ensure all Electrical work under scope of contract is subject to appropriate levels of monitoring.

3.1.9. All engineers will be subject to an audit visit at intervals of no longer than 4 months.

3.1.10. Although a minimum 10% inspection rate will be applied at the start of the contract for all new installations the Electrical Manager shall ensure that all Installation Engineers are subject to a minimum of one monitoring assessment within a four month period.

3.1.11. By introducing a quarterly review process into the auditing standard, the individual sampling rates can be adjusted accordingly by a level that the Electrical Manager and or Electrical Supervisor deems suitable.

After sampling and reviewing the auditing visits it is likely that the quality control visits will vary between individual engineers thus ensuring that a risk based approach to the audits is being operated.

For example;
From the auditing checks carried out in the last quarter a number of electrical safety related defects were identified on work completed by engineers A, B, C, while no electrical safety defects were found on work completed by engineers D and E.

This may have the effect of changing the sampling rates such as;

Engineer A 12%

Engineer B 12%

Engineer C 12%

Engineer D 7%

Engineer E 7%

This will ensure that a level of 10% quality control rate was being maintained across the contract or business unit however the process is now risk based, focusing on the non-compliant areas, in that it is weighted to concentrate more on the electrical engineers who had not performed to the required standard in the previous quarter visits.

3.1.12. The Electrical Manager shall record and track all engineer audits using the following form or equivalent:

- Direct, Agency and Sub-Contractor Field Audits Data Base **SHEMS-FOR-GR-409**.

3.1.13. Engineer field audits shall be conducted by the Electrical Supervisor using the following form or equivalent:

- Form Individual Engineer Field Audit (work monitoring) form, **SHEMS-FOR-GR-429**.

Completed forms shall be retained by the relevant Electrical Manager to demonstrate compliance levels.

3.1.14. The monitoring process shall include a requirement to check that the electrical engineer is using suitably calibrated and appropriate test instrumentation for the scope of work undertaken.

3.1.15. The monitoring process will also involve checking that the electrical engineer has access to current and appropriate levels of technical support when in the field environment.

3.1.16. All concerns or non-conformance items must be recorded along with the actions taken to rectify the defective works and where applicable resolve any engineer training deficiencies.

3.1.17. Any Competent Electrical Engineer that is qualified to complete Electrical Safe Isolation, shall be audited according to the risk assessment of their competency, with the auditor being an electrically competent Supervisor or Manager within the business unit.

3.1.18. Some service areas may wish to complete field audits electronically using tablets or PC's, this is acceptable as long as the business unit or contract area can demonstrate that the IT platform or system being used meets the current Electrical Compliance Management Standard.

3.1.19. Where Unsafe Situations are identified during supervisor monitoring visits the Electrical Supervisor shall consider the following actions formalised within the below table. The table below sets out the actions to be considered and satisfied with regard to the competence of the electrical engineer found responsible for any safety failing.

Please refer to Electrical Safety Council Best Practice Guide, Electrical installation condition reporting: Classification Codes for domestic and similar electrical installations.

Defect Type	Corrective Action	Personnel Actions
CODE 1 'Dangerous Present' Risk of injury. Immediate remedial action required.	• Electrical Supervisor to instigate an increase in the percentage sampling rate, targeting the specific area of work category deficiency to establish any trends. • Consult with Electrical Manager • Consult with HR • Agree an action plan	• Consider immediate suspension of the engineer concerned from Electrical work during investigation period • Re-train the engineer concerned through either toolbox talks or formal assessment, and monitor the engineer closely • Re-develop the engineer concerned by providing clear and concise instructions and guidance to prevent re-occurrence • Discipline the engineer concerned to prevent re-occurrence in accordance with internal HR policies • Liaise with HR • Issue engineer instructions through toolbox talks etc. • Record any actions taken
CODE 2 'Potentially Dangerous' Urgent remedial action required.	• Electrical Supervisor to instigate an increase in the percentage sampling rate, targeting the specific area of work category deficiency to establish any trends. • Consult with Electrical Manager • Consult with HR • Agree an action plan	• Consider immediate suspension of the engineer concerned from Electrical work during investigation period • Re-train the engineer concerned through either toolbox talks or formal assessment, and monitor the engineer closely • Re-develop the engineer concerned by providing clear and concise instructions and guidance to prevent re-occurrence • Discipline the engineer concerned to prevent re-occurrence in accordance with internal HR policies • Liaise with HR • Issue engineer instructions through toolbox talks etc. • Record any actions taken

Defect Type	Corrective Action	Personnel Actions
CODE 3 'Improvement recommended'	• Where applicable the Electrical Supervisor will instigate an increase in the percentage sampling rate by category for the quarter period and Or • Maintain the status quo at the discretion of the Appointed Electrical Manager	• Re-train the engineer concerned through either toolbox talks, briefing or formal assessment, and monitor the engineer closely • Re-develop the engineer concerned by providing clear and concise instructions and guidance to prevent re-occurrence • Issue engineer instructions through toolbox talks etc. • Record any actions taken

3.2 Desktop Audit

3.2.1. The desktop audit process will follow 2 stages; the first requirement will be for the Electrical Supervisor to complete 100% checks of all completed Certifications (work forms) completed by directly employed Unitas electrical engineers. The second stage shall require the Responsible Electrical Manager to complete a 10% sample check of documentation in order to verify that the appropriate monitoring standards are being adopted.

3.2.2. Where there is a blend of directly employed Unitas electrical engineers and sub-contract engineers are employed to undertake Electrical work; each Electrical Sub-Contractor shall demonstrate that their appointed Electrical Supervisor (QS) is undertaking a 100% check of all completed work forms. The second stage shall require Unitas's responsible Electrical Manager and or Electrical Supervisor (QS) to complete a 10% sample check of Sub-Contractor work forms that have been submitted to Unitas and verified as accurate by the appointed sub-contractor Electrical Supervisor (QS).

3.2.3. The results of the desktop audit process shall be recorded to demonstrate that appropriate levels of monitoring are in place to ensure that compliant work forms are being issued. The desk top evaluation results shall be collated using:

- Desktop quality evaluations register **SHEMS-FOR-GR-428**

3.3 Electrical Compliance Scorecard & Electrical Management Review

3.3.1. The Electrical Compliance Scorecard (ECS) is a self-assessment tool designed to identify electrical compliance for any contract or project involving electrical work. Scorecard performance shall be reported back to the business monthly. This is to enable the responsible manager to identify any non-compliant areas and highlight where assistance may be required.

3.3.2 The ECS is harmonised with some of the key requirements of being registered with an Electrical Registration Scheme Provider (NICEIC, NAPIT etc.) and also aligns with some of Unitas's key obligations.

3.3.3. Any contract, site or project overseeing, managing and controlling electrical work shall have the ECS audit process in place. The ECS audit should be conducted prior to contract commencement and thereafter on a monthly rolling basis.

3.3.4. The Business shall return any completed ECS to the Electrical Manager by the end of each month.

3.3.5. When a third party sub-contractor is employed to undertake Electrical work on behalf of Unitas the relevant contract manager or responsible person shall ensure that each sub-contractor business has been suitably assessed to deliver the scope of work and the results shall be recorded on ECS.

3.3.6. Where Electrical work is being delivered by Unitas and the Contract/Site Manager is not suitably experienced or qualified in electrical work, the responsible Manager shall assign the completion of the ECS to a suitably electrical competent Manager or Electrical Supervisor (QS).

3.3.7. Individual business units may use an internal technical electrical management audit process to underpin the GECS. Any such audit process must be authorised by the Electrical Manager.

3.3.8. RED rated ECS results shall be sent to the Senior Leadership Team

3.4 Electrical Sub-Contractor Management Review & Monitoring

3.4.1. Where a Sub-contractor is the sole provider of labour undertaking Electrical work; the Allocated Unitas Manager must have available records of inspections, quality audits, Assessment reports from Electrical Registration Scheme Providers (NICEIC) related to the Sub-Contractor.

3.4.2. The allocated manager shall also obtain the processes that the Sub-contractor undertake as part of their role as a competent contractor.

3.4.3. The Qualified Supervisor and Principle Duty Holder shall be identified along with a list of electrical engineers approved to work on the contract or project

3.4.4. The audit and inspection process outlined within this standard shall be satisfied.

3.4.5. The Group Electrical Scorecard reporting process shall be in place and completed by a suitably experienced Electrical Manager employed by Unitas.

3.4.6. Where Unitas is the principle contractor; Unitas has a responsibility to check appointed sub-contractor competency. Regulations can be found within the Construction Design and Management Standard **SHEMS-STD-GR-025**

3.5 NICEIC Audits

3.5.1. Any audit may be complemented by an objective audit Standard in order to verify the electrical management Standards. This may include external 3rd party audits.

4.0 Appendix

Authorising Engineer appointment document **SHEMS-FOR-GR-427**
Direct, Agency and Sub-Contractor Field Audits Data Base **SHEMS-FOR-GR-409**
Form Individual Engineer Assessment Sheet, **SHEMS-FOR-GR-429**
Desktop quality evaluations register **SHEMS-FOR-GR-428**
Construction Design and Management Standard **SHEMS-STD-GR-02**