



BERGEN CABLING PROJECT QUALITY PLAN PROJECTS

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Change History

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1 PURPOSE AND SCOPE

The purpose of this document is to define the quality process and procedures used to support the products and services supplied by Sohome AS.

The purpose of this quality plan is to specify the organization, responsibilities and processes necessary within Sohome AS Program and the arrangements with our customer, to ensure that the quality of the products and services provided by Sohome AS are compliant with the contractual requirements.

1.1 Scope

This Quality Plan is written for the Sohome AS Program and the scope covers those activities, from engineering through to the Customer acceptance stages for the installed systems. In the event of conflict between this plan and the contract, the contract shall prevail.

1.2 Quality Plan Duration of Operation

This Quality Plan is operative for the duration of the Project.

2 CUSTOMER FEEDBACK

During the implementation process, in case quality problem(s) are found by the Customer, Sohome AS will provide detailed information regarding corrective and preventive actions to Customer concerning such problem(s).

The Quality Organization will continually seek opportunities to perform joint reviews with the Customer in an effort to gain insights to Customer Satisfaction, understanding Customers need, and to establish a closer relationship with the Customer.

3 PROJECT QUALITY SYSTEM

3.1 Sohome AS Quality Policy

Sohome AS is committed to achieving sustained business excellence by integrating quality principles and methods into all we do at every level of our company to:

anticipate and meet customer needs and exceed their expectations, every time
 relentlessly improve how we work - to deliver the world's best and most innovative communications solutions - **faster and more cost-effectively than our competitors**

3.2 Sohome AS Quality Management System Support Structure

The Sohome AS Quality Plan prevails and is mandatory for the project work executed by the participating Sohome AS Teams. This Quality Plan provides a minimum set of Quality Management requirements that participating Sohome AS Team must comply with. Participating Sohome AS Teams remain fully responsible for the compliance to their own specific Quality Management System requirements in support of this Quality Plan.

Sohome AS Program Quality System is implemented through the two levels described as follows:

LEVEL 1 - Sohome AS Project Quality Assurance Plan - Defines Sohome AS Program Management quality system objectives and policy and demonstrates how the quality system is applied to meet customer requirements.

LEVEL 2 - Sohome AS Project Management Quality System Instructions - defines the specific guidance and instructions to perform project activities, preparation of project deliverables and the associated quality assurance controls.

This quality plan outlines the Sohome AS Management Quality System including the planning and implementation of a quality inspection and audit program. Please refer to attachment A for the chart with the relationships of the Quality Plan, manufacturing and the Team Quality Structure.

3.3 Quality - ISO 9000 ISO 10005 Approved Quality System

Quality is a part of every Sohome AS project and is reflected in the ISO 9000-and 10005 series approved Quality System. A matrix of the specific CT Quality Manuals, Procedures and Instructions will be provided upon request. Additional information is available at the Sohome AS homepage.

4 QUALITY RESPONSIBILITIES

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4.1 Quality Department

The Sohome AS- Quality Management team is responsible for the maintenance of the Sohome AS- Quality System and liaisons with the Sohome AS-Team Quality Assurance representative/s and Sohome AS- manufacturing Quality Assurance teams on quality related matters.

The responsibilities of the Quality department are listed below:

- Co-ordinates all quality aspects for the Project.
- Monitors Installation/deliveries and Acceptance documentation, ensuring all documentation is approved.
- Generates monthly quality performance report to drive system and process improvements.
- Meets with the customer quality representative to ensure that all services supplied by Sohome AS meets the requirements of the contract and this Quality Plan.
- Maintains the Sohome AS Quality Plan.
- Monitors the results of all Sohome AS Quality Management System inspections & audits.
- Conduct monthly, audits against this Quality Plan to ensure continued compliance.
- In support of the Sohome AS SNS (System Network Support) Organization, conducts assessment of prospective suppliers and Sub-contractors as requested.
- Provides Sohome AS Management monthly Quality Status Report.

4.2 Site Quality Inspection

The site Quality Inspector is responsible for providing quality inspection support to the installation teams for the following aspects:

- Monitoring of workmanship and testing quality.
- Monitoring the compliance with operating procedures and safety policies.
- The provision of training and awareness sessions in all aspects of installation and testing quality activities.
- Timely performing of and final quality inspections.
- Timely submission of inspection reports.
- Periodic internal quality system audits.

5 PROJECT QUALITY REQUIREMENTS

5.1 Engineering Quality Procedures

The purpose of this quality process stage is to review the detailed engineering of the projected equipment and preparation of installation plans, installation material requirements and office records. This engineering is based on the site survey information and the relevant Sohome AS Technologies installation instructions.

Engineering Quality control inspection plan addresses the engineering of the equipment and preparation of installation plans, installation material requirements and office records. This engineering quality control plan covers the site survey information input and the relevant installation instructions that will be developed and submitted to installation.

In-coming Inspections

- Q1 - Review site survey information

Final Inspections

- Q2 - Final Quality Review
 - All documents have to be checked by more than one member of the engineering team. Several checks take place until signed off by a senior member of the engineering team. The quality review is to insure all physical aspects of the project have been identified prior to release to installation.

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5.2 Installation & Testing Process Quality Procedures

The installation process commences with the receipt of the engineering specs by the Sohome AS supervisor and proceeds through installation and test activities to handover to Sohome AS and Customer Management. The following description covers the Quality Control procedures implemented for the installation processes in the project.

The installation process comprises of two major activity areas:

1. The installation itself and
2. The testing of the installed equipment.

Both areas are only briefly summarized in this flow description because details of these major steps are documented in Installation Manuals, Installation work and Installation tests. This description serves as a detailed definition of Quality Control activities related to the installation process.

5.3 Installation Process

The installation activities are executed in accordance with instructions and procedures specified in the engineering ODM and in accordance to Sohome AS Workmanship standards under the management of the Sohome AS supervisor. Standard quality in-process and final checklists are used during this process.

5.4 Sohome AS Installation Quality Inspections

During the installation and test work, Sohome AS Technologies performs an installation quality inspection. These inspections are specified on a sample basis and are executed by a Sohome AS Quality Inspector. In practice these inspections take place just before the testing phase is being completed. For these inspections the In-process and Final Quality inspection checklists/forms are used.

5.5 Collection, analysis of Quality data, and initiation of corrective/preventive actions

During quality inspections, if discrepancies are found, the quality inspector shall fill up in checklist and release Workmanship Inspection Report. Installation supervisor(s) shall clear discrepancies and keep the workmanship inspection report in job folder.

Reports are issued by the Quality Organisation on all Work inspected. Installation is responsible for clearing all discrepancies listed on the inspection report and the Quality Organisation will follow up on the next inspection.

Whenever discrepancies are found, Quality Organization will require feedback that details corrective and preventive actions.

6 INSPECTION AND TEST STATUS

The inspection and test status of Sohome AS products shall be identified by suitable means to indicate

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the conformance or non-conformance of product with regard to the inspection and tests performed.

Sohome AS utilises a combination of product location, inspection and test labels, production order number and quantity, item code number and installation documentation to identify the inspection and test status of products.

Sohome AS personnel performs inspection and test at various stages of the installation process in accordance with documentation and procedures or a product specific procedure or manual. These stages will at minimum be:

- Receiving inspection,
- In-process & final inspection.

Sohome AS maintains inspection and test status records, which identify the authority responsible for the release of conforming product. Sohome AS shall ensure that only product that has passed the required inspection and test (or released under an authorized concession) are dispatched, used or installed.

7 CONTROL OF INSPECTION, MEASURING AND TEST EQUIPMENT

A registered calibration authority calibrates inspection, measuring and test equipment used by the Sohome AS- Program. Calibration is traceable to National Standards.

Sohome AS- Program maintain records of calibration. Sohome AS shall ensure that the calibration system for equipment used will measure conformance of product/service to specified requirements.

The Inspection, Measuring and Test equipment used by Sohome AS is identified with a calibration label denoting the calibration status of the equipment. E.g. The date of re-calibration, the calibrating authority.

Sohome AS shall ensure that new inspection, measuring and test equipment shall be calibrated or verified prior to use.

Rented or loaned inspection and test equipment requiring calibration shall be calibrated prior to use.

Where practicable, all equipment shall be labelled or coded to identify the date of last calibration, by which it was calibrated, and the scheduled date for the next calibration. Any calibration limitation shall be clearly indicated.

The Program shall maintain records of calibrated equipment. Equipment found out of calibration shall be subject to corrective action in accordance with the Control of Non-conforming Product Procedure. This ensures that product previously tested is reviewed for conformance. The calibration interval as recommended by the equipment manufacturer is reviewed for adequacy when equipment is returned after calibration.

8 CONTROL OF NON-CONFORMING PRODUCT

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Resolution of all shipping errors, inventory discrepancies and damage issues shall be accomplished as indicated in the terms and conditions of the contract. The Sohome AS- Program identifies and labels (where appropriate) any product found to be non-conforming. A Corrective Action Report (CAR) is raised in order to document the perceived non-conformance.

9 HANDLING, STORAGE, PACKING, PRESERVATION & DELIVERY

Sohome AS ensures that equipment/material delivered to the project is handled, stored, packaged, preserved and delivered with due care to prevent damage and deterioration. ESD Protection procedures are used at all times when handling ESD sensitive material.

Sohome AS ensures that hazardous substances are adequately identified and segregated where necessary.

Sohome AS provides various methods for handling, storage, packaging, preservation and delivery of products via;

- training,
- documented procedures, instructions and drawings,
- Manufacture’s and supplier’s instructions,
- Storage facilities

Handling

Methods are established to ensure that products, parts and sub assemblies that are transported for any purpose are protected from damage. Precautions are taken to protect material from damage & deterioration.

All handling of material shall be in accordance with safe work practices and the Sohome AS EH&S Management System.

Storage

All products subject to storage shall be appropriately segregated and held in secure storage areas. Secure storage areas are areas that prevent damage or deterioration of product and have control over materials being received and issued. Storage area will be selected based on a location that minimizes movement of material and personnel through the work site. Such storage areas are to be provided for at the site ready date, by Customer.

Sohome AS shall perform general cleaning of the equipment and storage areas (e.g. clearing floors of debris, packing material, etc.) on a regular basis throughout the installation period. Rubbish shall be disposed of in compliance with local requirements. Any product found to be damaged or to have deteriorated shall be subject to the Control of Non-conforming Product process.

9.1 Packaging

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The department packing the product shall ensure that suitable methods and materials for packaging, marking and preservation are used to ensure conformance to specifications.

9.2 Delivery

Sohome AS shall ensure that the quality of product is maintained in all delivery activities.

10 TRAINING

All staff employed by Sohome AS receive sufficient instruction, education or training or have sufficient experience to enable them to carry out effectively the quality tasks they are asked to perform.

Training is an integral part of maintaining the required level of quality for products and services provided by Lucent.

The Human Resource Department is responsible for establishing documented procedures for the identification and provision of training.

Sohome AS Department managers shall identify training needs, and provide for the training of all personnel performing activities affecting quality in accordance with the documented procedures.

Training needs may be identified from:

- Employee objective & performance reviews,
- Employee requests for training,
- New process introduction,
- Corrective action requests,
- New business or employees.

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11 CORRECTIVE ACTION AND PREVENTIVE ACTION

The CAR process is used to rectify deficiencies and non-conformances found. Preventive action is taken to eliminate potential non-conformances. This is done through the analysis of trends during testing activities. Non-conforming conditions shall be reviewed to identify significant problems or trends affecting the efficiencies or effectiveness of the project work processes and or quality of products and services. Such reviews will be performed in a degree appropriate to the magnitude and or impact of the non-conformance. Trends which indicate a significant decline in deliverable quality or significant opportunity for process improvement will be investigated to determine appropriate action and the results of the investigation will be recorded.

Analyses of audits and inspection related data will be made to detect and eliminate actual and potential causes of non-conforming conditions. Such analyses will be conducted in a manner that identifies any common cause of non-conformance. Investigation methods will include root cause analysis as appropriate.

All corrective and preventive actions taken, based on audit and inspection data analysis activities, shall be to a degree appropriate to the magnitude of the problem. Such actions will take into account such factors as

installation & production costs, schedule, safety and Customer Satisfaction. Records will be maintained documenting all changes to the quality system and procedures resulting from corrective or preventive actions. Where an improvement to a work process is required, it will be brought to the attention of the project functional

manager responsible for the work process and associated work instructions. All customer complaints will be evaluated based on the root cause analysis and where appropriate actions taken to prevent recurrence.

12 CONTROL OF QUALITY RECORDS

Sohome AS maintains a quality records procedure to demonstrate achievement of the required quality and the effective operation of the Sohome AS quality system. Quality records shall include where appropriate, records from sub-contractors. Completed quality forms are filed in the Site Binder and a copy must be sent to the Sohome AS Installation Manager. This principle applies to all the Quality Gates, Inspection Reports, Turnover forms. All these returned forms are regarded as Quality Records related to the Installation Process.

**Departments maintaining Quality records shall be responsible for;
identification, collection, indexing, accessing, filing, storage, maintenance and
disposition.**

Quality records shall include;

Quality Management review	In-process Inspections and tests
Final Quality Inspections	Test and measuring equipment calibrations
Internal quality audits	Product release authorisation

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Document control records	Non-conforming material control
Change Management	Corrective actions
Training records	Supplier performance

Sohome AS ensures that Quality related records are identified, collected, filed and maintained for the period stated, as per the respective departmental procedures. Quality records are disposed of in accordance with Sohome AS and customer requirements.

13 QUALITY SYSTEM AUDITS

The Sohome AS Quality Department conducts audits of the Sohome AS in accordance with a documented Quality Audit Plan to ensure compliance to:

- The contract
- Sohome AS Quality Plan, the Sohome AS Quality Policy, Sohome AS Quality procedures
- Program/Project specific procedures and work instructions.

13.1 Quality System Audits

Field Quality System Audits are designed to ensure compliance with this Quality Plan, and may be performed at the discretion of the Sohome AS Quality Management or Project Management team. Customer representatives will be invited to attend any Field Quality system Audit performed. Sohome AS will correct deviations found during external & internal quality audits and will provide evidences, upon request, of effectiveness of actions implemented.

A management review process will be implemented to ensure that operative and quality performance results are continuously reviewed and improved. The management review process will follow and meet ISO9001:94 and ISO 10005 requirements.

Information and quality records resulted of this activity, as any other information related to the Sohome AS Quality System and operative systems, will be treated as proprietary information. The customer will have access to this information if requested.

14 REGULATORY ISSUES

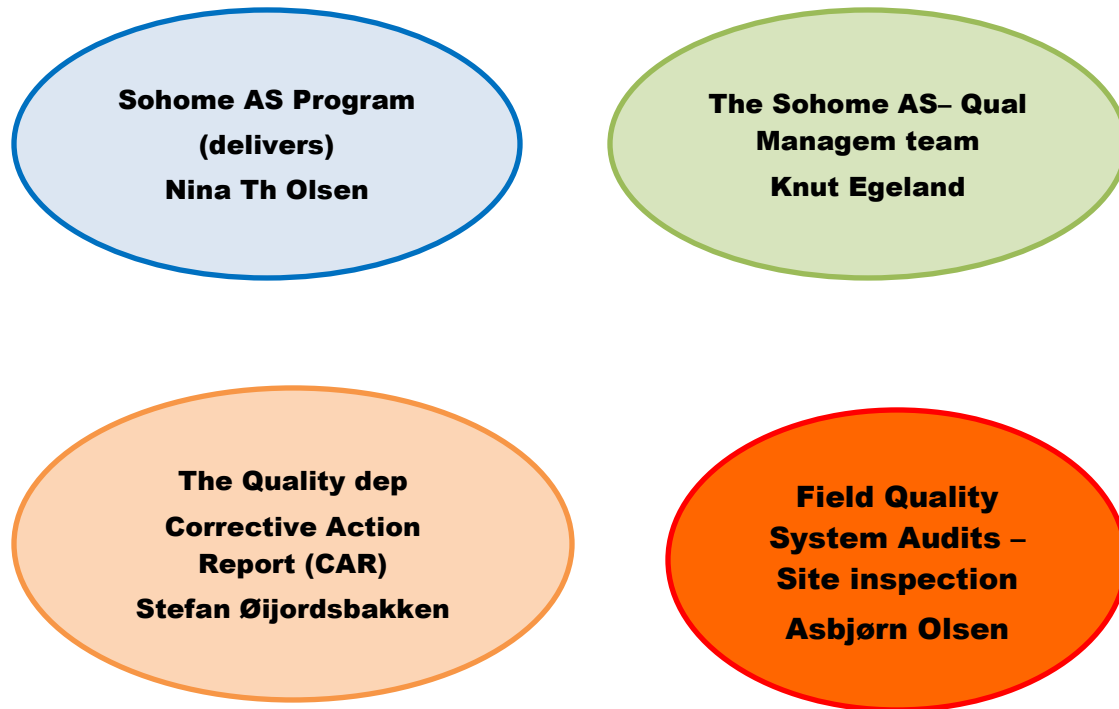
The safety aspects of the Sohome AS- Program is in keeping with the Sohome AS Global EH&S Management System. Additional information is available at the Sohome ASEH&S homepage at All regulatory issues are to be identified, documented and audited. Such issues may include but are not limited to:

- Regulatory Agency requirements for product/system certification/approval
- Environmental requirements

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- Specific regulations relating to the work being carried out (construction, for example)

ATTACHMENT A: SOHOME AS QUALITY SYSTEM ORGANIZATION STRUCTURE



15 DOCUMENT REVIEWERS

Name	Organization	Phone	Handle
Document owner :			
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