

# World of Quality

Sumit Sunthankar

Quality Assurance Manager

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# Title: What Does Quality Do at CiSCO?

- Company Processes and Procedures
- Customer Requirements
- State and Governmental Requirements
- Shelter Inspections and Factory Acceptance Testing
- Supplier Quality
- Customer Complaints and Field Discrepancies
- Safety

# Title: Company Processes and Procedures

- CiSCO QA Manual
  - Updated and maintained annually
- Business Processes
  - Process Flow Maps for each Department and the company.
- Quality Assurance Procedures and Forms
  - Updated regularly
- Document control using SharePoint system
- Quality Orientation for New Hires

We are not ISO9001 certified but CiSCO follows ISO9001 practices when creating and maintaining processes and procedures.



# Title: Customer Requirements

- Review the PO and customer specification documents and ensure that the requirements are being followed throughout the build of the shelter and/or CEMS.
- Any special requirements are addressed in the CiSCO documents, usually the drawing, and then verified by Quality.

# Title: State and Governmental Requirements

- State Approvals for all shelters manufactured.
  - Registration and certification process with each state that has an Industrialized Building program.
  - Plan reviews for initial state approval.
  - Shelters must comply with building and energy codes.
  - Each state has a different certification process and code requirements.
  - Generally, rough and final inspections conducted by 3<sup>rd</sup> party for state approvals.
  - State insignias installed on each shelter after approval.

# Title: Shelter Inspections and Factory Acceptance Testing

- Shelter Inspections
  - Pre-Skinned – Base and frame inspections
    - 3<sup>rd</sup> party weld inspection and dimensional checks
    - AWS and CWB certified
  - Skinned – Panel and insulation installation inspections
  - Final – Interior and exterior equipment installation inspections
    - Certificate of Conformance (C of C)
  - Ensure shelters are meeting all customer, state, and code requirements.

# Title: Shelter Inspections and Factory Acceptance Testing (continued)

- Factory Acceptance Testing (FAT)
  - Thorough test that checks all hardware and software functionality of the CEMS and shelter.
    - PLC/DAHS program checkout
    - Analyzer checkout
    - Plumbing and flow checks
    - Electrical inspections
    - Calibration checks – Single/CGA/Linearity
    - Signal I/O checks – Modbus and alarm
    - Startup/Shutdown process test
    - Label checks
    - HVAC test

# Title: Supplier Quality

- Work with distributors/suppliers to ensure that quality product is received.
- Receiving Inspection
  - Shipments and parts are inspected for damage.
  - Packing List/BOL is compared with the PO and Build List to verify that correct parts and quantities were received.
- After parts received, they are inventory controlled.
  - Kanban for lower cost parts
  - Caged inventory for higher cost parts-Genius ERP
  - MRB/Quarantine area for non-conforming parts
- Suppliers evaluated based on cost, quality, performance, and on-time delivery (lead times).



# Title: Supplier Quality

- Recent Supplier Issues
  - Solenoid Valves-leak issues
    - Debris found in the plumbing lines which flow into the valves and in valves themselves.
    - New valves ordered from supplier with smaller orifices. Port screens can also be installed to filter debris.
  - Regulators-leak and creep issues
    - Damaged seat in capsule for creep issues caused by bad tooling at supplier.
    - Outlet port leaks caused by improper tape application on threading.
    - Moved to new supplier due to cost and quality issues with previous supplier.

# Title: Customer Complaints/Field Discrepancies

- Non-conforming parts, whether coming from supplier or field, are logged and tracked.
- Quarantine area setup for non-conforming parts.
- Regular meetings to discuss status of non-conforming parts as needed.
- Current field issues:
  - Board failure issues with Thermo analyzers during startup.
    - Analog I/O board channel output failure
    - Peripheral board-no flow or vacuum created
    - Flow Pressure board-staying in alarm after checks

# Title: Customer Complaints/Field Discrepancies (continued)

- Boards being returned to Thermo for evaluation and corrective action.
- Tech being sent to field for next startup to evaluate boards.

# Title: Safety

- Quality department assists in creating, implementing, and enforcing the CiSCO Safety Policies (Group effort currently).
  - CiSCO Safety Manual
  - Safety Orientation for New Hires
  - Safety training videos to be reviewed annually
    - Follow OSHA guidelines