Quality Management at ESS
Big Science Sweden 2019

Mattias Skafar
Head of Quality Division
European Spallation Source ERIC
2019-11-26
Quality Division - Organisation

Delegated responsibility

Director General
John Womersley

Associate Director
ESH&Q
Ralf Trant

Head of Quality Division
Mattias Skafar

Overall QM/QA/QC responsibility for method development, coordination and implementation monitoring

Delegated QA/QC responsibility

Project X
WPM

Project Y
WPM

Suppliers
Organisation of Quality Division

Q Division
Mattias Skafar (HoD)

Q Assurance
Ivan Korunoski, Snr. QAO
Aurelién Pitois, QAO
Req. Mgmt. TBD

Q Control
Cecilia Lowe, QC-Mech.
Conny Wendt, Qi
Kenth Ödbratt © Q Div
Stefan Arvidsson © QC-Elec.
Maurice Looft © CE marking
Björn Rundcrantz © Acc.
Mikael Beise © Target

Q Doc. Mgmt.
Diana Bading

Installation org.
QC – Mechanical
QC – Electrical

Third-party
Tuv-Nord
Dekra

Third-party Tuv-Nord Dekra
Supplier assessment (Key suppliers)
Graded approach

<table>
<thead>
<tr>
<th>Quality aspect</th>
<th>Value</th>
<th>Risk level</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>• Supplier Audit</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>• On site assessment</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>• Quality Management system</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>• Evaluation</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>• List of Q requirements</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>• Involvement from QD</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>• Self assessment</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>• Questionnaire</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>• Low involvement from QD</td>
<td></td>
</tr>
</tbody>
</table>
Quality Management
Foundation

- Sub-supplier audits
- Factory Acceptance Test

High (Right) Quality Delivery

Commercial contract
Technical/functional specification
Quality Acceptance Criteria
Project Quality Plan
Applicable standards
Non-conformity reports
Quality visits/audits
Factory Acceptance Test

Sub-supplier
Supplier
Execution of Quality work

- ESS expectations is that the supplier:
  - **Plan** Quality assurance
  - **Perform** planned Quality assurance
  - **Demonstrate** performed quality work
Project Quality Plan – PQP

Purpose

• The PQP serves as a link between the supplier and ESS

• The PQP addresses fundamental topics to secure high quality level on execution and delivery

• The PQP needs to be agreed and approved by both parties before manufacturing starts
Engineering work
Depending on contract

- Depending on contract:
  - Design
  - Build
  - Install

- Fundamental Quality focus areas:
  - Requirement Management
  - Configuration Management
  - Verification & Validation

- This will give us the means to:
  - Install,
  - Operate,
  - Maintain,
  - Repair and update

And a combination of these

In a cost effective way
Present Situation
• Construction, Installation and start of commissioning/operations.
• Frame-work agreements for technical consultants.
• Quality Division is coordinating:
  – Quality Assurance
  – Quality Control (Mechanical and Electrical)
  – Management of Documented Information
  – CE marking
  – Requirement Management
  – Inspections

In Operation
• Operation but also installation, and commissioning
  – Quality Assurance:
    • Management System
    • Audits
  – Quality Control:
    • Maintenance
    • Repairs
    • Up-grades
  – In-service inspections

Current consultant need: Quality Control Mech. & Electrical, Requirement Management
Thank YOU for your time!