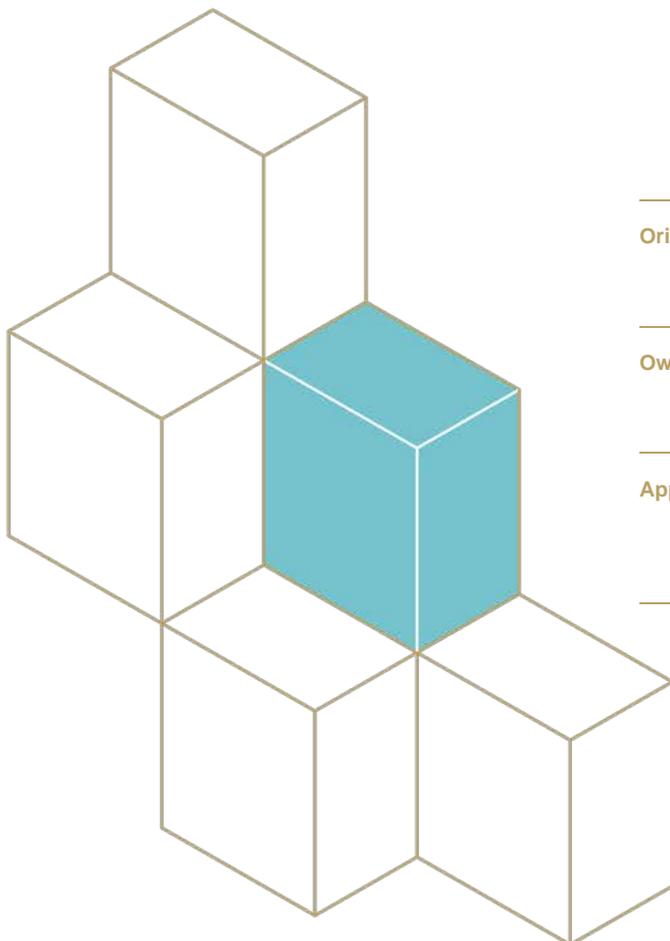


Control of New Equipment and Materials Procedure

CHRY-UKO-HSEQ-PROC-1302



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CONTENTS

1.0	PURPOSE	7
2.0	SCOPE	7
3.0	GLOSSARY OF TERMS	8
3.1	Abbreviations	8
3.2	Definitions	10
3.3	Terminology	10
4.0	ROLES AND RESPONSIBILITIES	11
4.1	Requisitioner	11
4.2	Procurement Representative	11
4.3	Senior QA/QC Adviser/Well Operations QA/QC Team Lead	11
4.4	Third-party Inspection Co-ordinator	13
4.5	Third-party Quality Control Inspector	13
4.6	Suppliers and Fabricators	14
4.7	Goods Receipt Quality Control Inspectors	15
4.8	Quality and Assurance Team Lead	15
5.0	PROCEDURE	15
5.1	Overview	15
5.2	Identify Supplier for New Equipment/Material	16
5.3	Quality Control and Inspection Requirements	16
5.4	Requirements for Notification of Inspections	18
5.5	Requirements for Inspection Assignments	18
5.6	Typical Quality Control Inspection Assignments	19
5.7	Material Traceability and Certification Quality Control Requirements	20
5.8	Welding Quality Control Requirements	20
5.9	Non-destructive Examination Quality Control Requirements	21
6.0	CONTROL OF NON-CONFORMANCE	21
7.0	RECORDS AND SUPPORTING DOCUMENTS	22
8.0	TRAINING AND COMPETENCE	22
8.1	Quality Control Inspections at Vendors Premises	22
8.2	Goods Receipt Inspections at Warehouses or Storage Facilities	23
9.0	AUDIT AND REVIEW	23
10.0	REFERENCES	24

LIST OF TABLES

Table 1 – Step Process Summary 16

APPENDIX 1 TECHNICAL DELIVERY TERMS..... 25

1.0 PURPOSE

This Procedure ensures that robust controls are in place to check and verify the quality of new equipment and materials (CONEM) procured by Chrysaor for use on its operated assets, decommissioning activities, and within Drilling and Well Operations carried out on the United Kingdom Continental Shelf (UKCS).

The intent of this Procedure is to:

- Ensure that all new equipment and materials for use on Chrysaor assets meets the minimum Chrysaor standards and specifications, is fit-for-purpose, meets design intent, and is independently verified and appropriately inspected and/or certified, prior to use
- Prevent and mitigate the risk of incorrect or defective equipment and materials being supplied and sent offshore
- Ensure that new equipment and materials comply with applicable regulatory requirements, codes and standards
- Assure the quality, and in turn underpin safe operations, associated with the installation and use of new equipment and materials on Chrysaor assets
- Promote a 'right first time' approach to new equipment and materials that adds value to Chrysaor through reducing the cost associated with re-work, disruption to operations and/or failure to fit offshore

To achieve this, the Procedure defines requirements for the management and co-ordination of third-party Quality Control (QC) inspections and provides guidance on relevant Supplier Quality Surveillance (SQS) activities associated with the inspection and certification of new equipment, packages and materials.

2.0 SCOPE

This Procedure relates to all Chrysaor UKCS operated assets and applies to all new equipment and material arising from operations (e.g. remedial works, like-for-like replacement, Operations Modifications, changeout, commodity spares, etc.), minor modifications and projects, decommissioning activities, and drilling activities including Well Operations and Well Intervention.

The requirements defined in this Procedure are applied to the management of all third-party QC inspection activities of new equipment and material, carried out on behalf of Chrysaor. This Procedure also provides relevant guidance for use in planning, carrying out and recording relevant Chrysaor SQS activities.

- Notes:**
1. *Specific requirements for the Control of Temporary Equipment (COTE), including associated inspection requirements, are governed through the Control of Temporary Equipment Procedure, CHRY-UKO-HSEQ-PROC-1303 [Ref 1].*
 2. *This Procedure sets out the quality requirements of equipment and materials. However, it does not cover detailed engineering specifications for individual equipment and material types. The requestor is responsible for ensuring the appropriate engineering specifications are used. Refer to Technical Assurance Management Standard, CHRY-UKO-TAI-ST-0088 [Ref 2].*

3.0 GLOSSARY OF TERMS

3.1 Abbreviations

ASNT	American Society for Non-Destructive Testing
ATEX	Atmosphere Explosive
BASEEFA	British Approval Service for Electrical Equipment in Flammable Atmospheres
BLP	Bridge Linked Platform
BOM	Bill of Materials
BOP	Blowout Preventer
BS	British Standard
CE	Conformité Européenne
CMMS	Computerised Maintenance Management System
CONEM	Control of New Equipment and Materials
COTE	Control of Temporary Equipment
CV	Curriculum Vitae
DBB	Double Block and Bleed
DRM	Document and Records Management
E&C	Engineering and Construction
EN	European Norm
EPCI	Engineering, Procurement, Construction and Installation
ERP	Enterprise Resource Planning
ESDV	Emergency Shutdown Valve
EU	European Union
FAT	Factory Acceptance Test
FDB	Fabrication Data Book
GBA	Greater Britannia Area
HPHT	High Pressure, High Temperature
HSEQ	Health, Safety, Environment and Quality
IAF	Inspection Assignment Form
ICB	Independent Competent Body
IFU	Issued for Use
IRC	Inspection Release Certificate
ITP	Inspection Test Plan
IVR	Inspection Visit Report
JALQ	Jasmine Accommodation Living Quarters
JRP	Judy Riser Platform
JWHP	Jasmine Well Head Platform
LOLER	Lifting Operations and Lifting Equipment Regulations
MRB	Manufacturing Record Book
MRP	Material Requirements Planning

NAMAS	National Measurement Accreditation Service
NDE	Non-destructive Examination
NOBO	Notified Body
NOI	Notification of Inspection
OCTG	Oil Country Tubular Goods
PBR	Polished Bore Receptacle
PCN	Personnel Certificate of Non-destructive Testing
PED	Pressure Equipment Directive
PO	Purchase Order
PPM	Pre-production Meeting
PSV	Pressure Safety Valve
PUWER	Provision and Use of Work Equipment Regulations
QA	Quality Assurance
QC	Quality Control
QM	Quality Management
ROV	Remotely Operated Vehicle
RTJ	Ring Type Joint
SAP	Systems Applications and Products
SBT	Small Bore Tubing
SI&E	Systems, Instrumentation and Electrical
SIN	Service Improvement Notice
SIRA	Scientific Instrument Research Association
SNS	Southern North Sea
SQS	Supplier Quality Surveillance
SVP	Senior Vice President
TA	Technical Authority
TDT	Technical Delivery Term
TE	Temporary Equipment
TQ	Technical Query
UK	United Kingdom
UKAS	United Kingdom Accreditation Service
UKCA	UK Conformity Assessed
UKCS	United Kingdom Continental Shelf
UN	United Nations
US	United States
VP	Vice President

3.2 Definitions

AELE	Armada, Erskine, Lomond and Everest assets.
Chrysaor	Chrysaor Group of Companies and any member company thereof.
Ex	Ex rated equipment refers to equipment that has been classified as safe for use in hazardous areas.
J-Area	Judy, Jade and Jasmine assets.
Maximo	CMMS (Computerised Maintenance Management System).
Synergi	Web-based software used to record unplanned events.
Systems Applications and Products (SAP)	The Enterprise Resource Planning (ERP) software used.
Technical Authority (TA)	A person delegated by the accountable manager to make decisions on safeguarding the technical aspects of the facilities, within their approval level of competence and responsibilities.

3.3 Terminology

Criticality Assessment	A relative measure of the consequences of a failure mode and its frequency of occurrence. The quality criticality assessment process is used to determine the quality surveillance expectations, including inspection criteria/levels, certification requirements and the roles and responsibilities of personnel executing these expectations.
Final Release	Goods found to be in accordance with the Purchase Order (PO) and can be released for delivery.
Hold Point (H)	An activity which is considered critical to ensuring the quality, integrity and safe functioning of the product. Work does not proceed unless a Chrysaor representative/procuring organisation representative is in attendance to verify the activity, or there is express written waiver/authorisation from Chrysaor.
Inspection Service Provider	Individual or group conducting inspection activities, acting on behalf of Chrysaor.
Monitor Point (M)	An activity where the procuring organisation's representative and/or Chrysaor attends the manufacturing facilities at any time, in order to survey the activity indicated in the suppliers/sub-suppliers Quality Plan/ITP and verify progress is in line with ITP requirements. Note: No formal notification required for M activities.
Quarantine	Inspection cannot be completed, i.e. due to defect, insufficient documentation or incorrect tagging.
Reject	Goods found not to conform or not in compliance to the PO requirements.

Review Point (R)	An activity where the procuring organisation's representative and/or Chrysaor reviews the relevant Inspection Test Plan (ITP) defined verifying documentation for compliance to applicable Chrysaor and manufacturer requirements. Note: There is no formal notification required for R activities.
Stage/Interim Release	Acceptance of a Factory Acceptance Test (FAT) or goods at specified hold points throughout manufacture, e.g. Non-destructive Examination (NDE).
Supplier Quality Surveillance	Quality Assurance (QA)/QC intervention activities that allow for the continuous monitoring and verification of the status of procured product to ensure that Chrysaor requirements are being fulfilled by the supplier and sub-supplier.
Witness Point (W)	An activity that is critical to ensuring the quality of a product. Work proceeds with a Chrysaor/procuring organisation representative in attendance to verify the activity. However, the supplier/sub-supplier is allowed to proceed beyond Witness Points without a written waiver/authorisation from Chrysaor.

4.0 ROLES AND RESPONSIBILITIES

4.1 Requisitioner

The Requisitioner is responsible for:

- Ensuring that requisitions are raised in SAP/Maximo for items of new equipment and materials, that are consistent with Chrysaor standards and specifications

4.2 Procurement Representative

The Procurement Representative is responsible for:

- Ensuring that requisitions are accurately converted into POs, maintaining accuracy of quality requirements of Chrysaor standards and specifications

4.3 Senior QA/QC Adviser/Well Operations QA/QC Team Lead

The Senior QA/QC Adviser/Well Operations QA/QC Team Lead responsibilities include, but are not limited to:

- Reviewing, verifying and approving inspection and certification requirements identified against each item on the material requisition, against the contract-specific inspection and certification requirements
- Producing an Inspection Assignment Form (IAF) that clearly defines the scope and focus of a third-party inspection assignment. A core part of this includes ensuring that all of the supporting documents (PO, drawings, data sheets, ITPs, agreed deviations, etc.) accompany the inspection request to the third-party inspection services provider

- Liaising with QC inspection agencies to arrange for competent QC Inspectors to be in attendance to carry out inspection assignments on behalf of Chrysaor
- Reviewing Inspector qualifications prior to commencing the work assignment to ascertain suitability, competence to perform the assignment and competence to ensure manufactured products meet the desired results
- Maintaining appropriate records to demonstrate the competence and suitability of QC Inspectors undertaking inspection assignments on behalf of Chrysaor
- Liaising with the third-party inspection agency, contractor focal points, Supply Chain, Project Engineers, Discipline Engineers and (where appropriate) Chrysaor Technical Authorities to resolve queries arising from inspection activities, including where items are rejected or quarantined
- Raising any Service Improvement Notices (SINs) in Synergi from resulting non-compliance with Chrysaor materials, packages or equipment that are identified during Chrysaor SQS activities/ QC inspections
- Reviewing Inspection Visit Reports (IVRs) and Inspection Release Certificates (IRCs) to ensure the quality of inspection output, and that inspection assignment scopes are adequately complete
- Engaging with nominated contractor quality representatives, reviewing and approving ITPs, indicating Chrysaor surveillance points inclusive of 'Witness' or 'Hold' points prior to commencing manufacture/fabrication, as well as relevant 'Monitor' points, 'Review' points and required verifying documents
- Reviewing and endorsing key quality deliverables associated with a package/purchase order, including Manufacturing Record Books (MRBs) and Fabrication Data Books (FDBs) submitted post-manufacture for close-out
- Ensuring all information provided as part of the PO(s) corresponds with the latest, current versions held in Maximo/SAP
- Providing input to punch list items and ensuring there are no outstanding non-conformities and all Technical Queries (TQs) have been fully closed out by a competent Discipline Engineer prior to product installation
- Ensuring all design and engineering information is at 'mature' stage prior to manufacture, that all 'holds' have been removed, and that suitable discipline functional checks and approvals have been carried out
- Attending Pre-production Meetings (PPMs) to communicate, review and discuss relevant quality aspects, and carry out SQS activities/QC interventions as appropriate
- Monitoring Engineering and Construction (E&C) and Engineering, Procurement, Construction and Installation (EPCI) contractor and inspection service provider performance, carrying out periodic surveillance checks and suitably addressing any failings identified, and reporting key findings to the Quality and Assurance Team Lead
- Additional QA/QC responsibilities as required by relevant SQS Plans

4.4 Third-party Inspection Co-ordinator

The Third-party Inspection Co-ordinator is responsible for:

- Receiving the inspection assignment request from the Senior QA/QC Adviser
- Co-ordinating the inspection assignment between the supplier/contractor and QC Inspector
- Liaising with the supplier to ensure that all pertinent supporting documents are received and collated
- Communicating any non-conformities to the Senior QA/QC Adviser and acting as a focal point for resolution of any required third-party inspection input

4.5 Third-party Quality Control Inspector

The Third-party QC Inspector is responsible for:

- Carrying out inspection activities as detailed on the IAF and in accordance with the PO requirements
- If requested by Chrysaor, attending PPMs associated with the order/package/equipment (if held)
- Issuing initial inspection feedback to the Third-party Inspection Co-ordinator (i.e. on the day of the inspection)
- Preparing and submitting inspection reports, including providing relevant inspection photographs when appropriate and in a timely manner
- Completing the IRC and IVR as appropriate
- Reviewing and endorsing as-built documentation (MRBs/FDBs)
- Notifying the Senior QA/QC Adviser(s) and Third-party Inspection Co-ordinator of any non-conforming items to be quarantined or rejected
- Liaising with QA/QC Adviser(s)/Third-party Inspection Co-ordinator to resolve any queries/clarifications arising during the inspection activities and verifying appropriate correction (e.g. rework or repair)
- Ensuring that the information supplied is consistent with the information held by the supplier, e.g. manufacturing drawings are at the same revision and 'Approved for Construction' status

4.5.1 Quality Control Inspector Conduct

It is expected that all QC Inspectors undertaking assignments on behalf of Chrysaor will:

- Act in accordance with the Business Ethics Policy, HAE-GLO-LEG-STD-0001
- Act in a strictly trustworthy, ethical and unbiased manner in relation to both Chrysaor and any supplier involved in the inspection by them, or personnel for whom they are responsible, whilst remaining aware of all site and supplier HSE guidelines

- Disclose any relationships they may have with the supplier to be visited for the inspection before undertaking any inspection on behalf of Chrysaor
- Not accept any inducement, gift, commission, discount or any other profit from the suppliers visited, from their representatives, or from any other interested person, or knowingly allow personnel for whom they are responsible from doing so
- Not act in any way prejudicial to the reputation or interest of Chrysaor or the supplier
- Take due professional care and not undertake inspections they are not competent to perform
- Make fair presentations of inspection findings based on verifiable evidence and not intentionally communicate false or misleading information that may compromise the integrity of the inspection process
- Adhere to all Chrysaor HSE expectations and supplier/facility HSE rules and requirements while carrying out QC inspections
- Stop the job in the event of any unsafe acts or operations observed while undertaking Chrysaor inspection assignments and report the issue to Chrysaor HSE

4.6 Suppliers and Fabricators

Suppliers (including sub-suppliers) and Fabricators are responsible for:

- Delivering the contracted scope of work in accordance with agreed ITP and PO
- Ensuring that all design, fabrication, manufacturing, inspection and testing work carried out on Chrysaor ordered equipment, packages and material is carried out by personnel who are trained and competent to do so
- Producing appropriate special procedures (e.g. welding, testing, coating, etc.) required for the work being performed
- Ensuring that all required NDE is carried out and checked in accordance with the relevant PO/subcontract specifications
- Providing a formal Notification of Inspection (NOI) to the Senior QA/QC Adviser/Well Operations QA/QC Team Lead when an inspection is due to take place
- Developing, maintaining and/or providing all relevant certification, procedures and supporting records /verifying documents as required by the PO and (if applicable) ITP
- Making all required documentation available, including verifying documents, to the Chrysaor/QC Inspector as required at relevant QC intervention points (e.g. FAT, Final Inspection, etc.)
- Ensuring safe access to the supplier's facility in order for Chrysaor to carry out planned SQS visits/activities

4.7 Goods Receipt Quality Control Inspectors

Goods Receipt QC Inspectors are responsible for:

- Conducting Goods Receipt inspection activities, as specified on the POs. Refer to Sections 5.6.2 and 8.2 for further guidance

4.8 Quality and Assurance Team Lead

The Quality and Assurance Team Lead is the owner of this Procedure and is responsible for ensuring that a consistent and effective approach to QA/QC of new equipment and material is implemented within the Health, Safety, Environment and Quality (HSEQ) function.

5.0 PROCEDURE

5.1 Overview

Table 1 provides a high-level summary of the process used to procure and assure the quality of new equipment and material purchased by (or on behalf of) Chrysaor:

Step	Task/Activity	Responsibility
1	Identify supplier for new equipment/material.	Package Responsible Engineer/Package Responsible Buyer
2	Provide guidance on minimum requirements for inspection and certification in line with Technical Delivery Term Codes. Refer to Appendix 1.	Senior QA/QC Adviser
3	Raise a PO for new equipment/material.	Requisitioner
4	Identify any additional QA/QC requirements associated with the PO and capture these through relevant ITP mark-up (i.e. define QC intervention points).	Senior QA/QC Adviser
5	Issue NOI in advance of Chrysaor QC intervention point. Note: Where NOIs are submitted to an E&C/EPCI contractor, such NOIs must be forwarded to the Senior QA/QC Adviser at the earliest opportunity.	Supplier/ Sub-supplier
6	Raise IAF and issue this to the Third-party Inspection Agency.	Senior QA/QC Adviser
7	Allocate competent QC Inspector to carry out inspection assignment.	Third-party Inspection Co-ordinator
8	Approve QC Inspector for inspection assignment and confirm arrangements with relevant parties.	Senior QA/QC Adviser

Step	Task/Activity	Responsibility
9	Carry out inspection assignment, endorse relevant documents/records within scope of visit, and complete the required IVR/IRC.	Third-party QC Inspector
10	Review, accept and record IVRs and supporting documentation.	Senior QA/QC Adviser
11	Carry out goods receipt inspection at Chrysaor Warehouse facilities, as required by the PO.	Goods Receipt Inspector
12	Monitor supplier and inspection agency performance, including relevant SINS, and provide feedback to Quality and Assurance Team Lead.	Senior QA/QC Adviser
13	In accordance with PO requirements, review and approve MRBs/FDBs to ensure that all final documentation is available, correct, and appropriately endorsed.	Package Responsible Engineer/Senior QA/QC Adviser

Table 1 – Step Process Summary

5.2 Identify Supplier for New Equipment/Material

Chrysaor only places orders with contractors who have been evaluated and approved using Chrysaor's contractor evaluation process, however there may be cases when Chrysaor-nominated contractor(s) will place orders with suppliers who are not evaluated by Chrysaor; such instances are managed under the nominated contractors' own evaluation process which Chrysaor will have access to. Refer to Section 10.0 for further guidance.

5.3 Quality Control and Inspection Requirements

The Senior QA/QC Adviser/Well Operations QA/QC Team Lead or delegate are responsible for the control and management of associated QC inspection activities and providing guidance and support (as required) for any additional SQS activities.

Chrysaor's Quality function co-ordinates all relevant QA/QC activities, including the minimum required levels of Chrysaor QC intervention as defined in the Technical Delivery Term Codes (refer to Appendix 1) and/or in accordance with relevant product and package SQS Plans.

As a minimum, the Senior QA/QC Adviser/Well Operations QA/QC Team Lead arranges for Chrysaor's appointed third-party inspection services provider to undertake the required QC inspection activities, to check, verify and assure the quality of Chrysaor-supplied new equipment and materials.

5.3.1 Inspection and Certification Codes

The minimum levels of inspection requirements are identified on the material requisition/Bill of Materials (BOM) by selecting the appropriate inspection level and certification codes in line with the Technical Delivery Term Codes defined in Appendix 1 of this Procedure.

Refer to the following example:

Example:

All actuated valves – mechanical, hydraulic, pneumatic, electric and also control panels.

C	6	S0
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The Senior QA/QC Adviser/Well Operations QA/QC Team Lead is responsible for reviewing the inspection level and certification code, providing guidance on the most suitable Technical Delivery Term (TDT) code applicable to the order, and verifying that the selected code meets the requirements for the materials/equipment being requisitioned (refer to Appendix 1).

5.3.2 Supplier Quality Surveillance

Depending on the assigned criticality (refer to Criticality Assessment Procedure, CHRY-UKO-PROJ-PROC-1144 [Ref 4]) of new equipment, materials or procured packages, additional levels of QA activities and QC inspection may be required to ensure the safety, reliability and on-time delivery of items procured by, or on behalf of Chrysaor.

Such additional QA/QC activities can include, but are not limited to:

- Independent design verification
- PPMs
- Third-party witnessing of forging/casting activities
- Goods in inspection and material certification review (supplier's premises)
- Additional QC inspections during assembly and testing
- Expediting visits to verify progress and check key quality parameters
- Monitoring visits to witness processes and activities underway (e.g. welding, NDE, coating application, etc.)
- Witnessing function tests/FATs
- Witnessing Site Integration Tests
- Checks on packaging, preservation, storage and load-out of equipment and material

In such instances, additional QA/QC activities are carried out in accordance with the Project Supplier Quality Surveillance Procedure, CHRY-UKO-PROJ-PROC-1143 [Ref 5] and, where appropriate, marked-up as Chrysaor intervention activities on applicable ITPs.

5.4 Requirements for Notification of Inspections

To ensure that appropriate QC resources (e.g. third-party inspectors) and applicable Chrysaor representation are at the required QC intervention points, all suppliers/sub-suppliers are required to submit an NOI to Chrysaor in advance of QC intervention activities required in relevant POs/ITPs.

It is acceptable for the supplier to use their own NOI format/template, however, all NOIs must include the following information **as a minimum**:

- Supplier/subcontractor name and address
- Equipment or material to be inspected
- PO number
- Contract/project name
- ITP activity reference
- Date and time of the inspection
- Anticipated duration of the inspection
- Location of the inspection
- Supplier/subcontractor contact details

NOIs are submitted to Chrysaor by the supplier in accordance with the notification period specified in the PO/contract. This is typically 5 working days for the United Kingdom (UK) and European Union (EU), or 10 working days for international assignments outside of Europe.

5.5 Requirements for Inspection Assignments

Upon receipt of an NOI, the Senior QA/QC Adviser/Well Operations Team Lead liaises with Chrysaor's appointed third-party inspection services provider to ensure that a competent QC inspector or appropriate technical representative (e.g. Package Engineer, TA, etc.) is able to attend the relevant intervention point.

Where a QC inspector is required to attend an intervention point, an IAF is raised and promptly submitted to the third-party inspection services provider.

The IAF details the scope, nature, relevant documentation/criteria, and focus areas for the inspection visit/intervention point. When raising an IAF, it must clearly define and reference the following minimum documentation:

- Request for Inspection (IAF)
- PO complete with all appropriate technical information
- Approved for Construction (Issued for Use (IFU)) – drawings
- Approved for Construction (IFU) – data sheets

- ITP (where applicable – either Approved for Construction (IFU) or at least Accepted with Comments)
- FAT/test procedures (approved)
- Chrysaor-specific instructions

Approved copies of the minimum documentation listed is also provided to the nominated inspection agency/QC Inspector, to allow them to effectively complete the inspection assignment.

The inspection services provider nominated to carry out the assignment is responsible for ensuring it's nominated Inspector is suitably competent to cover the inspection scope of work. The nominated Inspector liaises with the Quality Team to resolve any queries/clarifications that may arise during the inspection activities and verifies appropriate correction (e.g. rework or repair). A copy of the nominated Inspector's Curriculum Vitae (CV) must be forwarded to the Quality Team for review and acceptance, prior to the start of the assignment.

5.6 Typical Quality Control Inspection Assignments

This Section provides details on the management of routine QC inspection assignments. Note that this Section is not exhaustive; consult the Quality function when required, in order to provide guidance on additional types of inspection assignments and suitable SQS activities (including relevant SQS checklists) to suit unique requirements associated with a specific package, PO, or supplier/sub-supplier.

5.6.1 Field Inspection

Field inspections are carried out to review, witness, monitor or endorse key intervention activities taking place at a supplier's/sub-supplier's facilities.

Field inspections utilising an inspection services provider for orders intended for use on operated assets, are co-ordinated by the Senior QA/QC Adviser.

For Drilling and Well Operations, field inspection in support of the Control of New Equipment and Materials (CONEM) is co-ordinated utilising the inspection services provider by the Well Operations QA/QC Team Lead.

Note: *For the purposes of this Procedure, Field Inspection can also include expediting activities carried out by Chrysaor Quality Resources (including appointed Third-party QC Inspectors).*

Refer to Section 8.1 for further guidance.

5.6.2 Goods Receipt

Goods inspection and receipt is conducted at all warehouse and storage facilities for materials/products procured by, or on behalf of Chrysaor. Goods inspection requirements are carried out in accordance with the relevant PO.

Goods are subject to receipt check by warehouse personnel. As a minimum, this includes a check for damage, confirmation of quantity and identity and a review of any certification provided.

Refer to Section 8.2 and Appendix 1 for further guidance and information.

5.6.3 Handling, Storage and Preservation

Goods supplied or fabricated must meet Chrysaor requirements; this includes suitable documentation detailing required handling, storage and preservation requirements as listed in purchasing specifications and manufacturer's recommendations. Visits or inspections to relevant storage and transportation facilities may be required in order to verify that material/equipment is stored in accordance with Chrysaor requirements, ensuring preservation and ongoing suitability of the product.

5.6.4 Packing/Shipping

The seller is responsible for ensuring that any goods being supplied to Chrysaor are suitably protected and packaged to ensure they arrive at their final destination in a good condition and are fit-for-purpose. The seller should be aware that in some instances the package(s) may be subject to various modes of transport and handling (road/sea/air) before reaching the final destination, including warehouse and storage facilities. Any material deemed to be dangerous goods and capable of causing risk to health and safety and/or environmental damage whilst being transported, must be shipped in United Nations (UN) certified packaging. QC intervention (e.g. review of certificates, photographs or site inspections) may be required, to ensure that this aspect is adequately controlled and managed.

5.7 Material Traceability and Certification Quality Control Requirements

Material traceability applies from the specification of the material through to the conclusion of a finished product incorporating that material. The supplier is responsible for ensuring that material traceability is substantiated by material certification, vendor dossiers or data books and the documentation is associated with the PO/product.

The level of inspection certification and supporting documentation required for an order/package is stated within the scope of work/PO, in line with applicable minimum requirements as defined in the TDT codes, and is in accordance with British Standard (BS) EN 10204:2004 Metallic Products: Types of Inspection Documents, or the international equivalent.

Where material certificates are required, all material certificates are in accordance with BS EN 10204:2004 or the international equivalent. All certificates are in the English language. Certificates are of mill origin and reviewed and endorsed by the supplier/subcontractor as meeting Chrysaor requirements. All material certifications show the mill of origin of the raw material in addition to the forge master. Only original copies of 3.1 or 3.2 certification are acceptable for Chrysaor ordered equipment and material.

5.8 Welding Quality Control Requirements

The supplier/subcontractor is responsible for producing appropriate and suitable weld procedures for the work being performed.

It is a mandatory requirement that weld procedures and supporting procedure qualification records are prepared and approved by trained and competent personnel. Copies of certificates confirming personnel competency, experience and qualifications (in adherence to European Engineering or International Standards) are made available on request. Examples of these qualifications include CSWIP 3.2 Senior Welding Inspector or CSWIP 3.1 Welding Inspector with Radiographic Interpretation for Welding Inspection.

Note: *All welding procedures must be either reviewed or approved by Chrysaor (depending on criticality) or the nominated contractor prior to any critical welding operations being performed (e.g. full pen welds, hydrocarbon containing or high-pressure systems. Pressure Equipment Directive (PED)/ UK Conformity Assessed (UKCA) equipment).*

All welding is performed using procedures prepared and approved in accordance with Chrysaor's PO/sub-contract design requirements. The supplier/subcontractor must operate a system which assigns unique weld numbers to structural, piping and pipeline welds, which are traceable to both their final location in the structure, pipework or pipeline, and to the welder who performed the work. Traceability of welding activities, including adherence to procedures and management of equipment and consumables, as well as welder qualification/competence is reviewed as part of applicable Chrysaor QC intervention activities.

5.9 Non-destructive Examination Quality Control Requirements

The NDE activities are performed in accordance with formally agreed procedures from Chrysaor or the nominated contractor. The supplier/subcontractor is responsible for ensuring that all NDE procedures are prepared and checked in accordance with the relevant PO/subcontract specifications.

It is a Chrysaor requirement that NDE procedures and reports are prepared and approved by competent personnel certified to Personnel Certificate of Non-destructive Testing (PCN)/ American Society for Non-destructive Testing (ASNT) Level 2 or Level 3 standard or international equivalent (as required). All NDE procedures and reports must identify the qualifications of the people preparing and approving them, and copies of NDE Operator certificates confirming their competency are made available on request and included as part of relevant MRBs (as required by the Contract/PO).

6.0 CONTROL OF NON-CONFORMANCE

For operated assets, the Senior QA/QC Adviser facilitates and monitors the control of non-conforming equipment/material. Likewise, for Drilling and Well Operations the QA/QC Team Lead facilitates and monitors the control of non-conforming equipment/material.

When the non-conforming product is deemed to be indicative of a systemic performance issue or introduces an increase in HSEQ risk, an SIN is raised in Synergi, issued to the supplier, and tracked through to adequate resolution. Refer to the UK Service Improvement Notice Procedure, CHRY-UKO-HSEQ-PROC-1301 [Ref 6].

Where a supplier or manufacturer deviates from the product/material specification, they are required to submit a formal concession request to Chrysaor, stating the nature of the deviation and the proposed method of resolving it. The TA/Responsible Engineer reviews and either accepts or rejects the proposal in writing. Any concession requests and/or non-conformance reports are included in the final MRB associated with the order.

7.0 RECORDS AND SUPPORTING DOCUMENTS

In order to demonstrate compliance with the requirements of this Procedure and maintain an appropriate record of QA/QC inspection history, the following records are maintained:

- Inspection Technical Delivery Terms as defined SAP/Maximo POs
- Goods receipt – electronically by PO number in SAP/Maximo
- Operated assets – inspection assignment and report documentation (IAF, IVR and IRC)
- Drilling and Well Operations – inspection documentation associated with projects and/or wells is copied to the respective project or well files in MaxWell. The area MaxWell Controller has access to the files during or following project/well completion. This enables documentation to be integrated with the appropriate offshore asset records when projects/wells are closed-out
- Non-conformance – SIN
- Concession applications – requests and Chrysaor approvals

8.0 TRAINING AND COMPETENCE

All third-party inspection personnel must have a minimum of 5 years' experience in their respective discipline, be trained to a recognised industry standard and hold the relevant qualifications to carry out their assignment. CVs for all third-party inspection personnel are reviewed and approved by the Senior QA/QC Adviser (Operations, Modifications and Projects) and the QA/QC Team Lead (Wells function), as well as relevant function representatives to assess their suitability and competence. On acceptance, relevant CVs are retained and stored in the HSEQ Assurance Team's Quality SharePoint site.

8.1 Quality Control Inspections at Vendors Premises

Chrysaor-appointed Third-party QC Inspectors selected to perform QC inspection activities at a contractor's premises must be competent and suitably experienced in accordance with the following areas:

- Interpretation of manufacturing quality plans
- Interpretation of engineering drawings
- Standards and specifications
- Types of materials
- Welding and joining procedures and qualifications
- Appreciation of NDE techniques
- Pressure testing and structural loading
- Electrical and instrumentation (where applicable)

- Inspection and test equipment calibration status
- Inspection and testing records and certification
- Reporting procedures

8.2 Goods Receipt Inspections at Warehouses or Storage Facilities

Goods receipt inspectors or warehouse personnel acting on behalf of Chrysaor or its nominated contractor must have basic knowledge of:

- Equipment and materials
- Inspection and testing
- Materials certification types
- Cross-checking of equipment and materials markings with test certificates
- Goods Receipt inspection process
- Non-conforming goods quarantine process
- This Procedure, and fully understand the requirements set out in this Procedure
- Standards and specifications
- Interpretation of engineering drawings
- Welding and joining procedures and qualifications
- Appreciation of NDE techniques
- Pressure testing, and structural loading
- Electrical and instrumentation (where applicable)
- Inspection and test equipment calibration status
- Inspection and testing records and certification

9.0 AUDIT AND REVIEW

A periodic review may be carried out, either in part or in whole, on compliance with the requirements and effective implementation of this Procedure, as part of the Level 2 Audit process through onshore HSEQ audits.

All such Level 2 Audits are carried out in accordance with the Level 2 Internal Audit Procedure, CHRY-UKO-HSEQ-PROC-1365 [Ref 7].

Output from the CONEM process is regularly monitored and reviewed by the HSEQ Assurance Team, with key trends and learnings fed-back to the Quality and Assurance Team Lead.

Where applicable, key trends and learnings from the CONEM process, particularly around supplier performance, are reported to the Leadership Team, either informally by the Quality and Assurance Team Lead, or through established reporting channels, including (where applicable), periodic HSEQ Management Reviews.

10.0 REFERENCES

Note: *The BMS document references below are subject to change. The electronic BMS should be consulted for the most up-to-date revisions.*

1. Control of Temporary Equipment Procedure, CHRY-UKO-HSEQ-PROC-1303.
2. Technical Assurance Management Standard, CHRY-UKO-TAI-ST-0088.
3. Business Ethics Policy, HAE-GLO-LEG-STD-0001.
4. Criticality Assessment Procedure, CHRY-UKO-PROJ-PROC-1144.
5. Project Supplier Quality Surveillance Procedure, CHRY-UKO-PROJ-PROC-1143.
6. UK Service Improvement Notice Procedure, CHRY-UKO-HSEQ-PROC-1301.
7. Level 2 Internal Audit Procedure, CHRY-UKO-HSEQ-PROC-1365.

External Documentation

- BS EN 10204:2004 Metallic Products: Types of Inspection Documents
- DNV No. 2.7-1 Offshore Containers, June 2013
- BS EN ISO 10855-1:2018 Offshore containers and associated lifting sets

Legislation and Regulations

- SI 1998/No 2307 Lifting Operations and Lifting Equipment Regulations 1998 (LOLER)
- SI 1998/No 2306 The Provision and Use of Work Equipment Regulations 1998 (PUWER)

APPENDIX 1 TECHNICAL DELIVERY TERMS

Chrysaor Inspection and Certification Requirement Guidelines

1.0 Inspection Codes

Code	Requirement
A	No special inspection requirements. Inspection at receipt limited to number check, condition and conformance with Chrysaor order for materials. No Chrysaor Quality Control (QC) receipt inspection required for this material.
B	Inspection by competent Chrysaor Representative upon receipt at all warehouse facilities. Inspection activities are carried out by delegated personnel to confirm compliance with Purchase Order (PO) and specification requirements.
C	Inspection at the vendor's/contractor's premises by Chrysaor or its appointed agents. The extent of inspection is specified by the Quality Assurance (QA)/QC Lead Adviser or Well Operations QA/QC Team Lead in consultation with the User Group/Budget Holder (refer to Note 3).
D	Inspection by Chrysaor and/or its appointed agents and/or an Independent Competent Body (ICB) nominated by Chrysaor at the vendor's/contractor's premises. This code is used for major/critical orders and repair worksopes which may also require a Quality Plan and Pre-production Meeting (PPM) to establish detailed inspection testing and certification requirements.

2.0 Certification Types

Code	Requirement	Typical Application
0	No Certification required	Purchase/rental or repair/service/supply of minor consumables, domestic consumables, stationery, stock instrument fittings, elastomers, non-hazardous electrical fittings, equipment manufacturer's spares, gaskets and O-rings.
1	Statement of Conformity (BS EN: 10204 2.1/2.2) Declaration of Compliance	Purchase/rental or repair/service/supply of firefighting/safety equipment, e.g. fire extinguishers, breathing apparatus equipment, smoke hoods, lifejackets and survival suits. Factory batch calibrated gauges. Note: Certain items may require a CE mark.
2	Material Test Certificate (BS EN: 10204 3.1)	Purchase/rental or replacement during repair/service/supply of installation topside pipe/spools/pipe fittings, steel plate/fabrications, stud bolts and high strength special bolting, Small Bore Tubing (SBT) and fittings, Ring Type Joint (RTJ) gaskets and welding consumables, i.e. electrodes and wires and sacrificial anodes.

Code	Requirement	Typical Application
3	Material Test Certificate (BS EN: 10204 3.2)	Purchase/rental or replacement during repair/service/supply of subsea pipeline/riser material, special pipe and pipe fittings, Emergency Shutdown Valves (ESDVs), High Pressure, High Temperature (HPHT) wellheads, trees and associated valves, forged pressure containing items, induction bends and cast pressure containing items.
4	Factory/Functional Acceptance Test (FAT)/Pressure Test Report and/or Specific Test Certificate/Report Electrical Inspection Report ICB Certificate Joint matrix required for all mechanical joints SI 1998/No 2307 Lifting Operations and Lifting Equipment Regulations 1998 (LOLER) SI 1998/No 2306 The Provision and Use of Work Equipment Regulations 1998 (PUWER)	Purchase/rental or repair/service/supply of relief valves, process valves, hydraulic/pneumatic control systems, lifting equipment, electrical cable, metering equipment, calibrated equipment (e.g. critical gauges, measuring instruments, etc.), balance/performance/pressure tests (e.g. pumps, actuators, pipe spools, etc.), wellheads and trees associated valves. These normally include the requirements of codes 1 to 3 above, as appropriate. Note: <i>Critical instrument/electrical equipment may require United Kingdom Accreditation Service (UKAS) (National Measurement Accreditation Service (NAMAS)) approved laboratory certificates or Pressure Equipment Directive (PED) certification and Notified Body (NOBO) involvement.</i> Packages – mechanical joints must be torqued to specified values complete with verifying documentation for pressure retaining equipment. Small Bore Tubing (SBT) must be fitted by fully trained, competent, experienced and certified personnel. Provide documentation for all types of lifting equipment. Supply documentation for all types of work-related equipment.
5	Ex-certification for Electrical Equipment in Hazardous Areas. (Atmosphere Explosive (ATEX)/ British Approval Service for Electrical Equipment in Flammable Atmospheres (BASEEFA)/ Scientific Instrument Research Association (SIRA)) Electrical Test Certificate	Purchase/rental or repair/service/supply of electrical/instrumentation/communications equipment for use in hazardous areas, e.g. gas monitors, radiation detectors, metering equipment, transmitters, motors, radios and pagers. Normally includes the requirements of codes 1 to 4 above, as appropriate. Ex-rated glands, adaptors, reducers and plugs, control station/panel, simple instruments (pressure gauges, pressure regulators, switches, solenoid valves, etc.).

Code	Requirement	Typical Application
6	Chrysaor or its appointed agents and/or ICB Inspection Release Certificate (Control of New Equipment and Materials (CONEM))/COTE C Sheet (Control of Temporary Equipment (COTE)). A Quality Plan may be required by Chrysaor to indicate involvement	Purchase/rental or repair/service/supply of critical equipment, e.g. pressure vessels, well control equipment, subsea valves and control equipment, Oil Country Tubular Goods (OCTG) casing and tubing, conductors, fabrications, 'Third Party' Temporary Equipment (TE) zoned equipment (e.g. diesel or electrical driven equipment and A60 workshop containers), crane booms and slew rings. Normally includes the requirements of codes 1 to 5 above as appropriate and equipment data book content.
EL	Export License	Applicable only on a case-by-case basis and as advised by the United Kingdom (UK) Compliance Adviser. An Export License accompanying goods and materials ensures full compliance with all export control laws and regulations, including applicable United States (US) and non-US export control and US economic sanction laws and regulations, which govern the export and re-export of Chrysaor and third-party products, services, technology and software.

3.0 Safety Inspection Requirements

Code	Requirement	Typical Application
S0	No special requirement	General services, consumables, materials of an inert nature, etc.
S1	Vendor/contractor to provide Declaration of Hazard Class/Division for material supply. Specific safety input required for the provision of services	Dangerous goods, e.g. radioactive material, explosives, gases, flammable liquids/solids, oxidising substances, corrosives and miscellaneous dangerous goods.
S2	Vendor/contractor to provide chemical/fill data sheets	Oils, greases, lubricants, chemicals, paints and industrial adhesives.
S3	Vendor/contractor to contact Chrysaor to confirm colour code and tag number as applicable	All lifting equipment being purchased or repaired. (SI 1998/No 2307 (LOLER))

4.0 Item Category

Material/Equipment/Services for Purchase/Rental/Repair/Recertification	2.0 Insp Code	3.0 Cert Code	4.0 Safety Code	Independent Competent Body
Purchase/rental of consumables, e.g. lube oil/air filters, domestic items, stationery, and routine service/repair of non-critical equipment, hire of personnel/services, etc.	A	0	S0	N/A
Purchase/rental or service/repair of spares from the manufacturer for valves, pumps, compressors, etc.	A	0	S0	N/A
Purchase/rental of electric/instrument cable and electrical equipment and measuring devices for non-hazardous areas, e.g. standard factory-calibrated gauges.	A	0	S0	N/A
Purchase/rental of non-pressure retaining items, e.g. bolts, nuts, gaskets, seal kits and elastomers.	A	0	S0	N/A
Purchase/rental of oils, greases, lubricants, chemicals, paints and industrial adhesives.	B	0	S2	N/A
Purchase/rental or service/repair of firefighting and safety/survival equipment, e.g. fire extinguishers, breathing apparatus equipment, smoke hoods, lifejackets and survival suits.	B	1	S0	N/A
Purchase/rental of stock pipe/pipe fittings, e.g. grades A106/A105, A333/A350, F51, X52 and X60 and instrument equipment, SBT, fittings and instrument valves.	B	2	S0	N/A
Purchase/rental of pressure-retaining or high-strength special bolting, e.g. stud bolts, complete with nuts, metallic seal rings and RTJ gaskets.	B	2	S0	N/A
Purchase/rental of standard steel plate/section, e.g. grades S275J2/S355G2+N/S355G7+N.	B	2	S0	N/A
Purchase/rental or repair/recertification of lifting equipment, e.g. slings, nylon strops, shackles, ropes, tirsors, beam clamps and trolleys.	B	4	S3	N/A
Purchase/rental or service/repair of instrumentation and safety equipment – test gauges, flow metering equipment, hydraulic/pneumatic control systems, pressure hoses and liferafts.	B	4	S0/S1	N/A
Purchase/rental or service/repair of electrical and safety equipment, e.g. fittings, motors, junction boxes, glands, gas detectors, communications equipment, inspection and test equipment for use in hazardous areas (ATEX, BASEEFA or SIRA certification).	B	5	S0	N/A

Material/Equipment/Services for Purchase/Rental/Repair/Recertification	2.0 Insp Code	3.0 Cert Code	4.0 Safety Code	Independent Competent Body
Well Operations – non-safety/environmental critical TE – loose lifting equipment, mud motors, drill pipe/drill collars, Remotely Operated Vehicle (ROV) equipment, fishing tools, cement heads, logging tools, etc.	B/C	1 to 6	S0	Refer QA/QC Lead Adviser/ Well Ops QA/QC Team Lead
TE brought onto an asset with the exception of hand tools, e.g. air/electric drills, grinders, hand lamps, etc.	C	6	S0	Refer QA/QC Lead Adviser/ Well Ops QA/QC Team Lead
Well Operations – safety/environmental critical TE – diesel/electric/air driven – zone 2 classification and above, i.e. wireline Blowout Preventers (BOPs), air compressors, generators, workshop containers, well test packages, surface trees, flushing rigs, riser pulling equipment, wellhead valves and coiled tubing spreads.	C/D	6	S0	Refer QA/QC Lead Adviser/ Well Ops QA/QC Team Lead
Purchase/rental or service/repair of all valves, e.g. Pressure Safety Valve (PSV), ball, gate, globe, butterfly, check, control and Double Block and Bleed (DBB) valves.	B/C	4/6	S0	Refer QA/QC Lead Adviser/ Well Ops QA/QC Team Lead
All actuated valves – mechanical, hydraulic, pneumatic, electric and also control panels.	C	6	S0	Refer QA/QC Lead Adviser/ Well Ops QA/QC Team Lead
Safety critical structural steel plate/section, e.g. grade S460G1+Q/S460G2+Q.	C	6	S0	Refer QA/QC Lead Adviser/ Well Ops QA/QC Team Lead
Subsea and riser line pipe, flexible pipe, pipe fittings and special grades.	C/D	6	S0	Refer QA/QC Lead Adviser/ Well Ops QA/QC Team Lead

Material/Equipment/Services for Purchase/Rental/Repair/Recertification	2.0 Insp Code	3.0 Cert Code	4.0 Safety Code	Independent Competent Body
Purchase or service/repair of safety critical process, e.g. ESDVs.	C/D	6	S0	Refer QA/QC Lead Adviser/ Well Ops QA/QC Team Lead
Purchase/rental or service/repair of fabrications, e.g. piping, structural steelwork and pressure vessels.	C/D	6	S0	Refer QA/QC Lead Adviser/ Well Ops QA/QC Team Lead
Purchase/rental or service/repair of major equipment packages, e.g. pumps, motors, turbines, cartridges and skid assemblies.	C/D	6	S0	Refer QA/QC Lead Adviser/ Well Ops QA/QC Team Lead
Purchase/rental or service/repair/recertification of major items of lifting equipment, (e.g. A60 rated containers, man riding winches, lifting frames/baskets/containers) and major crane items, (e.g. slew-rings/booms/hooks and wire ropes). (Design and Manufacture: DNV 2.7-1 DNV Standard for Certification No 2.7-1 Offshore Containers, 2013 and BS EN ISO 10855-1: 2018 Offshore containers and associated lifting sets).	C/D	6	S3	Refer QA/QC Lead Adviser/ Well Ops QA/QC Team Lead
OCTG and tubular equipment – casing, tubing and conductors.	C	6	S0	Refer QA/QC Lead Adviser/ Well Ops QA/QC Team Lead
Purchase/rental or service/repair of downhole, wireline and well control equipment, e.g. xmas trees, wellheads, BOPs, valves, work over equipment, gauges and down hole safety valves.	C/D	6	S0	Refer QA/QC Lead Adviser/ Well Ops QA/QC Team Lead
Purchase/rental or service/repair of completion equipment, e.g. landing nipples, packers, Polished Bore Receptacles (PBRs) and mule shoes.	C/D	6	S0	Refer QA/QC Lead Adviser/ Well Ops QA/QC Team Lead

- Notes:**
1. *Minimum inspection levels are displayed for guidance however requisitioners/purchasers may require and specify higher levels.*
 2. *Purchase, rental, repair and recalibration of instrumentation must be against measurement standards, traceable to international or national measurement standards.*
 3. *Chrysaor users should contact, as appropriate, the QA/QC Lead Adviser or the Well Operations QA/QC Team Lead for any assistance/clarification with the selection of inspection requirements (Well Operations non-safety critical TE is subject to sample inspection only).*
 4. *For an explanation of inspection codes, certification types or safety inspection requirements, refer to Appendix sections 1.0, 2.0 and 3.0*
 5. *It is the responsibility of the vendor to ensure compliance with all inspection and certification requirements contained within the PO and/or contractual documents.*